

# KINGSMERE CRAFTS

## HAND-CRAFTED LEATHER GOODS

**T**hese pages are merely an introduction to hand-crafted leatherwork, in the hope that those reading them, having a desire to create in this unique and interesting material, will be inspired to do so. They are also intended to be (at least within the limits of my knowledge) a source of reference regarding leather in general.

My website is not offering things for sale, and you won't find pages full of advertising. It is a site to share with you whatever leather-craft knowledge I have acquired.

Seeking to supplement this with a visit to a local bookstore I found nothing. The local libraries produced the same result. So I turned to the internet. I found snippets of information here and there but spent hours jumping from one place to another.

Frustrated, I decided to do something about it, and created this site. I hope that you enjoy reading it as much as I enjoy putting it together.

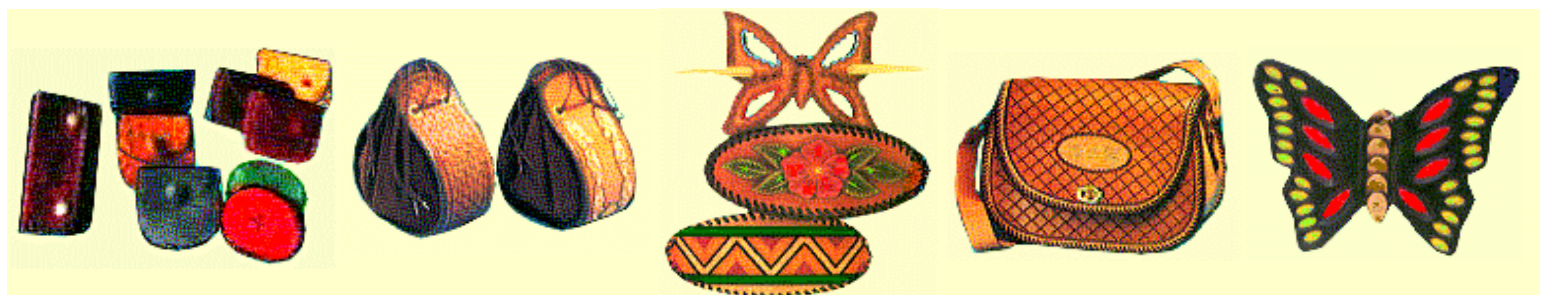
Now, a word on accuracy. During my researches I came across masses of contradictory information and to the best of my ability I have tried to make this site as accurate as possible.

Hand-crafted leatherwork should appeal to all those of you who have a love of natural materials, and the techniques involved in working with it are singularly its own.



Kingsmere Crafts produces hand-crafted leather goods using in-house, unique designs, utilising only the finest leathers. Each operation, from cutting, dyeing, sewing, carving or embossing, to the final polishing, is done by hand.

Everything is hand-crafted, from keyrings, purses and wallets, to bellows, belts of all widths and lengths, also handbags of various shapes and sizes, in fact everything you see, or is mentioned, on this website.



Items can be personalised, and if made from leather, repaired. There is even a restoration and repair service for helicopter and fixed-wing aircraft interiors.

Leather is one of the most versatile materials known to man. As a raw material, it is extremely durable, strong and absorbent. These are the properties which make it well-suited to a wide range of treatments. One of the oldest industries known, leather making today is a complex process. The same basic production stages will be common to all leather manufacture. However, the individual skills, experience and techniques of the world's best leather makers can greatly influence the manufacturing process and add value and quality to the end product.

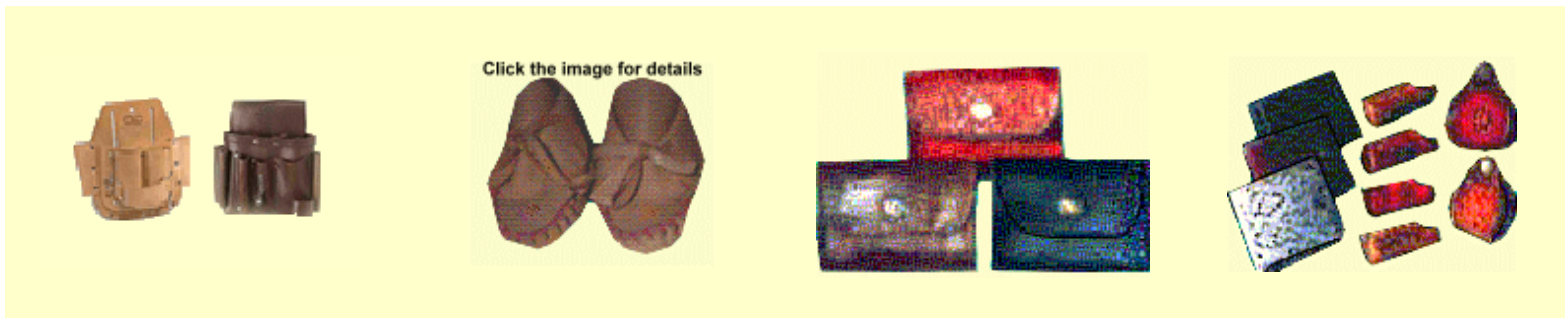


As one of the oldest industries known to mankind, our earliest ancestors used skins to protect their body, hands and feet. Leather is made from the skin of any animal, reptile, bird or fish through a process known as tanning. This process preserves the skin that would otherwise quickly decay. No two hides are exactly the same. Characteristic marks of the hides' natural origin are healed scars, neck growth marks, veins, abrasions and areas of different fibre density or hair pore structure. In the first few weeks of use, the leather will acquire perfectly natural creases and wrinkles. However, leather improves with age. Staying soft and supple, it will develop a rich patina over the years.

Through the careful control of tanning and finishing processes, leather can be fire and water retardant and resistant to acids, fats and oils. It can be impregnated with rubbers, resins and plastics to give defined performance characteristics such as hardness/flexibility, elasticity, tensile strength, heat resistance, etc. Leather can be moulded to any shape.

There are many synthetic materials where a great deal of effort has been expended to reproduce the grain effect of leather. So much so that the public in general is frequently deceived, and at craft shows I've found myself saying, "Yes, it *is* real leather".

Leather has nothing to fear from its imitators. The feel and character of leather belongs to leather alone and cannot be replaced by man-made substitutes.



*HAND-CRAFTED LEATHER GOODS*

## Aircraft interiors

As you can see from this page, there is more to Kingsmere Crafts than the making of hand-crafted leatherwork.

The interior of this aircraft has been completely refitted and restored by [Covertrim \(UK\) Limited](#) with the assistance of Kingsmere Crafts.



As a supplier of upholstery, combining traditional skills with the most up-to-date materials, they are the preferred supplier to the National Grid, The Metropolitan Air Support Unit and the Essex and Cambridge Police Forces. Plus, many well-known celebrities, and corporate organisations.



*Hawker HS 125*



Restoration of the interior means not only the seating for passengers and crew, but head-linings, bulkheads, carpeting, and re-laminating of galley units and tables.

## HAND-CRAFTED LEATHER GOODS



A look inside my workshop where virtually all of my work is carried out. It doesn't appear exactly like this today I must confess, it's a great deal more cluttered and several more shelves have been added, plus I've accumulated more tools, which are always irresistible. There's always just that one which will do better what you've been able to do perfectly with what you have already, but then . . .



Some of the other things I make



What I see through the open door



Another brief selection

. . . isn't that what we always think. No matter what supposedly wonderful new material has gone into their making nor what high tech assembly line they were produced on, not to mention NASA-like calculations that have been taken into consideration, the majority of tools used in hand-crafted leatherwork can not be bettered than the ones that have been in use for decades. I still use today tools I've had for years, and the latest lie almost untouched

## HAND-CRAFTED LEATHER GOODS



*David Boland-Thoms of Kingsmere Crafts*

This is an extract from a piece written by *Kim Lasky* in a series she wrote on "Mersea Life", in which she looked at island people, news and events. Her community news column appeared every Tuesday in Colchester's *Evening Gazette*, and "Mersea Matters" every week, in the *Essex County Standard*.

People keep all kinds of junk in their garages, but David Boland-Thoms often finds his full of aircraft seats and, on occasion, the odd helicopter door panel. Most people in Mersea know about his skills at making and repairing anything in leather, but many don't realise his skills extend to fitting out the interiors of private jets\*. Worn seats and scuffed door panels are all in a day's work for Mr Boland-Thoms, whose clients come from all over the country. He estimates it takes just over an hour to renovate an average door panel, patching up torn leather and mixing his own dyes to get a perfect match. "These things have to be done quite quickly," he explains, "particularly pilot's seats - after all, they can't just throw in an orange box and carry on flying the plane," he laughs.

In fact Mr Boland-Thoms is a very versatile man. And he will put anything to use. A wardrobe which was no longer needed inspired the design of wood and leather bellows, and a piece of carpet donated by a friend has been turned into a smart range of carpet bags with tan leather handles. Cherished possessions have been carefully restored for clients, including an eighty-year old crocodile-skin handbag which, he says, was so brittle it was almost impossible to work on.

Yet he has never had any formal training. His interest began when he was handed some leather and tools for occupational therapy when he was hospitalised as a youngster. This inspired a lifelong hobby which has now become the Kingsmere Crafts business.

Mr Boland-Thoms says he has been planning to retire, but his clients won't let him. Who can blame them? Where else could you find someone to repair anything from an ancient crocodile-skin handbag to the leather door panel of a helicopter?

*\* The part I play is minimal besides that of [Covertrim \(UK\) Ltd](#), whose website you can access by clicking the link.*

*This was written a year or two ago, and I have in fact retired. More or less. There are those, who from time to time, prevail upon me to practise my skills on their behalf!*

# Belts

It is not a complicated procedure to make belts, particularly the usual hide kind. The finished product does however bear testimony to the care and attention you put in when making them. That means finishing the edges properly, especially on a hide belt, and with softer leathers, either lacing or turning them.

Hide belts should be made from firm vegetable-tanned hide 2-5 – 4mm thick, depending on their function. As it dyes, stamps and carves particularly well. It may seem rather inflexible at first but that soon changes with wear.



Backs, sides or butts are best to work with but shoulders are suitable as long as they are firm. Any fine suede or supple grain leather is suitable for making soft belts, whilst the more expensive skins like lizard or snake etc are best used as a covering for a hide base.

Softer belts usually need to have a lining on the back so any fine leather or even a suitable fabric will be satisfactory.

Shown above are belts of widths from 1"–2" in various designs, made using top-grained cowhide. The complementary buckles are made from solid brass. The decorative hand-stamping of the leather is only restricted by the bounds of the imagination, in other words, the choice is endless.

Are you going to wear a regular bar buckle or an elongated trophy buckle with your belt? If you have a "trophy" buckle you plan to wear, the belt will need to be sized differently than from a regular standard buckle. There is a 2" difference in the sizing of the two buckles. A typical belt size is 2 inches larger than your trouser waist size, except if you plan to wear a trophy buckle, then the belt size is the same as your trouser size (the trophy buckle will add the 2" necessary, making the belt the right size).

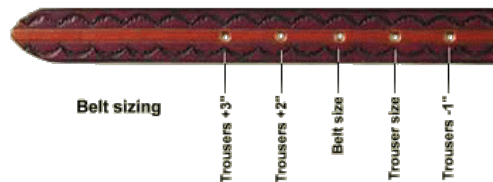


Buckles too, are varied in shape, size and material, ranging from the less expensive baser metals to the costlier, though quite affordable, silver and gold. The ornamental metal shapes that can be applied, as shown below, is enormous. The finished product, whatever ones taste or inclination, as always, depends on the skill of the individual craftsman, or craftswoman.



## Making a plain belt

Use a dress-weight, 7½ - 8 oz, English bridle leather. It is a traditional and authentic English leather. Bridle leather lasts forever, and adapts to the contours of the wearer; it has memory. Hand-cut the belt length individually from double-shoulder cuts of leather. There is a "wrinkle" in the leather running between the shoulders, so always try to work the belt around that. This maximizes the inclusion of character from wrinkles and range-scars.



Add a top quality leather conditioner. Since the conditioner is sealed into the leather, it won't need it again. Conditioning the leather is a very important part of the process, as it ensures that the leather will never become brittle and hard. The conditioner is allowed to soak in for a couple of hours. It is also a way to soften the leather and allow it to be worked more easily. An occasional surface polish may be applied to maintain shine.



## Cutting the tip

The tip is shaped by placing belt on a 2" thick marble slab with a Protecto Board on top (an absorbent rubber surface) and cutting it using a tip-punch and a rawhide mallet. A variety of tip-punches are available for varying strap-widths. The head-end is shaped to match the buckle, with a sharp knife, by hand.

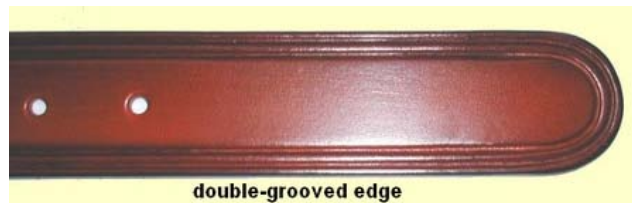
## Edging

While the leather is still slightly wet, all four edges, that is front and back, are rounded with a tool called an edger. When the edger is pushed along the edge of the leather, it cuts a thin strip off the edge, rounding it. Surfaces that will be attached flat against another surface are not edged. This step looks so simple, yet requires great control. If the edger is not held firmly enough against the edge of the leather, it will ruin the edge instead. Always work from head to tip when edging or burnishing, so that the leather fibres are consistently flattened in only one direction.



## Staining

Stain absorbs into the leather, and becomes part of it, it will also absorb into your skin so wear protective latex gloves. Except for black, all the almost endless variations in shades of tan, red, mahogany and so on, depend on timing, stain combinations, viscosity, and leather porosity. The belt length is placed on the bench on top of a length of glass, and the stain is applied with a sponge. Depending on how long the leather is allowed to soak up the stain, the shade will be lighter or darker. Timing is critical, with humidity also playing a part in this process. In dry weather the stain dries out more quickly, so one tends to add more stain, and the colour gets darker. After the right amount of time has passed, excess stain is wiped off with a clean rag. Some colours are achieved by adding a second stain, and the timing of both becomes crucial for the right combination. The second stain is often watered down, and will absorb faster into some parts of the leather. Wrinkles are more porous than other parts of the leather. The edges are stained separately in order to make them slightly darker, using a small brush to apply just the right amount of stain. The leather keeper (which you will cut-out and stain at the same time) is measured and marked for a close fit around the two ends of the main strap. It is closed with a metal clip, and placed over a tapered piece of hardwood that is protected with electrical tape. It is stretched and shaped for a perfect fit, by tapping it with a hammer.



The edge of the belt above shows the double grooved edge accent. Unlike many belts the grooves run around the tip instead of straight off the end of the belt. This accent can also be harness stitched in the inside groove.

No two belts will be identical, partly due to the fact that leather is a natural product and each length of leather has unique characteristics.



## Burnishing

While the stain is not yet dry, burnish all four edges. I do it with a folded piece of denim, rubbing firmly and quickly back and forth along the edge of the leather, heating it up and "burning" it, as the word "burnish" suggests. If the leather is over-burnished, it dries out and cracks. After burnishing the edge, put the belt on its side, and fold a small piece of leather over the edge and rub along it. This burnishes and rounds it further. Burnish the face of the belt with a large, heavy piece of felt.

## Sealing

The front and back are sealed, as well as both edges, with an acrylic sealer, to prevent the stain from bleeding. The sealer used for the edges is thicker and stronger, while the face-sealer is thinner, absorbing more into the belt. Get an even coating, too thin and it doesn't seal — too thick, and it goes milky.

## Polishing

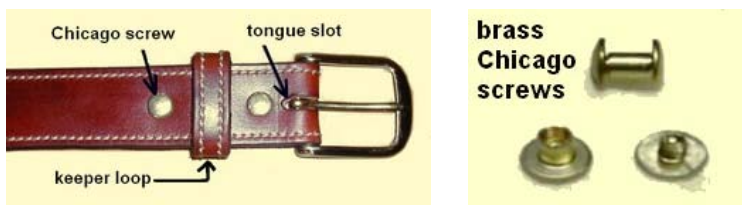
After sealing lightly scuff the belt surface with an abrasive pad to give a better bond between the polish and the belt. Use a high quality boot polish made with carnauba wax (a yellowish wax from the Brazilian palm, [see also](#)) apply with a rag and wipe off with a clean one. Polish with a new, clean rag. Do not let the polish dry too much as it will leave a pattern on the leather. Ideally, the polish dries as it is removed. Give two to three coats.

## Attaching Buckles

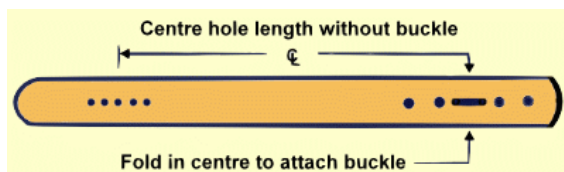
Buckles (as opposed to buckle sets, or ranger style belts) are attached by folding over the end of the belt length with the buckle sandwiched in between. The leather enclosing the buckle should be left at its full thickness, but the end should be reduced by half (skived). The traditional British sizes of buckles are typically 1", 1¼" and 1½" for general use, whereas American buckles increase by ¼" up the scale.

The two sections are then stitched along the length of the shorter section and both the top and bottom edges are stitched, alternatively they can be riveted together. Wherever the leather is marked for stitches, the back is grooved along the stitch lines, so that when the thread is pulled tight, it will recess into the leather, and not be exposed to wear. Before stitching, beeswax is worked into the thread by pulling it across a chunk of wax, and then pulling it quickly through the palm of the hand several times. This creates friction and heat, and the wax melts into the thread. The hand stitching is done using a traditional stitching-pony.

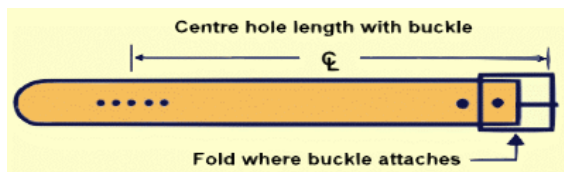
If you have your own buckle, and are ordering a belt without a buckle, there are two things you will need to determine when you order. Do you want the "Tongue Slot" where the leather folds (the slot punched in the leather on the buckle end of the belt), and do you want the "Keeper Loop" (the leather loop next to the buckle).



You will also need to choose a "Finish" for the Chicago Screw fasteners, that will match your buckle. They fasten the buckle to the belt and come in brass and nickel. The "Chicago Screws" look like a rivet but with a bottom that has a screw driver slot and unscrews to exchange buckles. They are stronger and flatter than snaps.



Handmade belts normally have 5 holes 1" apart, though you can have as few or as many as you want. The belt is normally made so that you wear it in the centre hole. You may want a longer distance before the first hole and you may want more holes than on a standard belt. The holes are normally made using what's known as a revolving punch such as the one illustrated further down the page.



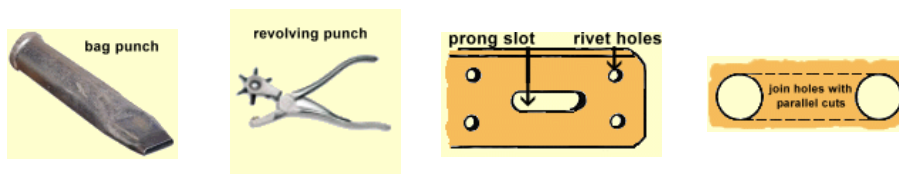
## If you are making a belt with a buckle

Use the lower diagram to determine your "centre hole length". Measure the length of the belt you are now using, from the prong to the hole in the belt that you normally use.

The "centre hole measurement" is the controlling dimension and remains the same no matter the number of holes or what their spacing is.

For a man's belt with a buckle, the "centre hole size" is usually 2" more than the waist size of the trousers you wear. Use this as a guide to determine that your measurement is correct. (Ladies... just decide where you want to wear it and measure that length)

The buckle is held on by looping the end of the belt around the centre or side bar where it will be secured with rivets or stitching. Determine the length needed for the loop and, ensuring their alignment, punch holes for the rivets. Between the two lots of rivet holes you need a slot for the buckle prong. This is always going to be longer than you think. Usually about 1½" for the prong on a 2" buckle, but varying according to buckle size.



You can make the slot with an oblong/bag punch or alternatively by punching two holes with your revolving hole punch at either end of the length the slot is to be, and joining the two holes with parallel cuts using a sharp knife. Ensure the slot is equidistant between the rivet holes and central to the belt width.



## Belt styles

**\*Straight** – This belt style will be a uniform width throughout its entire length. The width of the belt will determine the range of buckle sets that can be utilized. The most common width is 1½ inches, but customers requests fall in the range of 1 inch to 1¾ inches.

**\*Tapered** – The main body of this belt will be a uniform width, and will narrow at the buckle and tip ends. The most requested size will be 1½ inches in the main body, with the ends tapered to 1 inch. Also popular is 1¼ inches tapering to ¾ inch, but other combinations, within reason, are possible.

**\*Ranger** –

The main body of the belt is a uniform width along its length. For both the buckle and tip ends, an additional, narrower, piece of leather, called a billet, is stitched to the main body of the belt. In this arrangement, there are two layers of the main belt body that overlap and form a background behind the buckle, keeper and tip set. This style adds some thickness at the front because of the layers of leather in that area, but gives a nice look and remains popular.



### \*New Ranger –

This design arose from a desire to offer a thinner belt in the buckle area than the older ranger style. In this style, the main body of the belt is a uniform width along its length, with the exception of the buckle end. The buckle end is tapered to the size of the buckle set, and when fastened, the buckle set is highlighted from the rear by the extension of the full width piece behind the tip end of the belt.

The design is thinner than the regular ranger style by two thicknesses of leather, yet offers the same highlight effect of the traditional ranger style. Most commonly done with a 1½ inch main body and 1 inch ends, but can be made to other dimensions.

### \*Western Exotic –

In this style, the body of the belt is made of choice exotic leather, with a full lining. Its shape is that of the tapered style, with the exotic leather making up the centre portion of the belt. At the ends of the belt, billets, carved with something like a wild rose pattern, are incorporated to hold the buckle, keeper, and tip. The finished belt has a seamless lining on the inside and a dramatic look on the exterior with the contrasting textures of the exotic leather and carved saddle skirting belt ends.

### \*Filigree§ –

This style of belt is achieved by carving a pattern into the saddle skirting outer layer, then carefully cutting out all the background of the pattern. Then the lizard inlay is placed behind the outer layer so it shows through the cut-outs in the background. Assembly is completed when the belt is then lined and finished.

### § Filigree Punches

Create fancy filigree designs with such as the punches shown below. They work best on garment leathers or lightweight (up to 4 oz.) vegetable-tanned leather.



**Filigree Pattern Punches**  
Quality steel punches  
for your special design.  
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**filigree punches**

teardrop heart diamond pie crescent star

Available from:  
<http://www.hidecrafter.com/Home.php>



## Descriptions pertaining to buckles

\*Brass – A yellowish alloy of copper and zinc, sometimes includes small amounts of other metals, but usually 67% copper and 33% zinc.

### \*Bronze –

85% copper and 15% zinc, has a dark gold-like look.

### \*Buckle Set –

Normally three pieces: one the buckle, two the tip of the belt and three is a piece that holds the end of the belt. Almost always made in silver or gold, with lots of engraving.

### \*Cast –

To form (liquid metal, for example) into a particular shape by pouring into a mould. Pewter, for example, is often made using a rubber mould process where tin, plus alloys, are poured into the mould and centrifugally spun.

### \*Comstock Silver –

This is the manufacturer's name for a bi-metal or Sterling overlay. A sheet of Sterling silver bonded to a sheet of 18% nickel silver. This is not electroplating.

### \*Copper –

A ductile, malleable, reddish-brown metallic element that is either pure or in alloys such as brass and bronze.

### \*Engrave –

To carve, cut, or etch into a block or surface.

### \*Flopper –

Instead of a post soldered onto the buckle back there is a moveable, usually half moon shaped, piece of metal that is hinged on both sides, fastened to a second keeper and has the post soldered onto it facing the back of the buckle. This is often found on older buckles made in the western United States.

### \*Friction Buckle –

The belt is pulled behind and through the back of the buckle where part of the buckle "sticks" into the belt and holds it in place. Most common use is in military buckles.

### \*German Silver –

A white nickel alloy (65% copper, 17% zinc, and 18% nickel). Silver is a colour description and doesn't imply content of the metal (in other words - there is no silver in German silver). Normally the surface looks darker than sterling silver.

### \*Gold –

A soft, yellow, corrosion-resistant element, the most malleable and ductile metal, occurring in veins and alluvial deposits and recovered by mining or by panning or sluicing. Gold is generally alloyed to increase strength although it has a wonderful appearance.

**\*Gold Electroplate –**

A thin layer of gold is electroplated (electrically bonded to the surface) for a rich and lustrous finish.

**\*Gold Fill –**

The buckle maker uses a metal plate with gold 10–20% of the thickness on top, normally at least 10 carat gold, usually bronze underneath that. The gold layer must be at least 1/20th by weight of the total combined gold and metal to be classified as gold filled. A marking of 1/10th by weight is higher in gold content. Intricate deep carving requires the deeper depth, lots of times on older buckles the 10% fill wears off through use and you can see spots where the bronze or other material shows through.

**\*Gold Overlay –**

See Gold Fill and Rolled Gold Plate.

**\*Gold Plate –**

See Gold Fill and Rolled Gold Plate.

**\*Handcrafted –**

A skilfully crafted buckle constructed by hand rather than by machine.

**\*Handmade –**

A crafted buckle constructed entirely by hand, not by machine.

**\*Hinge –**

Sometimes the loop is secured to the buckle by putting it in two curved half round wires that secure the belt buckle loop to the back of the belt buckle. This allows the loop to move making for a flatter fit for the buckle.

**\*Jewellers Bronze –**

A copper-zinc alloy of good colour.

**\*Keeper –**

On back of the buckle the part that is a metal "loop". You put the belt through this part and double the belt back, snapping it to hold the buckle in place. Normally buckles have the keeper on the side towards your left hand as you are wearing the buckle, but sometimes the keeper is on the right side - more of a tradition for women's belts.

**\*Loop –**

The rectangular wire shaped piece secured to the back of the buckle which is used to anchor or secure one end of the belt.

**\*Nickel Silver –**

Similar to German silver, contains no silver.

**\*Pewter –**

Any of numerous silver-grey alloys of tin with various amounts of antimony, copper, and sometimes lead. At least 51% must be tin but good manufacturers often use up to 90% or more. It is valued because it won't tarnish, rust or deteriorate in any way.

**\*Plaque Buckle –**

A flat surface trophy buckle. The term was first used by Ed Bohlin in the 50–60s to refer to his No.466 buckle style. Most folks are familiar with Bohlin silverwork, whether they realize it or not. Edward Bohlin was the "Saddle-maker to the Stars", and that applied to his silversmithing abilities, too. His work was present in most of our favourite western movies.

His pieces were worn by the Lone Ranger, Tom Mix, Gene Autry, Hopalong Cassidy, The Cisco Kid, Roy Rogers, and a host of others. Those items included gun belts, spur straps, belt buckles, and scarf -slides. Bohlin silver-mounted saddles and tack adorned their 4 legged co-stars.

Even today, long after the death of Ed Bohlin himself, the products of the company he founded are individually hand formed, hand built, and hand engraved. The products are die struck, not cast, and are among the very few with certain features, such as rounded, contoured backs on the buckles to lift the buckle slightly and keep it from wearing the surface of the belt. Prices for a genuine Bohlin buckle range from about \$400 - \$3,000.

**\*Post –**

The small "finger" that sticks out from the back of the buckle that goes into a punched hole in the belt, resulting in a belt size that is appropriate for you.

**\*Ranger Set –**

Normally three pieces: one a buckle, next the tip of the belt and the third is a piece that holds the end of the belt. Almost always made in silver or gold with a lot of engraving.

**\*Ribbon –**

Rectangular shapes, generally across the top and bottom of buckles, which permit engraving of information such as event titles, awards titles, name of recipient, etc.

**\*Rolled Gold Plate –**

A layer of at least 10 carat gold, or finer, is bonded mechanically to one or more surfaces of a supporting metal. The bonded material is then drawn or rolled to a specific thickness. The carat gold layer may be less than 1/20th by weight and must be disclosed (1/30, 1/40). A proper marking for a rolled gold plate item is 1/30 14 Carat Rolled Gold Plate.

**\*Rope –**

Edging around the outside edge of the buckle that is twisted to look like a braided rope.

**\*Silver –**

Lustrous white, ductile, malleable, metallic element, occurring both un-combined and in ores such as argentite, (sulphide of silver) having the highest thermal and electrical conductivity of the metals. It is highly valued for jewellery.

**\*S/S –**

A symbol for sterling silver.

\*Silver Plate –

A coating or plating of silver.

\*Sterling Silver –

A silver alloy comprising 92.5% fine silver and 7.5% pure copper. Has a bright surface. By adding copper it causes the silver to become less pliable and stronger in its structure improving both strength and durability.

\*Tongue –

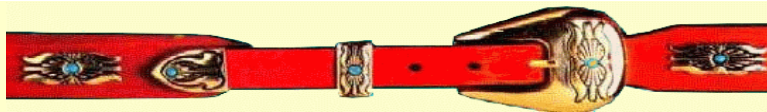
The small "tooth" projection that is soldered to the back of the buckle and utilized to fit into the holes in a leather belt, securing it to the buckle.

\*Trophy Buckle –

Buckles that were made for a specific event such as a rodeo or cutting or other horse/cow event. They usually have the event name and year, maybe the individual event title and/or the winner's name. The more detail the more valuable.



Trophy buckle with back view



The plainer, un-embossed belt, can be enhanced by the use of a more elaborately styled buckle and keeper, as well as being decorated with conchos.



Native American belt buckles have been in existence since silver-smithing was introduced to the Navajo Indian, Atsidi Sani, who learned about blacksmithing at Fort Defiance, Arizona in the 1850's. Atsidi Sani was an Artist, Medicine Man, Spiritual Leader, Ceremonial Singer, and Navajo Chief, generally given credit for the introduction of silver-smithing among the Navajos (although there were probably other Navajos who were also silversmiths at that time).

Although the exact date for the first Navajo silver pieces is debatable, there is general agreement that Atsidi Sani fashioned his first silver pieces (conchas, bracelets, and various other jewellery items) in 1853. Hence, the Navajos took some knowledge of silver-smithing with them when they were taken to Fort Sumner. At Bosque Redondo, Atsidi Sani enhanced his knowledge through contacts with Mexican ironworkers. The Navajo Indians later introduced the art to the Zuni Indians approximately 125 years ago.

After returning to their lands in 1868 following their 4 year internment, the Navajos began to adapt and learn how to silversmith among themselves. In the 1880-1900 time-frame, they gradually obtained the tools and sources of silver from various traders and the Fred Harvey Company. From these crude beginnings, the art of making Indian jewellery slowly evolved to the highly polished silver pieces found in today's market. Today Indian jewellery is recognised worldwide as a dynamic and exquisite art form indigenous to the culture and heritage of the Indian tribes in the South-western United States.



Conchas



Bracelet



Concha belt

Each of the distinctive, Hopi, Zuni and Navajo silversmiths have a style unique to themselves. The Hopi Indians produce an overlay style; they cut a design out of a flat piece of silver, joining that piece to another piece and then oxidizing the inside of the first piece in a bas relief pattern.

Traditional, or the more familiar Navajo Indian jewellery consists of various types of blue or green turquoise set in an intricate handcrafted silver piece of artwork; squash blossom necklaces, concha belts and beaded strand or stone fetish necklaces are popular examples of this traditional style handcrafted Indian jewellery. Good conchas represent much patient work with small, usually repeated, designs, struck one element at a time with a home-made die and a hand hammer.

Originally these belts did not have a buckle, but were fastened with leather thongs. Most old belts today are equipped with buckles. Among the earliest buckles made by Navajo smiths are simple copies of harness buckles. On the other hand, traditional Zuni type of jewellery emphasises the use of stones and shell held together within the sterling silver design. Zuni artists are renowned for their channel inlay patterns of multi-coloured stones and shells meticulously crafted and

united together in aesthetic colour patterns.

Concha belts are a uniquely South-western (USA) art form, dating back to the Bosque Redondo (as white settlers and prospectors pushed westward in the latter half of the 19th century, displacement of Native Americans from their ancestral homelands became commonplace. One of the most tragic episodes of exile was the Long Walk in 1864, when Kit Carson rounded up 8,000 Navajos and forced them to walk more than 300 miles from north-eastern Arizona and north-western New Mexico to Bosque Redondo, a desolate tract on the Pecos River in eastern New Mexico) period of Navajo history ([http://en.wikipedia.org/wiki/Long\\_Walk\\_of\\_the\\_Navajo](http://en.wikipedia.org/wiki/Long_Walk_of_the_Navajo)). With their simple tools and forges, Navajo and Zuni silver-workers were able to create bold and intricate pieces that were always among their owner's most prized possessions. Though modern pieces are often shoddy and garish, the best antique belts have an understated yet distinctive look unlike anything else.

# Leather terminology . . .

To describe leather, there are a number of technical terms, the meaning of which I propose to explain, but first. . .

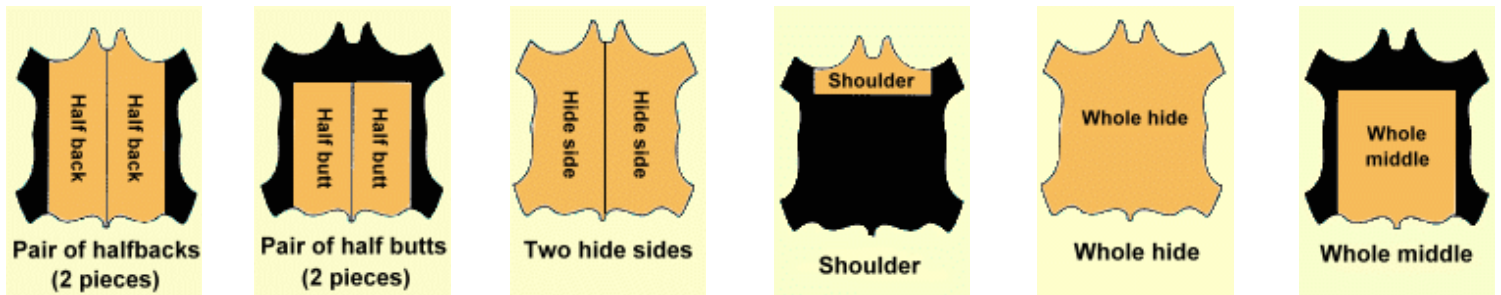
With regard to leather goods and the customer, I must point out that value for money must relate to the price paid. It would be unjust to expect top quality goods at local market prices. There has always been three levels of quality in the leather goods marketplace, top, middle and bottom.

Value for money applies at every level and customers are entitled to expect reasonable wear and use from any article purchased. For instance a wallet purchased from a top class source should be made from the very best leather (a "top split") and last for many years. A wallet purchased in the local market (if made from leather) will not be made from the *best* leather, (possibly a second or third split) and consequently will not last as long. However it should provide reasonable service and last some time, the difference is reflected in the price paid. (The old saying applies, "You can't make a silk purse out of a sow's ear.")

For those visitors to this site with no knowledge of leather terminology I will explain the terms used above. The skin taken from an animal is generally too thick for most uses so it is split into two or even three layers, which put simply means the top split being the outside of the skin is comprised of densely compacted fibres, as you reach the back of a skin the fibres become much less dense. In this case a bottom split of three will have very loose fibres and will have less strength and wear quickly. The top split will have its own natural surface, a second and third split will have an artificial finish applied (unless it is used as a suede). To be more direct you get what you pay for.

## . . . for the novice

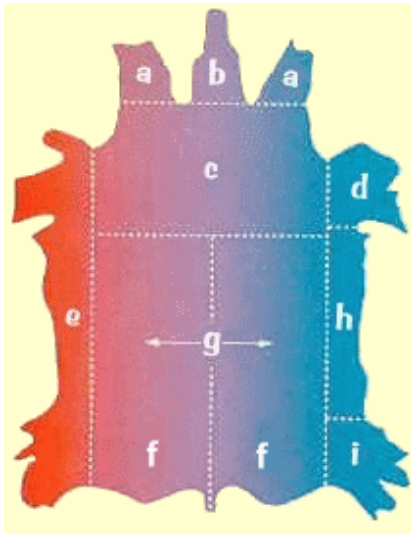
First of all, the large animals - horses, cattle etc - have *hides*, not skins. Hides are either sold as *whole* hides or are sub-divided as follows:



Whole hide = 40-50sqft, Half hide/side = 20-30sqft, Back = 10-15sqft, Shoulder = 15-20sqft, Belly = 7-10sqft, Head and cheeks = 2-3sqft, Butt = 8-10sqft, Bend = 5-8sqft.

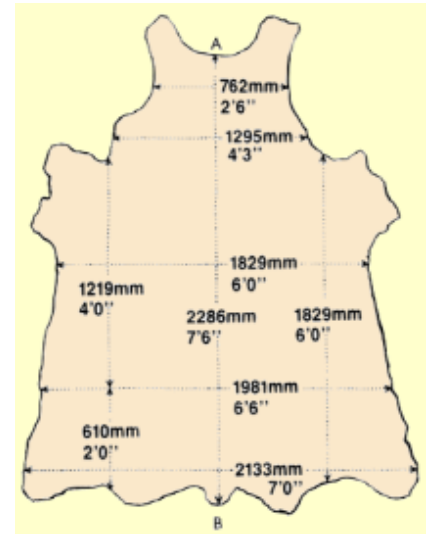
The names given to the various parts of the hide may tell you which part of the animal it's from, but the approximate sizes give a better indication of what to expect, especially if you are buying by mail order. The thickness too is of the utmost importance.

- a. Cheek
- b. Face
- c. Shoulder
- d. Fore shank
- e. Belly
- f. Bend
- g. Butt
- h. Belly middle
- i. Hind shank



**Hide Sizes (approx)  
ft<sup>2</sup>**

- Full Cowhide 45 - 60
- Butt (cowhide) 18 - 25
- Shoulder (cowhide) 8 - 14
- Side (½ cowhide) 15 - 30
- Goat 3 - 6
- Pig 8 - 16
- Calf 6 - 15



In the United States you buy by weight per square foot, or, by thickness, in 64ths of an inch, but in the United Kingdom by the thickness in millimetres. For example, 4–5oz = 4/64–5/64ths in America, but 1.6–2.00mm in this country, going up to, say, 10–11oz = 10/64–11/64ths USA, or 4.0–4.5mm, UK.

**Table showing sizes and weights of leather as they can be variously given**

Inch	Millimetre	Iron	Decimal	Ounce	Inch	Millimetre	Iron	Decimal	Ounce
	(.03937")	(1/48")		(1/64")		(.03937")	(1/48")		(1/64")
1/64"	.40	¾	.015625	1	13/64"	5.20	9¾	.203125	13
1/32"	.80	1½	.03125	2	7/32"	5.60	10½	.21875	14
3/64"	1.20	2¼	.046875	3	15/64"	6.00	11¼	.23437	15
1/16"	1.60	3	.0625	4	1/4"	6.40	12	.250	16
5/64"	2.00	3¼	.078125	5	17/64"	6.80	12¾	.26563	17
3/32"	2.40	4½	.09375	6	9/32"	7.20	13½	.28125	18
7/64"	2.80	5¼	.109375	7	19/64"	7.60	14¼	.29687	19
1/8"	3.20	6	.125	8	5/16"	8.00	15	.3125	20
9/64"	3.60	6¾	.140625	9	21/64"	8.40	15¾	.32812	21
5/32"	4.00	7½	.15625	10	11/32"	8.80	16½	.34375	22
11/64"	4.40	8¼	.171875	11	23/64"	9.20	17¼	.35937	23
3/16"	4.80	9	.1875	12	3/8"	9.60	18	.375	24



All the smaller animals have *skins* - pigs, sheep, goats etc - and as such, are more often than not, quoted as having a certain size and thickness, so, as is more than likely, you are buying sight unseen, it is easier to visualise what you will receive in the mail.

Leather  
thickness chart

2 - 3oz  
1mm

3 - 4oz  
1.5mm

5 - 6oz  
2.2mm

8 - 9oz  
3.5mm

10 - 11oz  
4.2mm



Translations for: Leather

<p><b>Dansk (Danish)</b> n. - læder, skind v. tr. - beklæde med læder adj. - læder-, skind-</p>	<p><b>Nederlands (Dutch)</b> leer, zeemlap/-leer, leren riem(pje), (mv) leren kledingstukken, leren bal (cricket/voetbal), met leer bekleeden, hard werken, poetsen met zeemlap, erop los slaan, leren</p>
<p><b>Français (French)</b> n. - cuir v. tr. - rosser adj. - de cuir, en cuir</p>	<p><b>Deutsch (German)</b> n. - Leder adj. - aus Leder v. - mit Leder überziehen, (ugs.) versohlen</p>
<p><b>Ελληνική (Greek)</b> n. - δέρμα (κατεργασμένο) adj. - δερμάτινος, πέτσινος v. - μαστιγώνω</p>	<p><b>Italiano (Italian)</b> cuoio, di cuoio</p>
<p><b>Português (Portuguese)</b> n. - couro (m) adj. - de couro v. - cobrir ou revestir com couro</p>	<p><b>Русский (Russian)</b> кожа, кожаные изделия, крыть кожей, пороть ремнем, упорно работать</p>
<p><b>Español (Spanish)</b> n. - cuero, piel v. tr. - forrar o guarnecer de cuero, hacer cuero, pegar, zurrar adj. - de cuero</p>	<p><b>Svenska (Swedish)</b> n. - läder, skinn, läderkula, byxor, ridbyxor, skor, hud, hård hud adj. - av läder, läder-, av skinn, skinn- v. - bekläda med läder, piska upp, klå</p>
<p><b>中文(简体) (Chinese (Simplified))</b> 皮革, 皮革制品, 覆以皮革, 抽打, 鞭苔, 皮的, 皮革制的</p>	<p><b>中文(繁體) (Chinese (Traditional))</b> n. - 皮革, 皮革製品 v. tr. - 覆以皮革, 抽打, 鞭苔 adj. - 皮的, 皮革製的</p>
<p><b>한국어 (Korean)</b> n. - 가죽, 가죽 제품, 공, 피부 v. tr. - 무두질하다, 가죽을 대다, 가죽으로 문지르다, 가죽끈으로 때리다 adj. - 가죽의, 가죽제의, 변태 성욕자의</p>	<p><b>日本語 (Japanese)</b> n. - 革, 革製品, 乗馬用革ズボン v. - 打つ</p>
<p><b>(Arabic)</b> (</p>	<p><b>עברית (Hebrew)</b> n. - עור, רצועת-עור, חלקי העור של מוצר כלשהו v. tr. - ציחצח באמצעות עור adj. - עשוי עור</p>



# Some of the tools used in hand-crafted leatherwork



Scratch awls



Bodkin and pricker



English, Swiss and French paring knives



Cutting knives



Clicker knife & spare straight blade

**Paring knife:-** The English paring knife is made of high carbon steel to hold a razor edge. Overall length: 9". Edge length: 2 ¼". It has an all steel blade and is also used in the boot and shoe trade, and is used mainly for paring down edges. With the Swiss paring knife the shape of the blade is similar to the French knife but without the handle. Overall length: 7" long, blade width: 1 ¾". Also called a skiving knife, or doling knife (*doler* being a French verb, meaning to "smooth").

**Bodkin (or awl):-** A plain, tapered, long steel spike set in a wooden handle, for making holes. The pricker (as in the illustration) is a short pointed awl used for marking out patterns etc.

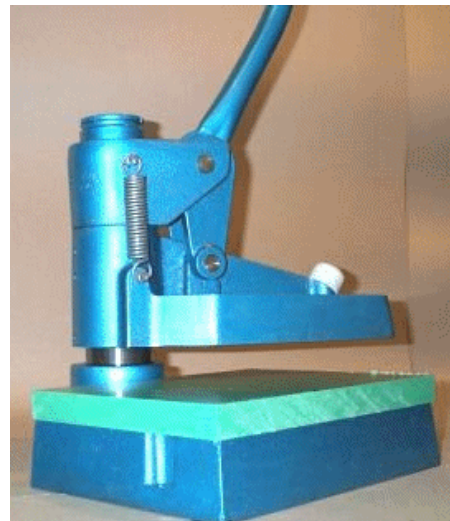
**French Paring Knife:-** Tempered steel blade set in a hard wood handle. Overall length: 7" long. Blade length: 4", blade width: 1 ¾". A wide-blade chisel-like tool, which, because of the broad blade, is ideal for taking thin shavings off the surface of the leather by holding it in an almost horizontal position. It is also a paring knife and is used a lot by bookbinders and shoemakers.

**Cutting knives:-** Strong handled knives often with sickle-shaped blades, used for cutting thicker leather such as sole leather.

**Clicker knife:-** For cutting out heavy leather. The one illustrated is known as the American-handle knife. The handle can be unscrewed and a replacement blade inserted, either of the same shape or with a curve. The term "clicker" is supposed to have originated from the noise the blade makes when the cutting point of the knife leaves the edge of the leather and hits the board beneath.

**Clicker press:-** This bench-top clicker, the MA Series III press with swing-arm cutting head, (see [Lucris Manufacturing Pty Ltd](#) and Website [Here](#). can perform many types of die cutting with steel rule dies and clicker dies. The surprising power and strength of this industrial quality clicker sets it apart from all other clickers in its class.

It can be used for leather, embroidery, badge cutting, card stock, magnetic cards, coasters, small plastic shapes, straps and belt ends, clothing, rubber, key fobs, cork, plastic, felt and many other materials.



MA Series III press



Ruggedly built with a cam-actuated mechanical advantage, it requires little effort, making its operation very easy. The swing arm provides you with a clear view of the work table (cutting board) so it's easy to see what you're doing, with the rotating head giving you easy access. Specifications :- Cutting pressure — up to 5 tons, Width — 12" (305 mm), Height — 14" (356 mm), Weight — 100 lbs (45 kg), Cutting board — 12" x 9", Machine (+handle up) — 38" (812 mm), Swing rotation — 360°, Max. cutting thickness — 3/8" (10 mm). The cutting board is slightly larger than a standard sheet of A4 paper, so any shapes you can fit within that size can easily be cut with this tool.



Japanese drill punch



Brockman paring machine



Safety beveller



Staple and tack lifter



Scharf paring machine

**Head knife:-** The head knife is a versatile cutting tool, and is very useful for skiving. The blade easily handles all types of cut.

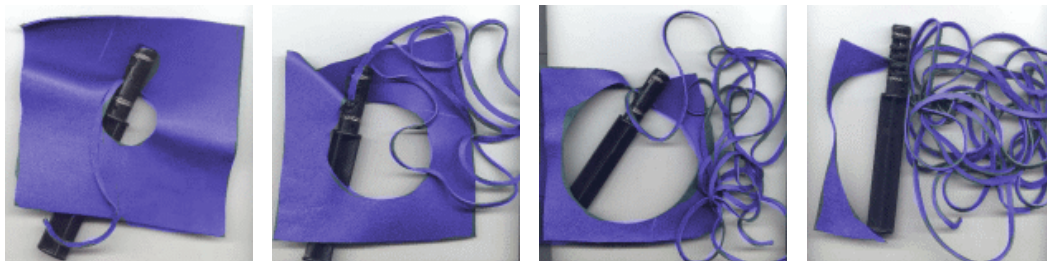
**Japanese drill/screw punch:-** The brass chuck holds one of the 7 drill bits supplied with the punch. Pressure is exerted downwards, causing the bit to spin, drilling through multiple layers of paper and board, leather etc without "snagging". The advantage of this tool is that unlike your usual plier-like punch, this one is not constrained by where you want a hole. You can drill a hole anywhere, not just the edges, by bearing down on the handle. To compensate for the lack of leverage you *do* get in a plier-like punch, the shaft of this screw punch rotates as you press, neatly slicing a trim hole. The drill comes with 7 bits — 1.0mm, 1.5mm, 2.0mm, 2.5mm, 3.0mm, 3.5mm and 4.0mm. Additional bits of 4.5mm and 5.0mm are also available now. Spare sets of bits are also available. Available from: [Here](#).

**Lace cutter:-** Very useful for using up the scraps of leather you always having lying about. The pictures show how it works using a piece of scrap leather about 6" x 6". First cut a small hole in the centre of the leather. Next, put the lace cutter up through the hole. Now begin to cut by pulling the cutter up against the inside edge of the hole. Once you have a piece of lace a couple of inches long, grab the end of the lace and pull firmly. As you pull the lace through, the piece of scrap will rotate around the cutter very quickly and the end you are pulling will just keep getting longer.

Lace cutter



Lace cutter shown going through its paces



## How to use the lace cutter



The lace cutter, (below, left) by C S Osborne & Co, looks simple, and is simple, it cuts uniform strips ( $\frac{1}{8}$ " to  $\frac{3}{8}$ " wide) of suede or grain leather. Calibrated fulcrum and knife come with an easily followed instruction sheet. Extra blades available separately. Website [Here](#).

The Australian strander/lace cutter is made of cast steel, chrome plated, with solid brass parts. It is adjustable and will cut lace up to  $\frac{1}{2}$ " wide. Extra blades available. This little tool is a staple in most whipmakers' and leather braiders' workshops. You simply spin the wheel to adjust to the width of strand needed, feed the beginning of your lace into the strander, and start cutting. This is a simple and very useful tool that is ergonomically designed to be easy on the hands - and on the brain. Website [Here](#).

Dene Williams Strander:-This ingenious little tool is the next generation in stranders, made by R. M. Williams' son to do all the little extra useful things you wished your old basic Australian strander could have done. With this new strander, you can now set the strand width to two different measurements, then use a special spring-loaded thumb button to gradually taper between the two widths you have selected. This is a perfect solution for dealing with stretchy areas of your hide, as well as quickly and easily tapering the strands of your overlay and bellies. The top guard is also spring loaded to lift up so that you can place the strander onto the middle of a section of lace, instead of needing to feed it all the way through from the beginning as is necessary with the other basic Australian Strander. Left-handed DW Stranders are also available. No website, but can be found here:- Dene & Maureen Williams, 276 Hodgsonvale Road, Hodgsonvale, Queensland 4352, Australia (near Toowoomba). Telephone 07 4630 9708. Email: denewhyps@icr.com.au



Osborne lacecutter



Australian strander/lacecutter



Dene Williams strander/lacecutter

**Paring machine:-** This machine, designed and made by James Brockman, ([I regret to say that the Brockman Paring Machine has been discontinued by the manufacturer](#)) is simple to use and set up. It is simply screwed or clamped to your bench top and a standard razor blade is inserted between bed and platen where it automatically slots into the correct position and attitude for cutting.

There are two adjusters, one for thickness, the other for angle. The first raises or lowers the anvil adjusting its relationship to the blade according to the depth of pare required. The second rotates the anvil to correct the parallel or to achieve a bevelled or feathered cut. A groove can be pared in the leather by winding an adhesive tape strip, the width of the groove required around the anvil before making a cut in the normal way.

Using the machine is straightforward. Keeping the leather in tension it is fed over the anvil and under the blade, this removes a shaving, leaving that part of the skin an even thickness. It will accurately pare the narrowest strips, useful when doing inlay or onlay work. The machine has a generous support loop allowing large areas to be pared by making a number of parallel sweeps.

The P&S leather paring machine (available from: [Here](#)) is based on the tried and tested Brockman design. It is simple to set up and operate. The leather is pulled between the anvil and fixed blade. By raising the anvil, thin cuts can be taken until the required thickness is achieved. It is an invaluable tool for quickly preparing inlays, onlays, labels and thin leather pieces for repairs or half and quarter bindings. The machine has a large throat area to accommodate the pared leather when preparing larger pieces for full leather bindings. The anvil can also be adjusted to produce a feathered edge if required. It is sold with a spare pack of blades.

The Scharf-Fix machine, No. 2000, is an easily adjustable tool which turns paring leather into a simple routine. The machine allows for easy and accurate adjustment in terms of depth as well as the angle of the cut, without any motors or complicated mechanisms. Available from: [Here](#). With over 50 years of use in the field, the Scharf-Fix machine sets the standard in table-top manual paring machines. The perfect tool for paring leather for inlays and onlays. The machine includes 10 blades as well as four rollers of varying widths to allow for paring of very narrow pieces of leather. Both genuine as well as generic Scharfix Blades are sold for use with this machine.

**Round knife:-** The round knife is an ideal cutting knife for even the heaviest of leathers. Cuts smoothly without pulling or stretching the leather.



**Safety beveller:-** A dependable and reliable standby. It is shaped to prevent the over-enthusiastic worker cutting too deeply. Consequently it skives leather smoothly and easily.

**Staple and tack lifter:-** Osborne tools from the USA are arguably the best tools in the world and this staple and tack remover is no exception. It has a very robust handle and can be used with or without tapping it with a mallet. It will withstand any amount of twisting and turning without loosening the handle.

**Strap Cutter or Plough Gauge:-** Adjustable tools that are pulled so as to cut parallel strips. Accurate cutting is simple as long as an initial straight edge has been prepared. If you are making a lot of belts these tools are essential.

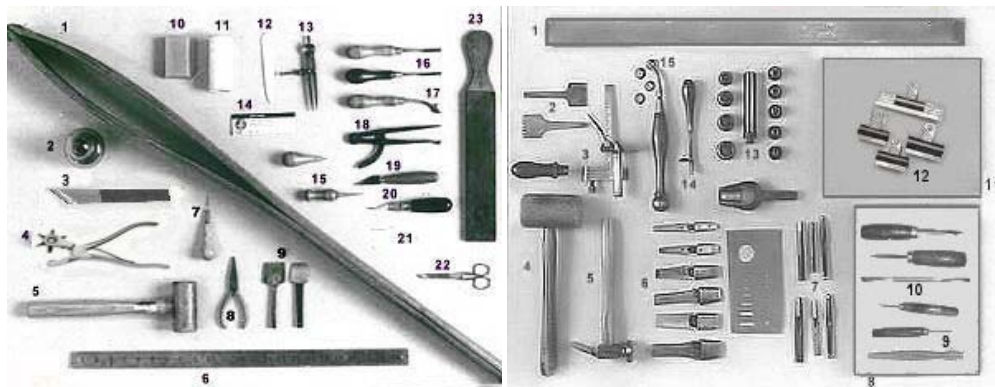


Figure 1

Figure 2

**Figure 1** shows some essential hand-tools:- 1 stitching clam, 2 spirit lamp, 3 paring knife, 4 6-way revolving punch, 5 rawhide hammer, 6 steel rule, 7 scratch awl, 8 flat-nosed pliers, 9 pricking irons no's 7 & 8, 10 beeswax, 11 linen thread, 12 bone folder, 13 dividers, 14 harness needles, 15 stitching awls, 16 edge bevellers, 17 single creaser, 18 compass race, 19 knife, 20 clicking knife, 21 spare clicking knife blade, 22 scissors, 23 strop.

**Figure 2** illustrates some useful-to-have hand-tools:- 1 heavy steel rule, 2 pricking irons no's 9 & 10, 3 plough gauge, 4 heavy wooden mallet, 5 shoemaker's hammer, 6 crew punches, 7 oval and round punches, 8 litho stone, 9 loop clamp, 10 boxwood burnishers, 11 cork block, 12 leather-covered bulldog clips, 13 various round punches, 14 small screw crease, 15 pricking wheels and carriage.

# How Leather is Produced

## The nature of animal skins

The *Epidermis* is the surface layer of dead skin which flakes off during the life of the animal, being replaced from the living 'grain' layer that is immediately below. The *Dermis* is the true skin or corium which is made up of two sub-layers and is clearly seen in sheepskins, though not so much in others. The sub-layers are the *grain layer*, into which the hair shafts are embedded, and the *fibre layer* which is the main bulk of the dermis made of masses of tiny interlacing bundles of fibres giving the leather strength, flexibility, and allow it to breath.

**Animal skin:-** Animal skins, like other parts of animals, are colloidal and have been used since prehistoric times for a wide variety of things. It continues to be a very important raw material. According to Hewitt Bates, it was Eumenes II, King of Pergamom from 197 to 159 B.C., who discovered a method of cleaning sheep and goat skins on both sides. When dried in the sun, these skins became a very desirable writing material known as parchment.

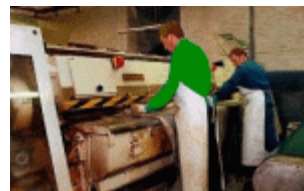
Even the Bible mentions leather. In the third chapter of the Book of Genesis, paragraph 21, a verse reads, "Unto Adam also and to his wife did the Lord God make coats of skins and clothed them." The Talmud describes the tanning art of the Jews which is, to some extent, still practised today. The ancient Greeks and Romans frequently refer to leather in their books and legends. Homer, in the *Iliad*, describes the process of chamoying hides by opening up their pores, forcing oil into them, and beating and rubbing the stacked-out skins in order to achieve softness and pliability in the leather. In Virgil's *Aeneid*, Dido, Queen of Carthage, was promised only as much ground for her kingdom as the skin of a bull could encompass. She cut the hide into a very thin continuous strip and was thus able to cover enough land to build Carthage. Romans used leather as a medium for money by cutting circles and stamping them. Our English word "pecuniary" comes from the Latin "pecus" meaning hide and "pecunia" meaning money.

In modern household collectibles, it will be found in a wide range of objects such as bookbindings, shoes, clothing, sports equipment, and furniture. Skin can be used without tanning in such forms as parchment and rawhide. Partially tanned skin includes many of the skin products prepared by Aboriginal peoples. These skins are very soft and flexible, but are sensitive to water and are prone to stiffening with age. Another process called alum tawing was used for gloves through the 19th century. Skin prepared in this way is very sensitive and should not be wetted at all. When skin is fully tanned by exposing it to chemical treatments, it becomes leather. This is a chemical process that is difficult to reverse. Some leathers are very durable while others disintegrate under certain conditions. Vegetable tanning, which uses barks rich in tannins, is the traditional method that has been used for millennia. Since the 19th century, mineral tanning using chromium and other metallic salts has become more popular. The leathers produced by this category of processes are extremely durable and water-resistant.

**Cattle hide:-** Cattle hide and cowhide are substantially the same, though strictly speaking, cowhide is leather from mature female bovines.



Fleshing and splitting of hides in lime



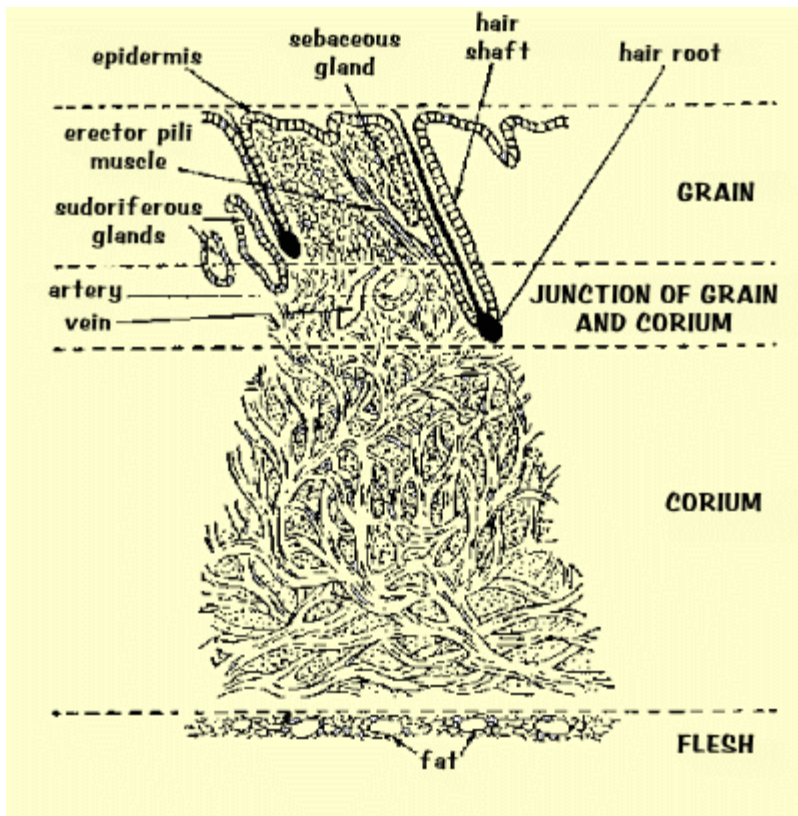
Hide splitting machine

**Vegetable-tanned:-** Vegetable-tanned cowhide is one of the most readily available leathers,

but before tanning begins the hide has to be prepared. Before preparation, the hide of calves and sheep are about 1 cm thick. In other words, the flesh and hair has to be removed (there are tales from times past that some Welsh tanneries used to keep a few mastiffs to chew it off), and no better description than the following suffices (Gresham, I, 97, 1920).



*"Practically every method of disintegrating the epidermis and loosening the hair leaves the cutis still covered with its outer coatings, which must be forcibly removed. For this purpose the hide is thrown, hair side upmost, over a slanted beam, thick and convexly rounded. Taking a blunt two-handled knife the blade of which is slightly concave, and, bending over the head of the beam, you push off the epidermis and hair. If the lime-pits or other depilatory agents have done their work, the job is very easy, calling for nothing more than consistent and regular pressure of the blunt edge downwards on the surface of the hide. The pressure of the body upon the part folded over the top of the beam holds the hide steady, and resists the pull of the knife. Inequalities on the inner side of the hide give some trouble, causing the knife to skip at times; but the main difficulty arises from ineffective action of the depilatory agent. Young hairs and hard places in the epidermis resist the blunt knife. Though contrary to regulations, and risky in itself, the common practice is to take a sharp knife to these parts, cutting and scraping the cutis clear. If carefully done, no harm need accrue, though a slip of the knife or too deep scraping may injure the hide seriously."*



#### Hair Root

This lies at the bottom of the follicle.

#### Erector Pili Muscles

These muscles raises the hair on living animals and cause goose pimples.

#### Glands

The sebaceous glands secrete oils which lubricate the skin and hair. The sudoriferous glands exude sweat which is important in regulating the temperature of the skin and hence the animal.

#### Epidermis

The surface layer is called the epidermis. It consists of mainly dead cells which are relatively hard.

#### The Hair/Wool

The hair root and the epidermis are made from a protein called keratin. It is the most stable part of the skin, but has to be removed during manufacture, to expose the grain layer which lies beneath it.

#### Flesh

This deep layer is called the flesh layer. It contains high levels of meat and fat and is therefore of no use to the tanner. Unless the leather is to be left with the hair on, as in the case of woolled sheepskin, it is the section between the epidermis and the flesh layer which is important. This important section is called the dermis and consists mainly of densely inter-woven fibrous tissue. This tissue is made up of a protein called collagen. If you look under a microscope, you will clearly see all of the fibre bundles. It is these fibre bundles which make leather such a strong, flexible and unique material.

The dermis is broken down into 3 parts.

#### Corium

Here the fibre bundles are large and strong. They lie at varying angles to the grain layer above. This angle varies in different animals, but to some extent, the angle can be altered during the leather manufacturing process. This angle is known as the "angle of weave" and it effects the physical properties of the leather. A lower angle of weave produces a softer, weaker and less elastic leather.

#### Grain

It consists of more densely woven fibre bundles, which have a much finer construction. Towards the top of this layer, next to the epidermis, the fibres are extremely fine and form the layer we call the grain.

#### Junction

This is the area between the corium and the grain layer. In certain animals it can cause problems, e.g. in sheep (basil) where splitting can occur along the junction area. There are a few other things worth noting: Running throughout the skin are many veins and sweat glands. Between the fibre bundles are inter-fibrillary proteins. These proteins can cause a problem. They are not like the collagen proteins which make up the fibre bundles. When they dry out, they form hard glues that clog up the leather. This would make the leather hard and inflexible. There are many fat cells within the corium. These can vary depending on:

the type of animal

the breed

the foodstuffs used

the time of year it was slaughtered

Fats are easy to remove, but in sheep the fat can be up to 30% of the weight of the skin and once removed can leave large empty spaces, which can make the leather feel empty.

**Vegetable-tanning appeared some c.8-10,000 years ago, and it has been suggested, may have resulted from skins being accidentally soaked in forest pools containing oak bark.**

**Briefly, vegetable-tanning is the commonest method used during recent centuries and involves soaking the hides in a solution of oak bark in water for up to 15 months.**

**Vegetable-tanning (or bark tanning) is done using typical materials such as any of the oaks, fir, some willows, chestnut, birch or heather. In fact an enormous amount of plants have at one time or another been important sources of tannin.**

**Presently, some 80% of all commercial vegetable-tanning is done with highly concentrated extracts from chestnut or mimosa.**

**Oak leather has a yellow-brown colour, as has fir. Before synthetic dyes started to come into general use, the Alder gave us some of the very finest. The wonderful Mrs. Grieves, author of *A modern Herbal* informs us in great detail: "Both bark and young shoots dye yellow and with a little copper a yellowish -grey. The shoots cut in March will dye cinnamon, and if dried and powdered, a tawny shade. The fresh wood yields a pinkish-fawn dye and the catkins green. The bark is used as a foundation for blacks, with the addition of coppers. Alone, it dyes woollens a reddish colour (Aldine Red — *which was a favourite colour of our Celtic ancestors*). An ounce (of bark), dried and powdered, boiled in  $\frac{3}{4}$  pint of water with an equal amount of logwood, with solution of copper, tin and bismuth, 6 grains of each, 2 drops of iron vitriol, will dye a deep *boue de Paris*."**

**Chestnut oak (a white oak) is high in tannin as well as acid-forming sugars, and is among the most desirable of barks for tanning. In general it takes about twice the weight of hide in bark to effect a good tan, and the more finely shredded it is the more tannin you get for a given quantity.**

**Hemlock: This was the bark of choice by the tanners of the 1800s in the United States. Because tanners especially favoured hemlock and stripped the bark from this plant, it became almost extinct in the north-eastern U.S. Formerly hides were sent from South America to New York and New England and then hemlock was used to tan them. The leather was then sent to Europe. This continued until the hemlock was almost all gone. This leather has a similar colour to quebracho. There were several drawbacks to this type of bark. One is its inability to hold black when dyed with iron mordents. Since hemlock had problems dyeing black, the tanners stained the leather with logwood in order to get a tannin that would bond with the iron mordents. A faster tanning time was gained with hemlock over oak. This allowed the tanner to tan more leather in a give period of time. So along with the higher weight gain of hemlock over oak this made it very popular with tanners in New York and Pennsylvania. The importance of this stems from the fact that leather was sold by the pound until roughly 1850 when measuring machines were invented, and leather switched to being sold by the square foot, as it is today.**

**Quebracho is obtained from the heart-wood of the quebracho (either of two anacardiaceous South American trees, *Schinopsis lorentzii* or *S.balansae*) tree which grows chiefly in Argentina and Paraguay. Ordinary or water soluble quebracho is the natural extract, rich in condensed tannins. This type of bark gives a leather colour closer to what the hemlock bark tanned leather would have looked like during the 1860s. This is the most common bark used in vegetable tanning done today in the US. This wood was first used in combination with hemlock bark in the 1870s. For the past eighty-five years quebracho has been used on its own.**

**Rowan has a strong, flexible, yellow-grey wood, and was used for great variety of purposes: magical spears, wands, or a talisman inscribed with runes and other meaningful patterns. All parts of the tree were used for tanning hides and for dyeing cloth black. Pine Bark is primarily used in Central Europe producing a red-brown colour to the leather.**

**The main ingredients for the tanning liquors will vary from country to country, and will have a profound affect on the qualities of the finished leather. The amount of calcium in the water will make a profound difference to the finished product. Areas like Walsall in England, or near the European Alps, where there is a high limestone (calcium) content in the water, produce some of the strongest leathers in the world.**

**Tanneries were traditionally situated near rivers and streams because they used so much water. Tannin, being water soluble, the warmer the water, the faster the tannin is extracted. Consequently, warmer water gives a darker colour and, cooler, a lighter colour, to the end product.**

**This traditional method is still in use today by a few tanners who produce leather for high quality leather-goods makers. Generally, though, the introduction of chemicals has superseded this way of tanning.**

**After chemical tanning, the resulting product is a distinctive blue shade – therefore known as "Wet Blue"! Each wet blue hide is then cut down the length of the backbone into two sides before further processing – hence the phrase "side-leather". Side leather is predominantly used for footwear and leather goods which have smaller pattern pieces. The hides would be left whole for upholstery leathers, for example, where larger areas need to be cut.**

**The sides (which at this stage are fairly thick), are then split horizontally through their structure to produce two thinner pieces. The uppermost piece, i.e. the outer skin surface, goes forward for processing as full grain leather, the underside is suede – sometimes also known as "split-leather".**

**It was an inventor, Samuel Parker, who devised a means of splitting leather to make it more usable with less waste. Prior to that, the thickness of finished leather had been determined largely by the thickness of the hide. If a thinner product was desired, the hide was shaved, and the shavings became strictly waste. Parker's process permitted splitting the hide to specification with practically no waste at all. As with chrome tanning, hide splitting remains much the same today as when Parker invented the process.**



## How Leather is Produced - continued

There are literally hundreds of tanning methods and recipes dating right back through the ages.

### Brain tan

You can make soft, washable leather with emulsified oils and woodsmoke. This is commonly known as brain, smoke or Indian tanning. Animal brains are traditionally used as the source of emulsified oils, hence the name, but you can also use eggs or a mixture of soap and oil. Brain tan is ideal for clothing, bags, beadwork and all kinds of things (such as shoe-laces, pot holders, hair ties, or holding parts of your truck together).

Brain tanning is the most popular method for home tanning. The tools and tanning agents are common and easy to get, the entire tanning process can be done in a matter of days, and the finished product is incredibly strong, soft, durable, washable and warm. It cuts the wind, allows your skin to breath and stretches with the movement of your body. When a hide is brain tanned with the hair and grain removed it is known as "buckskin".

Buckskin can be made from any of the hoofed animals including deer, elk, antelope, sheep, goat, buffalo, even cow (it is the way that a skin is tanned that makes it "buckskin", not the fact that it is made from a deer hide). This is also a great way to tan furs.

Buckskin is particularly valued for being durable and comfortable when made into outdoor clothing, plus, being excellent for making pouches, moccasins and many other items. Unfortunately it is not waterproof.

In 1884, Augustus Schultz, an American chemist, discovered that chromium salts used in the tanning process made the leather far more resistant to moisture and sped up the manufacturing process. The development was so important that chrome tanning is still in use today, more than 100 years later.

Where animal skins and hides in centuries past had to be prepared and processed immediately to retard the decaying process, modern refrigeration and curing methods allow today's leather manufacturers to hold hides and skins until they are needed.

When he is finally ready to use the hides, he transfers them to what is called the "beam house". There the hides are soaked in huge vats or drums filled with water. Gigantic paddle wheels or turning drums keep the hides constantly in motion. Lime and sulphides are added to this solution to aid in the removal of the animal hair.

The lime solution is then removed from the hides. (By this time, the chemicals with their high pH have caused the hides to swell to about twice normal thickness and they bear no real resemblance to leather as we know it). Once the hair is removed and the lime solution washed away, the skin can be fleshed and trimmed to remove the portions which do not make good leather, or which would interfere with the actual tanning process. Now the hides are again washed to remove any residue from the previous steps.

The hides are now almost ready for tanning. The previous steps have created a swollen skin which would not accept the tanning agents well. Now, salt and acid are added to the liquid solution to attract and tie up the excess moisture. The "pickling" is a preserving technique, as well, and hides in this state can be kept for extended periods of time without fear of deterioration.

The hides are now ready to tan, and in many cases, the same vats or "mills" in which the hides were prepared are used for the "chrome tanning" process. The tanning agents or chemicals react with the hide protein and really make it into leather as we know it.

In the past, many of the steps in processing and tanning the hides were done manually — and in some countries and tanneries, this is still the case. But, today, much of this can be done using sophisticated equipment to measure and control the mix of chemicals used in wet processing and tanning.

Chrome-tanned sheep and deer skins are currently marketed as "buckskin" even though they have very different physical properties than the traditional material. (Pollution of waterways is the number one problem facing the modern leather tannery (as well as the folks downstream), and chrome compounds are the culprit. Chrome tan doesn't allow your skin to breathe which makes it very sticky and clammy against the skin. It's also broken down by the alkalinity of perspiration and soaps (on the other hand, you can boil chrome tan and it won't affect it a bit, in fact this is a common test to make sure the hide is fully tanned). I personally think that those black leather jackets folks wear are pretty smart and comfortable. But I wouldn't recommend it for much else. Most home tanning books teach you how to do this type of tanning. However, besides making an inferior leather and polluting the environment, you also have to special order and deal with these very hazardous chemicals. You're better off brain-tanning.) In the production of chrome tanned skins and hides, the chromium sulphate binds very strongly to the fibres. The resulting complexes are very stable, and this enables the tanners to remove the water both mechanically, and then still further by the use of vacuum drying. In vacuum drying, the skins are flattened out on a heated bed, a cover is then placed over the skin, and the air pumped out. The subsequent partial vacuum that is formed allows the water to be "boiled off" at a substantially lower temperature in a matter of a few seconds. The resulting chrome tanned leather has a strong blue colour, is damp to the touch, but certainly dry enough for sorting with a good degree of accuracy. Chrome tanned hides and skins can therefore be dried, sorted and back into production within one day of tanning. This allows a very fast throughput of skins, minimising the amount of stock necessary to allow the tannery to operate. Traditional methods have not been industrialized because the tanning process relies on physical manipulation more than chemicals. This leaves it in the domain of the backyard tanner, where it has long been. The mystique and reputation of buckskin remains strong however, and commercial interests will continue to cash in on it.

Alternative vegetable tanning methods can replace chrome tanning to a high degree. An example is the "Liritan" process, developed in South Africa. A high chemical uptake, low pollution load, uniform penetration of the tan and a shortened process time with consequent financial efficiency are claimed to be the main advantages of this process (Higham, 1991), but little is known of the practical implications.

The Liritan process is a common method used in the U.S. for producing skinning leather. The leather is pre-tanned with Calgon (sodium hexametaphosphate) prior to tanning with vegetable tannins. Skirting was traditionally produced by moving the hides from pits with weak tanning solutions to pits with successively stronger solutions to give even tanning. The traditional pit method of vegetable tanning is slow. The Liritan process allows the tanner to use a strong vegetable tanning solution immediately after pre-tanning. Thus, the hides are tanned more quickly and thus less capital is tied up in the process.

Synthetic-tanned leather is tanned using aromatic polymers such as the Novolac or Neradol types. This leather is white in color and was invented when vegetable tannins were in short supply, i.e. during the Second World War. Melamine and other amino-functional resins fall into this category as well and they provide the filling that modern leathers often require. Urea-formaldehyde resins were also used in this tanning method until dissatisfaction about the formation of free formaldehyde was realised.

**Painting:-** A process for loosening hair or wool (usually the latter) which is employed with skins whose protective covering is so valuable as to make it desirable to avoid injuring it by soaking in a lime liquor. The process is carried out by painting the flesh side of a skin with a depilatory substance, containing sodium sulphide or arsenic. Nowadays this is the usual

method with sheepskins bearing the higher grades of wool. Before it was invented, such skins were usually de-haired by sweating.

## Tanning Rabbit Skins

This is a method of tanning hides that is low on costs and labour compared with other methods of "custom tanning". You can use this method to tan rabbit skins as well as goat skins. The procedure can be used for all kinds of mammal pelts when you want the fur to remain on the skin. The result is a soft, workable hide, which can be used as is, or be cut up for sewing projects.

### Salting Fresh Skins

Fresh hides right off the animal should be allowed to cool immediately. Trim off any flesh and scrape visible fat from the hide. Place the skin in the shade, ensuring it lies completely flat with the fur side down, preferably on a cold surface. When the skin feels cool to the touch, cover the flesh side completely with plain, un-iodized, salt.

Do not be stingy in your use of the salt.

If skins aren't salted within a few hours of removing the flesh you might as well forget it. They will have begun to decompose and will probably also lose their hair during processing.

Keep the skin flat and out of the reach of animals. You don't need to stretch the skin, just make sure it is perfectly flat, without curling at the edges. If you lose a lot of salt while moving the pelt, add more. The salt is to draw the moisture from the skin so liquid may pool in low spots. Just add more salt. Let the skin dry until it is crispy. This will take from a few days to a couple of weeks. When completely dry, the skin is very stable and won't change or deteriorate appreciably.

### Tanning Ingredients

When you're ready to tan the skins, get together the following:

- 7 gallons water
- 2 pounds of bran flakes
- 16 cups plain salt (Industrial Vacuum Salt, not iodized) (Have a look [Here](#)).
- 2 large plastic rubbish bins (30 gallon) and one lid (Have a look [Here](#)).
- a 4' wooden stirring stick
- 3½ cups battery acid (from a car parts shop or, have a look [Here](#)).
- 2 boxes baking soda (Have a look [Here](#)).
- wooden rack or stretcher
- neatsfoot oil (Have a look [Here](#)).
- nails
- wire bristle brush

This recipe makes enough tanning solution to tan ten rabbit skins. (Reduce the amounts by half for fewer skins).

### Mixing the Solution

A couple of hours before you plan to begin, soak the dried skins in clear, fresh water, until flexible. Boil three gallons of water and pour over the bran flakes. Let this sit for an hour, then strain the bran flakes out, saving the brownish water solution. Next, bring the remaining four gallons of water to the boil. Put the 16 cups of salt in the plastic dustbin. Pour the water over the salt and use the stirring stick until the salt dissolves, add the brown bran liquid, and keep stirring.

When the solution is lukewarm, you are ready to add the battery acid. Read the warning label and first aid advice on the battery acid container. Wear gloves and an old, long-sleeved shirt, and carefully pour the battery acid down the inside of the dustbin into the solution – do not

under any circumstances allow it to splash. Stir the battery acid in thoroughly.

At this point, you can peel off the hide's dried inner skin, or, if you have fresh skins, use as is. Add the skins to the solution and stir, pressing the skins down carefully under the liquid until fully saturated. Leave them to soak for about 45 minutes, stirring from time to time to make sure every part of the hides are exposed to the solution. During the soak, fill your other dustbin with fresh, lukewarm water. After 45 minutes, soaking is complete.

Using the stirring stick carefully move the skins one by one into the other dustbin containing the lukewarm water. This is the rinsing process, for removing the excess salt from them. Stir and swish around the skins for about five minutes, but change the water as soon as it begins to look dirty.

Adding baking soda at this point will neutralize some of the acid in the skins - this is advisable because there will be less possibility of residual acid in the fur to affect sensitive people. However, this also may cause the preserving effects of the acid to be neutralized. So you choose to use baking soda based on your own end use of the skins. If the skins or fur will spend a lot of time in contact with human skin, it's worth using the baking soda. If it's to be used be used for a rug or wall hanging, I probably wouldn't.

They will be very heavy when you lift them from the rinsing water. Let them hang over a board or the back of a chair or other firm surface to drain. Now, using a sponge, rag or paint brush, swab the still-damp skin-side of the hide with an ounce of neatsfoot oil. It will be absorbed quickly, leaving only a slight oily residue. Tack the hide to your "stretcher." Gently pull the hide as you tack it so there's some tension in the skin. No need for excess pressure or overstretching. Leave the hide in a shady place to dry.

Your acidic tanning solution can be neutralized for disposal by adding a couple boxes of baking soda. It will froth and bubble vigorously and release a potentially toxic gas, so allow plenty of ventilation and keep away from the solution while this is happening. Save it for use in your garden, on your pathways and suchlike, to keep them clear of weeds. Do not pour it down your drain.

Check the hide every day. When the skin side feels dry to the touch in the centre, but still flexible and somewhat soft, take it down from the rack. Lay the fur side down and go over the skin with a wire bristle brush. This softens the skin and lightens its colour. Don't brush too heavily or excessively in one spot, just enough to give a suede-like appearance. After this, put the skin where it can fully dry for a day or so longer.

## Tanning snakeskins

Tanning a snakeskin is labour intensive and rarely comes out the way you would picture it in your mind or with a product finished like a glove-soft commercial quality skin!

The first and perhaps most important step is fleshing the skin. This can be accomplished only with "elbow grease" and stamina! Place the "green" skin on a flat surface and scrape it completely with a tool of choice that most readily removes virtually all of the tissue adhering to the skin. A finished skin is a white skin! Some fleshers prefer variously a knife, a meat cleaver, a spoon, a putty scraper, and a host of other devices designed to get flat down on it and remove the stubborn tissue. By stroking the skin with the grain downward toward the tail, it seems to do less stretch damage to the skin or scales on the opposite side. Trim the tail carefully by inverting it so the tip is preserved as a part of the skin. Staple the skin on a board or flat surface without unduly stretching it. Leave it in a straight position so that you end up with a straight skin, a natural shape without curves. (Have a look [HERE](#)).

Do not put salt on a snakeskin! There are several good commercially available tanning solutions (too numerous to list, but have a look in the Tandy Leather mail order catalogue) to apply to the wet skin after stapling flat.

After the skin has dried, remove and rub, or break it, over a surface corner like a table edge - much like a shoeshine buffing rag. This last step is not necessary if you are planning a wall mount display. Just mount the skin on the desired board and be done with it.

## Tanning fish skins

There are those who say fish skins being tanned for leather have to be treated almost like hair-on skins being tanned for leather. The scales and outer epidermal layer of skin is removed by using a lime solution, then its de-limed, pickled, degreased (a must!), shaved, neutralized (depending on what tanning agent you use), tanned, oiled and then worked soft. Although you do not retain the original colour and markings, nevertheless you have a nice piece to work with. Unfortunately not a large piece however, because normally the fins, and extras are trimmed off.

That said you can always have a stab at the following.

Some considerable time ago I did look into methods of tanning fish skins and most of them are laborious and time consuming. You may think the following is a wind-up, but I assure you it's not.

There is a method used by the Inuit that gives, I'm told, good results, using salmon, trout and most smaller fish skins and does not smell after preparing.

What you do is this. Pee a couple of times in a bucket, (although a woman's urine is said to be superior) let it sit with a lid on for a day or so, to bring the ammonia out, which draws the fat out of the skin. Then pour in the same amount of water as you have urine, half water half urine that is. Put your skins in it after taking all the flesh off with a spoon or a dull knife, but not at this stage the scales. Trim off the fins etc. Let them sit in the fluid while stirring once in a while for about 12 – 24 hours depending on how thick the skins are.

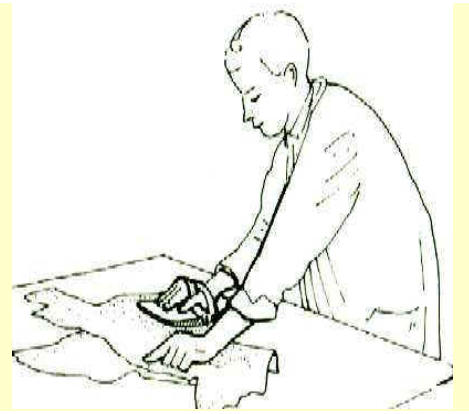
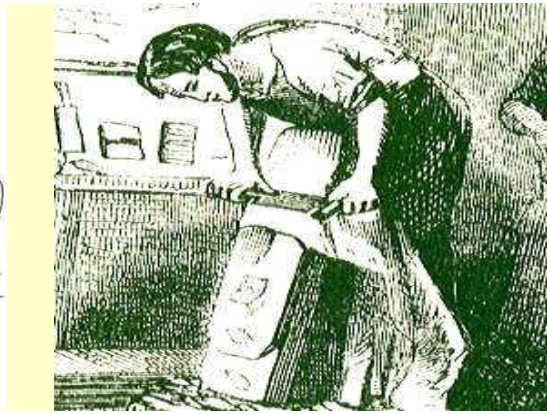
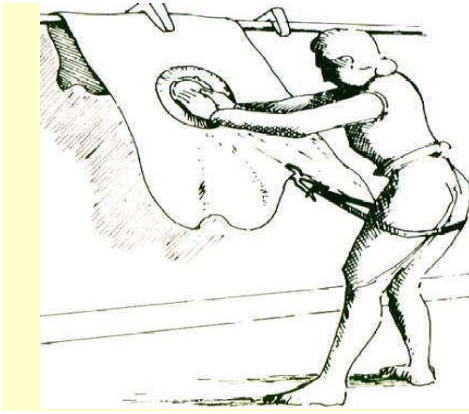
Then wash them out in lukewarm water using shampoo or a mild soap. When washed, the scales on the surface of the skins, are easily rubbed off. After they are washed the skins need to be flattened out on a piece of board, stroking down towards the tail. Seemingly they stick like glue to the board until dry, then they fall off.

When they are completely dry comes the tedious part of the job. You must scrunch the skins in every direction possible to break the fibres as much as you can, to make them soft enough for sewing. Also you can draw the flesh side over a not too sharp edge to get it smoother. They really do turn out great apparently and not smelly. One thing to remember is not to get the skins wet afterwards, otherwise they will become hard. You can use textile waterproofing on them.

A very good book is *Leather. Preparation and Tanning by Traditional Methods*, by Lotta Rahme, 112 pages, published by Caber Press, ISBN 1-887719-00-8 and I believe costs about £20.00. (see also, [Fish Skin video](#) and [Sea Leather Wear](#))

## Currying

After the tanning, the next stage is the preparation of the tanned hides for its necessary smoothness, colour and flexibility. This is called currying. Probably originating from the old French word "*correer*", meaning "to make ready". Traditionally this was done by specialised craftsmen.



The tanned hide has to be rinsed in fresh water over a period of several hours. Between each rinse the water is squeezed out of the hide using a slicker. The object being to remove as much unfixed tannin as possible. At the same time you must be careful not to tear the grain off.

Next, dry the hide off a bit, then grease and soften. Dyeing comes before oiling.

**Dyeing:-** Vegetable-tanned hide at this stage is whatever colour has been imparted by the tannins. To change the colour of the hide you can soak it in any tannin-based dye.

**Oiling:-** As well as making it softer and darker, oiling also prevents it from cracking. Using a waxy, animal, body-fat, also imparts a heavier feel, as well as making it more resistant to water. A light oil, such as neatsfoot oil, gives a much more stretchy, lighter leather.



Typical currying workshop of earlier times

When the hide is dry, it can be dampened by rolling in damp towelling or hessian type material. This process, the oiling, stretching in all directions, then drying, is repeated until the necessary softness is acquired. The terms "staking" and "perching" are the names applied to other processes by which a hide is stretched, softened and made more flexible. The leather is drawn back and forth over a blunt, horizontal blade fixed on an upright *stake*, whilst in *perching*, a hide suspended from a perch has a blunt blade drawn over it.

It is in comparatively recent times that machinery has taken over from the hand operation, though not totally, as the hand method is still the method of choice for some very light leathers.

# More Aircraft-Interior Restoration

## Seats from a Piper Chieftain



Back view of seat - *before* repair and restoration



Back view of seat - *after* repair and restoration



Back view of seat - *before* repair and restoration



Back view of seat - *after* repair and restoration

## Using the blind stitch

Somewhere between new and worn out, the life of most aircraft interiors can be extended with minor repairs. Repairing a small problem before it becomes a big one is only sensible. Making small repairs can also keep an interior looking good much longer.

First, a few upholstery terms: The *facing* is a piece, or pieces of leather, covering that part of the seat normally in contact with your body. It can be an insert and two panels. The *boxing*, is the piece or pieces of leather that go around the perimeter of the seat and is attached to the facing. The *welt* is the long round tubular piece that is sewn between the facing and boxing.

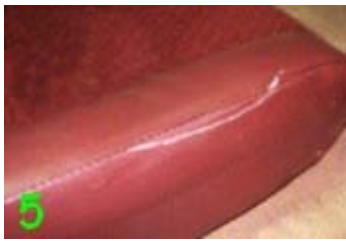


Figure 1: This is a very common problem. The welt on this seat cushion has worn through and the seam has begun to come apart.

Figure 2: Carefully cut the seam open, cutting only the thread. Cut past the worn out leather until good is encountered.

Figure 3: Sometimes the welt is only sewn into the seam. Here the welt has been sewn to the boxing before the boxing was sewn to the facing. So an additional cut is needed, to remove the welt from the boxing. Cut the thread about one-inch past the point that the welt is ruined.

Figure 4: Remove the ruined section of the welt, inspect the condition of the leather, and remove the thread remnants. Most of the leather is OK, but there is one bad area that will have to be worked around.



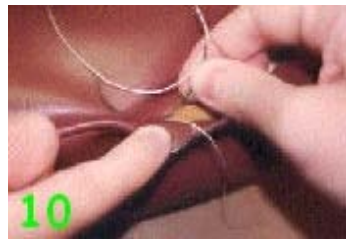
**Figure 5:** To insure your new stitches are sewn in good leather chalk around the bad area. Keep about 3/8 inch away from it and smoothly taper the ends. Follow this line with your new stitches.

**Figure 6:** The thread in your needle needs to be as long as the area to be repaired plus 18 to 24 inches to insure enough thread to complete the job and bit to spare. White is used so it will show up in the figures. Normally it is a colour matching the leather.

Begin about an inch past where the thread had been cut, where the old stitching is still holding the seam together. From the inside of the seat cover push the needle through an existing thread hole in the facing. Pull until almost all the thread has come through leaving about a six-inch tail behind.

**Figure 7:** Using the existing hole in the welt that corresponds to the last hole used, push the needle through, and all of the thread except the six-inch tail.

**Figure 8:** From the outside of the seat cover, using the existing hole in the boxing that corresponds to the last hole used, push the needle through into the inside of the cover and all of the thread except the six-inch tail.



**Figure 9:** Using the six-inch tail left in Fig 6, tie a slipknot around the thread, and pull it tight. The knot will disappear inside the seat cover.

**Figure 10:** From the inside the seat cover push the needle through the next existing thread hole in the facing. Pull the thread tight.

**Figure 11:** Using the existing hole in the welt corresponding to the last hole used, push the needle through and pull the thread tight.

**Figure 12:** From outside of the seat cover, use the hole in the boxing corresponding to the last hole used, push the needle through that hole and the next existing hole. Pull the thread tight. An existing hole was missed out and second one over used. Either way is OK providing the corresponding hole in the welt and facing are subsequently used.

Now it becomes obvious that a curved needle is necessary as it allows you to put the needle through two holes in the leather at the same time.



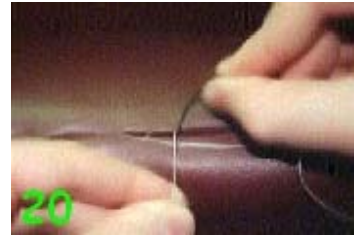
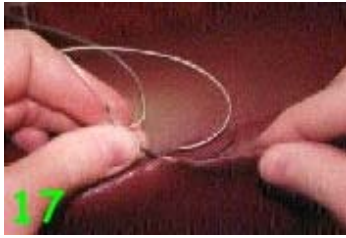
**Figure 13:** Using the existing hole in the welt that corresponds to the last hole used, push the needle through and pull the thread tight.



**Figure 14:** From the outside of the seat cover, using the existing hole in the facing that corresponds to the last hole used, push the needle through that hole and the next existing hole in the facing. Pull the thread tight.

**Figure 15:** Position the thread over the welt. From outside of the seat cover, use the existing hole in the boxing corresponding to the last hole used, push the needle through and also the next hole in the boxing. Press the end of the welt down into the seat cover and pull the thread tight.

**Figure 16:** Again position the thread over the welt, from outside of the seat cover, use the existing hole in the facing that corresponds to the last hole used. Push the needle through that and the next existing hole in the facing. Press the end of the welt down into the seat cover and pull the thread tight.



**Figure 17:** From outside of the seat cover, use the existing hole in the boxing corresponding to the last hole used, push the needle through that and the next existing hole in the boxing. Pull the thread tight.

**Figure 18:** Continue this process up to the beginning of the chalk mark. As you can see, every other hole will be used

**Figure 19:** Now, instead of using existing holes in the boxing new holes must be made on the chalk line that correspond to the existing holes in the facing.

**Figure 20:** To ensure proper alignment between the corresponding facing and boxing holes, pull the thread out from the previous hole and hold it at right angles to the seam. Make a new hole where the thread intersects the chalk line, but only partly push the needle through.



**Figure 21:** Again, using the thread as a guide, pull it tight and hold it at right angles to the seam in line with the next hole in the facing. Where the thread intersects the chalk line, push the needle into the leather to create a new hole.

**Figure 22:** Push the needle through the two new holes and pull the thread tight. Continue this process until the chalk line once more contacts the existing holes.

**Figure 23:** Notice how doing this has closed the seam and nicely finished the end of the welt.

**Figure 24:** Press the end of the welt down into the seat cover and stitch over it.



**Figure 25: Having stitched up to the point where the welt is still securely sewn into the seam, push the needle through the hole in the welt that corresponds to the hole last used and pull the thread tight.**

**Figure 26: Sew past the end of the welt roughly two inches and then change direction, stitching over the same area about three inches, to secure this end of the thread.**

**Figure 27: Pull the thread tight, and cut off close to the leather. The thread end will pull back inside the seat cover.**

**Figure 28: It's not as good as new but it's better than before, and this repair will prevent further deterioration.**

**Once you've mastered this technique, you'll be surprised how often it can be used.**

# More Aircraft-Interior Restoration

## Seats from a Piper Chieftain



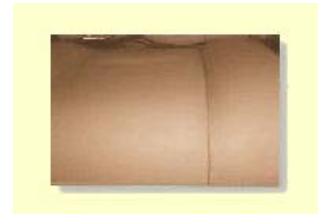
Seat pocket *before*, and -



*after* restoration



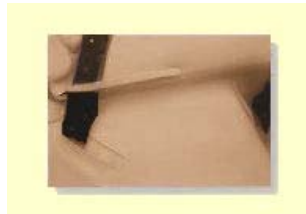
Seat squab *before*, and -



*after* restoration



Side of seat *before*, and -



*after* restoration



Seat back & pocket *before*



- and *after* restoration



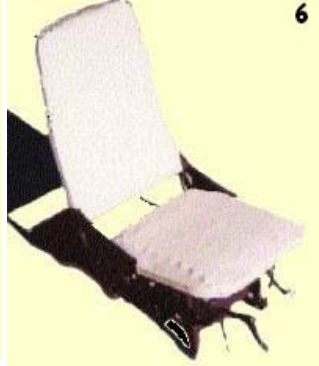
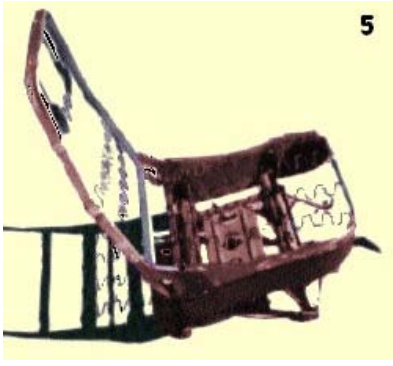
## Re-covering a plane seat

Leather is beautiful and very durable, and it will do things other materials won't. It makes seats look great, but more importantly, they are much more comfortable in the extreme temperatures of winter and summer. No other material would perform this function as well as leather, because of its strength, durability, and malleability.

When shopping for upholstery services, who you choose to perform the work is the most important factor in determining the quality of the finished product. Knowing how the seat is constructed, what materials are commonly used, and customary upholstery practices and procedures will be helpful in selecting the right business to do the work for you.



1. A new cover had been put on this seat to put a pretty face on an ugly situation. Even though from the outside it looked okay, the insides were worn-out.
2. The back of the seat is still the original plastic showing the ravages of time and regular use.
3. With the seat cover removed you can see the original foam, collapsed and deteriorated.
4. The support has worn through. It wouldn't have been long before the springs had worn through the foam, and the seat cover too!



5. With all of the old materials removed it's time to inspect the frame. Now is the time to do any necessary repairs. There's no sense in re-covering a broken frame.
6. The rebuilding process begins with the new support stretched tightly across the frame.
7. New foam will provide excellent support and comfort. Foam is manufactured in a wide variety of densities and firmness. The "density" of a foam is a measure of its quality, not its firmness. You want the one that's just right. A soft foam will not provide good support. Even after a short flight, a seat that's too soft will leave you fatigued. It's usually better to err on the side of too firm. Note the modest side bolsters and lumbar support.
8. The back of the seat is no longer a separate piece of plastic. The seat back and pocket are integrated into the seat cover.
9. The new seat cover provides the finishing touch. The seat is ready to fly.

# More Aircraft Interior Restoration

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# Preparing vegetable-tanned leather for dyeing

The leather can be cleaned by simply sponging it with lukewarm water. Avoid rubbing your fingers over the leather to be dyed as much as possible as the acids or oils from the skin will inhibit the dye penetration. When using the sponge apply it lightly, quickly and as evenly as possible.

## Dyeing

Let the leather dry before dyeing, though in some instances lightly dampening the part to be dyed will aid its penetration.

It's easier to get an even result using full-strength colours straight from the bottle. Several applications will increase the intensity of the colour until the saturation point is reached.

Using a diluted mixture some dye pigments may be heavier than others if the solution is not thoroughly mixed, thus causing darker streaks. Bear in mind also that certain parts of a hide will accept dye pigments more easily than others. Also certain colours are more difficult than others to control to obtain an even coverage. Only practice and experience ensures success.

It is beneficial to have at least half-a-dozen brushes of each of the varying sizes you use. This makes sense considering the range of colours you use, yellows, reds, greens, blues, browns and blacks, and dipping your brush into very penetrating spirit dyes, the hairs quickly absorb it, and some can get trapped inside the ferrule. So, unless care is taken to thoroughly clean a brush these pigments can be released, bleeding back into the lower part of the brush, causing discolouration when using another colour. Keeping brushes as much as possible to the one colour eliminates this possibility. I'm sure you would not be pleased when the brush you'd used for yellow then 'cleaned' before using it for blue, you suddenly realised was actually producing green!

Yes, you can re-dye the colour of a belt! (the leather the belt is made from is not dissimilar to shoe leather). You can usually buy a de-glazer from a shoe-repairer or good shoe shop to remove the clear top-finish on the belt (Or acetone from a paint and wallpaper shop. Nail-polish remover will work at a pinch, but it's an expensive way to do it). You can then use a "shoe colouring dye" from the same shoe-repairer or shoe-shop to re-colour the belt, assuming you can find the right colour. This "dye" will be a largely opaque dye (more like a paint) than the Fiebing's leather dyes from a leather-crafts shop, which are translucent and will only darken the existing colour.

## Various finishes



Neat-Lac

Has a lacquer base and is very durable and clear, it is waterproof with a glossy finish. It is ideal for leather items receiving a lot of hard wear, especially outdoors. Clean brushes used to apply it in Neat-Lac thinner or cellulose thinner.

#### **Tan-Kote**

This finish is waterbased. It is clear, with a semi-waterproof finish that applies smoothly and will not streak, with a non-shiny finish. It can also be used to thin antiquing stains, not only that, but small amounts of Spectra Shade dye can be mixed with it to colour-tint the finish. The only drawback, though a minor one, is its liability to become spotted and stained if subjected to prolonged periods out in the rain. A big plus is that you can clean your brushes in water.

#### **Super Shene**

This is a water-repellent acrylic and when dry has a high-gloss finish. It is hard-wearing and flexible and can be applied to the majority of leather items.

#### **Leather Glow**

This is actually a very light antique stain and when it dries it gives a semi-gloss finish to the article. It is useful too for accenting tool impressions and knife cuts. Water can be used to clean your brushes.

#### **Hi-Liter**

This is a stain very similar to Leather Glow but is much, much darker and will dry to a semi-gloss finish. It is the perfect medium for almost all stamped designs and for enhancing tool impressions and knife cuts. Make sure you don't waste time cleaning your brushes in warm water, otherwise they go stiff and tacky.

#### **Carnauba Cream**

This is a water-based leather conditioner. It's full of natural waxes (carnauba is a yellowish wax from the Brazilian palm), and when dry, polishes up to give a nice sheen. It's most suitable for smooth, plain leather surfaces. Though it can be used on carved leather, that necessitates using a stiffish brush over all cuts and impressions after it's dried. Neither will it enhance carved or stamped designs as the two finishes above. You'll also need to use warm soapy water to clean your brushes.

#### **Edge**

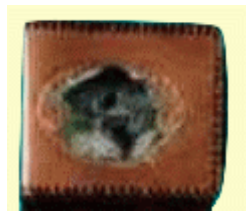
#### **Kote**

You can get this in brown or black and it's primarily used to finish off the edges of belts, handbags and any other item not having a laced or turned edge finish. You can if you so wish use it to dye the backs of belts or any other item without a lining leather. It's not the most penetrating of dyes so you'd be better to first dye the edges with a black or brown Pro Dye to ensure a solid base for it. Rinse out your brushes immediately before washing in warm soapy water.

## **Colouring Leather - more examples**

Every piece, although made with today's leather-working tools is made as it was made years ago. Remember, leather is a natural product and we work with the material in the traditional way, not only to produce an item that looks good, but will be durable in everyday use.

The same applies to the colouring of the leather. The dyes may be made, though not all, in a different way, but the care and patience in their application is no different today than it ever was.



**All items shown on these pages are made by hand. By hand, meaning using our own hands, and a needle or rivets and a mallet. No machinery of any kind is used to produce any item we make. If an item is sewn, it is sewn by hand, not a sewing machine.**



**If the edges are finished by thonging (or, if you prefer, lacing) it is done by hand using a needle and the appropriate lace. The leather used to make each item is cut by hand using either a knife or scissors, no matter how intricate the pattern.**



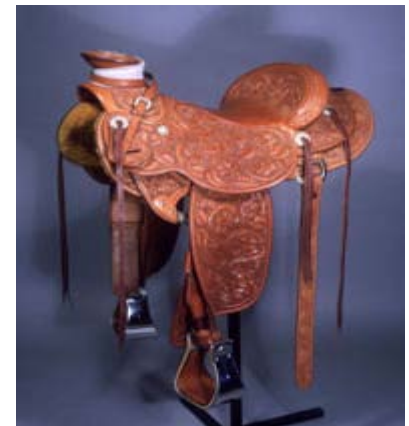
# Decoration of leather

In roughly the 8th century, Cordoba, (hence *Cordovan*, a native or inhabitant of Cordoba, also applied to the leather) the Spanish town, was famous for its leather. First white (white leather was the result of early methods of mineral tanning (or *tawing* as it was known) using alum) or dyed red and later, gilded. Thus the English "*cordwainer*", the early name for a shoemaker (*cordewan* from old French *cordoan*, (the present-day French word is *cordonnier*), and old Spanish, *cordovan*). Currently, cordovan leather comes from that part of the hide known as the shell.

Incising and modelling tools were developed during the Middle Ages, out of necessity, because of the evolving decorative techniques. Getting on towards the end of the 1500s Holland had become noted for fine leather embossed in relief, coloured, and used as wall coverings. It was also used for covering tables as well as smaller objects. Leather decoration was practised to a lesser extent in other parts of Europe, England included.

As far as England was concerned this was particularly true for bookbinding (just as a point of interest, at the beginning of the eighteenth century, hand tools for bookbinding had reached a stage of development which differ little from those in use at the present day), sheaths for daggers and the covering of caskets.

The Spanish are credited with introducing the craft of leather decoration into South America. By the nineteenth century, Mexican saddlers who excelled in the art, taught the trade to saddlers of the border states. Hence the so-called Western saddle with its elaborate decoration.



Three examples of the highly decorative, American, Western saddle

During the Industrial Revolution in England the art of decorating leather had declined. But from about 1900 there was a revival of interest partly due to the Crafts movement inspired by William Morris and his followers.

Today there is a quite considerable interest, both in this country, and certainly in the United States of America.

Carving/*cuir cisele*, is a method of decorating leather in which the design is cut into dampened leather instead of being tooled or blocked. The design is first outlined with a pointed tool and then dampened. Sometimes it is then brought into relief by depressing the background, usually by stamping a succession of dots into the leather very close together by means of a pointed tool. Certain parts of the design are sometimes embossed from the flesh side of the leather, and in such cases the decorating must be done before covering.

**Applique** refers to the techniques of attaching other things to the surface of the leather, to decorate it. These can include papiermache, other pieces of leather, decorative riveting etc.

When it comes to decorating leather, carving is the most expressive, allowing the artist to illustrate from simple letters to complex scenery or portraits and can add a very personal element to any article.

# Colouring Leather

Some people refer to the colouring of leather "pictures", whether carved, embossed or stamped into the leather, as paintings. Do *not* refer to them as such, for they are not painted.

When colour is added it is with leather dye, which requires much more care in applying than does paint. Paint is a viscous mixture, whereas leather dye is very thin (like water), and spreads very quickly, which necessitates greater care being taken in the use of leather dye. The colouring of leather is in itself an art.

However, in today's marketplace there are numerous brands of specially prepared dyes and finishes. You can use anything from acrylics, oil colours, lacquers, coloured waterproof inks to enamels and lots more besides. Water and spirit-based dyes vary in intensity and shades according to brand. Some of the more well-known are Cova dyes (available in twelve colours plus white), Spectra Shade dyes and Pro Dye. Cova dyes, being acrylic, are more viscous than the other two, and have little, if any, penetration of the leather surface.



They are opaque, and unless thinned with water, cross-dyeing is not successful, indeed, when used full-strength will not produce secondary colours. However, spirit-based dyes, such as Pro Dye, can be applied over Cova White and the shades obtained will vary according to whether the white is undiluted, or if it is, by how much.

Spectra Shade or other water-based dyes cannot be applied over Cova to give the same effect it will simply lift the white from the surface of the leather.

Some leather artists do not use dye on their carvings, for they believe it takes away from the natural beauty of the leather. A leather picture is a carving, and is done in almost the same way that a wood carver would carve a piece of wood to make a wooden picture. But where a wood carver removes some of the wood to get a three-dimensional picture, a leather carver works with a *moist* piece of leather, and has to depress or raise up the leather (emboss), to get the effect that he is trying to put on the leather.

A leather picture is done by first tracing a design on a moist piece of leather. Whereupon the leather which has previously been "cased" (that is, its surface has been moistened, or even, depending on the thickness, soaked in a bucket of water, then allowed to gradually, dry naturally, until it is judged by its colour to be ready to be worked upon) returns to its natural colour. The design is then cut into the leather with a swivel knife. The craftsman/artist then, using a combination of saddle stamps and modelling tools, works the design or picture into the leather until the desired effect has been achieved. This is a very slow process, requiring a lot of care and patience.



**If you try to hurry and should make a mistake in working with leather, (which is not a forgiving material) then you must start all over again from the beginning, with a new piece of leather, for it is well-nigh impossible to correct a mistake on leather.**

# Some things to know about leather

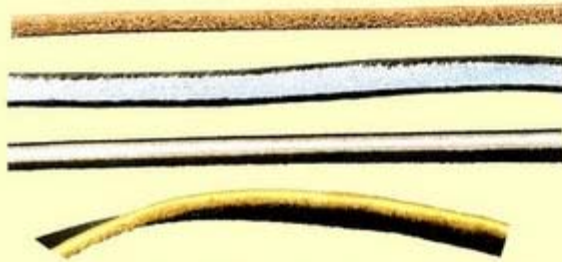
Today's leather industry is scientifically based. Continuous research is carried out to ensure improvement in the product. The latest technology is used to meet modern day demands. With few exceptions hides and skins are by-products. Animals are reared for meat, milk and wool, not for the value of their skins. Consequently, the tanner is not able to control his supply of raw hides.

Hides are traded as a commodity all over the world, on open markets, and in competition with other tanners. Thus, when demand is heavy, prices soar. Even minor variations in economies and currencies can cause major fluctuations in raw hide prices. The availability of cattle hides for leather is simply dependent upon consumer demand for beef. Today, worldwide, at least half the leather produced goes into footwear, and around a quarter for clothing. About 15% goes into upholstery and the rest into small leathersgoods.

Because of its durability and comfort, leather, throughout its history, has been used for seating purposes in domestic furniture and transportation. Early leathers were made from cowhide, calfskin, pigskin, deerskin, and goatskin. The hides and skins coming from animals either hunted or farmed for food purposes.

Presently, the trend is for most upholstery to be made from bovine material (that is to say cattle hides) as they are readily available and best lends itself to the modern demands of designer, producer and consumer. Far from waning in popularity, leather continues to be the material of choice for many people, not just for household furniture but for automotive, aviation and marine applications too.

## Cross sections of various leather tannages



vegetable or bark  
chrome, observe the bluish colour  
alum, showing white  
alum, showing yellow, known as Indian tan

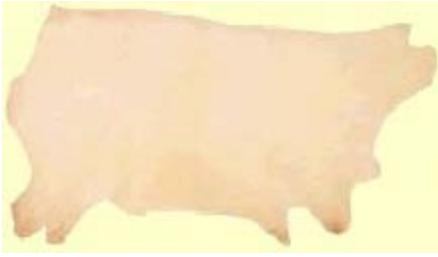
samples below, showing also what they can be used for



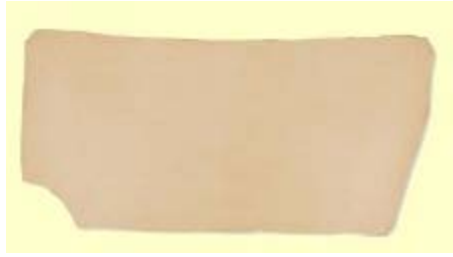
If in the first instance the quality of the hide or skin is good, the less treatment is needed. With a first quality hide or skin the full natural grain is kept, indeed, exposed. The fat wrinkles, natural markings caused by barbed wire and so on, should be seen, and the "feel" should be of suppleness.

The term "top grain" is a bit of a misnomer. Surprisingly it means the opposite of what you might suppose. "Top grain" is generally used when the grain is not genuine, in fact, when the original grain has been removed and an imitation grain has been embossed into the leather. The correct description for the original grain is "full grain" or "full top grain".

Calfskins, as is to be expected, are finer than the hides of older animals, but are equally durable and abrasion resistant due to the fibre structure being denser, tighter and stronger, than that of cowhide. So in descending order of quality we have calfskin, first grade cowhide and suede, selected cowhide, third-grade cowhide.



Skirtside



Double shoulder



Veg-tan tooling

All leather is treated with anti-mould agents such as paranitrophenol or sodium pentachlorophenate, during the tanning process. These agents are rotated approximately every six months to avoid immunisation. These products are also bactericides.

Changing hides and skins into leather involves three stages, pre-tanning, tanning and finishing. Anyway, after tanning, everything else is part of the finishing process. By the finishing process is meant dyeing, pressing, rolling, plasticising, lacquering, antiquing, waxing, buffing, embossing, glazing, waterproofing, stain-proofing, flame-proofing and so on. Full grain leather stained with aniline vegetable dyes does not have any natural markings concealed, they show through. Upholstery leathers do get treated with pigments however, to even out the colour.



Sheepskin skiver

Many finishes are applied for reasons other than altering the surface of the leather. With natural, unpigmented leather, the leather is able to breathe, so it can absorb moisture, receive nourishment, and remain supple and soft. If it has been plasticised, as in most car upholstery leathers, it cannot, and it will eventually become stiff and liable to cracking.

## The natural characteristics of leather

Real leather is a natural product. It breathes, is warm and has individual characteristics that make each hide unique. Leather will always bear the marks of its natural origin and these characteristics can show as healed scars, growth marks, areas of differing fibre density and hair pore structure. These hallmarks in no way detract from the wearing qualities of the leather. They are signs discerning owners cherish when buying leather. With the passing of time and use, it develops a patina that enhances its beauty.

**Growth Marks and Veins** - These are an indication of the age of the animal and in that respect is similar to the graining on a piece of timber. They range from often quite pronounced marks in the neck area to subtle bands across the hide perpendicular to the backbone. Heavy growth marks are often placed on the outside backs of seating.

**Scars** - These form usually as a result of barbed wire damage or by the horns of

other cattle. In their healed form the new skin is as strong as the remainder of the hide but unhealed damage should be avoided as tension on these parts may cause the leather to split or burst.

**Grain Variation** - The fibre texture varies greatly from being loose in the belly and flank areas to being relatively tight across the backbone. The looser areas consequently have more stretch.

The variation in hair pore structure is particularly noticeable in untextured leathers where clusters of open pores can sometimes be seen.

**Shade Variation** - No two hides are alike and due to the varying grain structure mentioned above the dyes and finishes penetrate to differing degrees in different parts of the hide to give an attractive variation. Whilst every attempt is made to achieve uniformity this is not always possible and sometimes not desirable.

**British leather:-** In the British home supply there are three chief breeds: (1) Shorthorns (Scotch breed), (2) Herefords (Midland breed), (3) Lowland, or Dutch class. From a tanners standpoint, the shorthorns are the best hides procurable. The cattle are exposed to a variable climate in the mountainous districts of Scotland, and nature, adapting herself to circumstances, provides them with a thicker and more compact hide; they are well grown, have short necks and small heads. The Hereford class are probably the best English hide; they likewise have small heads and horns, and produce good solid sole leather. The Lowland hides come chiefly from Suffolk, Kent and Surrey; the animals have long legs, long necks and big heads. The hides are usually thin and "spready". The hides of the animals killed for the Christmas season are poor. The animals being stall-fed for the beef, the hides become distended, thin and surcharged with fat, which renders them unsuitable for first-class work.

## Cleaning of finished leather

**Cleaning:-** Cleaning is perhaps something that is given too much emphasis. Leather furniture in a normal domestic environment should require little attention and any cleaning should be done only when necessary. It is not essential to the life of leather that it should be cleaned regularly, but at the same time an accumulation of dirt and grease over a period of time is undesirable and obviously, the longer it is left the more difficult it will be to remove. Dirt is abrasive and over a period of time in extreme circumstances will cause the removal of the protective coating. Regular cleaning can be done simply by using a damp cloth, taking care not to soak the leather.

It should be noted that full grain aniline leather or russet leathers cannot be cleaned with water or soap solution. Any attempt to do so could result in the leather being irreparably damaged.

Cleaning objects made from skin products cannot be done safely without knowing what process has been used in their preparation. Sometimes the application can provide clues. Parchments, drum heads, and coverings of wooden boxes are made from raw skin that has had no tanning or other chemical treatment. Old items of Aboriginal clothing are likely to be semi-tanned (a process similar to fat liquoring, but not as effective) while newer items, regardless of source, are likely to be chrome tanned. Handbags, bookbindings, and other items that do not need high water resistance might be made from vegetable-tanned leathers. Items such as shoes and clothing tend to be made of leathers that are durable and water-resistant. If made in the 21st century, the leather is likely to be mineral-tanned. The resistance of these items to water, and thus the potential for effective cleaning, follows the order indicated below:

1. rawhide and parchment - *most sensitive*
2. alum tawing



3. semi-tanned skin
4. vegetable-tanned leather
5. mineral-tanned leather - *least sensitive*

Obviously, with the wide range of skin products, and the corresponding wide range of applications, it is dangerous to generalize. *When in doubt, seek professional advice.*

- For all semi-tanned skins and those that have soft, sueded surfaces, use a soft brush and vacuum cleaner. Brush towards the nozzle of the vacuum cleaner. Place a piece of gauze window screening over sensitive areas and vacuum through it. A stiffer brush, such as an artist's hog bristle, can be used on resistant areas, but be very cautious because this might change the surface appearance.
- Rawhides and parchments can be cleaned with the powdered eraser used by draughtsmen or a gum eraser. These materials should be applied very carefully because a vigorous application can cause over-cleaning. *If there is any writing, painting or other design on the skin, do not clean. Get advice from a conservator.*
- Vegetable-tanned leathers can be cleaned by damp swabbing. Make sure that the leather is in sound, stable condition. Any sign of cracking or a powdery surface should be a warning that deterioration is taking place. If the leather is in good condition, use a soft cloth moistened with water to which has been added a few drops of liquid detergent. Rub gently and dry afterwards with another soft cloth, thus making sure that moisture is not left on the surface. The same technique can be used for mineral-tanned leathers that are very resistant to water.

It is very common to apply leather dressings of various kinds to keep objects soft and flexible while in use. These materials are not generally recommended for heirlooms or heritage objects because their conditions of use and handling are different. Leather objects that are used every day, such as saddlery and furniture coverings, do benefit from treatment, but objects that lie unused or stored away tend to get sticky and attract dust and insects. Professional advice should be sought before applying any such treatment.

**Handling:-** Flexible leather objects in good overall condition can be handled without problems. If objects are not on display, it is advisable to keep them wrapped in acid-free tissue paper and stored in such a way that they are not creased or distorted. Shoes and bags should be stuffed lightly with acid-free tissue to help maintain their shape, and light garments should be hung on padded hangers. Heavy leather garments are best stored flat to avoid distortion due to gravity. Flat skin or leather pieces should be wrapped in tissue and kept in a flat, rigid binder or folder to prevent distortion.

**Repair:-** Repair of historic leather and skin objects is usually needed when items are badly deteriorated. Before repair is done, deterioration needs to be dealt with. In most cases, such repairs are a job for the specialist. If in doubt, consult a conservator.

# Some of the many kinds of leather

**Alligator:-** Alligator, crocodile and related types are mostly vegetable-tanned and finished in a variety of colours. They are not easy to obtain and are expensive. Mock varieties are freely available, made from embossed cowhide, and virtually indistinguishable from the real thing. All the reptiles are produced in great varieties. Water snakes and small python make excellent belts. Chameleons, lizards, toads and frogs, though small, are used for small fancy goods. Their granulated grain has a beauty with which few other leathers can compare.

**Aluta:-** Roman name for tawed (alum tanned) leather. Aluta was used for sails in Venice, and for shoe uppers in ancient Greece.

**Amazonica Crackle:-** A full grain buffalo with a combination of oil/wax. This tanning method creates a soft waxy finish, providing a pull-up effect with a more dressy than casual appearance. It has a little sheen to it.

**Aniline Leather:-** Leather which retains its colour only from dyestuffs rather than from pigment, and as a consequence looks more natural.

**Bag leather:-** A form of vegetable tannage in which the skins are sewn together in pairs to form bags and floated in tan liquor. This method avoids drawn grain and gives good spread of leather.

**Basil:-** Bark tanned pickled sheepskins.

**Bating:-** The process prior to tanning proper where the fibres of a hide or skin which have been plumped or swollen by liming are reduced and softened, thus assuring pliability in the product. The word is a form of "abate" in the sense of reduce.

**Bougie leather:-** Leather from the town of Bougie in North east Algeria. Famous in the fifteenth century.

**Bovine:-** Cow, ox, steer, bull, buffalo or closely related animal. Axilla: Thin stretchy areas between the legs — usually has a coarser grain pattern.

**Buckskin:-** Deer and elk skins, having the outer grain removed. Sometimes also cowhide. Though it might be tempting to think that the name comes from buck, a male deer, the name buckskin comes from the alkali soaking process, called bucking. Strictly speaking, this is oil-tanned frized (in some leathers the grain is partially removed by abrasion, a process called "frizing" or buffing) grain leather.

**Bullhide:-** Hide from a male bovine animal that was capable of reproduction, about 70 sq ft.

**Cabretta:-** A hair type sheepskin, typically from Brazil. (Any variety of sheep growing hair instead of wool. They yield hides with a finer and tougher grain than those of wool sheep). When the Portuguese first went to Brazil they mistook the indigenous hair sheep for goats and called them cabrettas (kids). The skins were exported to the USA by the Blue Funnel Line (later the Booth Group) and the name cabretta stayed with them. Now all hair sheep skins have taken the generic name cabretta. The acknowledged superior material for gloving and soft shoe leather it also comes from Ethiopia and other sub-tropical regions. This material offers all the features required, its thin tough structure giving it strength and maximum flexibility, it is hard wearing and comfortable. Finished on the grain or flesh side. Soft, but has

less "body" than sheep. This is very soft and stretchy.



**Calfskin:-** The skin from a young bovine, male or female, about 9 months old, fine grain, smooth surface, durable. Also **Boxcalf:-** This normally refers to black calf, chrome-tanned, boarded in two directions. (Boarding by the way, is the process of folding a leather grain to grain and working the fold across the leather to crease and enhance the natural grain.) **Willow calf:-** This is brown or coloured and willow bark was originally used for its tanning. **Hunting calf:-** Suede upper leather with the suede on the flesh side, made from a larger calf skin or from a veal. Somewhat coarser than suede calf. **Reverse calf:-** Water-resistant suede calf leather finished on the flesh side.

**California Banknotes:-** In "Two Years Before the Mast" Richard Henry Dana describes how he sailed from Boston to California in 1834 to collect hides. He also explains how the hides are dried and loaded onto the ships before returning to the East Coast. Since California had nothing else of wealth at that time the dried hides were known as "California Banknotes".

"The hides are brought down dry, or they will not be received. When taken from the animal they have holes cut in the ends, and are staked out, and thus dried in the sun without shrinking. They are then doubled once, lengthwise, with the hair side usually in, and sent down upon mules or in carts, and piled above high-water mark: and then we take them upon our heads, one at a time, or two, if they are small, and wade out with them and throw them into the boat."

Hides were valued in Boston at 12½ cents a pound dry salted, and the captain got 1% commission. Ships would spend nearly a year collecting and accumulating hides up and down the California coast to make the journey worthwhile. On Dana's ship they brought back 40,000 hides.

**Carding Leather:-** A special type of side leather used on the cards of cotton machinery. The leather lies flat against the beds of the cards, the teeth being forced through.

**Carpincho:-** The water rodent of Brazil. The skin as a leather has excellent stretch and is soft but hard wearing. A distinguishing feature is the hair-holes which are in groups of three to seven.



It is the biggest rodent inhabiting several regions of South America. It is very similar to a pig, having the same stiff, rather bristly hair and general body shape. It lives on the banks of

rivers, lakes and swamps. They splash into the water when any danger threatens them. They are coveted by tigers and hunters, the latter not only want its meat but also the skin as there is a market for it. The main characteristics of these animals are a regular head, small ears, short neck, round, small eyes, a round snout, short legs and short big teeth. It does not have a tail and it eats vegetable matter. (see [Peccary](#))

**Cattle Hide:-** In the strictest sense, any leather made from the hide of a mature bovine animal is cattle hide. It is used as a general term for hides before tanning.

**Chamois leather:-** A soft leather originally made from the skins of the Alpine antelope known as the chamois but at the present time from the fleshers of sheepskins. Certain grades were used in gloves and fancy articles but its usual employment is for cleaning and polishing, primarily automobiles. Chamois is characterised by its ability to absorb at least three times its own weight of water.

**Cheverel, Cheveril:-** A soft, flexible, kidskin leather, a leather which stretched easily.

**Chicken/Hen Leather:-** As improbable as chicken leather sounds it's as thick as emu leather and can be used to make a range of items from souvenirs to shoes. Chicken/hen skin provides a versatile and elegant skin for exotic leather products such as watch bands, belts, wallets, etc. Hen leather is beautiful and durable. Chicken skins are used to make luxury goods in some of the richest countries in the world.

**Coated Leather:-** This is a fairly recent development using split leather. It is produced from the lower split by first melting a type of glue on the surface, then rolling on a film of coloured polyurethane. It's normally produced in darker colours, and when stretched, it lightens. Its quality varies and it's also easily scratched. This type of leather is now being used to make furniture although it has been used to make handbags and belts for a while.

**Combination leather:-** Leather tanned by two or more tanning agents, e.g. chrome followed by vegetable (chrome re-tan), vegetable followed by chrome (semi-chrome), formaldehyde followed by oil (combination oil).

**Cordovan:-** Originally applied to a specific type of white leather from the Spanish town of Cordoba, in the 8th century, which was also dyed red and later gilded. Generally today, is from a section of a horse hide, called the shell; the bit behind the saddle, the crup, often tanned with a sulphur tannage. As such it was a soft vegetable tanned leather and followed by goat, sheep and pigskin leathers with a similar formula. Cordovan leather has good wearing characteristics, and is non porous. The horse product still tends to be called "shell cordoban leather".

**Cordovan leather:-** Developed in Spain in the 8th century, when the Moors arrived in Spain. Made from the skin of the mouflon (*Ovis Musimom*). Also known as: muflone (Italian), Corsican mouflon, European mouflon, musimon, musmon, Sardinian mouflon. It is thought to be one of the two ancestors for all modern sheep breeds. It is red-brown with a dark back-stripe, light coloured saddle patch and underparts. The males are horned and the females are horned or polled. It is now rare but has been successfully introduced into central Europe, including Germany, Austria, Czech Republic, Slovak Republics, and Romania. Originally this hair sheep only survived in Corsica and Sardinia. It was tanned with alum and later with alum and sumac. Best brilliant scarlet type was tawed with alum and dyed with kermes (*Quercus coccifera*).



Mouflon



Mouflon skin

**Cowhide:-** Hide from a mature female bovine that has had a calf, but loosely synonymous with the hide of any mature bovine. If one talks simply about "hide" or "cowhide" it is understood to mean stiffish natural vegetable-tanned cowhide suitable for tooling, for example, not the thin flexible kind used for garment making.

**Cuir Bouilli:-** (*kweer-boo-ee*) One really cool thing you can do with bark tanned skins is known as "cuir bouilli", meaning boiled leather. The boiling makes the leather become hard and brittle, giving it some resemblance to the properties of wood. However, since the leather remains flexible and stretchable for a brief period after boiling, forming it to the needs of the armourer is simple. Thus it's a cheap, light and convenient alternative to bronze and other historical materials. Here's a description from R. Reed's *Ancient Skins, Parchments, and Leathers*:

"Wet, vegetable-tanned leather begins to shrink above 75 degrees Celsius and so lose its shape. After thorough softening in water at ordinary temperatures the leather can be formed or moulded into the most remarkable shapes which on drying retain a fair degree of permanence. This shape can be set more permanently by drying under moderate heat, the skillful choice of temperature determining the degree of rigidity obtained."

"A quicker process which produces extremely hard and rigid articles is to dip the moulded shape into boiling water for about 20 to 120 seconds. This partially melts the tannin, allowing them to flow and redistribute throughout the fiber network. On cooling, it turns into a tough, three-dimensional polymer network or resin, not unlike more modern materials such as Bakelite and the aminoplastics."

To put it simply, Cuir Bouilli is a means of making hardened and stiffened leather. There is disagreement among some leatherworkers as to how this is accomplished, though a significant amount of evidence points to it being done by moulding wet vegetable tanned leather. The leather can be shaped into any number of forms, which, on drying, retains that shape. The wet leather can be set more firmly by drying it with a moderate heat, the degree of rigidity obtained, being determined by the drying temperature.

**Curried leather:-** Leather, usually vegetable tanned, which has been subjected to currying, i.e. a series of dressing and finishing processes applied to it after tanning, during which, appropriate amounts of oils and greases are incorporated giving it increased tensile strength, flexibility and water-resistance.



**Dantzic leather:-** [danzick leather; danske leather; dansk leather] Probably synonymous with Spruce leather, since most exports from Spruce came through Dantzic.

**Deerskin:-** Deer and elk skins having the grain intact.

**Doeskin:-** Nothing to do with does! It's from sheep or lamb skins, as an aldehyde tanned flesh split, usually with the grain removed. Very fine nap. Most often white or cream in colour.

**Dogskin:-** A trade name for selected best-quality English sheepskin, is a soft, lovely leather, which is very durable. It comes in pastel shades, among others, and is hard-wearing in the natural or darker tones.

**Dongola tannage:-** This gave the first successful water-stable leathers. Since Egyptian times there was alum tanning which was soft, but had no resistance to water, and vegetable tanning which was more resistant, but was very hard. A vegetable and alum tannage was developed in Gloversville, New York, in the 1860's to compete with the expensive kid tannage for gloves. Dongola is a town in the Sudan, and there is a breed of hair sheep named after it. Dongola tannage strictly speaking is alum, salt and gambier only, used together in one solution. Dongola is especially applied to glazed and dull kid. For full dongola the process is commenced in very weak gambier liquor, with the full proportion of alum and salt, and the gambier is gradually strengthened. Dull dongola is ironed like kid in the finish. It is said, sometimes, to be glazed with a blood seasoning, and then dulled by a mixture of soap and oil, followed by slating with a smooth round-edged slicker, but it is generally sized.

The combination tannage of gambier, alum, and salt can also be applied in the following manner: The bated and washed skins are placed in gambier liquor in a paddle. From 3 to 5lb. of gambier are used for one dozen skins. After they have started to absorb the gambier, from 8 to 16 oz. of alum and 8 oz. of salt are added to the liquor, for each dozen skins, and the paddling is continued until the tannage is complete, which takes 18 to 36 hours. The leather is then washed in warm water to remove the adhering tan, next fat-liquored with acid fat-liquor, dried, wet-back, coloured, dried again, and finished. After the alum and salt have been added it is customary to put the skins, together with the tanning liquor, into a drum and run them for a few hours or until thoroughly tanned. Some soluble oil may also be added to the liquor and applied to the leather toward the end of the tanning process.

Excellent leather is also made by taking the skins out of the gambier liquor when they are well struck through, striking them out and then drumming them with a paste of water, flour, alum, salt, and either egg-yoke or soluble oil, drying and then colouring them with a basic dye and titanium-potassium oxalate. The colour of the leather can be modified by adding a solution of fustic or other dyewood to the gambier liquor, and the entire process may be reversed. The skins may be first drummed with alum and salt and then tanned with gambier. Heavy skins may be tanned with gambier, alum, and salt. After the leather is dry, it can be coloured with acid or basic dyes: and, if not fat-liquored immediately after tanning, drummed with acid fat-liquor or with an emulsion of oil and soap, staked and finished.

**Dry leather:-** [dried leather; drye lethur; dry'd leather] Dry or dried leather as well as dry

and dried skin in variety was carried up river on the River Severn for much of the period after 1660. It was presumably a way of preserving the skin for transportation, though it should not have been needed for leather. However, dried leather has been noted among the stock of tanners, including one who had 'Dry'd Leather at Liv'rp' [Inventories (1720)] as well as large quantities of 'Hydes wett', while another had 'Soale hydes' in the tan pits, 'Upper leather hydes', leather 'In the Lymes' and 'Dryed leather' [Inventories (1720)]. In these cases the dried leather seems to be called by this name to contrast it with the hides in process of tanning, which would have been wet. However, this does not explain the 'pere of black drye lethur bootes' found among the apparel of one wealthy Worcester tradesman [Inventories (1555)]. Possibly dry leather in this context was that not oiled the usual way to increase softness and suppleness.

**Elk:-** A trade term for cattlehide shoe leather of special tannage and finish. Genuine elk leather is made into one of several types of buckskins.

**Entrefino:-** Type of Spanish lambskin used for top quality leather and shearling products. Characterized by lightweight and fine leather side, and straight and glossy, wool/fur side.

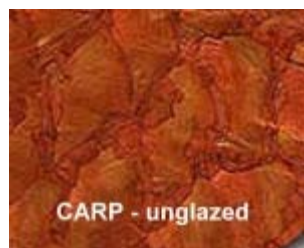
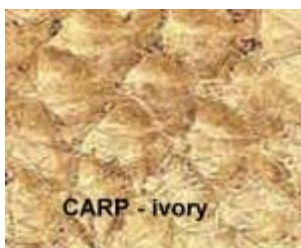
**Fish skin:-** Fish tanning begins by collecting the skins from the commercial fish processors. When the skins arrive, they usually have traces of flesh left on them. The flesh is removed manually with a knife on a wooden block.

After the flesh is removed, the scales need to come off, so the skins are put into drums with a special fluid that puffs them slightly. This process helps the scales fall away without damaging the skins.

The tanning process turns raw hide (in this case fish skin) and turns it into leather using chemicals. The chemical processes allow a preservative to enter the skin, taking about five weeks. After this is finished the fish no longer has a fish odour.

Even if the fish was colourful in life, after it dies the natural skin becomes beige or grey and must be dyed to give it colour again. Soaking the skins with vegetable dyes enhances them and forms a glaze or shiny finish in a bright hue while the chrome process of dyeing the skins gives the hides the feel of suede and subdues the colour. These dyes are colourfast and light fast which means that the colours won't fade over time.

After the skins are coloured, the leathers are then softened and dried and then softened with oils again. Once the leather is dry, the skins are softened again. Any stray fibres on the underside of the skin are removed with either a hand breaker or a dry tumble machine. The leather must be very smooth and thin before it is made into the final product.

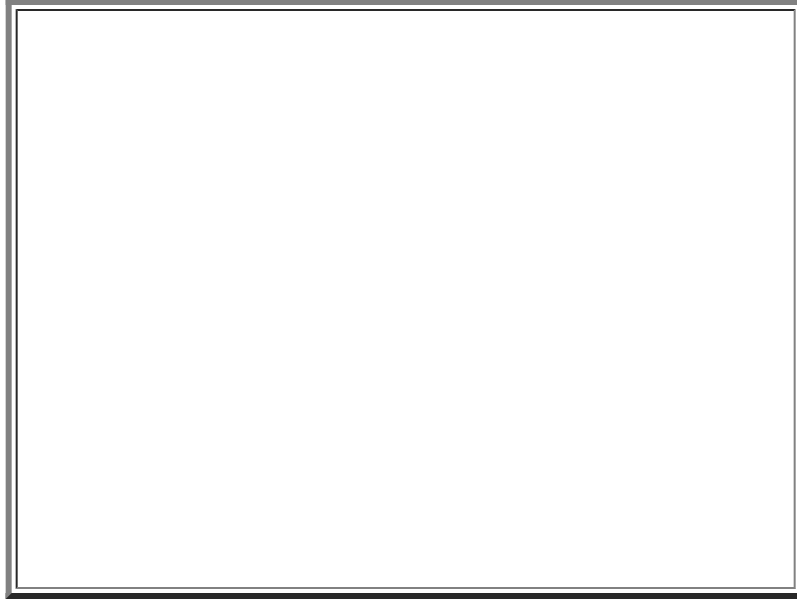


The leather at this stage can be either suede or crust leather. It is not very resistant to water and other stains so care must be taken to choose uses where it is not exposed to a lot of wear and tear. Crust leather is able to withstand hand washing and can also be ironed on a low heat.

If the leather is to be used in a tough situation (such as shoes) it must be refinished.

Refinishing leather is a very specialised trade and it takes three years to learn how to do it properly. At the end of the special process the leather becomes water resistant and stain resistant to such things as egg yolk, red wine and even engine oil. The grain (or pattern) on the skin is also protected and the fibres are now dry-cleanable.

Fish leather is an example of adding value to what was previously a waste product. (see also, [Tanning fish skin](#) and [Sea Leather Wear](#))



Final uses for fish leather include clothing such as shoes, hats, vests, pens, wallets, purses, belts, buttons, earrings and polish cloths for wood and gemstones.

#### **Skin Sizes**

Sizes are rough measurements, all the skins taper and the measurements are taken from full length and just above the middle of the full width.

Salmon: 23" long x 5" wide, thickness 0.8 mm – 1.3 mm

Carp: 18" long x 4" wide, thickness 1 mm – 1.5 mm

Perch: 18" long x 6" wide, thickness 1.5 – 2.2 mm

**Foiled:-** Foiled leather is used primarily for dancing shoes, a coloured metallic foil is placed on the grain side of the leather and permanently bonded to the leather, offering comfort with elegant shoes.



## Some of the many kinds of leather - continued

**Glove leather:-** A term used to describe soft leather used for gloves, which is normally lambskin. The term is also used by some to define soft leather.

**Glutaraldehyde leather:-** Leather tanned with glutaraldehyde ( $C_5H_8O_2$ ) a water soluble oil, usually in combination with other agents, to make the leather more resistant to deterioration under moist conditions.

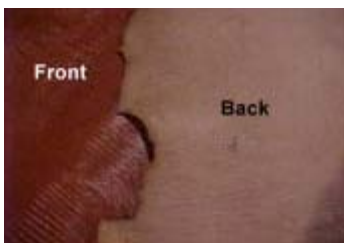
**Goatskin:-** The skin from a mature goat, otherwise known as morocco, which has been vegetable-tanned and boarded. Produced in hard and soft grains. Hard grains may be either moss back or soft back. Soft backs require lining, hard backs do not. Carragheen moss when boiled produces a jelly and, when applied to the buffed flesh side, sticks down the fibres to give a smooth finish of uniform colour. Sizes vary from about  $3\frac{1}{2}$  sq ft, which would have a fine grain, to 10 or 12 sq ft, which would be coarse.

**Guademici:-** Guademici art was developed in Ghadames, a town in Libya. It involved punching, stamping, gilding and adorning a pure white alum-tanned hair sheep. The technology was taken to Cordoba in the 8th and 9th centuries, where it was developed and enhanced.

**Helvetia Leather:-** Oil tanned hide from which not all the excess grease is removed.

**Hogskin:-** Leather made from the skins of wild animals living in Central and South America. There are two distinct types: the [carpincho](#) and the [peccary](#).

**Horsehide:-** Hide from a horse (a domesticated perissodactyl mammal; in other words it has hooves with an odd number of toes), is the equal in many respects of cowhide. Horse hide is a rare leather because it can only be taken from an animal that has died of natural causes. The slaughter of horses is illegal in the United States. Horsehide is unlike any other leather. It is soft and supple but has an almost "rubbery" quality to it. Horse hide is an extremely strong leather. It doesn't stretch like deer and will outlast any cowhide. Horse hide has a strong and delicious leather aroma. (See also Cordovan [Here](#))



Horsehide - lizard print



Cowhide



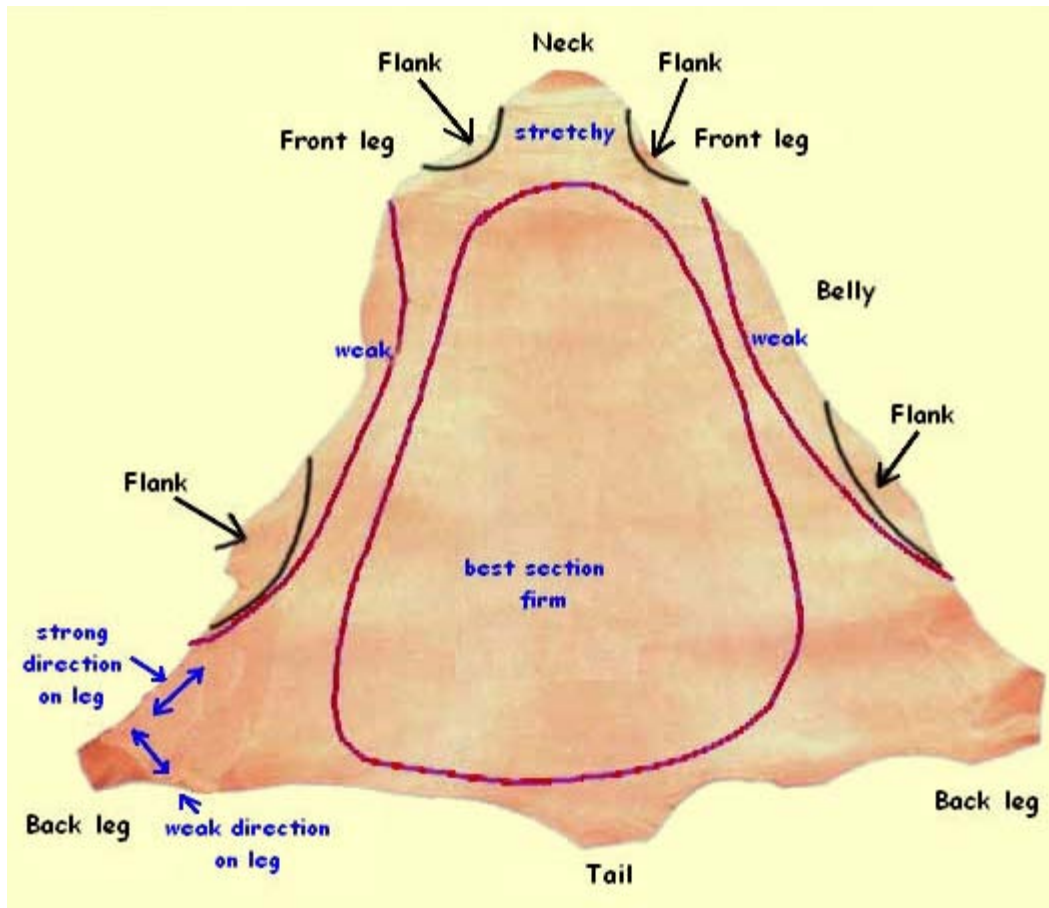
Cowhide - suede



Pigskin

**Kangaroo:-** This hide is from the Australian kangaroo or wallaby, the leather is strong and extremely durable with a wide range of uses. The kangaroo is a macropod (macropod literally means "big foot" and includes the wallabies, kangaroos, and their close relatives. The main difference between the wallaby and the kangaroo is in size — as measured by their feet!) native to Australia and is found nowhere else in the world. It is a unique large herbivorous marsupial able to hop long distances non-stop. There is absolutely no smell to a kangaroo at any stage of life. In 1820, one Captain Phillip K. King recorded a different word for the animal, written "*mee-nuah*". Thus began the myth that Captain Cook had been mistaken about the name, "*kangaroo*", and that what he had heard was a word meaning "I don't know" (presumably as the answer to a question in English that had not been understood). Recent

linguistic fieldwork, however, has confirmed the existence of a word *gangurru* in the northeast Aboriginal language of Guugu Yimidhirr, referring to a species of kangaroo.



It is one of the strongest light-weight leathers available, and its fibres have a uniform orientation and an absence of sweat glands, giving it its inherent high physical properties e.g. tear strength, tensile strength and extremely good elongation performance. Furthermore, it does not require splitting, thereby avoiding any weakening of the leather as a result.

Also, its fibres run in a horizontal pattern, compared to bovine leathers which have a more vertical construction, thus imparting to it additional strength and high resistance to abrasion. This fibre structure and the specific tannages associated with kangaroo, also give it a natural resistance to water uptake.

Additionally, the skins contain much less natural fat than bovine hides/sheepskins etc, and they therefore require far less degreasing than other alternatives. The physical properties of kangaroo leather are therefore not impaired during tanning.

Kangaroo leather gets crafted into remarkable creations, including kangaroo scrotums, which are functional for a variety of uses.

**Kidskin:-** This is chrome-tanned grain leather from a young milk-fed goat or kid, mostly of European origin. A fine tight grain skin, light in weight and durable.

**Kipskin:-** 1. A small cattle hide, i.e., the hides of fully mature cattle, other than the buffalo, native to the Indian Subcontinent and some parts of Africa, which are smaller than those of Europe and America. 2. The skins obtained from immature European and American bovine animals that have been grass fed and which are larger than calves but smaller than fully grown cattle. Among cattle hides, a kip is one weighing between 15 and 25 pounds in the green salted state. Generally, a kip is considered to be intermediate between a hide and a

skin. Leather made from kips generally has a fine, tight fibre. **3.** As an abbreviation of the full term "East India tanned kip" or "E. I. kip crust", a vegetable-tanned leather made from cowhide originating in the Indian Subcontinent and tanned in India, mainly in the south, and especially around Madras.

**Lambskin:-** From a lamb or young sheep. Sold as whole skins only, about 3-10 sq ft depending on the age of the animal.



**Laminated leather:-** Has a coating greater than one third of the total thickness, but less than half.

**Larrigan leather:-** An American speciality made of light cattle-hide and used in the manufacture of the heavy moccasins worn by lumbermen to guard against slipping when walking on wet logs.

**Latigo:-** Cowhide. The un-split or grain split tanned with aluminium salts and gambier (an astringent resinous substance obtained from the leaves and stems of a rubiaceous, tropical, Asian woody climbing plant *Uncaria gambir*, of the madder family, which includes coffee and gardenia trees); normally yellow in colour. It is softer and waxier than vegetable-tanned leather. It contains catechu-tannic acid (22 - 50%) and catechin (7 - 33%), as well as varying amounts of vegetable acids and their salts, sugar, starch, cellulose, wax, oil, and mineral matter. The catechin is not identical with that of cutch ("Cutch" is the purified aqueous extract of the heartwood of the multipurpose tree, *Acacia catechu* Willd.).



Wild growth of *Acacia catechu* in northern Thailand

It is one of the condensed tannins and has a relatively high pH value and total salts content. Used alone, gambier produces a rather spongy leather; however, when used in combination with other tannins, such as wattle extract or myrabolans, it is well suited for both heavy and light leathers. In England, it has been used mainly for the tanning of calf and kip skins. Also known as "catechu," "pale catechu," and "terra japonica." Catechu is extracted from the heartwood of *Acacia catechu*, a leguminous tree of the pulse family, native to India and Myanmar. Catechu is a fast brown dye used for various shades of brown and olive, including the familiar khaki, and also in tanning. Dark catechu or cutch, which is mainly obtained as a by-product of the katha industry is marketed as small cubes or blocks, rusty brown or dull orange in colour and of conchoidal fracture. It is used only for industrial purposes, largely for dyeing cotton and silk and preserving fishing nets, sailing ropes and mail bags, also in water

softening and the manufacture of stencil and printing ink.

**Lizard:-** Any of the vast numbers of the lizard family. Small reptiles are measured in centimetres across the widest section of the body for costing purposes.

**Memel:-** Black or brown curried hide leather, heavily embossed. Used for boot upper leather. Memel calf is dressed on the grain, and is not much used.

**Meter leather:-** A speciality leather prepared from selected sheepskins in such a way as to make it airtight, and used for the measuring of gas meters.

**Mocha Leather:-** A leather made from any variety of hair sheep. After the grain has been removed by a liming process known as "frizing", the fine fibres below the grain are sueded. See "Suede" below. It is one of the finest of nap finished glove leathers.

**Mocha Suede:-** Arabian blackhead hair sheepskins (commonly called blackhead Mochas), it's chrome tanned and the grain removed by mechanical abrading rather than by hand frizing. It's suede finished on the flesh side. This leather retains most of the characteristics of the frized skin, particularly the fineness of finish, due to the closeness of the fibres of the skin. It's washable, and wears well.

**Mukluk Leather:-** Leather usually made from deer, elk, or similar skins. It is tanned white with formaldehyde, alum or syntans.

(Syntans:- A contraction of "synthetic tannins," which are chemicals that combine with, or affect, the protein constituents of hides and skins and produce a product that is flexible, porous, and has the desirable qualities of leather. The most widely known syntans are made by treating aromatic substances, e.g., cresols, phenols, naphthalenes, etc., with formaldehyde and sulphuric acid. There are many variations in the ingredients of syntans, relative quantities used, and methods of manufacture. Syntans produce white or buff-coloured leather, depending on the ingredients, which darken upon exposure to light, and generally behave much like vegetable-tanned leathers. Although syntans do exist which can be used alone to produce leather (so-called exchange or replacement syntans), many syntans lack the filling power of vegetable tannins and produce an undesirably thin, "papery" leather. They are also more expensive than the natural tannins. Syntans do have desirable properties, however, and are widely used in both chrome and vegetable tannages. When used in conjunction with other tanning agents, where they are known as "auxiliary syntans," they perform the following functions:

1. the presence of 5% syntan helps dissolve solid vegetable tannin extracts and reduces any tendency to form REDS (condensed tannins) or BLOOM (pyrogallol tannins);
2. a pretannage with 5 to 10% syntan improves the shade, i.e., makes it paler, and the levelness of colour of a subsequent vegetable tannage;
3. a pretannage with a syntan or admixture with a vegetable tannage improves penetration of tannin into the skin;
4. when syntan is used with a vegetable tannin the leather develops a more uniform but paler colour upon being dyed, but the syntan generally prevents the development of deep, full shades.

It is highly permeable to moisture vapour and retains its flexibility at very low temperatures.

**Nappa:-** A full grain un-split mineral-tanned sheep or lambskin, also goat or kid, and is soft and supple. A good all-purpose leather, it comes in many colours and is dyed throughout its thickness.

**Niger:-** The skin of the Nigerian goat or sheep, locally-tanned and finished by pretty basic methods using local material as a tanning agent. The skins are dyed to a yellow- or reddish-

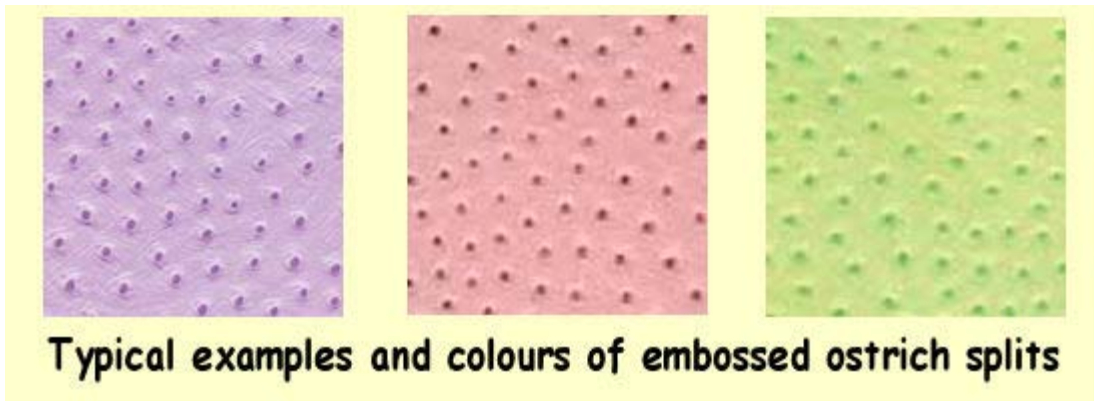
brown colour using natural dyestuffs.

**Nubuck:-** A very fine suede effect produced by abrasion of the grain surface. Nubuck leathers maintain the softness of naturally finished leathers while providing an incredible brushed feel. They will display all of the characteristics of natural leathers that have had their surface buffed. This nap, while very beautiful, means that nubucks are slightly more susceptible to spills and stains.

**Offal:-** This refers to the bellies, shoulders and cheeks of hides which are obtained by the "rounding" of the hide.

## Some of the many kinds of leather - continued

**Ostrich:** - A native of North Africa, and found in Australia, fast running, flightless, largest existing bird with stout two-toed feet, dark feathers and bald head. The leather has a characteristic grain, with heavy quill marks covering about half the skin. Careful planning is essential if maximum use of the skin is to be obtained. Ostrich is normally finished in tan colour and averages about 12-17 sq ft. While ostrich leather is considered one of the world's most unique looking leathers, Ostrich Grain Embossed Splits look like the real thing but cost much less. Excellent for personal accessories like purses, handbags, key cases, coin purses and more. Also used as a distinctive trim. Splits average up to 17 sq ft in 1½ to 2 oz weight.



**Parchment:** - The characteristic features of parchment, which confirm its animal origin, can usually be recognized under close examination with a hand lens (30x) or a microscope. These features include the hair follicle pattern, veining, natural scars and bruises, and, in certain skins, fat deposits. The follicle pattern may be most pronounced across bony areas of the animal, such as the ribs or spine. Raking, transmitted, and ultraviolet light often help to make these features more prominent.

Parchment is the untanned skins of animals, particularly of sheep and goat, prepared for use as a writing material. The name is a corruption of Pergamum, (situated in modern-day Turkey approximately 85 kilometres north of Izmir and 25 kilometres east of the Aegean Sea) the ancient city of Asia Minor where preparation of parchment (*charta Pergamena*) suitable for use on both sides was achieved in the 2nd century B.C. The skins were soaked in water, treated with lime to loosen the hair, scraped, washed, stretched, and dried, and then rubbed with chalk and pumice stone. A fine grade prepared from the skin of calf or kid became known as Vellum, a name applied during the Middle Ages to any parchment used in manuscripts.

It was the most common writing material during the early Middle Ages in Europe, replacing papyrus until it gave way to paper (when there was a strong demand for cheaper, more malleable materials) with the invention of printing in the 15th century. Parchment is made from the skin of sheep and goats and has considerably more strength and durability than papyrus, and yields readily to being folded into book form. Sometimes the term vellum is used indiscriminately, but vellum refers specifically to the skin of calves, used mainly as a binding material. For important manuscripts Vellum was often dyed purple. Parchment is still used for certain documents and diplomas, book-bindings, lampshades, drumheads, tambourines and banjos. Vegetable parchment, is paper treated to make it tough, translucent, and impervious to water.



[Click image above to see more detail](#)

The primary difference between leather and parchment is that in the production of leather all the processes are designed to produce a supple skin in which the bundles of fibres slide over one another in a flexible fashion. In the production of parchment the fibres are stretched so that they lie almost parallel to form a hard, rigid sheet. Parchment has great stability and permanence if kept in a dry, stable environment. Parchment rolls were very common, but the chief value of parchment was its ability to be stitched together in large gatherings to form durable and flexible volumes.

Parchment is hygroscopic (absorbs moisture) and, while chemically stable, is dimensionally unstable and reactive to changes in the moisture level. Because parchment was created by stretching the fibres under strain, moisture will allow the fibres to change shape and cause distortion and wrinkles.



**Peccary:-** A wild boar, genus *Tayassu*, native to Central and South America. Similar to pigskin, a grain leather also known as hogskin. (Hogskin is also obtained from another South American rodent called the [Carpincho](#).) The leather is smooth, firm and supple and very durable and can easily be recognised by the hair-holes which are in groups of three. It makes a very smart glove for casual and country wear.

It is pig-like in appearance. Its head and shoulders are large; legs and hindquarters small. Grizzled greyish or blackish above and below, with a yellowish tinge on the cheeks; whitish to yellowish irregular collar from shoulder to shoulder. Heavy, bristly hair from head to back, erectable into a mane. It has an inconspicuous tail with a pig-like snout. Its tusks (canines) are about 1"– 1½" (3cm – 3.5 cm); only the tips protrude beyond the lips. There are four toes on the forefeet, and three on the hind-feet; all have 2 hooves, on the third and fourth toes. Juveniles are brownish with a black stripe down the back. Ht 20"– 24" (50cm – 60 cm); L 35"– 40" (87cm – 102 cm); T ¾"– 2 1/8" (1.9cm – 5.5cm); HF 7 1/8"– 7 7/8" (18cm – 20 cm); Wt 30lb – 65 lb (13.6kg – 30kg). Scat: Usually large, irregular segments or flattened disks when feeding on very succulent vegetation.



Peccary are the only wild native pig from the Americas. When in danger it fights viciously with its tusks. There are two species: the Collared peccary or javelina, its bristly, grizzled and grey black hair is marked with a white neck band and it survives in small numbers in parts of Arizona, New Mexico and Texas but is more numerous southward to Patagonia; the white-lipped peccary is found from central Mexico to Paraguay. Both sexes have a musk gland on the rump. They eat a variety of plant and animal foods and their flesh is palatable.

**Picker Leather:-** The picker is the mechanism on either side of a power loom that throws the sharp pointed shuttle and receives it again as it is thrown back. For arming this mechanism, long experience has found nothing equal to a special, very tough leather, usually rawhide – either cattle or buffalo. Such picker leather is made extensively in the North of England and in parts of the USA, partly from native cattle hides and partly from imported buffalo hides. (see also, [Picker Maker](#))

**Pickled Sheepskins:-** Un-split sheep and lambskins, from which the wool has been removed, treated with a solution of salt and acid to preserve them until the tanning operation begins.

**Pigskin:-** A leather produced from the skin of the domestic pig (*Sus scrofa*), also hogs. The hair follicles penetrate the whole substance of the skin and are clustered in threes. Has a characteristically looser fibre structure than sheep or goat. Widely used in the clothing, shoe, handbag and glove trade.

What makes this material so special? For an answer, we can look to our own human skin which has so many very special properties. Human skin breathes through many tiny pores, which allow it to keep the body cool in summer and comfortable in cold weather. It is tough and durable, protecting all of our inside working parts; yet, stays soft with very little attention. Pigskin is the most similar skin to our own. It, too, is breathable all the way through; is tough and durable; and (with some tender loving care from the tanner) can be soft and beautiful.

It is especially interesting to note that surgeons often use pigskin in their work since it has so many of these very special traits.

Pigskin is also a readily available by-product of the pork industry, which provides meat, ham, bacon, sausage, and other food. But, until the 1940's it was impractical to look to pigskin as a major source of fine leather. Pigs were much tougher to skin – unlike the cow, which has a hide much like a coat, the pig required a highly-trained workman to remove the skin, and the process took as much as a half-hour by hand.





unlined pigskin

The most logical comparison might be a banana and an apple. The banana has a peel which is easily removed (much like the hide of a cow) while the apple has a peel which requires a great deal more skill, and a knife, to remove. Obviously, it takes a great deal more time to peel an apple than it does a banana.

This situation made pigskin a material which was difficult to obtain even with packing houses processing hundreds of animals an hour.

The solution to this problem came from a company called Wolverine. After years of development, and more than \$2-million in investment (an especially large sum since we are discussing millions of dollars in the 1940's), Wolverine developed skinning and fleshing equipment which could remove the skins from pigs at a rate of more than 400 per hour.

That door opened a wide range of possibilities — from the development of shoes like Hush Puppies®, which featured the finest benefits of pigskin, to gloves, and upholstery in thousands of automobiles, all of which have those benefits of breath-ability, toughness, easy maintenance and beauty. Today, this technology is still at work making pigskin even better, with even a weather-tight leather available which is ideal for footwear which must withstand special conditions.

**Pin Seal or Pin Grain:-** Name commonly applied to natural grain of high-grade sealskin, tanned for fancy leather. Also imitated on sheepskin, goatskin, calfskin, and cowhide, but these should be described as "pin-grain sheepskin", "pin-grain goatskin", etc.

**Rambee Bisonte:-** Processed on a hard-wax tannage with a light polish added to enhance its dressy appearance. Has a natural milled grain and a very light pull-up, providing a slight contrast in tone when used for upholstery and giving outstanding results when used on premium sofas, etc.

**Rawhide:-** Un-tanned hide or skins. "White" rawhide is a very flexible, high tensile leather. Resistant to water and low temperatures. For sledges and marine use. Has a parchment like appearance and pungent smell. Rawhide is made by scraping the skin thin, soaking it in lime, and then stretching it while it dries. Like alum-tanning, rawhide is not technically "leather", but is usually lumped in with the other forms. Rawhide is stiffer and more brittle than other forms of leather, and is primarily found in uses such as drum heads where it does not need to flex significantly; it is also cut up into cords for use in lacing or stitching, or for making many varieties of dog chews.

**Reverse Retan:-** Leather tanned first with vegetable tannin and then with chromium compounds.

**Reversed Calf:-** Term applied to calf leather of heavier weights, finished on flesh side, containing oils to make it more water-resistant than suede, used for shoes where a nappy leather is required. Originally called "Trench Calf" in England, the term "Hunting Calf" is also

used in this country. The term "Service Leathers" is also used but is generally applied to splits and side leather.

**Rexine:-** Strictly speaking this entry should not be here at all. It's a trade-name for leather-cloth a strong, coated cloth, usually in the form of an imitation leather, and used in upholstery and bookbinding. The weave and composition of the base (grey) cloth depending on the grade of cloth being manufactured at the time, and could be cotton or a cotton and rayon mixture. Its cellulose nitrate coating is coloured by mixing powdered pigments with synthetic oils and is applied in several layers, each being dried before the next application. It was listed in the 1915 *Trademarks Journal* as belonging to the British Leather-cloth Manufacturing Co Ltd (later Rexine Ltd) of Hyde, near Manchester. Polyvinyl chloride may also be used for the coating. Embossing is done with engraved steel rollers, usually to imitate the grain pattern of a leather, but sometimes with modern geometric designs. This type of cloth has been in use since the first decades of the 20th century. Nowadays mostly manufactured in India, comparatively cheap, with a range of colours, sold in rolls 1 or 2 metres wide, prone to damage.

**Rigging Leather:-** A strong flexible, vegetable tanned leather.

**Roans:-** A variety of leather produced from a superior grade of un-split sheepskin. Roan is softer than basil, and is coloured and finished in imitation of morocco . The typical roan has a close, tough, long, boarded grain, a compact structure, and is usually dyed a red colour. Originally, roans were leathers tanned exclusively with sumac (as were the moroccos); however, in later years they were often tanned with other vegetable tannins. They were used extensively for covering books from about 1790 until well into the 19th century, but have been seldom used since that time.

**Roller Leather:-** Special vegetable tanned leather for the covers of the upper rolls of cotton-spinning machinery. Tanned from certain classes of sheep, lamb, and calfskins.

**Russet:-** A term of varied meaning in the leather trade, since it denotes both colour and tanning. Russet calf is the natural colour of unfinished calf leather resulting from tanning by vegetable extracts. Russet harness is a completely finished leather of uniform colour and finish. Russet sheepskin, used for shoe linings, is leather tanned in cold-leached hemlock bark, with the colour resulting from the hemlock. Russet upholstery is leather, tanned, but not finished.

**Russia Leather:-** Leather characterised by its odour. "Anglo Russians" are skins treated with birch tar oil to imitate the smell of Russia leather.

(1) The Russians manufactured for a long time a variety of red leather called Juncten. This leather has an agreeable and characteristic odour, does not attract mould even in damp places and is not attacked by insects. It is a smooth leather, tanned with willow, birch or oak, and scented on the flesh side with birch oil.



(2) Originally and properly calfskin shoe leather, dressed with birch oil and distinguished by its odour rather than its appearance.

**Saffian:-** Is a leather tanned with sumach. Usually goatskin or sheepskin it is dyed in bright

colours. It is embossed to give a crosshatched texture to the leather.

**Saladero Hides:-** South American hides corresponding to all hides produced in the United States by the larger "small packers".

**Satin Finish:-** A dull or matt finish on leather as distinguished from a "glazed" finish.

**Scotch Grain:-** A embossed, pebbled pattern, usually on cattle hide or calf leather, made to resemble heavy leather with a coarse grain. Scotch Grain was first created by a fortunate accident two hundred years ago in a Scottish tannery. A small Scottish tanner making leather for belts to turn various farm machines and horse bridles discovered one hide lying flat on the pebbly cement floor. When the tanner retrieved the hide, the pebble grain remained embedded on the leather. In an attempt to remove the pattern, he rolled, stretched and polished the hide, only to enhance the look of the grain on the leather. When a local shoemaker saw this strange textured hide, he admired it and made custom hunting boots for one of his wealthiest clients. A new fashion was created: Scotch Grain.

Well, you can believe the above, or you can go for this version:

"BruichLaddich Grain"<sup>™</sup> was originally developed by thrifty Scots on the Isle of Islay as a method of utilizing the mash byproduct of the whisky distillation process. Romanticized stories are oft told to credulous tannery tourists of the process dating to the Picts, but that's unlikely. Utilizing vintage charred oak barrels that have served their whisky aging purpose, Highland cattle skins are layered within the barrels and interspersed with copious amounts of leftover barley mash. Over time, sometimes as long as 12 or more years, the skins develop the familiar pebbled, shrunken grain. The mash also imbues the skin with its customary Cognac colour. Hides aged 30 years are the connoisseur's choice, and only available at the most exclusive bespoke bootmakers. Most are private firms who only accept commissions via referral. Completely unknown on enthusiast forums. In less democratic times the skins were reserved for nobles. Known in the U.S. as "Scotch" grain, a misnomer. Scots grain is correct for those unable to properly pronounce BruichLaddich, (which is, for what it's worth, Brook Laddie). Much of what passes for genuine Scots grain is ersatz non-Celtic dairy cattle gunge squeezed between embossing rollers to simulate the effect of mash aging.

**Sealskin:-** Sealskin comes in fine and coarse grain variants. The follicle pattern is irregular and independent of the grain (hence it is found on the rises as well as in the hollows). There is some resemblance to goatskin and it has an oily feel.

**Semillee:-** A semi-aniline dyed full-grain water buffalo leather with a very soft hand and a richly polished surface. Semillee is also hand-stained and rubbed providing a richness that accentuates the beauty of the natural buffalo grain.

**Shagreen:-** From Turkish "saghri" meaning the croup of a beast. Originally made in Persia from the probably un-tanned hides of asses, horses and camels. Seeds of a species of Chenopodium were trampled into the skin when it was moist and shaken out when it dried, thus leaving granular indentations. The material was then stained. In the 17th century and later, shagreen was made either of finely granulated shark skin or of the skin of a ray fish, whose pearl like papillae were ground flat, leaving a lovely pattern. The shark's hide lasts an extremely long time if it is prepared correctly, namely if it is well flayed and then washed, cured, dried, etc. The dried skin is known as "shagreen" because of its similarity to the un-tanned granulate hide of the back and hindquarters of a horse (this also being known as shagreen).

The most sought-after skin which fetches the highest price in the leather industry is that of the Tiger Shark. Hammerhead skin is among the cheapest. The denticles are removed before the skin is tanned to make durable leather which is used for quality shoes and cowboy

trousers. It is even more elastic than cowhide or pigskin and much sturdier (150 times more resistant to wear than that of bovine leather).

The Japanese are the world's leading shark-catchers having a long tradition involving sharks. This is why samurai swords have always had hilts covered with Angel Shark hide, the roughness of which prevents the sword from slipping in the hand.

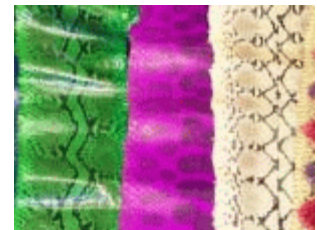
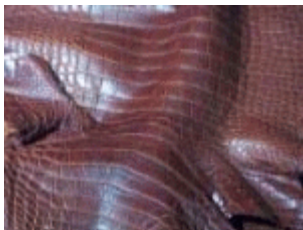
A highly prized leather, "Boroso", comes from the processing of Moroccan sharks. The dermic denticles are not removed, but polished so as to give the leather a texture that is both aesthetically pleasing and very tough.

**Shearling:-** Woolled sheep and lambskins tanned with the wool intact.

**Sheepskin:-** The skin from a mature sheep is indicated by the unsplit skin and does not have an attractive grain. Inferior to goatskin, so is frequently embossed. When sheepskins are split before tanning it is generally oil dressed and converted into chamois leather.

**Shrunken Grain Leather:-** A full, natural-grain leather which is shrunken to enlarge and enhance the grain of the leather.

**Shrunken Lamb:-** A tanning process that actually shrinks the hide, creating a more pebbly or puckered, grainy appearance.



**Skiver:-** The thin grain layer split from a sheepskin, Persian or goat and is generally split before tanning. Variable qualities. Traditionally used as a lining material in footwear, as bookbinding and for table tops, skivers present a versatile and economical leather finish. Nappa Skivers are used extensively in the handbag and clothing industry where high fashion sheep grain is prized.

The top half of the skin, the Pickled Grain, is tanned with vegetable extract into Skiver Leather. The inner half of the skin is tanned with Cod Oil into Chamois Leather. Because of the paper-thickness to which skivers are sometimes split and because of the variety of grains with which they are embossed, it is sometimes assumed that skiver is not leather. The qualities are wide ranging. Some are so thin it is possible to see through the hair follicles, but it is still leather.

**Smooth Skiver** This leather is produced from the outer grain layer of sheepskins. It is aniline dyed and a pigmented finish coating is applied on top. The average size per skin is 0.80 – 0.95m<sup>2</sup> (8 – 9ft<sup>2</sup>) with a substance of 0.4mm. These skins will yield a cut approximately 65 x 75cm. Available in a standard range of shades, in grades I and II.

**Glazed Skiver** This leather is produced from the outer grain layer of sheepskins. As with the Smooth Skiver, it is aniline dyed and a pigmented finish coating is applied on top. In addition to which is added a gloss lacquer coat. The average size per skin is 0.80 – 0.95m<sup>2</sup> (8 – 10ft<sup>2</sup>) with a substance of 0.4mm. These skins will yield a cut approximately 65 x 75cm. Available in a standard range of shades, in grades I and II.

**Embossed Skiver** Produced the same way as the Smooth and Glazed Skiver, but with the addition of

an artificial grain effect. The average size per skin is 0.80 – 0.95m<sup>2</sup> (8 – 10ft<sup>2</sup>) with a substance of 0.4mm. These skins will yield a cut approximately 65 x 75cm. The Embossed Skiver is available with a choice of embossing grains, and in standard pigmented shades. Available in grades I and II.

**Fair Skiver** These natural un-dyed skins are supplied in one grade only. Since the Fair Skiver has no finish, it will take Aniline Leather Dyes with ease. The average size per skin is 0.80 – 0.95m<sup>2</sup> (8 – 10ft<sup>2</sup>) with a substance of 0.4mm. These skins will yield a cut approximately 65 x 75cm.

**Slat:-** Vegetable tanned sheepskin produced from a skin whose wool has been removed by the sweating process. Mazamet in France is a famous source of slats.

**Slunk:-** The skin of an unborn or prematurely born animal, especially calf.

**Snake:-** Any of a vast range of the reptile suborder Ophidia (or Serpentes), typically having a scaly cylindrical limbless body, for example cobras, rattlesnakes and the non-venomous constrictors, boas and pythons. Water snakes and small pythons are excellent for making belts.

**Table Run or Tannery Run:-** Terms used to describe leather which has not been sorted or graded before being sold.

**Toad (Cane):-** The leather for Cane Toad products comes from an eradication program in which the toads are humanely disposed of. The cane toad is an introduced (non Australian) species which has for many years been in plague proportions throughout the State of Queensland. All attempts to halt its spread have so far proved unsuccessful. They have no natural predators and are fatally poisonous to all native wildlife which eats them. The Australian government spends hundreds of thousands of dollars annually in attempts to eradicate the toads.



Toad skin after tanning

The skin of the cane toad is strong and flexible. After the tanning process it retains these qualities but also becomes softer and more supple. It makes up into excellent leather goods, and when backed with pigskin, is both tough and durable.

**Vachetta:-** Calfskin that is tanned and left unfinished to look natural. This leather looks naked and gives the product an artisan feel.

**Vellum:-** Vellum is practically the same thing as parchment but is made of calfskin. The word is derived from the Latin vitulus, a calf, whence our word veal. Drum leather is a specialised variety of vellum, made nowadays in diminished quantities for the purpose indicated by its name.

**Walrus:-** Leather made from the hide of a walrus. Walrus hide is of such thickness that it is generally used for leather for buffing wheels. When split it is used for bag leather. It is difficult to distinguish between leather made of seal and walrus hides after tanning and splitting and the names are often used interchangeably. "Walrus Grain" is sometimes imitated on cattle hides, sheepskins and goatskins as well as on splits from hides of various animals. In such cases, the proper descriptions are "Walrus-grained Cowhide" or "Walrus Grain on

Goatskin", etc. The term "walrus leather" when used in the luggage industry is generally regarded in the trade as being genuine sealskin leather on which a simulation of walrus grain has been embossed.

**Wet Blue:-** Chrome tanned leather. Chrome tanning creates a blue colour in the leather and there is a natural safe resting stage just after tanning when the leather is both wet and blue. A significant stage during which the leather is traded in this semi-processed state worldwide.

**Wet White:-** Hides and skins with the hair or wool removed and preserved after a light aluminium tanning. More stable than pickle. Increasingly used as an intermediate stage for transporting and selling hides and skins.

**Zebra:-** The Zebra is unlike any other member of the horse family because of its startling colour pattern. Parallel black or dark brown stripes appear on a whitish background all over the Zebra's body and are arranged in symmetrical designs.



They meet diagonally down the sides of the Zebra's head. These decorative lines may even appear on the Zebra's long ears, short thick mane, and down its tail to the tuft of hair.

**Zug leather:-** Zug is a waterproof grained leather most often associated with "Veldtschoen" boots and shoes (Afrikaans for "field shoe", although the Veldtschoen was developed by an Englishman, Albert Ingham of Northampton). Zug leather originates from the famous tannery of the Swiss town of the same name. The innovative, thrifty tanners of the area utilized a milk chocolate syrup in much the same manner as the Scots of Islay (see Scotch grain above). The chocolate imparts the characteristic dark brown colour and natural waterproofing of Zug leather.

# Descriptive terms used in connection with leather

## British Standard (BS2780) Definitions:-

### •Aniline leather

Leather that has been dyed by immersion in a dye-bath and has not received any coating of pigmented finish.

### •Semi-aniline leather

Leather in which the base coat of the finish contains pigment but later coats contain only dye or a contrasting pigment, to give a two-tone appearance, designed to

imitate aniline leather.

### •Pigmented leather

Leather to whose grain surface a finish containing fine pigment particles in a binder has been applied.

### •Corrected grain leather

Leather from which the grain layer has been partially removed by buffing to a depth governed by the condition of the raw material and upon which a new surface has

been built by various finishes.

### •Waxy leather

(1) Upper leather finished on the flesh side and dyed. It is vegetable tanned with a high content of hard grease, though not necessarily wax.

(2) Leather bearing a wax finished. Suede Leather whose wearing surface has been finished to produce a velvet-like nap.

### •Nubuck

Cattle-hide leather buffed on the grain side to give a very fine velvety surface: white or coloured.

### •Split:

(1) A single layer from a hide or skin that has been separated over its whole area into two or more layers. (grain split, middle split, flesh split)

(2) Leather made from the flesh split or middle split.

### •Finished split

A split leather that has been finished by the application of a surface coating to simulate the appearance of a grain leather.

**Alaska:-** Alaska leather is made from special European hides selected for their fine grain and full character. The tanning process is carefully adjusted to enhance the leather's natural beauty and maintain its original character. After, the leather is richly dyed in the drum and finished with a blend of waxes and creams that protect it without clogging it up. The result is a fine, full-grain, full-bodied leather that has all the characteristics of a superior product.

**Altered leather:-** This is leather that has had the original surface of the hide or skin removed, because of what are considered to be blemishes or imperfections in the grain surface. As a consequence a new grain is embossed into it. It is sometimes referred to as a corrected grain, and a lot of top-grain leathers have had this treatment, probably most.



Full grain



Brown - tumbled



Black - corrected grain

**Alum leather:-** A white, soft leather, produced by drumming the skins with a mixture of alum flour (alum, also known as potash alum, is a colourless soluble hydrated double sulphate of aluminium and potassium used in the manufacture of mordants and pigments, for dressing leather, and sizing paper) or chalk, salt and egg-yolk. This procedure, is known as tawing, and is usually confined to small skins only. Tawed leather is dressed with a fat liquor (a mild alkali, such as an emulsion of soap and oil) while still damp and after dyeing, its fibres are then further broken by working it over a stake as it dries.

**Aluta:-** Roman name for tawed (alum tanned) leather. Aluta was used for sails in Venice, and for shoe uppers in ancient Greece

**Aniline dye:-** A general term for synthetic dyes having aniline as a base (this is a pungent, oily, colourless, poisonous liquid, used, not only in the manufacture of dyes, but for plastics, pharmaceuticals and explosives). It is now obtained chiefly from coal-tar. (Coal-tar is produced by the distillation of bituminous coal. This can of course be further distilled to yield benzene, toluene, xylene, phenol etc.) The dye itself is transparent and is used for colouring dyed leather, which has most probably been chrome-tanned, because aniline dye gives the resulting soft, resilient leathers, the most vibrant colours.



Green - corrected grain



Peach - two-tone



Red mahogany - upholstery

**Aniline leather:-** Leather which retains its colour only from dyestuffs rather than from pigment, and as a consequence looks more natural. Leather that has been dyed through with aniline dyes. Genuine aniline leathers amount probably to no more than about 5-6% of the production of upholstery leathers throughout the world. They can be given a protective coating of lacquer, or even waxed, at the production stage.

**Antique grain:-** (two-tone or rub-off) A special surface effect has been created to mimic the unique "worn" appearance of traditional leathers. This is achieved by applying a contrasting top-coat which is applied unevenly or partially rubbed off to reveal a paler underlying colour.

**Bag hide:-** A form of vegetable tannage in which the skins are sewn together in pairs to form bags and floated in tan liquor. This method avoids drawn grain and gives a good spread of leather. A flexible leather sometimes embossed with a grain pattern. If something is described as "embossed" you can be sure the grain is an imitation one.



## Descriptive terms used in connection with leather -continued

**Bark tanned:-** Bark tanning (in effect, vegetable-tanning) has been around for centuries. It creates water repellent, durable leather. Almost any skin can be vegetable-tanned, but it is usually used for tanning grain-on leathers. Large, thick hides from cattle, horses, buffalo etc. There would seem to be two followings for bark-tanning, one from the Mediterranean regions (which is the method we would normally think of as bark-tan) and the other from the colder regions of the Laplanders, Eskimos and eastern Russia, which is done on thinner, softer hides, such as deer or caribou. The specific differences being the length of time spent in the soaking. The less time soaking, "less tanning", thus a softer end product, and with thinner skins, seems entirely logical.

**Basil:-** This is a vegetable-tanned, smooth surfaced sheepskin usually finished un-dyed but sometimes finished with a plated dyed surface.

**Bating:-** The process prior to tanning proper where the fibres of a hide or skin which have been plumped or swollen by liming are reduced and softened, thus assuring pliability in the product. The word is a form of "abate" in the sense of "to reduce".

**Belting leather:-** Is a vegetable-tanned leather used in the furniture industry and similar applications where strength is a pre-requisite.

**Blue, in the:-** This is descriptive of hides that have been chrome-tanned. On removal from the tanning solution their appearance is of a light greeny-blue before they are dyed.



Half hide



Whole hide



Quarter hide

**Boarded leather:-** A raised grain leather produced by folding the skin in half, grain to grain, and firmly drawing a cork or rubber-faced board across the fold and forming a series of creases across the skin. If the skin is boarded in the transverse direction a series of small squares are produced. Box calf Morocco and coach hide are examples of boarded leather. It can be done by hand or machine, and helps to soften the leather. A century ago it was common practice to use the naked forearm for graining and polishing, and extraordinarily enough, it was considered the mark of the skilled craftsman the darker the skin on a man's arm, even though you were effectively tanning your own skin with the residue of the tannin.

**Bulgar:-** A Russian leather originating from Bolgar, a former kingdom on the Volga around Kazan. Produced from hides or horse fronts of tannin or mixed tannage, painted black. Used mostly to produce customary ethnic footwear.

**Butt:-** The part of a hide or skin corresponding to the animal's back and sides after trimming off shoulders and belly containing the thickest and stoutest leather and used for harness, belting, soles of shoes. Middle part of a hide, limited by the lines connecting the hollows of forelegs and rear legs and the line connecting groin hollows.

**Boardy:-** This descriptive term is applied to a stiff, inflexible leather. Not to be confused with

"boarding" which is explained in the entry above, and is a process which softens the leather.

**Buffed leather:-** A leather which has been abraded or sueded. It is sometimes referred to as being snuffed leather, nubuck or grain-sueded leather.

**Cape leather:-** This was originally the soft-grained gloving- or garment-leather from South African hair sheep.

**Carpincho:-** A grain, gloving leather, made from the largest rodent in South America. It has a grain pattern very similar to that of the peccary, and is the leather commonly called hogskin.

## Descriptive terms used in connection with leather - *continued*

**Case leather:**- A non-specific term for leather with a glossy finish, excellent for stiff items such as travelling bags and suitcases. The basic material for case leather is run of the mill bovine hides, generally firm dressed splits.

**Chamoising:**- An ancient process which involves impregnating the skins with fish oils, then leaving them in a warm atmosphere for the oils to oxidise, i.e. react with the surrounding air. It is the current method for making soft "chamois" leather.

**Centre cut suede:**- This is a suede split that has had the edges trimmed to leave the bends and the shoulders behind, giving you the best and most useful part, the centre of the material.



Printed alligator



Tan-coloured suede



Full grain - dark moss tumbled

**Chrome tanned:**- A leather tanned in chromium salts, primarily, standard chromium sulphate. It is tumbled in large drums, and the tanning process is correspondingly speeded up. Even the largest hide only taking a day to complete its tanning. This gives soft, mellow hides which react very favourably to many different dyeing processes, thus enabling an excellent colour variety. This method of tanning is currently the most widely used in America, thus its consumption is correspondingly enormous, though the method is normally limited to small skins, never usually larger than pigs or calves. The interior of chrome leather has a grey-blue-green tint, thus making it easily recognisable, unless it has been heavily dyed. Its feel is springy and flexible. It has water resisting qualities which makes it an unsatisfactory leather for cut-edge work where the edges are finished with water stain. Another point worth a mention is that the chromium salts used to tan the leather can corrode and dull your scissors and knives when you're cutting the leather. A very good reason for not making knife pouches or sheathes from it.



**Comber Leather:**- Used on combing machines in the textile industry, this is a soft, mellow and tough leather, which is tanned from steerhides, heavily stuffed with grease, and usually hand boarded or otherwise softened.

**Combination tanned:**- Speaks for itself really. These are leathers tanned with more than one tanning agent, such as vegetable and chrome together, resulting in the leather having not only body, but softness.

**Cordovan:**- Leather made from the tight, and firm, shell portion of a horse's rump, or crup. (That part of the horse's rump behind the saddle. That's why the strap from the back of the saddle that passes under the horse's tail to prevent the saddle from slipping forwards is known as the crupper). In area it would be about 15-20 sq ft. It has very fine pores and a characteristic finish. It is also exceedingly durable.

Horsehide is not as readily available as cowhide — mainly, I suppose, because we don't eat too many horses. The French and the Belgians, however, do manage to chew up quite a few, so the skins are shipped over from Continental Europe to the US for tanning. Why aren't the

skins tanned in Europe? I've never quite puzzled that one out. Most continental tanners I've quizzed on the subject have acted surprised and said there's never been a demand for them!

A horsehide is divided into segments roughly along the lines of a cowhide. However, chrome tanned horsehide is extremely hard-wearing. Remember the old war-movies and the long leather coats the Nazi SS officers used to swan about in? Well, most of the real ones were made of chrome-tanned horsehide, which is probably why you'll find they're still as good as new — if ever you manage to lay your hands on one! Because of this, the shoulders and bends are chrome tanned for use in the garment industry. They are highly sought after and, being in short supply, can command a prohibitive premium price! So what does that leave for vegetable tanning? Sadly, just the strips that are part of the rear, or the croup; segments that are, incidentally, not the most desirable parts of the horse's skin.

Now vegetable tanned horsehide is extremely firm-grained, dense and oily, which doesn't help when it comes to the process of wet-blocking. It needs to be immersed for ten times longer than cowhide to allow the water to penetrate fully and, once blocked, is not as rigid nor does it retain its shape as well as cowhide when dry. Some manufacturers have attempted to solve this problem by having the horsehide strips hard-rolled at the tannery, a process which involves wetting the leather, then passing it through stainless steel rollers under a pressure of some thirty-odd tons. This compacts the leather and renders it rigid — so rigid, in fact, that it acquires the nature and consistency of plywood. In this state, it is an absolute swine to work with! It is hard to cut, harder to sew, and makes anything but the most rudimentary process of wet-blocking virtually impossible.

What can we say in favour of horsehide? Price-wise it's more or less on a par with cowhide, though many manufacturers, for reasons best known to themselves, insist on charging a hefty additional premium. Don't pay it! From the supply point of view it may not be as plentiful as cowhide, but there's still enough of it to go around. Is it more durable than cowhide? My experience shows that it isn't. So what can we say about horsehide that we can't say about cowhide? Well, nothing really. On the other hand, we can say that cowhide holds its shape a lot better than horsehide. (See also Horsehide [Here](#))

**Corrected grain:-** The grain side of the hide is abraded to remove, or at least minimise, perceived faults. It then has to be pigmented to cover the effects of the sanding process. The leather then has a grain printed on it resembling its natural grain. A topcoat of sealer is then sprayed upon the surface. Corrected grain leather is invariably known as top-grain leather.

## Descriptive terms used in connection with leather - *continued*

**Crock:-** This is the release of colour when rubbed, as the result of imperfect dyeing. The expression is used in the same circumstances with materials other than leather.

**Crock proof:-** Not unsurprisingly this is the description applied to leather, suede or fabric that has received treatment to prevent the colour from rubbing off. As applied to suede it also means treatment to prevent the shedding, or rubbing off, of fibres.

**Croupon:-** Term refers to an untanned, whole cattlehide with belly and shoulder cut off, comparable to a butt bend in tanned leather.

**Crust:-** Leather which has been tanned, but not finished.



Blue - natural crust



Copper tan - aniline dyed



Yellow - printed wild design

**Deacon:-** The hide from an unborn calf or one slaughtered upon calving.

**Degrained leather:-** Leather from which the grain has been removed after tanning, by splitting or abrading. It is also the splitting or buffing of the grain side of suedes to make them of a uniform substance.

**Division hides:-** This is a reference to 1.5 to 2.5 mm firm hides with white flesh or pigmented and grained on both sides. It is specifically manufactured for document case partitions or divisions.

**Doped leather:-** Leather coloured with a solid pigment and finished with a nitro-cellulose finish. It therefore gives a uniform coloured surface.

**Double face:-** Sheepskin or lambskin with the wool still attached and sueded on the flesh side.

**Drenching:-** A process for reducing the plumped fibres of a hide or skin. It accomplishes approximately the same purpose as bating and basically in the same way – that is, through soaking in a fermenting solution. Some authorities, however, restrict the term bating to the process using ferments of manures and the term drenching to that using damp sawdust, bran, middlings or a solution of lactic acid or some other chemical having a similar action.

**Drum dyeing:-** To dye leather by immersing it in a drum that is then tumbled, thus enabling the full penetration of the dye into the leather's fibres.

**Dyed leather:-** This is applied to leather which has been dyed in a dye-bath or drum, allowing the dye to fully penetrate the leather, as opposed to simply being stained.

**Ecrasé:-** From the French word *écraser*, meaning to crush. The leather has been crushed or flattened, to give a crushed grain effect on which the boarded grain of morocco is smoothed

off and polished on the resulting top facets.



Maple - printed



Grey design - printed



Embossed green-dyed crocodile

**Embossed:-** Leather printed or embossed with a pattern either imitating a natural grain surface or an unrelated design as in bag grain. The pattern is applied with great pressure. Sometimes the leather, such as cowhide, is embossed to give the impression of a totally different species; for instance, crocodile.

**Entrefino:-** One of the finest skins available, Entrefino comes from its namesake lamb, native to Spain and a small region of Italy. Full aniline and drum dyed, like a fine piece of wood, this skin's translucent depth of colour brings up the full elegance of its rugged character.

**Fat wrinkles:-** These are wrinkles in the grain of the leather as a result of fat deposits in the animal and add to the beauty of the leather. You will not see anything similar in imitation grain leather.

**Flanks:-** These are the loose fibred, open grained stretchy sections of a skin or hide from round the animal's belly.

## Descriptive terms used in connection with leather - *continued*

**Flesher:-** The un-tanned flesh split of sheep or lamb-skin, sometimes referred to as lining.

**Full:-** Indicates the un-split or full thickness of hide or skin. It is also used as an adjective to describe the complete tanning with only one agent. Also the whole natural grain surface which has been neither split nor buffed.



Glazed goat



Dark tan suede split



Raisin coloured - pebbled, printed

**Glazed:-** This is very similar to an aniline finished leather other than for the surface being polished to a very high lustre. This is created by the rolling action of glass on steel rollers under considerable pressure. In the same sort of manner the individual crafts-person, using vegetable-tanned leather, can impart a "glaze" to the leather using a smooth piece of wood when the leather is damp, by a controlled stroking motion in one direction and with a fair amount of pressure. Practise will make perfect!

**Goatskin, Maroquin, Saffian:-** Slightly greased vegetable-tanned and vividly coloured leather made from sheepskins or goatskins. Mostly used in the decorative uppers of national footwear.

**Grain splits:-** Grain splits may be finished for wear on the grain side, or the flesh side. Quite often the back of the grain leather is just as usable as the grain side. That's one reason why they are such good value. You need to find a cut or torn edge to distinguish a finished split from full grain or corrected grain pigmented leather. In a grain leather the fibres are much more tightly packed near the grain surface, while in a finished split the fibres are equally loosely packed all the way to the pigment coating.



**Grained leather:-** Any leather on which the original natural grain has been changed or altered by whatever method.

**Hardness of leather:-** A defect caused by mistakes during neutralizing and inadequate selection of fat liquor components. Hard leather is dry and rustling. It can be local, found on individual parts of the hide, or general, found on the double-bend and shoulder. It is determined by the product of a certain modulus of elasticity by the area of the tested sample in square centimetres. The hardness of artificial leather and film is determined by the load needed to deflect the tested sample, bent to form a ring, by  $\frac{1}{3}$  of the diameter, or by other determined value.

Combined-tannage leather made from cattle hides, horse fronts and pigskins

**Juff, Russian:-**

having a high content of grease.

**Kosher Hide:-** Hide of an animal which has been slaughtered according to Jewish religious custom by having its throat cut cross-wise; resulting in a different pattern of the hide sometimes referred to as a "cut-throat" or "stuck-throat."

**Levant grain:-** A heavy and bold grained morocco originating in the Levant and Turkey, frequently copied and embossed on sheep skins, goats or even seals. It has a pattern of irregular creases.

**Limed rawhide:-** This leather is used for the manufacture of percussion drum skins, for protecting hot-air balloon baskets and even in the orthopaedic world – when soaked back the leather will mould to its new shape. Also used on lacrosse sticks, scabbards and Western saddles.

**London colour:-** This is a light-buff colour which is identified with London-made leather bags and cases.

**Matadero Hides:-** Hides from Argentina corresponding to a city butcher or smaller packer hides of the United States.

**Milling:-** The process of massaging hides to ensure softness. After the hides have been tanned, dyed and finished they are tumbled for several hours to achieve extra softness.

**Naked leather:-** A leather with no surface-impregnated treatment or finish, other than dye matter, which might mask or alter the natural state of the leather. Usually reserved for the finest quality skins.



## Descriptive terms used in connection with leather - *continued*

**Oak tanned:-** Originally hides and skins were almost entirely tanned using oak bark. As time elapsed it was applied to tanning using a mixture containing oak tannin. Now it is generally associated with the tanning of leather with vegetable extracts.

**Oil tanned:-** This is leather that is tanned with certain fish oils, producing a very soft, supple leather, such as chamois.

**Patent leather:-** It has a shiny, impermeable finish, on one surface, created by the application of a succession of coats of drying oils, varnishes or synthetic resins. This coating was formerly built up by the application of various varnishes and lacquers, pigmented or non-pigmented, based on linseed oil. Laminates coated with a plastic film less than 0.15mm thick may also be classed as "patent leather". Not a long-lasting leather, as it is vulnerable to surface cracking.

**Pelt:-** This word means, strictly speaking, any kind of skin (Latin pellis, related to the German felle, a skin, and the English word fell, now preserved only in fellmonger). The word is somewhat loosely used in the leather industry, but its only common applications nowadays are to sheepskins in two or three slightly differing senses: to the skin proper, to distinguish it from the wool that grows on it; to de-wooled sheepskins, as a pickled pelt or a fellmongered; or in some countries to a woolskin bearing the shortest recognised staple.



Tan colour - corrected and plated



Rust colour - printed



Grey colour - full grain

**Pigmented leather:-** Film-forming chemicals known as binders into which fine particles of colouring pigments are mixed and the resulting suspension applied to the surface of the leather. This makes it highly resistant to wear or fading. Pigmented leather is very durable and is used in the majority of furniture upholstery and almost all car upholstery. Usually done to cover imperfections in the leather. The surface coating allows the manufacturer more control over the properties of the leather, e.g. resistance to scuffing or fading. The thickness of the surface coating can vary but if the mean thickness is more than 0.15mm then the product can't be sold as leather in the United Kingdom due to consumer protection legislation.

**Plated leather:-** A heated metal plate is, under pressure, pressed onto the leather surface. This after the leather has been sanded and pigmented to conceal its imperfections.

**Pull-up:-** When pulled tight or folded it produces a brilliant burst of colour. 2-Tones are full aniline leathers that have been oiled and/or waxed. When the leather is pulled or folded, the oil and/or wax separates causing the colour to become brighter.

**Reconstituted leather:-** This is constructed from collagen fibres obtained from macerated hide pieces which are combined into a fibrous mat.

**Rhubarb tanned:-** The Agricultural College in Bernburg/Thuringia cultivated two hectares of

land for growing rhubarb. The first harvest in October 1999 yielded sufficient tanning agent for preserving around 8000 square metres of leather. The company Wertleder from Zug in Saxony, which has already proved to be a reliable partner in the past, is responsible for the production of leather on behalf of Audi.

As natural as possible is the motto for the new type of leather that Audi is currently testing for use in its vehicles. In order to achieve this objective, a substance is used in both tanning and dyeing which is obtained from the root of an indigenous type of rhubarb. This is a sustainable natural product that does not create any pollutive waste in production. Nor does it have to be imported from far away like other naturally extracted tanning substances.

A maximum of 3% of the tanning agent required can be extracted from the root. But the demand from Audi customers for leather which is manufactured as naturally as possible is growing. And it is already clear that the area for cultivating rhubarb can be extended without any trouble to meet increasing demand.

**Roller Leather:-** Special vegetable tanned leather for covers of the upper rolls of cotton-spinning machinery. Tanned from certain classes of sheep, lamb, and calfskins.

**Rough tanned leather:-** Leather, which after tanning has not been further processed, but has merely been dried out. The term "rough tanned" is used mainly in connection with vegetable tanned hide leathers.

**Russet leather:-** This is a vegetable-tanned leather, so named because of its colour, that is ready for staining.

**Saddle leather:-** A vegetable-tanned cowhide used in the making of harnesses and saddles. It is usually in a tan shade and is fairly flexible.

**Sammed leather:-** Leather that has been saturated in water and then left to mellow by allowing each fibre to become damp without the water being continuous between the fibres.

**Sauvage Leather:-** A sauvage is a top grain, semi-aniline leather. It has a two-tone appearance, which adds depth and character to the leather, producing a marbled or creased appearance. It resists spills and provides long wearability. It is extremely soft.



The mottled or marbled appearance is created by blending two similar dyes in the colouring effect. The leather is dyed twice. The first time, a dark dye is introduced to the leather. Next, a lighter dye is used. It can be also done the other way round. The look comes about because the hides are tumbled during the dyeing process.

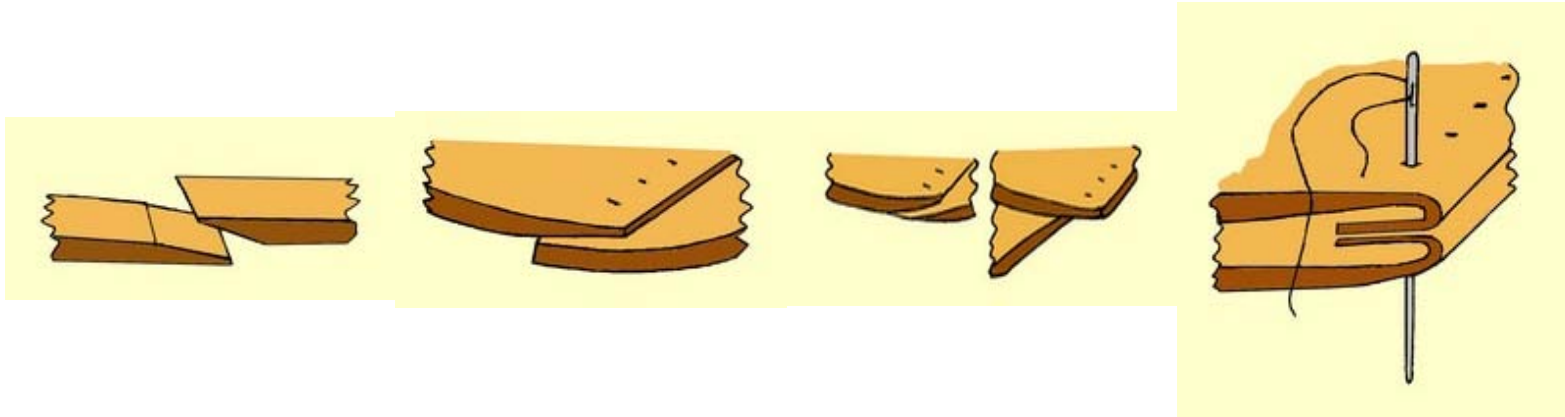
Like aniline, sauvage is also an expensive type of leather and is made from the most carefully

selected skins.

**Shanks:-** The legs or extremities of hides and skins which have stretch across the width but none in the length.

## Descriptive terms used in connection with leather - continued

**Skived leather:-** This is reducing the thickness of your leather to make joins, overlaps or folds, less bulky, or any other situation requiring the leather to be thinned. It is invariably done on the flesh side. Though one exception would be joining thong (or lace), with an adhesive, as obviously the finished side would have to be skived as well to ensure the thong (or lace), was of a consistent thickness.



**Snuffing:-** The process of lightly buffing the grain surface of the leather by the use of a fine abrasive. Snuffing leaves some of the surface imperfections still visible; *buffing* removes them entirely.

**Splits:-** Thick leather may be split into two or more layers before tanning. The top, or grain layer, is known as the grain split or top split. Consequently, the underlying layers are middle and flesh splits. Grain splits may be finished on the grain or the flesh side. Middle or flesh splits are sueded on both sides. A suede split is sueded on both sides, though one side may be fuzzier than the other. Any type of skin or hide that has not been split or shaved is described as full. Bear in mind that split cowhide, for example, is not the same as cowhide split. Using split as an adjective, as in split cowhide, means a grain split. Using it as a noun, in cowhide split, it means a middle or flesh split.



**Steer:-** The hide of a freshly killed bull, castrated at a young age and having a mass of more than 17 kilograms.

**Stingray:-** In Japanese it is referred to as *Honzame*, in Europe as *Shagreen*. In France, it is known as *Galuchat*, named for Jean-Claude Galuchat, an 18th century master leatherworker for Louis XV and the first French artisan to use the material. Related to sharks, Stingray will not burn, break or fray, yet it can be cut with a standard pair of scissors. In Egypt when the tombs of ancient pharaohs were discovered, stingray was found to have been used as armour, decoration and ornamental embellishment.

According to CITES (The Convention on International Trade in Endangered Species of Wild Flora and Fauna) which have three documents known as the CITES Appendices — Appendix I (507 named taxa), Appendix II (259 named taxa) and Appendix III — Stingray is not included in these appendices and therefore legal for commercial use and trading throughout the world.

The Cowtail stingray (*Trygon sepect*) and the Spotted stingray (*Trygon kuhtii*) are caught by traditional fisherman for meat, and the skins were previously discarded. Both species are neither endangered nor threatened. They are abundantly found in the shallow and muddy warm waters off Indonesia.



In the old days, the skin was normally used by wood-craftsmen as a sander, because of its rough surface. Creating markets for stingray skin products has increased the income of traditional fisherman families in Java. People finally caught on that the naturally shiny beading, amazing strength and the unique *stingray pearl* pattern are perfect qualities for some of the finest leather products available in the world today.

Stingray leather is processed from rays caught off the north coast of Java. The skin has a beautiful appearance and sturdy durability because the microscopic fibres of the stingray leather are woven together, unlike ordinary cowhide, which has parallel fibres.

Until recently, attempts at tanning stingray leather failed, considering the fibre structure of marine leather, and the result was a stiff, fragile product, but this has now been overcome.

**Struck through:-** The dyeing of leather can be controlled by the manufacturer to either fully or partially penetrate it. Since full penetration requires more dye, leather that has been fully penetrated is, therefore, more costly to produce than leather that has only been superficially (the flesh and grain surfaces) penetrated. Leather that has been fully penetrated with dye is known as fully struck through leather. If it has only been superficially dyed, it is called partially struck through.

**Suede leather:-** Suede is *not* another kind of leather at all, but a type of finish. All suede is leather, but not all leather is suede. The term "suede" refers to a type of finish originally applied to leather produced in Sweden which had had the grain layer (the outer surface of a hide or skin after hair/wool removal) removed and a fine nap raised by mechanical action. Although normally today suede is made from either the original flesh surface of a hide/skin, or one exposed by splitting laterally the hide or skin into two layers, the grain surface is sometimes abraded to give a very fine suede effect usually called nubuck, but sometimes referred to as degrained leather. It is only leather that is finished by buffing the flesh side to produce a nap. It is unrelated to the type of hide or skin that is used.



Light purple - corrected grain



Orange coloured suede



Black - full grain calfskin

**Tawed leather:-** The tawing method of making leather is a very ancient one. It was used in ancient Egypt, Assyria and Babylon and India. The Greeks and Romans used tawing and it was widely employed during the Middle Ages in Europe. In tawing, the skins are first soaked in water to soften them, then the skin and hair are scraped off with a concave "scudding knife". Tawing is a mineral process using alum and salt (the best mixtures contain alum, salt, egg yolk, flour and oil) and originally produced a white leather, though later it was dyed in colours (and most prized was the scarlet leather dyed with kermes). The leather is hung up to dry, dampened again (fermented bran can be used to make the highest quality leathers) and then beaten with mallets to soften it, before being staked out ready for use. After the Moorish conquest of Spain in the

eighth century in Cordova a process of tawing leather was practised which was made from the mouflon sheep.

**Temper:-** Defines the pliability/softness of the leather.

**FIRM:** Leather that has hard and bony characteristics. Firm leather represents products requiring very little flexibility.

**REGULAR:** Leather is slightly firm and having no bony qualities. When worked, regular leathers display smooth, even folds.

**MELLOW:** This type of leather is very limber and pliant. No snap when worked, tends to lack firmness.

**SOFT:** Leather that is extremely flexible and pliant.

**Top grain:-** This description is intended to define genuine grain leather as opposed to leather which has been pigmented and embossed with a grain finish that is entirely new.

**Unfinished leather:-** Is usually the description applied to an aniline-dyed leather with unaltered, natural characteristics.

**Upholstery leather:-** This is leather processed for use in the furniture trade, for use in motor vehicles or aeroplanes. (Though for aircraft the leather must first be treated to make it flame resistant.) Chrome or vegetable-tanned split. Firmer than garment cowhide. Various finishes and imitation grains.

The physical properties which make leather a unique and valuable material for upholstery purposes are:

\* High tensile strength

\* Resistance to tear

\* High resistance to flexing

\* High resistance to puncture

\* Good heat insulation. Leather contains a great deal of air, which is a poor conductor of heat. This is an important comfort consideration.

\* Permeability to water vapour. Leather fibres will hold large quantities of water vapour. This property enables leather to absorb perspiration, which is later dissipated. A significant factor for comfort.

\* Thermostatic properties. Leather is warm in winter and cool in summer.

\* Mouldability. Leather can be moulded and will retain its new shape. It has both elastic and plastic properties in wear.

\* Resistance to wet and dry abrasion. These properties, concerned with wear and maintenance, are controlled by the tannage and surface finish. These have now reached high levels of excellence.

\* Resistance to fire. Leather is inherently resistant to heat and flame.

\* Resistance to fungi. Leather is resistant to mildew.

\* Resistance to chemical attack. The atmosphere of modern cities is polluted from the burning of carbon fuels with sulphur dioxide gas, which can accelerate the deterioration of leather. Modern leathers are tanned and dressed to resist these harmful chemicals.

**Vellum:-** This is un-split calfskin manufactured into an opaque material with a smooth surface, in the same manner as parchment.

**Velours:-** Chrome-tanned leather with a polished grain or flesh side. Velour products are made of tanned semi-finished leather with serious grain defects unsuitable for products with a natural outer surface. Used primarily for footwear uppers, clothes and fancy leather goods.

**Velvet leather:-** Leather with the grain surface abraded to a fine nap or velvet-like finish in contrast to the flesh side abrading of suede.

# Some more of the tools used in hand-crafted leatherwork



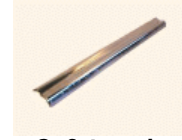
Dividers



Hammer



Needles



Safety rule



Shears

**Dividers:-** These are used to mark out guidelines for stitching and for creasing as well as transferring measurements to other pieces of leather. A rule, or a tape measure, just will not do in every circumstance.



**Hammer:-** This particular type of hammer is also used by shoemakers and bookbinders because of its large, flattened and circular head. It is absolutely perfect for flattening turned-over edges and for seams, both before and after completion of the piece you are working on. On absolutely no occasion should it be used for hitting metal tools, that is what you have rawhide and wooden mallets for.



**Needles:-** Up until fairly recently, harness needles, with their blunted point and oval-shaped eye, could be bought in 11 different sizes. Now if you are fortunate you will find about seven sizes. As a rule of thumb, size 4, which is still available, is a good, general, all-round size to have. The curved ones are essential when you cannot get your hand to the back of what you are stitching, or when sewing what is in effect a blind seam. It is possible to make your own curved needles. You stick the point of a straight one into a bit of wood, like the side of your bench, hold the eye end in a pair of pliers and gently apply bending pressure while heating the stem of the needle with the flame from a match or a lighter. You can then determine how much of a curve is required. It worked for me.

## Sewing machine needles

Using the correct needle, whatever the material, helps prevent skipped stitches or broken threads.

The following is a list of the needles available at the present time:

- 1 Denim Needles have a very strong shaft and a very sharp point for piercing tightly woven, heavy fabrics. They are also used for polar fleece.
- 2 Embroidery Needles have a larger eye and are used for embroidery threads. A special shaft and point helps to reduce thread breakages and skipped stitches.
- 3 Leather Needles have a very strong point for piercing leather. They can be used for vinyl and other thick, heavy, impermeable fabrics.
- 4 Needles have been specifically designed for the new micro-fibres. They have a slim shaft and work particularly well on silk and nylon.
- 5 Metalfil Needles are used for metallic embroidery threads. The long eye helping to prevent fraying.
- 6 Metalfil Quilt Needles are used for quilting when using metallic threads.
- 7 Quilting Needles are used for machine quilting. They are heavy enough to pierce through several layers of fabric seams.
- 8 Stretch / Ball Point Needles have a rounder ball point for knitted fabrics. They go between the fibres and do not damage the threads of the knitting.
- 9 Topstitch Needles have an extra large eye for the heavy topstitching thread.
- 10 Triple Needles are the same as #11.
- 11 Twin Needles are for decorative topstitching, hem finishing and pin-tucking. These fit all zig zag machines that thread from front to back. They come in different widths. Useful for hems on smocked garments as the stitching can be removed to lengthen the garments.
- 12 Universal Needles are the standby needles for both knitted and woven fabrics.
- 13 Wing Needles are the same as #10 and #11. They are used for heirloom sewing, hemstitching and French machine sewing. The 'wing' creates a hole that resembles *entredeux* (Fancy French word for "joining". This is an eyelet type of material that consists of a single row of tiny holes. Used to join fabric to fabric.) and it looks like hemstitching.



## Needlework needles

Chenille, tapestry, embroidery, darners, milliners, sharps and betweens are not usually thought of as beading needles. But they can be, with larger beads, or these needles may be used for couching threads (couching is often known as the 'drawing' stitch as it can be used as a line to 'draw' a design, giving a good framework for other textural effects) or adding in other filaments, fibres, ribbons or materials. Needles are also chosen with considerations of thread size and whether they will pass between the fabric's weave (using a blunt point) or whether they will pierce the fabric (requiring a sharp point).

**Quilting Needles:-** (Betweens) are short, have a round eye, sharp point. They are excellent for short, quick stitches (as in quilting); sizes 7, 8, 9, 10, and 12.

**Chenille Needles:-** Have long oval eyes and are similar to tapestry needles but with a sharp point; sizes 13 to 28.

**Crewel Needles:-** (Embroidery needles) have an oval eye and sharp point; sizes range from 1 to 10 in short and medium lengths.



**Needles are not shown actual size!**

**Darning Needles:-** With long eyes and blunt tips have a variety of lengths and sizes from 1 to 9 (traditionally) for fine cotton and larger sizes 14 to 19 (traditionally) for wool work.

**Milliner's Needles:-** (Straw needles) have round eyes, an even shaft, and a sharp point; sizes 3 to 12.

**Tapestry Needles:-** Have large oval eyes and a blunt tip, which allows it to pass between a fabric's warp and weft without piercing the threads. Used for tapestry and needlepoint, silk ribbon embroidery and more; sizes range 13 to 26.

**Silk Ribbon Embroidery:-** Variety packs often have a size selection of large eye tapestry needles (blunts) and chenille needles (sharps).

**Sharps Needles:-** Have round eyes, medium lengths and sharp points. Excellent, all purpose hand sewing needle; sizes range from 1 to 12; more than one of the smaller sizes can be used as a beading needle.



## Glossary of thread terms

The following is a list of the threads available at the present time:

**Air Jet Thread:-** Polyester thread that goes through a special process to become air entangled.

**Allcot:-** (All) Cotton thread or braid.

**Bonded Threads:-** The process used where multi-filament polyester or nylon is treated with a smooth protective coating on the surface of the thread.

**Bungie Cords:-** Made from many continuous latex rubber filaments covered with woven polyester. Used in tarpaulins, tent making and other applications.

**Buttonhole Twist:-** A (fine cord) silk thread, is a strong, closely twisted silk thread used for making buttonholes, etc. Silk thread is best for wools and silks (fabrics of animal origin). It is strong, very elastic, and fine in diameter. Silk is also used for tailoring, to finish the edges of buttonholes, to sew on buttons, and for decoration. Buttonhole twist is about three times the diameter of sewing silk and shiny or lustrous. It is strong and can be permanently stretched.

**Colourfastness:-** The ability of a dyed thread to retain its colour.

**Continuous Filament:-** A synthetic fibre of an indefinite length.

**Core Spun Thread:-** Thread that is made by twisting cotton or polyester around a continuous filament of polyester core.

**Drawthread:-** A thread (usually nylon) used extensively in knitting industries.

**Ecrú:-** Natural coloured yarn.

**Elastics:-** Latex rubber covered with polyester yarn used in many applications, such as upholstery, clothing, and pet products.

**Elongation:-** The amount that a certain thread stretches under tension and stress.

**Finish:-** A process done to threads to increase abrasion resistance.

**Glazing:-** The finishing process in which polyester cotton threads are treated with starches, waxes, and special chemicals under controlled heat and then brushed or polished to a high lustre.

**Kevlar®:-** Spun thread of synthetic material with fire-resistant properties (registered trademark of E.I. DuPont de Nemours & Co).

**Linen:-** Produced from linen flax, it is used where natural fibres are required. Used in many industries such as leather-goods, upholstery, saddlery and carpets. Linen can be twisted to anything from 2 cords to 8 cords, depending on the thickness, and end use.

**Mercerising:-** Refers to the finishing process where cotton thread is treated in a caustic solution under controlled tension.

**Monofilament:-** Thread produced from a single nylon continuous filament that is translucent.

**Multifilament:-** Thread made from continuous filaments of polyester or nylon, twisted together and plied to make a thread.

**Nomex®:-** Spun thread of synthetic material with fire-resistant qualities (registered trademark of E.I. DuPont de Nemours & Co).

**Nylon:-** A continuous multifilament yarn used in many applications such as leather-goods, filtration, carpets, and bedding among others.

**Nylube:-** Multi-directional nylon yarn bonded and lubricated to allow excellent sewability. Used extensively in the bedding industry.

**Polybulk:-** Polyester thread has been through a process to become bulked. Used in the bedding, clothing and other industries.

**Polyester:-** A High strength, rot-proof continuous multifilament yarn. Resistant to acids and seawater with high abrasion resistance. Used in many applications.

**Polypropylene:-** A continuous multi-filament yarn used extensively in the upholstery, filtration, flexible packaging, bulk container and furnishing industries.

**Quilting Bobbins:-** Pre-wound sewing bobbins used extensively in the bedding industry for quilting (also see sobobs).

**Sewability:-** Ability to sew without skipped stitches or having the thread break. Various factors affect sewing ability, such as incorrect needle size, excessive tension, incorrect thread size, as well as others. Therefore thread has an important role in sewability. Factors in thread sewability include elongation, lubrication, strength, and twist construction.

**Sobobs:-** Nylon pre-wound sewing bobbins used extensively in the bedding industry.

**Soft:-** Refers to a finish in which the thread receives no further processing to change its general physical characteristics.

**Spun:-** Thread made from cotton or polyester fibres that are spun into single yarns and then two or more of these yarns are plied to make a sewing thread.

**Suture Threads:-** Sterile suture threads are made from either polyester, silk or polypropylene, non-sterile threads are made from Irish linen.

**Synthetic Fibres:-** Are made from various chemicals as an alternative to natural fibres.

**Tenacity:-** Tensile stress - expressed as force per unit linear density.

**Textured:-** Thread made from continuous filaments of polyester or nylon that have been textured and heat set to ensure bulk retention.



**Twist:-** In thread construction, twist refers to the number of turns around the axis. The direction of the twist can be in either "S" (usual) or "Z" (reverse) twists depending on the final usage.

**Twisted Multi-filament:-** Thread made from continuous filaments of polyester or nylon that are twisted together to make a thread.



### **Safety rule:-**

The Steady Safety Rule gives full protection to the fingers when used with a knife. Graduated in both metric and imperial measurements. The rule has a bright anti-rust finish.



### **Shears:-**

Leathers shears, not to be confused with scissors, are perfect for cutting through everything from the thinnest skins to the heaviest hides. Though you will not cut through sole leather with them unless you have the strength of a gorilla! They can be somewhat expensive, but you'll ruin half-a-dozen pairs of scissors if you don't buy them.

# Tools used in hand-crafted leatherwork



Edge beveller



Edge creaser



French edge skiver

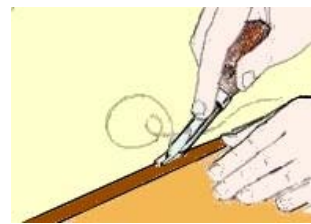
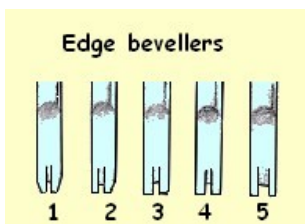


Rawhide mallet



Cutting mat

**Edge beveller:-** Sometimes called an edge shaver, it is used to round off the edges of thick vegetable-tanned leather prior to burnishing, especially belts. They can have flat or concave backs (otherwise called hollow-ground). There are some eight different sizes, but usually sizes 1-3 are more than adequate. Held in the right hand, the beveller is pushed forward while maintaining a 45 degree angle to the work. The left hand must hold the work firmly in place. A thin curl of leather comes out, and should be discarded. You can make several passes at different angles to get a more rounded edge instead of a distinct bevel.



**Edge creaser:-** This tool is to impress grooves close to the edges and can be used on hide or on softer leathers. It can also be used on lapped joints to hide the seams. The one illustrated is an adjustable one enabling you to position the crease from, say,  $\frac{1}{8}$ " in from the edge, to about  $\frac{3}{4}$ ". The lower numbers are for lightweight leather, the higher for thicker. This particular tool is used cold, others can be heated to make the crease.



**French edge skiver:-** Usually made of drop-forged steel. It is not used for rounding edges because it is flat bottomed. It does however lend itself to making bevelled edges at any angle you desire, including mitre-joints. You can use it for gouging, channels and, of course, skiving.

**Rawhide mallet:-** A useful tool to have. The strips of rawhide, rolled when wet, the end screwed or nailed, when dry has a high tensile strength. It's usually balanced for tooling, and most importantly won't damage your tools.



weighted mallets



all types of mallet



close-up of weighted mallet

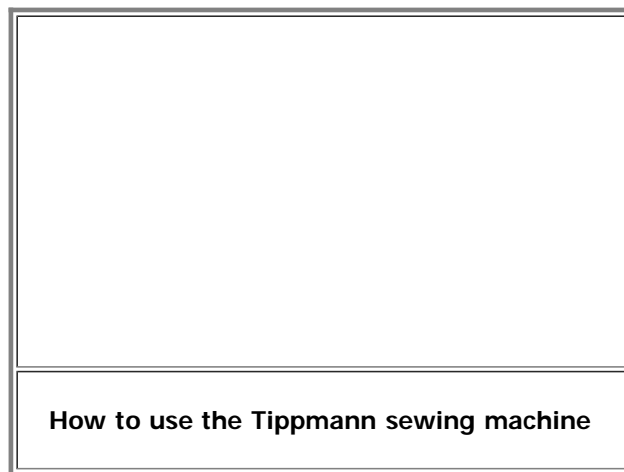


**Cutting mat:-** The mat illustrated is a typical modern cutting mat (West, double sided, self healing cutting mat with 1cm gridded squares on one side). The self-healing, double-sided, cutting surface allows for repeated, precise cuts. One side is usually marked out in 1" grid increments, with a ruled border. You can of course get a board made of square wooden blocks. The preferred wood is lime, they are glued together so that the end grain forms the cutting surface and your knife blade won't get damaged. As it wears the surface can be scraped smooth again and redressed with linseed oil. You make your own choice.



**Belt/strap embossing machine:-** With this tool you can produce embossed belts and straps with crisp, deep detail up to 1½" wide. It is hand-operated and it's portable, weighing under 12 lbs. The cast aluminium construction will give you many years of quality use. Embossing rolls are cast in durable brass/bronze.

**Tippmann Boss sewing machine:-** With the Boss you have no need for cords, outlets or motors because it is designed to be self-sufficient. The Boss can easily be mounted or clamped to any surface and a simple pull of the handle is all it takes to start stitching. This compact machine is sturdily built with extremely durable, precision cast, metal parts. It can sew leather up to ¾" thick and most any other heavy material. Whether it is sewing a saddle seat or repairing, at up to 90 stitches per minute, you will get professional results with this machine. The Boss comes with a thread stand, bobbin winder adapter, two bobbins, standard presser foot, one spool of #277 thread, tools operators manual, an assortment of 10 needles, a 30-day money back guarantee and a one year warranty on all parts and labour. Made in the USA.

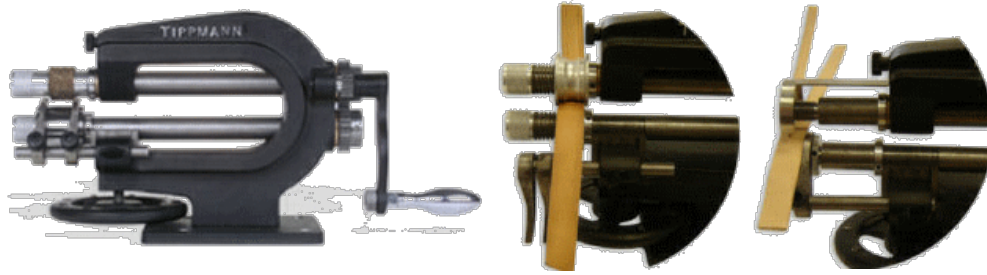


**Leather Splitter:-** The cast iron frame construction has an ⅛" tool-steel blade in the Osborne Model 84 design. A twist handle gives even levelling/taper skiving and it has an adjustable stop for depth settings.

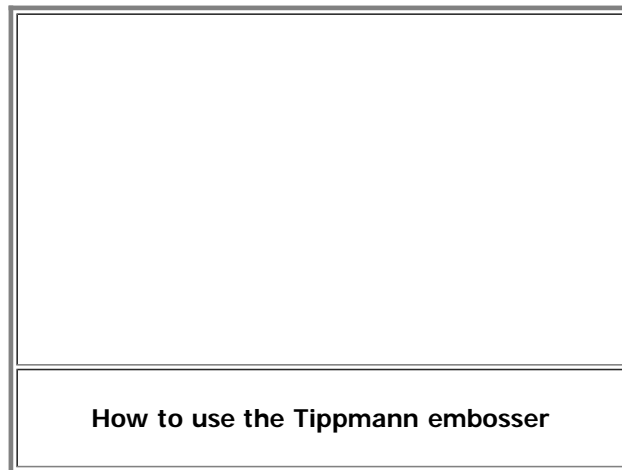
**The Tippmann Embosser:-** Three tools in one, makes leather working simple. The Tippmann Embosser (below) is a hand-operated embossing, creasing, and cutting machine. The Tippmann Embosser is designed and built to achieve precision embossing, creasing and cutting of leather. Designed and built with a rugged cast aluminium housing, the Tippmann Embosser will give you many years of service. Whether it's crafting or repairing, you will be satisfied with the professional results. The Tippmann Embosser comes with a one year warranty on all parts and labour.

The Tippmann Embosser includes:

- 1 Safety Guard
- 1 Cutting Disc
- 1 ¼" Serpentine Embossing Roll
- 1 1/32" Crease Roll
- 1 Embosser Operator's Manual
- 1 Embosser Instructional Video



Specifications			
Make	Tippmann	Maximum embossing thickness	3/8"
Model	Embosser	Maximum creasing thickness	3/4"
Feed Type	Manual Feed	Maximum cutting thickness	1/2"
Throat Depth	6.5"	Machine weight	30lb
Feed Rate	Hand Operated	Overall dimensions	20"W x 6"D x 9.5"H
Maximum Material Thickness	3/4"	Retail price	\$1250



How to use the Tippmann embosser



**The Tippmann Clicker:-** The Tippmann Clicker 700 delivers 7 tons of cutting pressure at the touch of a button. With this kind of cutting power, you can count on the Clicker 700 to deliver a perfect die cut every time. The Clicker can cut a wide range of materials such as leather, fabrics, gaskets, plastics, paper stocks, etc. The ability of the Clicker to die cut up to 1/2" thick leather, makes this an extremely versatile machine. The Clicker's cast-iron "C" frames allow for easy loading of dies and materials. Just place the die and material on the Cutting Deck, press the Dual Safety Buttons, and in less than three seconds you will have a perfect die cut. The Clicker 700's medium capacity cutting area (12"x 12") allows for countless die cutting patterns. Designed with only three moving parts (two hand valves and a quick exhaust), Clickers are easy to operate and maintain. The patented Air System raises the Cutting Deck to give you 7 tons of cutting pressure. Requiring no electricity or hydraulics, this die cutter operates off of 80-100 PSI of air pressure.





How to use the Tippmann clicker



# Some examples, showing what using the tools can achieve



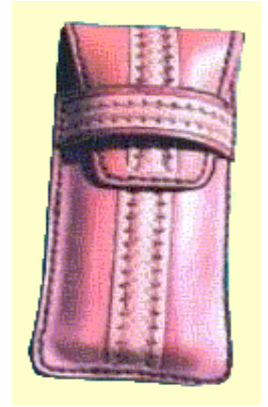
Cigar case



Wallet



Belt pipe holder



Cigar case

Some more of the hand-crafted leather items designed by Kingsmere Crafts and made by me to meet the specific requirements of discerning customers. Or, perhaps I should say, they are the end product of my interpretation of what was being asked for.

In most instances each piece will have been made as a "one off", certainly in respect of the decorative finish.

Shown below are a few more examples, made over the years, in similar circumstances.

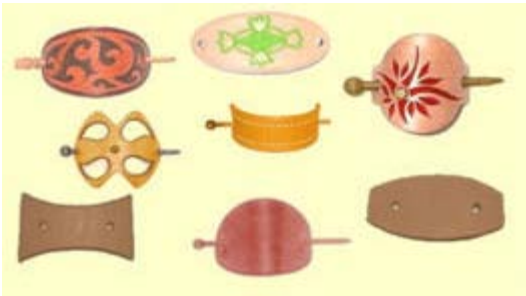


Handbags, with fold-over flap, with magnetic fastenings



Carved finish for purses also with magnetic fastenings

Just a few more examples below showing the diversity required of anyone purporting to be skilled in the requirements of hand-crafted leatherwork. You never know from one day to the next when someone is going to say "Can you make me a ...?". Although you may never have made the item in question before, you say "Yes", think about it for a couple of days, then make precisely what was requested.



Hair barrettes



Carved rose wallet



Round box



Grey handbag

# Hand-tools used for decorating leather



**Modelling tools:-** The purpose of the modelling tools is to impress (incise) a design in low relief on the grain side of the leather. The tools are about 5 - 6 inches long, and are either mounted in wooden or plastic handles. They are very often double-ended, with the second shape being a variation of the first basic shape, or a tapered point to be used as a tracer.

Incising consists of making shallow cuts (impressions) in the surface of the leather to create a pattern or picture. Artistically, it is similar to pen-and-ink line drawing. Once mastered, the technique can be used to create astonishing results.

Modelling (also called engraving) is the technique of shaping the surface of the leather when wet, using simple tools to produce a low-relief design. In the simplest form, it is like line drawing, using a dull point to draw the design onto the surface of the leather. This method has been used from the Dark Ages through to modern times. More complex low-relief modelling can be done with small spoon- or spade-shaped tools; this technique was used in the Viking and early medieval periods.

Stamping uses metal or wooden stamps, struck with a mallet, to produce a repeated design on the leather surface. Stamped designs are to be found on 11th to 16th century leather objects. A great many 14th and 15th century objects were decorated by repeating a stamped pattern.

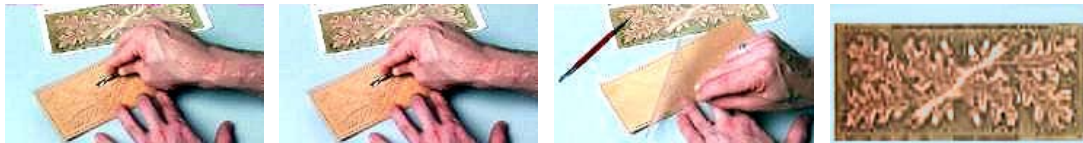
A combination of incising, modelling, and stamping results in the technique known as cuir cisele¢, schnittwerk, or leather carving. This method can be used to produce very intricate decoration and became widely used in the 14th century. Many of the finest quality decorated leather items from the 15th century display this technique.

Punching and filigree is decoration by removal. Elaborate geometric patterns can be created by repeated punching and cutting holes in the leather. This technique was widely used by the Romans and again in the 16th century, especially on shoes.

Embossing is a method of creating a raised relief decoration by modelling leather from the back side. A variation of this technique was used to decorate leather book-bindings from early medieval times. The most elaborate embossed leatherwork is found on 14th and 15th century objects, where human and animal figures are frequently rendered.



The leather is normally slightly damp on the grain side to enable impressions from the tracing tool to be made. The transference onto the leather can be either from a paper overlay on which the design is drawn, or from a clear sheet of plastic on which the design is in relief. The first is traced on, with the tracing tool leaving the design outline, and the second by applying pressure on the back of the plastic by rubbing it with a modelling tool, or, holding it firmly in position, and gently tapping it with a mallet.



\* Hold your craftaid (Craftaids are sheets of clear plastic with several embossed or raised designs on them.) in place so it doesn't slip and create duplicate impressions ruining the project you are working on.

\* To impress the embossed design into the leather, use a small spoon or modelling spoon. Firmly rub the smooth side of the craftaid in all areas you want impressed on to the leather.

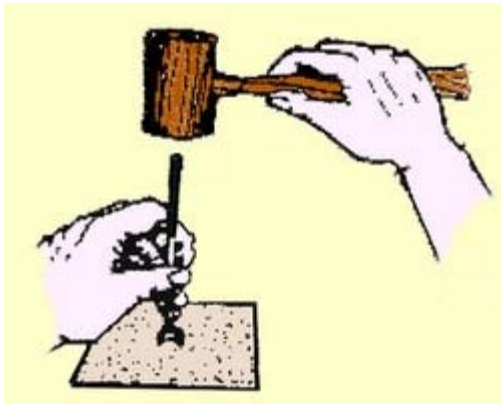
\* Your design is transferred. When you lift your craftaid you should be able to see a clear design... and you can begin carving.

Then by using an appropriate modelling tool the area surrounding the outline is depressed to leave your design in a low relief.

# Hand-tools for decorating leather

The tools shown in the illustrations give an indication of their use just judging by their names. Though in practice their uses are interchangeable. It is very often the case that a tool intended for a particular purpose is eminently suitable for an entirely different one.

To achieve the greatest depth and clarity in your carving, many techniques and tools are used. A Beveller is used to deepen one side of a swivel knife cut. The heel of the Beveller leaves an "aura" around the subject you are bevelling. The surface behind this is on the same level as what you want standing out. Blending this "aura" out of your carving, using tools called Matters that are designed for this purpose, will increase both the depth and clarity of your carving. Use a lighter striking force on your tool as you fade away from the line, thus eliminating all unwanted tool marks.



Backgrounder, veiner, beveller, (swivel knife), seeder, mulefoot and pear shader stamps

Backgrounder tools are very often just known as punches or stamps. They are intended for making a general background and for camouflaging. Matting tools will compress the leather in those areas which will be textured or backgrounded in the final stages. By first blending and compressing these areas, a smoother more uniform background will be realized.

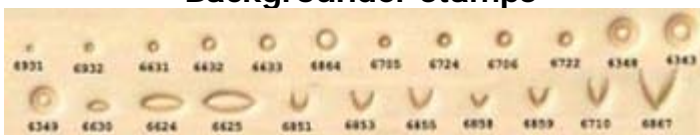
Matting tools come in a variety of shapes and sizes. Round matters are very common. One side is usually ground flat, so that it may be placed against a line, following the path of a Beveller. The round shaped heel enables this tool to blend as much area as possible away from the line round Matters work quickly and are easy to use in larger areas.



Backgrounder stamps



Beveller stamps



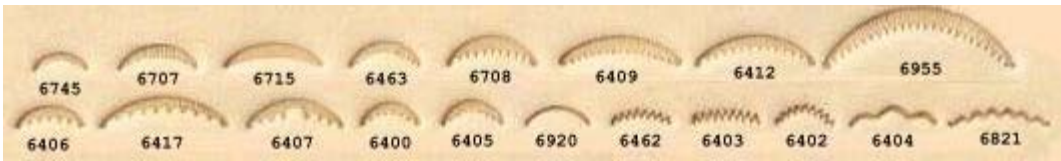
Seeder and mulefoot stamps



Pear shader stamps

The beveller has a curved face on its head to avoid making a too sharp impression at its edges. It is for depressing areas around the lines of the design to bring it into relief. It is held in an upright position with its front face in the cut, it is given a sharp tap with the mallet, and you move along the cut tapping as you go.





Veiner stamps

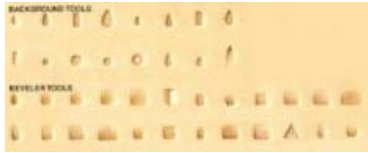


# Hand-tools for decorating leather

A veiner is used for peppering the surface and as the name indicates, impressing vein-like marks on the leather. This is to emphasise the contours of the design.

Incising tools are for cutting the design into the leather surface, to a limited depth, and the cuts are then opened, (surprise, surprise) with a tool called an opener, prior to the use of the modelling and backgrounding tools. The incising tool is very often called a hair blade tool, and in the opinion of some, gives better control than a swivel knife.

The shader is very similar to the beveller but its head is pear-shaped. It is held in exactly the same way when in use but can be pushed along whilst being struck with the mallet. This depresses the area inside the design, giving a contour relief and shading effect.



Backgrounding and bevelling tool impressions



Camouflage and border tool impressions

The heads of backgrounding tools are of necessity quite small, about 1/16" - 1/4", and are round, oval pear-shaped or rectangular. Most useful is the pear-shaped tool, especially where you have two lines meeting. On their small heads these punches have cut into their faces dots, stars etc or are chequered. Their use helps your main design to stand out with greater relief.



Some examples of decorative stamps

Of the decorative stamps, of which there hundreds, I've shown only a couple of examples. Almost anything you care to think of has been turned into a decorative stamp; basket-weave, rope, roses, leaves, acorns, stars, diamonds, lions, an endless list.

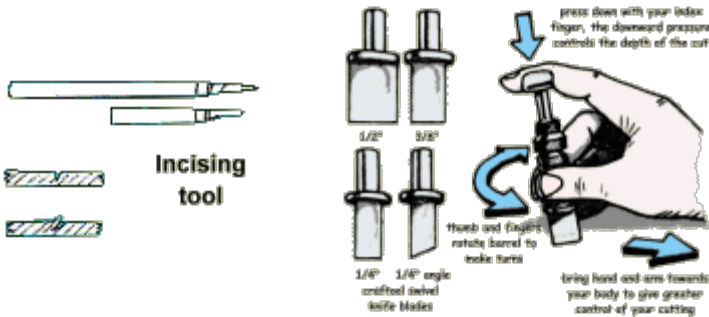
## Leather stamping tools



Incising work is sometimes mistakenly called carving. It is nothing of the kind. Nothing is cut away from the leather surface. For incising, your leather should be at least 1.5mm thick, and quite damp before you start cutting. The leather must be laid on a firm surface, preferably a marble slab, minimum size 12"sq and 2" thick.

# Hand-tools for decorating leather

An incising knife is about 5"– 6" long, almost pencil-like, with a narrow, angled, steel blade. It is held at right angles to the surface of the leather and is drawn towards you, and, depending on which hand you are holding it in, use a finger of the other against the flat side of the blade to guide it. The depth of your cut will depend on your design.

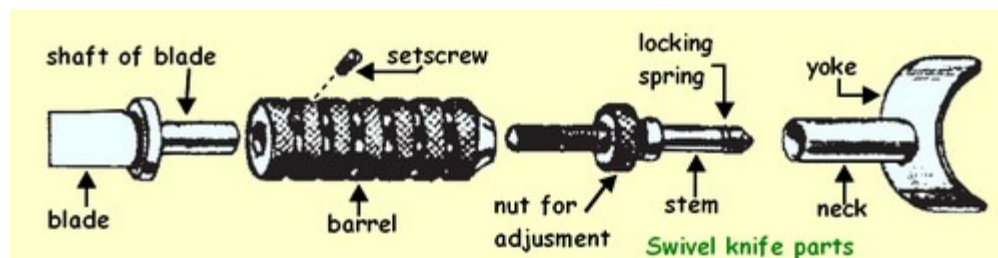


straight lines

[Click the above to see more detail](#)  
Hold like this for the basic design

Hold like this for

The swivel knife has in fact all but taken over from the basic incising knife. American in origin, it has been around about a hundred years; the main part is known as the barrel. This is what holds the blade, which is secured with a small screw. The cutting edge of the blade is usually straight, but angled blades are used for finer work. Blades are replaceable, as well as changeable to various widths from 1/4"–3/8", most likely in steel, but there are ceramic ones. The barrel can be swivelled freely from the joint (which is usually ball-bearing) just under the yoke, hence the name of swivel knife. The knife is also adjustable for any size of hand.



Before:- Design to be incised into leather



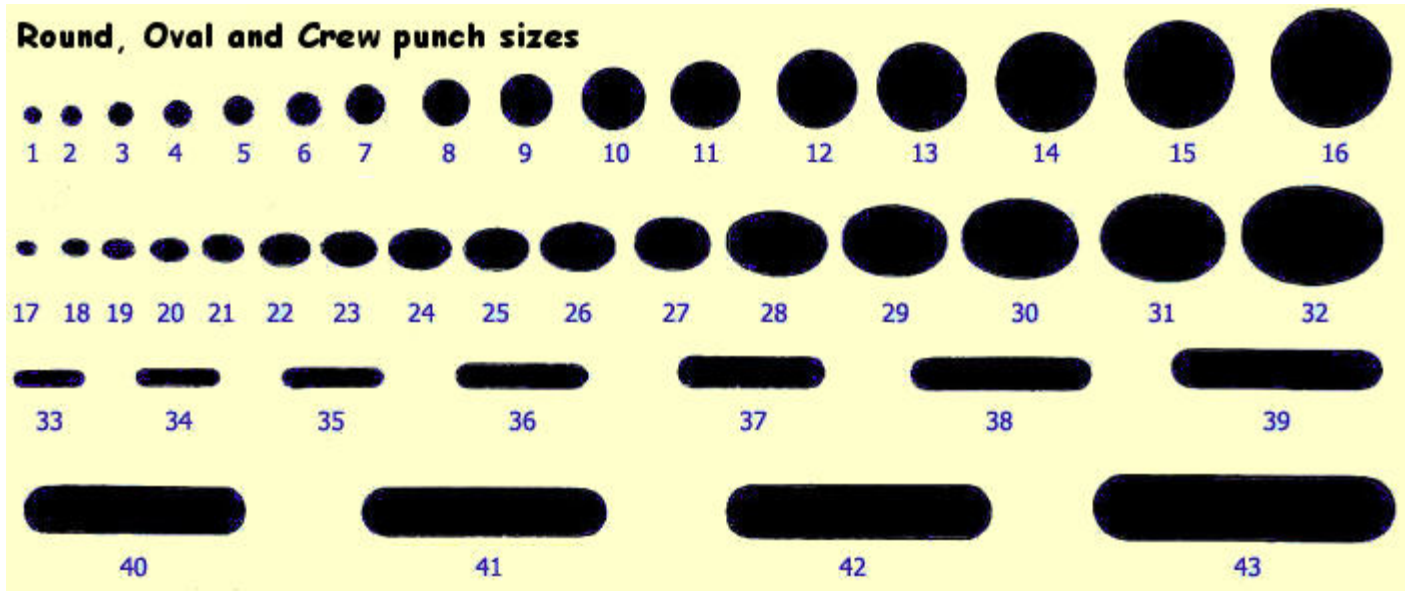
After:- Design cut, bevelled and backgrounded

The knife is held with the forefinger resting on the yoke whilst the barrel can be swivelled with the other fingers, normally the forefinger and thumb. The little finger meanwhile is held against the blade to steady it. Cuts are made at right angles to the leather surface with the corner of the blade, which is inclined forward and brought towards you. Changing direction of the blade is by turning the barrel while holding the yoke still. You can thus follow curves exactly. This ability to follow curves is what makes this tool so special.

The opener, mentioned earlier, is similar to a modelling tool but for its blunter point. You put the point in your incised cut and the outer side of your incision is pressed downwards. You can push the tool forwards to the end of the cut and the uncovered area is then gone over with your modelling tools.

# Hand-tools used in decorating leather

**Drive punches:** - The most common types are the round ones for making holes (large ones are sometimes called wad punches), and oblong ones (bag or crew punches), for making slots. Both types can be bought individually in a range of sizes or in sets of sixteen. There are also oval ones. Always remember to strike these punches with a maul which has a rawhide or polymer head on it. It will preserve your punches from being ruined, which is what would happen if you struck the punch with a metal hammer. Get about a 4 lb maul to make your job easier. A lightweight maul such as you would use for stamping a design on leather won't have the heavy impact you need to drive the punch through the leather.



<p>5/16 1/4 HANDLE &amp; CENTRE PUNCH</p> <p>3/8 7/16 1/2 5/8 3/4 7/8 1</p> <p>Punch <math>\phi</math> in inches</p> <p>Imperial wad kit</p>	<p>Imperial Wad Punch Kit with nine interchangeable punches from 1/4" to 1" diameter. Includes a handle and centre punch assembly.</p>	<p>6 5 HANDLE &amp; CENTRE PUNCH</p> <p>8 10 12.5 16 20 25 32</p> <p>Punch <math>\phi</math> in mm</p> <p>Metric wad kit</p>	<p>Metric Wad Punch Kit with nine interchangeable punches from 5 to 32mm diameter. Includes a handle and centre punch assembly.</p>
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**Pricking iron:** - is a steel tool used to mark the position of stitches but not to completely penetrate through the leather. Every tooth has a chisel shaped tip angled at 45°. The number of teeth is determined by the width of the iron and the number of stitches to the inch. You can get them in sizes according to this ratio, numbered 4 – 12.

**Pricking wheel:** - is used for marking out stitch marks like the iron, but is a small wheel in a stirrup-like frame and it is rolled along the line to be hand-stitched.

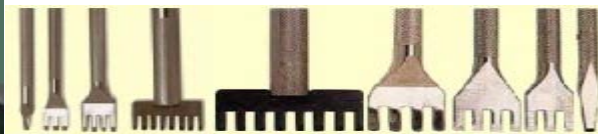
**Punching:-** The same basic action is used to punch with both round, and oblong, punches. Hold the punch in the left hand and strike it firmly with a rubber-head mallet held in the right. Hit just hard enough to completely penetrate the leather while at the same time cutting slightly into the scrap leather placed beneath. Even if your supporting surface is comparatively soft, the scrap underneath will help your punch last longer. Keep the punch perfectly upright to get a clean cut. A solid work surface will make punching much easier.



Punching will result in a small piece of leather (the bit that used to fill the hole) going somewhere. A *round* punch holds about four of these circles, whilst subsequent pieces will usually pop out of the slot in the side. The *oblong* punch holds these pieces inside, so it must be emptied now and again for it to be used successfully.



Revolving punch,  $\frac{1}{16}$ "– $\frac{1}{4}$ "



Pricking irons,  $\frac{1}{8}$ " and  $\frac{3}{32}$ "



Sewing palm

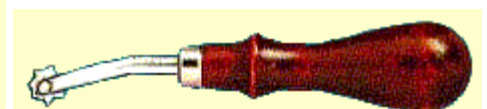
**Revolving punch:-** is for making neat holes in leather, in size, approximately from  $\frac{1}{16}$ "– $\frac{1}{4}$ ". The cutting tubes of carbon steel are screwed into a head that can be revolved, and as they are attached individually, so they can be replaced as they wear out. Tube sizes are from 00 – 7, and the best frames are of forged steel. The brass anvils are also replaceable



Punches



Oval punches



Pricking wheel

**Sewing palm:-** Made from stout vegetable-tanned leather, it slips over the palm of the hand, with a separate section for the thumb to go through, with a dimpled metal insert for pushing needles through the leather, and to prevent you getting sore fingers.

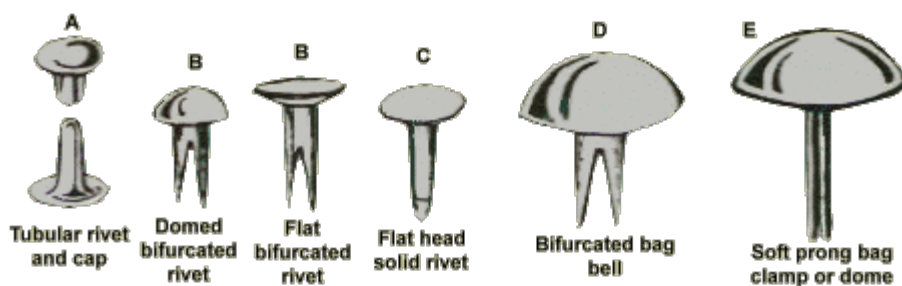
**Sharpening stone:-** is an absolute essential, it is usually a combination of oil stones with a coarse and fine layer bonded together. A necessity for keeping your knives sharp. Jeweller's rouge on a strop (a piece of leather flesh side up stuck to a wooden backing) can be used for finishing.

# Accessories—rivets, grommets, eyelets and how to set them

In leatherworking the hardware is usually made of steel or brass. However the metallic colour is often misleading as the true metal often differs from the apparent. Steel is very often brassed and when the thin coating wears away the ferrous metal, which soon rusts, is revealed. Steel can also be nickel-plated. The best quality fittings are of solid brass, polished and lacquered, or solid brass, nickel or chrome-plated. You can easily determine whether you have brass or steel whatever the outward appearance, by testing it with a magnet.

## Rivets

These are used as an alternative to joining by stitching or lacing and are available in three types, tubular (A), bifurcated (B) and solid varieties (C). The tubular are made in four sizes, Nos 0 to 3 and consist of two pieces, a round-headed cap fitting on to a base. The cap is the top and has to be set with a small tool (see rivet setters below). Using bifurcated, unless the prongs are to be concealed, is a last resort. Before buying make sure you're getting the right length — roughly the thickness of the leather you're joining plus  $\frac{1}{8}$ ". If they are too short the parts will not hold together, if too long, the cap will deform and the join will be loose. Should things go wrong and you need to remove a rivet try to crumple-up the base using a screwdriver and pliers so you can pull it through the leather. Trying to get the cap off is likely to end in disaster as you will inevitably damage the good side of your leather.

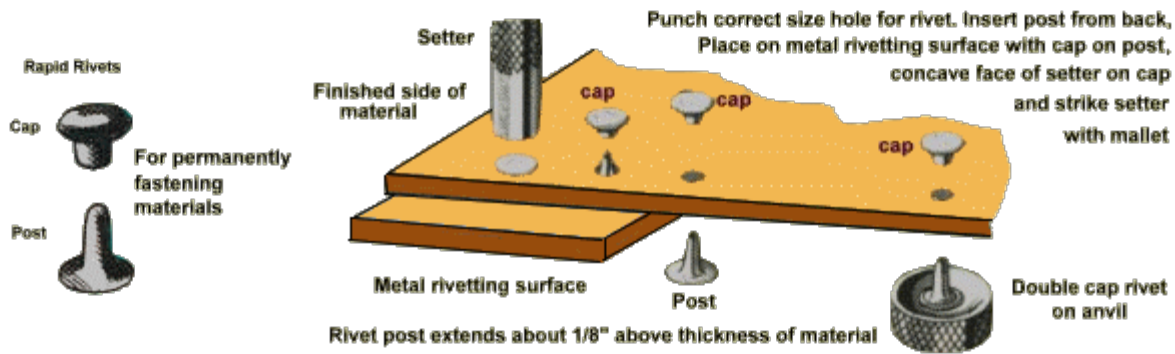


I prefer using the tubular rivets because they give a neat finish both back and front. Solid rivets are by far the strongest and the most satisfactory to use though a modicum of skill is required to fix them. They, and bifurcated rivets are measured in inches and SWG. All fittings manufactured from wire are measured in two sizes, the thickness of the wire and the internal sizes; so the size of wire is given in Standard Wire Gauge numbers. An easily obtained gauge is that used to size knitting needles as a standard gauge itself is very expensive.

**Saddlers copper rivets:-** This is a traditional rivet, and are although they are slow to fix and rather crude in appearance, they are very strong. They are made from solid copper and consist of a stem with a flat head, and a washer. If at all possible to obtain them, solid rivets made from nickel-plated copper is by far the best metal, as this coating prevents them from turning green. An appropriately-sized hole is made in the leather pieces to be joined and the stem, head-down, placed on a solid steel anvil.

Position the leather with the stem coming through the hole, then put the washer over the point of the stem. The washer is a very tight fit and must be driven down the stem with a copper rivet setting tool. The protruding stem is then cut off 3mm above the washer. The stem must now be mushroomed over the washer using a ball peen hammer. By tapping many times round the cut edge of the rivet stem a smooth round dome can be made, which thus keeps the washer under it, in place.





Bag clamps (E) and bells (D), more commonly known as domes, are inserted into the base of leather goods to keep them off the ground. The soft-pronged bag clamps are easily fixed and if after inserting them you spread them wide then cut them shorter, you can tap them into position inside the dome shape which is on the outside of the base.

## Press studs

Press-studs are found in a variety of types, sizes and colours of caps. The spring type which depends upon an S-type spring for fastening is reliable and long-lasting. There are a range of sizes which are numbered accordingly, the number referring to the size of the fastening mechanism or socket, which can be combined with different sized caps. Consequently the tools required must be appropriate to the size of fastener. They consist of (A) male and (B) female-ended punches and a concave anvil. The female tool should be the same diameter and depth and fit exactly the base of the fastener and the male end be the same size as the hole in the female tool. Use of the incorrect tool ruins more press-studs than any other reason.



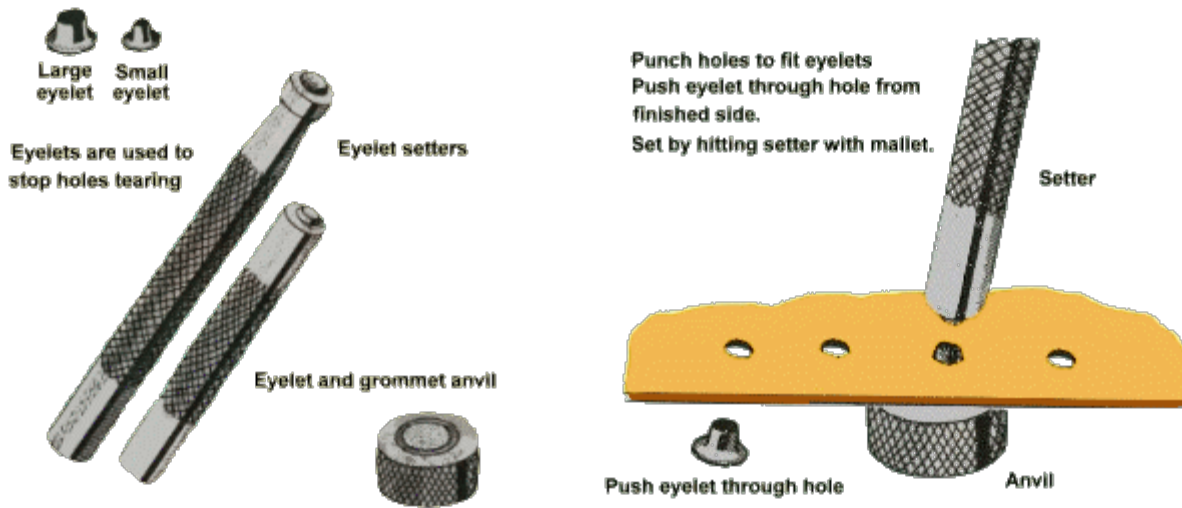
The plate-type press-stud is made up of three pieces, with a polished hasp and base unit in one piece (see A above). The spring mechanism is secured either with a washer (B) or an eyelet (D). This kind of fastener is rapidly becoming more popular than the plastic coated cap.



A is a short Baby Dot, B is a long Baby Dot, they provide firm snap action and strong holding power without being visually prominent, C is a short Durable Dot, an industry standard and D is a long Durable Dot fastener for thicker leathers. Durable Dots are claimed to be self-piercing, not on leather though.

# Eyelets and grommets

The simple distinction between eyelets and grommets is simple, an eyelet consists of one piece, in appearance rather like a rivet cap and is fairly small and when inserted through a hole its open end is turned over using the appropriate tool.



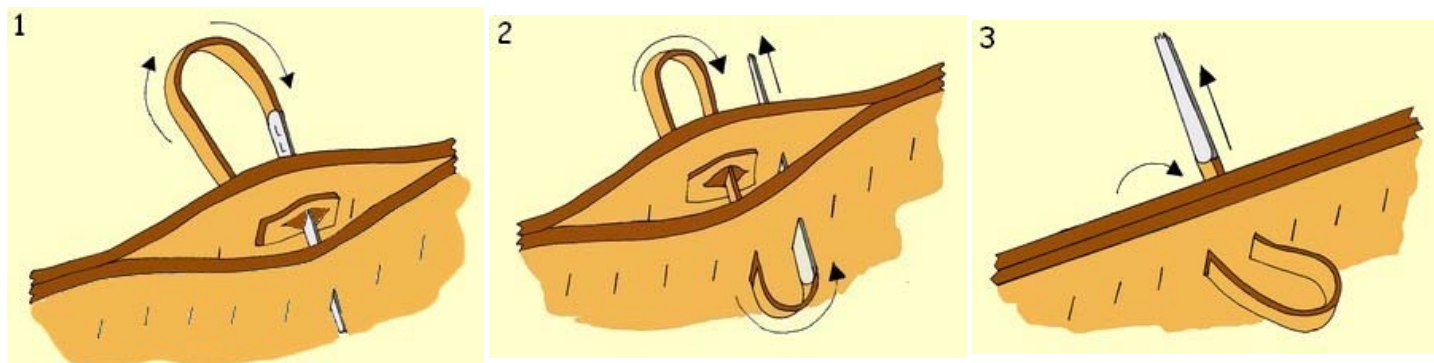
A grommet is considerably larger than an eyelet and has two parts, a base and a washer, the base goes through the hole, the washer is placed over it then the open end of the base is, like the eyelet turned over using the appropriately sized tool. The anvil also has to be the correct size as unlike the rivet anvil, the eyelet and grommet anvils have a groove on the setting surface (clearly seen in the above illustration) to hold them in situ when using the setting tool.



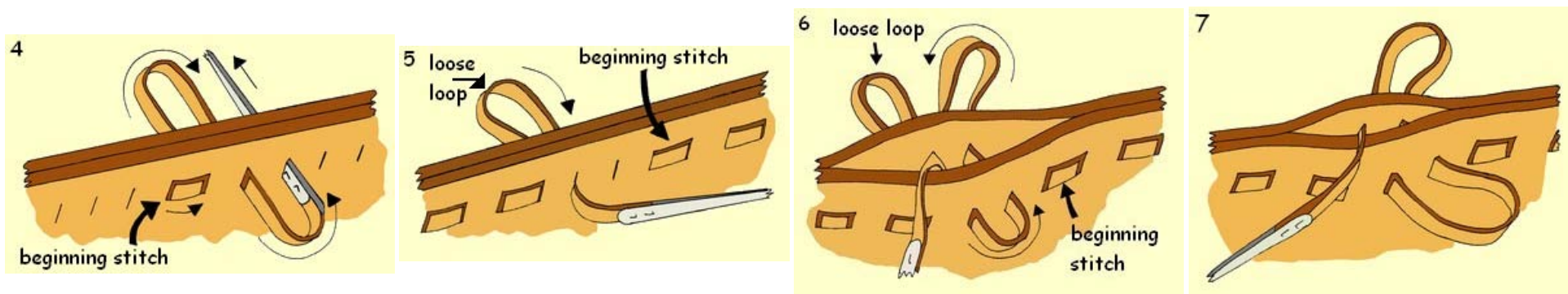
Used to finish lacing, belt and strap holes (ensure they are large enough to take the buckle prong) or simply as decoration. They are ideal for such things as drawstring bags, tarpaulins, tents or shower curtains etc.

# The Buckstitch - angled slits

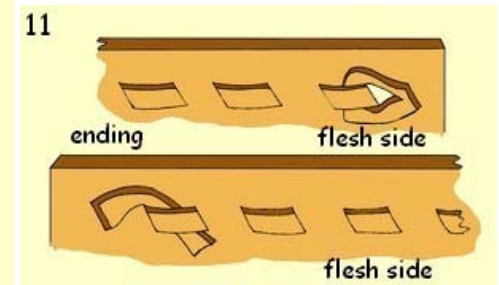
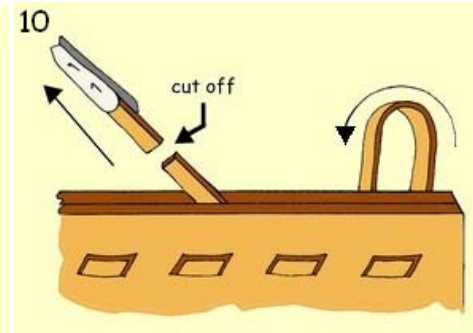
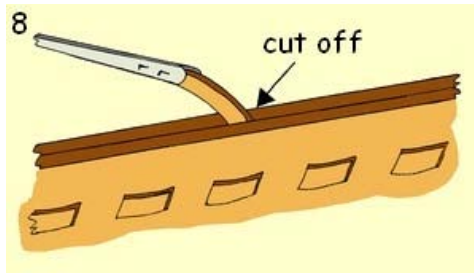
The first thing to bear in mind with buckstitching is that you must have an even number of slits. Use  $\frac{3}{32}$ " or  $\frac{1}{8}$ " angled slits and the same size lace. Buckstitching with angled slits uses approximately  $2\frac{1}{2}$  times the combined length of the edges being laced. To illustrate what that means. If the length of the piece being laced is 18" then the amount of lace will be 45".



Start your lacing, Fig 1, just as you would do for the running stitch. Then, as in Fig 2, push the needle through the next slit from the back continuing through the slit in the end of the lace and out through the opposite slit in the front. Next, Fig 3, pull the stitch up tight to lock the lace, then push the needle through the next slit in the front ensuring you don't twist the lace.



Pull up tight the stitch indicated in Fig 4 then carry on lacing in and out of the slits pulling the stitches tight as you proceed. As depicted in Fig 5 lace to the final slit leaving a loose loop in the penultimate slit. Next, Fig 6, push your needle through the last slit and spreading the leathers apart push the needle through the next but last slit and up and out of between them. Now pull the loose loop, shown in Fig 7, tight, and continue pulling any slack in the lace.



Finally, in Fig 8, tighten all the stitches and especially the end of the lace. Trim it off close to the leather then tap all the lacing flat with a mallet to improve the finished appearance. When not lacing all the way round your project begin as in Fig 9, starting the lacing between the leather sides in the second slit of the back piece. You then come up through the first slit in the back, then through the slit in the lace and out through the first slit in the front. Continue through the second slit for the second time, carrying on thereafter as usual. When finishing off, see Fig 10, go through the second last slit only in the back, bringing the lace back a few stitches and up and out from between the leathers. If using the buckstitch only on a single piece of leather, start the lacing from the back through the first slit, back through the second slit and through the end of the lace, complete it by running the lace under the last stitch on the back.

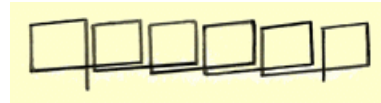
# Hand-crafted, and decorative leatherwork. How is it done?

Should you have perhaps read some of my other pages you've probably got an inkling already of what is involved. On the other hand if you've never seen a piece of hand-tooled, hand-crafted leatherwork, you could be in for a surprise. Tooling leather is not like garment leather. This is because it is split from the whole hide so that it can be cut into, and shaped, by the appropriate hand-tools. Its extra thickness ensures it is longer lasting and durable than the thin, machine-sewn leathers used to make modern, chain-store or holiday-abroad-souvenir bought wallets and purses etc. Most of these purchases are articles made from what is in many respects "man-made leather". Manufacturers use leather fibres compacted under high pressure with adhesives to make sheets of "leather", rather in the manner of the timber industry making particle boards.

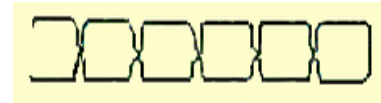


Having an article made for you by a leather craftsman is an entirely different experience. Tooling leather, of some thickness, say  $\frac{1}{8}$ " , would be used as the outer part of an article like a purse or a wallet, and would have a thinner leather for the inside parts. Though even these thinner leathers are more substantial and durable than the average shop-bought items in their entirety.

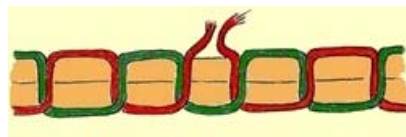
Any article, like a wallet, that has multiple parts, needs to be stitched together, and it's done using one or more of three methods. The thinner inner pieces are sewn either by hand, which is my preference, or with a household sewing machine, though a different type of needle is required, and is only possible with the thinnest of leathers. Next would be the saddle stitch. For this a waxed thread is used, with two needles and an awl, alternating through the seam to be stitched. This ensures a strong, tight stitch, between two or more pieces of leather, irrespective of the thickness of the leather.



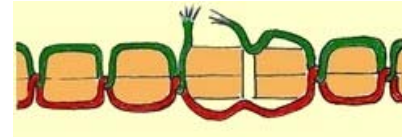
Thread formation using single hand sewing



Thread formation using double hand sewing



Hand-stitching



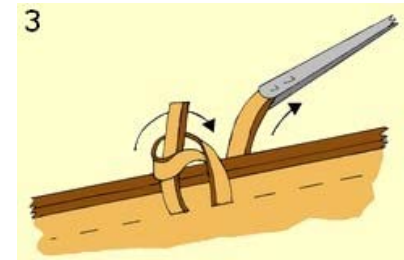
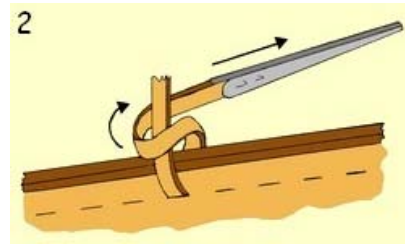
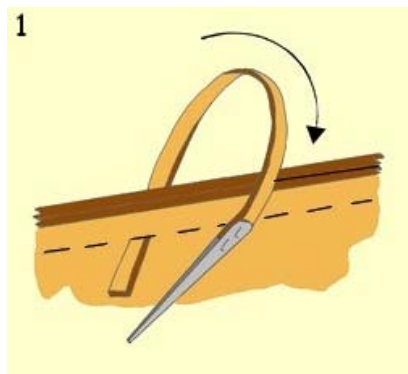
Machine stitching

Sewing, in general, can be accomplished with either one needle, and is known as single hand sewing, or two needles, which not unsurprisingly, is called double hand sewing, and I've endeavoured with the diagrams above to illustrate the difference. The benefit of hand-stitching can clearly be seen in the diagrams above. When the machine stitched thread is broken, the stitch will undo itself for several stitches. The thread on both sides will be loosened. When the hand-stitched thread is broken, the stitch loosens on one side only with the other thread still firmly holding the leather together.

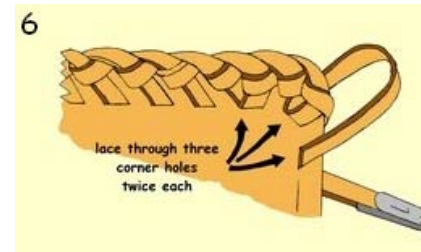
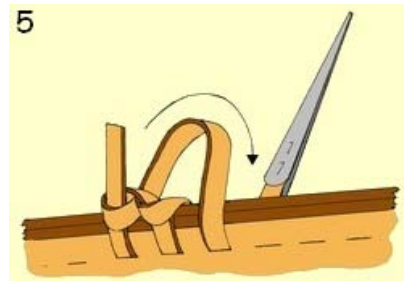
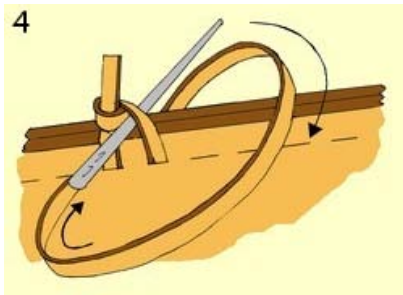


## The Single-loop Stitch

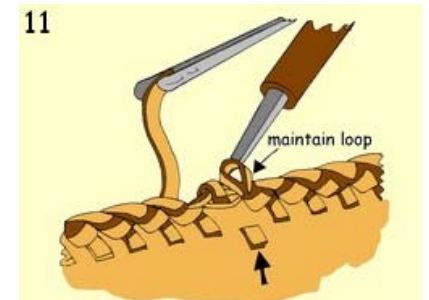
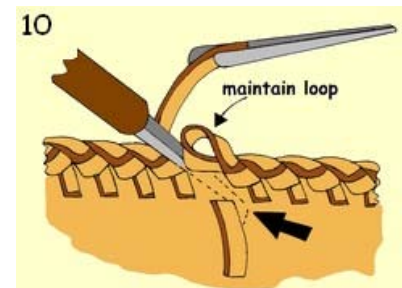
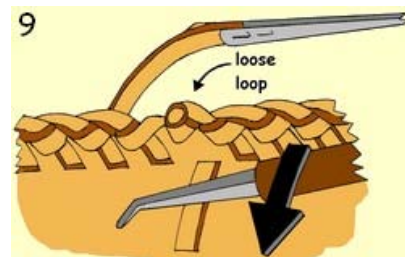
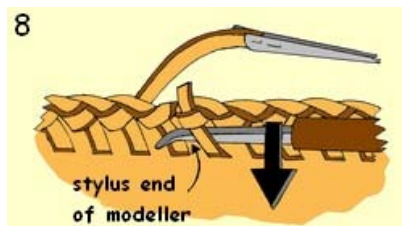
The single-loop stitch is mainly for use on lightweight leathers or single thickness projects where only a small amount of  $\frac{3}{32}$ " lace going through  $\frac{3}{32}$ " slits is required to cover the edge. The amount of lace required for single-loop lacing is  $6\frac{1}{2}$  times the length of your project. So, if, for example the part to be laced comes to 18" then it will need 9' 9" of lace.



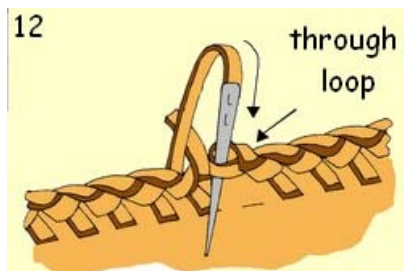
Starting with Fig 1 begin at the top pushing your lace through the front side and leaving a tail piece some  $\frac{3}{4}$ " long. As illustrated in Fig 2 fold the end up and loop the lace around continuing to hold until the first stitch has been tightened. Figure 3 shows the lace going through the second slit and at the same time you must ensure the smooth side of it is facing you. Pull up snugly.



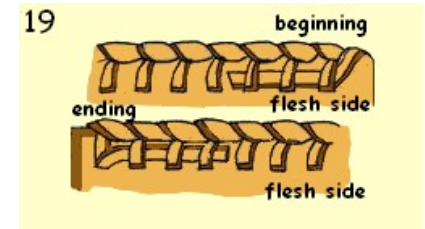
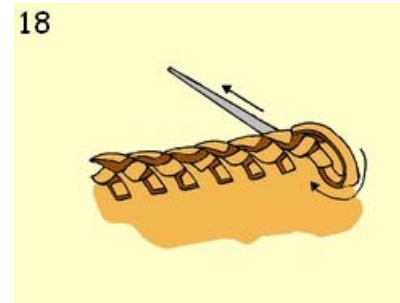
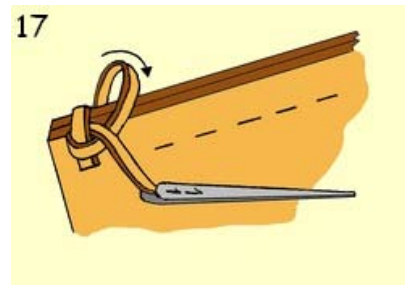
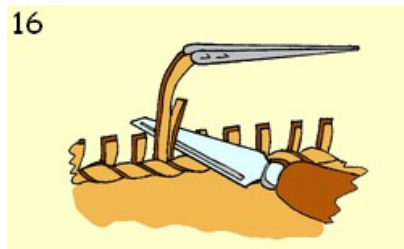
Following on from the preceding figure in Fig 4 thread the needle and lace under the lace as shown keeping it flesh side up without twisting. Tighten slightly as before. The first two stitches as seen in Fig 5 should not be too tight as they will need to be adjusted in the latter part of the proceedings. Carry on lacing like this until reaching a corner slit. Observe now in Fig 6 that having continued lacing as before you now need to lace through the three corner slits twice each as indicated. Meanwhile as in Fig 7 you must go under each loop on the corner. Carry on lacing to the beginning.



In Fig 8 you'll see the lace has gone through the last slit and under the last loop. Now you must the stylus end of a modelling tool under the end of the lace. Figure 9 shows how the end of the lace has been pulled out of the loop. Keep the loose loop. Next in Fig 10 put the stylus between the leathers hooking over the end of the lace as depicted. In Fig 11 we carefully pull up the stylus and slowly pull the end of the lace out of its slit and up between the leathers.



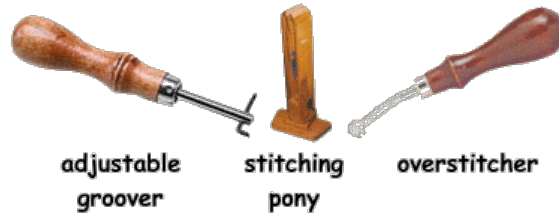
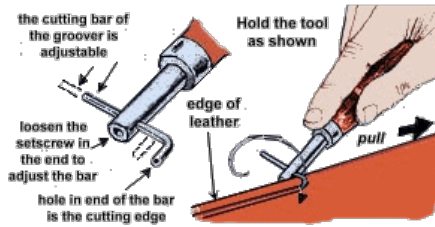
Observe in Fig 12 how to push the needle, very carefully, down through the loop. Continue through the slit as shown in Fig 13 and bring it up between the leathers without twisting. Next, in Fig 14, the stitches have to be adjusted by working and pushing the stitches together using your fingers. In Fig 15 the stitches are shown as having been pulled up snugly and adjusted so that they give an overall appearance of evenness.



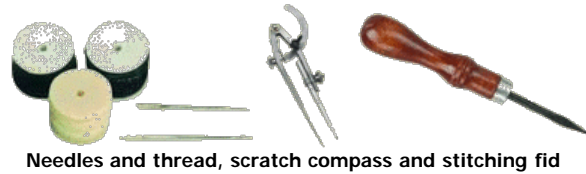
The illustration in Fig 16 is of the ends being neatly trimmed off from the flesh side. The lacing caaan now be gently tapped flat using a wooden mallet or similar device. Further to the previous Figs 17 to 19 illustrate the procedures followed when not lacing all the way round a project, starting for example with Fig 9 of the Whipstitch on page 39 ([Here](#)) then coming under the first stitch as shown here. Whe it comes to the ending go through the last slit, under the loop, then hrough the last slit in the front only emerging between the leather and back a few stitches. Finally (Fig 19) for single-loop lacing on a single thickness of leather, make sure you capture the beginning tail of the lace under the first few stitches on the back, ending by running the needle back under the last few stitches on the back of the leather.

## Hand-crafted, and decorative leatherwork. How is it done? - continued

Single hand sewing is in effect, back stitching. From the face side it appears as single length stitches and on the reverse as back, or stem, stitches, the length being twice the stitch size, and would be used when the reverse side is not seen. Its advantage is speed, because you need to hold only one needle and an awl at the same time.

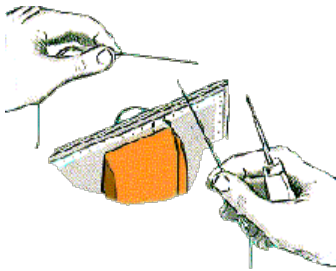


Whereas with double hand sewing it means holding two needles and an awl simultaneously. However, the quantity of thread used with single hand sewing is more than with double hand, but the waste is less, because the thread left in the needle after completing double hand sewing is unusable.



After that diversion lets get back to saddle stitching, it is as you might imagine, used to stitch saddles, so there is a great deal of strength in it.

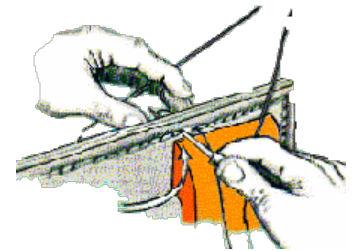
Here I am actually performing the hand stitching. Please note the position of my hands. I start stitching by running the left hand needle through from the back side of the leather and then pull it through with my left hand, raising it above the leather. Then, I push the right hand needle through the hole with that thread going through the bottom of the hole. I then take the needles and thread into my hands and tighten the stitch, and then continue by repeating the process until I am at the end of the area being stitched.



Starting saddle stitch - with two needles and awl



Example of saddle stitching

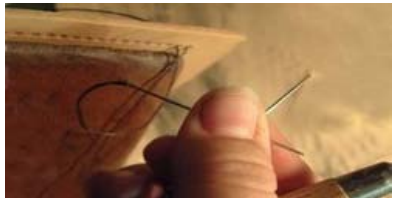


Finish of saddle stitching - and back to the first hole

The clam or clamp shown is the tool used for holding small work whilst it is being sewn; somewhat large, not to say cumbersome, it the most effective support for most work. Clams are used for holding small articles only, and are not required if the work can be held between the knees or fixed on to the bench during sewing.



the work held in the clam



starting to sew



view from both sides



completing the stitching



## Hand-crafted, and decorative leatherwork. How is it done? - continued

The third method is the most decorative and perhaps the strongest; leather thonging or lacing. This is done by threading a narrow strip of leather (which can be bought all ready to be used in widths of 1/8" - 1/4" and lengths from one yard to 100 yards) through and around holes or slits punched in the leather.



Primarily this method is used to attach the interior parts to the exterior tooled parts. There are a great many styles of thonging, ranging from the extremely simple to enormously complex. However, whatever method is used the only way a good, hand-made, hand-sewn wallet or purse will come apart at the seams is with a sharp knife.



The illustrations above show just a suggestion of some of the methods of thonging (or lacing) for assembling the various parts of a leather article. There are I believe at least fifteen different ways of thonging ranging from the extremely simple to hair-tearingly complex. Books galore are available showing in painstaking detail every move to make, but I thought at least a glimpse of some of them would give an idea of what they will look like.



## The Running Stitch

The running stitch uses 1 1/2" times the length of lace to the length of your project using 3/32" thickness of lace through 3/32" punched holes. As an example, if your project measures 18" around the part you are going to lace then you will need 1 1/2 times that, or, in other words, 27" of lace.

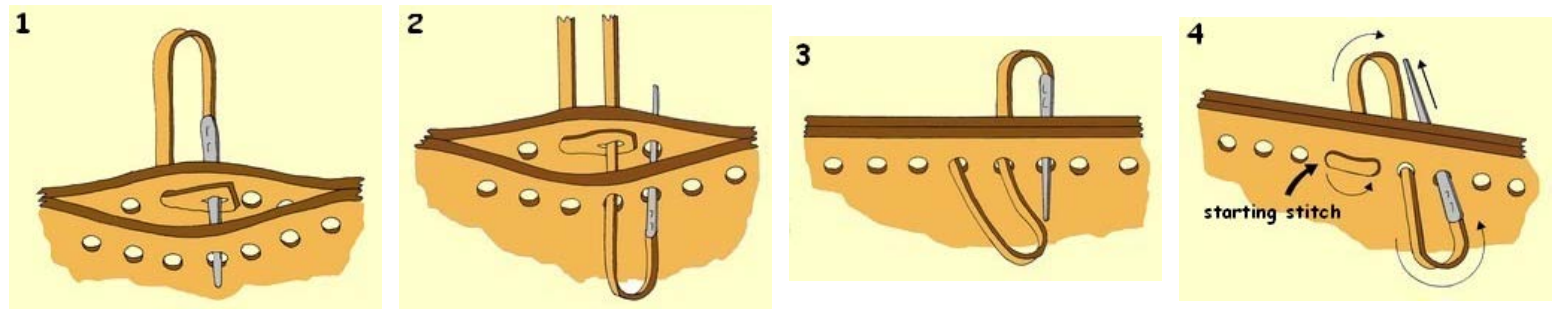
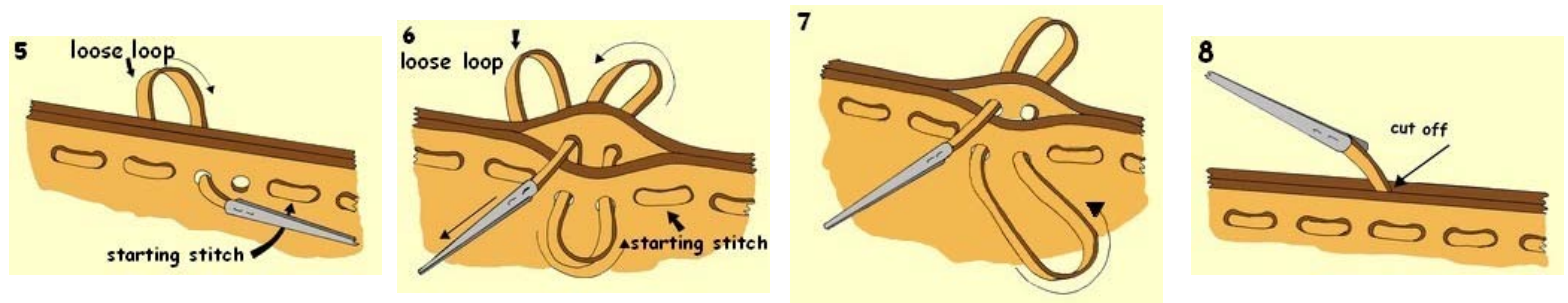
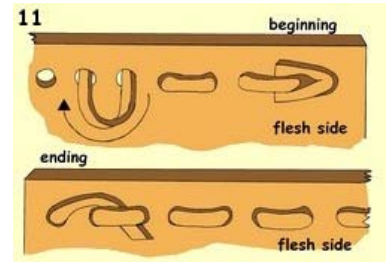
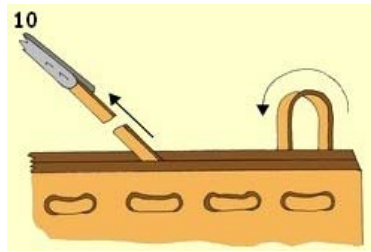


Figure 1 shows you how to start, and it's exactly as you begin the Whip stitch. Next, as illustrated in Fig 2, you push the needle through the next hole from the back, continuing through the slit in the end of the lace and out through the opposing hole in the front. Now, as pictured in Fig 3, you pull the stitch up tight to lock the end of the lace. Push the needle through the next hole while being careful not to twist the lace. As can be seen in Fig 4 this stitch is pulled up tight and you then proceed to lace in and out of the holes, continually pulling the stitches up tightly as you go along.



Carry on lacing to the last hole as in Fig 5 then follow up as shown in Fig 6 by pushing the needle through it. Prise the leather sides apart and push the needle back through the next to last hole exiting the needle up between them. The loose loops shown in Fig 7 are pulled tight and all the slack is pulled out of the lace. As can be seen in Fig 8 all the stitches have been pulled tight and you can now cut off the lace end close to the leather. Tap gently all round the lacing with a mallet to flatten and complete the finished appearance.



These next three Figures apply if you aren't lacing all the way round your project. In Fig 9 you'll see that you start lacing between the leathers in the second hole in the back piece only. You then go through the first hole in the back, through the slit in the end of the lace then through the first hole in the front. Next, lace through the second hole (for the second time through the back hole) then continue lacing in the usual manner. In Fig 10 you can see that when tying off you go through the penultimate hole and bring the lace up between the sides and go back a few stitches. Figure 11 illustrates using the Running stitch on a single thickness of leather. You begin lacing from the back in the first hole, back through the second hole and also through the slit in the lace end finishing off by running the lace under the last stitch on the back.

## Hand-crafted, and decorative leatherwork. How it is done? - continued

Thonging (lacing) due to its versatility can define the edge of an article just as dyeing the edge does. It conceals raw edges, strengthens joins, and the edges themselves. As to whether to use holes or slits for the lacing, well, there is no great debate, it is entirely a matter of preference. I prefer holes, probably because it is easier to thread the leather through, and a thonging needle is not always required.



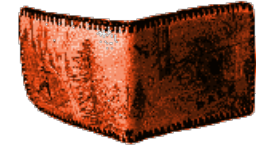
[Whipstitch](#)



[Triple-loop stitch](#)



[Double-loop stitch](#)



[Single-loop stitch](#)

### How a project begins

There are virtually endless possibilities open to a leatherworker. Thousands of things can be made with leather, from a keyring to a saddle. Most of the things I've made over the years were made using vegetable-tanned leather (in other words, tooling leather) but there are so many different kinds of leather and things to make with them. If a customer has something particular in mind, on occasion they will offer their own design. Not all are practicable and it has to be adapted to achieve what is possible.



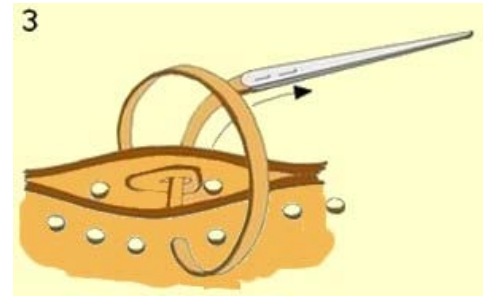
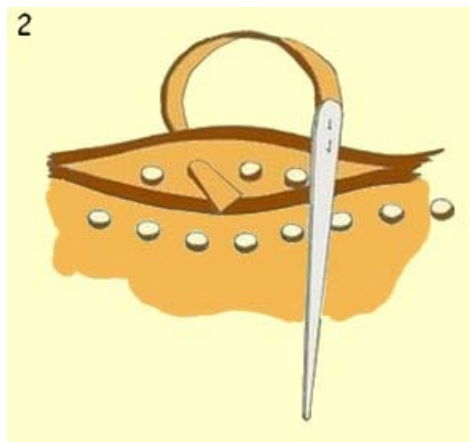
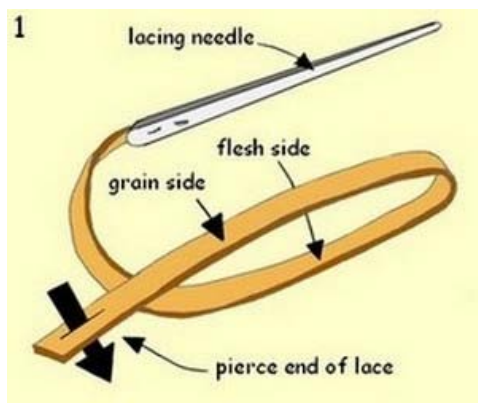
The things I make, or made, are purses, wallets, belts, keyrings, hair barrettes, business-card holders, belt pouches, mobile phone holders, cigarette and cigar cases, watchstraps, briefcases, knife pouches, book covers, chess boards, table mats, guitar straps, musical instrument cases, snooker cue cases and lots, lots more. Then in more recent years the repair and restoration of the leather interiors of privately-owned aircraft and publicly- and privately-owned helicopters; the seating, the panelling, the table tops etc.

Apart from the aircraft of course, most of the things are made to patterns from my own designs, specifically created for particular leather projects, but sometimes purely speculative. Some things got made by adapting designs I'd created for something else but the new was sufficiently similar that to start from scratch was unnecessary. Besides the design of an article there is the making of the pattern which will be used to transfer it to the leather. It hardly needs saying that no matter how good or clever the design the pattern is the most important part of the proceedings. Once the leather is cut . . . you can't turn back the clock!

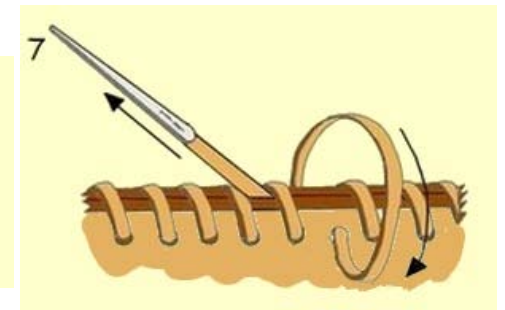
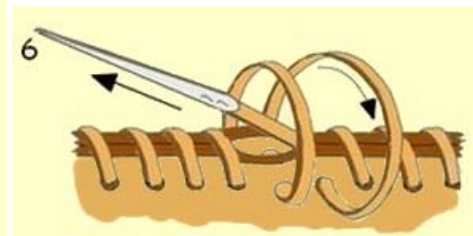
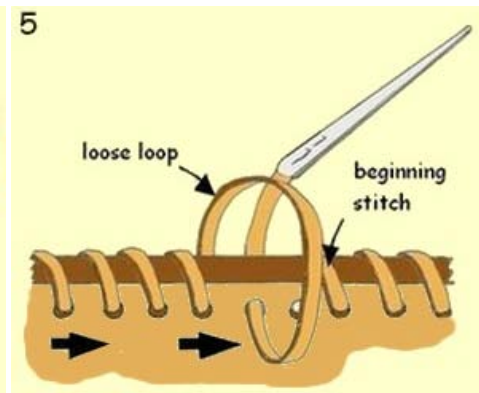
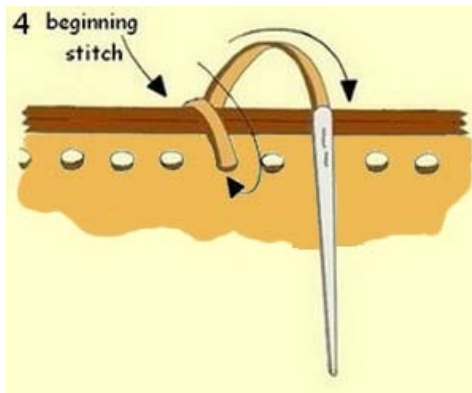


## The Whipstitch

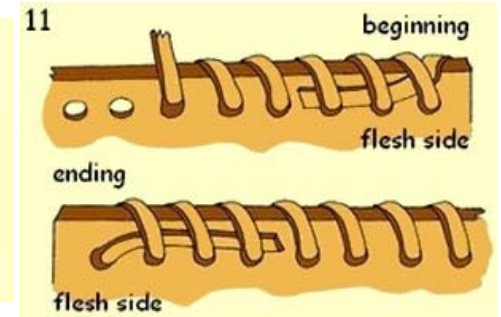
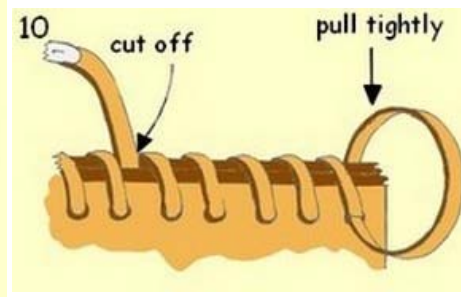
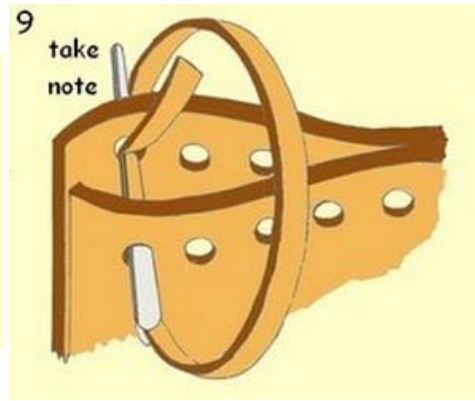
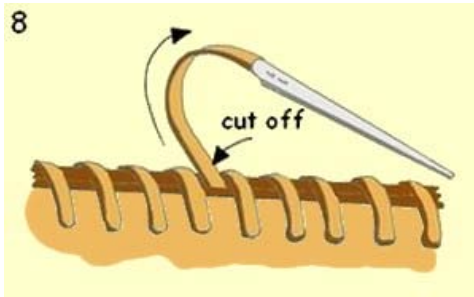
Using the whipstitch as a decorative edging requires the lace to be three and a half times the length of the edge of the project to be laced, eg, if it measures 18" around the edges to be laced, then assuming the holes punched in preparation are  $\frac{3}{32}$ ", and the lace also is  $\frac{3}{32}$ ", then the amount of lace required is 63". Now all it remains for you to do is follow the illustrations and instructions below.



As shown in Fig 1 thread the needle and cut a slit in the other end of the lace approximately  $\frac{1}{8}$ " in length. Begin lacing, Fig 2, in between the two layers, leaving between them roughly a  $\frac{1}{4}$ " of the end that has the slit. In Fig 3 you can see that you bring the needle over the edge of the leather and go through the next hole along from the beginning one. You then pass the needle through the slit in the end of the lace, continuing through the hole opposite as illustrated.



Pull the stitch up tight, Fig 4, continuing along and tightening the stitches as you go. In Fig 5, lace along but leave a loose loop in the last but one hole. As you can see in the Fig, there is an unlaced hole between your first and last stitch. Tease apart the two sides of the leather, Fig 6, and lace through the last hole up between the sides passing through between the first loose loop as indicated. Now pull the first loop tight, Fig 7, over the end of the lace as depicted.



Having reached the position shown in Fig 8 you pull the end of the lace to take out any slack from the last loop. You can now cut off the end of the lace. Tapping along the lace with a mallet is not essential but can improve the end result.

Fig 9 is for when you won't be completely lacing round the entire project. In that case you'll start your lacing just a little bit differently, inasmuch as you'll still start between the leather sides but begin in the first hole with the next stitch also in the first hole (in other words, twice through the first hole in the back side only). Then, as in Fig 10, when tying off, you go through the last hole in the front side twice, only on the second occasion bringing the lace up between sides and then back a few stitches.

As for Fig 11 that's for when you're whipstitching only on a single thickness of leather. In that case you must be certain to contain the beginning tail of lace under the next stitches on the back of it. You end it by the poking the needle back under the last few stitches on the back of the leather.

## Hand-crafted, and decorative leatherwork. How is it done? - continued

There is also the colouring and finishing to be considered. As it involves dyes, stains, acrylic paints, spirit- and water-based finishes as well as other interesting things, to bring colour and life to the article, you have to get it right. It can't be undone, though *you* can. Often the colour the customer wants is not the most suitable if the decorative elements are to be seen at their most advantageous. So it is very important to get that right, at the start.

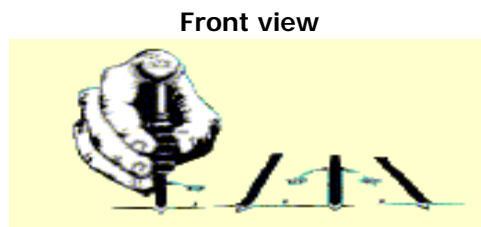
Also the designs graphics can be adapted to include a name, monogram or initials. For the leatherworker it is worth bearing in mind the possibility of personalising a project, thus turning it into something that bit more special. There are various alphabet stamp sets and lettering templates available in different styles and font sizes, as well as a wide range of lettering Craftaids, so that you can trace then carve the letters, and tool them in.



Some examples of letters and numerals available as stamps

Though that is not as quick or easy as stamping the letters in. Sometimes though there is no option if nothing is available neither as a stamp nor a Craftaid, but to find a suitable font to the liking of the customer, trace it on to film, transfer on to the leather, and carve and tool it in. This of course gives an infinite choice to the customer, and me, lots of practice at carving quite intricate designs, with the swivel knife.

One of the commonest errors in using the swivel knife is undercutting. This is caused by leaning the hand either to the right or left whilst cutting. Remember, always keep the blade upright. Never go over cuts twice!



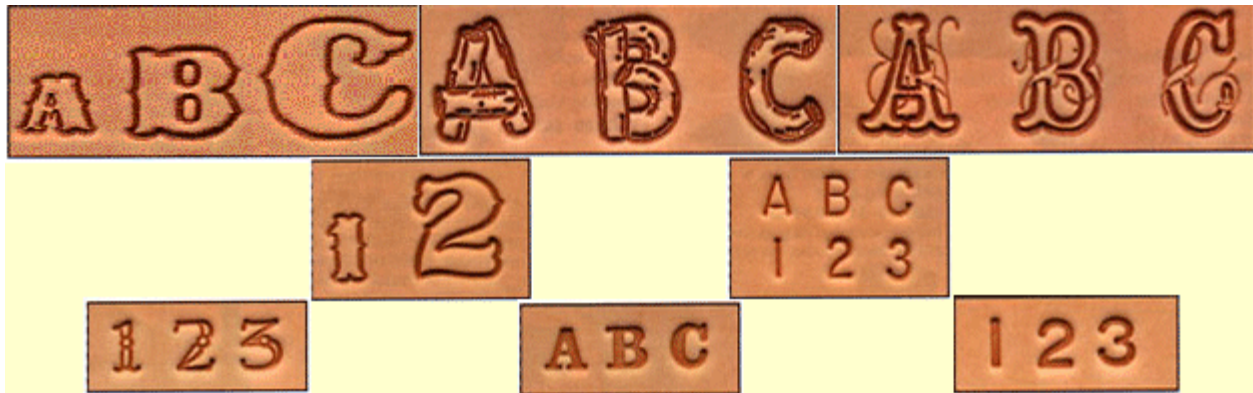
Leather is forced up on one side of the cut when making incorrect left or right undercut.

Incorrect Correct Incorrect

## Hand-crafted, and decorative leatherwork. How is it done? - continued

Tracing film is not like tracing paper. It is designed to take a tracing which can then be transferred to the leather. It is made of an acetate like plastic that will take a pencil or marker pen, and it is flexible. When tracing from it on to leather you use a stylus to impress the design into the leather firmly enough to be clearly visible. Once the design is transferred, shallow lines are cut into the leather following the impressed lines. If you should stray from a line do not go back; never make a second cut; continue as closely as possible to the original outline.

In these few illustrations below are some of the impressions that can be made by alphabet, as well as number, stamping tools. They range in size from ¼" – 1".



They are impressed into the dampened leather in the manner I have explained in a previous page. This has to be done, more often than not, before any of the project has been dyed, let alone assembled, using a marble slab as a stable, solid, hard surface beneath the leather. On the back of the marble slab I use there is a thick, solid, same size slab of rubber, to help deaden the noise of all the pounding. Every leatherworker, who is a leatherworker, has at least one slab of marble of minimum two inches thick.

### Gilding

Early leather decoration was made with small wooden or ivory stamps which were gradually replaced by alloy ones, mostly bronze or brass, with wooden handles of differing lengths. The use of metal led to new techniques to make impressions, and was called blind tooling. Leather no longer needed to be damp for it to be impressed. As early as the 15th century, the tools, which varied in size, had a great range of decorative patterns based on the natural world as well as fantasy. Blind tooling used heated tools. The technique known as *cuero gofrado*, rather like "Blind Stamping", laid the leather atop a heated metal design, and was pressed down on to it, creating a multilayered effect. It seems to have not been common beyond Spain and Italy. Great care was needed when heating the tools. Excessive heating would have burnt the leather and insufficiently heated ones would not have ensured a clear, distinct impression.

A small finishing tool originally made of hardwood, called a panel stamp, was engraved intaglio, and bore simple patterns like crosses, quatrefoils and rosettes. The roll came into use alongside the stamp. Scandinavian in origin, it consisted of a metal cylinder of variable thickness, the circumference of which was engraved intaglio or in relief with thin fillets or decorative patterns. Once heated it was run over the leather in order to make repeating strip patterns along its border much more quickly than with the small tools which had to be impressed one by one.



Like other finishing tools, the roll was provided with a long wooden handle, which enabled the craftsman to exert as much pressure as necessary. Like medieval seals, the rolls for blind tooling were cut intaglio so as to impress leather with a pattern in relief. Decoration with gold leaf, involved using rolls having a design in relief, so as to impress the leather very deeply.



The blocking press was a finishing tool used in Flanders from the 13th century. Operated through a screw press, it was cut in iron or bronze, with patterns in intaglio or relief. Set in a wooden or metal framework, the blocking press ensured that the cover of an octavo or a twelvemo volume was rapidly decorated in its entirety, or, as was the case with quartos and folios, about three quarters of a cover.

In the early days of gilding, gold was used in liquid or powder form, eventually it was beaten into very thin sheets of variable purity, known as gold leaf.

## Gilding carved leather

When gilding a carved leather surface use an under-finish to seal the pores of the leather first. The antique red one specifically sold for gilding seems to be a thin water-based acrylic paint, very similar to Cova® dyes, in that it dries thinly and preserves surface detail without filling it in, so a Cova® dye could be used for the under-finish.

Dye the background of your carving with a standard leather dye before applying the under-finish. The under-finish is largely opaque, and will cover dye on the carving itself if you want to save some time and dye the whole piece one colour at once. But it is slightly translucent and will affect the colour of the under-finish marginally, depending how heavily it is applied. Dyeing only the background seems to work best when you want to preserve as much detail as possible. The extra wetting of the leather resulting from being dyed raises the natural texture and grain of the leather slightly which shows through the leaf once it is applied.

Use a fine artist's brush to apply the under-finish only to those areas that will be gilded. This layer of finish is the foundation of the gilding. If a small mistake with the paint brush results in under-finish where you don't want it wait until it's nearly dry, then it can be carefully scraped or lifted off the leather with a fine-pointed knife blade. Touch up the background dye afterwards if necessary.

Allow the under-finish to dry completely before continuing to the next step.



Gilding size can take from 1 – 24 hours to become sufficiently tacky on the glass surface on which you hold the leaf. 'Tack' times vary, but those sizes with a stated time of an hour are ideal.

Apply the size with a fine brush only to the areas covered by the under-finish. Remember that every surface you touch with size will have some leaf stuck to it in the end so be careful.

The gilding in principle is fairly straightforward. Remove a leaf from the book and put it over the area that's been treated with the size, and pat it down with a bundled piece of soft rag.



[Armenian bole](#)



[Gilder's tip and Gilder's mop](#)



[Gold cushion](#)

The proper tool for lifting a leaf is a leaf brush, which looks like a fine comb made of long brush hairs. Stroke the brush on your clothes to gather static electricity, then when touched to a leaf it clings to the brush as a result. Use a very dull knife (with no sharp spots or burrs) to score and cut the leaf while it rests on its bed. It's simple to lift the leaf and move it to where you want to apply it.

When the leaf is uniformly stuck down, use a stiff, wide ( $\frac{1}{4}$ " -  $\frac{1}{2}$ ") artist's brush to tamp the leaf into the carved detail with the ends of the bristles. Take especial care to tamp down the leaf at the edges of the size or you won't finish with a sharp edge.

Remove excess leaf from the edges of the size. It will come away easily with bits and pieces of leaf coming free. Save the pieces for touching up areas that lost leaf while burnishing.

Rubbing the applied leaf gently with a soft cloth at this point will burnish the metal, bringing out a bright shine and smoothing the odd wrinkle.

# Edges

## Hand-crafted, and decorative leatherwork. How is it done? - *continued*

More than anything else edges are what gets noticed. If you can get the edges right you are going in the right direction to be able to call yourself a craftsman, otherwise, forget it, you're a bodger. But once you've mastered the art of getting good edges, you've cracked it. That's what makes the difference, between the article you've made wearing well and lasting for years, or looking scruffy and falling apart within a very short time, and your customer never coming back.

A well-finished vegetable-tanned hide edge is one that has been bevelled, back as well as front, dyed (or stained using a permanent marker pen) and burnished. The burnishing can be done with a burnishing tool, which looks like a small wheel about 3" in diameter, these days usually made of plastic though there are wooden ones, and which is run back and forth along the dampened edge of the leather. You can use a flat stick-like one, also plastic or bone, but that wouldn't be my choice except on those occasions when part of an edge is inaccessible otherwise.



Wheel-like  
burnishing  
tool

Flat burnishing tool

Alternatively it can be done if the edge is dampened using gum tragacanth (this is obtained from any of the plants in the spiny leguminous genus *Astragalus*, especially *A. gummifer* of Asia, having clusters of white, yellow, or purple flowers, and yielding a substance that is made into a gum; you don't have to worry though, you can buy it in lots of craft's- or artist's-supplies shops!) instead of dye or water, and before it can completely soak in, is rubbed vigorously with a folded up piece of denim. This is what compresses the cut fibres and gives the edge a hard and glossy finish. You can also run beeswax along the edge before rubbing with the tool or the denim, but my own preference is not to do so.

Finishing your edges in this manner is particularly recommended when you are making vegetable-tanned hide belts. It must be done before punching any of the holes or attaching the buckle or keeper. It will take quite some time to do it properly, but the look and appearance of the finished article makes all the effort more than worth it, not to mention the longer life the belt will have as a result.

None of this applies to thin or loose textured edges, to do so would achieve the complete opposite of your intentions, namely, to have perfectly finished edges on whatever it is you are making.

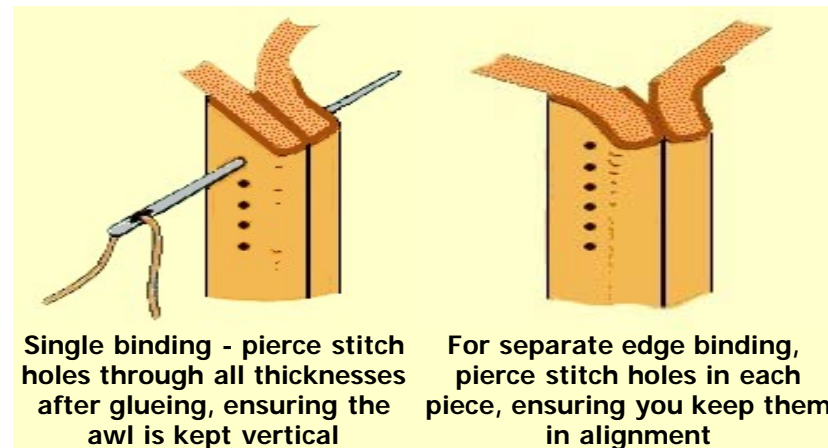
In reference to what I was saying in the previous paragraph, the best method in this event is to lay the object on a flat, hard surface, and polish firmly along the edge keeping it pressed on to the hard surface.

# Binding edges

## Hand-crafted, and decorative leatherwork. How is it done? - continued

On hide above a certain thickness this is unnecessary, unless intended only for decorative purposes. On thin hide though it serves to strengthen the edges, as well as improving, the finish.

Binding should be done using thin, stretchy, leather strips, the width depending on the thickness of the edge to be covered, but usually allowing at least  $\frac{1}{4}$ " to overlap on each side (plus the thickness) as a rough guide. And, if necessary, using the same leather as the article is made from, skived to achieve the necessary thinness, and dyed to match its colour. The dyeing is best done before skiving and cutting the strips to size, to allow for any shrinkage that may occur due to the thinness of the leather. Also, dyeing very thin leather can be a bit tricky. The fact of its thinness alone means it absorbs the dye instantly, and your control over the process is minimal, consequently a lot of hard work can be wasted.

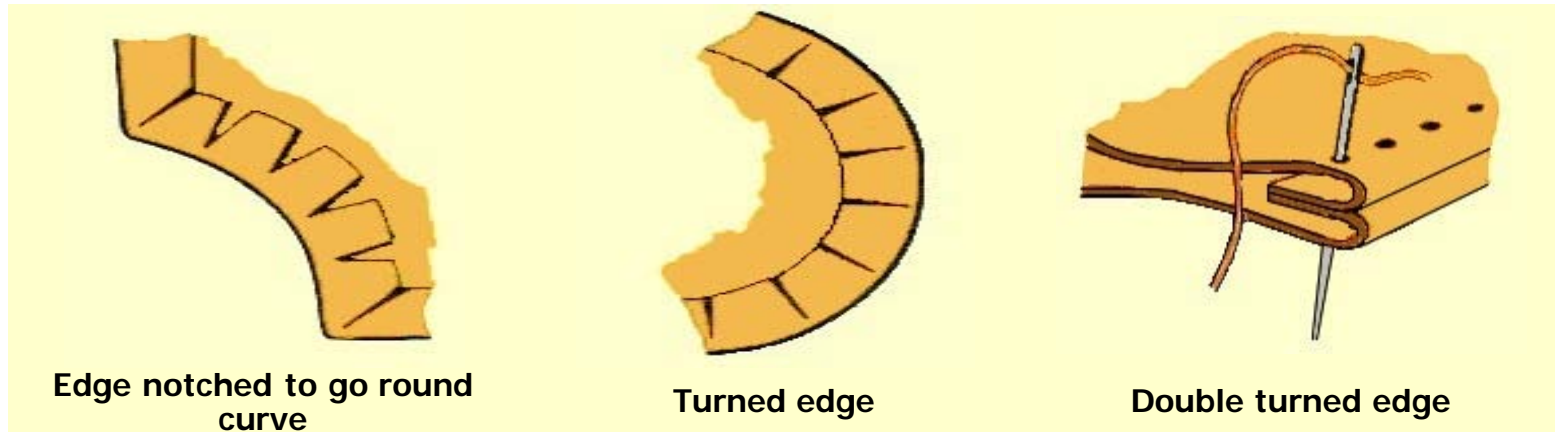


It is essentially to protect the edge, as well as to conceal its rawness, though it can be decorative at the same time. Sometimes, where the thickness is rather bulky, such as a bag gusset joining to the front, it is better to bind each edge individually before stitching them together. In such an instance (covering the edges with one length of binding) it is preferable to glue the edges (you intend to bind) together, before applying the binding. Then, too, you may also find that applying the adhesive to the front and back of the edges, then stretching and smoothing the binding over it, is preferable to trying to apply a sticky strip of leather which seems more intent on twisting about and adhering to itself, than going around the edge where you want it.

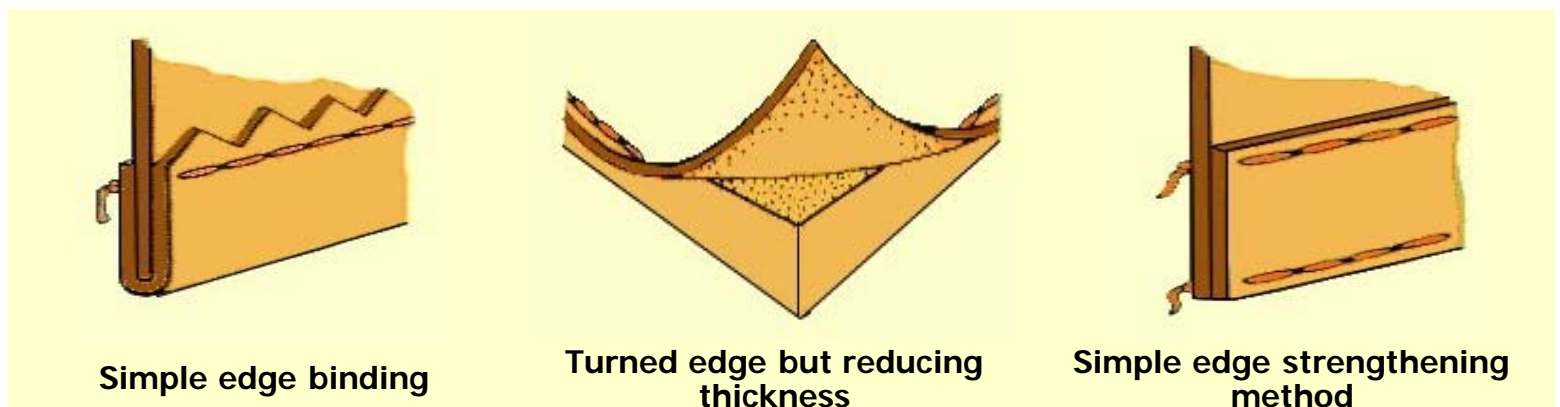
## Hand-crafted, and decorative leatherwork. How is it done? - continued

### Binding edges - continued

Where non-vegetable-tanned leather has an advantage is in its ability to have its edges turned under. Almost always the edges will need to be skived to make it easier to fold over, and even for going round corners or curves, to be notched, but it is the simplest edge finish for non-vegetable-tanned leathers. Also, where some firmness or thickness is required, double-turned edges are a good solution, but if less thickness is needed one edge can have its turn-under bit trimmed off or be pared away to virtually almost no thickness.



Should a non-vegetable-tanned leather edge require binding or strengthening there are a couple of simple ways to go about it that serves these purposes, as can be seen in the self-explanatory illustrations below.



The parts of the article you are making where you apply either of these methods has to be your choice, according to the circumstances, as to being the most suitable to use at the time, bearing in mind the article's intended use and probable wear and tear over a given period.

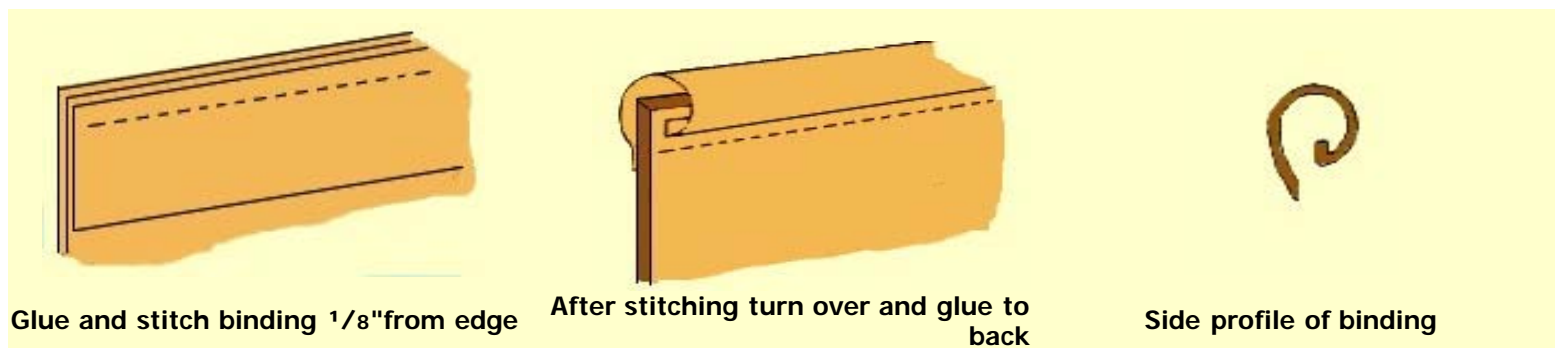
# French binding

Hand-crafted, and decorative leatherwork. How is it done? - *continued*

## Binding edges - *continued*

Only if you are using fine, delicate leather should you even consider trying this method of binding otherwise it will look far too clumsy and bulky. It is best to have a trial run first using the equivalent of what will be the thickness to be bound, to assist you in working out the width of the binding that will be required. Whether there is any connection with the "French seam" in needlework, a seam in which the edges are invisible, I don't know.

Hopefully the illustration below should help with understanding the procedure which is quite straightforward, though somewhat fiddly.



The binding should be glued and stitched about  $\frac{1}{16}$ " in from the edge. Then turn it over the edge and stick it to the back of the piece. Sew a second row of stitches about  $\frac{3}{32}$ " below the first row of stitching (that is below the bottom edge of the binding you have just stitched and turned over) this will go through the binding you previously glued on the back and will hold it in place.



Another method of binding a seam is by using what is known as a turnover binding. This is really just an extra allowance made when cutting out your pattern that will permit it to be wrapped over your edge. Most invariably this would be something like the outer part of a wallet, where the various parts are being hand-sewn together and the extra allowance would be turned over onto the inside before sewing, rarely if ever in the opposite direction, unless the intention was to make it decorative. You calculate the allowance required by estimating the thickness to be bound plus  $\frac{1}{4}$ ", for the stitching.

# Hand-crafted, and decorative leatherwork. How is it done? - summary

A knowledge of the characteristics of your material is necessary as well as that of the tools that are used for the manufacture of fairly simple leather goods, you also need to be aware of their limitations, before embarking on elaborate designs.

Good quality leather is by far, easier to work with than poor quality (and I'm not implying that you have to pay a high price to get it; you don't) just as you need well-made, good quality tools, to make your work less difficult.



Leather not only differs from hide to hide, but within the same hide. Not just its thickness, but the grain, the feel and the look of the leather can be quite different. I don't mean small pieces but whole hides, some 50-60 square feet or so.

Leatherworkers, in common with other craftsmen and women, with the gaining of experience, develop techniques all their own, and can produce results of a very high standard.



Simple-shaped and well-made articles clearly the product of skilled and careful craftsmanship will be a thing of beauty as well as lasting pleasure.

You do have to look after your leather of course. A lot of damage can be caused to leather (that is hides in particular) if it is not stored properly. Ideally draping it over a horse similar to those in a gymnasium would be the ultimate way. Skins on the other hand are best kept lying flat on a tabletop.



Unfortunately, for the majority of us, neither of these ideal ways is practicable nor possible. The alternative is to roll your leather into bundles, preferably with the necks to the centre of the roll and with the grain side out. This is important if the grain is a smooth one. If rolled with the grain inside it will end up with a boarded effect.

Brown paper should be rolled in with the leather so that it doesn't slide out and the bundle fastened with sticky tape. String is definitely a no-no, it will only mark the leather.



The next stage doesn't exactly fall outside what I've been calling decorative leatherwork for these past few pages, but it does involve a different kind of leatherwork; moulded work. Lots of leatherworkers never give it a thought, either considering it too much of a palaver, or seeing no need to make use of it. But it is fairly straightforward to accomplish if a little time consuming. So my opinions on how it is, or should be done, commence on the next page.

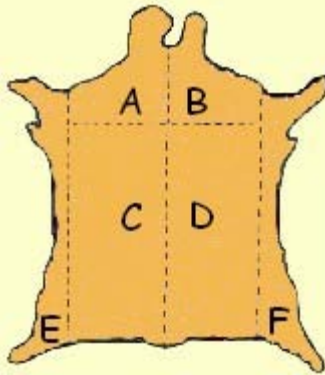
# Moulding leather

One of the outstanding attributes of vegetable-tanned leather is its possession of the qualities which enable it to maintain a moulded shape.

Methods for exploiting this ability have been developed around the world over hundreds of years. Objects as dissimilar as helmets, shields, boxes, gun cases, masks, drinking cups, cigar cases, bowls and sculptures have all been created using one of the procedures I will be describing, or certainly very similar to it.

To mould anything, leather which is vegetable-tanned, or has similar characteristics, should be used. The belly section of a hide is ideal for easy moulding, though the flesh side of a belly (a belly being 7-10 square feet) will, of course, have a looser fibre-structure. That doesn't preclude other parts of the hide, it's simply that the belly is the easiest section to use for anyone without experience of moulding leather.

The definitions of the various parts of a hide are shown below



Side....A+C+E or B+D+F, Back....A+C or B+D, Shoulder....A or B, Double shoulder....A+B, Belly....E or F

As I may have mentioned briefly in an earlier page, the leather trade in the UK, and in almost every other country in the world, operates in square feet. A figure 16 stamped in the corner of a skin or hide means it measures 16 square feet. Fractions of a square foot,  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $\frac{3}{4}$ , are indicated by a small figure 1, 2, or 3 written just after, and just above, the whole number. And as a vegetable-tanned hide comes in eight weights (or thicknesses) there is a wide selection. That's even before you get to the densest of all, sole leather, which is measured in irons and bought by the pound weight. One iron =  $\frac{1}{48}$ " ; therefore 12 iron leather is a quarter of an inch thick. Leather in these thicknesses weighs somewhere between 14oz and 18oz per square foot. It is also expensive!

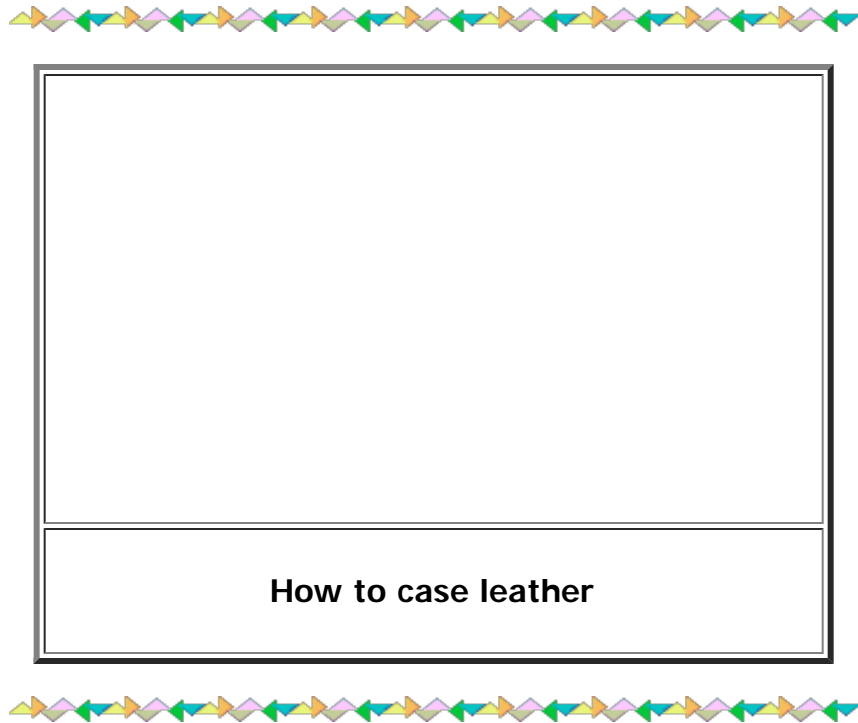


However, before any vegetable-tanned leather can be moulded, or for that matter, readily accept any decorative impressions, it has to be "cased". That is dampened with clean warm water applied with a suitable cloth or foam-rubber sponge to the flesh side, or wholly immersed in warm water, in a container large enough to hold the leather without scrunching it.

The length of time the leather is dampened for or soaked will depend on its thickness, and only experience gained by trial and error can indicate how long that will be, plus how much moulding is going to be attempted. It is only by going through this wetting process that the fibres of vegetable-tanned leather can be made soft and pliable.

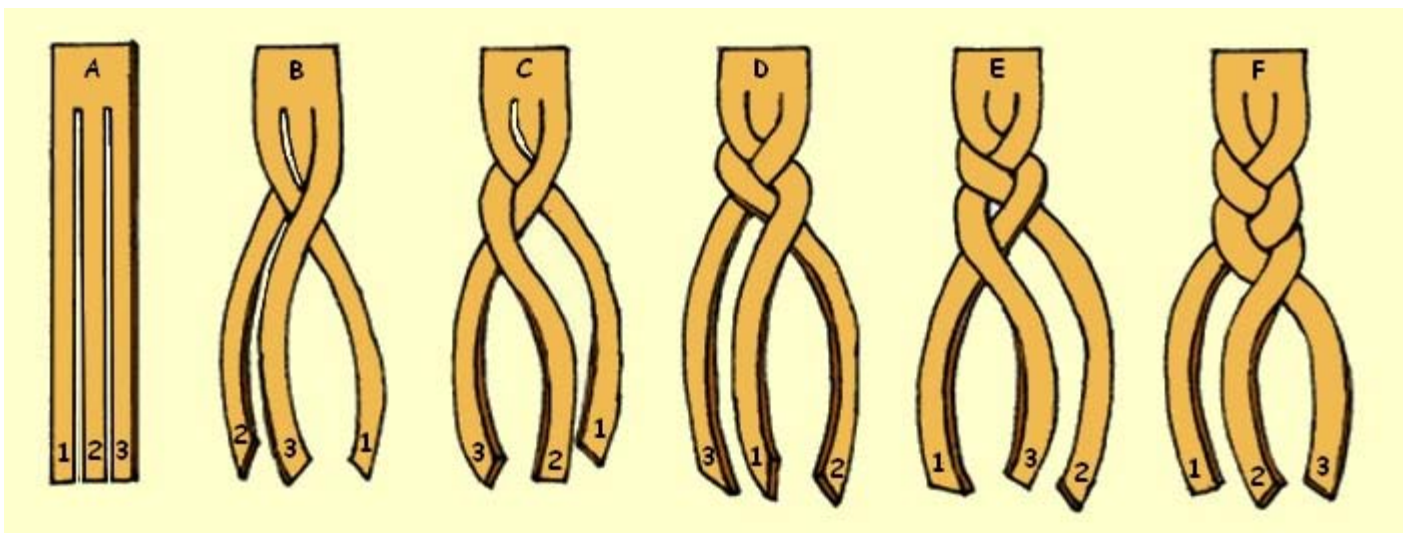


It is whilst the leather is replete with the water (though it should be left to mellow for a short time) that it can be formed into three-dimensional shapes by using moulds or formers or even to a degree, freehand. It can, in this state, be easily manipulated by hand, being pulled and stretched as necessary.



## Three-lace flat braiding

**Step 1.** Begin with a length of leather that has been cut into three strands. **Step 2.** Now pulling leather strand 1 over leather strand 2. **Step 3.** Next pulling leather strand 3 over leather strand 1. **Step 4.** Then pulling leather strand 2 over leather strand 3.



Continue working the braid by repeating these steps until you reach your required length ending it in whatever fashion you choose.



# One-piece moulds

## Moulding leather - *continued*

A one piece moulding is a simple, straightforward, basic procedure for what are usually simple shapes. But just as shoe uppers were once made by stretching the leather over a wooden former or last so this method of shaping leather into a three-dimensional shape can also be used to wet-mould it into quite extreme shapes.

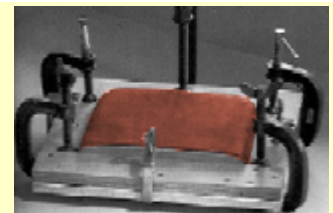
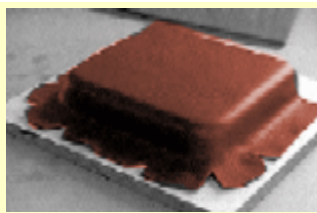
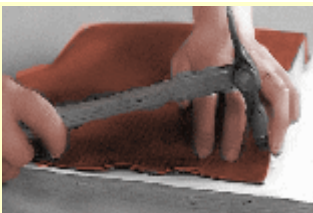
Use a carved wooden mould and stretch the wet leather, which is larger than the finished size, over it, tacking it (without driving the tacks in too far as you are going to pull them out several times), using brass or steel tacks, into position. The leather will stretch much more than you might at first suppose so that the tacks will require to be repositioned several times until the shape you are after has been achieved.

Once it has dried naturally it can be cut from the mould, not forgetting to leave a seam allowance if one is required, for making up into whatever the shape is intended for.



## Two-piece moulds

This way of shaping wet leather into a precise shape is by putting it into a two-piece mould, rather in the manner of a sandwich, and leaving it there until it dries naturally. Shields in particular were most probably made using this method and leather wall hangings most certainly were.



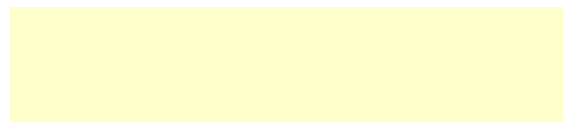
These illustrations fit more or less both methods of moulding that I've been describing.

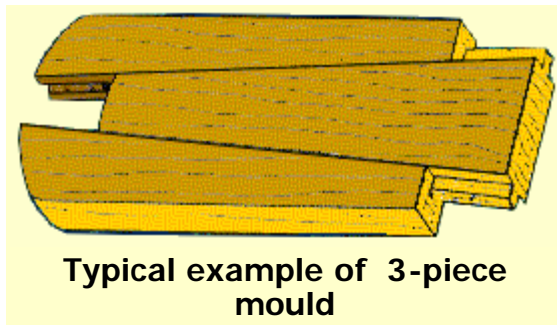


## Three-piece moulding

To make a bag, a purse or spectacle case with no sewn in gusset the method you use is the three-piece mould. By forcing a former between two pieces of leather which have been sewn on three sides it is possible to shape the sides permanently to give them width.

Immerse the leather completely in warm water until soaked, then using two pieces of wood shaped to the desired width of side, push them inside the sewn leather pieces and force a central wedge between them. The size when fully expanded being equal to the inside space of the finished article. Allow to dry naturally before removing the wooden mould.





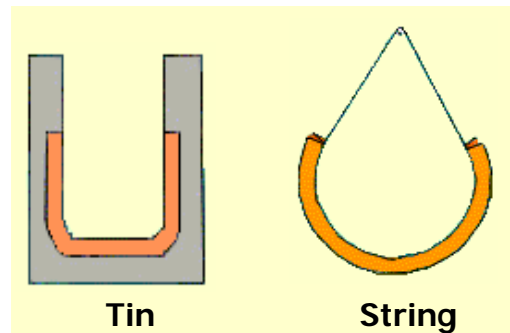
This is a successful method but only for shallow forming. If the work is to be cut edge, the pieces of leather are cut the width of the former, plus its thickness, plus  $\frac{1}{8}$ " as a sewing allowance. Where the shape is semi-circular ended, the allowance is the same all round. Where the shape has corners of a shallower radius it is necessary to cut the leather closer to the former's corners.



Italian, Mask of Pulcinella, c. 1700, moulded leather mask from a Commedia dell'arte theater troupe, The Theatre Museum, London. Pulcinella was traditionally a stupid servant, recognisable from his big beaky nose, hunchback and the wart on his forehead. As the 17th century progressed, the role of Pulcinella became more interesting and more diverse. By the time this mask was made, he was not necessarily a servant, but might be a peasant, a dentist, a physician, a painter or a soldier. The mask also changed. Whereas earlier versions had a moustache and beard hiding most of the actor's face, this is a half-mask. Pulcinella was the figure from whom Punch in Punch and Judy puppet shows was derived.

# Moulded gussets

The advantage of this type of gusset is that it lies flat in the closed position and expands fully when opened, and there are two ways of making them, namely the "string" and the "tin".



The shape to which a moulded gusset can be fixed depends on the width of the gusset required, and that in turn on the size of the article. For a purse the normal width would be about 1" to 1½". Dampen the leather for the gusset on the flesh side and leave to mellow for a time (about five minutes).

Using the string method the mellowed leather is folded grain to grain along its length and a loop of string fixed to a support, and the leather then sits with its fold along it. Pull with the first finger and thumb of both hands, stretching the outer edge, while the inner is pulled by the string.

For the tin method cut a piece of zinc a good 2" longer on all sides than the front of the purse with a "U"-shaped piece cut out, the size of the fold of the gusset. The dampened and folded gusset is bent round the inner shape of the tin, the outer edge being pulled along the base and then the corners. Pleats should be smoothed with a folder.

You can repeat gussets with some degree of accuracy using the tin method, which is impossible with the string. However, with both these methods, size and length will have to be trimmed to fit the shape of the purse front.



Moulding is a very successful technique for using up expensive scraps of sole leather. Cut to size and do any decorative work before starting to mould it. Soaking for a sufficient length of time in warm water it will become soft enough to mould into various shapes. Always use the grain side out. Strips can be moulded round something like a jam jar and taped in place over a piece of polythene and allowed to dry naturally. An easy way to make bangles, but do be careful when handling wet leather -- you can easily bruise it, and even when it dries, marks will still be visible.

# Quilting

Of the two different kinds of quilting associated with leatherwork, namely ordinary (for lack of a better word) quilting and Italian quilting, the ordinary usually proves to be the trickier of the two.

With ordinary quilting, which is used on things like chairbacks or pouffe tops, you have to be careful that the layers aren't moving about as you are stitching, for therein lies disaster.

For transferring your design on to the right side of your leather it's better to use templates to draw round, using a sharp-pointed chinagraph pencil which shows up clearly even on suede. Trying to transfer your design by going over it on tracing film placed on the right side of the leather doesn't make a good enough impression, so it is difficult to see.

After layering your leather on top of your wadding plus either cotton or muslin backing, tack, using large stitches along your design outlines and round the edges as well. Then you can do your proper quilting stitching without fearing that everything is going to move about. You can use a sewing machine instead of hand- stitching, but it isn't always practicable.



Then we come to Italian quilting, and there are two or three ways of going about this. You can use an adhesive to stick your leather and its backing fabric together at the edges. Your design, which can be transferred before or after you've done that, is drawn on the backing side, and is preferably one where relatively small areas will be completely enclosed by your stitching.

Next you make small slits inside the enclosed areas so that you can poke your padding (either kapok or cotton wool) through, using a cotton-bud or cocktail stick. Then over-sew the openings to keep it in. This method is only used when the backing won't be visible in the finished article or there will be another loose lining attached at the edges, say, of an opening.

There is an alternative to the usual wadding and that is to use a plaster-type cement mixture. It depends on the use the quilted piece is being used for, and of course, it sets hard.

There is another way of doing the Italian quilting which doesn't involve cutting into the enclosed-by-stitching areas of your design. It is possible, by gluing just one edge of the backing to the leather to work your way across the piece, area by area, sticking down say two thirds of each area to be stitched around, carefully inserting the stuffing, then sticking down the last third, then stitching around that whole section. Then on to the next area to be stuffed and so on, fiddly, but no slits to be over-sewn in the backing.

# Mystery braiding:- Closed-end, three-strand

Small articles such as wristbands, bangles and watch straps are ideal for using up small or odd scraps of (particularly vegetable-tanned) leather, and a decorative method of doing this is what is called the "mystery braid" (3mm thick cowhide leather is ideal). It's a good idea to do a trial first to get an inkling of how it's going to look when you start the plaiting. For instance, the ends will look wider than the braided bit, so you can trim them to look approximately the same width. It will also give you a clue as to the length of strip to use, as the length determines the number of times you repeat the procedures to finish evenly without the braid being too loose or too tight.

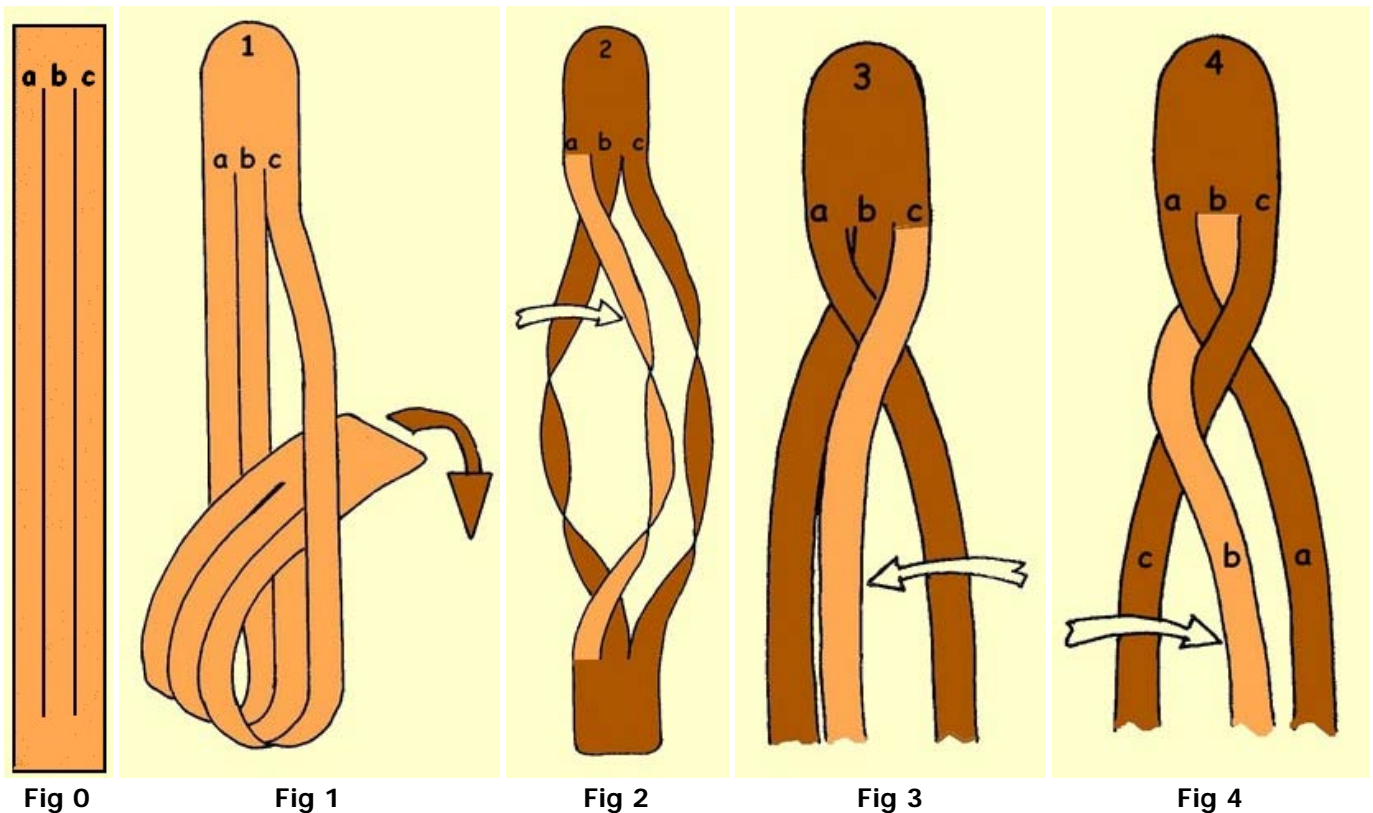
Dye your leather before you start and don't forget the cut edges of the strands. Now is the time to burnish them all as well.

**STEP ONE (Fig. 0):** make two cuts in leather strip, dividing it into three equal parts but still joined at both ends. Edge and burnish each strand.

**STEP TWO (Fig. 1):** pass the lower end of the strip through the slit between strands a and b.

**STEP THREE (Fig. 2):** Pass strand a over b. **STEP FOUR (Fig. 3):** Pass strand c over a.

**STEP FIVE (Fig. 4):** Pass strand b over c. **STEP SIX (Fig. 5):** Fold lower end of strip between strands c and b.



**STEP SEVEN (Fig. 6)** Pass strand a over b. **STEP EIGHT (Fig. 7)** Pass strand c over a. **STEP NINE (Fig. 8)** Pass strand b over c.

**STEP TEN (Fig. 9)** To continue braiding fold lower end of strip over between strands b and c. Repeat from Fig 2 through Fig 5 until the strands are no longer long enough to complete another full cycle of braiding.

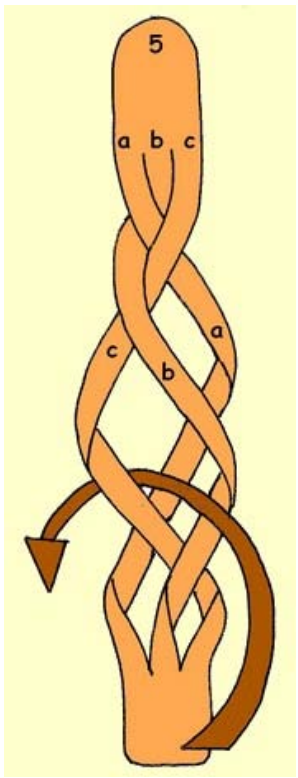


Fig 5

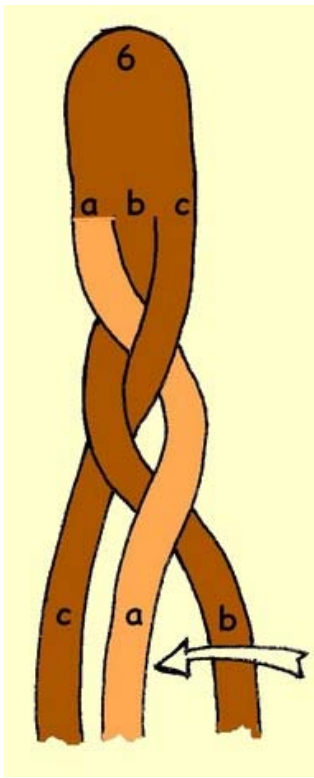


Fig 6

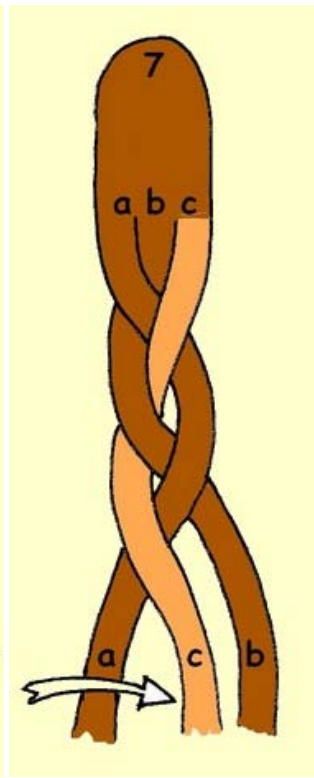


Fig 7

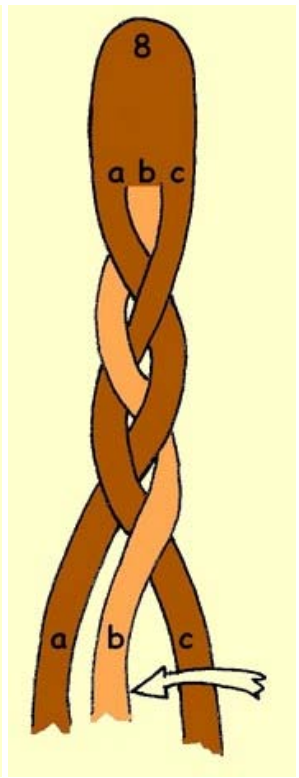


Fig 8

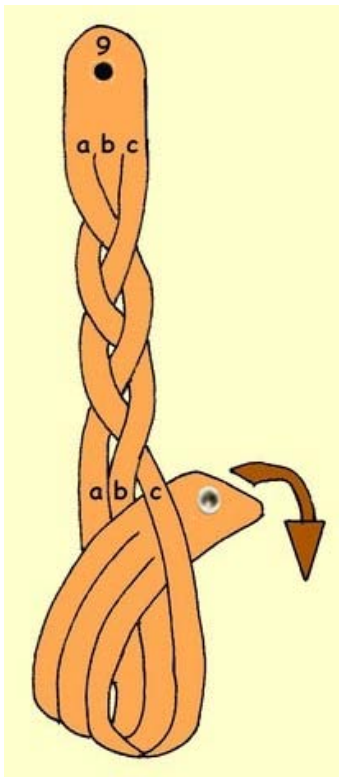


Fig 9

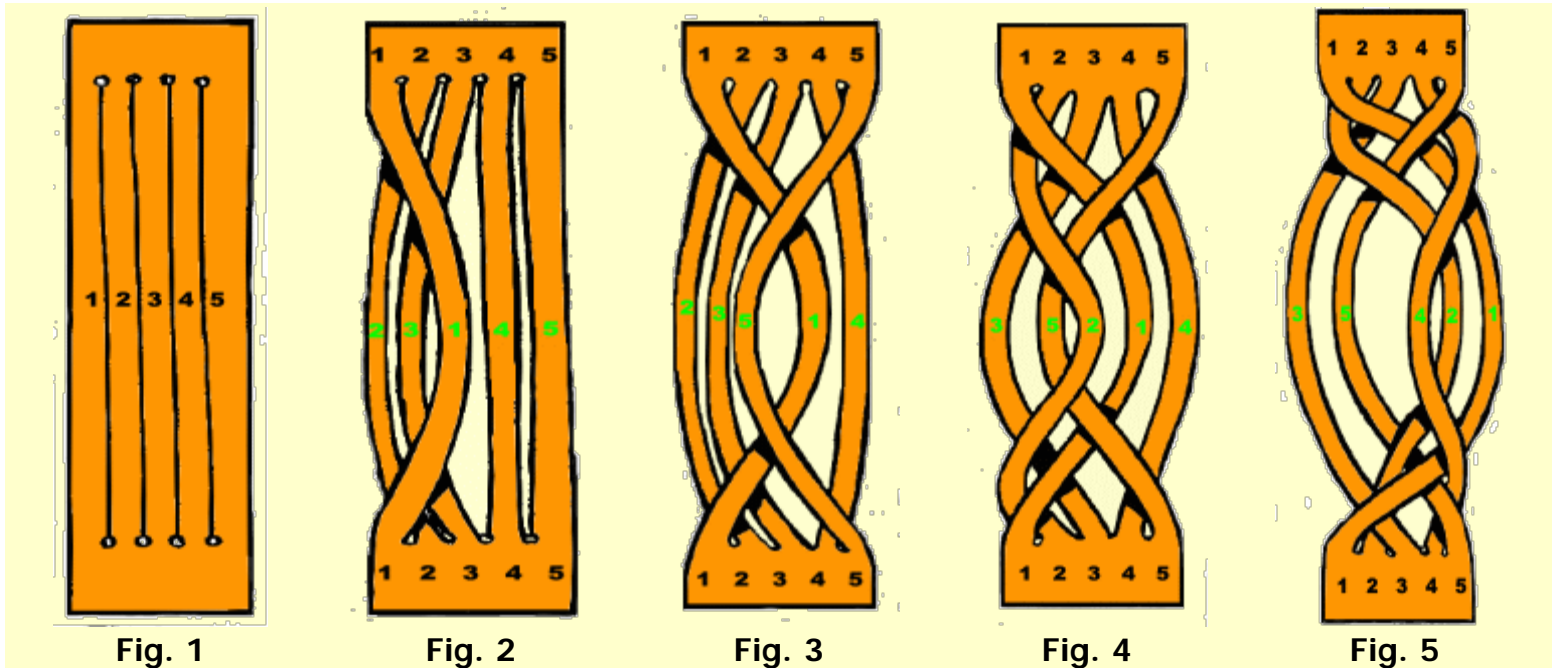
Three-strand mystery braiding is only one of many different braids. How to do closed-end five-strand braiding, suitably illustrated, is shown on the next page.

# Mystery braiding — Closed-end, five-strand

The length of your leather strip and its width are entirely at your discretion. You will have determined this by your trial and error efforts already. It is preferable to cut your slits shorter as they can be extended, but too long initially means a loose, finished, braid. The amount of leather left uncut by the strands at the ends is also a variable, as will be its shape, particularly if you are making a watch strap.

**STEP ONE (Fig. 1):** make four cuts into the leather strip so that it is divided into five equal strands.

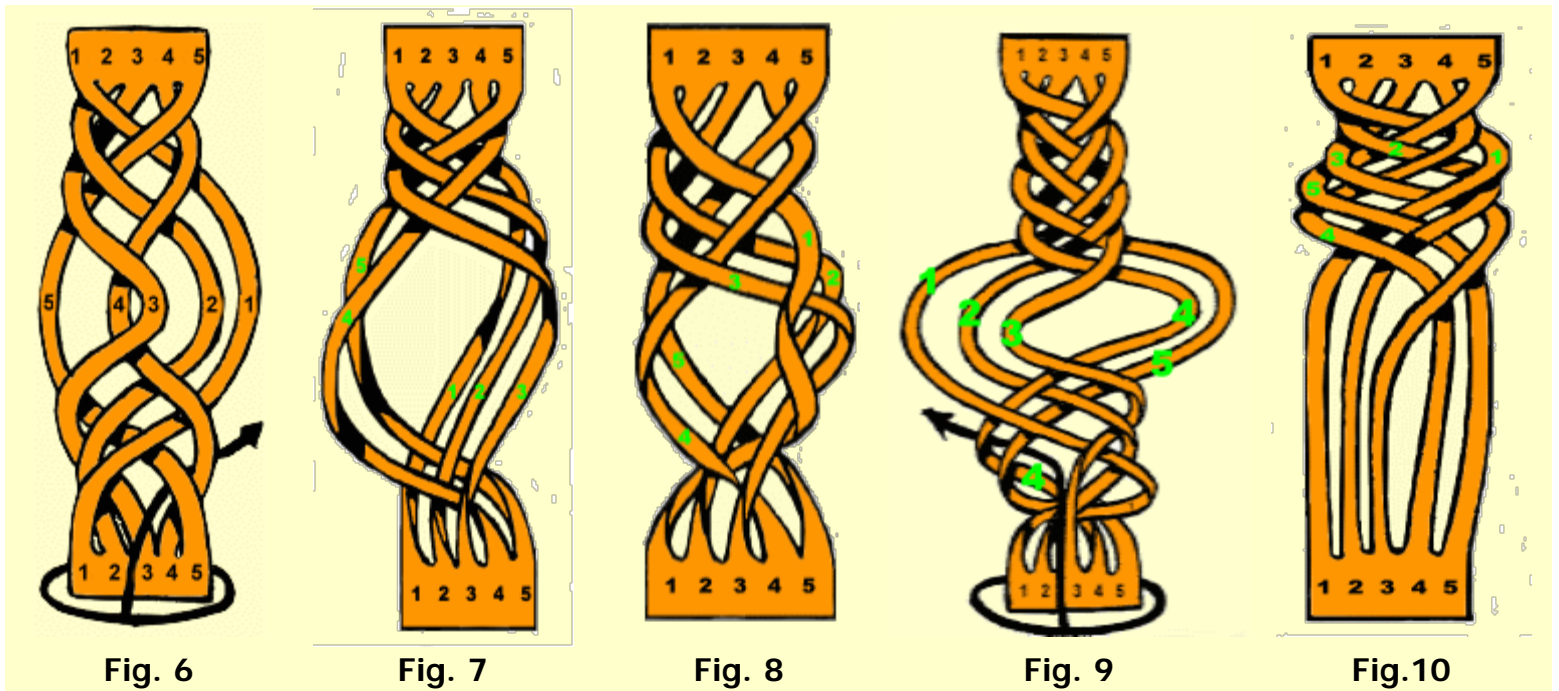
**STEP TWO (Fig. 2):** bring strand 1 to the right over strands 2 and 3 then bring strand 5 back over it and strand 4 as in Fig. 3.



**STEP THREE (Fig. 4):** take strand 2 and bring it over strands 5 and 3 then pass the strands from right to left over strands 1 and 2 as in Fig. 5.

**STEP FOUR (Fig. 6):** in this illustration two steps are shown. First bring strand 3 around and over strands 5 and 4. The upper portion of the strip must be held intact. Next take the bottom of the strip and pass it through the opening between strands 3 and 4.

**STEP FIVE:** now the braid should look like Fig. 7. Meanwhile, pay no attention to the tangled up strands at the bottom, and continue to work at the top.



**STEP SIX:** take strand 1 and bring it over strands 2 and 3 (as shown in Fig. 8). Repeat this procedure from each side four times more, then take the bottom of the strip through strands 3 and 4 as illustrated in Fig. 9. When you have done that the lower part of the braid will straighten itself out as shown in Fig. 10. Now, having reached this point, you begin all over again, passing strand 1 over strands 2 and 3 as shown in Fig. 1. When you reach the stage corresponding to Fig. 6 turn in the bottom as before, continuing as in Fig. 7 until the end.

**STEP SEVEN:** pull the braid tight at the top to give yourself space to work at the bottom, then when the braid is finished, loosen it all up until it is evenly spaced throughout.



# Wallets and note-cases

Under this heading there is a choice of a wide variety of articles and a beginner, having gained some experience in the handling of leathercraft tools and the rudiments of joining leather together, can attempt making a fairly basic wallet or note-case.



A straightforward description of a wallet is that it is flat object and opens and closes like a notebook. There are hundreds, if not thousands, of variations on this theme ranging from the note-case for the shirt pocket to the enormous ones lugged around by artists.



Wallets generally speaking follow a similar pattern, in as much they have a folding main pocket with smaller ones on the inside.

To keep all the bits together thonging (lacing) is often used instead of stitching, particularly around the outer edges, especially if the leather being used is other than vegetable-tanned hide, though not exclusively so.

It is though, far better to keep to a lighter-weight hide, or a firm-dressed grain leather. In the first place they don't need lining, or stiffening with sugar paper, and additionally can be embossed or stamped decoratively.



The inner pockets should be of a thinner leather but none the less of a certain stiffness. Leather so thin as to be stretchy is definitely not to be used. Pockets made using thin leather are also more resistant to wear if the edges are bound or turned.

If, however, a soft-feeling wallet is a particular requirement then any of the nappas (described on page [18](#)) and most any of the soft leathers, are fine for both the inner and outer parts, but of course all edges will need binding, or turning-over and stitching.

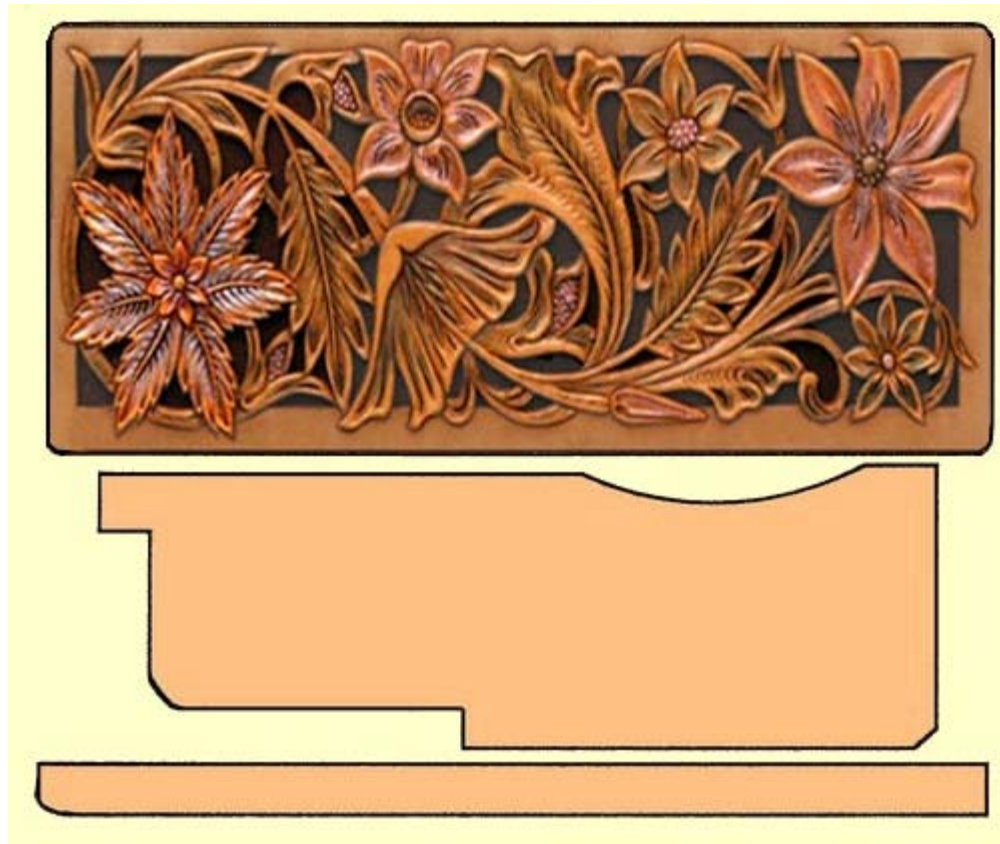


Any hardware such as press-studs or zips used for the closure of inner pockets must be put in before final assembly. Zips particularly are a very popular method of fastening and are easily inserted, it merely requires a slot to be cut into the leather the same length as the toothed section of the zip and the same width plus  $\frac{1}{4}$ ", it is then centred under the slot, glued into place, and the stitch holes marked around it and then sewn in using saddle or back-stitch.

Closures for a wallet are wide ranging indeed. Turn-locks, magnetic studs, press-studs, you name it. Some of us of course prefer leather fastenings such as a tongue and loop or strap and buckle, though many wallets require no fastenings at all and are simply folded shut and nothing else is necessary.

# Three-fold notecase

Following on from the previous page, as a first exercise in wallet making, here is a simple example of a three-fold notecase.



The top piece, the back, is  $9 \frac{3}{8}$ " x  $4 \frac{1}{4}$ " and is cut from 3 - 4 oz tooling leather, and an identically-sized piece is cut from 1 oz lining leather. The middle part, the three-fold pocket, is cut twice, one for the right and one for the left, using 2 oz lining leather. The bottom strip,  $9 \frac{1}{4}$ " x  $\frac{9}{16}$ ", also cut from 2 oz lining leather, is for folding over the top edge of the back.

All tooling, dyeing and finishing takes place before assembly, and you will need adhesive, sandpaper, dividers,  $\frac{3}{32}$ " multi-prong chisel,  $\frac{3}{32}$ " single-prong chisel and about 7 yards of  $\frac{3}{32}$ " leather thonging for the double-loop stitch which will finish the edge.

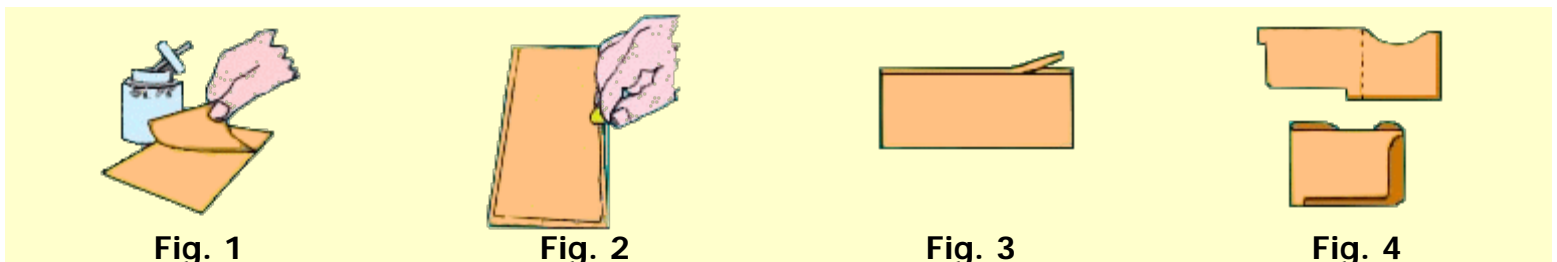


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 1, apply adhesive to the back side of lining and the flesh-side of the note-case back, stick lining to back and trim lining if it needs it. Fig. 2, rub around the edge of the lining with the sandpaper. Fig. 3, apply adhesive to the sanded edge of the lining and to the outside edges on the flesh-side of the top strip. Stick the top into place on the top edge of the lining to form the back assembly. Fig 4, apply adhesive along the back edges of the pockets as can be seen in the top picture. Fold the pockets over and stick the glued areas where they touch in the illustration in the bottom left and top right corners.



Fig. 5



Fig. 6



Fig. 7

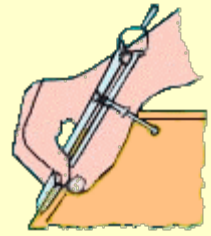
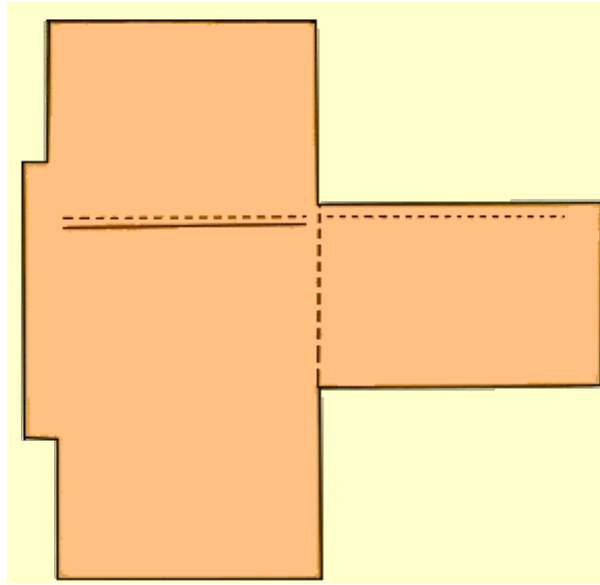


Fig. 8

Fig. 5, stick pockets into place on the lower corners of the back assembly as indicated. Fig. 6, apply adhesive to the back side of the bottom tab on the inside piece. Fig. 7, insert both ends of the inside piece into the pockets and stick the bottom tab of the inside piece to the back assembly. Fig. 8, on the outside of the back scribe a light guide line, using the dividers,  $\frac{1}{8}$ " from the edge and all the way around.

## Three-fold notecase - *continued*



The illustration above is the three-fold inside piece which gets cut from 2oz lining leather, with the fold and stitch lines indicated.

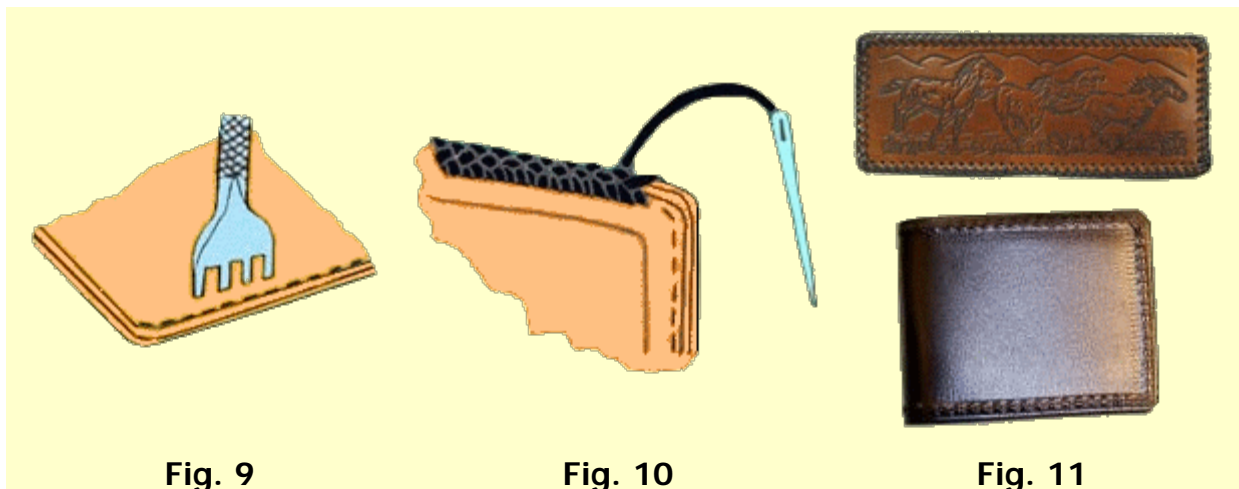


Fig. 9

Fig. 10

Fig. 11

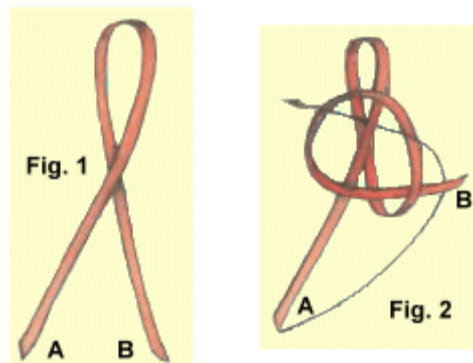
Fig. 9, for the double-loop thonging, punch holes with a  $\frac{3}{32}$ " multi-prong and similar single-prong, chisels being careful not to punch through the edges of the pockets. Fig. 10, thong around the edge using the double-loop stitch as shown elsewhere in these pages, and slide the window inserts into the slot in the inside piece. In Fig. 11, now that you have a choice of a decorated or plain finished article you can take the dog for a walk.

# How to make braided buttons

As we have so very recently been probing the secrets of mystery braiding it seems somewhat appropriate at this point to turn to the making of leather buttons. Once you have made your first one, of whatever size, the method is the same for all others.

The length of the thong required for making buttons depends upon the diameter and thickness of the button and the substance of the leather you are using. If you are using a light-coloured leather it is preferable to stain the edges of the strip before you begin braiding. For darker leathers the entire button may be stained after moulding. If the button you are to make is a 1" button then the length of the strip required is some 21" long and approximately  $\frac{3}{8}$ " wide.

Fold a strip over the forefinger of your left hand keeping the grain side uppermost. Call the front half A and the back half B (see illustration below, Fig 1). Next, twist B into a loop and place it over the top of A with the grain facing to the front (see illustration below, Fig 2). Using the principles of braiding of over-under-over-under the point of A is then passed under the end of B, over the right side of the loop, under A on your finger and over the left side of the loop as shown in the illustration in the direction of the arrow.



That part over the finger is called the shank and should not be lost in the knot, for a long shank is necessary for attaching the button in its intended position of use. The knot is then pulled up tightly into shape to form a round button (see illustration below, Fig 3). Tuck away the ends passing up under the two loops which hold the shank (as in illustration, Fig 4).

After pulling the button up very tightly you wet it and leave it to mellow. Cut the surplus ends off. The button can be moulded into shape using dies or by hand. It can be pressed into shape using a block of wood with an appropriately sized hole drilled into it. To get a good surface and shape considerable pressure is required. When it is completely dry finish it off with a coat of clear lacquer. That prevents the button from absorbing moisture.

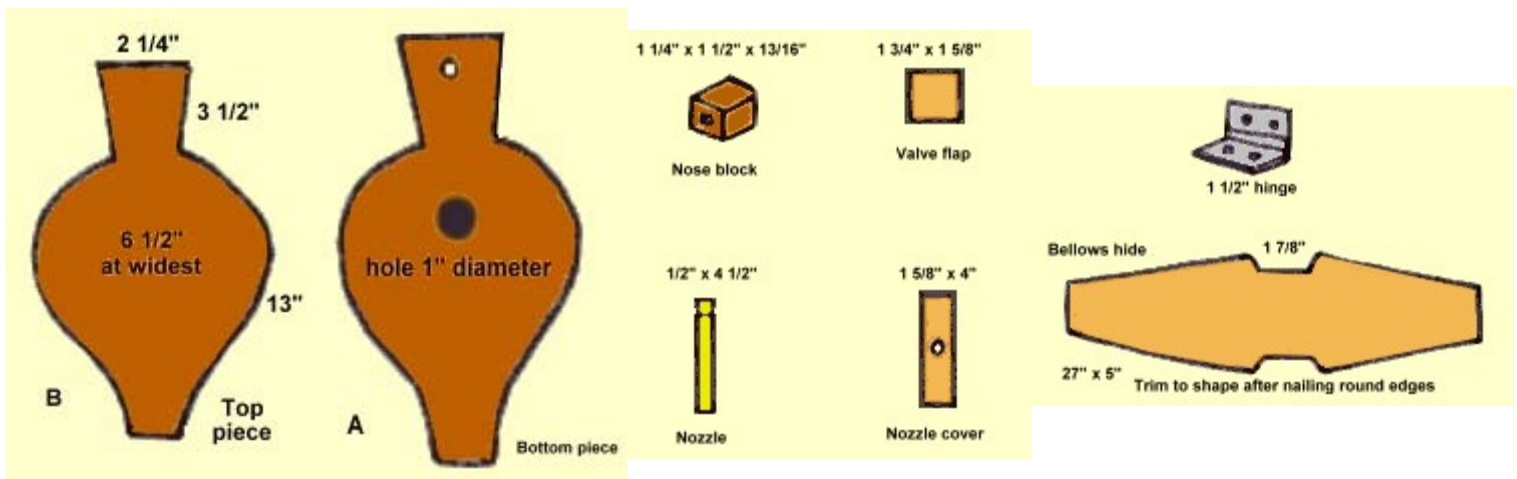


The shanks which are for attaching the button into its intended position are pared to a long bevel on both sides. The final method of attachment is your own choice depending on the material on which the button is to be used.

# Making a pair of bellows

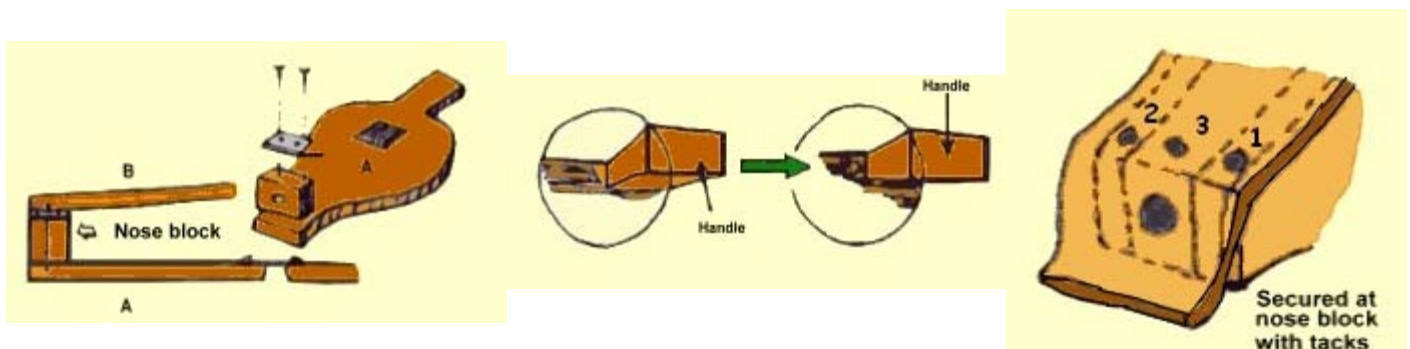
The illustrations below (plus, two ½" and two 1¼" wood screws, two drawing pins, a couple of dozen or so of ½" tacks, as many upholstery nails as required and about 15" of ⅛" square thong) show what is required to make a pair of bellows. This is what I use when I make them and the method of assembly is the one I follow. Believe me, they work!

After cutting out the usual shape the wood has to be finished before assembly (that is the surfaces that will be visible, namely the top face and bottom face plus the edges). I'd recommend a final light sanding and the application of two coats of French polish, followed by a rub down with a fine steel wool, then after wiping with a tack rag, well polished with a good wax furniture polish. Staining the wood before applying the French polish will give you a darker finish. You can if that is your preference, paint the wood.



1. Assembly begins by placing panel "A" on a flat surface with the finished side down. Fasten the valve-flap over the 1" valve hole with the drawing pins, towards the handle end, place the nose block on top of panel "A" with the hinge on top of the nose block (fulcrum outwards) and secure with the two 1 ½" wood screws, through the hinge, the block and into panel "A"; attach panel "B" to the hinge with the two ½" wood screws.

2. Stand the assembly on nose block with the panels slightly open and fit the hide around the handles.



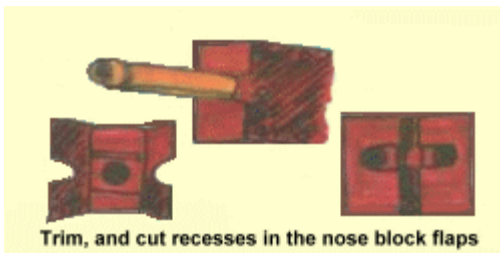
The ½" recesses, cut into the hide for the handles, are angled, but should be secured flush to the edge of the handles by pulling tight and tucking up to the handle edge (as in the illustration) in each of the four positions.

3. Place the bellows on the panel edges with the nose block away from you. Stretch the hide over the panel edges by pulling it beyond the nose block. The hide is then secured in the

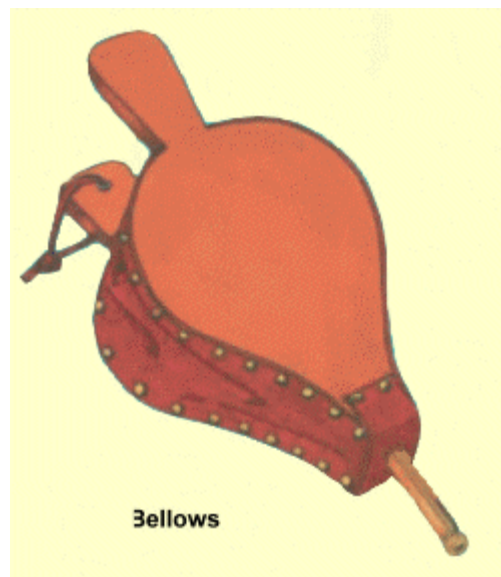
stretched position, at the nose block (as in illustration). However, before tacking, you should ensure that you are using as much hide as possible. The panels should be open almost as far as the hide between the handles will allow, but it should not at this point be stretched too tautly, as this could prevent sufficient coverage in other areas. You should have excess hide around the panel edges and extending beyond the nose block. Once secured in the stretched position, with three tacks at the nose block (as in illustration) the hide is tacked to the panel edges at 1" intervals.

## Making a pair of bellows - *continued*

- Using a very sharp knife trim the excess hide from the the panel edges leaving the flaps that extend beyond the nose block. A cleaner edge is obtained by cutting from the inner (suede) surface towards the outer, finished, surface.
- Brush glue, preferably Araldite, around the first ½" of the nozzle at the unturned end and press it home into the hole in the nose block.
- Trim, and cut recesses in the nose block flaps so that you can fold them around the nozzle and ensure you have a good seal.



- Fit the nozzle cover over the nozzle and tack down to each panel.
- Drive a tack through the hide into the back of each handle to ensure you have a good tight seal at this point. You should use shorter tacks for this.
- Last but not least, pull the thong through the hole in the handle of panel "A" and secure, and you should have ended up with a pair of bellows as in the illustration below.





# Making a pair of "Viking" ankle boots

Prior to being asked to make a pair of "Viking" boots I'd never contemplated making a pair of shoes or boots, Viking or otherwise. This was to be a first, and I was fortunate to come across various websites put together by experts which tell you all you'll need or ever want to know about footwear of that era. Thanks to that happy chance I decided with more confidence to proceed.

The type of shoe I was going to make was what is known as a turned shoe, with a centre seam in the upper and the sole extending up the heel. The sole was to be attached by sewing through the upper into the side of the sole so that the stitching was not in contact with the ground whilst walking. The fit was not expected to be perfect as the shoes could be stuffed with straw, felt or wool as the leather stretched or even just to keep the feet warm and dry. The fastening round the ankle would be achieved by extending the collar, which would have a slot through which a peg-type "button" sewn to the side of the upper would be inserted.

When you are looking at leather to buy for making shoes (and wherever I use the word "shoes" I also mean "boots") there are a limited number of characteristics that you will want to keep your eye on.

A hide that looks good on the shelf may not be good for footwear. Some examples include: stiff and dense leathers, such as those from the bend, that are really only good for a hard sole, while at a certain point, leather can be too thin for really durable shoes.

If the grain on the unfinished side of the leather seems to be peeling or shedding to any extent, then a shorter period of wear is implied. While an occasional hole in the middle of the hide may be all right, two or three weak or thin spots should suggest to you that the whole hide may be weak enough to just put it back on the shelf.

## Creating the pattern and fitting

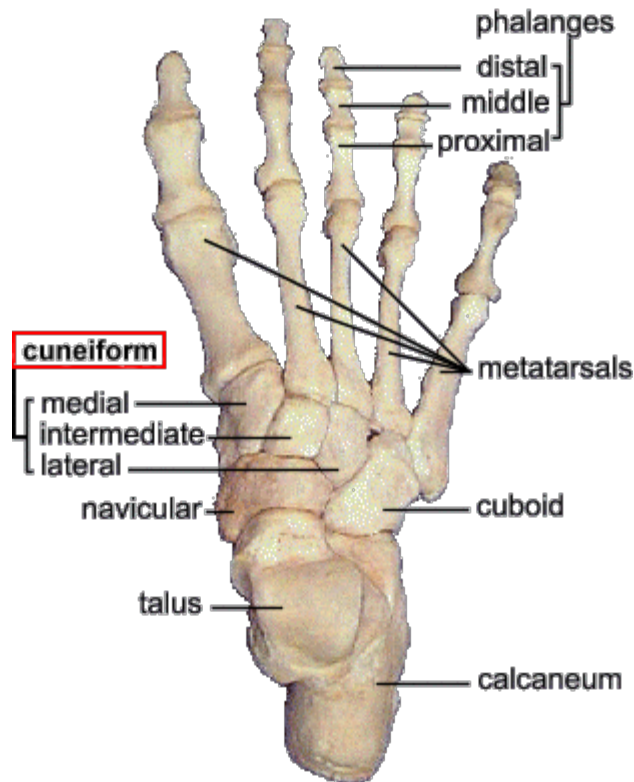
There is a delicate balancing point between making a simple container for the foot to rest in (a "static fit") and making a shoe that is too tight, and just letting the person who will be wearing the shoe take the responsibility of getting something that's "close". That is, after all, how most modern (and many medieval) shoes appear to be made. To make a pattern, you will at least need a pencil, a large piece of paper (newspaper will do), tape measure, scissors, and sticky tape.

This is not guaranteed to make footwear that will fit perfectly, but rather with some care on your part, you can make shoes that will fit and not be unbearable for the wearer.

Making a pattern for a shoe can be broken down into three basic steps. The first is measuring the foot, the second is transforming those measurements into an accurate representation of the foot, and the third is extending those measurements into an idea of what the shoe will look like.

The first and obvious thing to do is trace the shape of the foot on to your sheet of paper.

The areas to be measured are traditionally referred to as girths, though there is some disagreement as to what these measurements are meant to be. But it appears that as long as you are consistent in your measurements and transferring them to your patterns, it's not relevant if you don't use exactly the same system as someone else, or don't give them the same names. So then, the girths most often taken are at the joint or ball of the foot (that is the widest part), the waist (which is about an inch behind the joint), the highest point of the instep, where the bump of the middle cuneiform protrudes.



There is also a girth measurement behind this that is the highest point of the foot, where it merges with the shin, and this is important for ankle boots though not for shoes. These points may be measured around the foot, or from the "ground" where you drew your foot shape, that is straight down the side. Finally, measure around the ankle, and take the heel measurements.

As you are drawing out the design, you are going to need to add in some extra room in the toes and the heel. I can't give a definite amount, but anything from  $\frac{1}{2}$ " in the front to  $\frac{2}{3}$ " (round toed shoes)- $1\frac{1}{3}$ " (the last is for narrow toed boots); and  $\frac{1}{4}$ "- $\frac{3}{4}$ " in the heel. I'd start with the  $\frac{2}{3}$ " in the front and  $\frac{1}{4}$ " in the back, and work from that. Note that this is in front of all the toes, and any extra for poulaines will extend beyond that.



If you are using heavy leather, add  $\frac{1}{8}$ "- $\frac{1}{4}$ " to all dimensions, to give a little more flex room.

Sizes increase by the half inch (I don't know why, since in lengths are measured in thirds of an inch). This means that a pattern for a size eight shoe will be about a half inch bigger all around than that of a size seven. Note that this rule of thumb is unreliable beyond two or three sizes. The size shoe I made was a six.

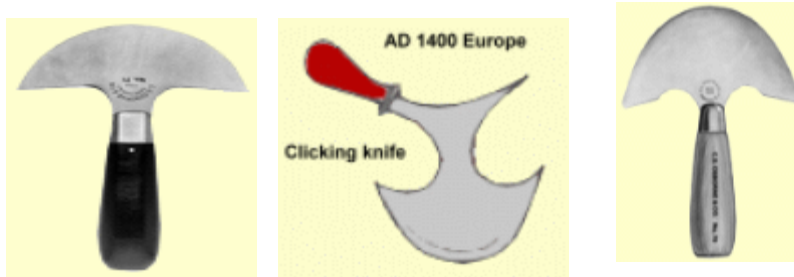
Cut out the pattern. At this point, it would be helpful to cut out a fitter's model of cheap leather (or non-stretching fabric) as a prototype, based on your pattern. This will give you the opportunity to adjust your pattern without needlessly ruining leather.

# Cutting out the pattern

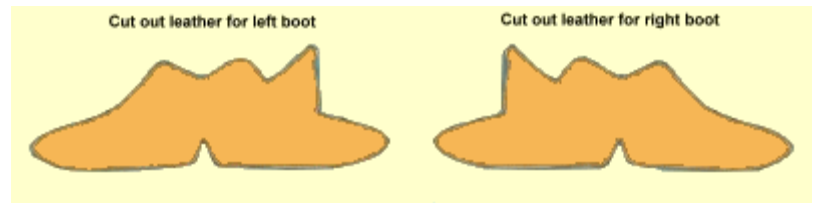
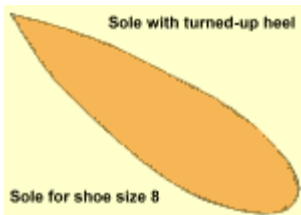
## Making a pair of "Viking" ankle boots - *continued*

This is also known as "clicking"

Lay your leather out onto a table top and trace the pattern onto it. Remember that ink marks can't be removed except by cutting them off, so marking should be done with a pencil, or a scratching awl. This was probably the purpose of the small spur on the back of the medieval shoemaker's knives.



To save leather, lay the pattern against the edges of the leather, with the pieces as close together as possible. Be sure to check the leather under the pattern for cuts, thin spots, or holes before tracing. When the design calls for a left and right pattern, be certain to turn the pattern over after tracing it on the leather (unless the right and left foot are grossly different in which case you definitely need to make separate patterns). For cutting out the leather uppers below, the feet were almost identical so no alteration to the pattern was required, just remember to turn the pattern over. Speaking from experience, I can't stress that enough, it's too late to remember when you've started to cut!



There are also different schools of thought regarding the tools that may be used to cut the leather; a sharp knife versus scissors or shears. Essentially this appears to boil down to the fact that a sharp knife cuts a single, controllable line, while scissors and shears tend to cut a line in an offset manner. The major difference is that using a knife is simply less work. Pictures of medieval shoemakers show them with knives, and with shears large enough to cut leather.

Draw the knife point by moving the heel of your hand. Keep your wrist stiff. If you keep the heel of your hand on the leather as you cut, it will help you keep the leather pinned to the work surface. Keep the blade straight as you pull the knife. If the angle of your cutting becomes uncomfortable, stop and pivot the leather, not your wrist. If you have to force the knife, it's not sharp enough. Strop it a few times to sharpen it, otherwise you risk losing control of the cut. Thick leathers, such as sole leather, may require two or more passes with the blade, and even soaking the leather before cutting. There is some debate regarding cutting leather on a bias or against the grain, or even using flank or belly leather.



**Note that the flap which crosses over the top of the foot in front of the ankle is strengthened by stitching an identically shaped piece on to its inner side, in addition to the collar which is used to strengthen that part of the upper around the ankle. In the illustration above this flap has not been fastened. A kidney-bean shaped toggle is made by rolling up a length of leather, and then slipping the tail of the leather back through the slot in the extended flap of the collar. The bindings for the trousers are optional and self explanatory, so try not to get into any swordfights.**

# Moccasins

The shoe known as the *moccasin* was essentially made from one piece of leather, which was the usual practice, long before shoes were made from two separate pieces, namely the soles and the uppers.

A single piece of hide or skin was pulled around the foot and served as the basic covering for many of the peoples of Europe, Africa, Asia and in the Americas.

In many parts of Europe, especially in the Balkans, this kind of footwear was known by the Serbian word for shoe, *opanke*, and were usually made by their wearers.



The word moccasin originated centuries ago in North America, being the Algonquin (Algonkian, a leading group of native American tribes in the valley of the Ottawa and around the northern tributaries of the St Lawrence) word for footwear with a soft bottom, or sole.

*Opankes* generally acquired soles of hardened leather but the moccasins of North America were soft-soled for such purposes as stealth in hunting, walking on snowshoes and kneeling in canoes.



The early Northern Plains moccasins with their soft soles were made in one piece and folded, with a side seam. The two-piece moccasins with stiff rawhide soles probably came into being with the advent of the horse, when people began to move greater distances over the Prairies, and everyone, men, women and children, wore the same style with only the size differing.

Tanned buffalo, elk, moose and deer hide were the leathers of choice with domestic cowhide moccasins being a sign of hardship and a scarcity of wild game.

Hides were either white or smoked, depending on their purpose, with everyday ones being plain, and decorated ones for special occasions including some with beaded decoration on the soles specifically intended to be seen when sitting cross-legged on the ground.

Dyed porcupine quills were used before the introduction of seed beads, with designs varying but including squares, diamonds, bars and stripes. Floral designs were the result of European influences, being done in bilaterally symmetrical forms using geometric shapes depicting non-realistic flowers.



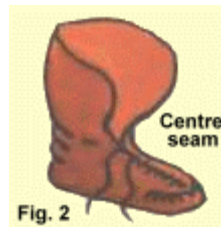
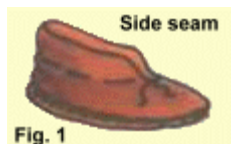
Red cloth obtained in trading would sometimes be used on cuffs and as fill-ins, and at the same time domestic cowhides were beginning to be used for making clothing and rawhide for hard soles.

**It was at the beginning of the twentieth century that lower-cut and ankle-boot type moccasins started to appear and by the twenties and thirties, became very popular.**

**Today the term "moccasin" also describes a popular style of leather shoe construction which may have an added separate hard sole not only of leather, but rubber or synthetic materials are often used.**

## Moccasins - continued

Now on to the actual making of a pair of moccasins, or at any rate the version that can be seen in the pattern, see Fig 4, though other designs are not greatly different, it includes a gathered toe, turndown flap, heel tab and thong tie.



Your choice of leather is not exactly critical - what you want is a piece with a degree of softness and a thickness of about  $\frac{1}{8}$ " -  $\frac{3}{16}$ ", for example a chrome-tanned cowhide, or thinner grain splits used double-thickness with the sueded side out.

A sole is necessary, unless you have exceptionally tough feet, and a thick tooling hide is all that is required, bearing in mind you are aiming for a finished sole thickness of  $\frac{3}{16}$ " -  $\frac{1}{4}$ "

### Making your pattern

The important measurements for you to take are from the heel to the toe (to be referred to as HT) and around the widest part of the foot, known as W, see Fig 3. HT will give you the sole length and W the final measurement of the toe at the widest point, see Fig 5.

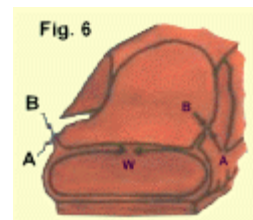
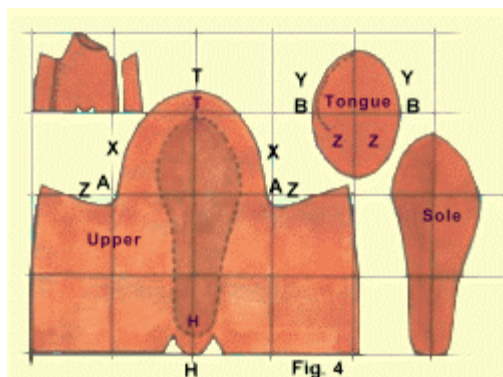
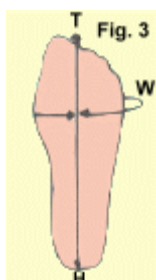


Figure 4 shows a pattern I have used myself, all the proportions are accurate and the squares will enable you to work out your own foot size. AA and BB combine to give W plus  $\frac{3}{16}$ " -  $\frac{1}{4}$ " which allows for seaming, which although giving a close fitting initially you'll find with wear is a good fit, as the finished moccasins do stretch. If you look at Fig 4 again the space between TT should be that between the tip of the sole and the base of your big toenail, about  $1\frac{1}{8}$ " in the average adult, while HH should be roughly  $\frac{3}{4}$ ".



To make a pattern to fit, trace around your foot on a large sheet of paper, stand with your weight on the foot you are tracing and measuring, holding the pencil as straight up and down as possible. Draw in the line HT then another line three fifths up HT crossing at 90°. The two A's lie along this line. Next, how wide at its widest do you want the tongue of the moccasin?

Usually between  $2\frac{1}{2}$ " -  $3\frac{1}{2}$ ". Take that from the  $W + \frac{3}{16}$ " -  $\frac{1}{4}$ " measurement and you get the exact AA distance. You should now be able to draw a pattern of similar proportions to the above.

Whilst the tongue is symmetrical the toe-piece of the upper is not, following as it does the line of the sole, generously on the instep side and round into the flap.

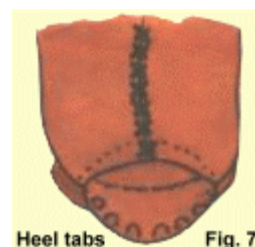
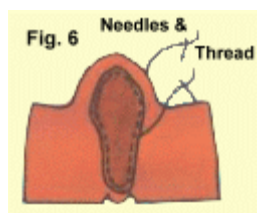
It will, as with the Viking shoes (pp 59 - 60), pay to have a trial run in a material other than leather if only because of the possible waste occurring otherwise. Also, when using single-thickness grain leather you have to overcome the problem of having flaps with the grain side visible. The way to do this is by cutting them separately and sewing them on to the rest of the upper as shown at the top left in Fig 4.



## Moccasins - continued

Make all the stitch holes while the leather is flat, it's a lot easier. You need one lot to attach the soles to the uppers, another for the back seams of the uppers and again to join the uppers to the tongues.

When attaching the soles to the uppers use the grain side on the bottom, burnish the edges and cut a groove all round about  $\frac{3}{16}$ " from the edge, to take the saddle stitching. Glue each sole to the underside of the upper it belongs to. Put evenly spaced stitch holes along the sole grooves through all thicknesses, then using waxed thread and harness needles, saddle stitch soles and uppers together as in Fig 6.

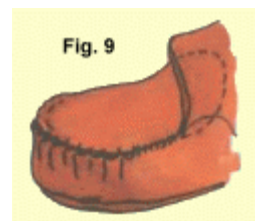
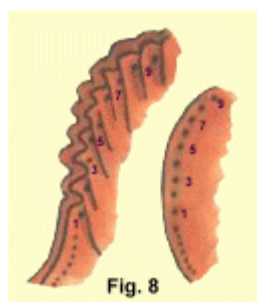


For the back seams butt the edges together using a cross-stitch. Then the heel tabs, Fig 7. Make the same number of stitch holes in the moccasin back and the heel tab. While saddle-stitching is a bit tricky here, make the effort, gathering the heel tab slightly so that it curls up to meet the back.



For the toe and tongue seam the best way of attaching the gathered part of the toe is to make about 18 triple sets of holes between XX and 18 single holes between YY. The toe is then gathered between XX leaving the middle hole of each set of three unthreaded.

When the gathering thread is pulled tight the unthreaded holes line up opposite the holes in the tongue preparatory to being oversewn. There are the same number of holes between XZ and YZ. Figure 8 shows what I'm talking about. Observe that the oversewing stops at AB and continues to Z as saddle-stitching as in Fig 9.

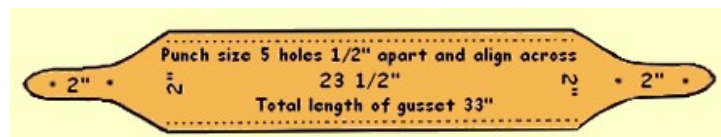


To hold the top of the moccasin around the foot thread lengths of thonging through the top of the turned down flaps, making the thong pliable first, and that the part of the thong appearing on the inside is kept to the shortest length possible to prevent them rubbing your ankle.

Decoration can be added using beading, braiding, fringes or whatever takes your fancy but my own preference is to leave them unadorned.

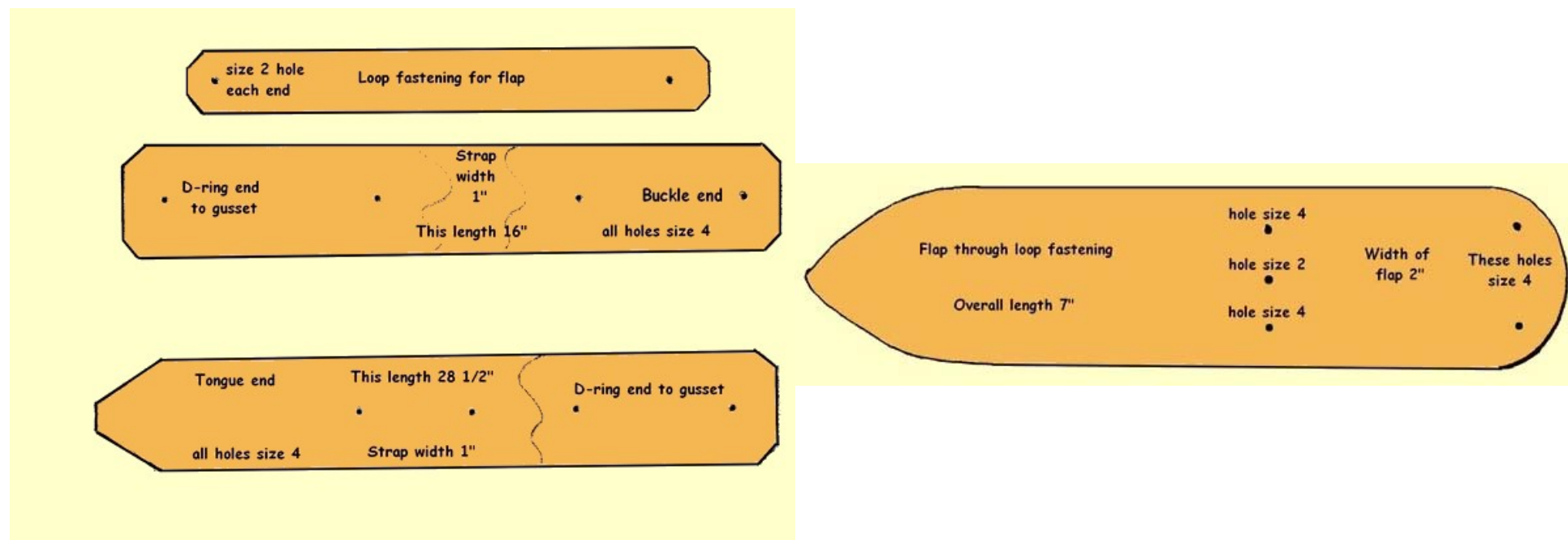
# Shoulder-strap handbag

This is a fairly basic design for a handbag, the pattern for which was based on customer requests, and my interpretation of them. The leather is vegetable-tanned tooling hide and is cut from a side 2.5 - 3 mm in thickness. All dyeing, hole-punching, carving and stamping was carried out after cutting-out and before any assembly. Which pieces are decorated, and how, is down to the individual craftsman, unless being made for someone who has stated the detail to be applied and to which parts, and if colour other than highlighter is to be used on the carving and so on. Following the drawings (as regards the shapes and the dimensions) I've made of the few pieces required, excluding only the two 36" lengths of roughly 1/4" square thongs for lacing the back and front to the gusset, you should have no problems following the assembly instructions that I've given. So first make your pattern.



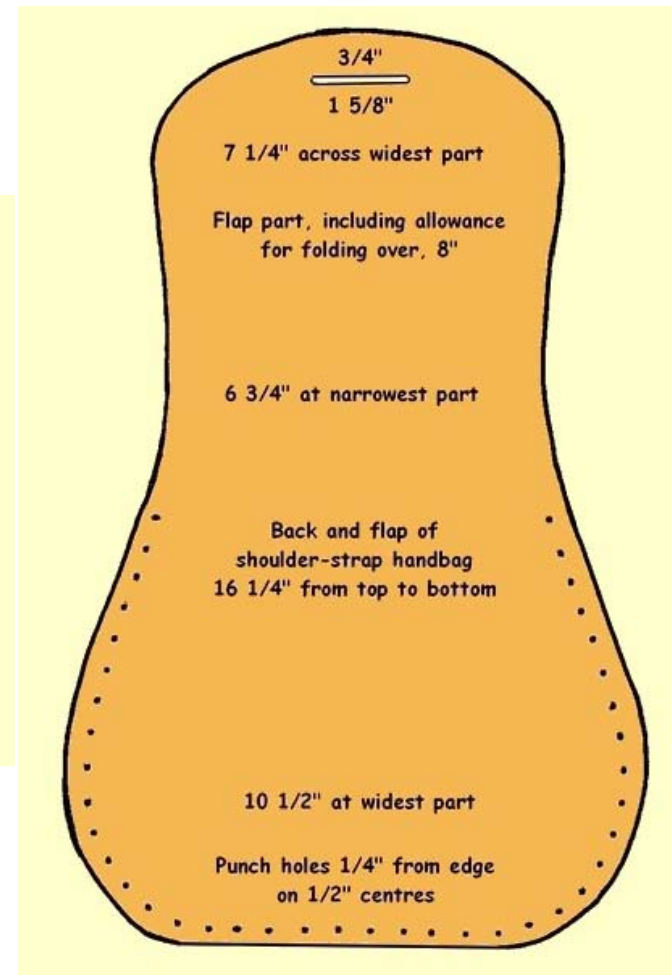
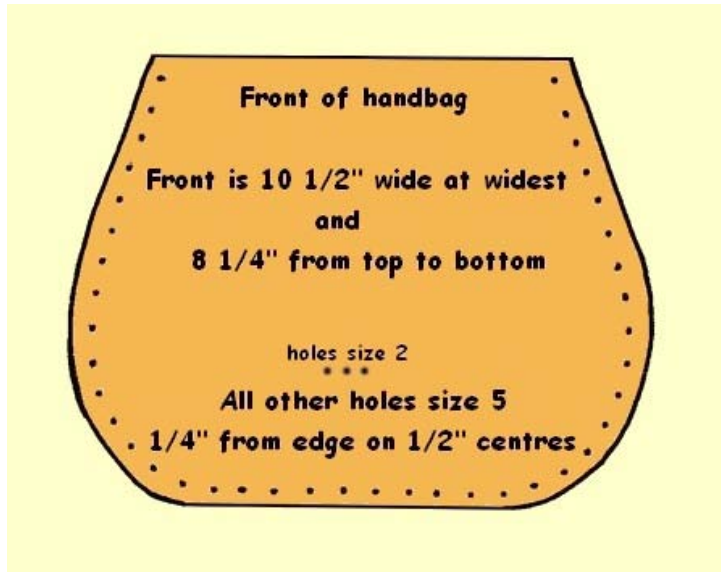
Using the pattern you've made from stiff card, scribe out if using the grain side, or pencil round it if the flesh side, all the pieces, including indicating where the holes for lacing will be punched out, then cut out with your clicker knife keeping the edges vertical. If edges are to be creased (that is a groove made) round the flap, shoulder-strap, and/or gusset ends, do this now. Then using the edging tool remove edges where finished edges will be visible i.e. flap and shoulder-strap as the minimum, but preferably all, and finish as you would for a belt edge. Next, if there is to be any, do all carving and stamping, avoiding unnecessary stretching of the leather.

You can now dye all pieces, grain side, the colour of your choice, with the flesh side, using a weaker mixture, being optional. When thoroughly dry punch all the holes and the fastening slot. My own preference then, at this stage, is to wax and polish all the pieces. Attach the buckle, preferably solid brass, to the end of the shorter shoulder-strap (with a keeper being optional). The pieces are now ready for assembly.



Take the piece marked "loop fastening for flap", skiving the ends if necessary, and join into a loop by overlapping the ends, fastening by use of a small rivet. Next, using the piece "flap through loop fastening" place it grain side down on the bag "front" with the pointed end at the top and matching its three holes with the corresponding three holes in the front. Put a rivet through the centre holes of both pieces from behind, put the cap on and using the appropriate rivet setter, hammer together. Slip the loop over the bottom end of the flap, bending up the flap so the join of the loop is on the inside and the two holes at the bottom end correspond with the two remaining holes in the centre. Rivet through from back of

bag front, and cap at front.



Place "D"-rings on ends of gusset and rivet over gusset ends. Put shoulder-strap ends through the "D"-rings attached to the gusset and rivet together, making sure the caps are on the outside of the straps, that is, are on the same side as the outside of the gusset.

The bag is now ready for lacing together, starting with the gusset and 'back' piece first, which I feel is the easier way of doing this. Take one of your 36" lengths of lace and tie a tight knot in one end then lightly wax the length with beeswax. Push it through the top hole in the 'back' piece from the inside, so that the knot ends up inside, then through the top hole on the inside of the gusset. Pull both pieces together. Thread it through the next hole of the gusset and back through the 'back' piece, carrying on in this manner, over and under, pulling the lace as tightly as you can until the other end is reached. I cannot emphasise enough that you must really pull the lace as tightly as possible. When you get to the other end tie another knot as firmly and as close to the last hole as you can. Repeat in the same manner to attach the front. Wax polish all over and the bag is finished.

**Hand Bag Pivot Closures:-** 5-part set made of solid brass. To attach you can use Double Hollow Rivets in brass with a 6,8 mm head, for example Article 604383.

The Pivot Pin is hammered on the backside, spreading the base . It secures the Pivot Pin firmly in the previously mounted frame plates sandwiching the leather in between.



**Magnetic Closure, Magnetic Snap:** - Made from iron with a constant magnet. To attach, the prongs are flattened with pliers. It is advisable to use an additional layer of leather to cover the mounting plate on the underside

# Leather care

Leather items can get dirty, wrinkled and maybe even stained. You may be wondering about preventative measures and may even be wondering what you should do to your new special leather item to preserve it. I also cover the cleaning of finished leather in some detail on page 15.

If you want it to stay looking just like it did when you took it out of the box ... put it back in the box. Whatever you do to leather will change its appearance in some way. This, as well as normal use, will make the item uniquely yours.

If leather stays dry it will give you years of use. What really destroys leather is mould growing on the leather. It feeds on the fibres. Eventually the leather goes dry and powdery, similar to dry rot in wood. Just putting on oil will not repair the leather.

Generally speaking people like leather because it is easy to care for. It is not, however, indestructible. In general, the more heavily finished a leather surface is, the more resistant it is to spills and stains. Untreated leather absorbs, and is easily stained, by oils. It can also be harmed by abrasive cleaners, and organic solvents. Soap and water is good for routine cleaning, but commercially available leather cleaners also work. The latter often contain lubricating materials which are intended to keep leather supple. Really dirty leather may require the use of a mild detergent solution but care should be taken, because some detergent solutions may not be pH balanced, containing compounds that could harm the leather. Always follow the manufacturer's cleaning instructions and test any cleaner on an inconspicuous area first. It is also a good idea to damp-wipe rather than soaking the leather with water.

Dirt can usually be wiped off leather and exotic-skin bags and personal accessories with a clean, barely moist cloth. Saddle soap is not recommended, as it may remove the natural oils. A leather cream used sparingly enriches and if it's a transparent cream, there's no danger of it rubbing off on clothes.

A brush raises the nap and removes dust from suede items. New suedes are subject to "crocking", which means suede dust may rub off on hands and clothes. Crocking can be minimized by rubbing any new suede bag or accessory vigorously with a terry towel.

If suede or leather gets wet or rain spotted, stuff it with tissue paper and let it dry at room temperature. After suede has dried, brushing it with a terry towel will restore its appearance.

**For spills:** Wipe up excess liquid immediately with a clean cloth or sponge. If necessary use clean lukewarm water and let the leather air-dry.

**For spots and stains:** Apply a mild, non-detergent soap solution with a clean, wet sponge. Rinse well and let air-dry. Especially stubborn dirt may require a detergent solution, but care should be taken.

**For butter, oil or grease:** Wipe excess butter, oil or grease off the leather with a clean, dry cloth, then leave it alone as the spot should dissipate into the leather in a short period of time. Do not apply water to try to wash a butter, oil or grease mark.

# Furniture

Do not place your furniture too near a radiator or similar source of heat. Make sure that there is a minimum of 20-30 cm between your furniture and your heat source.

Protect your leather furniture from direct sunlight.

Keep the leather pores free from dust particles.

With minimal care, your leather furniture can last decades. A monthly wiping with a warm and damp clean cloth will prevent your body oils and dust from creating a build up. As easy as it sounds, this maintenance is key to prolonging the life of your leather furniture.

## General leather care tips

- \* Always hang leather coats on wide, padded hangers. Use shoe-trees in shoes and boots. Stuff empty handbags with tissue-paper to retain their shape.
- \* Do not store leather goods in plastic bags or other non-porous coverings. If clothing must be stored in a garment bag, keep it open for ventilation.
- \* Allow wet or damp leather to air-dry naturally away from any source of heat. Apply a little conditioner when the leather is nearly dry, to restore flexibility. Follow this with a full conditioning treatment when the leather is completely dried.
- \* In winter promptly remove any salt deposits from shoes and boots by sponging with clear water; then follow with the treatment recommended above for wet or damp leather.
- \* To prevent mildew, protect leather from excessive humidity. In a dry environment, to prevent it from drying out and cracking, regularly condition it.
- \* Do not use waxes, silicon products or other leather preparations that impair the ability of the leather to "breathe"
- \* Never use caustic household chemicals to clean leather. Avoid leather preparations that contain alcohol or petroleum distillates, such as turpentine and mineral spirits.
- \* The use of mink oil or other animal fats will darken leather. Animal fat will turn rancid, causing the stitching and the leather to rot.

To retain its beauty and other qualities, leather requires frequent conditioning to replace the natural lubricants lost during normal use. With proper care, leather can be protected from excessive dryness that causes it to crack, and from moisture that may cause it to swell or mildew.

Because unprotected leather is susceptible to spotting from water and other liquids, a newly purchased leather item should be treated immediately to help prevent this from occurring.

The use of too much oil or wax however can clog the pores, causing the leather to lose its ability to allow air in and moisture out. For the best protection, I recommend Lexol, a light cleaner and conditioner that is highly effective, readily available, and very easy to use.

It cleans without stripping natural oils, conditions without clogging pores, and provides water resistance without sealing the leather surface. It prevents the leather from drying out and cracking, and protects against staining and the discolouration that can occur from contact with water, body oil and other soiling agents.

You can use Lexol for all smooth leather, and even delicate exotics such as eel and snakeskin.

Because it contains no petroleum distillates (e.g. turpentine or mineral spirits), it will not "pull" colour and is safe for even bright and light fashion tones.

Never use preparations made for smooth leather on suede or rough out leather.

# Tack cleaning and maintenance

The leather used for tack and saddles is a wonderful product. It can last for many years, with some care and maintenance. It has to be cleaned regularly and occasionally conditioned. This prevents mould, mildew, dry-out, and cracking which can make your tack fail and possibly injure horse or rider. Many barns/stables are damp, musty, and warm, making mould a great threat to leather. Mould is spread by airborne spores that attach themselves to sticky surfaces. It will spread. You must remember that leather is an organic, natural product, and can decompose. Mould feeds on organic residues, such as oil, sweat and saliva on the leather surface. It then breaks down the protein bonds between the fibres thus weakening the leather. If this happens it is irreversible and the item will need to be replaced. Another problem following a mould attack is mildew, which is recognisable by its odour.

Tack needs to be maintained religiously. Synthetic tack can be hosed down or put in the washing machine. It's lighter in weight, easy to care for, and less expensive than leather. Leather needs much more care. Inspect it carefully every time you clean it. Wash it every time you use it. Oil the leather parts several times a year.



[Leather softener](#) [Glycerine saddle soap](#) [Leather dressing](#) [Neatsfoot oil](#) [Saddle polish](#)

Until recently leather, and only leather, was used. But today, just about every piece of horse equipment available in leather is also offered in a synthetic material, including saddles, bridles, halters, and breast collars. But keep in mind that it is considered in poor taste at many horse shows to use synthetic tack.

All tack needs to be stored. You should buy a tack box, with compartments for all the stuff. Or you can keep your tack in the corner of the barn or in the horse trailer. Just be sure the place you choose is out of the elements.

Leather needs to be kept in breathable, warm, dry conditions, and never ever stored in plastic bags.

A tack room should be clean, dry, and have its door closed to avoid mould spores entering from any damp areas of the barn/stable. Avoid, if possible, having windows where entering sunlight can raise the temperature higher than is good for the leather.

If there is any cracking in leather it will only get deeper and deeper, eventually breaking, sooner rather than later. This can endanger both horse and rider. Preventative methods that keep your tack in good condition will avoid this.

## Leather care products

There are three categories of leather care products: soaps and cleaners, conditioners, and a combination of the two.

**Soaps and cleaners:** - Natural oils in new leather and those added to maintain strength and suppleness attract dirt, mould and mildew. Dirt works its way into the leather and abrades the fibres causing it to crack. A leather cleaner will remove both dirt and oils, but it has to be specifically for leather because of its organic composition.

Household cleaners will dry out and damage leather.

The chief purpose of a leather cleaner is to remove the salts, sweat and dirt accumulated from riding. Use neutral pH-balanced leather cleaner. A pH of 7 is considered to be neutral.

Lower than that it's acidic and higher still alkaline, so try to avoid using these levels and stick with neutral.

Saddle soap is one of the oldest and most basic of cleaners, having additives such as glycerine and moisturisers. It is also widely misunderstood and misused. It was originally used to carry oils and conditioning agents into leather during tanning. It was called soap because it was basically a fat liquor and it pushed the tanning agents into the leather. So it is mainly a conditioner, and not a cleaner, though rubbing it onto a saddle will remove surface dirt. So, when using saddle soap or any leather cleaner, make sure you rinse off all the residue and wipe dry before using any conditioner.

**Conditioners:** - These lubricate the fibres and help prevent cracking and splitting. Recently companies have come up with sophisticated conditioners as alternatives to the old standbys of Neatsfoot oil, mink oil, lanolin and other natural oils that can darken leather each time you use them. Though they are certainly the best for softening and preserving leather if not over-used. Synthetic conditioners such as Lexol are like a mayonnaise-type fat liquor as they bond with the fibres and are absorbed. They do not darken the leather or change its colour.

But Neatsfoot oil, mink oil and lanolin are best for softening and preserving leather if not over used. One thing to remember when conditioning is to not to overdo it.

"Neat" is an archaic name for hooved animals (i.e. cows, pigs, sheep). Neatsfoot oil is oil rendered from the feet of cattle or hooved animals. In the slaughterhouse, the feet would be cut off the animal, split, put into a large

vat and boiled. The oils that rose to the top would be skimmed off and sold as "Neatsfoot Oil." Today, thanks to the US military, there is no actual Neatsfoot oil in Neatsfoot Oil!

Back in the 1930s the US Army wrote a Military Specification that defined the properties of Neatsfoot Oil. Merchants bidding for government contracts quickly discovered other, less expensive, oils would meet their specification. Today, Neatsfoot Oil is any oil, regardless of where it comes from, that meets this US Government Military Specification. Neatsfoot Oil now is mostly derived from pigs. Lard is pressed and the resulting liquid, which can be supplemented with mineral oil and/or reclaimed motor oil, is sold as "Neatsfoot Oil."

More is not generally better, with conditioning. Think of your leather as a sponge, it can only absorb so much. Should you use too much conditioner and find it getting on your clothes just wash it off with leather cleaner. That will remove the excess. Leather needs to be cleaned more than conditioned.

**Combination products:-** There are many products on the market for leather care but you can't pick one out and say it's the best for all leathers. The two basic types of leather are vegetable-tanned and chrome-tanned. Vegetable-tanned is used mainly in Western saddles. Chrome-tanned more so for English saddles.

Once mould and mildew spores get into leather fibres, it is almost impossible to totally destroy them without destroying the leather too. Inhibiting their growth involves painstaking care using the right products. If mould and mildew invade your tack room, take these steps to limit its damage:  
Remove mouldy leather from the tack room and clean it out doors. You'll avoid filling the air in the tack room with mould spores that will simply contaminate other items within the confined space.

Have a supply of old rags that you're willing to throw away. Begin by wiping off any surface mould with a wet rag, capturing as much of the mould as you can in the process. Then throw the rag away. Don't rinse and re-use your rags. That only spreads the mould spores. Use an old toothbrush for cleaning lines of stitching and crevices.

Leather needs to be stored in breathable, warm, dry conditions, and never put in plastic bags.

A tack room should be clean and dry, with its door closed, to avoid mould spores entering from any damp areas of the building. Try to avoid having windows where entering sunlight can raise the temperature higher than is good for the leather.

Natural oils like Neatsfoot are good for vegetable-tanned leather but for chrome-tanned it is better to use Lexol.

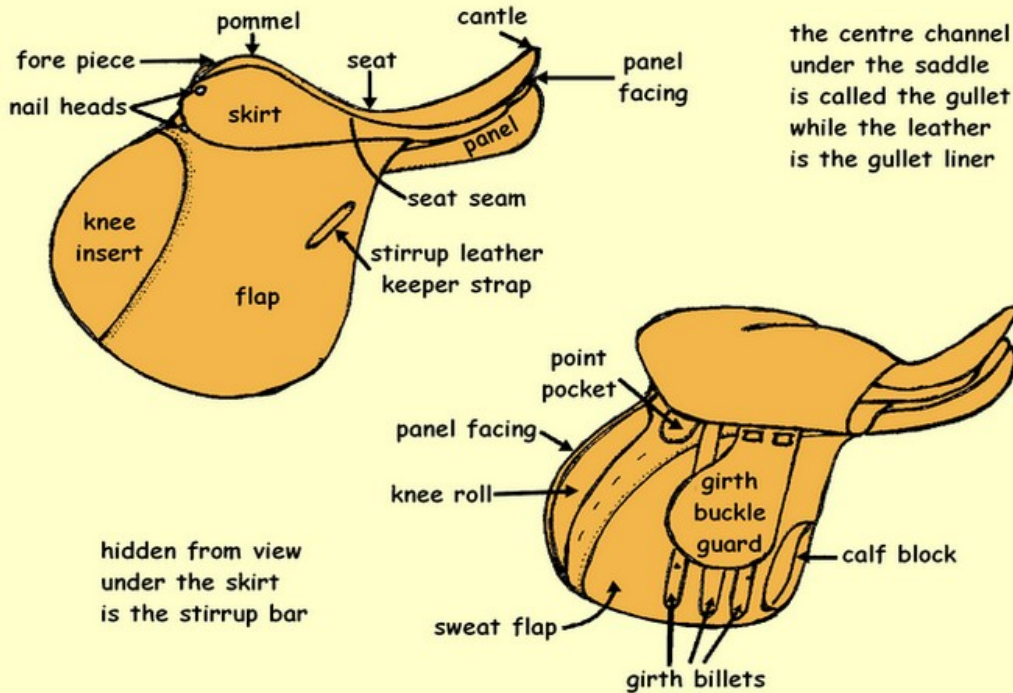


## Some general information

**Saddles:-** A saddle is a supportive structure for a rider or other load, fastened to an animal's back. The most common type is the equestrian saddle designed for a horse, but specialised saddles have been created for camels and other creatures. The earliest saddles were simple pads attached with a surcingle, with the saddle tree coming into use circa 200 BC, and paired stirrups by 322 AD. Saddles in the styles seen today date back to the 18th and 19th centuries. Today's modern saddle comes in a wide variety of styles, each designed for a specific equestrian discipline, requiring careful fitting to both rider and horse.



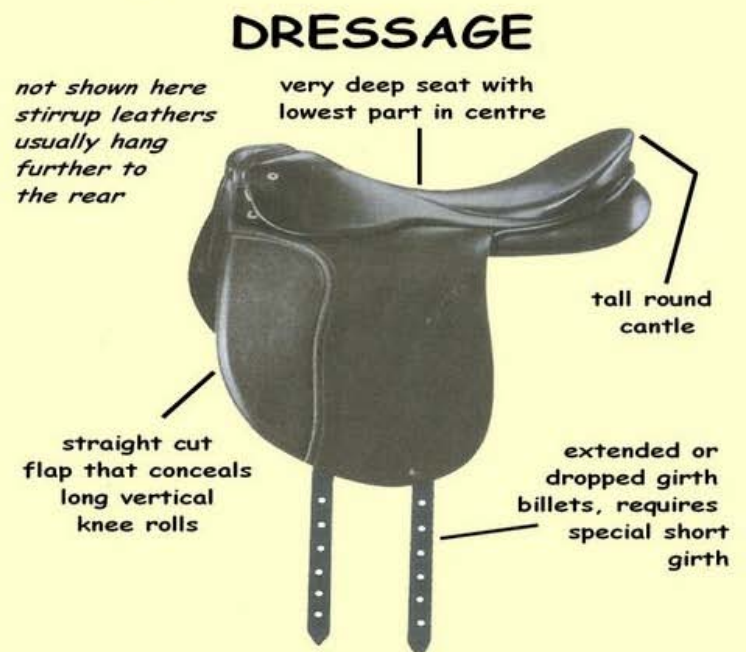
## Parts of an English saddle



Saddles come in a range of sizes from 16½" to 21 inches (in increments of ½") or in metric sizes from 42 to 53 centimetres, and are sometimes even smaller for ponies. It is not a quick process to find a saddle that fits your horse properly, but the hunt is worth it as a saddle that does not fit will bruise the horse's back and damage the muscles, sometimes irretrievably. Synthetic or second-hand saddles will be cheaper than new leather ones. Second-hand saddles have the advantage that they are already worn in, and the straps supple. It's sometimes best not to set your heart on a particular saddle, as you may find it will not fit your horse.

There will be a saddle out there somewhere that will both suit your horse and your style of riding. To get the perfect fit for you both, spending extra on this item of tack is definitely worth it, and will pay dividends in the end.

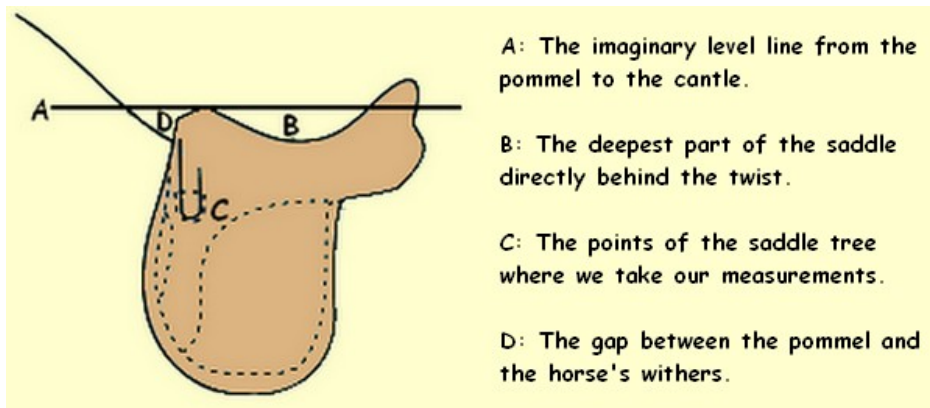
## Comparing two types of English saddle



As good and innovative as any design of saddle can be, one still has to correctly fit the saddle to a horse for a successful marriage of the two. A lot is asked from horses and it is your responsibility to use your best efforts seeing that you are not inflicting pain and suffering through badly fitting saddles. You can help to do this by making sure that every effort is made in obtaining the correct fit when purchasing a new saddle. There is so much written today about saddle fitting, nearly every magazine features an expert extolling the latest technology from computers to "gizmos" of every description. No wonder people are confused.

**Correct position of the saddle:-** It is important when taking the measurement of the horse's withers for fitting the saddle that it's taken in the correct position. Have the horse standing on a level surface. Place your present saddle over the horse's withers and press down gently. Slide it back a little until it comes to rest in a natural position just behind the shoulder blades. What you are trying to achieve is taking your measurement from about one to one and a half inches behind the front of the pommel. If you lift the outer saddle flap you will see the points of the saddle tree. These are made of wood reinforced with steel. You have to take your measurement directly under these "points".

**What is the correct fit?:-** What you are looking for is a saddle that sits level, with the rider in balance and not injuring the horse by being too narrow or too wide. Most injuries happen with saddles that are too narrow. The saddle needs to sit clear of the withers, ideally having a clearance of two to three fingers. If this is correct, you should be able to draw an imaginary level line from the top of the pommel through the middle of the cantle. The deepest part of the seat should be directly behind the "twist" of the saddle. Thus the rider is in the correct balanced position. If the saddle is level, this is naturally where the deepest part occurs. This is with the rider seated and the saddle girthed up correctly. The points of the saddle should lie down the flanks of the horse and not dig into the shoulders. The panels should be in contact the whole length of the horse's back so there is no bridging.



**Too narrow?:-** A too narrow saddle means the pommel will be too high at the front, throwing the rider's weight to the rear, putting weight and pressure through the loin area of the horse. The rider will also be unbalanced tipping forward in consequence. This in turn distributes the rider's weight only at the front and back of the saddle creating harmful pressure points in both of these areas.

**Too wide?:-** A saddle that is too wide is not so common an occurrence but nevertheless is to be avoided. If the pommel sits down lower than two fingers height from the withers, the saddle will more than likely be tipped forward out of balance. A saddle that is too low at the pommel will probably create damage to the horse's withers. More than likely you'll find there is a gap between the panels and the horse's back under the seat, so your weight is not distributed through the full length of the panels on to the horse's back.

Girths are a vital piece of tack, attaching the saddle to the horse and helping maintain its position. They are available in many shapes, types and sizes to suit a range of different saddles. Essentially, a girth should be broad and smooth, fitting comfortably around the horse's breast. Most general purpose saddles have three girth straps and it is correct to attach the girth to the first and third of these on each side. A correctly fastened girth should rest approximately one hand's width behind the horse's elbows.

**The Girth (English)/Cinches (Western):-** There are four main types of girths that can be used, most all still being used to the present day:  
• webbing • string • leather • nylon

Like wearing a belt with braces two webbing girths used to be used as a safety measure in case one broke, but since webbing girths tend to rot and are hard to keep clean, you don't see them often today.

Nylon is a good general-purpose girth and is easily cleaned.

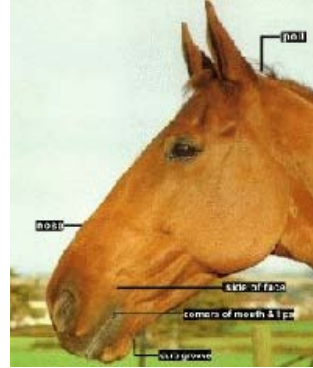
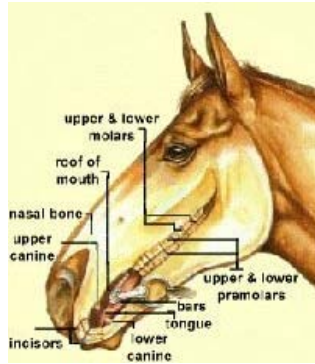
String girths also work pretty well and are most useful on a unclipped horse.

Leather girths of course are much preferred since they are strong. They are easy to clean with saddle soap, but do need oiling from time to time.

Many riders use a sheepskin or padded sleeve around the girth as extra protection against chafing or "girth galls".

**The Bridle:-** The entire headpiece, the headstall, bit, chin strap, and reins, is called the bridle.

The bridle enables a rider to control the horse by applying pressure to the corners of the mouth, the gum in front of the teeth (called the bars), or the front of the nose.



There are three main types of bridles:

- single
- double
- hackamore

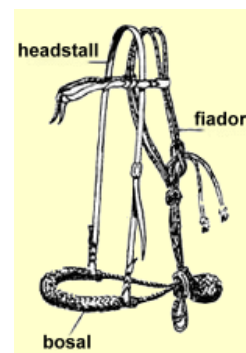
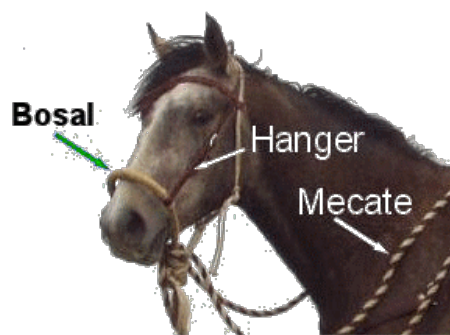
A hackamore bridle has no bit in the mouth, and just puts pressure on the nose, chin groove, and poll. It is used only by expert riders on problem horses, and is not intended for everyday riding. The hackamore is a combination of a rope halter, a lead rope and reins.

### Parts of a hackamore:-

As hackamores come from Spanish culture, the name probably was derived from the Spanish as the word "hackamore" is an Anglicized version of the Spanish word "jaquima" — which, in turn, was derived from the Moorish word al-hakma. The major parts are:

**Bosal (bo-sal).** This part around the horse's nose is most commonly made of braided rawhide, but it can be made of leather, horsehair or rope. Diameter of the bosal can vary from pencil size to broom handle size, and the bosal may vary in length and rigidity. A bosal may have a cable or rawhide core, but rawhide is preferred to make it pliable and fit closely to the horse's nose. Parts of the bosal are the nose button and cheek buttons, cheeks or shanks, and the heel knot.

**Mecate (meh-kah-teh).** This is a continuous horsehair rope that is wrapped around the cheeks of the bosal in a manner to provide both reins and lead line. Other types of rope are frequently substituted for the mecate but are used in the same manner.



**Fiador (fee-ah-door).** A fiador is a rope throat latch that usually consists of a doubled rope that is passed around the neck just behind the ears and is attached to the bosal at the heel knot. It helps keep the bosal at right angles to the face of the horse.

**Reins.** These are necessary when a mecate is not used. They may be made from various kinds of rope or leather. Most rope reins are braided and made from soft rope to assure a good grip by the rider.

**Headstall and browband.** These complete the hackamore and usually are made of leather, however, small ropes or cords are also used. The headstall should be adjusted to raise or lower the bosal on the horse's nose. Browbands are added to prevent the headstall from slipping back on the neck.

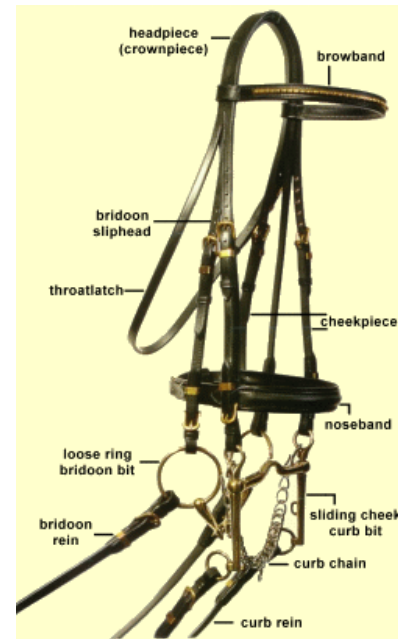
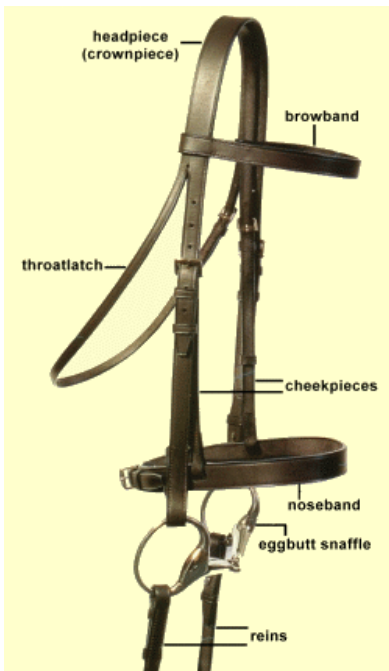
A horse cannot breathe through its mouth so careful use of gentle giving hands is a necessity with a hackamore.

**How to measure your horse for a halter/hackamore:-** Using a soft tape, measure from the line between the lips to the poll, passing between the eyes and ears. Then measure with the same tape around the nose where the band which holds the reins and lead rope is. One more measurement, all the way around from the poll under the throat latch and back to the poll. Along with these three measurements, include the height of your horse in hands or centimetres/inches (at the withers). These four lengths will help provide you with a well fitting halter. If your horse is mature and 16 hands (165 cm) or under, a standard halter will probably fit fine.



The illustration below, on the left, shows the parts of the snaffle bridle. The snaffle bridle is a basic bridle which is good for all types of riding. It is also the most appropriate one for horses in the early stages of training. The noseband is not essential. By changing the bit, or the noseband, the action of this bridle can be altered, so that you have more control over the horse and the way he carries his head.

The illustration below, on the right, indicates the parts of the double bridle. It is basically the same design as the snaffle bridle, although the addition of the bridoon sliphead means that two bits can be used along with two sets of reins. This bridle should only be fitted with one noseband, the basic cavesson, so that the action of the curb bit isn't interfered with.



The cavesson is the simplest design available. It's the only type of noseband to use with a double bridle. It can also be used with a standing martingale with little or no action, when fitted correctly, on the horse's head.

Only experienced riders should use a double bridle, which are used in showing and dressage, and can give a rider more precise control. They should not be used on a horse or pony until the animal is used to a bit and snaffle.

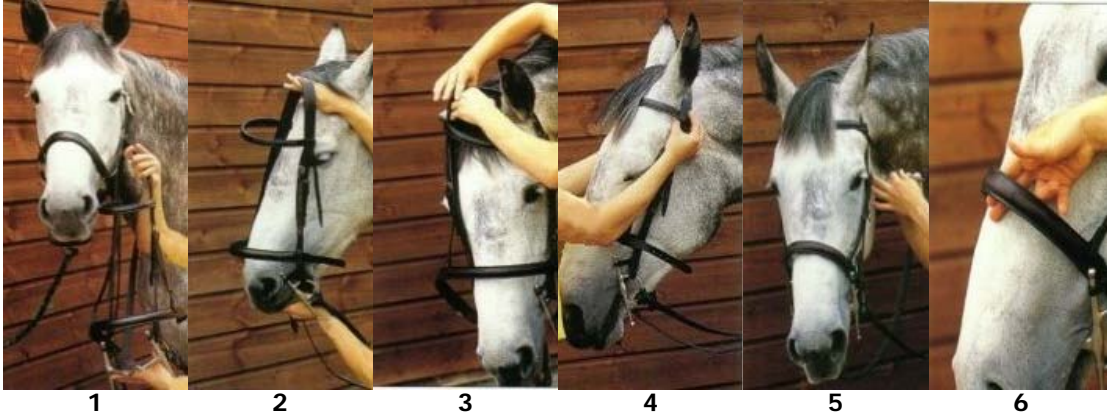


There are numerous varieties of Western bridles, and many very stylish ones. A Western bridle has the same parts except for a noseband and its reins are not attached.

## How put a bridle on a horse (see photos 1-6 below)

Horses need bridles, so that when you ride them, you can control them efficiently.

1. Stand on the near side of the horse, holding the crownpiece in your right hand. Place your other hand, holding the bit, under its muzzle.
2. Press your thumb against the bars of the horse's mouth to encourage him to open it.
3. Guide the bit into the horse's mouth. Draw the bridle up with the right hand using the left hand to guide the crownpiece over his ears.
4. Separate the mane from the headpiece and bring the forelock over the browband.
5. Fasten the throatlatch. It should be loose enough to flatly fit four fingers between it and the cheeks.
6. Fasten the noseband. It should be loose enough to allow you to flatly place two fingers underneath it.



## The Bit:-

The bit should fit snugly into the corners of the lips, normally making one wrinkle, but do check how it lies inside the horse's mouth. If you pull down lightly on the bit cheeks, then, between the mouthpiece and the corners of the lips, there should not be more than a  $\frac{1}{8}$ " gap. If the cheek pieces bow out, this is a sign that the bit is too low.

Check the width, ensuring the bit is both level and central in the horse's mouth, showing between  $\frac{1}{8}$ " and  $\frac{1}{4}$ " gap between the bit ring and the horse's lip on each side. (You may have to straighten the mouthpiece with a jointed bit by pulling the cheeks gently outwards to assess this properly.)

If the bit is too wide, it will slide from side to side in the mouth giving uneven pressure when engaged by the rider. An overly-wide jointed bit could hang too low in the mouth and interfere with the horse's incisors.

If the bit is too narrow, the cheeks will squash against the sides of the horse's face and lips, with subsequent rubbing or pinching.

Using a piece of smooth round wood, e.g. a wooden spoon handle or piece of dowling rod, and two rein stops (rubber bands can be used but are slightly less accurate) put it into your horse's mouth, so that it just lifts the corners of his lips into no more than 2 wrinkles, and push the rein stops up to touch his lips on either side. Now remove the wood, and measure the gap from the outside of the rein stops. This gives the correct bit size, including the right amount of clearance, for the bit. If you are between sizes (e.g.  $5\frac{1}{4}$ " ), choose the smaller of the two bits (e.g. 5")

Although forged steel is usually used bits can be made out of many different materials such as plated steel or nickel. Plated steel may chip, and the softer metals, such as nickel, seem to wear quickly and can cut the mouth. Rubber or vulcanite bits are softer than steel.

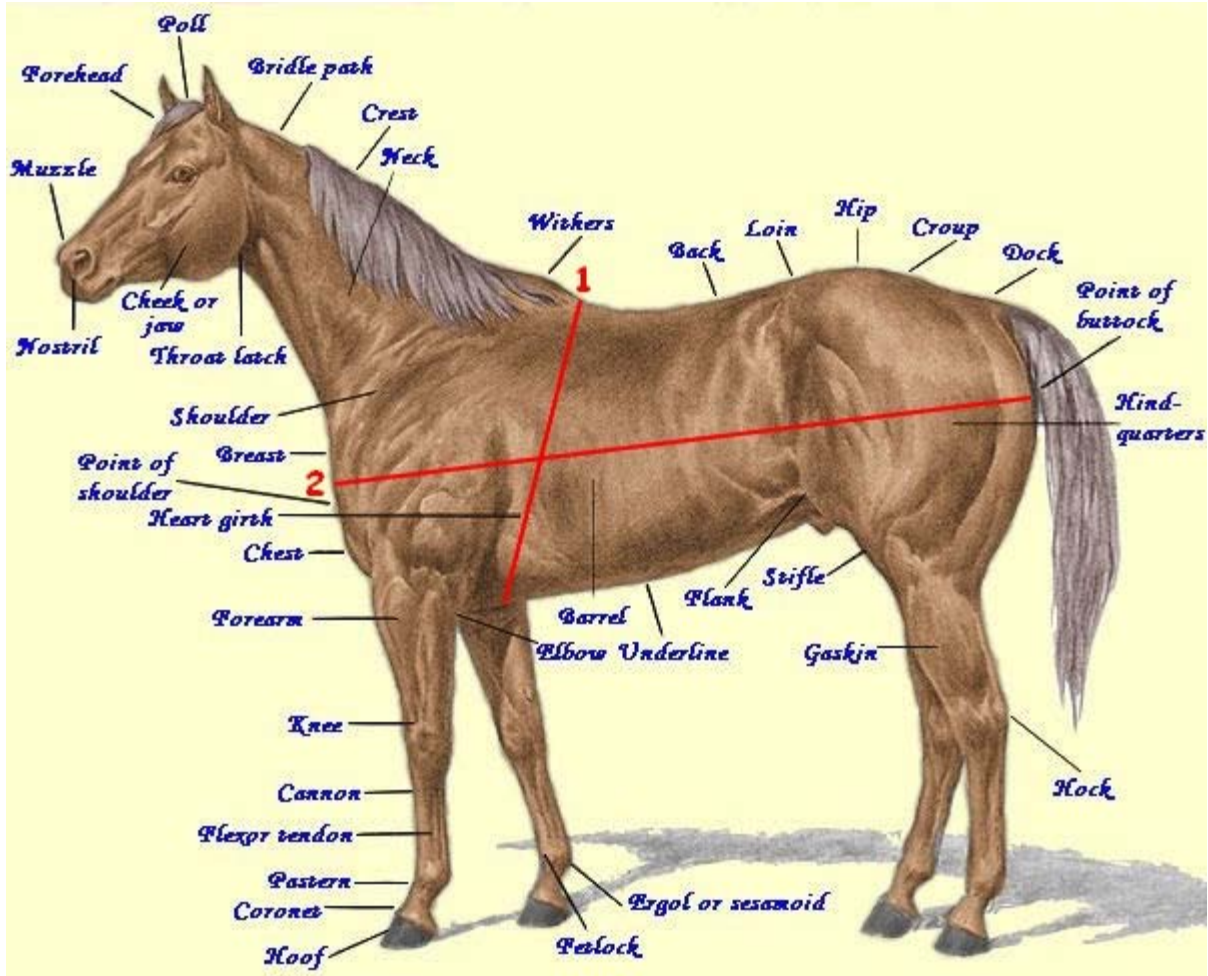
The snaffle is the most common type of bit and there are many varieties. Unless very fine control is needed most horses are ridden with a type of snaffle bit.

The usual snaffle is jointed with rings that exert leverage on the sides of the mouth. A egg-butt snaffle, with a hinged-ring fixed to the joint, is used to overcome the problem of pinching the corners of the mouth.

Some snaffles have straight bars, instead of joints, and can have many different thicknesses and shapes.



# Horse anatomy indicated externally



[Click on the part names](#)

**Back:-** The back extends from the base of the withers to where the last rib is attached. [Back to horse](#)

**Barrel:-** The barrel (chest, rib cage, ribs) should be narrower at the shoulders and wider at the point of coupling (loins). This area encloses the heart and lungs and a big barrel probably does mean a slightly larger heart and lung capacity in relation to size, but this is of no benefit to a performance horse unless all else is equal, including soundness of limbs. A good girth means a horse is well rounded and deep through the barrel, so will take a large girth. [Back to horse](#)

**Breast:-** The breast is a well-muscled area below the neck and between the front legs, covering the front of the chest, which is a good site for intramuscular injections. [Back to horse](#)

**Bridle path:-** The 4" to 6" area between the forelock and the mane that is usually clipped. [Back to horse](#)

**Cannon:-** The cannon bone lies between the knee and fetlock joint, and is visible from the front of the leg. It should be straight. [Back to horse](#)

**Cheek or Jaw:-** The cheek reflects the flat slab of the lower jaw-bone beneath. Just up and

underneath the angle of the jaw against the inner surface is where you feel a horse's pulse. [Back to horse](#)

**Chest:-** An ideal chest is deep and contains the space necessary for the vital organs. A narrow chest can lead to interference with the front legs. Chest muscles should be well developed and form an inverted "V". The prominence of chest muscling depends on the breed. [Back to horse](#)

**Coronet:-** The coronet is the band around the top of the hoof from which the hoof wall grows. [Back to horse](#)

**Crest:-** Moderately lean in mares but inclined to be more full in stallions. Curved top-line of the neck. [Back to horse](#)

**Croup:-** The croup (rump) lies between the loin and the tail. When one is looking from the side or back it is the highest point of the hindquarters. The part of a quadruped that corresponds to the human buttocks. [Back to horse](#)

**Dock:-** The solid bony part of the tail of an animal as distinguished from the hair. [Back to horse](#)

**Elbow:-** The elbow is a bony prominence lying against the chest at the beginning of the forearm. [Back to horse](#)

**Ergot:-** The horny excrescence just at the fetlock joint, from which the fetlock itself depends. Some-times applied to the castors or chestnuts higher up the leg. Castors— just above the knees and below the hocks. Also called chestnuts (the chestnut, also known as a night-eye) and sometimes ergots. [Back to horse](#)

**Fetlock:-** The fetlock is the joint between the cannon bone and the pastern. The fetlock joint should be large and clean. [Back to horse](#)

**Flank:-** The flank is the area below the loin, between the last rib and the massive muscles of the thigh. The side between ribs and hipbone. A soft part of the abdomen which has no bony protection underneath, so is very vulnerable to penetration injury. A serious stake wound in this area can result in the release of abdominal contents [Back to horse](#)

**Flexor Tendons:-** The flexor tendons run from the knee to the fetlock and can be seen prominently lying behind the cannon bone, when it runs parallel to the cannon bone it constitutes the desired "flat bone". [Back to horse](#)

**Forearm:-** The forearm should be well muscled, extending from the elbow to the knee. [Back to horse](#)

**Forehead:-** The space between the horse's eyes, extending from the top of the head at the ears down to the top of the horse's nose. The forehead should be broad, full and flat. [Back to horse](#)

**Gaskin:-** The gaskin is the region between the stifle and the hock. [Back to horse](#)

**Girth:-** This is the point at which horses should be measured to determine the heart girth, which can be used to determine the horse's weight. Knowing your horse's weight allows you to accurately monitor overall health, feed rations and correct doses of medication when needed. A simple and reasonably accurate method to determine your horse's weight is by use

of a height/weight tape measure: **1.** Measure around the girth making sure the horse is breathing out when doing so. **2.** Measure the body length from the point of the shoulder to the point of the rump. You can use the formula below to calculate the weight, or enter your measurements in the boxes and have it done for you. [Back to horse](#)

$$\text{Girth kg} = \frac{\text{Girth}^2 \times \text{Length}}{11880}$$

Enter your measurements in the boxes below

Measurements can be in: inches or centimetres

Girth:

Length:

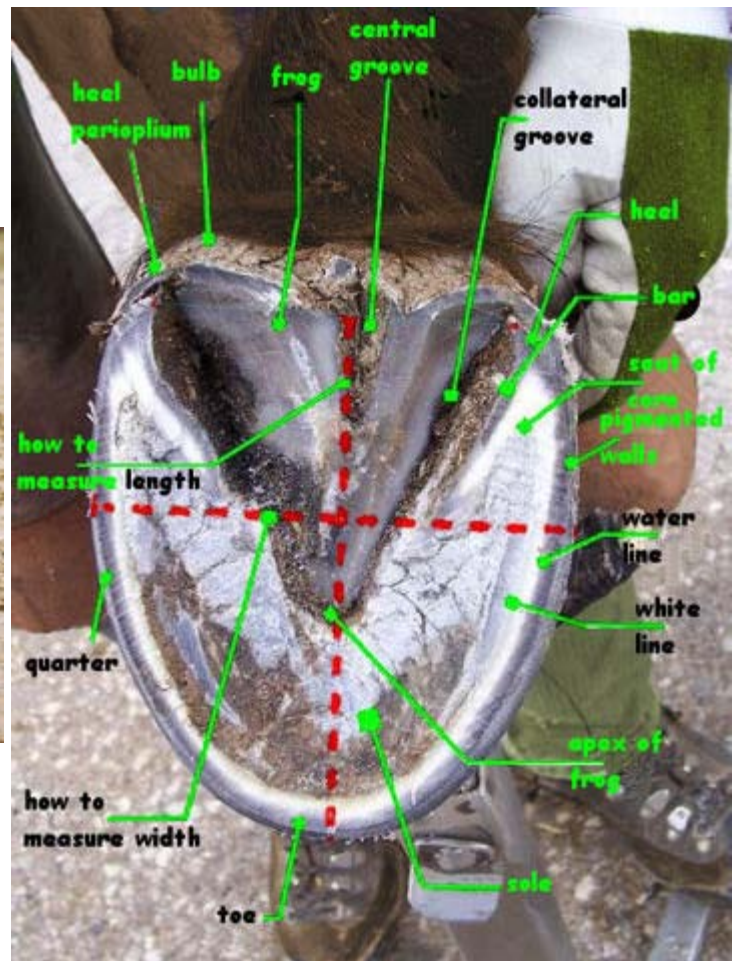
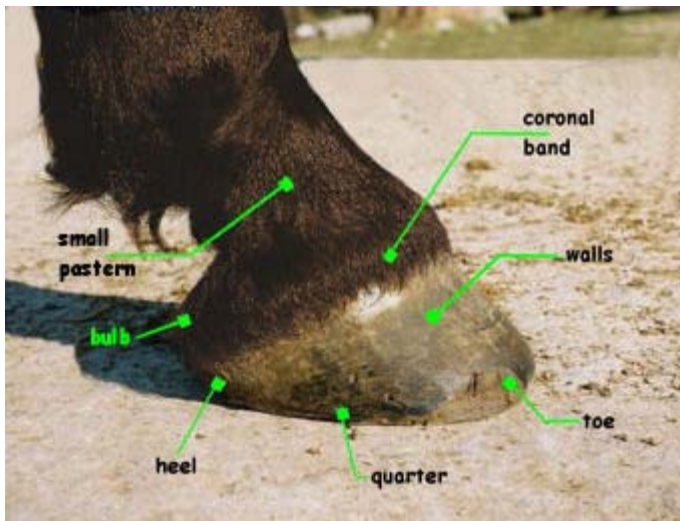
**Hindquarters:-** The hindquarters give power to the horse. They should be well-muscled when viewed from the side and rear. [Back to horse](#)

**Hip:-** The "hip" is judged from the point of the hip to the point of the buttock. Technically, the hip is part of the pelvis, but the term "hip" is commonly understood to mean this angle. The hip should be long to provide a long stride in the hind legs. The three pelvic bones – the ilium, ischium and pubis – are all fused and form a ring on the left and right sides, joined in the middle by an immovable joint called a symphysis. The tops of the left and right ilial wings are called the tubera sacrale, and form the most prominent region of the hindquarters, the so-called jumper's bump. The ilia are curved bones that, at their widest point, form the so-called hipbones. This is a misnomer, because the real hip joint is positioned much further back, and their correct name is the tubera coxae. [Back to horse](#)

**Hock:-** The hock is the joint between the gaskin and the cannon bone, in the rear leg. The backward-bending joint on the hind-legs, formed by the junction of the shank, or cannon bone, and the bone of the upper leg, or tibia. The bony protuberance at the back of the hock is called the point of hock. [Back to horse](#)

**Hoof:-** The hoof refers to the horny wall and the sole of the foot. The foot includes the horny structure and the pedal bones and navicular bones, as well as other connective tissue. [Back to horse](#)





**Knee:-** The knee is the joint between the forearm and the cannon bone. [Back to horse](#)

**Loin:-** The loin or coupling is the short area joining the back to the powerful muscular croup (rump). [Back to horse](#)

**Muzzle:-** The head should taper to a small muzzle, the lips should be firm and the lower lip should not have a tendency to sag. [Back to horse](#)

**Neck:-** Lightweight horses should have reasonably long necks for good appearance and proper balance. It should blend smoothly into the withers and the shoulders and not appear to emerge between the front legs. [Back to horse](#)

**Nostrils:-** The nostrils should be capable of wide dilation to permit the maximum inhalation of air, yet be rather fine. The nostrils are a part of the horse's nose. It smells with them. The horse's nostrils are very tender and soft, and must be cleaned regularly. This can be done with a damp soft sponge. Wipe gently inside the horse's nostrils to clean out any debris. Smell also enables the horse to detect undesirable items in its food. It is also important in social interactions, when horse greet friends or identify strangers by touching muzzle to muzzle. [Back to horse](#)

**Pastern:-** The pastern extends from the fetlock to the top of the hoof. [Back to horse](#)

**Point of Buttock:-** When viewed from the rear, both sides of the hindquarters together are called the quarters. Buttock can be synonymous with quarter, or it may just mean the most rearward part of the quarter. Generally, the thigh is the part immediately above the gaskin. Haunch is another word sometimes used to describe the whole hindquarter area. [Back to](#)

horse

**Point of Shoulder:-** The point of shoulder is a hard, bony prominence, surrounded by heavy muscle mass. [Back to horse](#)

**Poll:-** The poll is the bony prominence lying between the ears. Except for the ears, it is the highest point on the horse's body when it is standing with its head up. [Back to horse](#)

**Sesamoid:-** The two small bones that lie at the back of the fetlock joint are called the sesamoid bones. These bones play an important role as part of the suspensory apparatus supporting the fetlock joint. This apparatus also includes ligaments that lie at the back of the cannon bone and pastern. The suspensory apparatus acts like a sling on to which the fetlock joint sits and, as a result, much of the weight of the horse. This system allows the horse to bear weight without having to use much muscle effort. [Back to horse](#)

**Shoulder:-** Shoulders should be overlain with lean flat muscle, and blend well into the withers. [Back to horse](#)

**Stifle:-** The stifle is the joint at the end of the thigh corresponding to the human knee. [Back to horse](#)

**Throat Latch:-** The neck should be fine at the throat latch to allow the horse ease of flexure. [Back to horse](#)

**Underline:-** The belly. [Back to horse](#)

**Withers:-** The withers is the prominent ridge where the neck and the back join. At the withers, powerful muscles of the neck and shoulders attach to the elongated spines of the second to sixth thoracic vertebrae. The height of a horse is measured vertically from the withers to the ground, because the withers is the horse's highest constant point. The highest point of the withers is used in measuring the horse's height in "hands". Hand — unit of measurement (one hand = 4") of the height of a horse, taken from the bottom of the front hoof to the top of the withers.

# How to make a sewn shoulder-bag

This is a comparatively simple item to make if you follow the Figures and instructions given below.

One of the better leathers to use to make this bag is a faux exotic such as a crocodile or alligator embossed skin, in brown or black, though a plain vegetable-tanned tooling leather, which can be decorated or left plain, is equally desirable, because of the superb finish you can achieve on the edges. You can also dye the tooling leather any colour you wish.

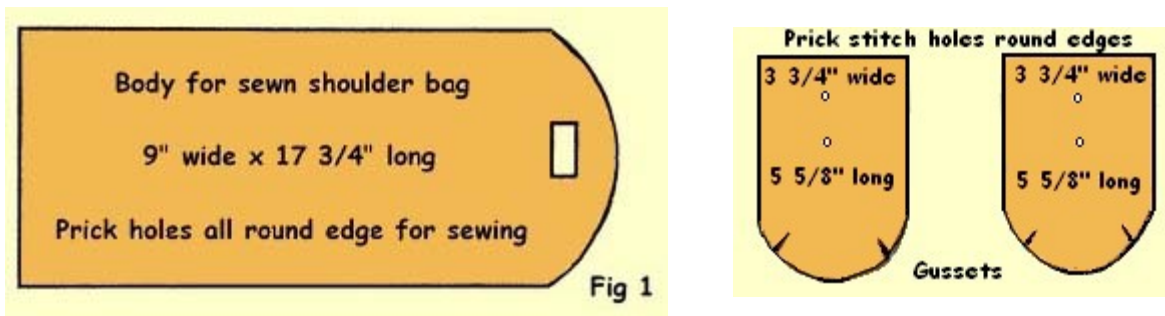
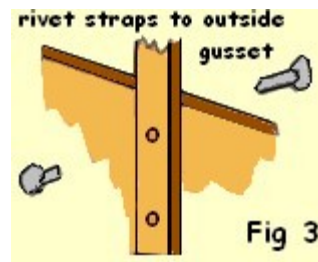
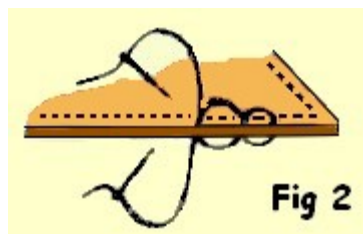
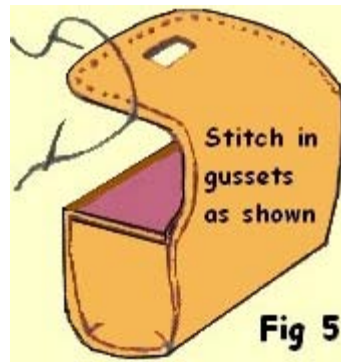
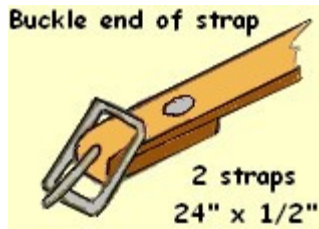


Figure 1 above shows the shape and dimensions for the body of the shoulder-bag, along with the two gussets, also with dimensions. You can alter the size of the body, either increasing or decreasing them, but working out the new shape and measurements for the gussets can be fiddly, the length for the straps is easier.



The method for stitching is shown in Figure 2. Thread your needle then pull it through the first hole until you get to the centre of the thread, then put another needle on the other end, and continue to sew as illustrated, first one, then the other needle, through the same hole.

Allow 2 1/2" of each strap for rivetting it to its gusset, with two holes 1" apart, punched through both strap and gusset beginning 1" down from the gusset top edge, see Figure 3. Push through the rivets fastening them together from either side of the gusset, ensuring the cap is on the outside, then using the appropriate tool and anvil, (see page 31a) tap gently together using either a rawhide or polyethylene mallet. The straps themselves are of equal length, one having the buckle, the type that you've chosen deciding the slot size cut for its prong, allowing 1 1/2" to 2" turnover to insert the rivet fastening. The other strap is the tongue, which has its end rounded accordingly, with five holes punched 1" apart, starting 1 1/2" from the end.



In Figure 4 above you see how to rivet on the appropriate buckle of your choice, first establishing which shoulder the bag is to be carried over. The ideal is for the buckle to be facing to the front, so that determines which strap end it is fastened to. Stitch round the gussets as shown in Figure 5, continuing round the flap and finishing at the centre front. You can of course punch holes for thonging (lacing) instead of for sewing, in a manner of your choosing. The final result will be equally pleasing.

Fix the clasp (turnbuckle) in the cut-out you have made in the body, suited to its size, only then, by folding over the flap to establish their position, can you cut the slits in the bag front, for its back fastening.



finished bag - closed



finished bag - open

That's it, except for your choice of a wax polish or a Super Sheen finish for its surface.

# The Turk's-head knot

The origin of the Turk's-head knot\* is buried in history. Leonardo da Vinci (1452-1519) drew them, and Ashley, Clifford W., 1944, in pp. 227-228, *The Ashley Book of Knots*. Doubleday, Division of Bantam Doubleday Dell Publishing Group, Inc. New York, New York, says:

"There is no knot with a wider field of usefulness. A Turk's-Head is generally found on the 'up-and-down' spoke of a ship's steering wheel, so that a glance will tell if the helm is amidship. It provides a foothold on footropes and a handhold on manropes, yoke ropes, gymnasium climbing ropes, guardrails, and lifelines. It serves instead of whipping and seizing. It is employed as a gathering hoop on ditty bags, neckerchiefs and bridle reins. Tied in rattan, black whalebone or stiff fishing line, it makes a useful napkin ring, and it is often worn by racing crews in 'one-design classes' as a bracelet or anklet. It will cover loose ends in sinnets and splices. It furnishes a handgrip on fishing rods, archery bows, and vaulting poles. It will stiffen sprung vaulting poles, fishing rods, spars and paddles. On a pole or rope it will raise a bole big enough to prevent a hitch in another rope from slipping. On edged tools it makes an excellent hand guard, and on oars and canoe paddles, a dip guard. It is found employed decoratively on whips, telescopes, hatbands, leashes, quirts, and harness; on wicker chairs and basketry; on bell ropes and tassels. Old chest becketts, bell ropes and yolk ropes are resplendent with them."

\* Note the use of the Turk's Head knot on the handle of the whip in the video below. (Bernie Wojcicki has been a full time whip maker for 35 years, of kangaroo hide bullwhips and snake whips, from three feet to infinity, from eight plait to 64 plait, signal whips, quirts and Australian stock whips. All his whips are hand crafted to order and none are kept in stock. He specializes in custom work.)

A Turk's-head is made up of one length of string, rope, leather or any other suitable material, and is formed by bights and leads.

## How to tie a Turks-head knot

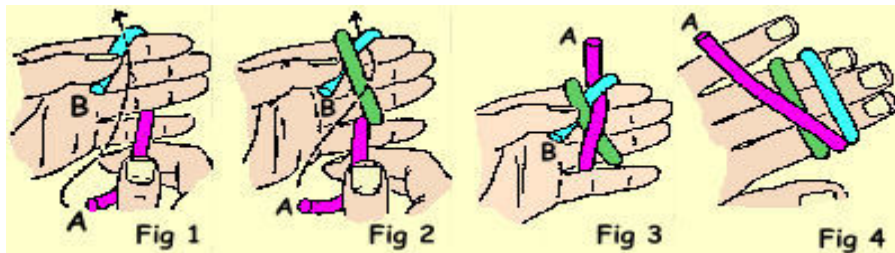
Rope is generally over 25mm in diameter, but sometimes material of considerably lesser diameter is called rope. Usually those under 25mm in diameter but greater than 3mm is cord. Twine is usually between 1mm and 3mm in diameter and threads and yarn are all less than 2mm. Knots is the term applied generally to the manipulation of rope, cord, yarn or leather into simple or intricate designs. The results, depending on the type of knot, can be for specific purposes or used as decoration. Tangles, snarls and kinks are terms used when a mess occurs.

## How to tie the Turk's-head knot

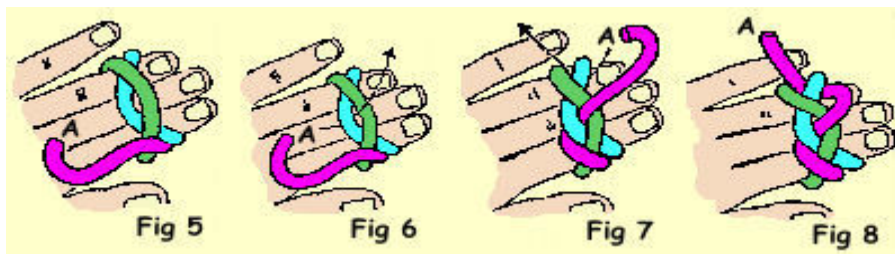
Follow the illustrations and explanation of the colours, in conjunction with the text, and you'll find tying the Turk's-head knot couldn't be easier.

The green is to indicate the stationary end (B) or to indicate the first wrap, the aqua is to indicate a previous wrap, and the fuchsia is the working end (A) or final wrap.

Place the braid around three fingers of the left hand, palm up (Fig 1). The working-end of the braid is fuchsia (A), the stationary end is aqua (B). Bring the working-end over the stationary aqua end and around the back of the hand (Fig 2). Thread the working-end over first wrap and under aqua (Figs 2-3). Turn left hand over, palm down (Fig 4).



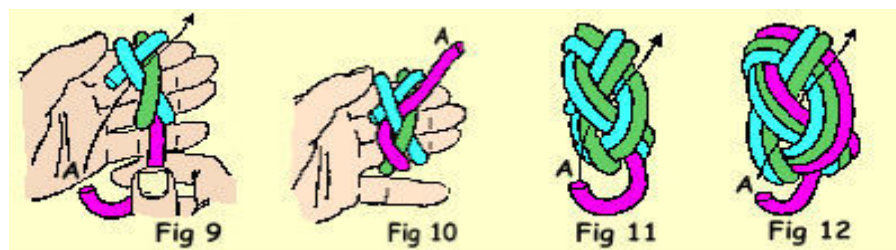
Pull the second aqua wrap over the first aqua wrap (Fig 5). Hold the aqua wrap in position by placing the forefinger of the left hand between the aqua and aqua wraps. Thread end A under aqua and up through the criss-cross loop thus formed by aqua and aqua (Fig 6). Thread end A over aqua and under aqua again (Figs 7-8).



Turn your left hand over, palm up (Fig 9), then bring end A alongside, and parallel to, stationary end B, by threading the strand over aqua, under aqua and over aqua again (Figs 9-10).

The start of the second wrap is as indicated in Fig 10. Lay the working end on the right-hand side as you follow the green strand around the knot.

The Turk's-head is formed by following this strand, B, around three times, that is, until there are three braided strands parallel to each other all around it (Figs 10, 11, 12). It may be necessary to go back around the knot and take in any slack.

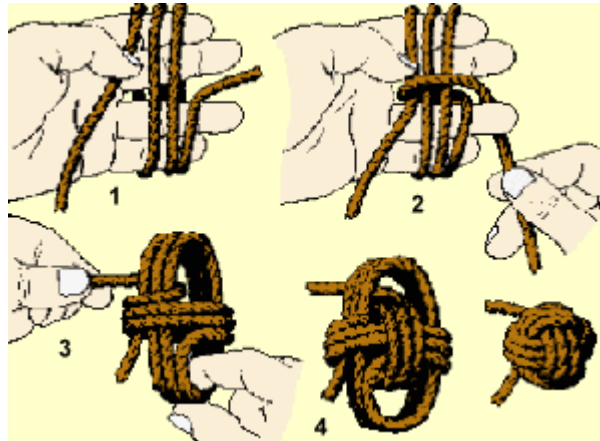


The beginning of the third time around is shown in Fig 11. Fig 12 indicates end A near the completion of its third time around. It is important to adjust it so that it will be neat, as well as the right size. Then, too, it will be necessary to remove it from your fingers as you thread end A around for second and third time.

It ends at the same point at which you began, (B). Slide both ends underneath a convenient strand on the inside of the Turk's-head knot and trim.

## The easy method

Clearly no need exists for a detailed explanation of how to tie this particular knot below, as the illustration is, to say the very least, self-explanatory, and you are using cord or lace.



# How to tie the Monkey's Fist knot

The Monkey's Fist is used as an end knot for a heaving line, a line used for throwing from one position to another. This enables a larger line that could *not* be thrown over the distance, to be pulled over. The most common use of a heaving line is at sea, to pull a cable to shore from a ship. A cable is not easily thrown over a distance of 30 ft or more, so you throw your heaving line; as the line is tied to the cable, when it is received, the cable can be pulled over.

To make it easier to throw you need to fix a weight to the end of the line – usually a stone, lead-weight or a small bag of sand. Better still, a small rope ball is tied on the end. It is neat, it will survive many throws, last a long time, and is easy to throw. That is what the monkey's fist was *originally* used for. Now it is used as fancy knot for key-rings, necklaces and so on.

The knot can be made with or without a central core (a round stone or round lead weight) to add extra weight, using extra loops if the size of the object merits it, or simply make a small monkey's knot at one end of your rope and use it as the core inside a larger one made at the other end (see explanation below).

## A. First Monkey's Fist

This fist was done using  $\frac{3}{8}$ " rope. The end product uses approximately 11½', but 15' of rope will be needed to make one fist using this method (that is to say, for two fists, you will need approximately 28'). For those who know how to do the knot in reverse, using less rope is possible, but this unorthodox method is not discussed here.

What you will need:

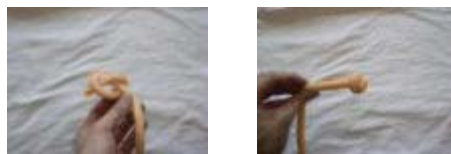
- \* Rope,  $\frac{3}{8}$ " thick, 28' in length.
- \* Steel Wire Cable,  $\frac{1}{16}$ " thick, 2' in length.
- \* Cable Sleeves
- \* Cutter
- \* Sleeve crimping tool

You could, should you wish, make use of:

- \* PVA adhesive
- \* Kevlar sewing thread
- \* Scissors
- \* Needle

Optional preparation: make marks at 2', 3', 11', and 12'. Fist One should take approximately 2½' and you should reach between 11' and 12' at the end of the first fist.

1. Knot the end of the rope in a simple knot. This will become the core of the first fist.



2. Begin making your 2-bight monkey's fist knot.





3. At the end, shown here, take your knot and insert it into the core of the fist.



4. Carry on and tighten your fist.



## B. Securing Attachment



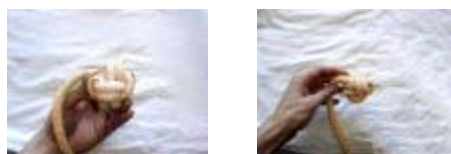
5. Take your cable, slide on a cable sleeve to create a loop of at least  $\frac{3}{4}$ " , then crimp it.



6. Insert the wire into Fist One, as shown. The positioning is important, as you will be see later. Use a tool (e.g., bodkin/awl) to loosen the bights, if necessary.



7. Loosen the same loops on the opposite side of the fist. Slide one cable sleeve onto each end of the wire before inserting the wire under these bights.



8. Pull the ends tight, with pliers if necessary, and crimp. Cut off the wire ends being careful

not to damage any load-bearing cable. End result:



## C. Second Monkey's Fist

9. Begin the 4-bight monkey's fist construction at the opposite end of your rope from Fist One. You will need to make your loops fairly large so that the knot will be able to fit inside later on.



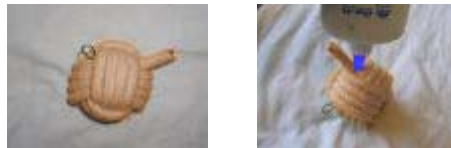
10. At the end, insert Fist One into the core of Fist Two. Make sure that the wire loop comes out the same end as the loose piece of rope. That is why it mattered where you put the loop as referred to in stage B6.



11. Tighten Fist Two, adjusting the core to make sure the loop stays where you want it. The following should be the result of your endeavours:



12. Tuck the loose end (shown short here simply to get it in the picture) under a set of loops (straight across also works fine). You may find you need to wedge your bodkin/awl underneath to create room. If you wish to use glue, squeeze some into the junction between the three sets of loops.



13. Trim the rope wick, tuck it into the junction (see the notes on termination below), and glue on top.



Here it is at last! If this is only the first you've made then it's time to repeat the process.

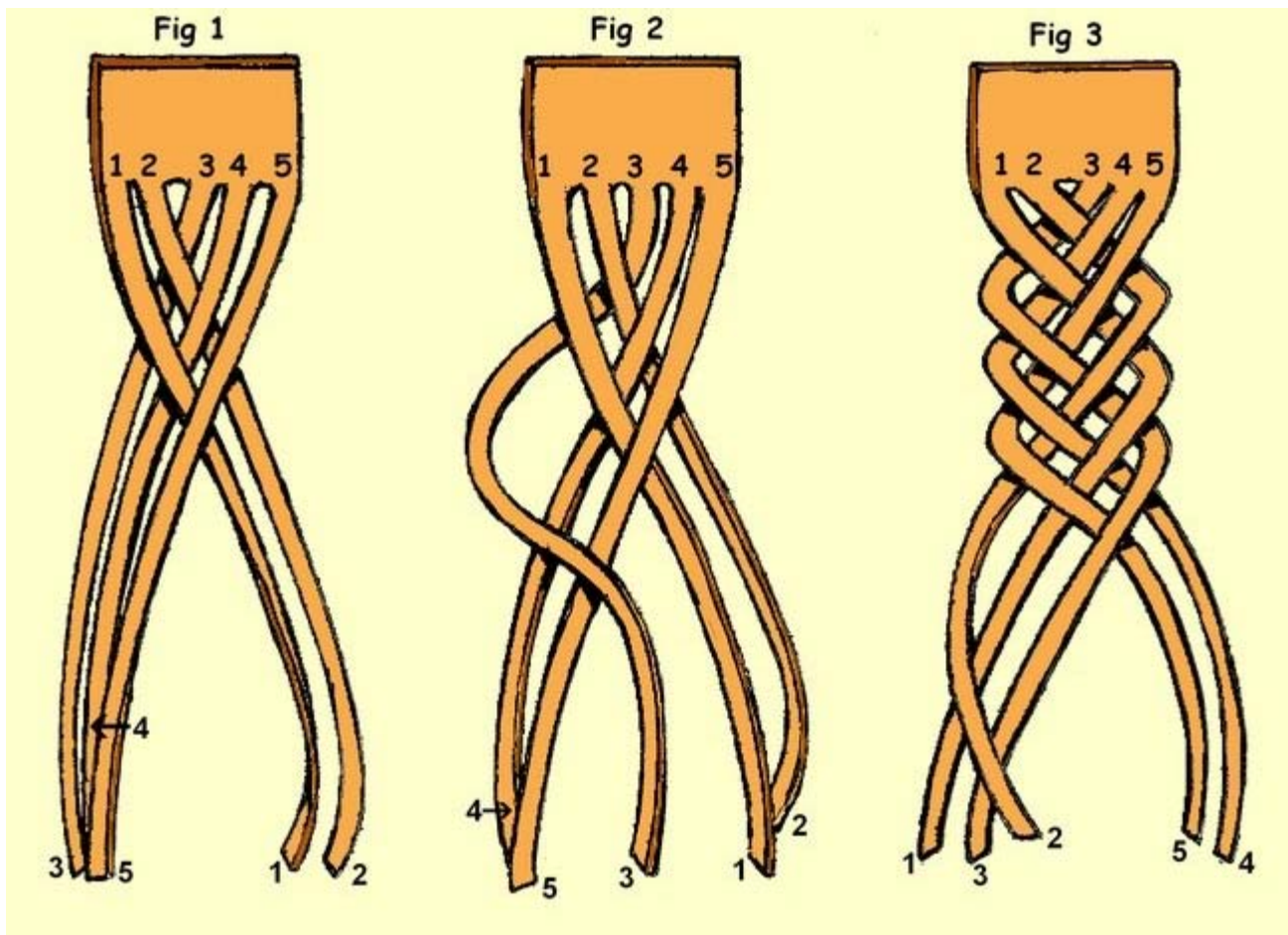


**Termination:-** Observe that using this method conveniently takes care of one end of the rope, as it is used in the core you never have to worry about ending it. However there is the remaining end to deal with. If you don't plan to use the remaining rope for attaching your chain, cut the rope, leaving a length long enough to be tucked in "all the way". That is, the stub in this case, should be the same length as the four widths of rope. Tuck this length under one of the series of bights available to you.

# Five-lace flat braiding

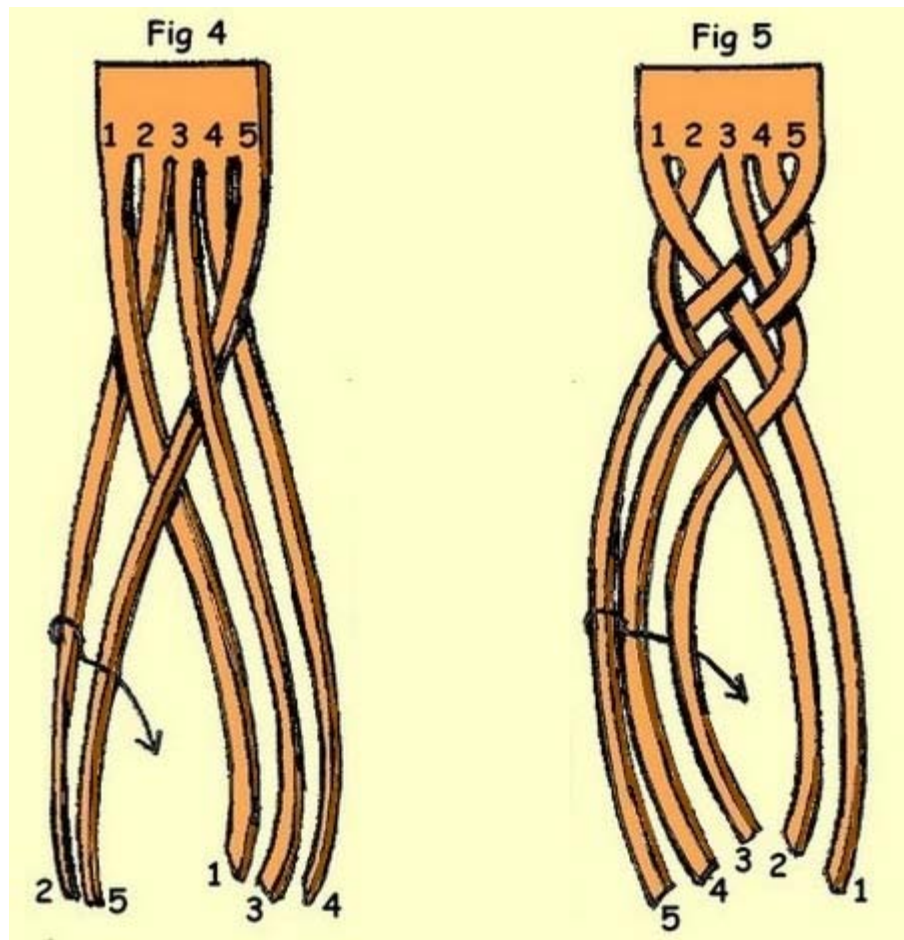
To make a five-lace flat braid simply follow the method as shown in Figs 1 -3 below, and as I am about to describe. To begin, you arrange the laces as illustrated in Fig 1, then bring lace 3, on the extreme left, to the centre, over laces 4 and 5 as in Fig 2. You next bring lace 2, on the extreme right, to the centre, over laces 1 and 3.

Carry on braiding, first with the outside left lace, then with the outside right one. Every time you do this ensure you are passing over two laces. The end result is an attractive herring bone braid.



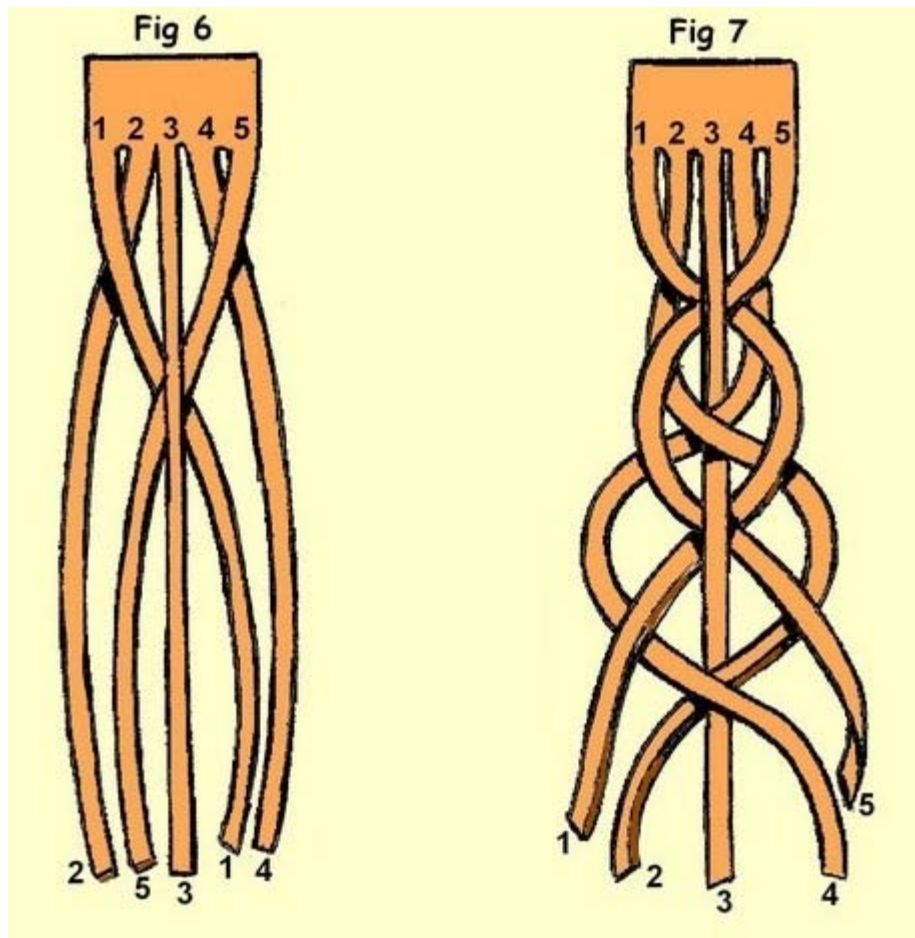
Another way of doing a five-lace braid is shown in Figs 4 and 5. Once again, to begin, arrange the laces as illustrated in Fig 4. This time start with lace 2, on the extreme left, passing it to the centre over lace 5. Next, bring lace 4 on the far right, to the left towards the centre, over lace 3 and under lace 1 and over lace 2 as shown in Fig 5.

For the next step bring lace 5, in Fig 5, to the centre, by passing it over lace 4 and under lace 3. Continue to braid, working alternately from left to right, and right to left. This way of working is known as an over-one under-one method, as one lace is never passed over, nor under, more than once.



Now, for another variation of the five-lace flat braid, have a look at Figs 6 and 7. Observe that the centre lace, lace 5, continues straight down the centre of the braid.

This time the first step is to arrange the laces as illustrated in Fig 6. Observe too that laces 1 and 5, the two outermost laces, always pass under lace 3, but alternate in passing over and under each other. However, in the case of laces 2 and 4, they always pass over lace 3 and alternate in passing over and under each other.



So starting with Fig 6, take hold of lace 4 in your right hand and pass it under lace 1 and over lace 3. Then pick up lace 2 on the left and pass it toward the right, under lace 5 and over lace 4 at the junction of 4 and 3. Lace 2 will pass over both laces 4 and 3. Meanwhile, on the right, lace 1 is brought to the left over lace 2 and under lace 3. Also, from the left, lace 5 is brought to the right over lace 4 and under lace 1, at the junction of laces 1 and 3. Then lace 5 passes under both laces 1 and 3.

Which ever method you choose to follow you will lose approximately a quarter of your beginning length of lace in the braiding process.



Braiding is the act of making a braid (Old English: *bregdan*, plait, weave together). It's also a particular way of doing so, manipulating all laces at the same time (as opposed to weaving). A braid is, for our purposes, anything made of one or more strands interlaced together.

Weaving is a specific way to make a braid by manipulating a single lace at a time, generally using a fid.

Lace is the word I've chosen to use to identify a single narrow length of braiding material. Other terms include strand, and thong. Plait is also synonymous with braid, and is used in this context only when identifying the number of strands in a particular type of braid.

Movement is a term useful in describing braids. A movement is a series of steps that form a repeating process. Braiding a given braid is just a repetition of that style's movement. Typically, you can't end a braid mid-movement. Standing and working ends refer to ends of a single strand while braiding. The standing end is secured and does not move. The working end is the one you manipulate.

A fid, is a spike-like tool used in braiding. The tip is typically not very sharp, since you don't want to punch holes with it. Sometimes referred to as an awl.

Tightening is the process of closing up a braid into its final shape, usually by pulling and positioning

individual strands from the standing to the working end. A lacing needle is a flat needle split at the opposite end from the blunt point. The end of the lace is placed within the slit and squeezed together, where it is held by a couple of small teeth.

Skiving means cutting away some of the thickness of a lace, usually in a taper over an inch or two. By skiving two laces where they meet, they can overlap while maintaining the consistent thickness of a single strand.

Braiding is not difficult nor complicated. It can be confusing, but only before you know how to do it. Don't hurry, because in the end it will not be as successful. Passing a lace about itself or multiple laces about each other sounds simple, and it is. Braiding involves holding a large number of laces in a particular order in your hands, and pulling at it with muscles you don't normally use.

If you decide to buy pre-cut lace you'll be getting a consistent width and thickness, but cutting your own saves you money. Also, by cutting your own, you can have many different widths. Reels of lace are readily available to buy (about £30.00 for a 50 yard reel) in  $\frac{3}{32}$ " and  $\frac{1}{8}$ " widths, but that's about it. Anything other than that and you'll need to cut your own. Cut from scrap leather you'll make 50 yards of lace for about £2.00.

Many tools can be used to cut lace, but the best tool for a beginner is the Lace Cutter. The images, on [page 07](#), illustrate how to use it. This little plastic gadget holds a razor blade at very slight angle to keep the leather against the guide edge.

To use, cut a roughly circular piece of leather, then cut a smaller circle, perhaps 2" in diameter, out of the centre of this piece. Place the cutter through this central hole, select the right groove (there are four), and rotate the leather into the blade. Once the cut lace is long enough, get hold of it and pull gently. This makes the leather rotate as the single lace is cut.

Braid done without a core can be done with laces of any width, although larger-stranded round braids may collapse into themselves and flat braids may fold over along their length.

Most braiding is best done with the standing ends secured to something, either temporarily or in their final position.

Tightening your braid is greatly simplified if you do this as you work. With some practice, you will learn to free-hand braid while keeping tension on each lace; the ideal approach. In the beginning you'll get cramp in your hands, however, you can stop every few movements to tighten your work. You can place a tight rubber band around the braided part, and move it down every so often. This prevents unintentional loosening and also makes it easy to put it down for a while. In any event, the tightening process will be necessary after braiding to length using the fid.

Fid work is using a fid and your fingers to tighten and adjust a braid. Start from the top of your work. Use the tip of the fid to push up (towards the standing ends) in each place laces cross.



## Four-lace braiding

As shown in Fig 1 below cross the two centre laces, 3 over 2. Next bring lace 4 to the left under lace 2 then take lace 1 to the right over lace 3 and under 4 as illustrated in Fig 2. Bring lace 2 to the left under lace 1, and lace 3 to the right over 4 and under 2. Then, as shown in Fig 3, take lace 1 to the left under lace 3 and bring lace 4 from the left to the right over lace 2 and under lace 1. Keep following these instructions exactly. You'll find that the finished braid is approximately 25% less than your original lace length.

Fig 1

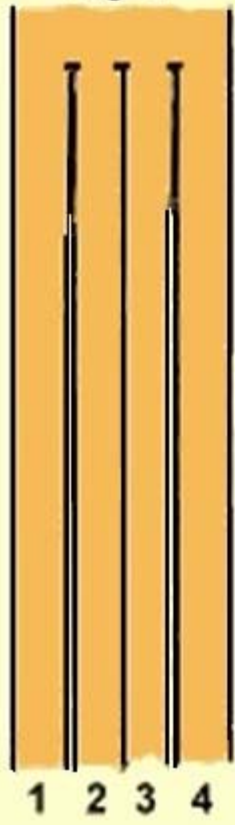


Fig 2



Fig 3

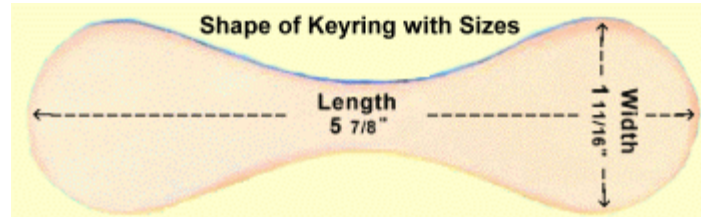




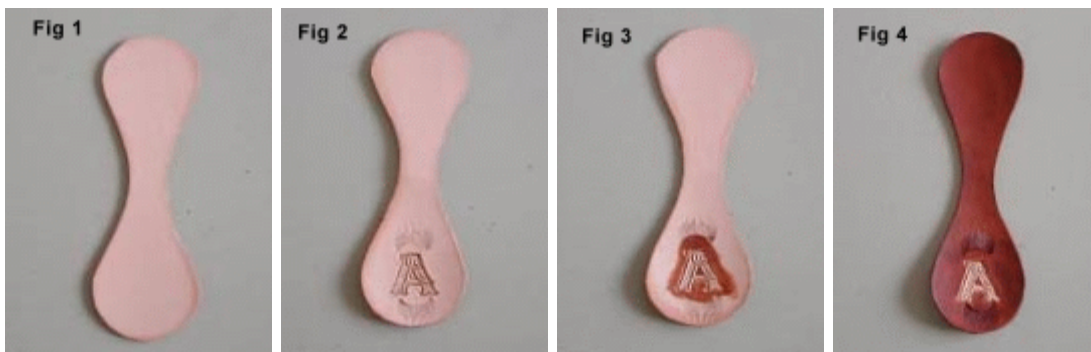
# How to make keyrings

I began making this particular type of keyring in about 1988 so I suppose I've by now made several thousand.

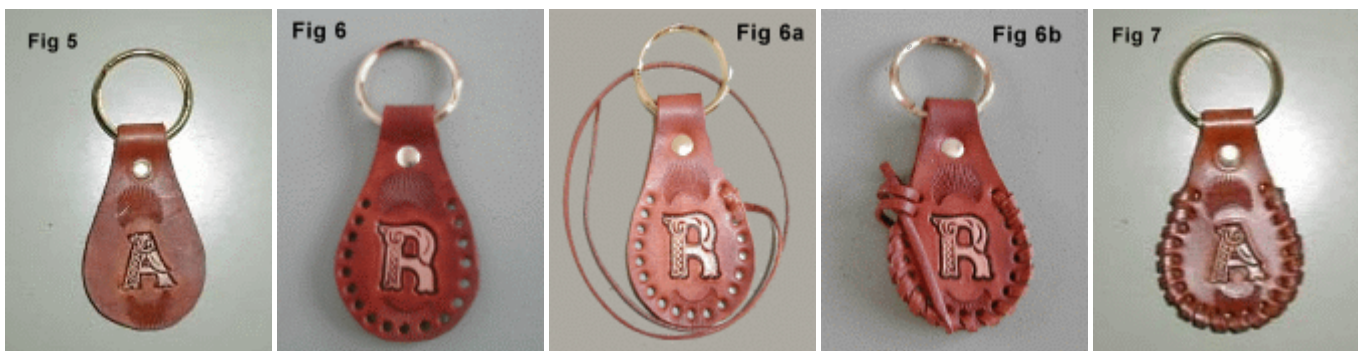
By following the pictures on this page, and the text, you'll see how simple and straightforward it is to make them yourself. The illustration immediately below shows the shape and the dimensions of it. The narrowest part where the leather is folded in two can be varied according to the dimensions of the split-ring, but not necessarily, and mine are normally always 5/8".



If you are only going to be making one or two then it is possible to use suitably-sized scraps of 1.2 – 2.0 mm vegetable-tanned tooling leather. You can use other kinds of leather, but it must be tooling leather if, as is usual, they are to be stamped either with initials or zodiac signs, or indeed if any symbol or design is to be added. For greater quantities, say up to a hundred or more, then the ideal part of a tooling hide is the shoulders, though not necessarily of the first grade, as the odd scratch and blemish can more often than not, providing you cut the shape accordingly, be concealed beneath the initial or symbol being stamped over it.



In the illustrations above Fig 1 shows the shape as it is when it is first cut out. Next in Fig 2 half the shape is moistened with clean water, allowed to soak in for a minute or so, and the chosen letter stamped in position when no moisture shows on the surface. When dry, coat the initial only, with a resist such as Tandy Super Shene. Shown in Fig 3 is the initial stage of dyeing, commencing carefully around the impressed letter. Using a larger brush, dyeing the entire surface and edges has been completed as can be seen in Fig 4. If you've done this correctly there will be no variation or streaking in the dyeing.



Referring to Fig 5, before the dyeing done in figure four is dry slip the split-ring over the leather. When it *is* dry, lightly apply an adhesive, such as Solvent Free Bostick, to the flesh side of the leather, leaving free of adhesive about 1" either side of where the centre fold will be so that the split-ring is able to move freely. It will take a minute or two for the adhesive to become tacky depending on the temperature of your working environment. Fold in two and press firmly so the two sides remain stuck together. Roughly  $\frac{3}{4}$ " from the fold punch a number 3 hole and fix in place a small double-cap gilt or nickel rivet to match the split-ring. Using a brush of suitable size apply Tandy Hi-Liter into all impressions of the initial, allow to dry, then remove excess with clean damp cloth. Next, as shown in Fig 6, punch No 1 holes around the outer edge starting about  $\frac{1}{2}$ " down from the rivet, and about  $\frac{1}{8}$ " in from the edge, so spaced as to give approximately 18 holes, with the last hole aligning with the first. Using  $\frac{1}{8}$ " leather lacing, start to lace around the edge beginning as shown in Fig 6a, and when tied off, as shown in Fig 6b, tap the lacing gently with a lightweight hammer on a firm surface to slightly flatten the lace. The final step is to apply a light all-over coating of something like Fiebing's Leather Finish and it will appear as in Fig 7.



Figure 8 shows the  $\frac{3}{4}$ " decorative alphabet stamps used to add initials to the keyrings. While in Fig 9 are some of the things needed to complete the job. Note that by using natural lace you are able to dye it to match the colour of the keyring, and below are some completed examples.



# Occupational names connected to the leather industry

**Barker:-** A person who tanned leather using the bark of trees, later the term was also used for a person employed to attract attention at fairgrounds by shouting details of the attraction.

**Barkman:-** Anyone who tanned leather using the bark of trees.

**Basil/Bazil Worker:-** A person who worked with sheep and goat skins.

**Bellows Maker:-** A person who made bellows used for organs or blacksmiths fires.

**Belly Roller:-** Operated a machine which rolled and compacted fibres on the belly of cattle hides.

**Benchman:-** A shoemaker benchman cut the leather for boots and shoes. Also leather cutter for chairs.

**Bend Trimmer:-** Marks cutting lines on hides and trims ragged edges, thin areas, and brand marks from hides, using rule, pattern, knife, and chalk.

**Bender:-** Leather cutter.

**Boot / Shoe Clicker:-** A trade aristocrat. This was one of the most skilled and best paid jobs in the shoe industry. A lover of leather whose vast experience of the properties of hides and skins enables him to pattern, choose and cut the pieces of leather used in the upper part of each shoe.



Because of his experience of the various colours, weights, grains and flexibility of the leathers, he ensures the smartness and durability of a shoe in which material is perfectly matched to function. The term comes from the sound made when carrying out the job.

**Boot Closer:-** The sewing, stiffening, lining and final shaping of the clicker's pieces around the last, are the responsibility of the closer, who cuts, skives and stitches the upper part of the shoe to ensure its strength and lasting distinction.

**Boot Clicker:-** Punched eyelet holes using a machine that clicked.

**Boot Closer:-** Worked in the shoe trade stitching together all the parts of a shoe upper.

**Boot Finisher:-** Put the finishing touches to boots.

**Boot Fitter:-** Fitted boots.

**Boot Heeler:-** Put the heels on boots.

**Boot Knifer:-** Cut up parts for boots.

**Boot Maker:-** Made boots.

**Boot Repairer:-** Repaired boots.

**Boot Rivetter:-** Rivetted boots.

**Botcher:-** A tailor or cobbler who mends and repairs.

**Bottiler / Bottler:-** A person who made leather containers for holding liquids e.g. wine flasks or water bottles. From the turn of the 17th century it would more likely refer to a worker in a bottling factory for beer, soft drinks, water etc.

**Braider:-** Someone who made cord by twisting strips of leather.

**Brouge Maker:-** A shoe maker.

**Buckler / Bucklesmith:-** Made buckles.

**Buckle Tongue Maker:-** Made the metal points that go in the holes of a belt.

**Camar:-** ("tanner" from the Sanskrit, Carmakara, or skin-worker) is a prominent occupational caste in India and Nepal. Camar is a Dalit sub-caste mainly found in the northern states, such as Punjab, Haryana, Himachal Pradesh, Uttar Pradesh, Bihar and in Nepal at least north to the Himalayas. The traditional occupation of this caste was leather-working and tanning. Camars form the second-largest caste in India and are heavily active in politics. They are known to be one of the most highly influential groups among scheduled castes. Traditionally, their social status was very low in the Indian caste system because of the association with dead animals, but in modern days they are one of the most progressive castes in India.

**Chamber Master:-** A shoemaker that worked from home as an outworker or selling direct.

**Clicker:-** A person who worked in the shoe trade cutting out the uppers, also the person who made the shoelace holes.

**Clogger:-** Made wooden shoes "clogs" — in England they were usually leather with thick wooden soles. (See also 'Clog Maker' [Here](#)).

**Clouter / Clower:-** A person who made nails. Also another term for a shoemaker.

**Cobbler:-** A person who mended shoes and boots.

**Collar Maker:-** A maker of horse collars.

**Cordwainers / Cordewanarius:-** From Cordovan leather. At first they made many types of leather articles. In Middle Ages they specialised in shoes. Cordwainer is from the French word "cordonnier" and came to England in 1066 with the Norman invasion. After Cordoba fell in the 12th century English Crusaders brought back this alum-tanned goatskin (by the late 13th century a distinction grew in England between Cordwainers proper, called *alutari*, who used only alum "tawed" cordwain, and another class of shoemakers called *basanarii*, who employed an inferior "tanned" sheepskin which was prohibited for footwear apart from long boots). It was considered the highest quality shoe leather in Europe (originally made from the skin of the Musoli goat, then found in Corsica, Sardinia, and elsewhere, this leather was "tawed" with alum after a method supposedly known only to the Moors). Cordwainers work only with new leathers. A rather less sophisticated interpretation says a Wainer was a "maker" and Cord was short for Cordoba in Spain where the leather came from — hence a Cordwainer was a Shoemaker. Cordoban boots were soft and worn crumpled or with a kink. A large piece of leather shaped like a butterfly was stitched across the instep to hold the golden or silver rowel spurs. A soulette was a strap fastened under the foot, which also held the spur in position. In the twelfth century there were three terms used for the makers of medieval shoes: cordwainers (cordwanarii), corvesers (corvesarii) and cobblers (sutores). Both the cordwainer and the corveser made new shoes, while the cobbler either repaired old shoes or remade old shoes for sale. See [Cordiner](#) below.

**Cordiner:-** Originally a term used for a person who worked with Cordovan, a special soft leather from Spain. Later it became the term used for a shoemaker. See [Cordwainers](#) above.

**Corwin:-** Used for a shoemaker who used Cordovan leather.

**Corvister:-** Involved in leather tanning, curing, processing, manufacturing trades.

**Currier (Cuhreur, Cunreur):-** One who dresses the coat of a horse with a currycomb, also one who tanned leather by incorporating oil or grease.

**Fellmonger:-** Dealer in hides and skins. One who removes hair or wool from hides in preparation for leather making. Also recycled inedible animal parts for glue, fertiliser; horn, bone, gut etc. By the end of the sixteenth century, the trade of the fellmonger began to develop to the detriment of the gloving trade. A fellmonger took the sheepskins from the butcher or farmer, removed the wool from the skin and sold the wool to the textile trade and the pelt to the whittawer or Glover. Previously this trade had been controlled by the whittawers. As the wool was more valuable than the pelt, care was not always taken with the quality of the skin.

**Fewster:-** Made wooden saddle trees — the "frame" upon which a leather saddle is constructed. (Also called: saddle tree maker.)

**Flesher / Fleshmonger:-** Tannery worker.

**Girdler:-** Maker of leather belts and girdles, mainly for the army.

**Glover:-** One that makes or sells gloves.

**Hamberghmaker / Hamberow:-** Horse collar maker.

**Heelmaker:-** A person who made shoe heels.

**Kiddier:-** Dealer in young goats and skins.

**Knacker:-** (1) Harness. (2) Dealer in old and dead animals — "Knacker's yard".

**Lace Roller Operator:-** Tends machine that winds leather belting or shoelaces onto cardboard or wooden spool, also cuts leather from roll, using knife.

**Laster:-** One who worked or shaped shoes on a last (the mould of the human foot made of wood and used to shape footwear).

**Leather Cutter:-** Person who cuts leather. Leather cutting is a highly skilled job. Being a natural material, the aim is to keep wastage to a minimum while preserving all the natural character of the hide in the piece being made. Leather has naturally occurring characteristics, hallmarks of its origin for example, healed and open scarring, tight and open grain, growth marks and neck wrinkles. These occur in all hides, however their numbers and severity differ from hide to hide. Like the grain in timber every hide is unique. Cutting leather is therefore a highly skilled job. The cutter must also be able to appreciate what characteristics of the leather are desired.

**Leather Drawer:-** One who draws leather.

**Leather Dresser:-** Person who dresses leather.

**Leather Seller:-** One who sells leather.

**Leather Sewer:-** A sewer of leather.

**Lederer:-** Leather maker; from the German.

**Lorimer/Lormer:-** Maker of horse gear; bits, spurs, stirrup-irons and other horse furniture.

**Malemaker:-** Maker of 'Males' or travelling bags.

**Paneler:-** Saddler

**Pelterer:-** A worker with animal skins.

**Pelliparius/Peltarius:-** Skinner, one who worked with animal skins.

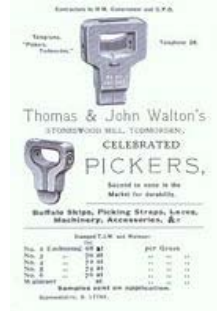
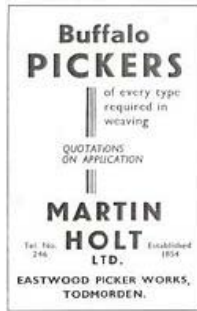
**Perchemear:-** Parchment maker.

**Picker Maker:-** Made the "Pickers" — strong, leather attachments fitted to each side of a weaving loom, to drive the shuttle across the loom. Pickers were strong leather attachments made of cow/buffalo hide fitted to each side of a weaving loom, and used to drive the shuttle across the loom. That's why there was 288 pickers to a gross instead of 144.

James Fielden is credited with being the inventor of the "modern" picker. He made the first one whilst sitting at his own hand loom, from a bit of flat wood and two small pieces of leather. He made these and sold them for 1½d a pair. People bought them either direct from James or from the grocers' shops. Pickers were made later in all forms and shapes and by machine, and James was one of the first to produce them in this way.



Fielden Holt



Shade Picker Works

Click thumbnails above to see more detail

He and William Holt, his nephew, produced a machine for making harder pickers from compressed leather, and they set up a manufacturing business. First, in a work shop at Inchfield Fold, Lancashire. James then moved his business to Clough Mill, and by 1851, he was employing 14 men and 3 boys at his workshop in the mill. His brother Robert continued at Inchfield and between them they employed over 50 workers in 1852. James purchased freehold his home, workshop and other hereditaments at Clough Mill. When he died in 1855, aged 57, he was a very rich man. James directed that his business at Clough Mill be sold after his death. His brother Robert continued in the picker making business until his own death 19 years later. (see also, [Picker Leather](#))

**Portmanteau Maker:-** A maker of leather trunks for clothes, etc., opening into two equal parts.

**Pouchmakers:-** Involved in leather tanning, curing, processing, manufacturing trades.

**Purefinder / Pure gatherer:-** Old women and young girls who collected dog droppings for use in the tanning industry. Dog droppings were used in the tanning leather for the glove industry, apparently the white variety was the best kind and was reserved for making kid leather! The "dry limy-looking sort" fetched the highest price at some yards as it possessed more of the alkaline, or purifying properties. Others preferred the dark moist quality. It appears the preference for a particular kind suggested to the finders of the Pure the idea of adulterating it. This was effected by means of mortar broken away from old walls which was mixed up with the whole mass. In some cases, however, the mortar was rolled into small balls similar to those found. It appears that there was no business or trade, however insignificant or contemptible, without its own peculiar and appropriate tricks. Dog dung contains pancreatic enzymes which were used in solution to attack the non-collagenous proteins in skins or hides. This was a purifying, rather than a curing step, to clean the material prior to tanning. This also means that biotechnology has been used in the leather industry for at least 5000 years. Treating skins with dog dung was always called "puering", and the use of infusions of bird guano was called "mastering". Happily, the dung treatment is now obsolete, and nowadays the same general process is called "bating", and typically involves manufactured bacterial or pancreatic enzymes.

Rag and bone-pickers also collected what was called "pure" – or dogs' dung – as well. Their habits and mode of proceeding were nearly similar to the rag and bone-pickers proper, with the exception that the latter was a regular trade. The parties following it picked up but few rags or bones, and only such as were of the best quality. What they looked for mostly was the "pure." Some of the regular collectors of this article had been mechanics, and others, small tradesmen. They were a superior class of persons to the mere rag and bone-pickers, and those who had a good connection and the right of cleansing certain kennels, obtained a very fair living at it, earning from 10s.(50p) to 15s.(75p) a week. These, however, were very few. The majority had to seek the article solely in the streets, and by such means they could obtain only from 6s. to 10s. a week. The average weekly earnings of that class are thought to have been between 7s.(35p) and 8s.(40p).

The "pure" gatherer, after he had been his rounds, made the best of his way to some tanner in Bermondsey, to whom he was in the habit of selling the article. He sold it to the tanner by the stable bucketful, and got from 8d.(3½p) to 10d.(4½p) per bucket for it. It was used for the purpose of cleansing sheep and calf skins after they were taken out of the "lime-pits." A man generally picked up about a bucketful in the course of the day.

The "pure" pickers, were generally to be found in London all the year round, with the exception of the hay season, the corn harvest, and hop-picking time, when a very large portion leave London.

**Saddle Tree Maker:-** Made the wooden frames around which the saddle was formed with leather.

**Saddler:-** One who makes, repairs or sells saddle or other furnishings for horses.

**Sadler:-** Made saddles.

**Seal / Seales:-** Maker of seals or saddles.

**Semi Lorer:-** Made leather thongs.

**Shagreen Casemaker:-** Worked with shagreen leather.

**Schumacker:-** Shoemaker.

**Shoe Finder:-** Sold cobbler's tools.

**Shoemaker:-** A person who made shoes.

**Shosmith:-** A cobbler, a person who repaired shoes.

**Skin Dresser:-** An obsolete bookbinding term for the workman who shaved or pared leather.

**Skinner:-** A dealer in hides.

**Snobscat:-** Snob, one who repaired shoes.

**Souter:-** Shoemaker or cobbler in Scotland.

**Spurrer:-** Maker of spurs.

**Spurier:-** A maker of spurs.

**Tan Bark Stripper:-** Collected tree bark for use in the tanning of leather.

**Tannator:-** Tanner; curer of animal hide into leather.

**Tanner:-** Tanned (cured) animal hides for leather making. Still used.

**Tanner's Beamsman:-** Draped part-cured skins over a Tanners Beam, a flat slab of wood or stone, to scrape off the remaining flesh, fat and hair.

**Tanney:-** A leather worker.

**Tawer / Tawyer:-** Made white leather.

**Theemaker:-** Shoemaker.

**Vamper:-** Made up the upper part of a boot or shoe covering the instep and sometimes extending over the toe.

**Wet Glover:-** Leather glove maker.

**Whipcord Maker:-** A person who made whips.

**Whipmaker:-** A person who made whips.

**Whitear:-** Hide cleaner.

**Whitamer:-** Involved in leather tanning/curing/processing trades.

**Whittaw:-** (1) Made saddles and harnesses. (2) Tanner of skins with alum to produce white leather.

**Whittawer:-** A maker, worker and seller of leather goods such as purses, belts and gloves. One who treats leather to retain its natural colour and make it soft and pliant; often specifically a saddler or harness maker. (The word is made up of two parts: *whit* from 'whitleather', a type of leather of a white or light colour; and *tawing*, i.e. dressing with alum and salt, so as to retain the natural colour.) The traditional difference between the tanner and the whittawer was that the tanner took cattle hides and tanned them using a vegetable, oak bark tannage, whereas the whittawer took the skins of other animals and processed them using only alum and oil. The tanner used relatively fresh hides from animals slaughtered for food, but the whittawer often used casualty skins recovered from animals that had died naturally. By the Tudor period the whittawer was also using vegetable tanning to produce bazils/basils (these were rough tanned sheepskins used for shoe linings).



# Glossary of leathercraft terms

**Boarded:-** Also called Box or Willow finish.

**Boiling:-** A water-forming technique in which leather is immersed for a short time in boiling water, causing the leather to bend and pucker. When dry, the leather is extremely hard, though brittle.

**Candle Touch:-** Term used to describe leathers with an "oily" touch.

**Carving:-** Designs are cut into the leather, then all edges are bevelled to make the design stand out. Also called incising.

**Chrome tanning:-** A tanning process using salts of chromium to make leathers that are especially supple and suitable for bags, garments, etc.

**Combing leather:-** The name applied to the leather used on the combing rolls of cotton machinery and manufactured of calfskin or side leather.

**Conditioning:-** When leather is dried after retanning, dyeing and fatliquoring the fibres tend to stick together and the leather is hard. The fibres are separated and the leather softened by staking. Staking is best done at about 18% humidity and so a little humidity has to be put into the dry leather. This is most commonly done by a water spray and then piling the leather long enough for the moisture to even out. Adjusting the moisture content before staking in this way is called conditioning.

**Croupon:-** Untanned whole cattlehide with belly and shoulder cut off; comparable to a butt bend in tanned leather.

**Cuir-bouilli:-** (*kweer-boo-ee*) A flat piece of leather is soaked, moulded over a form, and dried in an oven so that it will harden and retain the moulded shape.

**Cut Edge Work:-** In "cut edge" articles such as wallets the edges of the leather are left showing, in contrast to turned edge work, where the edges are turned over and glued down. Cut edge work is less time consuming to produce and such articles therefore tend to be cheaper. The edges are usually finished by being stained and rubbed smooth.

**Drenching:-** A process for reducing the plumped fibres of a hide or skin. It accomplishes approximately the same purpose as bating and basically in the same way, that is, through soaking in a fermenting solution. Some authorities however restrict the term bating to the process using ferments of manures and the term drenching to that using damp sawdust, bran, middlings, or a solution of lactic acid or some other chemical having a similar action.

**Dyeing:-** Colour is given to an entire leather surface or to parts of a design.

**Embossing:-** A decorative technique in which a design is raised in relief, working with modelling tools on both hair (grain) side and flesh (inner) side.

**Flesh side:-** The side of the leather that was closest to the musculature of the animal; the inner side.

**Frigorifico Hides:-** Hides from South American freezing plants. Usually cured in brine, and later salted. before shipping.

**Frizzing:-** A process for removing the grain by liming, to facilitate penetration of oils from both sides of the pelt.

**Glue-resist:-** A decorative technique in which a removable glue is applied to the leather before it is dyed. The dye cannot penetrate the glue protected areas.

**Kela:-** The mechanical process that adds a second colour or savage-look to hides (savage is a top grain, semi-aniline leather having a marbled or creased appearance). This is an additional step in the finishing stage, in which a relief roller creates a marbled look and increases the finishes character. The name Kela is derived from the name of the manufacturer, that made the original machine. Other names describing the same look are Tache, High Lighted, Effect Coat or Two Tone.

**Kip:-** A term of Dutch origin, used for the hide of a small variety of cattle (the zebu) found in tropical countries eg India. The leather has traditionally been used for cheaper small leathersgoods.

**Laminating:-** A technique of bonding layers of leather together under pressure for strength, thickness or visual effect.

**Lasting:-** A water-forming process in which the damp leather is forced over a mould and clamped or nailed into place until dry. When dry, the leather retains the moulded shape.

**Matadero Hides:-** Hides from Argentina corresponding to city butcher or small packer hides of the United States.



**Nude finish:-** A leather that is usually vat dyed, but has little or no protective coat.

**Pull-up:-** A pull-up leather is one which, when pulled tight, produces a brilliant burst of colour. Pull-ups are full aniline leathers that have received an oil and/or wax application. When the leather is pulled, the oil and/or wax separates, causing the colour to become lighter. Pull-ups can have varying thicknesses.

**Roan:-** An unsplit sheepskin which has been tanned with sumach and has had the wool removed, frequently used for small leathers in the 19th and early 20th centuries. It has often been dyed a distinctive maroon red colour and embossed with an "oat" grain.

**Saddle stitching:-** A two-handed stitching method using a needle at both ends of a single thread. It produces a uniform stitch on both sides of the leather.

**Scudding:-** One of the preliminary processes preparatory to tanning. After bating or drenching the excess fermenting materials, together with dirt, fatty matter, hair follicles, short hairs and glandular tissue, are worked out of the hide or skin. Mostly done by hand using a blunt two-handed knife over a curved beam. Can be done by machine.

**Shamoying:-** A process used in preparing certain kinds of leather, which consists in frizzing the skin, and working oil into it to take the place of the astringent (tannin, alum, or the like) ordinarily used in tanning.

**Stamping:-** The technique of using hand-made or commercial metal stamps to make impressions on damp leather, lends itself to simple designs and all-over geometric patterns. The skill lies in the exact alignment of the impressions and the use of a constant striking force.

**Split:-** The inner layer of the leather cut from the top grain portion.

**Suede:-** A type of leather in which the flesh side is buffed smooth. Suede splits are buffed on both sides.

**Table Run or Tannery Run:-** Terms used to describe leather which has not been sorted or graded before being sold.

**Tawing:-** Different types of leather were produced by using different impregnation agents. Impregnation with alum, a process called tawing, produced the very soft kid leather particularly favoured in glove manufacture. The fine chamois leather required a great deal of preparation and hence was expensive. The outer surface of skin had first to be removed by "frizzing" which produced a softer more pliable texture, and then oil was beaten into the skins by machines similar to those used in fulling. (Fulling was performed by pounding newly woven cloth with mechanised hammers, whilst soaking in a solution containing Fuller's earth. Prior to mechanisation this process was undertaken by the laborious method of treading the cloth in a tub by the bare feet of "walkers".)

**Tooling:-** General name given to several related techniques of working vegetable-tanned leather to create effects of low relief: carving, stamping, embossing, etc.

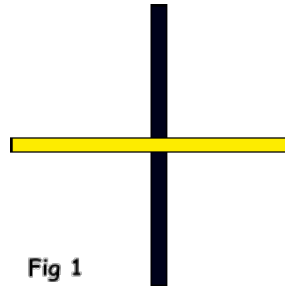
**Top-grain:-** The outer surface of the hide, still possessing the original grain surface; the hair side.

**Vegetable tanning:-** (or oak bark tanning) A tanning process using extracts of tannic acid, that makes strong leathers suitable for belts, bags, etc., and that can be water-formed.

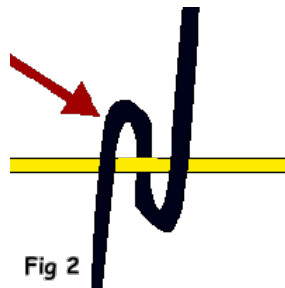
**Water-formed:-** (wet-formed) A technique in which leather is dampened to make it more pliable, and worked freehand or over a mould or last. When dry, the leather will retain its shape.

# Making a Square braid

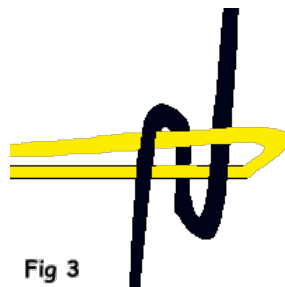
It can feel very awkward trying to get all the ends to co-operate. Use as many fingers as you need to keep the lace under control. Find the middle of each piece of lace. Hold the middle of the pieces as shown in Fig 1, between your thumb and forefinger. If you're making a keyring now is the time to put on the ring. If you wait until after it's made, it will be difficult to slide it under the braiding.



Take both ends of the lace that is on the bottom (black) and wrap it over as shown in Fig 2. Hold one end of the lace between your forefinger and middle finger. Hold the other between your pinkie and third fingers.

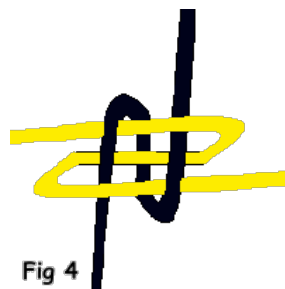


Note the red arrow. It is pointing at a bend in the lace. Lace placed here will be locked in place. Look for this and you will know how the next step of the braiding goes.

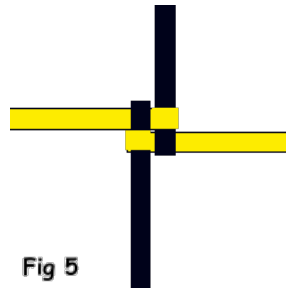


Next put the right-hand lace over the first black lace and under the second (in the bend) as shown in Fig 3. Always remember to go over the first lace and under the second and into the bend.

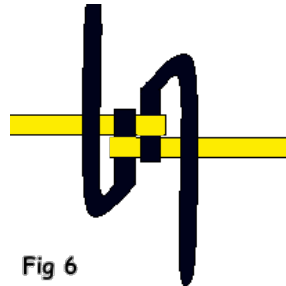
Do the same with the left lace as shown in Figure 4.



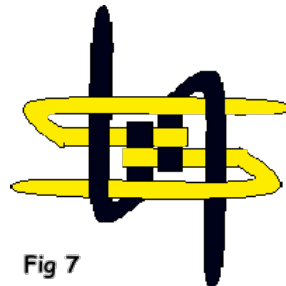
Pull all four ends to tighten it. This is best done by grasping one of the yellow ends with each hand. Now take your thumb and first fingers and hold the black ends. Now pull every way simultaneously.



Now start the second stitch. Turn both ends of the black over. Keep the previous stitches tight at all times.

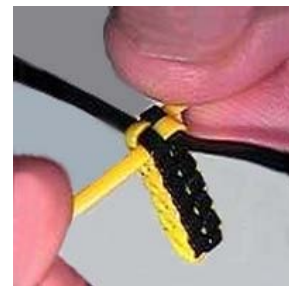
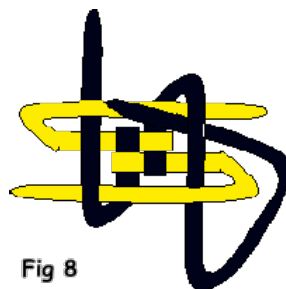


Observe the bends? That's what you're aiming for. Remember to go over the first lace and under the second.



Continue until either the braid is as long as you want or there is only about three inches of lace left.

The ending can be a bit difficult to handle. To have an ending like the one in Fig 7, make the last stitch loose. Observe that the centre forms a small square. Take each end in turn beginning with the shortest. Wrap it around the next lace of the opposite colour and then push it up through the centre of the square. When all ends are done, pull them all tight - individually. Pull them tight several times to make sure all slack is out. If not successful first time, just undo it and try again. A spot of Super glue will hold it if necessary.



A simpler ending is tying the loose ends together in pairs.

If you want a square finish, put a spot of Super glue on the ends and cut them off flush. On the other hand you can do a finishing stitch as shown in the Figures below.



Figure 1 shows the start of the square stitch, in this case a loose one, so take any one strand and take it around the strand to its left, then up through the middle of the stitch, Fig 2. That's why you left it loose. Figures 3 and 4 carry on for the third and last strand. Take care, Fig 5, make sure you go around the correct strand. By Fig 6 assuming you've done it all correctly all the strands are coming up out

of the centre of the loose stitch you began with. Looking at Fig 7 you see the strands to pull to close the gaps left in this finishing stitch. By completion, Fig 8, you'll see the end is rounded so all you need do now is trim the odd strand lengths to an even length and finish, Fig 9.

# Chinese knot: The Flower or Petal Knot

The Chinese Knot is a type of national handicraft with a long history and profound cultural connotations. Circle means reunion or perfection, and is an auspicious symbol for the Chinese people. The Petal Knot can have many petals and looks like a circular flower arrangement. The four-flower is, I should think, the most common of the flower knots, since it is easy to combine many of them into a single design. By keeping the centre loops short as will still allow you to work, the petals will take care of themselves. With the centre kept short and tidy it will be closer to the final structure of the knot, thus making it easier to control than if the centre loops were allowed to get too big. Lacing suitable for making this knot would be either suede or round, especially the round, which is available in 2mm to 7mm thickness.



Fig 1



Fig 2

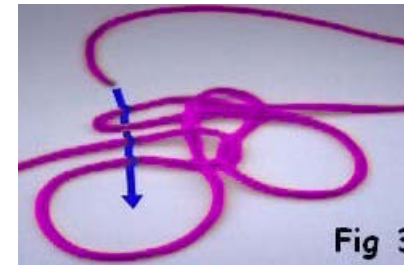


Fig 3

Fig 1: Begin by making two loops. The first will be next to the free end of the knot. Thread the second loop through the first loop (over and under) as shown by the direction of the arrow.

Fig 2: Now make another loop. Insert the third loop through the second loop as indicated by the arrow.

Fig 3: Now take the free end and thread it through the third loop, then over the first loop, and through what is the first petal, again as shown by the arrow.

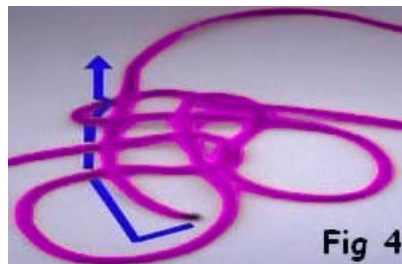


Fig 4

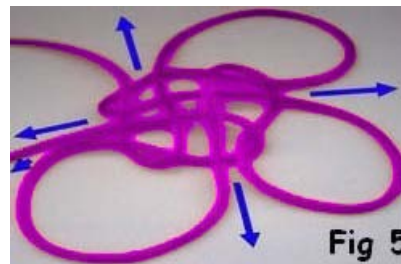


Fig 5



Fig 6

Fig 4: Bring the free end, as indicated, under the first loop, then back through the third loop.

Fig 5: Attempt to tighten in all directions at the same time. By doing this, the loops should all lock tightly together in the middle.

Fig 6: The example is showing the centre a lot looser than it needs to be before you start to take up the slack.

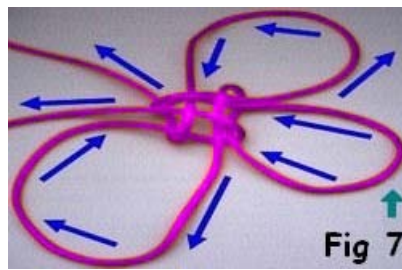


Fig 7

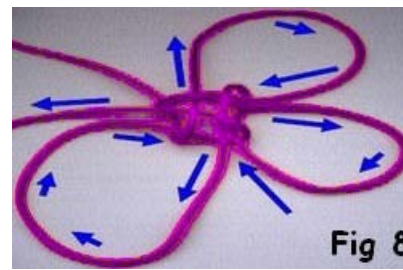


Fig 8



Fig 9

Fig 7: Should you need a particular part of the string to be the centre point (presumably it is already somewhere in the 2nd petal), then just work the slack towards both ends, following its previous path. Do not let the centre loosen any more than you must.

Fig 8: If an end is your fixed point, then all you have to do is work the slack towards the other end following its previous path. However, remember, do not let the centre loosen any more than you want it.

Fig 9: The completed four-flower knot.

## Alternative method of tying a Flower Knot



1



2



3



4

1 Select your cord. The length depends on the type and how big you want the knot. 2 Take the centre of the cord and fold it under the rest of the cord. 3 Turn both ends up on the left and right. 4 Take one end and fold it back.



5



6

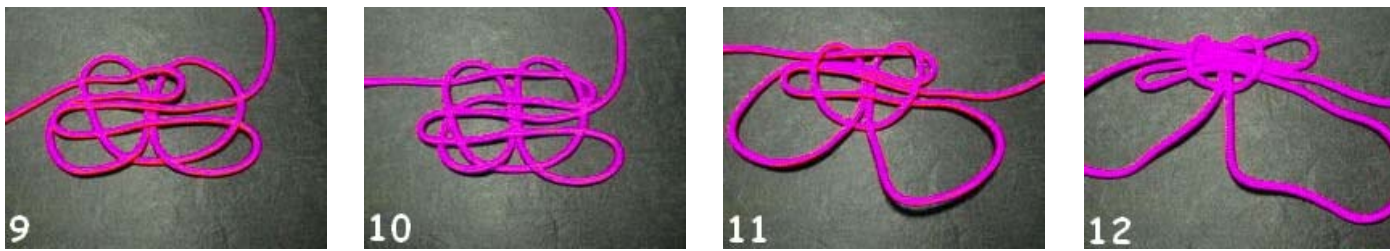


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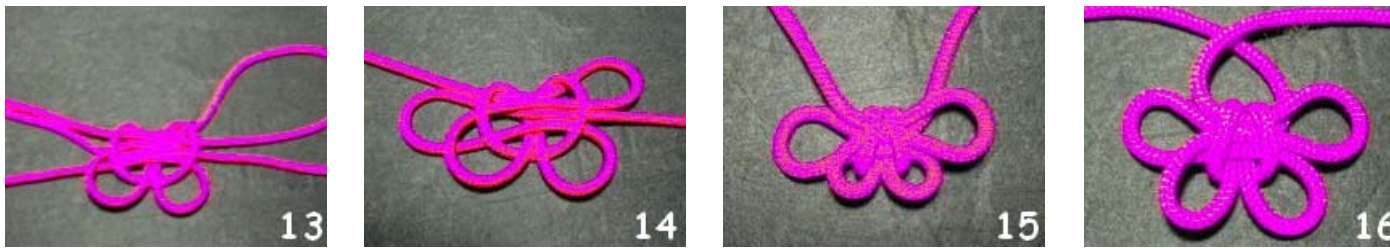


8

5 Slide it under the right wing. 6 Carry it on under the left wing. 7 Continue to pass it under again so we have knotted one wing on the left and one little wing on the right. 8 Just do the same with the other end, double it, pass it under.



9 Pass it on. 10 Continuing to pass it under again, the knot is completed and we need to tie it tight. 11 We start from the beginning pulling down the two little wings to tighten the centre of the knot. 12 The centre is now tight, so we can pull the two wings on the left and on the right.



13 ...and then... 14 ...and then... 15 This is the butterfly shape, with the little wing smaller than the wings on the left and right. 16 This is the flower shape, with the wings the same size. You can join the ends (with a knot or cutting and joining the ends with glue) to make the fifth petal.

## How to make the 5-petal knot

For a 5-petal knot you need 1 foot of round braided cord or 1 - 2mm of round leather lace. A length of 32" is needed to work with.



**Round leather lace:** A variety of round leather laces, made from the finest leather to achieve maximum durability. These round leather laces are available in metallic colours, also many other vibrant colours with a thickness ranging from 0.5mm to 7mm.

## Hints

This knot is quite complex. Follow the steps carefully as illustrated in the figures.

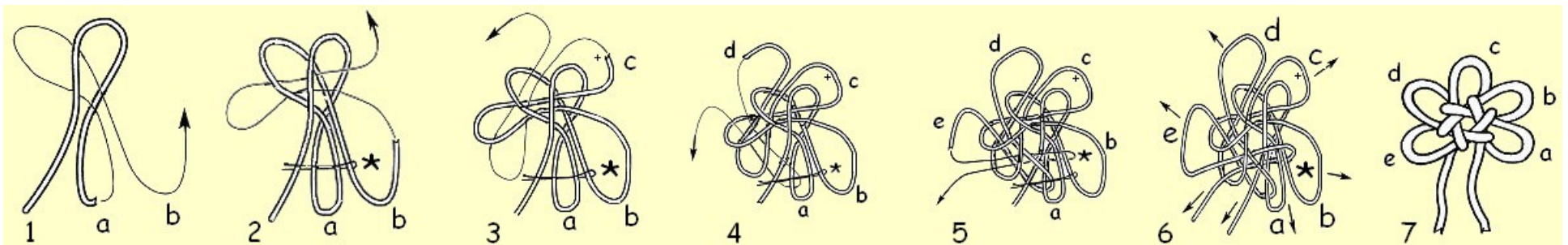
(1) Step 1 starts with a Cloverleaf Knot. However, note the difference in Step 2. Take the first two loops together and go through the third loop. Use a hair pin to fix the position.

(2) When going through the fourth loop, release the first loop and work on the second and the third one, as shown in Step 3. Follow this sequence and continue tying.

(3) Steps 4 and Step 5 may seem difficult to follow, but be patient and practice a few times.

(4) After the procedure in Step 5, pull all loops in the directions indicated by the arrows in Step 6. Adjust the size of each petal but hold the main body to keep the shape intact.

The number of petals can be five, six, or up to ten, according to your design.

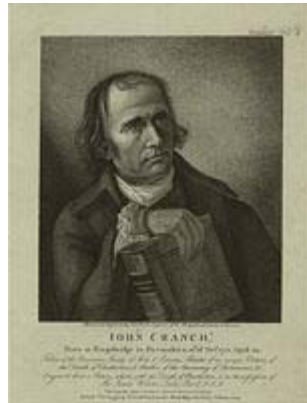




# Pyrography

Before endeavouring to describe how to go about it, a brief mention of what it is and how it all began.

Pyrography (Gr. *pŷr*, fire, *graphien*, to write) is the art of using fire to create art. During the 17th and 18th centuries, European artisans, such as John Cranch (1751–1821) shown below, began creating their pieces with iron "pokers", and publishing their techniques. People would put metal pokers into the fireplace to heat them. They would quickly push it into wood to create designs and impressions. The poker would cool off very fast and they would have to wait for the fire to heat it up again. During the Victorian era (1837 - 1901) pyrography was very popular.



[Click to enlarge](#)

The early poker art (around 1890) became a thriving industry producing beautiful carved furniture and decorative household items, with every piece decorated with pyrographic designs. Though a better heating method was used by that time which involved heating a glass jar and using a miniature bellows to push the heat from the jar through a tube and onto a metal tip with a handle (poker). The hot air heated the tip enough to burn designs.

In the 19th and 20th centuries, James William Fosdick (1858–1937 — Adoration of St. Joan of Arc, 1896 — Fire-etched wood relief — Three panels, each: 109¾" x 49½"— Smithsonian American Art Museum — Gift of William T. Evans) from Charleston, Massachusetts advanced the earlier techniques by creating a new way to heat metal tips using a glass bottle containing naphtha, alcohol, and other flammable materials. His experiments resulted in the introduction of incised lines which create the 3D appearance that is common in modern day pyrographic art. Examples of Fosdick's equipment and pieces of his artwork are on display at the [Smithsonian National Art Museum](#).

Other artists from this period, were Joseph Smith, who produced a burning of John Jeffreys, Earl of Camden on Sycamore (1816), and Ralph Marshall (pyrography panel, entitled 'By Candlelight', dated 1834, [[Birmingham Museums and Art Gallery](#)] is based on a work by the eighteenth century portrait painter, Henry Robert Morland) also did relief work on charred wood including an early advert (!) for the Post Office, some Christmas scenes, and many religious pieces. At about the same time Wilhelm De Rottermund was active in Belgium, and his works include four copies of famous Russian battles. All have their artwork on display in the Birmingham Museums and Art Gallery, West Midlands, England.

Pyrographic technology continued to change during the twentieth century. One of the major developments was the addition of an electronic dial in the heating unit and wire tipped pens. The pyrographic artist Cyril Brown from Birmingham, in England, used equipment such as this. Brown's work is on display at Robert Boyer's Pyrographic Museum, 971 N. Milwaukee Avenue, Wheeling, Illinois (included in the collection of old pyrographic equipment housed in the new

museum is the first set built by the late great pyrographic artist Cyril Brown who, Bob says, was one of the first to build an electric temperature-controlled unit with a wire-tipped pen). Pyrographic art work already on display in the museum includes realistic bird and animal carvings on leather. [Leisure Time Products Inc.](#)

Other famous artists, such as Pablo Picasso (1881–1973), have also produced pyrographic art, such as Para mi amigo Arias (1960 — bullfight scenes). Some of his work is on display in Eurenio Arias's collection in Buitrago del Lozoya, (see [Here](#)) a town 74 kilometres north of Madrid.

Pyrography has come a long way since the turn of the century. Almost everyone remembers having a wood burner, which was a "soldering iron" type of burning pen, when they were a child. Now an electronic, variable heat control burning system is used. It can reach 2,000 degrees in six seconds. There are many different tips used for making the designs. They come in many shapes and sizes.

It is often called "woodburning". This is a bit of a misnomer however, since it implies the art form is restricted to wood, which it is not. With specialized tools and the necessary level of skill, the pyrographer can produce pictorial work on any receptive surface as subtle in the use of line and shading as that of any other monochrome art form.

This art form is very versatile because it can be done on wood, leather, plastic, gourds, paper, egg shells, bone, horn and many other surfaces, but the object here is to focus on burning on vegetable-tanned leather, though the technique is principally the same whatever the material. Every line and shade is drawn entirely by hand which makes each piece unique. It is, too, a relatively slow and a very personal art form, simply because it takes far longer to work the "pen", responding to the inspiration offered by the grain of the leather, than it does to execute the same creativity with brush, pen or pencil.

## Pyrography — continued

You may be asking yourself, "How do I get started with this burning on leather?" You can get started with minimal tools and materials. It doesn't have to cost much in order to enjoy this wonderful craft. I would advise against obtaining very expensive tools until you decide if you like burning. If you have already decided to go ahead and do it, then buy the best tools you can afford. It is always better to use good tools that will last a long time. It is also an incentive to keep working at it, since you won't want to waste the money you have spent. Although these details are for leather, most of the information applies to all forms of pyrography!

There are a great many pyrography machines to choose from and many select one made by 'Janik', but for me the ideal machine is the Peter Child Artists Pyrography Machine ([Here](#)). Everything about the machine is robust and conservatively rated. A lot of them are used in schools in England because they withstand abuse, and all parts can easily be replaced if necessary. Some machines out there are 25 years old and still going strong!

The transformer is housed in a strong steel case and is available in 230 volt or 110 volt versions (110 volt versions may look slightly different). The control is robust and reliable and gives constantly variable heat from 0 to 10. The pen can be "parked" safely in a clip when not in use. The pen plugs into 4mm sockets in the front panel and can be quickly interchanged with another pen with a different point. While the warm up time is only three or four seconds.



Pyrography machine



Pen

**Spoon point for shading:-** The spoon points are shaped like a tiny teaspoon. The bowl of the spoon can be used for soft shading effects and the edge of the spoon is useful for texturing. They are difficult to make without special equipment but one comes with the machine and replacements are available.

**Points for feathering and line work:-** These points are made by hammering a loop flat and cutting and filing it to make a small blade shape. They are excellent for producing fine clear lines. They can also be used flat for some shading effects.

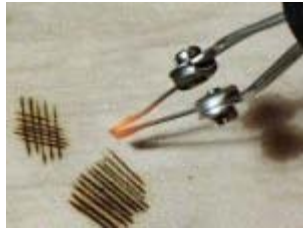
**Powerpoint:-** There is plenty of power in reserve. Using a heavy duty lettering/shading point at maximum output the burning rate can be too much for comfort! However when used sensibly the pen can quickly produce large lettering and patterns. The point shown is made from 23 gauge wire formed into a tiny coil to concentrate the heat. It burns a line 3mm wide at 6mm per second. Wider coils can quickly be made and thicker wire could be used. The coils produce a striped texture. If the coil is filed smooth then no stripes. The heat is enough to "toast" the leather when held a short distance from its surface. This will give a soft shading effect for large areas quickly and uniformly. A thin shim of metal can be used as a mask to shield the heat and give a hard edge to an area of soft shading.

**Working with leather:-** The pen works extremely well on light coloured (preferably vegetable-tanned) leather but the smell is terrible — keep the windows open and/or get an extractor fan with a carbon filter! Pyrography produces monochrome images reminiscent of

the old sepia-coloured photographs of bygone years, with a look similar to pen-and-ink or pencil sketches. What sets Pyrography apart from the mere two dimensional works produced with pen or pencil, is the delicate textures produced when the heat used to draw with subtly alters the characteristics of the drawing surface.



Spoon point for shading



Blade point for feathering



Powerpoint - heavy duty point

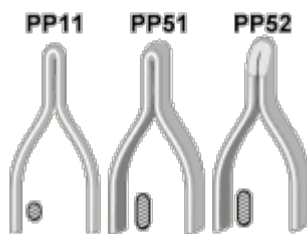


Burning on veg-tanned leather

**New points for fine detailed work:** - These are available from the machine's manufacturer and are made from a new flat section alloy which is strong and rigid. The tip radius is equivalent to that of a fine 26 SWG point so it will do the same thickness of line.

The advantages over the old "fine" 26 SWG round wire points are as follows.

1. The heavier section metal does not bend or flex so much in use, giving better control.
2. The temperature is more stable and does not reduce so suddenly when the tip touches wood.
3. It will run much cooler at the low heat setting - ideal for leather work or slow fine detailed work.
4. If the point (PP51 only) is turned through 90° it will do a wider line or could be used for shading effects.
5. PP52 is dual purpose - one side for fine lines or - just flip over for shading.
6. The tip can easily be modified by rubbing on an abrasive block to give a bigger tip radius to suit your needs.
7. The flat section wire is much easier to squeeze up with pliers when you make your own points.
8. The flat section can be easily "rolled up" to make effective "solid" points for shading.
9. The new alloy is a higher electrical resistance so it takes less current and is kinder to your machine.



New, PP51 & PP52 showing comparison



Old 'fine' 26 SWG points



New fine flat-section alloy points

The dual purpose PP52 point is the same as the PP51 but with one side ground away a little at an angle. This gives a better view of the fine tip as you work. It can be polished by rubbing on a sharpening stone to give a rounded surface. It is double-sided — coarse one side for shaping, and fine the other, for polishing. The rounded surface is good for shading effects —

**just flip the point over for shading or broader lines. You can easily turn a PP51 into a PP52 by rubbing on the shaping and polishing stone, by filing, or grinding.**

## Pyrography — continued

**Making your own points is simple:-** Tools you will find useful are small pliers, wire cutters, a small screwdriver and a sharpening stone for polishing the points. Switch off first, and, before removing the old point, make sure you allow the terminals to cool. If you are impatient you could dip them in water. Snip off a length of wire about 1¼" (32mm) long, using only special nickel-chromium wire. Wear safety spectacles and direct the cut piece safely away from you. Form the wire into a U shape. Fit into the terminals — not under the screw-heads but between the nuts and terminal struts, then tighten. Squeeze the end with the pliers to the shape you want. The tip should be compacted with the power switched as the metal will be softer, and the job is finished.



Tools required



Cool the terminals



Snip off a length of wire



Fit U shape into terminals



Squeeze to required shape



Shaping and polishing stone



Compacting the end with pliers

You've sorted out your machine and the various burning points you are initially likely to need so let's get on with it. First, you need to set up your work area. Make sure that the place you are working in is well lit and that there is nothing close by that can burn. You do not want to burn anything except the leather you are working on! Make sure that the light source is in front so as not to cast a shadow onto your working area. You really need to be able to see what you are doing! You don't need a lot of space on which to work, an area of about 3' wide by 2' deep is sufficient. Make sure you put something on your work-surface to protect it from being burnt by the hot iron. I'd recommend a piece of formica or masonite for this purpose. These materials resist heat well, and although they can scorch from the heat, they do a very good job of protecting the surface on which they are placed.

**Using patterns:-** Patterns or templates are not a necessary part of burning, but they make things a lot easier. If you are good at drawing you can make your own. But keep the subject simple, something that can be rendered with lines and some shading. If you cannot draw you can trace over some picture or design that you have found and would like to burn onto leather. But keep the subject simple while you are learning.

You can buy patterns of various kinds. Useful sources are Tandy Leather or The Identity Store for 'Craftaid' templates. These clear templates with their raised ridges allow you to faithfully reproduce patterns as they were originally drawn by the artist. They have a vast range of subject matter including lettering and numbers. Simply dampen the surface of your leather, place the template ridge-side down on it and apply pressure, either by pressing, or tapping gently with a mallet, and the pattern is impressed into the surface. Naturally you let the

leather dry before proceeding with any burning.

**Kinds of tips:** - There are four tips that I would recommend for use in burning. A knife tip, which has a point, two sides, and a knife edge. This tip can be used in many ways. A pointed, cone tip is used for very fine lines and some shading. A rounded tip is used for bold lines and dark shading. Finally a flat tip, which looks like a small trowel, and can be used for many things. You can make fine lines with the pointed end, you can darken the line by adjusting the tool angle, or you can do shading by using the flat portion. The use of the tips will be discussed in more detail later.

## Pyrography — continued

**Your "canvas":**- The leather is the next item I want to talk about here. You can use just about any leather you like, I'm tempted to say, but clearly vegetable-tanned tooling leather is far and away the one of choice. Whatever type of leather you select, it should be smooth — at least while you are learning. Smooth leather is much easier to work with. You can use rougher textures later when you want to create something a little different. If this is your first experience with burning you may want to practice on a scrap piece of leather.

Start with the Universal tip in the iron, switch on and give it time to heat up. Make sure the iron is in the holder and the tip is not touching anything that will burn or melt.

Once the iron is hot, use the knife-edge to make straight lines. Move the tip quickly for fine lines, and more slowly for darker lines. Practice until you can control the burn, that is, the darkness of the line. Be sure to practice a variety of lines from very fine to very dark.

You can also use pressure to vary the line, slightly harder for a wider and darker line, less for a finer line.

The flat side of this tip can be used for shading. The closer the side of the tool is to the leather, the darker the shading. Slide the tool to the side (to the right if right-handed) and away from you slightly. This seems to give the smoothest shading.

Although you can do most burning with the Universal tip, you should become familiar with the other tips that you have. They all give a different character to a line or shading. Discover what each of your tips can do.

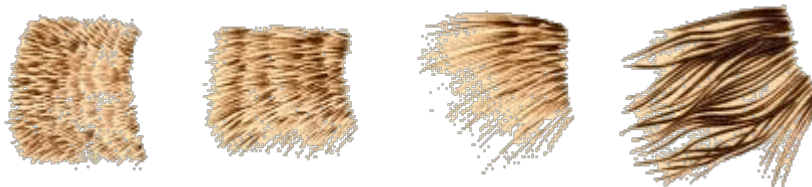
When you feel confident that you can burn a straight line, a curved line (more difficult) and some shading, then you are ready to begin your first burning in earnest. If you spend between 30 minutes and 2 hours practicing, then you are probably ready to begin. Your first burning doesn't need to be perfect — it just needs to be fun!!

Start the burning with heavier straight lines. Then do some of the finer lines. Rotate the leather as you work so you are pulling the lines towards you. Next try some curved lines, both heavy and fine. Curved lines are deceiving — since the tool is a knife-edge, it wants to go straight. To compensate, you will need to put less of the edge on the surface — increase the angle of the tool to the leather. You will soon get the hang of it, and you can then get on with it for real.

The "secret" to good leather burning is the speed of the tool across the leather that creates the burn, not the pressure that is applied to the tool. Very little, if any, pressure is used in burning. You do not need to push or force the tip into the leather.

A light quick movement creates light fine lines or shadows. Slower movement with the burner makes dark deeper lines or shadows. The longer the tool rests upon an area the darker it will scorch the leather.

In the first of the examples below, the first series of strokes, "fur" detailing for a wildlife subject, is done with the blade of the tool. The blade creates a crisp fine line. For fine fur let just the first quarter of the blade contact the pattern area, pull quickly to make the line soft golden brown. On the second sample just a bit more of the blade is used. By the last sample half of the blade is laid onto the leather and the movement is fairly slow.

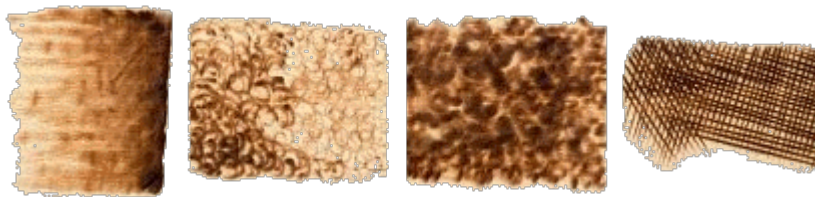




Except for the first example you can see that each of these lines are curved. This is done by rolling the tool at the shaft between the thumb and forefinger. Curved lines add more interest than straight lines. Also note that the strokes are all burnt in the same general direction within each example. In example two, medium hair length, this gives a rolling or rounded effect to the area.

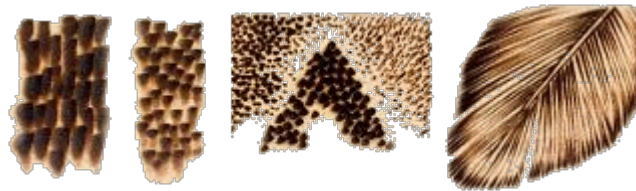
This next series of burning examples are strokes that will be useful as background and shading tones. The first three, left to right, are done laying the tool toward the side from the blade edge. How far over you lay the tool will determine how dark the shading becomes.

Graduated shading is done by starting with the blade along the pattern line then pulling away from it. As you pull, quicken the movement and slowly lift the tool from the leather. This is an excellent shading stroke to emphasize the depth of the carving work. The next two examples use the side of the tip's point. Move the tool in a circular or swirling motion to create this curly shading. Again, laying the tip point further on its side will make the burning strokes wider, moving the tool slowly will darken the stroke.



The last example is cross-hatching and is a useful shading for line designs. Cross-hatching is simply a series of overlapping lines. The more lines you use, and the wider, the more darkly shaded that area will become.

The tip's point makes little triangle shapes for very dark shadow areas for, say, inside an animal's ear or nose. Lay the tool slightly on its side allowing the tip and side to rest on the leather. Using just the tip's point a dotted pattern can be achieved. Just like cross-hatching the size and darkness of the dot pattern will give an impression of depth.



Feathers, for example, require three different series of burning strokes to create the effect of the feather's curvature. First, using the blade, pull in the two strokes that will become the shaft of the feather. Second, working from the shaft line toward the outer edge of the feather, pull a series of fine lines. Observe that these lines are darkest along the shaft and paler as they reach out to the feather's end. Pull a third series of fine lines, working this time from the outer edge back toward the shaft. This double row of lines gives a graduated tonal value with the palest point being in the centre of the feather.

Pyrography, as we know, means to draw or write with fire, and is as old as man and his cave paintings. Historic examples can be found all over the world and are associated with most early cultures and civilisations. So you are going to be continuing a long tradition as you strive to master this particular artform.

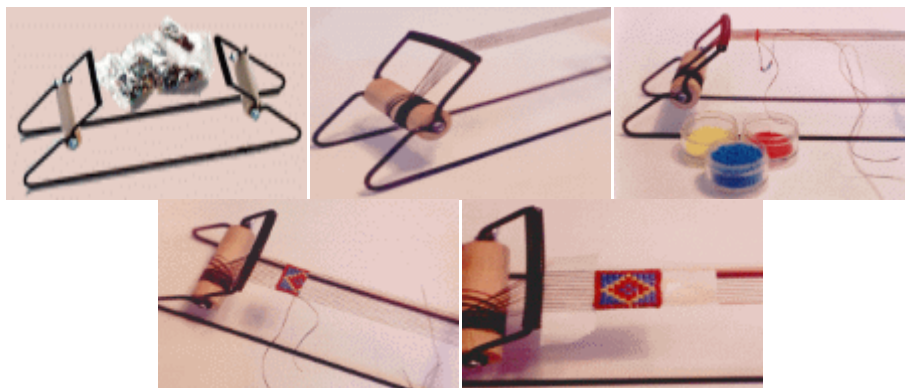
# Beading – using a loom

Leather-workers also need to know how to use beading looms as they are often called upon to supply the beaded toe plugs for moccasins, not to mention beaded strips for belt trimmings and hatbands, also on occasion, beadwork for dream catchers, and beaded fringe strips.

**Loom Work:-** Beading looms are incredibly easy to use and are usually made of wood or metal. The smaller metal looms available in any craft are fine for short, narrow projects. Wooden looms are usually larger and adjustable, and better for longer or wider projects. They are a bit more expensive. For loom work, any cross stitch or knitting pattern will work well. Count the number of rows in the width of the pattern and then add one more to it. This is the number of warp threads that you need to load onto your loom.

**Threading up the loom:-** The loom is strung in width according to the number of beads used. This is called the warp. You will need one more warp thread than the number of beads. Outside threads are double for extra strength.

Knot the warp thread over a fixed peg. Hold the spool and allowing a steady feed of thread lay it thread into a groove in the threaded rod, bringing the thread across the loom to the corresponding groove at the other end, and wrapping it around the peg at that end. Lay the thread into the next groove on each rod and bring it back to the starting point. Continue wrapping around the pegs back and forth until you have one warp thread more than the number of beads in the widest row of your design (e.g.: 9 beads across = 10 warp threads). The threads have to be of equal tension. If they twang, they are too tight; if they slump unevenly, they are too loose. Make your adjustments before tying off the thread around a peg. The threaded rod will space 18 threads to the inch, ideal for regular size Delica beads. If you are working with 11/0 or larger seed beads, you may need to skip 1 to 2 grooves per inch. It is better to have the warp threads spread apart than have the beads squeezed into an arc. Run wax up and down the warp threads to strengthen them.



The weft thread holds the beads, weaving back and forth in a horizontal path around the vertical warp threads. Cut a length of thread 24” – 36” and knot it onto an outside warp thread leaving a 6 inch tail. Slip the other end of the weft thread into a beading needle. If you are right-handed, tie onto the left warp, passing the thread under the warps to pick up beads for a row. If you are left-handed, tie onto the right warp. Be sure to string the beads in the same direction as the weft thread. Read a chart from left to right for right-handers; read right to left for left-handers.

**Beading on the loom:-** Aside from the Czech beads, today there is the expanding selection in beads from Japan. Japanese seed beads are available in sizes 11ø to 15ø (Czech size 14ø), including two-cuts (faceted) in 11ø and hex cuts in 15ø. The seed beads are more uniform in size, need less culling, and are blessed with a larger hole plus a slightly more square profile than Czech beads. Loom-work in these beads provides a uniform, slightly textured surface. The more costly Japanese Miyuki Delica and Toho Antique beads are cylindrical in shape (square profile), with thin walls and large holes,

allowing many passes of the thread. They come in two sizes, regular and large, comparable to Czech sizes 12ø and 8ø. Weaving with Delicas is positively delicious, providing a very smooth fabric. Seed beads have been around for many centuries, being the beads that the English and French used as currency trading with native-Americans. Most today are imported from either the Czech Republic or Japan, in many sizes from 22/0 to 1/0. The size most often used for bead-weaving is 11/0. This number refers to how many beads to the inch when laid flat. Beginners should select a slightly larger size, 10/0. The holes are bigger so you will have less trouble passing your needle through them.

Delicas are a recent addition to the bead world, a small cylinder bead that is as tall as it is wide. They are from Japan and are more expensive than seed beads, but by using them you don't have the width design problem you have with seed beads and by using a cross stitch pattern your piece will come out closely in proportion to the pattern.



If you are now ready to begin beading choose beads that are uniform in size. The best method is to work from a bead box that has a working tray that keeps the colours separate.

String the number of beads required for a row onto the weft thread. Make certain that the thread is under the warp threads before pushing the beads up to the first outside warp. Press the beads up with your finger so there is one bead between two warp threads across the row.

Holding the beads in place, pass the weft thread back through all the beads over the warp threads. Repeat these two steps for each row.

The most common mistake is passing the needle under one or more warp threads. The beads will drop beneath the rest of the row. If you catch it right away, undo the weft thread back to the mistake and rethread, reweaving to correct the mistake. If you discover it several rows later, you may thread a needle with weft thread and pass through two beads before the beads affected, and two beads after, making sure that the needle passes over the warp threads. Weave the ends into the surrounding beads.

**Taking beading off the loom:-** While the finished work is still on the loom, cut strips of tape for each end of it. Sandwich the end threads between the pieces of tape, making sure the tape butts up against the end beads, then cut off outside threads. Fold tape behind beaded piece. Conceal tape and threads by following instructions for attaching backing to woven projects. Beading needles vary in length from 1" to 3", with sizes #10 (the largest), #12, #13, and #15. The accepted practice is to use the longer needles for loom-work, but be aware that they bend easily in the nervous fingers of beginners.

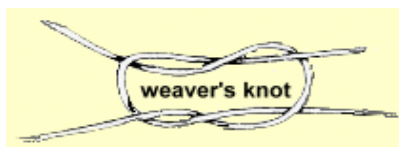
It is preferable to use the standard beading #12 of about 2' length for weaving the piece, with the shorter #12 sharp for weaving off threads. To avoid piercing the warp threads, some people will blunt the tip of the needle with an emery board, but keep an eye out for a short #10 blunt tip tapestry needle, just now becoming available, this is ideal for beginners weaving a narrow first piece with 11ø beads or larger.

**Option 1:** Cut end threads, leaving a 2" - 3" tail, and weave each one back into your beadwork (or if you wish, use them to attach fringe or embellishments).

**Option 2:** Cut end threads, leaving tails long enough to tie together in pairs behind the beadwork, then attach backing.

**Option 3:** If the warp was done with beading wire, cut end wires with wire cutters, leaving a 1" - 2" tail, then twist them together in pairs up against the beads, then bend behind beadwork. Trim off excess wire.

**Joining new thread:-** When adding a new length of thread to the weft thread, join with a weaver's knot. During beading the knot should end up inside a row of beads. Trim off excess thread.



To more easily read your graph, draw a line through the rows of your pattern as you complete them.

When you weave the final row of your pattern, tie a knot and pull it down until it is closely against the last bead, then take your thread and weave it back through your work a few times, coming up in the middle and cutting it close to the surface.

To finish the product, take a bit of tape and secure the warp threads with it close to each end of your piece. Cut the finished piece off your loom, leaving several inches on each side. Fold the warp threads under the loom work and then glue them (a jeweller's cement is a good choice) to a backing material such as leather, or another equally sturdy. When using the glue take care that it does not ooze through the beads, ruining your work.

There you have it, your first bead-woven piece. Remember, bead-weaving takes time and patience to learn. Your first piece may be a disappointment, but with practice your work will improve!

# Chinese button knot

You can make this knot using either cord or round leather lace starting as indicated in Fig 1 with a length of cord approximately 2' long. Fold it in the centre to give equal lengths and push a small safety pin, or similar, through the folded centre part. This is to keep this part raised until, when you are finished, it is removed.

Figure 2. Holding your left hand in front of you with the palm facing you put your forefinger between the two equal lengths with the pin on top of your finger. The two cord tails fall across your palm with the one coming round the back of your finger on the right side. Maintain this position of the cord and pin throughout.

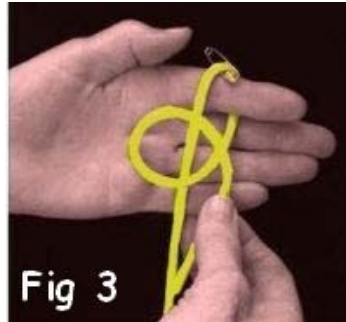
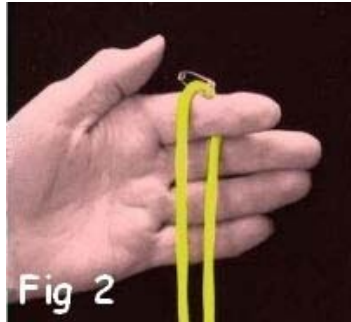
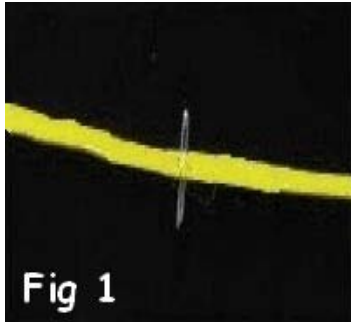
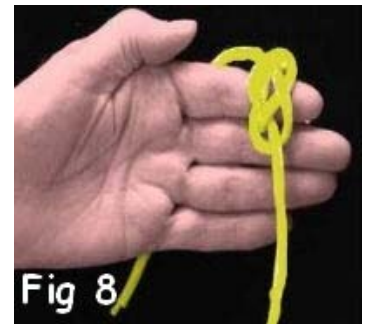
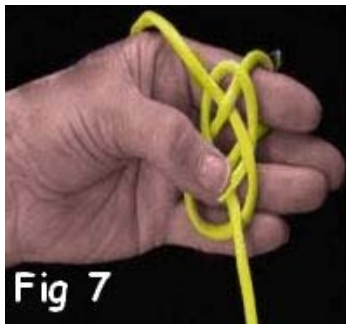
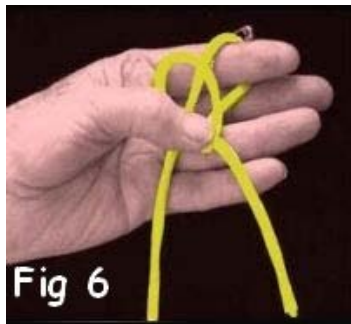
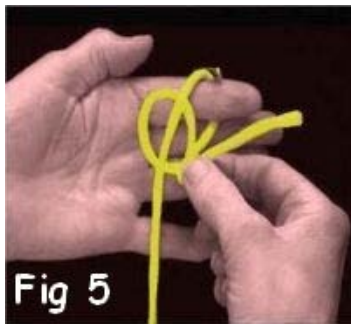
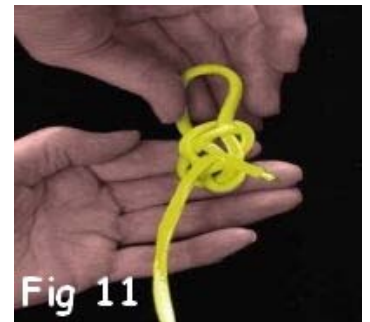
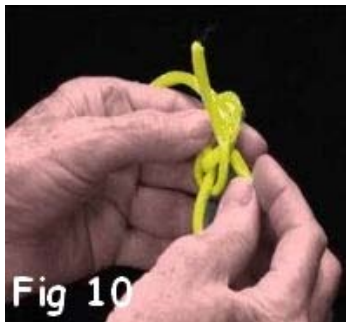
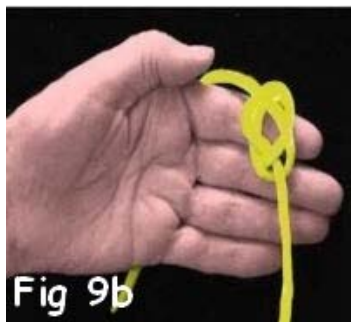
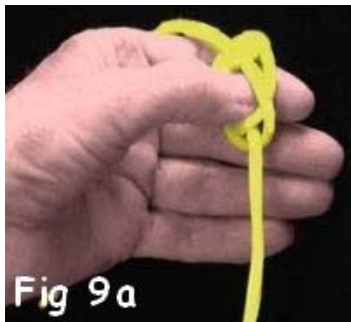


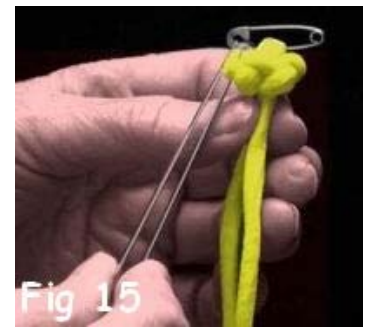
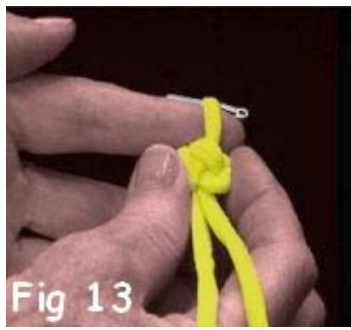
Figure 3. Make a clockwise loop with the right cord, placing it on top of and centred on the left cord letting the end of hang down alongside the other one, while in Fig 4, using your right hand, forefinger on top thumb under grasp the loop at the intersection. In Fig 5 the loop is turned upside down to the right and once more is placed on top of and centred on the left cord observing that the end of the loop cord points upwards.



As in Fig 6, hold it in place with your left thumb while you complete what's shown in Fig 7, where you take the left cord under the right going over the right side of the loop and under the cord in the centre of the loop, over the left side of the loop before continuing over your forefinger and falls to the back. As in Fig 8 close the cords partly by carefully pulling them to form a pretzel shape in an upright position in the front of your forefinger.



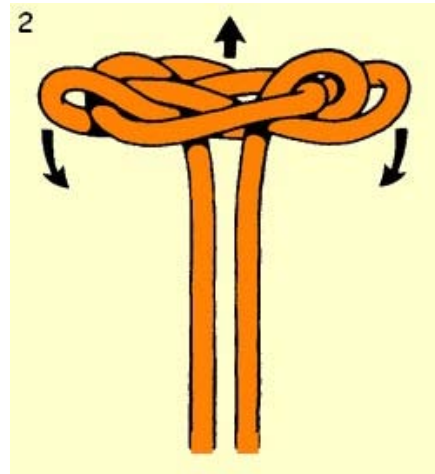
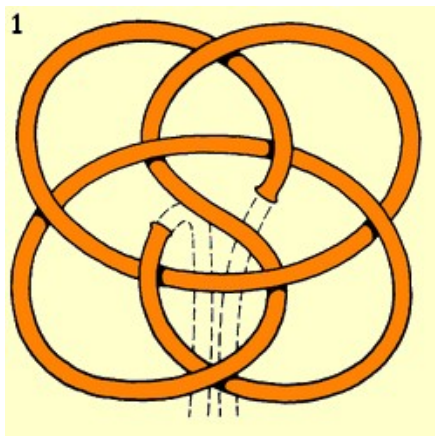
In Figs 9a and 9b push a hole in the centre of the pretzel shape between the X shapes, where the cords cross. Taking the bottom cord, Fig 10, that is the one in your palm, counter-clockwise under the right side of the pretzel shape and up through the centre hole. While as shown in Fig 11 the cord from the far side of your forefinger goes counter-clockwise, under the left side of the pretzel shape and up through the centre hole.



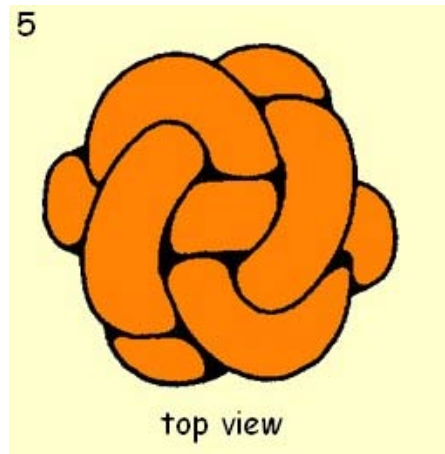
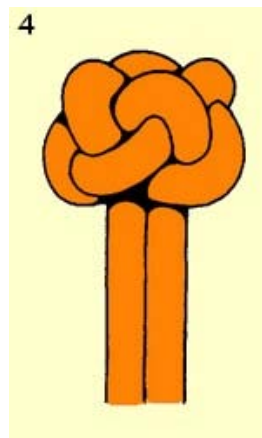
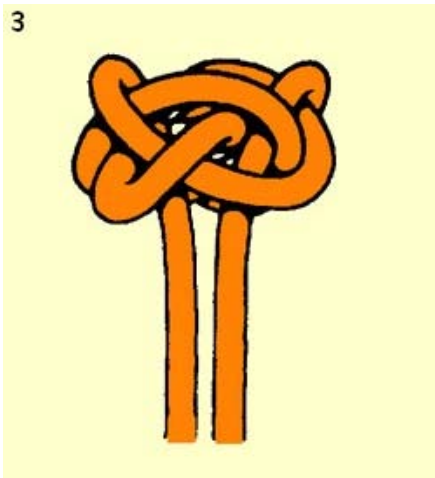
You can see in Fig 12 the end cords dangle from the centre of the pretzel shape, so tighten them slightly. Using your right hand, Fig 13, make the pretzel shape, round. Remove the knot, as in Fig 14, from your finger. Slowly tighten the cords using your fingers to pull down a bit of cord from one side of the safety pin, easing any excess through the knot, then do likewise on the other side. As the knot tightens, Fig 15, you may need to use tweezers until you get the final correct shape. Remove the safety pin, making certain to leave the bit of cord the safety pin had been through would still stand proud above the finished knot.

## An alternative method for tying the Chinese Button Knot

An apparently simpler approach to tying the knot can be seen in the following illustrations but it may require several attempts to succeed. Proceed by forming on a flat surface the shape shown in Fig 1. As you can see in Fig 2 the two ends are allowed to drop down to form a stem.



Work out the excess material slowly and methodically while, at the same time, keeping the knot flat, then as it draws up, permit it to form the mushroom appearance as in Fig 3. That shape comes about by the rim of the knot closing down and the centre rising upwards.



Start to manipulate the knot into its final shape as shown in Fig 4 by drawing it up tightly. Depending on the material you are using to tie the knot you may find the use of pliers or a similar tool is beneficial at this stage. In Fig 5 you're just looking at a straight down view of the top.

# Various kinds of leather

Select an image to view a larger version



AlligatorBelly



AsianPlatedBuffalo



Buffalo



Cabretta



Calf



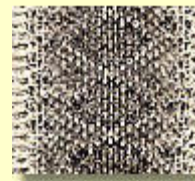
Deerskin



DeerskinSuede



DiamondPython



DiamondRattler



Elephant



Elk



Elk2



FinishedCowhide



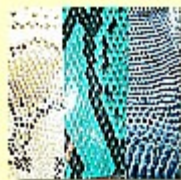
FinishedCowhide2



Frog



FullgrainCowhide



GlazedPython



GoatSkin



GrainBuffalo



GrainCowhide



HornbackCaiman



NakedCowhide



OldElephant



Ostrich



OstrichLeg



PigGrain



PigSuede



Rhino



RingLizard



RowStoneStingray



StingRay



UKDeepShoulder



UKFineShoulder



ViperSnake



**Natural Grain Leathers:-** A collection of "enhanced" natural leathers that have been embossed with additional natural graining. Sometimes hand-wiped with a complementary colour to produce the most sought-after appearance. (Hand-wipe: Sometimes called "hand-tipped" or "gilding," this is a hand application by skilled workers of one or more complementary or contrasting colours as highlights, shadows or "aging".)

**Asian Plated Buffalo:-** This leather is embossed to replicate the grain texture of Asian or Cape Buffalo.

**Elk:-** Very rugged leather with a pebbly texture, a soft, pliable hand and a slightly stretchy cross section.

**Finished Cowhide:-** Leather from the mature female bovine. This leather has a coating applied so as to get different finishes like matt, satin, gloss or high-gloss. It also adds to its utility, durability and clean-ability. Most leathers throughout the world are tanned and finished to get these results.

**Genuine Reptile and Exotic Leathers:-** Many of these patterns and looks are available embossed onto other types and kinds of leather.

**Grain Buffalo:-** Shows the full natural grain of the Buffalo with no attempt to hide the grainy character of the hide

**Lizard:-** Any of a great number of lizard and snake-skins.

**Naked Leathers:-** No patterns.

**Naked Cowhide:-** The highest grade of cowhide. No attempt has been made to conceal the fineness of the grain. Hides may contain fat wrinkles or other naturally-occurring attributes of the animal.

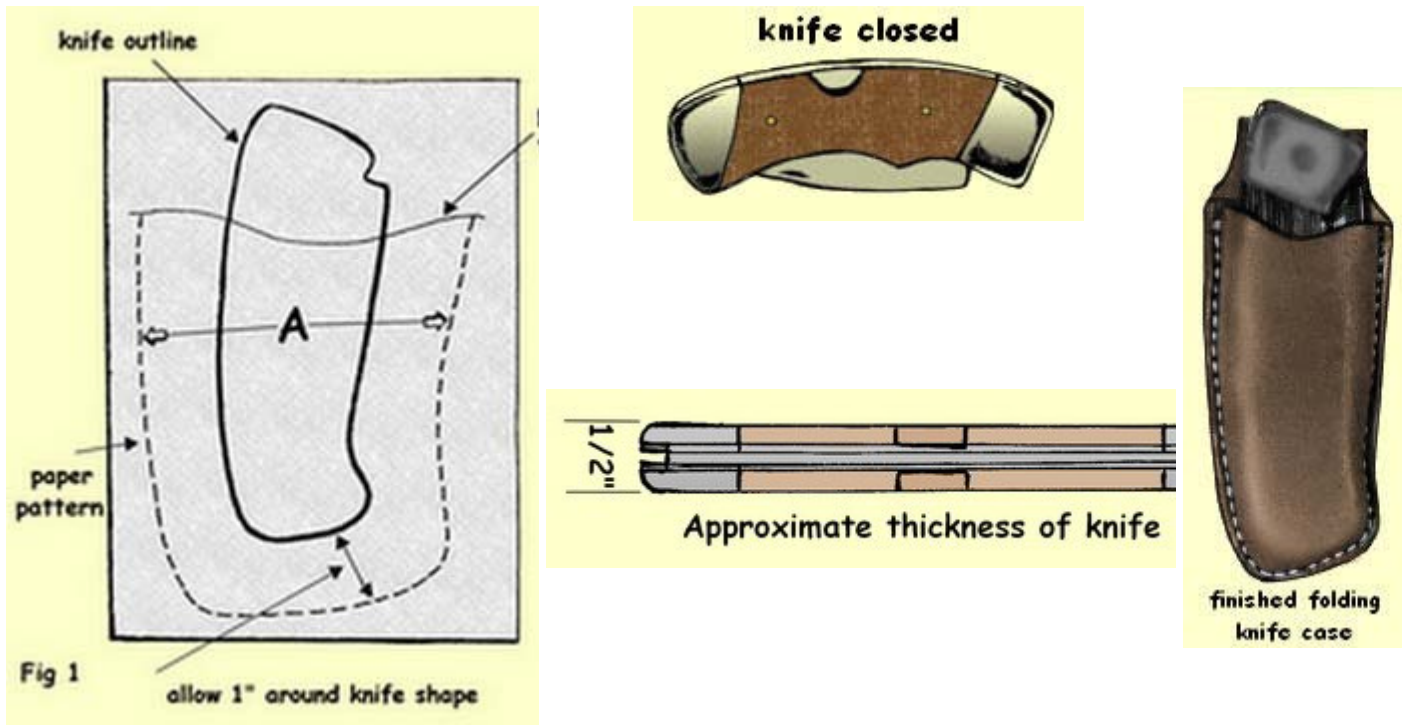
**Ostrich:-** Genuine Ostrich is, traditionally, mostly used in expensive accessories. While embossed Ostrich on cowhide looks good and is available as a less expensive alternative.

**Water Buffalo:-** Flat-horned Buffalo, primarily from Asia and Africa. A heavy-duty, prominent grain, distinguishes this leather when used for upholstery.



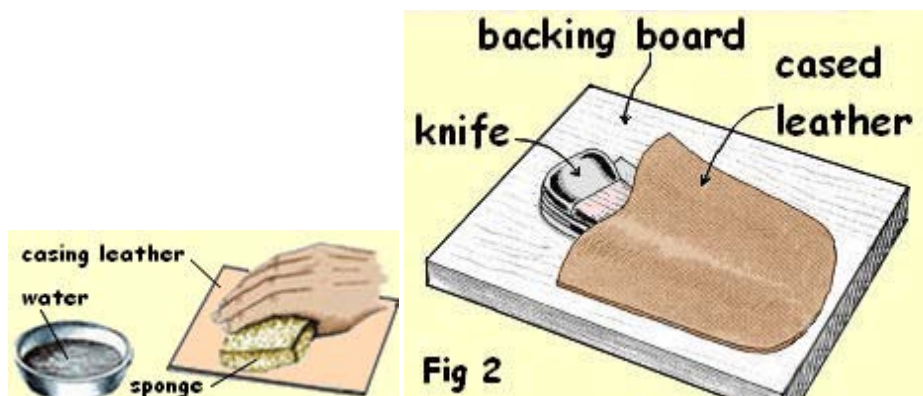
# Moulding a case for a folding knife

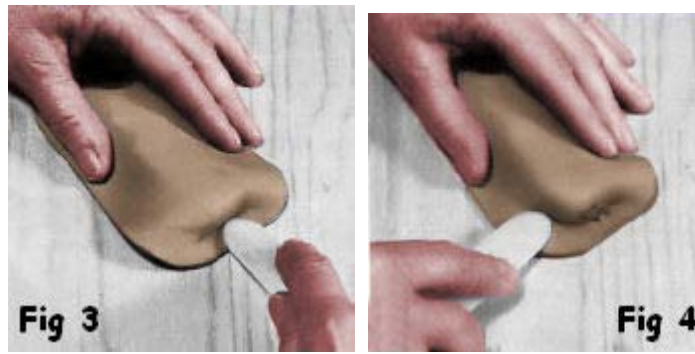
An important characteristic of vegetable tanned leather is its ability to maintain a moulded shape. When it has been immersed in water, preferably warm, its fibres become soft and pliable, making it easy to manipulate. Thus the following is probably the easiest, certainly the simplest introduction to moulding leather I know of. The making of a case to hold a folding knife. The knife itself will act as the former, as the "cased" (wetted) leather is moulded around its shape. The leather to use is 6 - 7oz vegetable tanned cowhide. Use a wet (not soaking) sponge to dampen the grain side first, then the flesh, allowing time for the water to penetrate throughout its thickness.



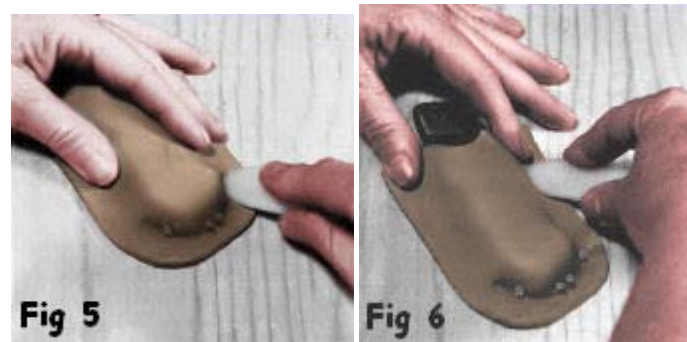
Place the knife on a sheet of paper and draw its outline, as shown in Fig 1. Draw a line indicating where the top of the pocket will be. Mark the pattern outline **A** approximately 1" outside the knife outline, this distance is arrived at by the universal understanding of using "twice the thickness of the object to the pattern edge".

Have already assembled the tools you are going to use, a wooden backing board, hammer, tacks (brass tacks are preferable to steel) and a bone folder. Next, cut out the pattern, transfer the outline to your leather and cut that out, then case the leather. When it's ready, place the knife (narrowest end, if it has one, to the bottom) wrapped tightly in clingfilm on the board and position the cased leather over it as shown in Fig 2.

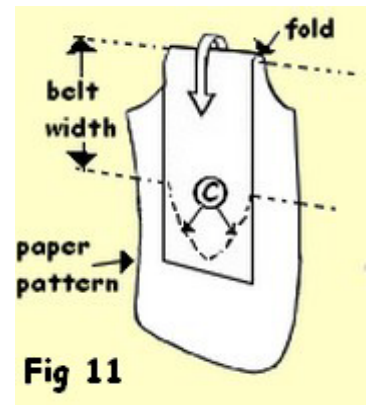
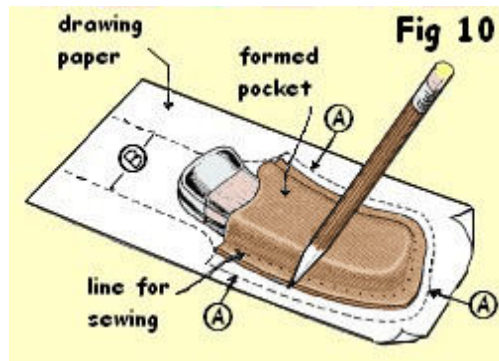
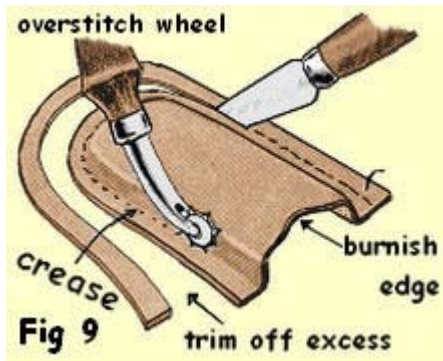




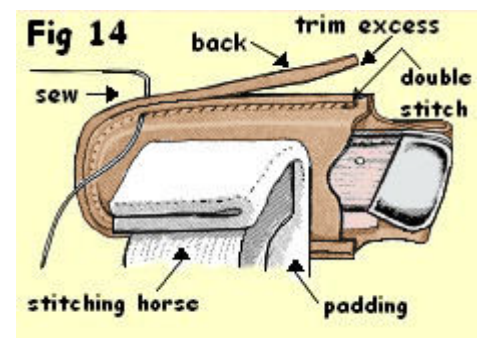
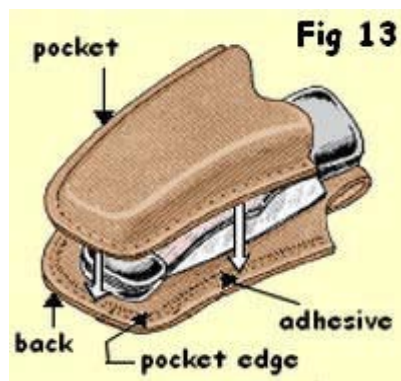
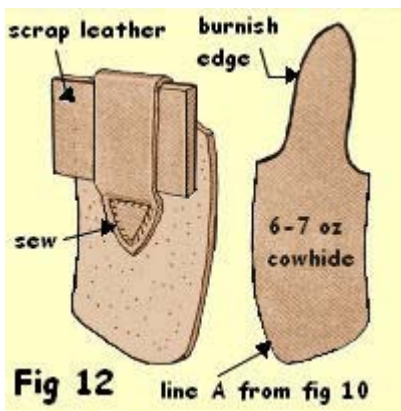
**Firmly hold the leather down against the sides of the knife. Start pushing the leather against the bottom of the knife using the bone folder as shown in Fig 3. Continue back and forth to crease around the end, pressing tightly against the knife under the leather. If you've cased the leather correctly then it will respond accordingly. As in Fig 4, tap a couple of tacks into the crease you are making in the leather, through into the board. Now begin to work around a corner, still pushing firmly against the knife.**



**Continuing to crease firmly add another tack, and start working at the next corner, as in Fig 5. If you are now beginning to find the leather is not forming as it should, it may be because it is too dry, or, even too wet! If it is too dry then go over it with your sponge again, conversely, if too wet, allow to dry a little, then continue working the leather until it responds. Add a tack at the corner while continuing to press and crease up the side, Fig 6, still holding the leather firmly in place as you push in with your folder. Don't forget that the case must not be narrower at the top than the bottom otherwise you'll not get the knife out of it. As can be seen in Fig 7 the tacks placed at the side helps to hold the case while you're finishing the near side. Only let the tacks touch the leather in the crease, if you are using steel tacks, and not any other part as they will leave a stain. Any marks they make in the crease will be covered by the stitching. Carry on shaping and tacking, see Fig 8, then remove the knife and permit the leather to dry completely.**



When it is dry remove the tacks and burnish the edge of the pocket. Trim off the excess leather  $\frac{1}{8}$ " away from the crease, Fig 9, as this is your sewing line. Next place the knife, covered by the pocket, on a sheet of paper and draw around it, Fig 10, with lines **A**  $\frac{1}{8}$ " outside the pocket. The **B** lines indicate the width of the belt loop which has to be narrower than the sewing lines of the case. Having done that, cut out your paper pattern which should appear as in Fig 11, turn over and fold for the belt loop (remember the previous instruction about its width) and trim the ends: line marked **C**.



Cut the back from the same weight of leather as the pocket, 6-7oz cowhide, being sure to follow the pattern. Burnish the edges as indicated, Fig 12, then moisten and fold the belt loop over a piece of scrap leather the same thickness as your belt, stick the arrow shaped part in place with some adhesive then sew it in place. Next place the knife and pocket on the back piece and mark around the pocket edge onto it. Apply adhesive and join together with the back piece edges protruding. (You can if you prefer trim the back piece flush with the pocket edge after sticking the two parts together. You could then create a sewing channel on the back side to recess the stitching.) Finally place the sandwich (the knife remains inside still) in your stitching horse and sew together. Trim off the excess leather and burnish the edge.

# Making a pair of gloves

When you take up glove making as a craft you are joining a company which has a long and honourable history, going back through the centuries. Nobody quite knows when gloves were first worn generally, by both men and women, either as a means of keeping warm, or as an indispensable part of their costume. We do know that strong leather gloves were worn for hawking as far back as the 12th century. The first recorded instance of glove maker was in Perth, Scotland, around 1165, although it is highly likely that other glove makers existed elsewhere and probably earlier. A guild of glove makers was incorporated in France in 1190, and one in London around 1600.

Over time elaborately decorated gloves were worn on ceremonial occasions by the clergy and nobility alike. Antique gloves which have survived are naturally those which belonged to the most important people of their time. There is little or no information as to what ordinary people wore. In Elizabethan times gloves were made from the finest leather, silks and satins, often elaborately embroidered with gold and gemstones. Many examples can be seen in museums up and down the country.

In the 15th century glove makers banded together in guilds, powerful enough to enforce their own very high standards. Gloves which did not reach the standard were seized and burned. This pride in good workmanship has survived to the present day.

Historical records detail the existence and use of gloves back to pre-historic times, yet it wasn't until the 19th century that a method for sizing gloves was devised.

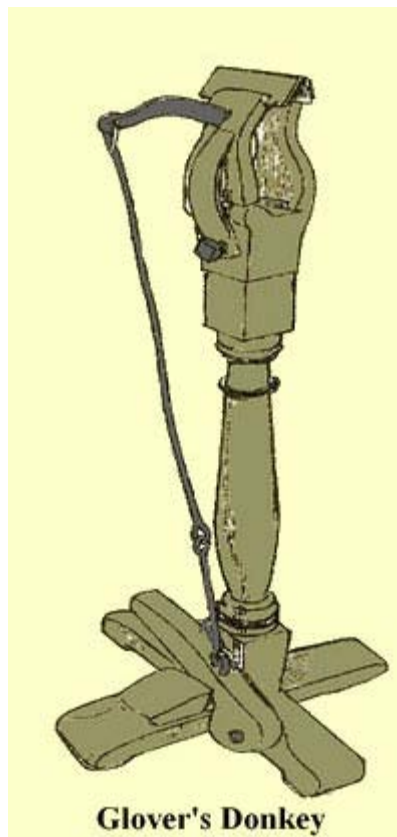
In 1834 a man named Xavier Jouvin from Grenoble established a system of sizing gloves by measuring the hand around its widest part, the knuckles. Finger lengths varied and hands were grouped by comparing their widths. Jouvin's measurement system is called "Pied de Roe", or "King's Foot" and is about  $\frac{3}{4}$ " longer than the English foot measurement.

This system of measuring hands required the development of a special measuring tape, which is still used today for glove sizing. Glove sizes have, therefore, not been affected by metrication, and are usually sized from 4 - 10, plus quarter sizes. The hand that is used the most is measured, as it tends to be slightly larger. Usually this is the hand that the person writes with. The size of the glove is the number shown on the measuring tape. (see [Glove sizes](#)).

Gloves, nowadays, are much simpler, though the elaborate embroidery which once adorned their backs still survives in the form of the "points" with which even the simplest gloves are decorated and are a normal part of our ordinary attire. Women's gloves, more so than men's, can vary with changing fashions.

Traditionally glove-making has been carried on with "outworkers" – makers and cutters working in their own homes. This makes sound economic sense, as the sale of gloves is seasonal and depends a lot on cold weather. This custom is still in use today.

During the 17th and early 18th century gloves were cut out in factories and sent out to nearby villages. There they would be sewn together by hand with the aid of a piece of apparatus called a "Glover's Donkey" The completed gloves were then returned to the factory for distribution. The princely sum of 5/- for one dozen pairs was paid for the great deal of sewing involved – each glove taking three hours to make.



Glover's Donkey

Factory-made gloves are nearly always sewn on special machines. Working in their own homes modern-day glove makers without doubt make gloves almost entirely by hand. The hand worker normally has only an ordinary sewing machine available so finds it much easier to sew seams by hand. With the exception of the points and wrist edges which are often better if they are stitched by machine. Making gloves by hand means each pair can be made to fit the wearer for whom it is intended.

Leather gloves are of course the most hard-wearing of all. They keep their shape well and are warm and comfortable.

**Materials:-** Leather for making gloves must be supple, fairly thin and attractive to the eye, and to touch. Suede can be obtained in a variety of colours. Chamois normally is a pale yellow but can be dyed an infinity of attractive colours, while doeskin is an almost white, cream, though it too can be almost any colour. Skins suitable for making gloves are: buckskin, cabretta, calf, cape, chamois, deer, doe, goat, mocha, kid and pigskin.

The average size of a skin is from 4' – 8' square. Check each skin avoiding any and note whether there are many thin places. If there are, do not buy it. In particular check the edges and pull gently between the fingers. If the skin appears likely to tear and looks papery, don't buy it.

Suede is the perfect material for making formal gloves, but care must be taken with cutting out due to the "pile" which must all go the same way. Suede doesn't wear quite so well as other leathers as it tends to go shiny, and cleaning them can prove difficult.

Sheepskin and lamb's wool, too, can be used for gloves and the woolly side can be inside or outside according to the taste of the wearer and the purpose for which the gloves are required.

**Preparing the skin:-** Roll the skin tightly, lengthwise, flesh-side out and place in a moist cloth (not soaking), and wind the cloth tightly around it, and leave for a couple of hours. Do

not allow the grain side of the leather to get wet.

**Stretching the Skin:-** After removing the skin from the cloth begin to stretch it along the edge of, for example, a table. This process must be thorough and requires some muscle. Letting more and more of the skin hang over the side of the table, pull it evenly, and strongly, downwards. Do this several times but only lengthwise. Do not stretch along its width.

**Other Materials:-** Although leather is the best material of all for gloves, for the ladies there are several others which can be pressed into service: lace, felt, velvet, silk, jersey or matching cloth from a costume. These are, however, more difficult to handle than leather since they usually require neatening, and in any case have no place in these pages.

**Tools:-** The tools required for glove making are extremely simple and easy to obtain. Ordinary sewing needles are used for the finer types of leather, while for the thicker and tougher kinds you can buy three-sided gloving needles in various sizes, glove needles, size no's 6, 7, and 8. Size 6 is heavy and used for men's and women's gloves made of heavier leather. Size 7 is used for nearly all kinds of leather and size 8 for the thinnest and finest skins, such as kid, doe, etc. Any thread can be used. Certain parts of a glove can be sewn by machine and for this purpose a no. 16 or 18 needle is recommended.

The thread you use will depend on the leather it is to sew. You can buy special gloving thread in several thicknesses and this is obtainable in most of the colours you are likely to need. Buttonhole twist can also be used ([Glossary of Thread terms](#)). The chief thing to remember is that the thread, like the needle, must be thin enough to pass easily through the leather without dragging and must be strong enough to stand a good deal of wear without breaking.

In addition to needles and thread you will need a pair of very sharp scissors. These should be small enough to get round corners easily, but large enough to give smooth, even cuts. If you intend to make any fur or sheepskin gloves you will also need a razor blade or a really sharp leather knife, as fur must never be cut with scissors. When cutting out gloves it is usual to lay the pattern on the leather and draw all round it with a sharp pencil. Use a soft drawing pencil on light coloured leathers and a white or red chinagraph pencil on leathers on which the mark will not show.

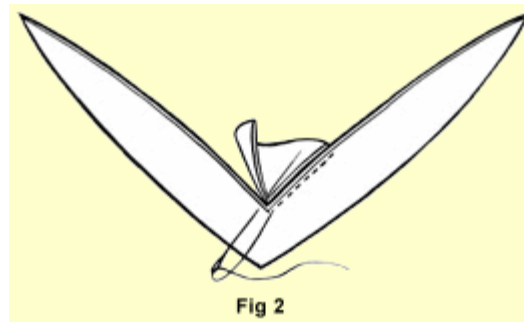
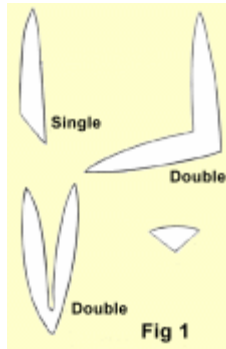
A tool for inserting press studs is useful, but not essential. These tools cost little and the press studs can be obtained in various sizes and colours for a few pence per ten. If the leather is thin, it is wise to place a small extra piece of leather under each half of the stud, in order to give added strength.

It is important to hold your leather flat, especially after it has been cut, avoiding unnecessary stretching.

Some gloves are decorated very attractively with thonging (lacing), and if you wish to use this method you will need a leather punch for making the holes. Punches are not expensive. The thonging (lacing) can be bought by the metre or you can, of course, cut your own. As the amount required is usually small this is not a big job. The lengths should be cut carefully and as long as possible and should be about  $\frac{1}{8}$ " wide.

## Making a pair of gloves – continued

**Terms used in glove making:-** The main part of the glove, the back, the palm, the wrist and the backs and fronts of the fingers, is known as the trunk. The thumb, and the long narrow strips of leather which join the backs and fronts of the fingers are called fourchettes, and can be either single or double. Figure 1 shows you three different kinds of fourchettes. Single ones are used when there are no triangular shaped bits at the base of the fingers. These tiny gussets are called quirks and they are sewn to the double fourchettes as shown in Fig 2. Leathers which possess a good deal of stretch are usually made with fourchettes only, but if the leather is fairly thick and stiff the addition of quirks will give a little more room for the hand and make the gloves wear better. The points are the decorative lines on the back of the hand. Various methods and stitches can be used for these.



The gauntlet is that part of the glove below the wrist, and nowadays it is usually cut in one with the rest of the trunk. It probably dates back to the time when men wore coats of mail and gloves were worn under the steel gauntlet to prevent chafing. It served to cover the end of the sleeve and enabled the glove to be pulled on easily. Nowadays the gauntlet has ceased to be an important part of the glove and is almost non-existent. In former times it was often elaborately embroidered and extended halfway up the forearm. Some gloves, of course, still have deep gauntlets, particularly those worn by motorcyclists. Where this type of gauntlet is used it must be stiffened in some way or it will flop over the wearer's hand. An interlining of buckram or tailor's canvas can be used and the edge of the glove may be strengthened with parallel rows of machine stitching. Another method is to insert one or two rows of thin string or cord between the rows of stitching.

**Stitches:-** The way in which a glove is sewn together is important both from the point of view of wear and appearance. Leather gloves are nearly always sewn on the right side, unless the leather is very thin. Fur is an exception to this as the seams are usually over-sewn on the wrong side. The final seams, however, are done on the right side.

A close examination of a hand-made glove will soon show that the seams appear to be worked in running stitch — that is, small even stitches that are the same size on each side of the seam, Fig 3. The stitch is called "stab stitch" and it is worked in a special way. The two pieces of leather are held together wrong sides facing and the edges parallel. The needle is pushed through the two layers at right angles and the thread is pulled through, Fig 4. The second half of the stitch is made by pushing the needle through from the back to the front, again with the needle at right angles. Thus each stitch is made in two movements. Never try to use ordinary running stitch, in which a small amount of the seam is taken up by the needle, as even thin leather is too thick for this to be successful.

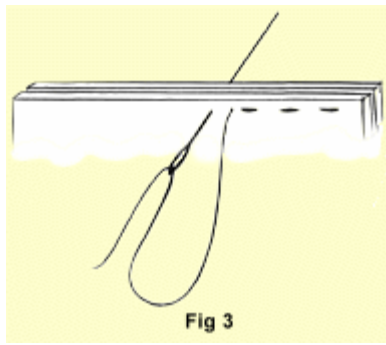


Fig 3

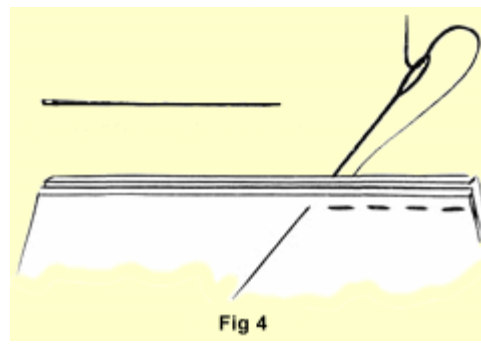


Fig 4

If you want your gloves to be extra strong you can use double running. The first half of the stitch is worked in stab stitch in the ordinary way, a second row of stab stitch is then worked in the opposite direction filling in the spaces left in the previous row, Fig 5. This stitch is extremely strong and if well done looks like machine stitching. The needle and thread used must both be fairly fine as the needle goes through each hole in the leather twice.

Over-sewing can be used either on the right or wrong side. Where extra strength is required a second row can be worked in the opposite direction to form a row of crosses. This stitch, if evenly worked, is very decorative and looks well if a contrasting colour is used, Fig 6.

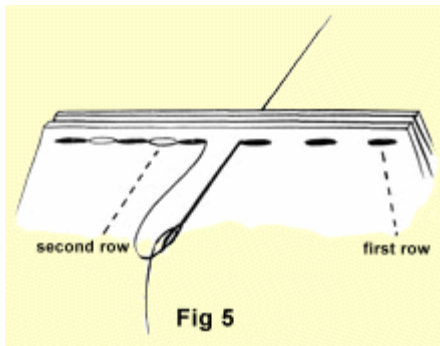


Fig 5

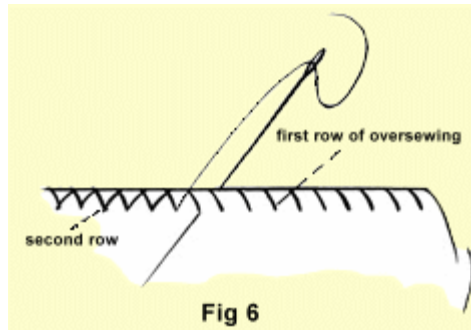


Fig 6

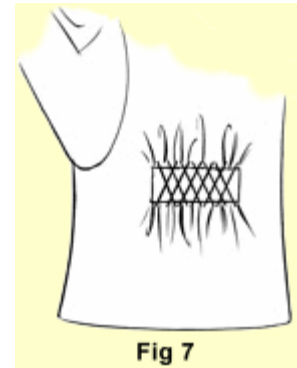


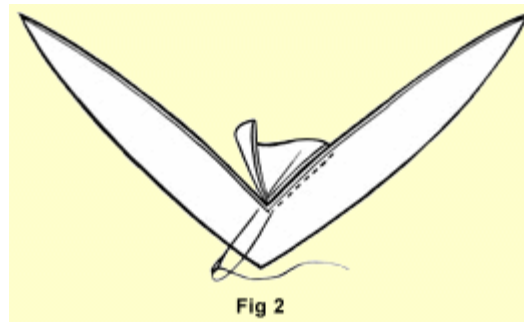
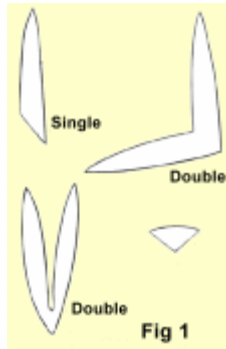
Fig 7

Backstitching can be used for seams which are worked on the wrong side. Machine stitching can be used to good effect round the wrist edge of a glove as it is not only quicker than hand sewing, it helps to flatten and stiffen the edge. Decorative stitching can be used for the points. They can be worked in stab stitch, double over-sewing (cross stitch) or herringbone stitch. When making embroidered gloves any of the well-known embroidery stitches may be used. Herringbone stitch may also be used for sewing down the hem or binding on the wrist edge and for sewing in a strip of elastic where it is required to give a good fit at the wrist. The method for putting in this elastic is shown in Fig 7. You will notice that the stitches go through the material only and not through the elastic which is sewn down at each end. If the stitch is worked evenly, the glove shows an attractive pleated effect on the right side.



## Making a pair of gloves – continued

**Terms used in glove making:-** The main part of the glove, the back, the palm, the wrist and the backs and fronts of the fingers, is known as the trunk. The thumb, and the long narrow strips of leather which join the backs and fronts of the fingers are called fourchettes, and can be either single or double. Figure 1 shows you three different kinds of fourchettes. Single ones are used when there are no triangular shaped bits at the base of the fingers. These tiny gussets are called quirks and they are sewn to the double fourchettes as shown in Fig 2. Leathers which possess a good deal of stretch are usually made with fourchettes only, but if the leather is fairly thick and stiff the addition of quirks will give a little more room for the hand and make the gloves wear better. The points are the decorative lines on the back of the hand. Various methods and stitches can be used for these.



The gauntlet is that part of the glove below the wrist, and nowadays it is usually cut in one with the rest of the trunk. It probably dates back to the time when men wore coats of mail and gloves were worn under the steel gauntlet to prevent chafing. It served to cover the end of the sleeve and enabled the glove to be pulled on easily. Nowadays the gauntlet has ceased to be an important part of the glove and is almost non-existent. In former times it was often elaborately embroidered and extended halfway up the forearm. Some gloves, of course, still have deep gauntlets, particularly those worn by motorcyclists. Where this type of gauntlet is used it must be stiffened in some way or it will flop over the wearer's hand. An interlining of buckram or tailor's canvas can be used and the edge of the glove may be strengthened with parallel rows of machine stitching. Another method is to insert one or two rows of thin string or cord between the rows of stitching.

**Stitches:-** The way in which a glove is sewn together is important both from the point of view of wear and appearance. Leather gloves are nearly always sewn on the right side, unless the leather is very thin. Fur is an exception to this as the seams are usually over-sewn on the wrong side. The final seams, however, are done on the right side.

A close examination of a hand-made glove will soon show that the seams appear to be worked in running stitch — that is, small even stitches that are the same size on each side of the seam, Fig 3. The stitch is called "stab stitch" and it is worked in a special way. The two pieces of leather are held together wrong sides facing and the edges parallel. The needle is pushed through the two layers at right angles and the thread is pulled through, Fig 4. The second half of the stitch is made by pushing the needle through from the back to the front, again with the needle at right angles. Thus each stitch is made in two movements. Never try to use ordinary running stitch, in which a small amount of the seam is taken up by the needle, as even thin leather is too thick for this to be successful.

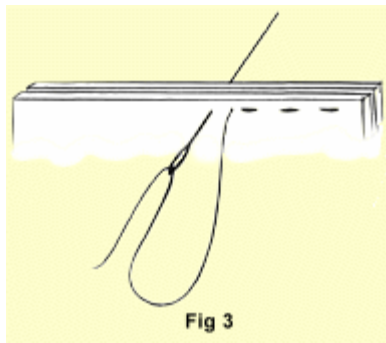


Fig 3

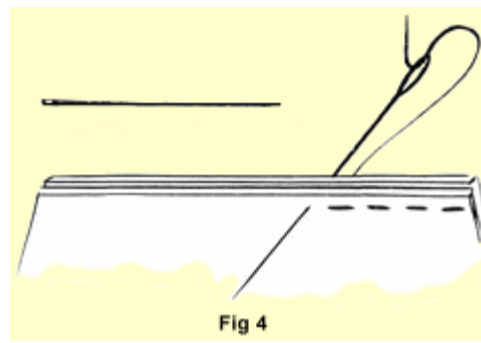


Fig 4

If you want your gloves to be extra strong you can use double running. The first half of the stitch is worked in stab stitch in the ordinary way, a second row of stab stitch is then worked in the opposite direction filling in the spaces left in the previous row, Fig 5. This stitch is extremely strong and if well done looks like machine stitching. The needle and thread used must both be fairly fine as the needle goes through each hole in the leather twice.

Over-sewing can be used either on the right or wrong side. Where extra strength is required a second row can be worked in the opposite direction to form a row of crosses. This stitch, if evenly worked, is very decorative and looks well if a contrasting colour is used, Fig 6.

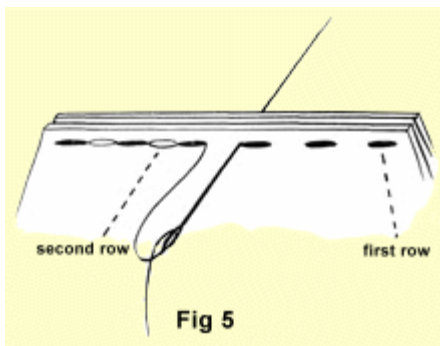


Fig 5

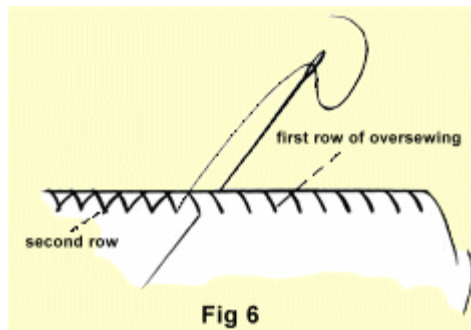


Fig 6

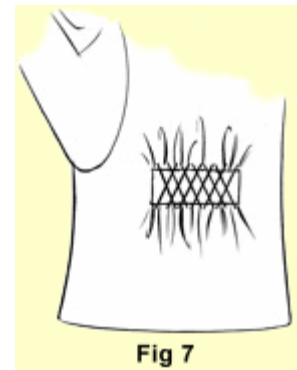


Fig 7

Backstitching can be used for seams which are worked on the wrong side. Machine stitching can be used to good effect round the wrist edge of a glove as it is not only quicker than hand sewing, it helps to flatten and stiffen the edge. Decorative stitching can be used for the points. They can be worked in stab stitch, double over-sewing (cross stitch) or herringbone stitch. When making embroidered gloves any of the well-known embroidery stitches may be used. Herringbone stitch may also be used for sewing down the hem or binding on the wrist edge and for sewing in a strip of elastic where it is required to give a good fit at the wrist. The method for putting in this elastic is shown in Fig 7. You will notice that the stitches go through the material only and not through the elastic which is sewn down at each end. If the stitch is worked evenly, the glove shows an attractive pleated effect on the right side.

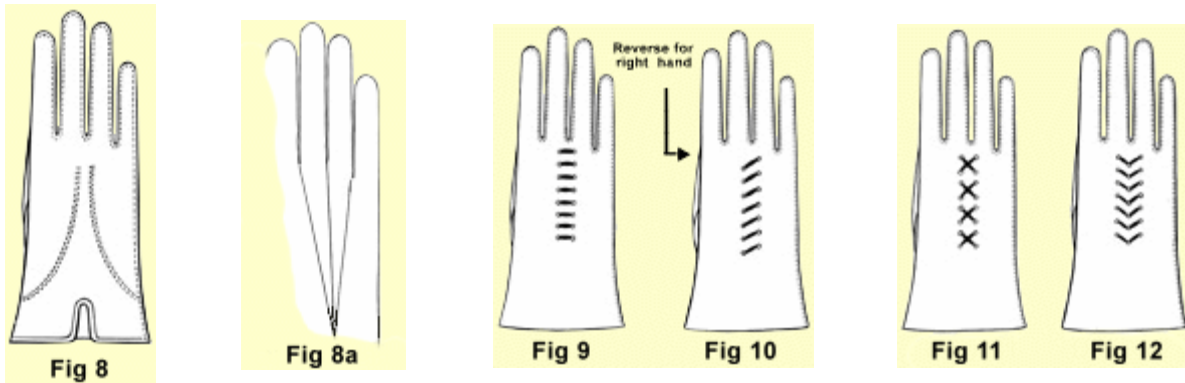
One drawback to sewing gloves by hand is that it is almost impossible to pin or baste the leather, as the holes made cannot be removed, spoiling the appearance of the glove and weakening the leather. For this reason you must be prepared to place and sew your seams at the same time. It means that you have to work slowly, although experience soon shows you the best way to go about it. Should you, for any reason, find it imperative to hold any particular seam in place as you work, use paper clips. Do not to allow them to scratch the surface of the leather.

**Decorative details:-** The decorative lines or "points" which adorn the back of the glove have previously been mentioned. These points often form part of the design, adding to the finished appearance of the glove. They are made while the trunk (the back, palm, wrist and the backs and fronts of the fingers) is still flat, usually after the thumb has been put in. Most patterns

will give some indication as to where the points should begin and end.

The classic method, used on plain gloves of the tailored type, particularly those worn by men, is to put in three small tucks. These are worked either in stab stitch or by machine. The tucks should start just under the base of the fingers and end a little above the wrist. The two outer ones usually slope in a little towards the bottom.

In order to avoid the crooked seam lines so often seen in these three decorative tucks, you should slant the middle line toward the little finger, rather than parallel to the straight folding line of the glove. The correct way of putting on the tucks is shown in Fig 8a. Another method is to put two curved tucks, starting about ½" apart, near the fingers and curving outwards to finish at the side seam on the outer edge and just below the thumb on the inner edge, Fig 8. A third tuck is sometimes placed between the other two.



Many factory-made gloves have the three lines worked in machine stitch. Each line is comprised of three rows of stitching, about one-sixteenth inch apart. The stitches must be very small and the lines must be perfectly straight. A row of crossed over-sewing also looks well and is a little more definite than stab stitch tucks, especially if a contrasting thread is used.

Another method is to decorate the back of the hand with a simple design executed in thonging (lacing). Use strips ⅛" wide, cut from the leather used for the gloves. Four methods of using thonging (lacing) are shown in Figs 9, 10, 11, and 12. The first three are worked by punching two parallel rows of holes ⅝" away from each other, each way. For the first two the number of holes may be odd or even, but for the design shown in Fig 11 the number of holes must be divisible by four. You will notice that if you want to work Fig 10 you must omit the top hole on one row and the bottom hole on the other, according to which hand the glove is intended for. For the fourth design you will need three rows of holes arranged as shown in the diagram.

**Glove design:-** The Western glove is often decorated with braiding, lacing and tooling. In making up your designs you can match gloves with handbags, shoes, costumes. Some glove makers add an extra flourish by adapting bows or fringes, tassels, braids, beads and covered buttons.

**Wrist edges:-** The finishing of the wrist edge is an important part of glove making. Sheepskin gloves may be left as they are and, if the wool is used inside, the edge may be turned up to form a cuff. Alternatively the edge may be bound with a strip of leather.

Gloves made from ordinary leather, chamois or suede may also have the wrist edge left as it is. Women's leather gloves are usually left without binding except for sport gloves. As a rule, men's gloves have a binding.

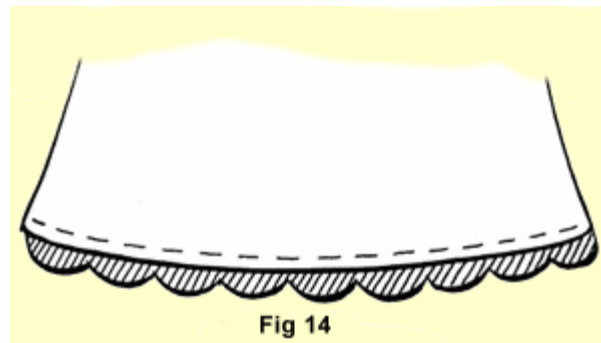
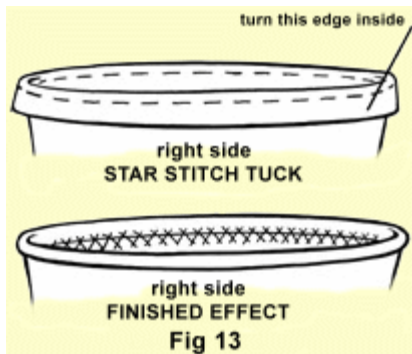
The simplest method of finishing a wrist edge is to turn up a single hem ¼" deep on the wrong side and herringbone or machine it in place. The former method does not show on the

right side. Another method is to turn up a single hem  $\frac{1}{2}$ " wide or a little wider if the leather is thick, on to the right side. **Stab stitch or machine stitch all round  $\frac{1}{8}$ " below the folded edge.** Turn the raw edge over on to the wrong side and hem down, Fig 13. The effect of this is almost the same as binding with a strip of leather, which is worked as follows: Cut a strip of leather about  $\frac{1}{2}$ " wide; the exact width depends on the thickness of the leather, thicker leather needing a wider strip than a thinner variety.

The length of the strip should be a little more than the distance round the wrist, including any slits or openings. Avoid seams in this strip as they make the work clumsy. Start the binding at the side seam and sew the strip either by hand or machine to the right side of the glove. When you reach the end, cut off the ends of the strip so that they just meet, and over-sew them very firmly. Press this seam as flat as possible and turn the binding over to the wrong side. Hem it down in the usual way. If machine stitching is used, work it on the right side and place it as close to the first seam as possible. A second row of stitching on the extreme edge is sometimes an improvement. Remember that when stitching leather the needle should be a fairly fine one.

Some chamois gloves are not bound, but are cut into scallops with a hole or small design of holes in each scallop. This method looks attractive when the gloves are new, but does not wear very well as the holes are apt to get pulled out of shape.

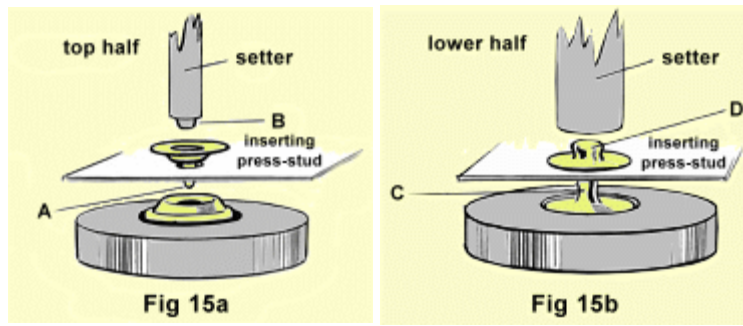
Another quite attractive method is to cut a strip of contrasting leather  $\frac{1}{2}$ " wide into scallops. Turn in the wrist edge of the glove and top stitch it over the narrow strip so that the scalloped edge projects below the hem, Fig 14.



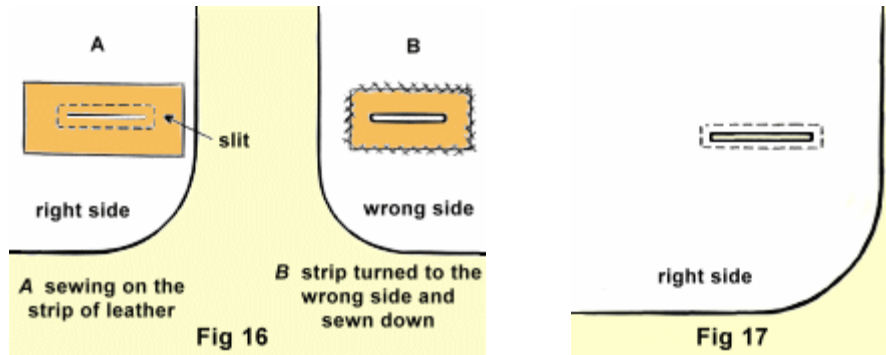
At one time a fringed trimming was fashionable and it is as well to know how to do this in case the fashion comes back. It is quite simple. Cut a strip of leather about 1" wide and as long as the gauntlet of the glove. Fringe one edge and sew into the side seam when the glove is being put together. A fringed edge, attached in the same way as the scalloped edge, can also be used, but is apt to become untidy in wear. Fur-backed gloves are usually finished with a narrow binding as described above.

When making gloves for men it is often necessary to insert a press stud as a fastening. When making lined gloves insert the lower half in the leather before the lining is sewn down by the wrist hem, so that the lining will cover the stud. The second half can be put in when the glove is finished. When making unlined gloves it is a good idea to cover the back of the stud with a small circle of leather neatly herringboned in place.

Inserting press studs is one of those simple things that everyone knows how to do — until they come to do it! I have, therefore, included instructions for performing this tricky little operation in Figs 15a and 15b. You will need a leather punch for making the holes through which the knobs of each half of the stud will go.



Since press studs are easily obtainable, buttons and buttonholes are not being used so much in glove making, although there are still people who prefer them. To make a buttonhole as shown in Fig 16, you will need a small piece of leather about 1" by 1½". Decide where the buttonhole is to be and lay your strip of leather face down on the right side over this spot. Put two rows of backstitch or machine stitching  $\frac{3}{16}$ " apart across the middle, joining the ends to form a rectangle, Fig 16. Slit the two layers of leather between the stitching and carefully turn the small piece through the hole. Flatten it as much as you can and herringbone neatly all round. A row of machine stitching close to the edge of the buttonhole will help to make it flatter still. Such buttonholes are, of course, only suitable for very thin leather such as suede, Fig 17.



When sewing on buttons always make a shank. If the leather is thin and likely to pull away in wear, it is a good plan to sew a strip of strong tape under the buttons so that this will take the strain instead of the leather.

## Making a pair of gloves – continued

**Patterns:-** The most essential piece of equipment the glove maker needs is a really reliable pattern — or, rather, a series of patterns covering various sizes of gloves. The best patterns are made from thin card about the thickness of a postcard, and this is a great help when you are marking out your pattern. Some makers of glove patterns use the flimsy paper you find in ordinary dressmakers' patterns and these are not so good, as you will soon find when you begin to draw round them. To remedy this you should paste the paper pattern to a piece of thin card or stiff drawing paper. Leave under a weight for at least twenty-four hours and when dry cut out the pattern very carefully. In this way you retain any necessary directions which may be printed on the pattern and reduce the risk of making an error, as you might if you traced off the pattern on to your card.

Bought patterns usually consist of the pattern for the trunk, one thumb and one fourchette. If quirks are included the pattern will be given for this. It is a wise precaution to fasten the smaller pieces to the trunk as they are very easily mislaid. The pattern will, of course, have to be reversed for the second hand. Should you happen to be short of material, it is a good plan to cut out the trunk again in paper, marking it carefully so that you know which hand it is for. You can then lay both trunks on your material, moving them about so that you can use your leather to the best advantage.

Popular pattern firms make glove patterns that sell quite cheaply and are usually stocked by department stores. Patterns can usually be obtained in sizes ranging from 6 to 7½ for women, 8 to 9 for men and 1 to 6 for children, and they usually have the size printed clearly on the outside of the envelope.

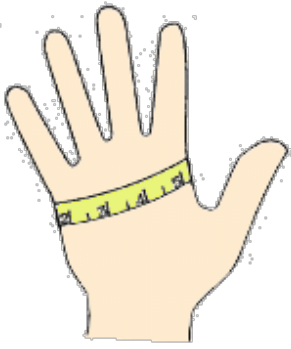
If you are intending to make gloves of various kinds and sizes it is advisable to build up a collection of simple styles in various sizes rather than a bigger selection of styles in only one or two sizes. It is much easier to adapt the style of a pattern than to alter the size, although this can be done to a limited extent. The size of a glove is usually based on the measurement around the widest part of the hand.

Since you are going to be a custom glove maker, tailoring to your own hand, why not fit each hand correctly in case the right is larger than the left, as often happens? Your tape may show a quarter size variation for the larger hand. Take this difference into consideration when checking your patterns.

**Glove sizes:-** To find out your glove size, in inches, measure around your hand with a tape measure across your palm. You should use your dominant hand, the right if you are right-handed, and the left if you are left-handed.

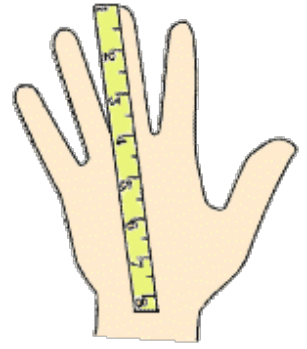
Some manufacturers indicate glove sizes by number and others by letters standing for small, medium, large. Use the table to translate between "letter sizes" and "number sizes".

SIZE	XS	S	M	L	XL	XXL
INCH	7	7½-8	8½-9	9½-10	10½-11	11½-12
CM	18	20	23	25	28	30



use this measurement  
as glove size if largest

- 1 Measure around the hand at the fullest part, excluding thumb, as shown at left
- 2 Measure from the tip of the middle finger to the base of the hand, as shown on right
- 3 Use the largest of these two measurements for the correct glove size
- 4 If right-handed, measure your right hand
- 5 If left-handed, measure your left hand
- 6 The number of inches measured equals the size of the glove, e.g. a 7" measurement equals a size 7 glove



use this measurement  
as glove size if largest

**Adapting a pattern:-** People's hands vary very much both as to size and shape. Two people may both take size 6½ gloves, but whereas one may have long, thin fingers, the other may have short, stumpy ones. In addition to this there is a wide variation of the proportions between one finger and another. It is obviously impossible for the manufacturers of glove patterns to cater for all these differences. However, you will find that as long as a pattern is wide enough over the knuckles, you can make as many alterations as you like in the length.

When you buy a pattern open it out and lay your hand flat on it. Notice whether your fingers are longer or shorter than the pattern. If they are shorter, take a pencil and draw round the top of each finger, allowing for a seam of one-sixteenth of an inch. Trim off the pattern along your pencil lines. Should your fingers be longer than those of the pattern, gum a strip of paper to each finger, draw round your own fingers as before and trim off to the correct size.

One measurement which may need a little adjustment is the length of the slits between the fingers. Notice if each slit comes right to the bottom of the appropriate finger. If it does not, make it a little longer. If it is too long, put a pencil mark at the proper place and when you are marking out your glove remember to end the slit at this mark.

If you have to make gloves for a very short hand, cut the fingers and thumb shorter as described above and then move the thumb hole up towards the fingers for a distance of from ¼" to ½" as required. Should you want to use a pattern for unlined gloves to make a pair of lined ones, you must make it larger to allow for the extra thickness inside. Allow extra width up to ¼" on each side of the trunk, tapering off to nothing when you get to the fingers. Allow extra width on each fourchette and all round the thumb. The hole where the thumb will go must be enlarged a little so that the thumb will fit smoothly.

There are several ways in which you can alter the style of a glove provided the pattern is a fairly simple one to begin with. A simple pull-on style can be adapted to make a pair of gauntlet gloves by lengthening the trunk by 2" – 3" and by sloping it outwards at the wrist edge. A triangular gusset can be inserted in the side seam to give extra width but should not extend beyond the wrist. A long, narrow gusset is more graceful than a short, wide one. Two or three small gussets in a contrasting colour or texture are smart and make a good way of using up odd bits.

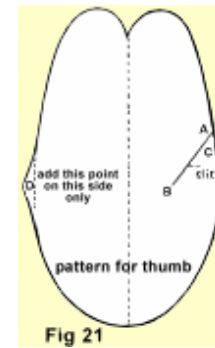
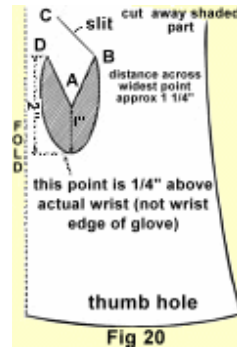
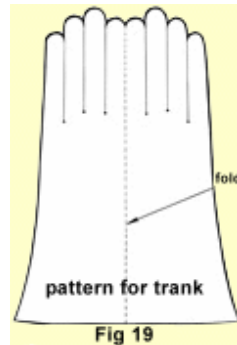
If you wish to use an ordinary glove pattern for making a pair of mittens simply leave out the slits for the fingers and cut the top edge into a smooth continuous curve.

When buying patterns consider the thickness of the leather you intend to use. A thick skin will give you a smaller glove than if you use the same pattern for a thinner skin. If you get a pattern that is suitable for a stretchable skin such as chamois you will find that it will be smaller than one labelled with the same size intended for a thicker and stiffer skin. For this reason it is wise to notice what sort of leather is suggested on the pattern before you buy it.

**Making a basic pattern:-** Some workers prefer to work from a basic pattern which they adapt and alter as the need arises. This is quite a good idea once you have acquired sufficient

experience to judge what alterations are required. If you are a beginner, however, it is wise to use bought patterns at first, since a great deal can be learned from them.

To make a basic pattern to fit your own measurements, take a piece of drawing paper and lay your left hand flat on it with the fingers closed. Draw all round the hand as far as the wrist on each side. Open each pair of fingers in turn and put a dot at the base of each. Join these dots to the top of the fingers with a ruler, making sure that all your lines are perfectly parallel. Lengthen the pattern by about two inches, sloping it out slightly on the edge opposite to the thumb, Fig 18.



Fold the paper in half along the edge of the index finger and cut out in the double paper, making the slits between the fingers on the front of the hand  $\frac{1}{4}$ " shorter than the corresponding slits on the back, Fig 19. Cut out the hole for the thumb as shown in Fig 20 and letter it carefully. Using the pattern as a guide for the length of the thumb, cut it out as shown in Fig 21. Cut the slit as shown and letter the thumb. Make sure that the line AB on the thumb is exactly the same length as the line AB on the trunk and that the lines BC on each section are the same length.

Cut out your fourchette and quirk patterns as shown in Figs 1 and 2 (page 83) making sure that the fourchettes are equal to the longest finger. When you are sure your pattern is as accurate as you can make it, trace it on to a piece of stiff paper or thin card and cut it out carefully. Mark the pattern as being for the left hand and put in the letters which show how to join in the thumb. Store your pattern with as few folds as possible.

**Storing patterns:-** Patterns should always be kept as flat as possible. Keep all the pieces of a pattern clipped together with the directions and add any details you may wish to remember. Store them all in a flat box where the patterns will not get creased. If you should have the misfortune to tear a pattern it can be mended quite easily with a strip of masking-tape.



## Making a pair of gloves – continued

**Choosing the Skin:-** The making of a pair of unlined chamois gloves is quite simple even if you have never made any gloves before. As the material is soft and pliable it is an excellent leather on which the beginner can experiment. Buy as good a quality of leather as you can afford. Do not be tempted to buy cheap leather in case you spoil it. The chances are that this is just what you will do, simply because poor chamois is more difficult to use than a better quality. You will inevitably be disappointed with the result of your work and probably decide that glove making is a waste of time which, of course, it is, if you are satisfied to work with poor quality material.



When you buy the skin hold it up to the light and note if there are thin places or flaws in it. If these are near the middle choose another skin. Feel, too, if there are any hard bits in it. If these are near the edge they will not matter, but a thick spot near the centre can be a nuisance.

Having chosen your leather decide how you are going to stitch it. Black, brown, or navy buttonhole twist is decorative, and being in a contrasting colour is a great help in showing you if your seams are done properly. The stitch must be done very evenly, so if you are in any doubt as to your ability to make the stitches perfectly regular choose a matching gloving thread. You will not need a special gloving needle for chamois, but can use an ordinary sewing needle with an eye large enough to take whatever thread you decide to use.

**Marking and Cutting Out:-** This is almost the most important operation in glove making and it is imperative that you do it properly. No amount of "finagling" afterwards will put right a seam that is even slightly askew. Stretch the leather well in all directions. Some chamois leather is supplied to the shops, already stretched, and if this has been done you need not stretch it further, except to find out which way is more elastic. Most good leathers stretch more across the width than they do lengthways, and when placing your pattern on the leather you must make sure that the "stretch" will go round the hand and not up and down.

Pin the leather, well-stretched, face down on a drawing board or other perfectly smooth surface. The top of the kitchen table will do quite well if you have no objection to sticking thumbtacks in it. Lay the pattern on the leather and go round each section very carefully, using a soft well-sharpened pencil. Hold the pattern very firmly so that it cannot slip, since it is very easy to make an error which you will not be able to put right once the glove has been cut out. Draw round the top of each finger, then, bend back each section so that you can draw the lines for the slits between them.

Turn the patterns for the trunk and thumb over for the second glove and be careful to draw the hole for the thumb very accurately. When using chamois you may find it more economical to turn the pattern upside down for the second glove. If you wish to do this it is a good idea

to cut out the first trunk and lay it beside the pattern while you draw the second one. In this way you can make quite sure that you will not find yourself with two gloves for the same hand.

As chamois is so pliable and stretches in wear, even when it has been well-stretched beforehand, it is not usual to include quirks. You will, therefore, find that most chamois patterns use single fourchettes. Draw round the fourchette pattern six times for the first glove, then turn it over and draw round it another six times. The thumb and fourchettes must be placed on the leather in the same directions as the main part.

You will probably find your pencil point wearing down as you work, so keep a penknife handy. Absolute accuracy is essential as otherwise the various parts of the glove will not fit, and even the thickness of a pencil can make a difference.

Having marked out all the pieces, remove the thumbtacks and cut out each piece very carefully, following the pencil line.

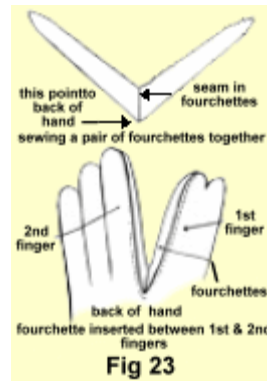
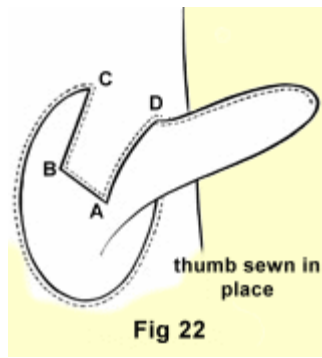
Make long smooth cuts wherever possible, for it is very difficult to trim off jagged edges once the leather has been cut.

**Making Up:** - The one drawback to making up chamois leather, which does not affect other types, is that if it is of good quality it is sometimes difficult to tell the right side from the wrong. For this reason always make a practice of inserting both thumbs first. Once you have made sure that you have a glove for each hand you can finish one glove outright.

The insertion of the thumb often proves to be difficult for the beginner, but if you study the pattern or the diagrams given, you should find it quite simple. Remember that the lowest point of the projecting piece on the trunk always goes to the top of the slit on the thumb. Lay the wrong sides of the thumb and trunk together so that the point marked A on the trunk is on top of the point marked A on the thumb and the two edges marked AB are together. The two edges must be exactly the same size. Stab stitch the seam, starting at A and going on to B. Continue the seam along the lines marked BC till you come to C. Place the edge of the hole and the curved edge of the thumb together and continue the seam until you are halfway round the hole. Now fold the thumb in half and stab stitch the two edges together, starting at the top and going down the side of the thumb. Continue round the hole till you reach the place where you left off. Fasten off both ends firmly on the wrong side.

You may find that the thumb is a little too large for your hole in spite of all your care in marking and cutting out. Do not try to gather or ease the thumb to make it fit, but stretch the edge of the hole very gently so that the seam lies perfectly flat. This usually has the effect of making the thumb fit perfectly, but if it should not you may cut off the merest shaving of leather, either round the edge of the hole or round the bottom of the curved edge of the thumb. If the opposite happens and you find that your thumb is too small, stretch the edge of the thumb, Fig 22.

The next process is to put in the points. Tucks are the most usual method for chamois gloves as the thonged decorations mentioned earlier are more suitable for thicker and stiffer leathers. You will probably find that the position of the points is indicated on your pattern either by lines or a series of dots or holes. If it is not, simply fold the back of the glove in half, in line with the centre slit, and make a tuck  $\frac{1}{8}$ " deep, starting  $\frac{1}{4}$ " from the slit and extending for about 3" down the back of the glove. Open out the trunk and re-fold in line with the slit nearest the thumb. Slope the tuck a little towards the bottom of the centre tuck and make it the same length, starting  $\frac{1}{4}$ " below the first tuck and continuing  $\frac{1}{4}$ " beyond the end of it. Make a third tuck to match on the other side of the first. The tucks may be machine stitched instead of worked in stab stitch or they can be worked in crossed over-sewing.



The next step is to sew the fourchettes together in pairs, over-sewing them on the wrong side along the short edge. Watch carefully to see that you have three pairs for each hand. Now take the first pair and place the end of the seam you have just made to the bottom of the slit between the first two fingers on the back of the hand so that the longest side of the right-hand fourchette lies along the inner edge of the first finger, Fig 23. Stab stitch the finger and fourchette together until you reach a point about halfway up. Then measure the fourchette. As the fourchettes are all cut the same length it is obvious that some of them will be too long. Trim the fourchette you are sewing so that the top is the same shape as before. The pointed tip should reach to a point about  $\frac{3}{16}$ " below the centre of the curved top of the finger. Continue to the very top of the fourchette and fasten off very firmly. Some people like to take point of the fourchette to the very tip of the finger, but it is possible to make a much neater finish if they do not quite meet. Go back to the bottom of the fourchette and sew the back of the second one of the pair to the edge of the second finger, trimming it off to fit as before. Sew the next pair between the second and third fingers and the last pair between the third and fourth fingers.

Now take a thread long enough to go all round the fingers as far as the wrist edge and stab stitch the front sections of the fingers to the free edges of the fourchettes. Make sure that the end of the seam in the fourchettes fits exactly into the bottom of the proper slit. When you reach the tip of the little finger merely sew edges down the side of the glove until you reach the wrist edge.

If the glove fits at all loosely sew a piece of elastic to the wrist. Finish off the wrist edge in one of the ways described above. When the gloves are finished, press them as flat as possible by tucking in the fourchettes till each one is hidden by the back and front of the fingers. Press for at least twenty-four hours under a heavy weight. A pile of books will do provided the gloves are completely covered. This treatment will give a professional finish to your work except of course such gloves as can be pressed in the usual way with a hot iron.



On the left, men's, and on the right ladies, nappa leather gloves in the traditional table cut fashion.

Sewn in half pique construction with 3 sewn points on the back of each hand, offering classic and elegant styling.

Fully lined with a fleece fabric for comfort and warmth.



## Making a pair of gloves — continued

**Making Unlined Gloves for a Man:-** The making of gloves for men is in most respects exactly the same as making them for women. At the same time there are a few points which call for consideration. Men are, on the whole, pretty conservative in their ideas about gloves and most of them prefer plain kid or pigskin gloves with a one-stud fastening and no "fancy bits."

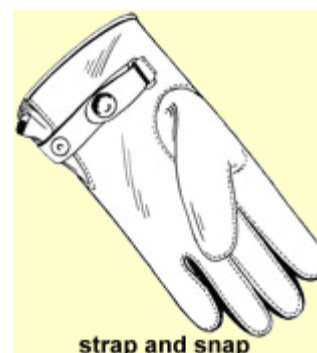
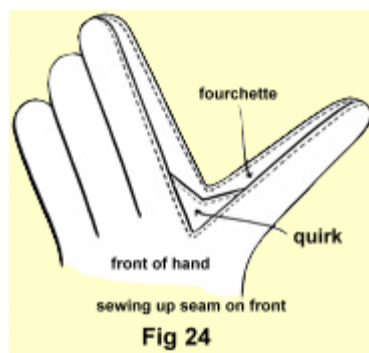
Patterns for men's gloves come in various sizes, and it is also possible to make a basic pattern for men's gloves as described on a previously. It is not a wise to attempt to adapt a woman's pattern to make a pair of gloves for a man, as too much alteration in width is required. The chief difference in the patterns is found in the width of the fingers and the fourchettes, since men's hands are usually — though not always — thicker as well as larger.

Since men's gloves are usually made of fairly sturdy leather it is better to include quirks. Mark out your pattern on the wrong side of the leather in the usual way. Ordinary drawing pencil can be used for pigskin, but this will not show up on brown leather such as kid. Use instead a white or yellow crayon pencil kept well sharpened.

Cut out all the pieces very carefully and sew the quirks into the fourchettes straight away. This lessens the chances of losing the tiny pieces or throwing them away as scraps, Fig 2 (page 83). Use strong gloving thread in a colour to match the leather and a three-sided gloving needle.

Sew in the thumbs as described for the chamois gloves. You will notice that the hole and the curved part of the thumb are considerably larger than the corresponding parts of a woman's glove. Put in the points next. These should be three simple tucks put in either by hand or by machine.

Sew the fourchettes between each pair of fingers, putting the longest sides to the back of the gloves as before. Fold the glove in half and sew all round the fingers and down the side to the wrist edge. Make sure that the centre point of each quirk comes exactly to the base of each slit on the front of the hand, Fig 24. Sew all these seams very firmly as they get a good deal of wear, and be very particular about how you fasten the thread on and off.



If the glove has to have a press stud fastening slit it up the centre front to a point just above the bottom of the thumb seam. There is no need to shape this opening as the wearing and fastening of the glove will pull it into the right shape. Measure the wrist edge and opening and cut a strip of leather a little longer and about 1/2" wide. Thicker leather needs a strip that is a little wider. Start at the wrist seam and sew this strip all round the edge and opening on the right side. When you reach the place where you started, cut off the ends of the strip so that they just meet and over-sew them on the wrong side. Make the seam as flat as possible. Turn the strip over on to the wrong side and either machine stitch or herringbone all round. Insert the press stud as shown in Figs 15a and 15b (page 83) putting the top half of the stud on the

side of the glove nearest to the seam. Do not forget to put a scrap of leather under each half of the stud so that the stud will not pull out when the glove is worn.

There is another wrist top for men called Strap and Snap

**Making Lined Gloves for a Man:-** We come now to the making of lined gloves. This is not at all a difficult undertaking, although naturally it takes a little longer to make lined gloves than it does to make an unlined pair because there are the extra seams in the lining. When buying your pattern make sure that it is one that is meant for lined gloves or you may find that the finished pair will be too small. A size larger than you need in an unlined pattern should be just about the right size for a pair with linings.

Lined gloves are usually better if they have quirks, so it is advisable to have double fourchettes. As lined gloves are generally made from thicker leather than unlined ones, be very careful when cutting out that you hold the scissors at right angles to the leather. Mark and cut out your leather and then cut out the trunks and thumbs only in the lining material you have chosen or managed to get.

Start in the usual way by sewing in the thumb. Next make the points. If you use one of the punched designs described previously, you may find that there is a danger of the lining showing through the holes. To remedy this, cut a strip of thin leather or tape to match the leather, and sew it neatly over the back of the thonged decoration, being careful not to let your stitches show on the right side.

Sew the lining thumb and trunk together by seaming on the wrong side and slip the lining thumb into the leather thumb. Lay the lining on top of the leather and slip stitch or herringbone the sides of the lining to the seams on the back of all the fingers and just inside the cut edge on the front of the fingers. Sew the sides of the lining together, starting at the top of the little finger and finishing at the wrist edge. Fold the glove in half and sew together all round the fingers and down the side. Over-sew the lining and glove together all round the wrist edge and any slits that may form part of the edge. This is not strictly necessary, but makes the binding or hemming of the edge very much easier. Turn the edge of the leather up and slip stitch or machine to the lining, making sure that the stitches do not go through to the right side. Should you, for any reason, wish to thong the wrist edge, work the thonging first, then cut the lining a little shorter and slip stitch to the wrist edge just above the holes punched for the thonging.

**Sheepskin Gloves:-** We come now to a fascinating branch of glove making — the fashioning of attractive gloves from sheepskin or lamb's wool. This material differs from ordinary leather in that the wool is left on the outer side of the leather. Lamb's wool is usually shorter in pile and much softer than sheepskin. Both can be bought in the natural creamy white or dyed to attractive shades of red, brown, green and so on.

When buying sheepskin for gloves see that it is supple with a rather short pile. The heavier, stiffer kinds are better for slippers. Examine the skin carefully for flaws. Some skins are damaged in the curing and show small tears, while others have blemishes where the animal has been hurt on barbed wire or something similar. Such skins are very wasteful in use, as you have to avoid the flaws when you are cutting out the gloves and this leads to a good deal of waste.

Some of the finer types of sheepskin suitable for gloves are quite small and you will normally need two skins to make a pair. A pair of mittens for a child can sometimes be made from one small skin, but even then you may find you have to have several joins.

Sheepskin can be used either with the skin outside or with it inside as preferred by the wearer or according to the purpose for which the gloves are intended. Cyclists, for instance, would probably prefer to have the wool inside as the gloves are exposed to all kinds of weather,

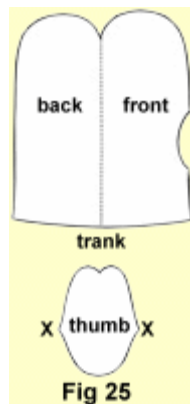
while the smart teen-ager would like her gloves to have sheepskin backs and leather fronts.

Sheepskin mittens are not difficult to make and are usually easier to sew and wear than gloves with fingers. The sheepskin demands special care in cutting and sewing. Never cut it with scissors as this will damage the pile. Use instead a razor blade or a sharp leather knife. Remember that whether you use a knife or a razor blade it must be really sharp.

Sheepskin has not quite such a definite "way" of growing as fur, but like fur, should always be cut so that the pile goes upwards over the fingers. Remember that the wool will take up a good deal of space inside the glove, so be sure to cut the gloves large enough to allow for this.

Here are directions for making a pair of sheepskin mittens with the wool inside. Gloves with the wool outside should be made in exactly the same way as the fur-backed gloves. Start by making a pattern as shown in Fig 25. If your skin is narrow or you want to economize, the pattern can be cut in half along the dotted line. This enables you to move the two halves about until the pattern is arranged to the best advantage. Do not forget that the stretch must be across the hand. Pin your skin firmly to a flat surface and draw all round it; take the knife and cut along each line very carefully, making sure that your knife is at right angles to the leather. Try to cut through the surface each time, as repeated cuts may result in a jagged edge. Some people find it easier to lift up the skin and stretch it a little with the left hand, but this is a purely personal matter which each worker must decide individually. When the skin has been cut right through you can separate the various sections by pulling the staples apart very gently.

The mittens shown in the diagram consist of two parts only — the trunk and the thumb. In some patterns the thumb and trunk are cut in one piece, and in this case you simply fold the mitten in half and sew together all round. You will notice that in Fig 25 the thumb opening is very much simpler than in the other patterns dealt with, being merely a shallow hollow in the front of the glove.



Before starting to make up the gloves, take a sharp pair of scissors and snip off the wool all round for about half an inch, so that it is a little less than half the depth of the rest of the pile. This will prevent the seams from becoming thick and clumsy.

Fold the thumb in half and stitch down the side with stab stitch as far as the points marked "x" in the Fig. Smooth the wool away from the seam as you work and be careful not to let any strands of the wool poke out through your stitches. Use a gloving needle and strong matching thread. Sew the curved edge of the thumb into the curved hollow on the edge of the front section. Fold the glove in half and starting at the wrist edge sew the two halves together, taking in the remainder of the thumb on the way. Finish at the end of the top curve or, if you have cut the glove in two sections, go on down to the wrist edge.

The wrist edge can be bound with a strip of matching leather. If you have no scraps which can be utilized you can buy leather binding about one inch wide in several good colours. If you

prefer, the edge can be turned back to make a sheepskin cuff, but in this case the trunk must be cut about two or three inches longer. Mittens with long gauntlets can be made in exactly the same way, but you will, of course, need more skin. Lengthen the pattern till it is as long as you want it and at the same time widen out at the wrist edge.

**Joining Sheepskin:-** It is quite a simple matter to join sheepskin and if it is well done the join will not be seen on the right side. The edges to be joined must be perfectly straight and the wool must lie in the same direction. Smooth the staples away from edges to be joined, but do not trim them. Over-sew very closely with fine matching thread, then work a second row of stitching in the opposite direction. Fasten on and off very firmly. Avoid joins across the knuckles or anywhere where there is likely to be much pull on them.

**Inserting a Zip:-** Some people like to have a zip across the middle of the hand so they can pull off the top part of the mitten to allow the fingers to emerge. This is a useful addition to your mittens if you are the sort of person who goes about dropping odd gloves here and there.

It is quite a simple matter to insert a zip and adds very little to the cost of the gloves. Zips can be obtained in lengths of 4" and upwards. They should be put in the gloves before the two halves are joined together. Slit the front half of the glove right across about ½" above the thumb opening. Shave off the wool right down to the skin for about ½" along the edges of the-slit. Neaten the ends of the zip tape and turn in the edges of the slit. Top stitch either by hand, or by machine, over the tape, making sure that there is room for the zip key to move freely between the edges.

Zips are not always obtainable in the exact size required, but it is quite a simple matter to shorten them. Remove the "stop" at the closed end, clip off as many of the teeth as necessary, using a pair of pliers or wire cutters, and either replace the stop or over-sew the tapes firmly together using matching thread.

## Making a pair of gloves – continued

**Making Fur-Backed Gloves:-** Fur-backed gloves are not really difficult to make although they need a little more time and trouble. Most of the fur skins you buy in the shops nowadays have their origin on the back of the humble rabbit, but there is no reason to despise them on that account. If you buy a good quality, well-cured skin it will give you really hard wear for several winters. Most of the furs can be obtained in black, grey and brown.

Beaver and squirrel are two more furs which make good gloves, and you may sometimes be able to find enough fur to make a pair of gloves from the best parts of a fur coat which has grown too shabby or old-fashioned for further wear.

The pattern for a pair of fur-backed gloves is a little different from that which you use for a leather pair owing to the fact that the back and front are of different material. The back of the glove usually has the thumb cut all in one with the trunk, while the front part has half a thumb inserted in the usual way.

Lay the fur face down on a flat surface with the pattern placed on top in such a way that the fur strokes upwards over the fingers. This is very important and fur gloves must never be cut in any other way. Be particularly careful in placing the pattern on fur which has come from what is known as chinchilla rabbit. This variety usually has a speckled grey back with a white underside which shows as a white border down each side of the cured skin. If the pattern is not placed exactly in the centre of the skin you will have white showing more down one side than the other and the gloves will look odd. As rabbit skins are not very large you will need one skin for each glove, so when buying the fur get two skins that match each other as nearly as possible, especially with regard to the amount of white in the borders.

Mark round the pattern with a black or coloured pencil and cut out very carefully, using a razor blade or a sharp leather knife. Place the pattern for the front half on the wrong side of the leather and mark and cut out. Cut out the half thumb sections and the fourchettes and quirks. Cut out the linings for the trunks but not, of course, for the fourchettes.

Sew the fourchettes together in pairs. If quirks are used with double fourchettes sew these in place. Insert each fourchette in the slits in the back of the hand in the usual way, but lay the finger and fourchette together with right sides facing instead of with the wrong sides facing as you would if you were making a prick seam. Over-sew the seams very firmly, smoothing the strands of fur away from them as you work. Make sure that the point of each fourchette fits exactly into the bottom of the proper slit. Make sure, too, that you fasten your thread on and off very firmly as these seams are not so easy to repair as those worked in stab stitch.

Lay the back lining on top of the fur inside the glove and sew the edges of the fingers only to the finger seams, leaving the outer edges of the first and fourth fingers free for the time being. Join the lining thumb to the palm lining, joining the back and front linings together by making a seam from the tip of the little finger to the wrist edge on one side, and from the tip of the first finger all round the thumb and to the wrist edge on the other side. This leaves the front fingers loose and these must be left as they are until the leather front has been joined to the fur back. Lay the two sections together right sides inside and over-sew exactly the same seams as those made in the lining, again leaving the fingers open. Turn the glove right side out and sew the lining fingers to the leather fingers, just inside the cut edge.

Now finish off the glove in the usual way by making a prick seam all round the fingers, starting at the top of the first finger and ending at the tip of the little finger. Make sure again that the point of each fourchette, or the centre point of each quirk fits right into the bottom of the appropriate slit.

Should your glove need a strip of elastic in the wrist, put this in now, turning the lining back



out of the way while you do it. The wrist edge can be finished by simply turning up the leather or fur on to the lining and hemming or herringboning down. A row of stab stitch or machine stitch, along the edge of the leather part only, makes a good finish. An alternate method is to bind the edge of the glove with a narrow strip of leather.

**Joining Fur:-** Fur can be joined quite easily in exactly the same way as sheepskin. Wherever possible, joins should be placed where there is the least pull on the glove. Remember that the fur must all lie in one direction so that the hairs in one piece will mingle with those on the other and hide the join. For this reason joins can be made in any direction and the back of the skin can look like a jigsaw puzzle without any of the seams showing on the right side. You must, of course, be careful to see that the colour matches too. Over-sew all joins with fine thread and a fine needle and then flatten them out with the thumb.

**Fur-Trimmed Gloves:-** If you have any pieces of fur which are not large enough to make a whole pair of fur-backed gloves, you can add a note of luxury to your more ordinary leather gloves by giving them a fur trimming. This can consist of a fur gauntlet extending all round the glove below the wrist. This trimming is particularly effective when carried out with smooth furs such as ocelot, leopard, Persian or Indian lamb or astrakhan. Real skins of this type are expensive, so that a little has to go a long way. This is a good way of using up odd bits of fur left over when a fur coat has been re-modelled.

White fur, while hardly suitable for gloves, except for those worn by quite tiny children, makes delightfully warm linings. Gloves lined throughout with fur are apt to be a little clumsy to wear, though many men prefer them to gloves with fur outside. Very soft fine fur with a short pile should be used and should be treated exactly as you would treat ordinary woollen linings. When cutting out such gloves be very careful to see that the outer covering is large enough to allow for the fur lining, or the gloves will be too tight.

Gloves which have the gauntlets only lined with fur are less bulky and are very comfortable to wear since the warmth is felt just where the cold wind is apt to be felt. As there is little pull on this part of the glove, quite small pieces can be joined to make the gauntlet lining. The best way to do this is to join up the pieces till you have a piece which is roughly the size and shape you need. Cut out the fur, using the lower part of your glove pattern. Cut out the lining, making it as much shorter than the glove pattern as the depth of the fur gauntlet. Join the fur and the lining together and make up the glove in the usual way. An attractive way of finishing off the wrist edge is to make the lining about 1" deeper than the actual glove. Turn the lining over on to the right side of the glove, thus reversing the usual procedure, and hem down neatly. Notice that the fur part of the lining must stroke downwards towards the wrist, so that when it is turned up the hairs will stroke upwards over your stitches.

**Fur-lined mittens:-** Short-haired fur that is worn and faded is still good for lining mittens. The outside of the mittens can be cut from wool cloth, from a worn-out coat or trousers. Fur linings use up hand space, so the cloth part must be cut larger than it would be ordinarily.

Mittens and linings are seamed — the cloth part by machine with decorative hand over-casting, the fur by over-handing. With linings in place, wrist edges can be turned in and slip-stitched together. Fur cuffs can be made by turning back the edges.

**Felt and knitted mittens:-** An old felt hat and a pair of wool bobby socks, worn in toes and heels, can be made into a pair of warm mittens for school. Use the hat for backs of the mittens. Cut palms from the sock tops so the ribbed cuffs will serve as wristlets. Thumbs may be either felt or knit. Machine-stitch along the edge of knit parts to keep them from unravelling.

For novelty, trim edges of the felt mitten backs with pinking shears. Turn under and sew the knit palms to the felt backs with hemming stitches; then join the two with decorative wool

over-handing.

To make the wrist fit closely, run a drawstring through the knit ribbing. Make drawstrings by twisting or crocheting wool yarn. Felt, clipped and rolled, makes neat tassels for the ends.

**Suede Gloves:-** Suede is almost the most attractive leather you can use, especially for making gloves of the more formal type.

Elbow length gloves naturally require more leather than shorter ones, and in the case of suede you cannot economize by turning the pattern for the second glove upside down. Make sure, therefore, that the skin you buy is long enough to take the trunk of each glove with the fingers on each pointing upwards.

As has already been pointed out, suede has a definite pile, and if the various sections of the glove are not all placed on the skin in the same direction some parts of the finished glove will appear lighter than others. Stroke the surface of the skin up and down and notice which way makes the suede appear darker. Place the pattern on the skin in such a way that the surface looks darker when you stroke it towards the wrist.

Before marking out your skin measure the arm at its widest point and decide whether your glove will be wide enough. If the pattern is a little too narrow add the extra width required when you are marking out the pattern. Cut out the suede carefully. Quirks can be included if liked, but as suede stretches rather more than most leathers they are not strictly necessary.

Cut a slit 3" long in the centre of the front part of each trunk, making it 1½" above and below the actual place where the wrist joins the hand. Sew in the thumbs and fourchettes in the usual way, using very fine thread and a fairly fine needle. Make the seams as narrow as possible without sewing them so near to the edge that there is a danger of the suede pulling away, and keep the stitches very small and even. Work the points on the back of each trunk, using simple stab stitched or machine stitched tucks.

Cut a narrow strip of suede and bind the slit in the front of the glove. If you are a very neat worker you may like to make small buttonholes in the way described previously, but this is a very fussy little job and must be done very neatly if it is to be a success. Make the buttonholes first, bind the edge, sewing the binding down over the buttonhole strips, but not, of course, over the holes.

An easier method is to work small buttonhole loops. The number depends on the size of the buttons you intend to use, but as these should be very small and dainty you will probably find that you will need at least five loops. Join the thread to the back of the binding, then take three stitches about ¼" long as shown in Fig 26(A). Work over these stitches in close buttonhole stitch to make a loop, Fig 26(B). Slip the needle through the binding and bring it out a little further on to start the next loop. Notice that the loops or buttonholes should be worked on the side of the slit nearest to the thumb.

Fold the glove in half and sew all round the fingers and down the side in the usual way; sew on small fancy or pearl buttons to correspond with the loops or buttonholes, taking the stitches through the binding and not through the single thickness of the suede so that they will not pull a hole in the material.

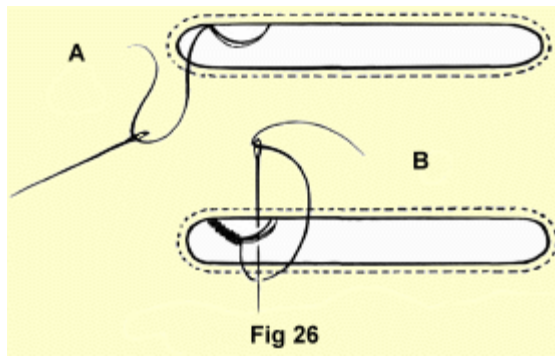


Fig 26



Fig 27

The edges of this type of glove are usually left un-hemmed as the gloves are often worn pulled down and wrinkled over the forearm. Another way of opening the glove to allow it to be pulled on easily is to insert a zip right down the back. Lightweight plastic zips are available in various colours can be decorative as well as useful. Slit the glove for the length required, turn in the edges and top stitch either by hand or by machine over the zip tape. Be sure to leave sufficient space between the suede edges to allow the zip key to move up and down easily. The ends of the zips should be finished off neatly as shown in Fig 27. A small tassel is made from the suede or from matching embroidery silk should be slipped through the zip key.

**Felt Gloves:-** Felt is an extremely useful material for making gloves since it can be sewn without having to be neatened. It differs from leather in several ways and as you would expect needs slightly different treatment on that account. Felt is a woollen material but it is made, not by being woven on a loom, but by being very closely compressed. It can be thin and rather poor in quality or can be really thick and solid. The texture may be coarse or fine, depending upon the quality of the wool from which it is made. It can be obtained in all kinds of fascinating colours, some deep and vivid, others as delicate as the petals of a flower.

When choosing felt for glove making look for a firm, close material with a very fine texture. It must not be too thick or the gloves you make will be clumsy, but it must be firm enough to prevent the material from pulling away from the stitches. Felt can be bought by the yard, when it is usually about 36" wide, or it can be obtained in pieces ranging from about 4" to 18" square. The size of these pieces varies very much as many shopkeepers cut them up according to their own ideas of what their customers will want. The fact that such small pieces can be bought often means a considerable saving as you need only buy just as much as you require. All the small scraps left over should be saved as they can be used very successfully for making appliqué trimmings and so on.

Gloves with a thumb only and no fingers can be made very successfully from felt and when embroidered in gay colours are very popular with winter sports enthusiasts. They usually have the thumb cut in one with trunk, and the pattern can be made very simply by laying the hand flat on the table and drawing round it. Cut out the felt, allowing a good margin all round. The one seam, which goes all round the thumb and the top of the hand, can be machine stitched, stab stitched or joined with a row of over-sewn buttonhole stitch. Any embroidery should be worked before this seam is made. The glove may be pressed with a hot iron when it is finished, but avoid using a damp cloth as this may shrink the felt. Felt used for this type of glove may be considerably thicker than that used for gloves which have fingers.

The use of felt for glove making considerably increases the range of colours available. Two colours can be combined to good effect. A pair of black felt gloves can be enlivened by fourchettes and bindings in pastel shades of blue, pink or green, or made vivid with the help of a splash of scarlet, royal blue or emerald green. If you wish to use a contrasting shade you need buy only just as much as you need.

Felt can be embroidered with wool or silk and any decoration of this kind should be done before the glove is made up. Any ordinary transfer design can be used and you stamp it on the felt with a hot iron in the usual way. Use a yellow transfer for dark shades and a blue for light ones. Should you wish to draw your own design you will find that an ordinary pencil or crayon such as you use for marking out patterns on leather will be quite satisfactory.

When making up felt gloves mark and cut the pattern just as you would if you were using leather. It is possible to pin a paper pattern to the surface of the felt and cut out the glove in this way, but the first method is generally found to be more satisfactory as it is possible to keep the felt flatter. As the felt is not woven there is no need to lay the pattern on it in any particular direction, so that you can move your pattern about and cut out the gloves with the minimum of waste.

Sew all the seams on the right side, using stab stitch just as you do when working with leather. Another method is to use double over-sewing to form a row of crosses along each seam. Use a slightly thicker thread for this. If preferred, the stitching can be worked in thread of a contrasting colour provided that the stitches are kept perfectly even. The depth of the stitches must be uniform all along the seam. Remember that the needle must go through the felt at right angles each time.

Wrist edges may be finished off in any of the ways described previously. It is not advisable to use buttons and buttonholes or press studs as a fastening as these have a tendency to pull out when the glove is worn. If you must use buttons and buttonholes for any reason sew a strip of matching tape below the buttons and work the holes with buttonhole twist.

Felt gloves are not usually lined nor is it advisable to use felt for linings for leather gloves. It is possible to make seams in felt gloves by machine, but unless your machine is extremely easy to manipulate and you are a very experienced worker you will find it easier and quicker to do the work by hand.

**Working Gloves:-** There are several kinds of gloves which are made for some special purpose and if you can make ordinary gloves there is no reason why you should not make such working gloves, too. Most of them do not demand any great degree of skill in the making, and since a fault may pass unnoticed or, at least, not matter much, they make very good practice for the beginner.

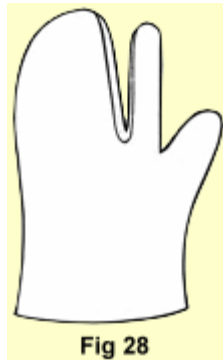
Many women like to wear gloves while doing their chores, but it is not always a good plan to make use of ordinary gloves that have been discarded. These gloves are usually wearing out anyway and the extra strain they are put to when their wearers are cleaning grates and sweeping floors generally finishes them off entirely. It is better to make a special pair and if they are washable so much the better.

Ordinary material is not particularly suitable though it can be used if it is very closely woven. Looser weaves allow dirt and dust to seep through. Cheap quality chamois or "wash leather," as it is usually called, answers the purpose admirably. You can sometimes buy bundles of this fairly cheaply, and even if you have to have a few joins you will find that gloves made from it will give you a surprising amount of wear.

Use an ordinary glove pattern in a slightly larger size than you usually wear. Make it with fourchettes but no quirks. The gloves should be long enough to cover the wrist and should fit fairly closely so that dust and dirt cannot get in easily. Take care to make the seams really strong as such gloves get far harder wear than ordinary ones.

**Gardening Gloves:-** Many people who are keen gardeners dislike getting their hands stained and scratched and prefer to wear gloves of some kind. For such jobs as pruning rose trees and digging, gloves are essential, and if they can be made at home so much the better for your purse. For really heavy work, fingerless gloves with a thumb can be worn. Some gardeners,

however, find that mittens do not give them enough freedom of movement and they might like the sort of gloves shown in Fig 28. These have a thumb and a first finger, the other three fingers not being separate. To make them, use an ordinary larger size pattern but omit the two outer slits on each side. You will need only one pair of fourchettes for each glove and these should be inserted in the usual way up the side of the first finger and the section which will cover the other three fingers.



You will need very strong, tough leather although it must be fairly flexible. Sew it with string thread and a thick gloving needle. If you feel you would like to stitch it by machine make sure that your machine will sew really thick stuff and use a fairly large needle. Another method is to pierce holes with a sharp nail and then sew through these. When sewing these gloves by hand make the seams on the right side using stab stitch.

## Making a pair of gloves – continued

**Children's Gloves:-** Fingerless mittens are best for small children as they have great difficulty in finding the right finger, especially when the gloves are lined. Fur-backed gloves and those made from sheepskin should always be made without fingers. Those with a zip across the hand delight small boys, while fur-backed gloves, "just like Mummy's", will please their sisters. Brightly embroidered felt mittens are a good investment for children especially if they are worn over a pair of thin knitted ones.

It may be thought that since gloves for children are smaller than those worn by adults they will be less trouble to make, but I must warn you that this is not always so. Of course, the seams are a little shorter but the pieces from which the glove is made being smaller they are usually more fussy to put together.

**Caring for Your Gloves:-** When you have spent a lot of time making a pair of gloves you will not want to spoil them by not caring for them properly. Leather, suede or chamois gloves should never in any circumstances get rolled together in a ball. This creases them and stretches them in the wrong place. They should not be thrown anyhow into a drawer to lie tangled up with hankies, scarves and what-have-you. Keep them pressed out flat in a special box or drawer. If your space is limited you can always tuck a lidless box into one corner of a drawer and keep your gloves in that.

The old habit of blowing into each glove as soon as it was removed had much to recommend it, particularly as it was usually followed by the careful smoothing out and putting away of the gloves. Do not make a practice of carrying your gloves in your hand as this makes them creased and limp.

Fur-backed gloves need careful treatment if they are to retain their good looks. When you take them off smooth the fur over the finger tips and never put them away where anything hard is liable to get put on top of them. During the summer it is a good plan to wrap them up in newspaper.

Cleaning gloves is often a problem. Suede cannot, as a rule, be successfully cleaned, though it can be made to wear longer by rubbing shiny patches with a piece of emery paper. Brush the gloves afterwards the way of the pile, using a special suede brush. Suede cleaner, such as that sold for shoe cleaning, can be used, but great care must be taken when brushing the gloves afterwards that every trace of the cleaner is removed. If this is not done properly you run the risk of soiling everything you touch.

Chamois and doeskin can, of course, be washed. Put the gloves on and wash in warm, soapy water. Swish several times, using clean soapy water, then pull the gloves into shape gently and lay flat on a towel to dry away from the sun or fire. Pull the gloves on several times while they are drying, kneading them gently to keep the skin supple. Cleaning fluids should never be used on leather as they are liable to damage the surface and may remove the dye.

The woollen linings of gloves sometimes get soiled but it is a comparatively simple matter to clean them. Turn the gloves inside out with the aid of a wooden spoon and clean them with one of the proprietary brands of cleaning fluid, following the directions on the bottle. Be careful not to let the liquid soak through to the leather. Allow the gloves to dry thoroughly, leaving them in a current of air to get rid of any smell, then turn them right side out and pull into shape.

One difficulty sometimes met with in wearing unlined suede gloves is that the dye is liable to come off on the fingers. To prevent or at least to mitigate this, sprinkle talcum powder in the gloves before putting them on.

Never dry wet gloves in front of a fire or on a radiator as this will make the leather hard. Leave them to dry naturally. Fur gloves may be brushed with a soft brush as soon as they are quite dry.

**Mending Gloves:-** Properly made gloves will last for a long time especially if you have been careful to see that they fit well. There does come a time, however, when seams come apart and the gloves need mending. In this case the obvious thing to do is to use similar thread to that with which the glove was originally sewn and simply re-sew the seam. Go well past the ends of the split at the beginning and end and be sure to fasten off firmly.

Sometimes an actual hole may be worn in the gloves, usually at the tip of one of the fingers. There are two ways of dealing with this, one for thin leathers and the other for thick. The first method is to cut a scrap of leather slightly larger than the hole. Put the glove on and tuck the small piece of leather under the hole so that it lies smoothly and fell the edges of the hole to the patch with very tiny stitches. If the glove is lined the patch will be tucked between the leather and the lining. If the glove has no lining, turn it inside out and fell the edges of the patch to the wrong side of the leather.

For the second method use matching silk or buttonhole twist and buttonhole very closely and neatly all round the edge of the hole. Go on working, putting the second row into the top loops only of the first row. Continue in this way, going round and round until the hole is completely filled. Take the thread to the inside and fasten off very firmly.



## GLOVE TERMS

Glovemaking is an ancient art and has some terms that may be unfamiliar to even the most ardent glove maker.

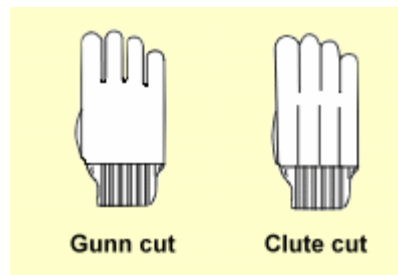
**Cabretta:-** A thin, fine leather, made from the skin of Brazilian hair sheep.

**Cape or Capeskin:-** A superior thin leather, made from the skin of South African hair sheep.

**Clute Cut:-** A glove style with a one piece palm with no seam at the base of the finger. There are seams along the fingers on the inside. The Clute cut keeps the palm free of stitching. On the palm side of a Clute cut pattern the palm, and all four fingers, are cut from one piece of leather and on the back side, each finger is a separate piece of leather.

**Cuff:-** The cuff is the part of the glove extending beyond the palm that covers the wrist and part of the forearm.

**Fourchette:-** The piece of leather sewn between the fingers on some kinds of gloves. Also known as the sidewall or gusset.



**Gauntlet:-** A very long cuff to protect the forearm.

**Grain:-** The side of the leather that had the hair, the outside. Full grain has the original surface, whereas corrected grain has been abraded to make the leather smoother and more uniform.

**Gunn Cut:-** A glove style with seams at the base of the fingers. The seams between the fingers are on the back of the glove. Gunn cut is common, featuring the two middle fingers sewn to the palm. On a Gunn cut pattern the palm, little finger, and index finger are cut from one piece of leather and the two centre fingers are cut from another piece. On the back side of a Gunn cut pattern the entire back including all four fingers are cut from one piece of leather.

**Gusset:-** The piece of leather sewn between the fingers on some kinds of gloves. Also known as the sidewall or fourchette.

**Split:-** When a thick piece of leather is split into two thinner pieces, the top piece will have grain "top grain" and the bottom piece will be suede on both sides. The bottom piece is the split.

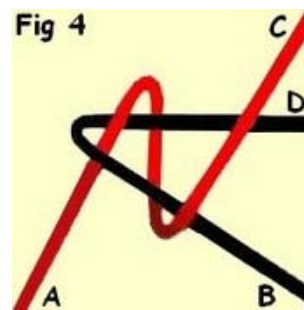
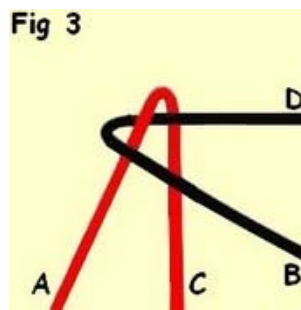
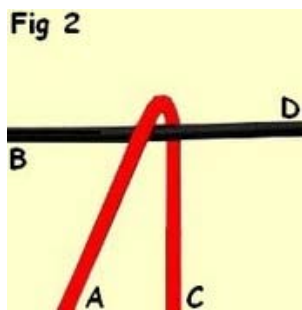
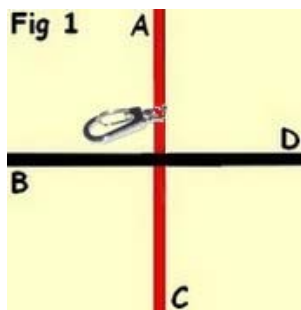
**Welt:-** A thin piece of leather sewn into the seam to strengthen it. Often a welt is used in the seam at the crotch of the thumb and the base of the finger.



# Two strand square braid

These are instructions with pictures for weaving a 2 strand square braid lanyard. This is a very convenient lanyard for attaching to keychains, etc. The materials needed are 4'-10' of lace, a split ring or snap that you want to attach to the lanyard, and either epoxy or superglue, to finish the bottom of the lace. In the example illustrated below four feet of lace per side was used. The more lace you use, of course, the longer your lanyard will be.

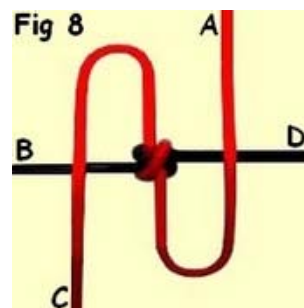
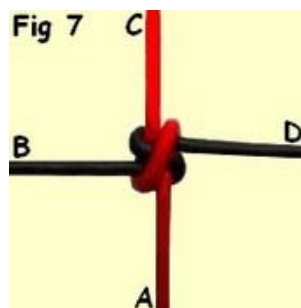
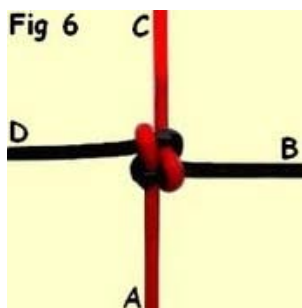
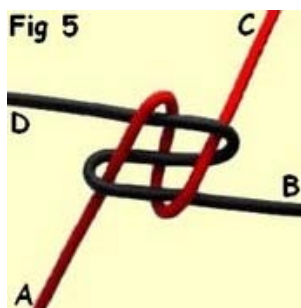
As shown in Fig 1 fold the two strands of lace in half to determine the middle. Arrange the two strands in a "plus sign" (+) with the horizontal strand (the black strand in the Fig) on top of the vertical strand (the red strand in the Fig). Put the split ring or snap hook on the vertical strand of lace and move it to the centre.



Fold the top half (Fig 2) of the vertical strand A of lace down and to the left of the bottom half of the vertical strand C. So that it crosses over the top of the horizontal strand (B-D).

Next, as in Fig 3, cross the left half, of the horizontal strand B, to the right, over the top of both of the vertical strands, (A-C) below the right half of the horizontal strand.

Figure 4 shows how the right leg of the vertical strands go up over the top of both of the horizontal strands.



Now, in Fig 5, cross the top leg of the horizontal strands up over the right vertical strand and under the left vertical strand.

As shown in Fig 6 pull the strands really tight, making the first square braid in your weave, the foundation for the rest of the lanyard. You will need to pull each square as tight as possible before you weave the next square.

Next, Fig 7, fold the top leg of the vertical strand straight down and the bottom leg of the vertical strand straight up. They will cross over the square braid in the middle, but they do not cross over each other.

Figure 8, cross the right leg of the horizontal strand OVER the right leg of the vertical strand and UNDER the left leg of the vertical strand. You can pull it through most of the way, but do not pull it tight yet.

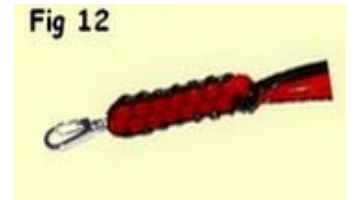
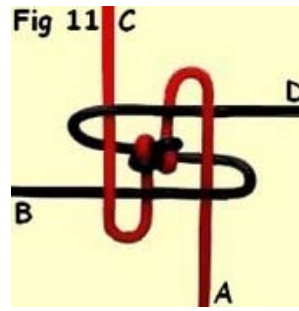
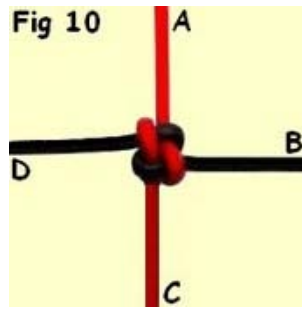
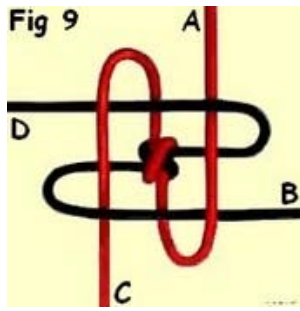


Figure 9, fold B over C and through loop on A. Fold D over A and through loop on C.

Pull ends evenly as shown in Fig 10 until the knot tightens.

Next, as shown in Fig 11, moving in a clockwise direction, fold C over D, then A over B. Continue by folding B over A going through the loop on C. Followed by folding D over C and going through the loop on A. Now you can pull the ends evenly until knot is tightened.

Continue braiding, repeating the steps in Figs 8, 9, 10 and 11 until you have the finished article as shown in Fig 12.

# Lacing & Splicing the Double-loop Stitch

One has to assume that the item you are about to join by using the double-loop lacing stitch is already prepared. That is that all holes in the sides to be joined have been punched and are in alignment with their corresponding ones. Now all you have to do is follow the sequence of images with the explanations listed beneath them. The first six steps, numbered, are the basic steps to the entire procedure.

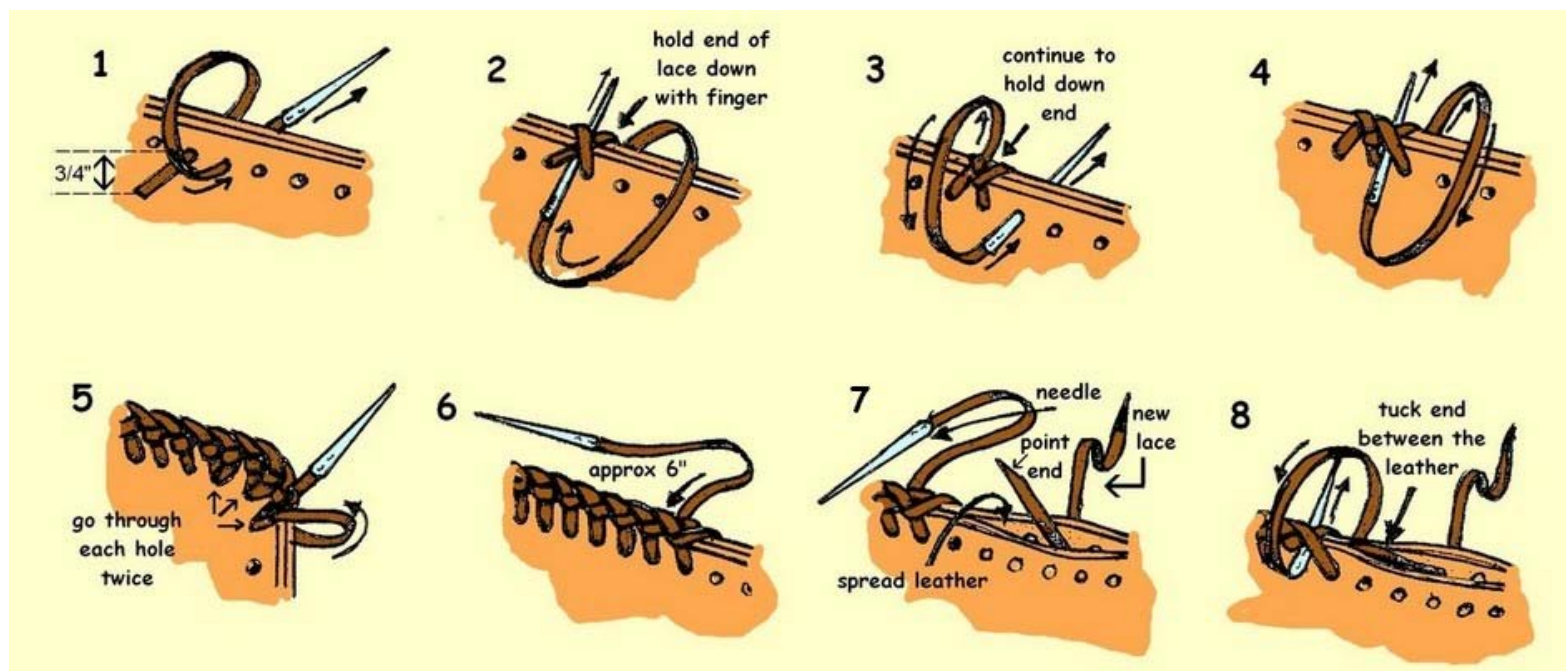
There is no doubt this is one of the most popular lacing stitches, and whatever the article, the amount of lace you will use is approximately seven times the distance to be covered.

## Lacing Hints

Before you start lacing it's best to bevel the edges of the project. Some folks even put a coat of matching colour (of the lace) on the cut edge of the project to make it less visible after lacing. Never start at a corner, always start about halfway along a straight length in a non-stress area. Better by far to splice several times than keep hauling a long piece of lace through all those holes which only weakens the lace. When you've cut your first length of lace it's a good idea to wax both sides of it by pulling it over a block of beeswax. Do your corners with two or three stitches, and put two stitches in the hole next to the corner holes. Make sure all the corners are done the same way. Splice and end between the leathers so you don't have any weak spots. Keep the tension on the stitches the same as much as possible. When you are finished, gently tap the lacing with a cobbler's (smooth faced) hammer.

## A hint for when doing hand stitching or lacing

Buy the rubber finger tips used by office workers. As they come in at least three sizes you can put a large one on your thumb and a smaller on your fore or middle finger. Consequently, when stitching/lacing for lengthy periods of time you'll rarely need to use pliers to pull your needle through.



1 Beginning on the front side of your project, pull the needle and lace through the first hole. Leave about  $\frac{3}{4}$ " of the lacing end and go on to lace the next hole.

2 Pull the stitch tight, lacing over the end you left free, thus forming a cross or "bight".

3 Now pull the stitch under the bight snug, but not too tight, then lace through the next hole.

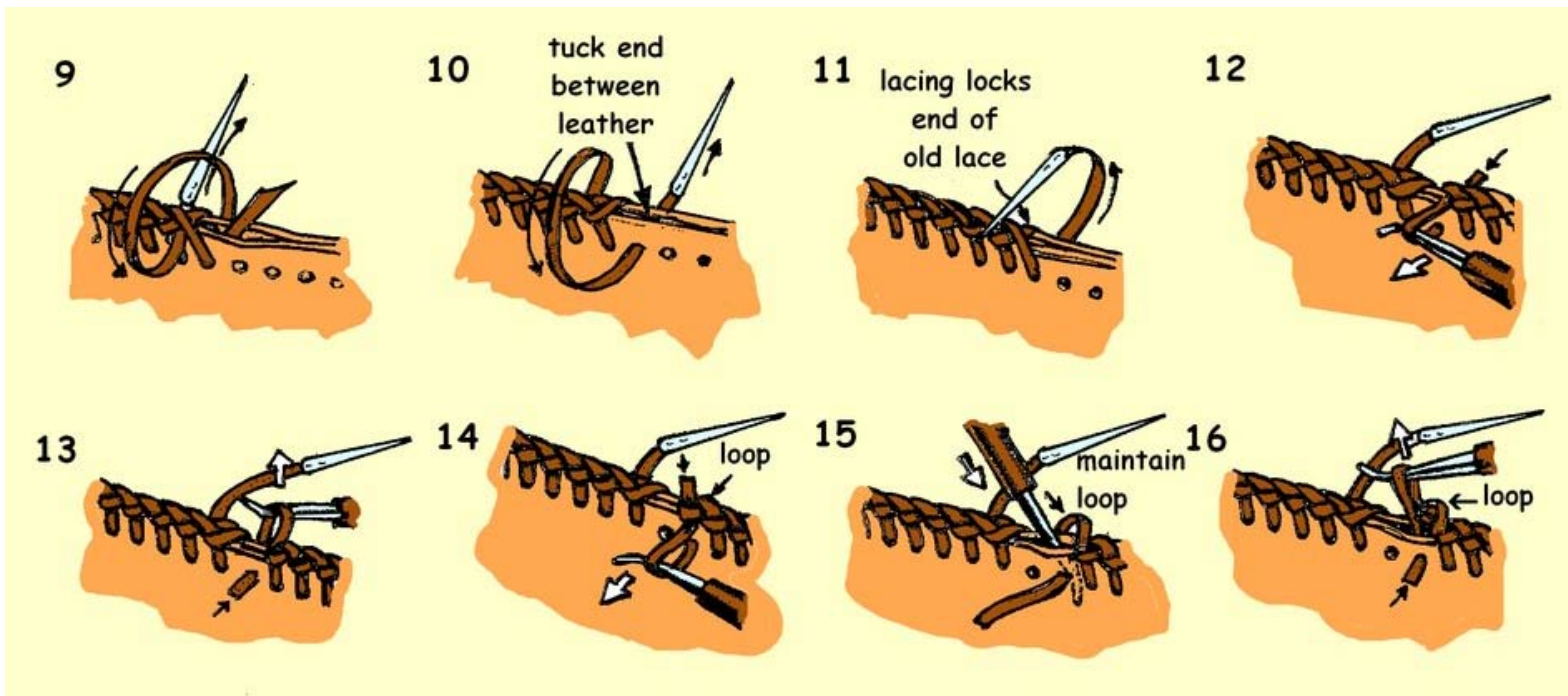
4 Keep following the same procedure as in steps 1 and 2 making a cross of the bight. Once more go under the bight and pull the stitch snug.

5 When it comes to lacing round the corner, stitch it twice. Make sure you go through the bight on your corner stitches.

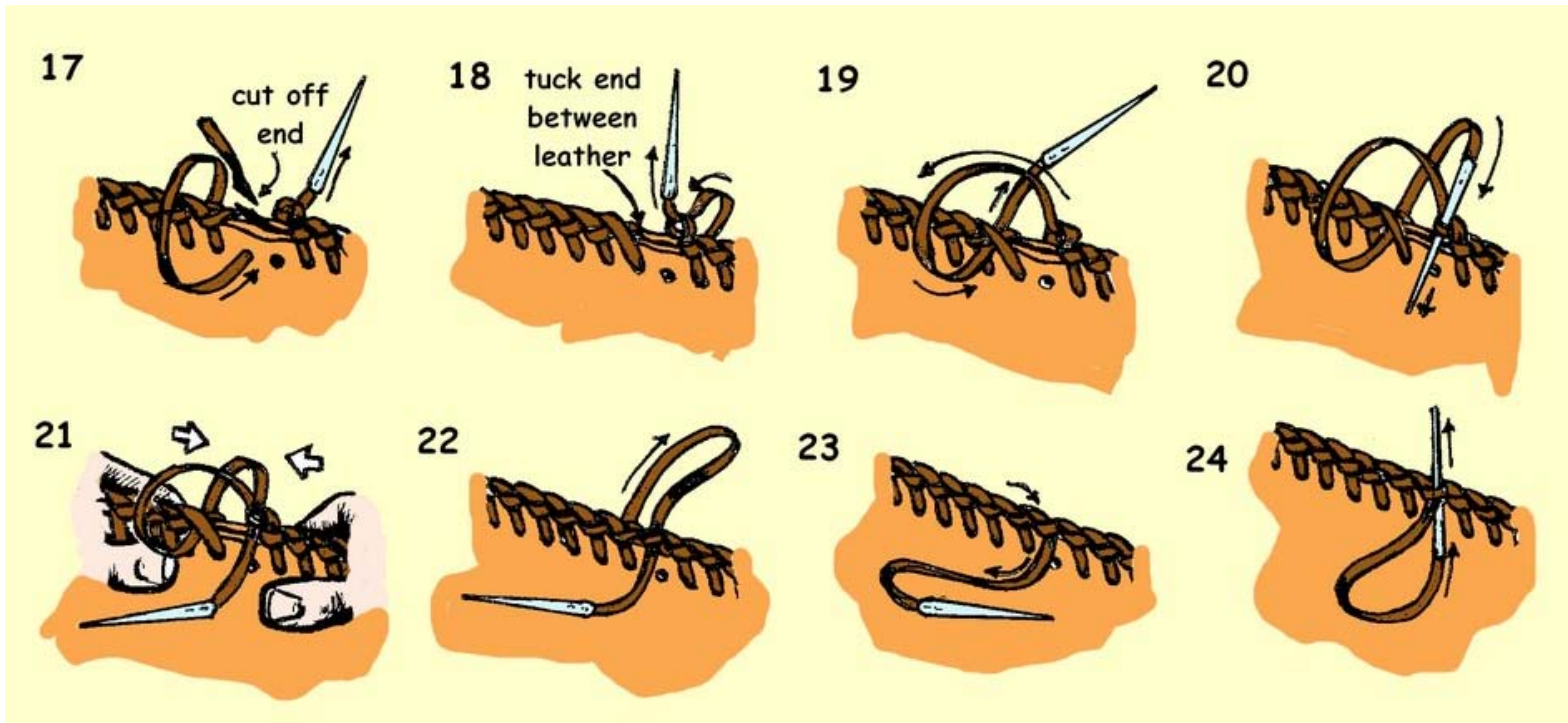
6 Keep lacing until you only have about 5"– 6" of lace remaining. You will now have to splice on a new length of lace.

7 Insert the new lacing down between the leathers. Four holes from the lacing pull out on the back side. Leave about  $\frac{3}{4}$ " of lacing between the leathers.

8 Tuck the end of the lace between the leathers and continue lacing with the old lace.



- 9 Pull the old lace up tight and cut off the end at an angle, allowing about  $\frac{3}{4}$ " to remain. Now attach your needle to the new lacing.
- 10 Tuck the end of the old lacing between the leathers and lace over it with the new lace so that it is caught and does not show.
- 11 Continue on lacing until you reach your starting point.
- 12 To enable you to tie off the lacing, pull the end of the beginning lace free of the stitches.
- 13 From the back side, pull the end of the lace out of the hole.
- 14 From the front side, pull the end of the lace out of the hole.
- 15 Using a modelling tool, for example, or the needle, push it down between the leathers and hook it over the lace.
- 16 Pull the end of the lace out of the hole and up between the leathers. two empty holes should appear on the front side, and one, on the back.



- 17 Cut off the end of the lace you have pulled out and tuck the end of the lace between the leathers. lace through the next hole.
- 18 Pull the stitch tight and lace up through the loop from the back side. All the holes on the back side should now be filled.
- 19 Lace under the bight but do *not* pull this stitch tight.
- 20 Carefully cross over as shown in the illustration above and push the needle down through the loop.
- 21 Pull the needle through. Push the laced edges together to adjust the starting loops for easier completion.
- 22 Pull any slack there might be out of the first loop and adjust the lacing with your fingers to make all of your stitches appear equal.

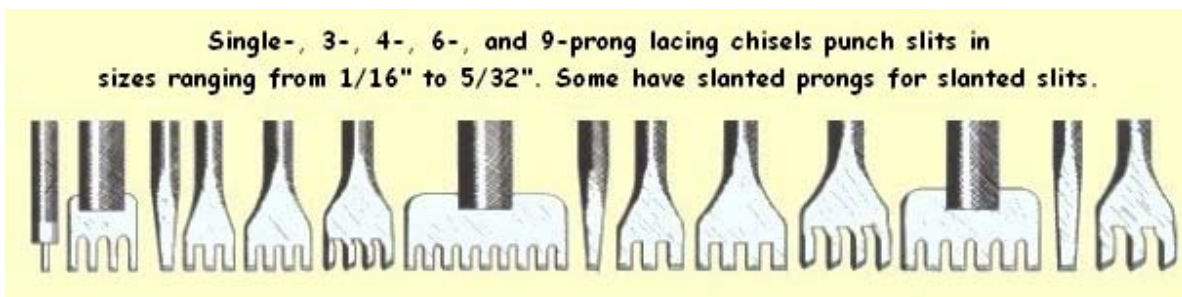
**23 Pull the end of the lacing down tightly. Make sure all stitches appear even and equally spaced.**

**24 Now push your needle through the last stitch as shown. Bring it up between the leathers and out between the lacing. Cut off the excess lace.**

# Lacing & Splicing the Triple-loop Stitch

One has to assume that, as with the double-loop stitch, the item you are about to join by using the triple-loop lacing stitch is already prepared. That is that all holes in the sides to be joined have been punched and are in alignment with their corresponding ones. Now all you have to do is follow the sequence of images with the explanations listed beneath them. The initial steps, numbered 1 - 10, are the basic steps for the entire procedure.

Prior to punching your lacing slits it's a good practice to first scribe a line, about  $\frac{3}{32}$ " or  $\frac{1}{8}$ " in from the edge, intersecting at the corners. That is where to make your corner holes with a 00 size tube punch. Next find the centre of the long line, from corner hole to corner hole. Use a three prong lacing chisel, placing the centre prong exactly on the centre mark and using a wooden or rubber mallet, make the first three slits. Continue making slits by placing the end prong into the last slit punched. This makes the lacing chisel self spacing. Work from right to left towards the corners. When about three slits from the corner gently press the prongs onto the leather to check the spacing. If not enough space to use the three prongs overlap two prongs into previously made slits and only punch one hole. Then using a single slit punch place the slit between the last slit and the round hole. Continue all the way round.

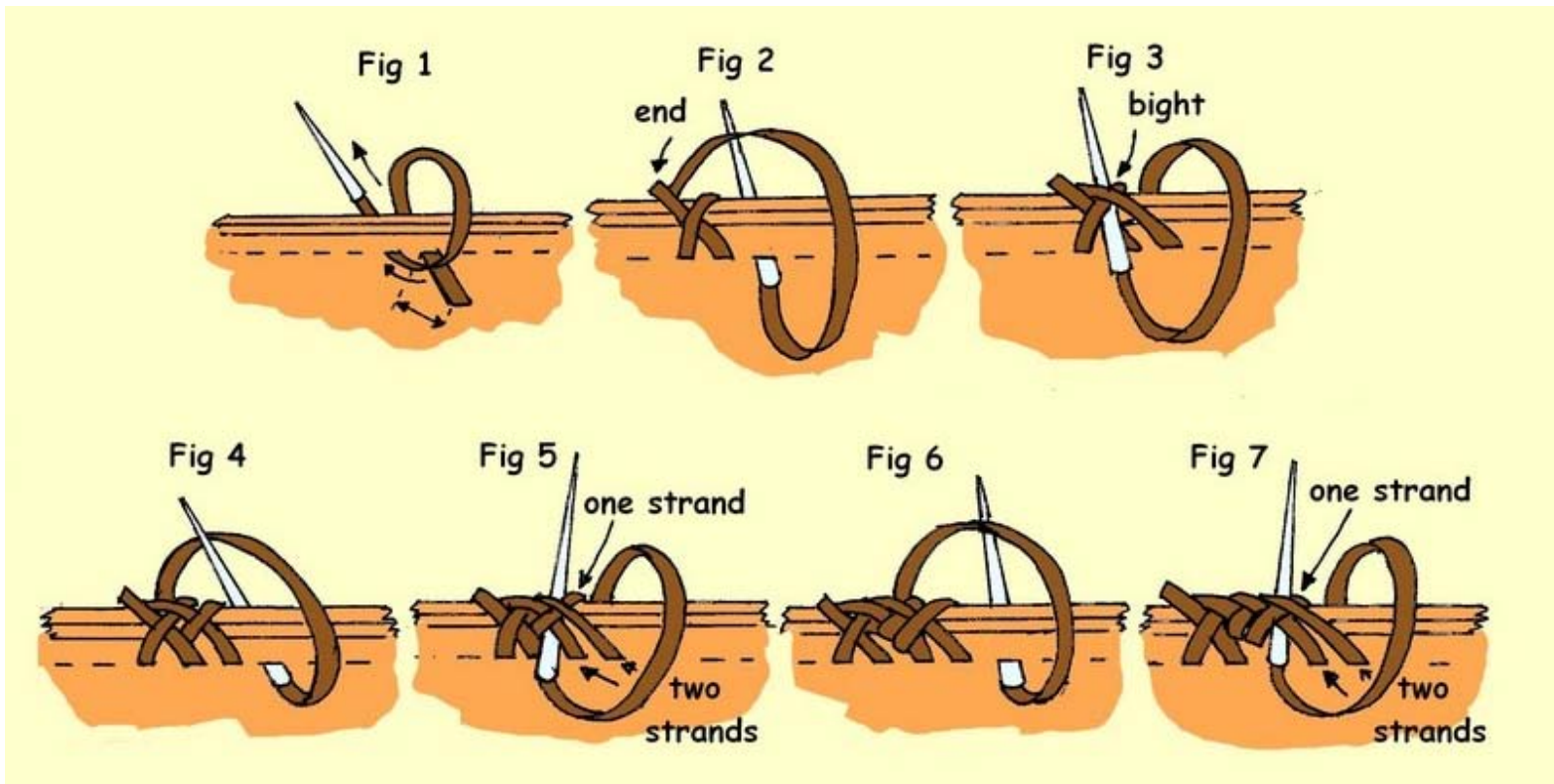


The triple-loop stitch is one of the better lacing stitches to use on heavier articles because it will cover the thickest edges. The amount of lacing you will need will vary, it depends on the distance between the holes, and the edge of the article and the holes. However I think you can safely say, for this stitch, you'll need approximately nine times the distance to be laced.

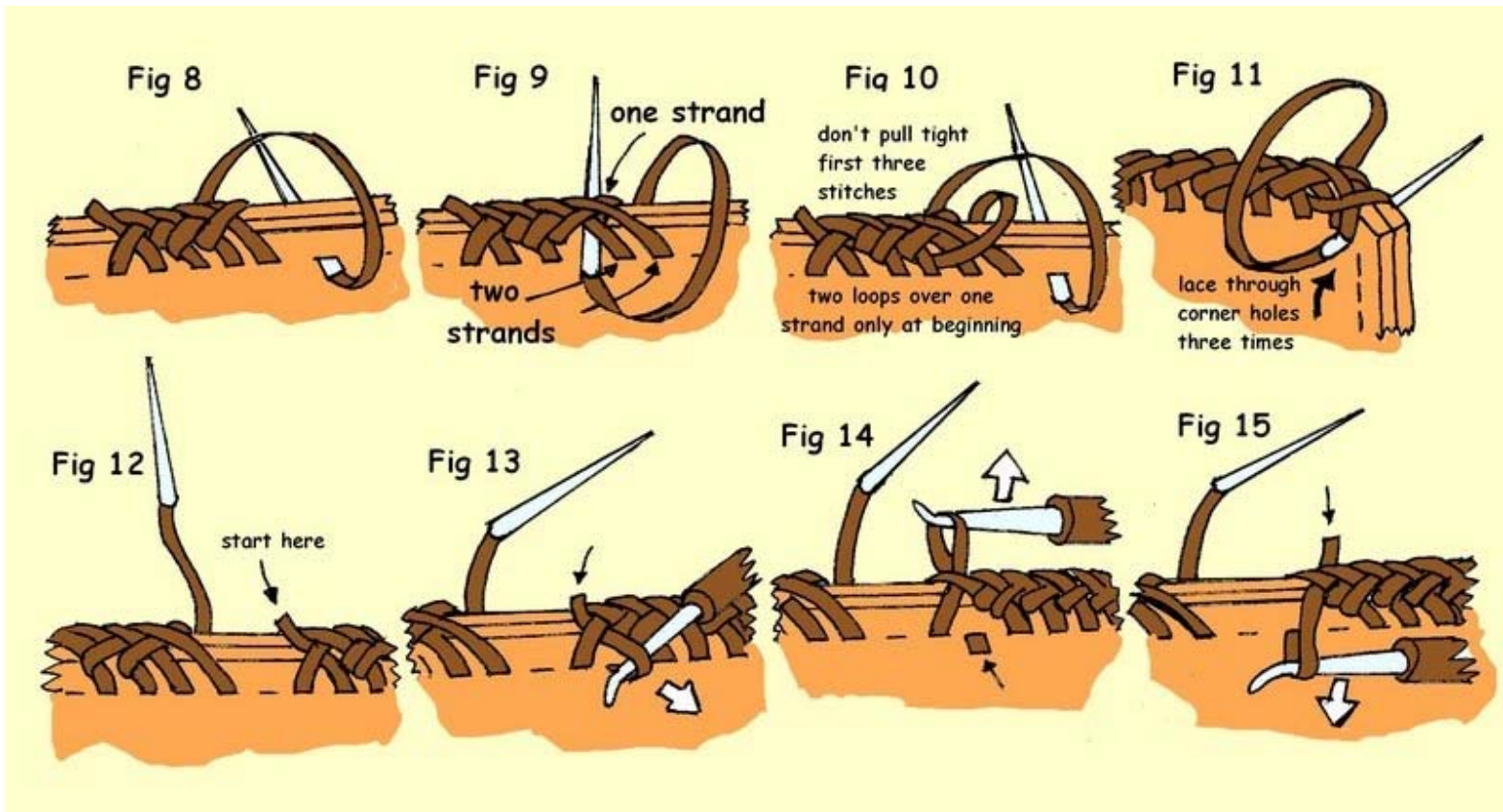
## Lacing Hints

Before you start lacing it's best to bevel the edges of the project. Some folks even put a coat of matching colour (of the lace) on the cut edge of the project to make it less visible after lacing. Never start at a corner, always start about halfway along a straight length in a non-stress area. Better by far to splice several times than keep hauling a long piece of lace through all those holes which only weakens the lace. Do your corners with two or three stitches, and put two stitches in the hole next to the corner holes. Make sure all the corners are done the same way. Splice and end between the leathers so you don't have any weak spots. Keep the tension on the stitches the same as much as possible. When you are finished, gently tap the lacing with a cobbler's (smooth faced) hammer.

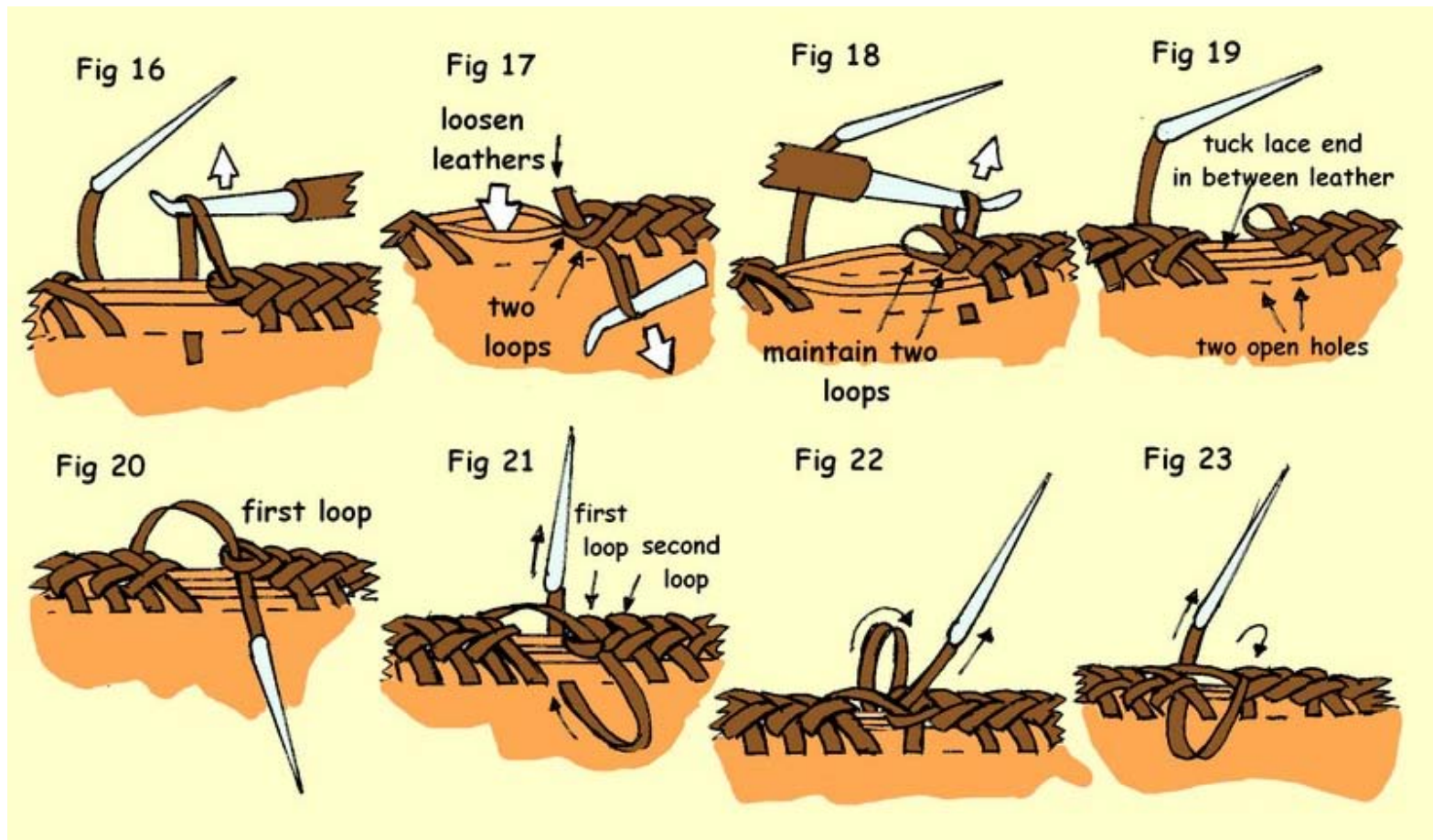
When you've cut your first length of lace it's a good idea to wax both sides of it by pulling it over a block of beeswax. This helps prevent it from fraying, and to go more easily through the holes, especially if you are using slit holes. When lacing round the corners and splicing on a new length of lace the procedure is the same as for the double-loop lacing, except instead of stitching it twice, you stitch it three times. Making sure you go through the bight on your corner stitches.



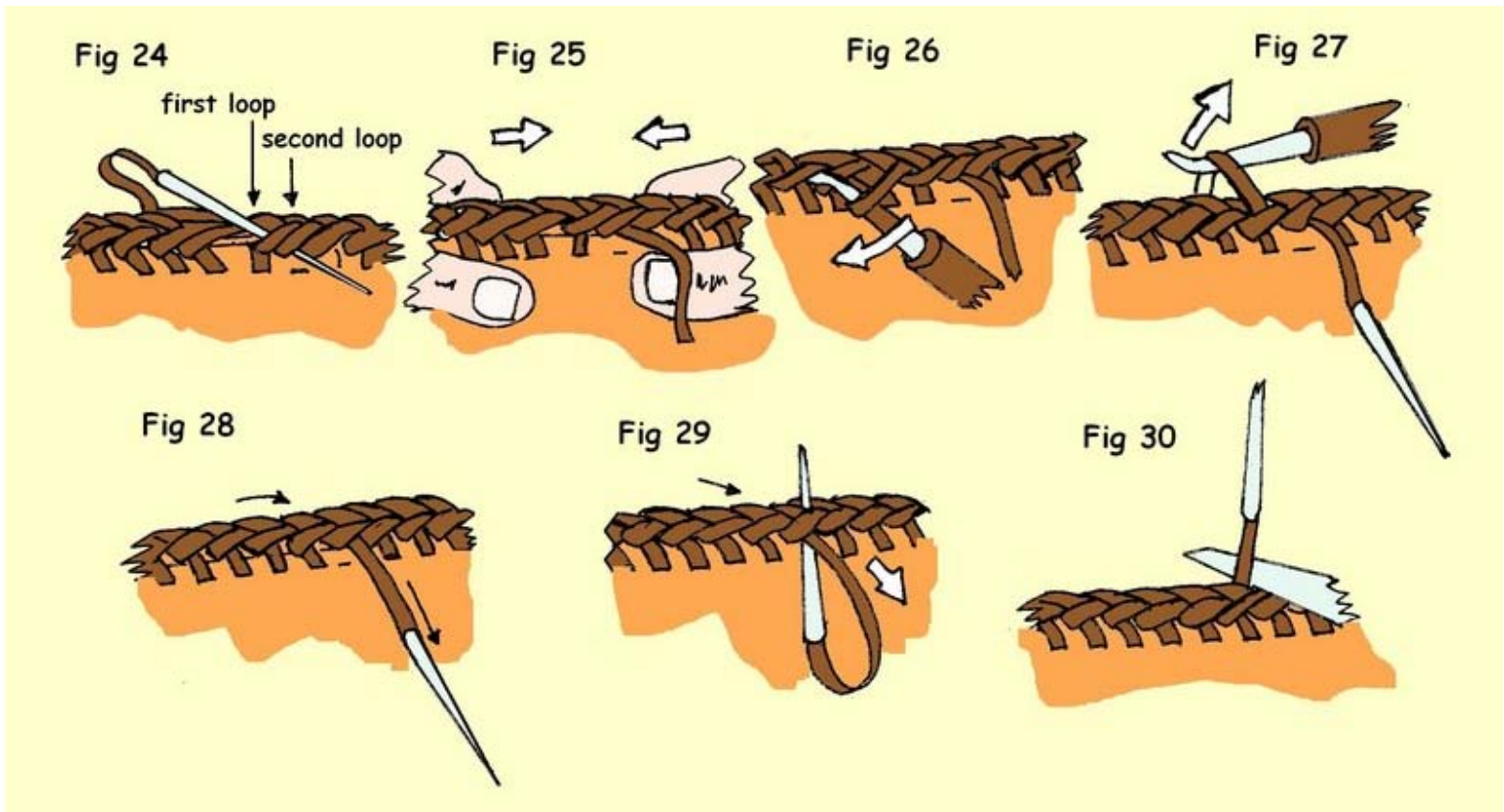
Start with the front facing you as in Fig 1 pulling the stitch tight over the end as in Fig 2, then continuing to lace through the first hole to the right. In Fig 3 you pull the stitch tight, lacing under the bight (the cross), in Fig 4 tighten again and lace through the next hole. In Fig 5 lace once more under the bight but this time the lace goes under two strands on the front but only one at the back. Continue as before until reaching the corner where you lace through the corner holes three times.



The difference between the double-loop and the triple-loop is in the ending or joining of the two ends as is illustrated in Figs 11 to 19.



For the ending, it might be a good idea to follow the direction of the arrows with your lacing needle, to avoid becoming confused.





Finally, from Fig 24 on push the needle down through both loops then push on the lacing with your fingers to adjust it as in Fig 25. Then, as you did in Fig 23 start taking up the slack stitches and tightening them. Continue following the Figs through to Fig 30 where you cut off the end of the lace.

# Replacing desktop leather insert

If your desk is a valuable antique and/or is of historical interest, then replacing the leather insert is best left to an expert unless you have confidence in your do-it-yourself ability. For desks that do not fall into that category then there's nothing to stop you, because it's a perfectly simple procedure.

Should the insert being replaced have some ornamentation around the edges, either as blind tooling or with gold leaf embossing, and which you want to reproduce on the new one, then there is a bit more to be considered.

**Blind tooling:-** That just means impressions are made in the leather by means of heated tools, pallets, rolls, fillets or combinations of one or more of these. As the name implies, blind tooling does not entail the use of leaf metal, foil, or any other colouring material, with the possible exception of something like Tandy's Hi-Liter Finish, which can be used to darken the impressions.



**Gold tooling:-** In the traditional method of gold tooling the design is blinded in, firstly through paper, and then again directly on the leather. The second working of the tool polishes the base of the impression and assists in creating a particular brilliance in the tooling. An adhesive (glair: **A term for white of egg when used as the medium in illuminating manuscripts, in tempera painting, and in gilding with gold dust. It is also used as an adhesive substance to fix gold leaf.**) is applied to the leather, directly into the blind impressions, and strips of gold leaf are laid over them and held in place temporarily with a thin film of Vaseline®, or the gold is in roll form. It is then pressed permanently into place with a heated tool. See [Here](#). Something worth bearing in mind are the differences in costs. Metallic foil is available in roll widths of 1" - 24" and lengths of 200' - 400' in shades of gold and silver, costing roughly, for the 1" wide £2.10, to £12.60 for the 6" wide. Genuine gold foil is also available (see [Here](#)) in widths 1" - 24" and roll length 200' but costs are somewhat greater at £111.00 for a 1" roll and £333.00 for a 3" wide roll.

**Gold Tool Stylus - 240 volt:-** This novel and useful tool allows you to add a personal touch to "finishing" using gold, silver or metallic foils. The stylus is about the size of a ball-point pen and operates on 4.5 volts from its own combined mains/plug transformer. The handle of the stylus is fabricated from unbreakable nylon and the cool plastic finger-grip extends to within 25mm of the writing tip for perfect writing control. The tool can be left plugged in indefinitely, without harm and the tip will not even scorch paper.

**Specification:-** 220-250 volts (AC) input - 4.5 volt output. Price: £66.30. Excluding VAT at (until January 2010) 15%.



Ready to fit inserts are available from lots of suppliers, but they will not be inexpensive. Send them the precise measurements and details of any ornamentation, and state the type of leather required. As a rule of thumb you would expect vegetable-tanned tooling leather for larger desks and skiver for smaller ones. So, for example, a ready-to-fit vegetable-tanned leather insert, say 3' x 2', with some modest gold-leaf tooling, will cost approximately £150.00, or £650.00 for size 6' x 4'. Skiver costs less, for one thing it's a thinner leather, usually sheepskin, and for anything other than a small desk more than one piece will be needed as a skin averages 6<sup>2</sup>' - 8<sup>2</sup>', thus a 2' x 1½' piece will cost about £45.00 and 4' x 2' no more than £110.00 at present prices.

Vegetable-tanned tooling shoulder is my leather of choice and buying it yourself should cost, more or less, £5.00 a square foot. Un-trimmed double shoulders of 1.2 - 1.4mm weight are approximately 16<sup>2</sup>' - 18<sup>2</sup>' so half a shoulder, for example, should be all you need to cut out a 3' x 2' insert. Add the cost of the dye, metallic foil gold leaf, and tools for the ornamentation if you want to add some, and you'll still have change in your pocket.

To remove the old leather insert soak it with some warm water to loosen the adhesive. When pulling it off it doesn't matter if it gets torn, you're throwing it away. Just ensure you keep a bit to remind you what the original ornamentation was like if it's your intention to reproduce it on the new leather.



Before cutting out your leather you need to measure the recess for the leather. If it is a square or rectangle, check the squareness by measuring across the diagonals. If you have any doubts, or the shape is not regular (often the case in older pieces), make a paper template carefully marking which is the face side (tape down the paper you are using to trace the recess so that it doesn't move. With a carpenter's pencil use the broad side to mark round the edge of the recess). This template should be accurately cut to size and checked for fit in the recess, as you will mark out exactly around the outer edge for size. Leave some spare material all round for final fitting and trimming.



To reproduce ornamentation round the edges use a simple hand embossing wheel carriage and any of the many interchangeable wheels that are available. They are excellent for borders, tooling, and so on as they can be heated and the design burned into the leather. The carriage is equipped with a thumb screw so that the embossing wheels can be easily changed.

Use the proper heat range to do the job. If the iron is too cold, the leaf will not transfer evenly. If it is too hot, the gold will break down and at times the iron will skit. The iron being too hot causes the most problems. Very little pressure is required to perform the actual transfer. Narrow lines require less heat. Wider lines more heat. Circular patterns may be accomplished by using the outside guide or an extension to the outside guide if more "reach" is required. Always use a mounted sample piece of leather to test before running each row of a particular style, to allow for variations in room temperature, humidity and leather properties. When the correct heat and speed are used in conjunction with a modicum of skill, perfect repeatable results can be obtained. It is necessary to apply a protective coat of sealer to prevent tarnishing and oxidation of metallic gold leaf.



hand embossing-wheel carriage



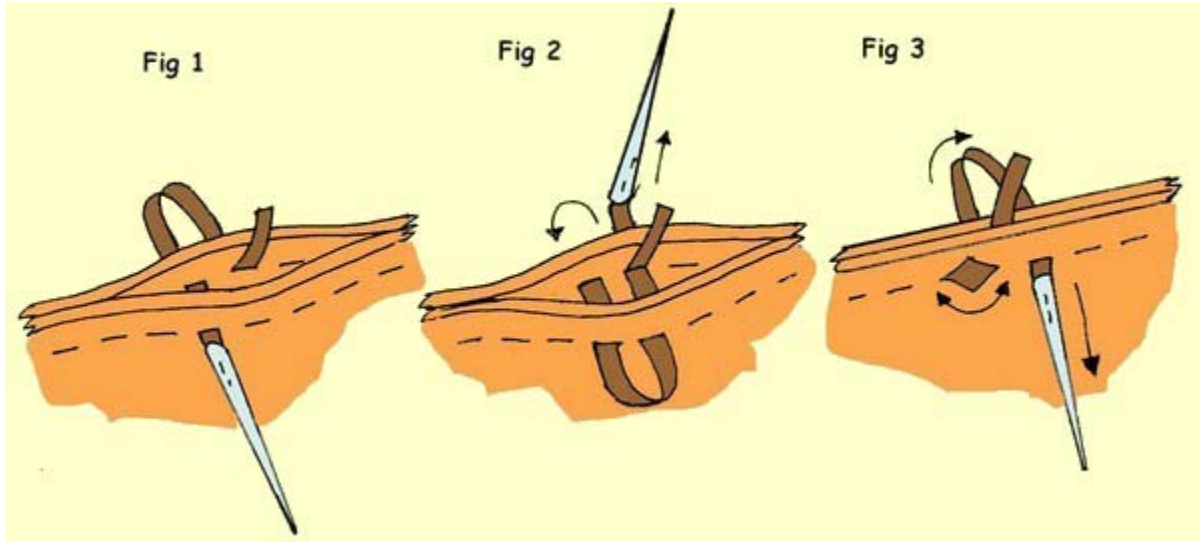
interchangeable wheels

With the leather cut to size it's time to stick it into place. Wallpaper paste is a satisfactory adhesive, being water-based it is easy to clean off any place it shouldn't be. You can of course use an original 18th century glue, wheat paste! (Source of wheat paste: [Jin Shofu-Wheat-Paste](#)). Apply with a plastic spreader that has a serrated edge and spread it on as evenly as possible. Bear in mind that the thickness of the paste will determine the drying time, as will the environment, as the leather expands and contracts accordingly, also a period of time is required for shifting the leather about to get it fitting perfectly (as you will not get it right first time) with the edge ornamentation, if any, parallel to the edge of the desk.

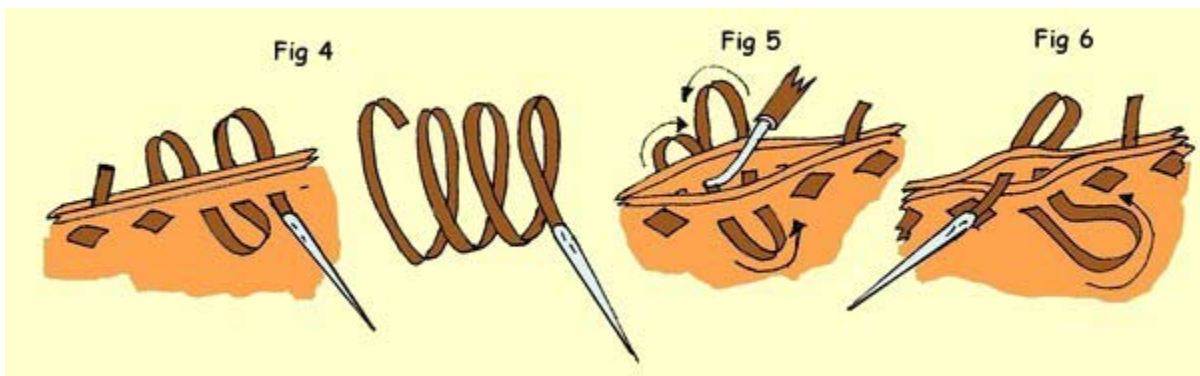
If the desktop is a large one then mark the centre of the leather and the middle of the desk, roll up the leather from each end to meet in the middle, line up your marks and unroll the leather. Use one of those small paint rollers, the sort for getting behind radiators, to smooth out any air-bubbles from the centre towards the ends, that will at the same time squeeze out any excess paste round the edges so that it can be wiped off. After getting it smooth you may need to do a bit of compressing and stretching to get a perfect fit. For every square foot of leather it can be stretched or compressed (on the average)  $\frac{1}{4}$ ". Any excess will need trimming off from the edges before the adhesive has set, by doing so you can still manipulate the leather to close up any gap should you inadvertently trim off too much. Protect the wood by using a thin strip of plastic or similar to act as a buffer between it and the leather, then use a steel rule as your straight edge, and start trimming. Better also to make several light passes with your sharp blade than one heavy one otherwise you may move the insert. Ensure any edge embossing doesn't get out of sych but stays straight.

# Straight slit buck-stitching

Ideally for buck-stitching the wider the lace the better, certainly not less than ¼". Running over it with some beeswax prior to fixing it in your needle not only helps it run more easily through the slits, but also stops it fraying. Additionally, before starting, cut a short slit in the lace at the opposite end to the one the needle is attached to because when you begin your stitching threading the lace through this slit is what holds it in place. You can see this in the first illustration. Bear in mind that for this type of lacing you require a length of lace at least 1¼ times the distance you intend to lace, to which, erring on the side of caution, I usually add another 9" - 12"!



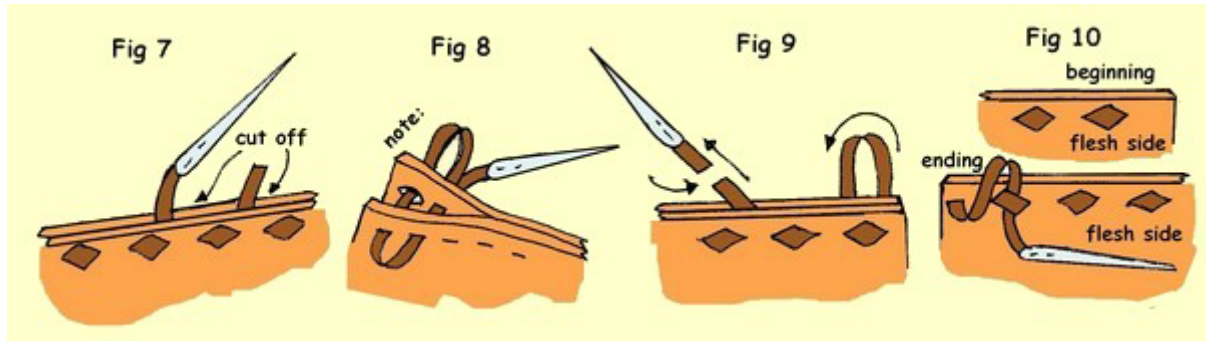
1. Pull the lace through the first slit, flesh side uppermost. Go on through the next slit and then through the slit in the end of the lace, as shown in the illustration. Keep the lace turned as shown.
2. Pulling the first stitch tight locks the end of the lace. Now bring the lace back through the third slit, flesh side uppermost. The figure between two and three shows the back view of step two depicting how the end is locked.
3. Continue on lacing through the slits with the grain side uppermost coming out of the back, and with the flesh side uppermost when coming to the front. Each stitch must be pulled tight as you proceed.



Looking at the spiral illustration above may help to explain this stitch. It keeps the grain side of the leather outward on both sides of your project.

4. Carry on stitching to the end of your project, lacing through the last two slits as shown leaving loose loops at and. Run the end under loop. Twist loop so that the flesh of the lace is against the back of your project.

5. Pull the loop to tighten loop and the end should have its flesh side against your project. See the back side view of step five showing the lace properly turned.

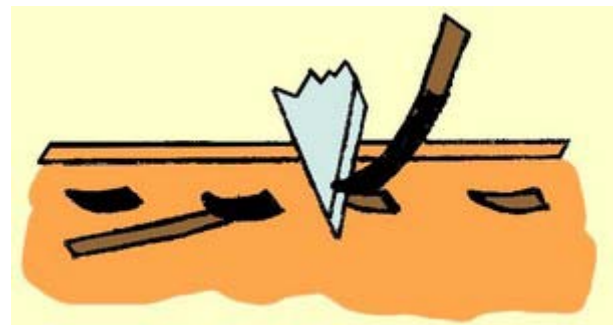
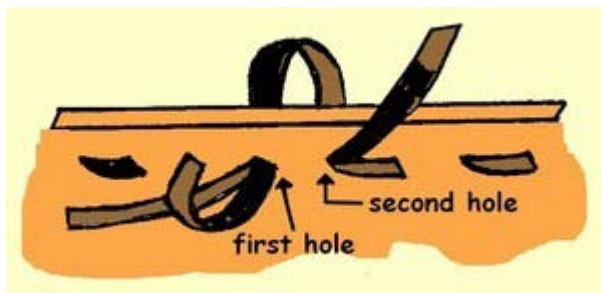


6. Now pull on the loop to tighten up the loop.

7. As shown in step seven pull the end to tighten loop and note also the twist in loop, thus completing one row of straight slit, in-line, buck-stitching. When not lacing all the way round a project (Fig 8), begin your lacing between the leathers in the second slit in the back. Next come up through the first slit in the back, through the slit in the end of the lace and through the first slit in the front. Lace through the second slit, for the second time, and continue to lace as usual.

## Ending single-thickness buck-stitching

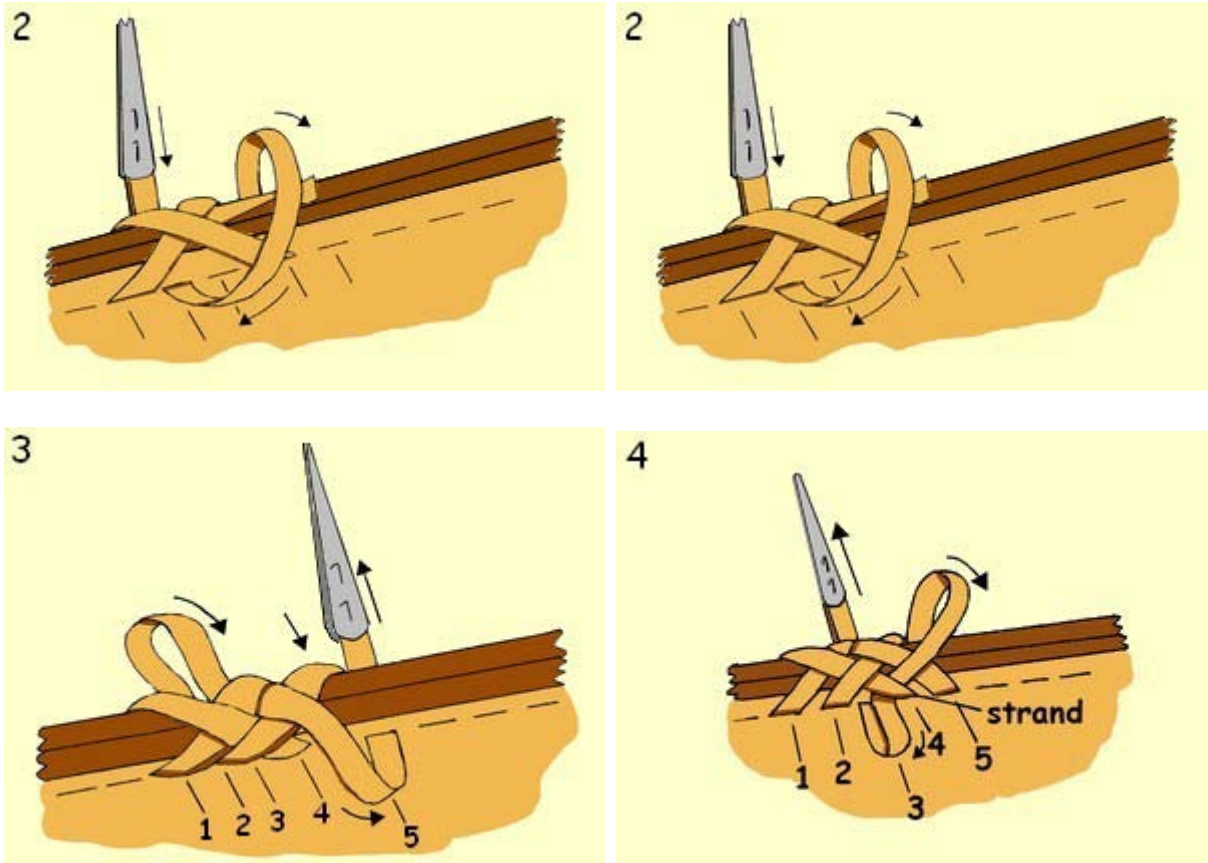
The way to end single-thickness buck-stitching is slightly different from that shown above where the illustrations are for decoratively joining together a double thickness of leather.



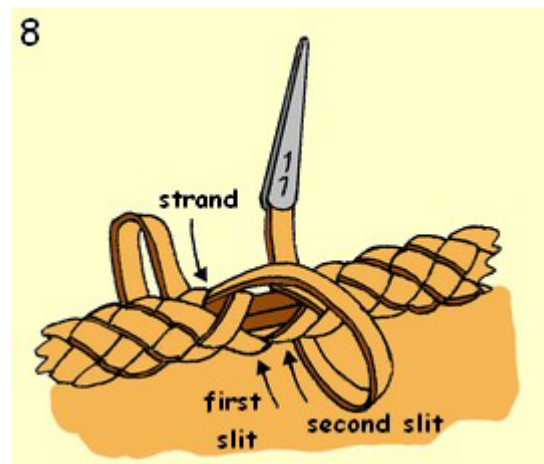
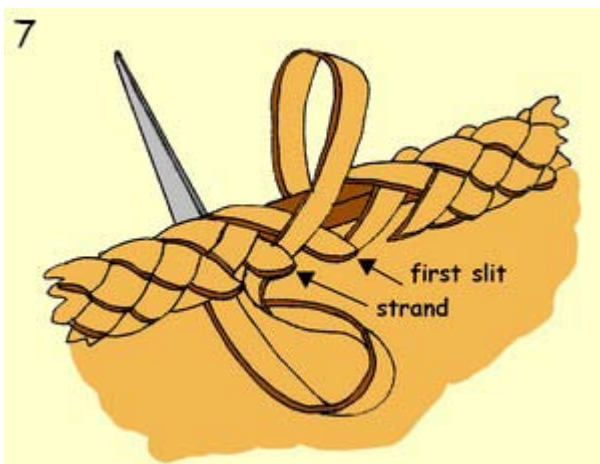
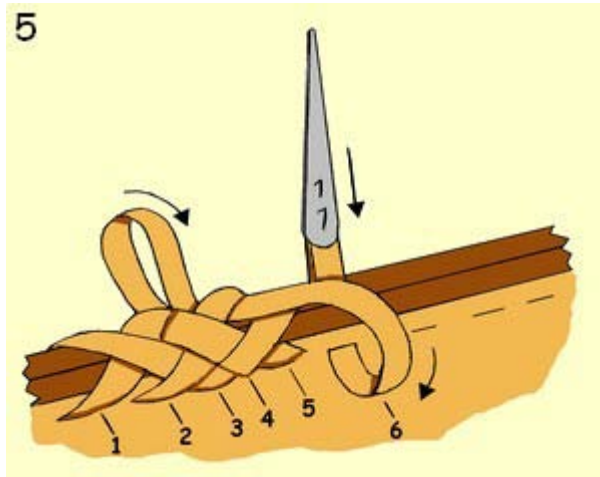
To begin the single-thickness ending, follow the stitching in the illustration above, going through the first and second holes. Follow the second illustration, pulling the ends of each beginning and ending lace, before cutting off the excess.

# Mexican basket weave or Round braid

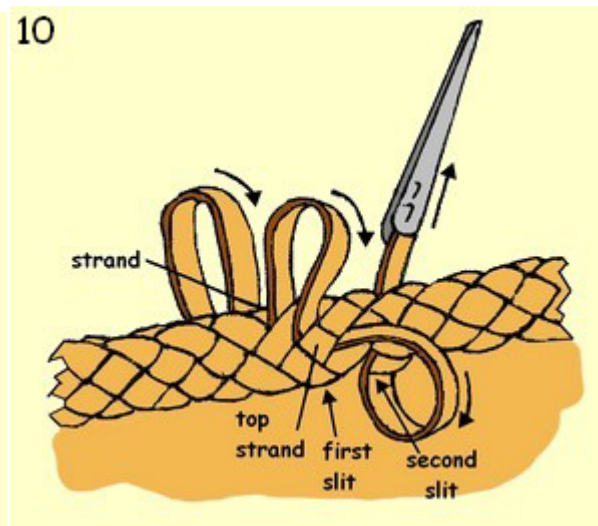
This stitch is used on any edge where a rounded, braided effect, is desired. The amount of lace required is approximately nine times the distance you are going to lace. This means, for example, if your project is 2' around then you will need 18' of lace. At first glance this looks as though it is a very difficult lacing technique to learn but it is really very simple. All it is, is a simple over-one-under-one braid. By following the illustrations below, and the direction of the arrows in them, you'll pick up the method very quickly. Use  $\frac{1}{8}$ " to  $\frac{3}{16}$ " lace with correspondingly sized slits in your leather, ensuring that the corner slits are approximately half as long as the others.



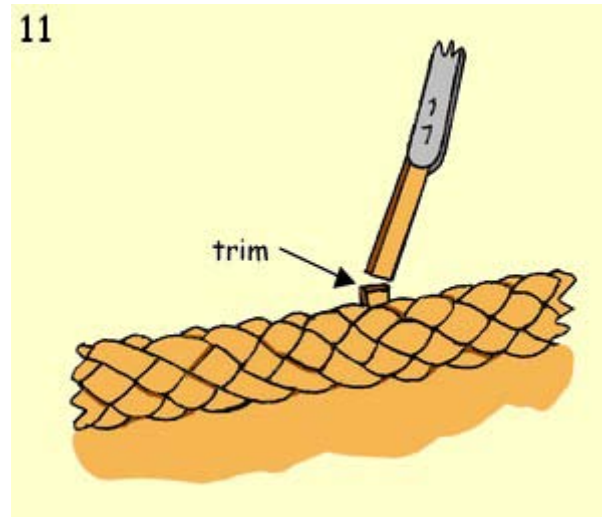
As shown in Fig 1 push your needle and lace down between the edges of the leather exiting out through the third numbered slit. Make certain to leave about  $\frac{3}{4}$ " of the end of the lace between the sides bringing your lace over to the front and going once more through the first slit. Once again bring the lace over to the front and push the needle through the fourth slit. Now, as in Fig 2, you bring the lace over to the front and go through the second slit. Next, Fig 3, push up under the nearest strand and then over the next one bringing the lace to the front to lace through the fifth slit. On to Fig 4 and bring your lace to the front over the first strand then down under the next strand as shown, the push your needle through the third slit.



Observe in Fig 5 that the lace is pushed up under the nearest strand then over the next strand (as previously in Fig 3) lacing through the next open slit in line. Now, shown in Fig 6, you bring the lace to the front of the leather. Go over the first strand then under the second one and continue to lace through the fourth slit for the second time. Continue to lace going under and over and forward three, then over and under and back two. Each slit being laced through twice. Carry on lacing around until you reach your first or starting slit again then bring the lace to the front of the leather and over the first strand then under the second as shown. Lace through the penultimate slit again. That takes us up to Fig 8 where you lace up under the first strand and over the next one bringing the lace to the front where you push it through the second slit.







In Fig 9 the lace has been brought over to the front going under the strand then through the last slit. Next, in Fig 10, lace up under the nearest strand before going under the strand on top as illustrated. Lace through the third slit pushing it up through between the sides and out through the stitching on top. Figure 11 shows the trimming off of the lace as close as one can

Pay particular attention to the fact that the corner slit has to be gone through four times, while the ones on either side, only three times. The reason that these corner slits need to be larger than the others, is now obvious. When you come to near the end of your lace and need to join on another don't panic. The splicing is the same as for Cordovan lacing, but the ending is different. The figures below illustrate the ending for this stitch.

Regarding the reference above to splicing on another length of lace. The method used when Cordovan lacing is as follows. Figures 1 and 2 show how to bring the lacing end up between two pieces of leather, and how to insert it back under the lacing to hide the end.



Figures 3, 4 and 5 show how to insert the new piece of lacing down between the two pieces of leather and back under the loop to complete the stitch. The loose end, left by the new piece of lacing, is laced down as the stitches are continued.



# Round braiding — Rommel reins

Arrange the leather, rawhide or cord centrally, through the snap as shown in Fig 1 with half of the eight strands on each side. Hang from a nail or hook on a wall. If you are using leather or rawhide strands the rough side should face the centre. Fasten with a length of wire under the snap. Tighten, then separate into two bundles.

Start the braid as indicated in Fig 2, by crossing the top left strand, numbered 1, over the top right strand, numbered 2.

Fig 1

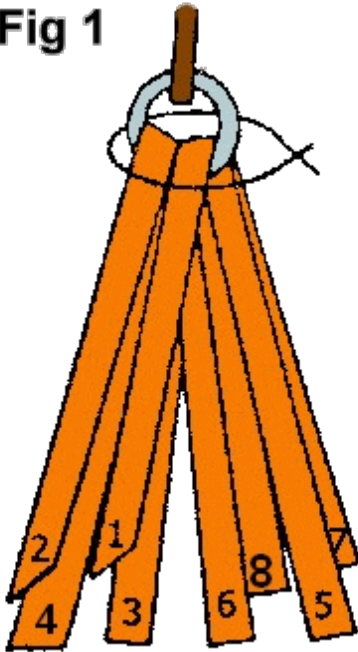


Fig 2



Fig 3

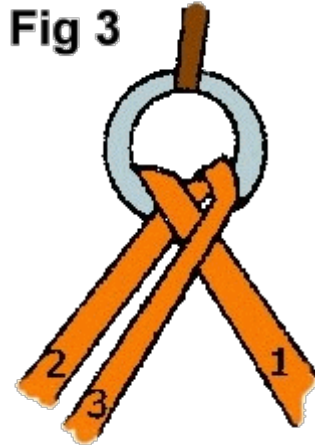
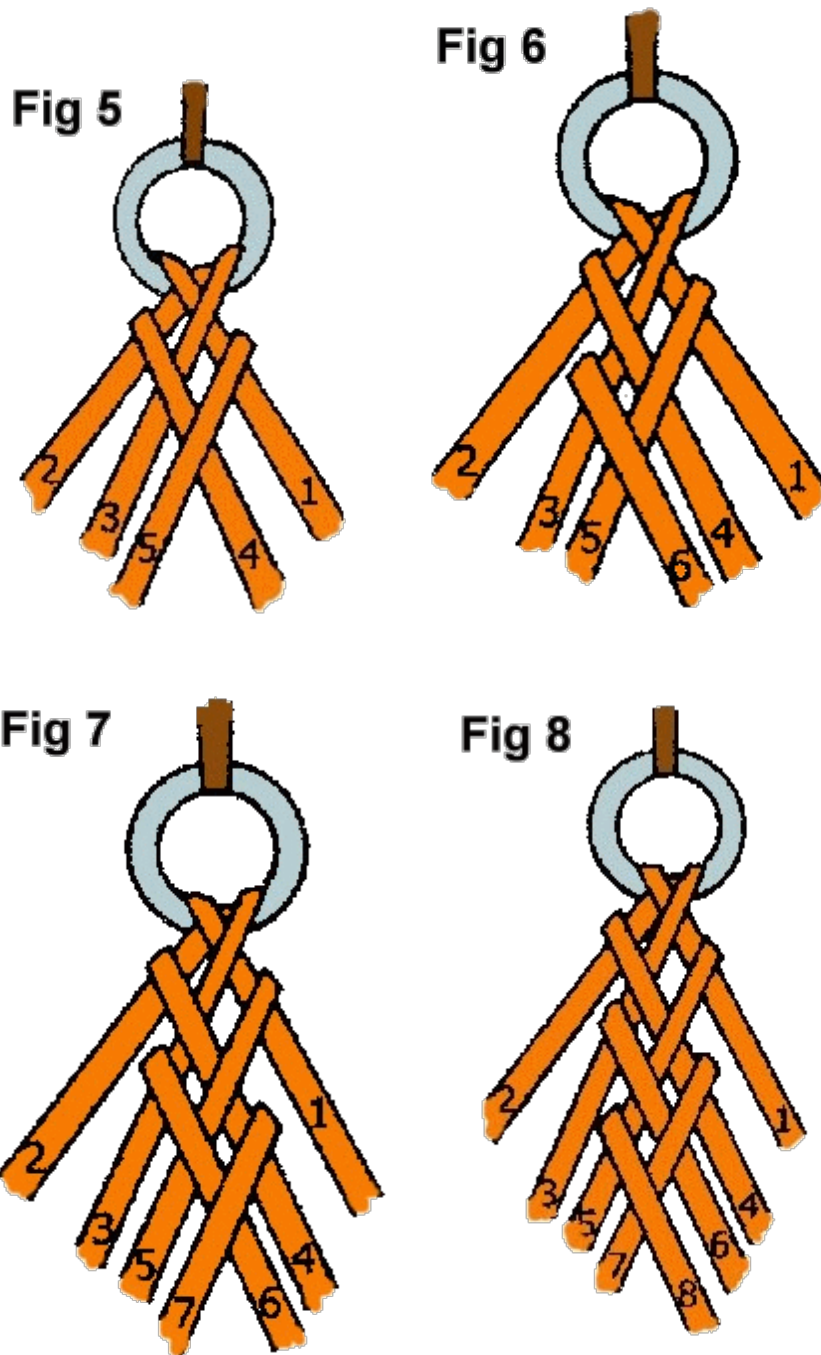


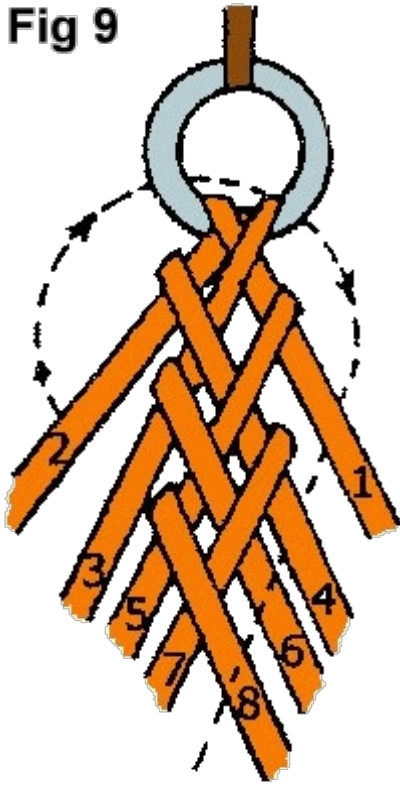
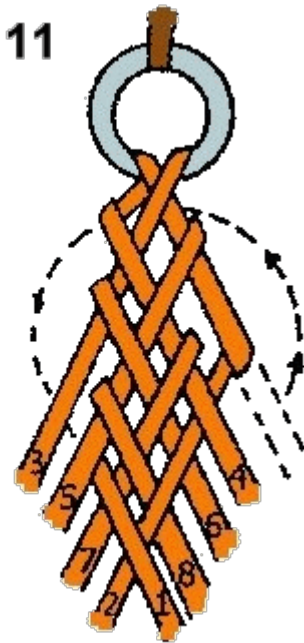
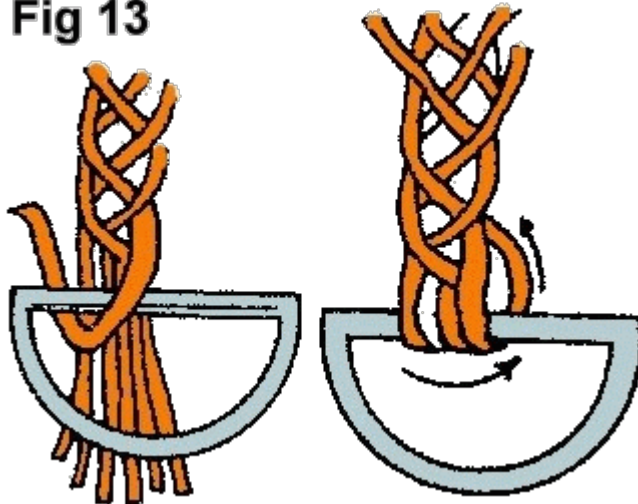
Fig 4



Carry on working as in Fig 3, with the strands as numbered in Fig 1, crossing the second strand on the right, numbered 3, over strand numbered 1. Cross the second strand, as shown in Fig 4, on the left, numbered 4, over the strand numbered 3.



As shown in Figure 5, cross strand number 5 over that numbered 4, and in Fig 6 cross strand numbered 6 over the strand numbered 5. Next, in Fig 7, cross strand numbered 7 over strand numbered 8, then in Fig 8 cross strand numbered 8 over the strand numbered 7.

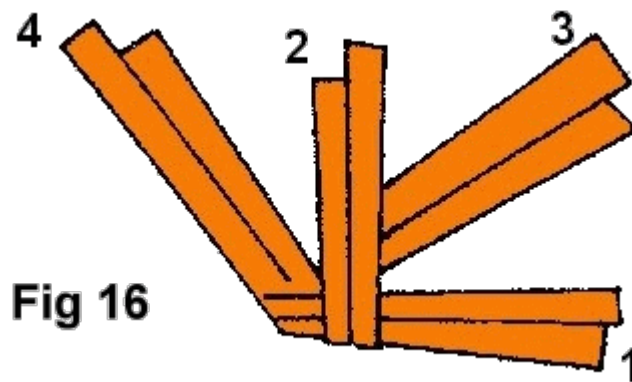
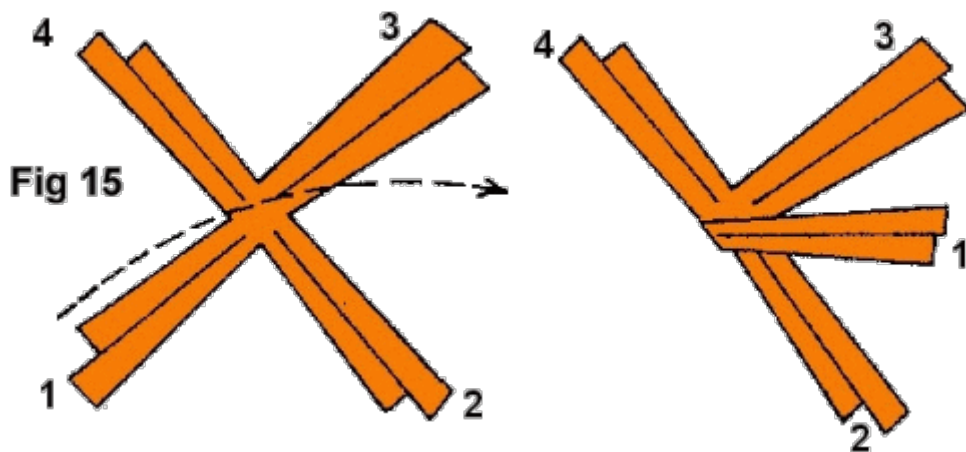
**Fig 9****Fig 10****Fig 11****Fig 12****Fig 13**

As shown in Fig 9 continue to braid with four more (strands, 1 - 4, braided once again) by reaching behind the braid. Pull strand number 2 behind the braid to the right side. Weaving it under the strands numbered 1 and 4 and over the strands numbered 6 and 8. If you have a core for the braid put it into the centre and continue braiding. In Fig 11 pull the strand numbered 1 behind the braid to the left side, weaving it under strands numbered 3 and 5 and over strands numbered 7 and 2.

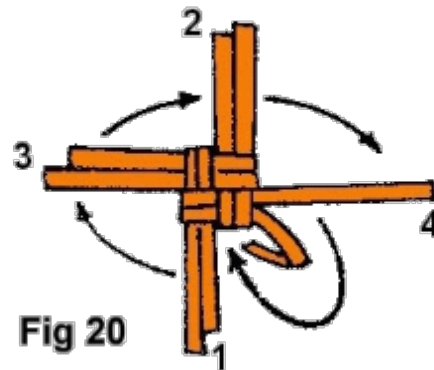
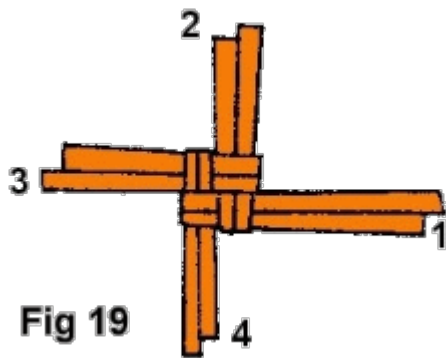
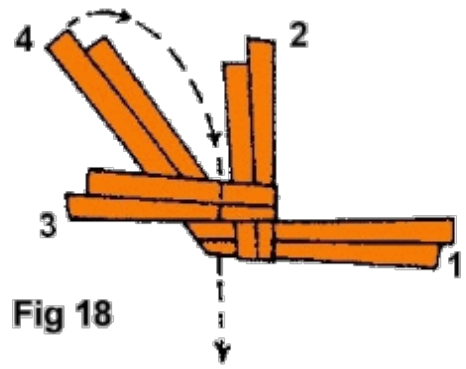
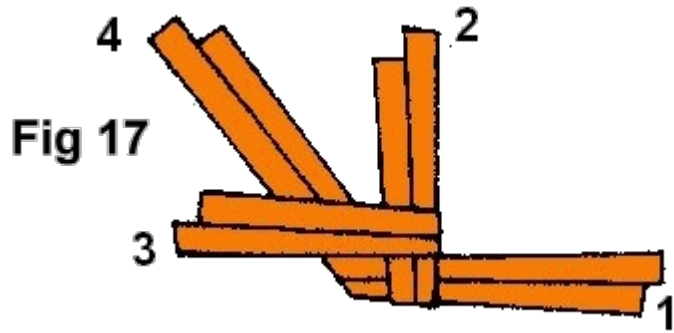
If using more than eight strands you have to change your weaving pattern. For example, for 12 strands it will be over 2, under 2, over 2. If 16 strands it will be under 2, over 2, under 2, over 2.

Figure 12, braid four feet. This will be braided onto a 1" ring or D-ring to keep the braid from coming loose. Look at Fig 13 and you'll see each end is folded around the ring and braided back into the braid. Each strand is pulled to the outside and cut to different lengths. Braid the second rein following the same instructions you've just followed to complete the first rein.

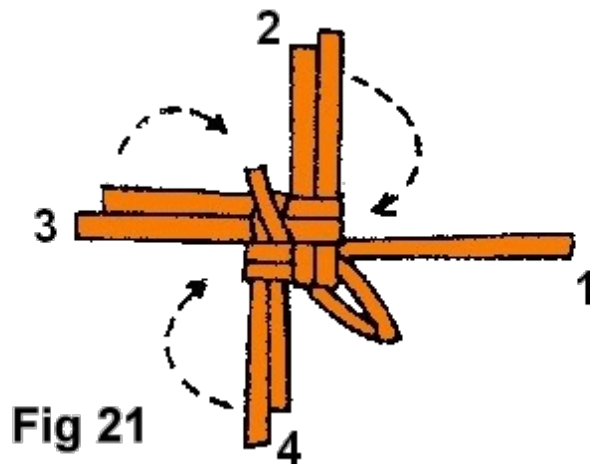
Now for the third section of the rommel. This is done in exactly the same way as the two reins but is started from the ring as shown in Fig 14. Braid four feet and wrap a wire around the end to hold it together. Separate the strands into four sections.

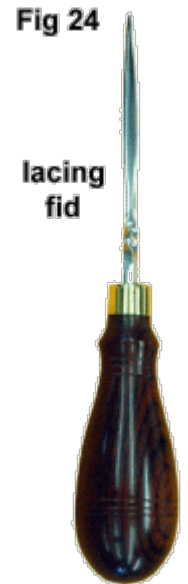
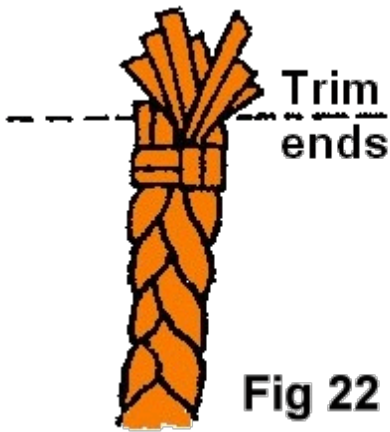


As indicated in Fig 15 fold section number 1 to the right between sections 2 and 3, and as Fig 16 is showing section 2 gets folded up over section number 1 and goes between numbers 3 and 4.



Fold section number 3 in Fig 17 to the left over those numbered 2 and 4. As in Fig 18 section 4 is folded down over section 3 and under the section numbered 1. Figure 19 is showing the complete knot. Now, as shown in Fig 20 take one strand and pull it counter clockwise past the section to its left.

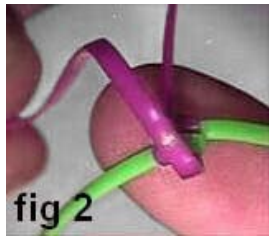
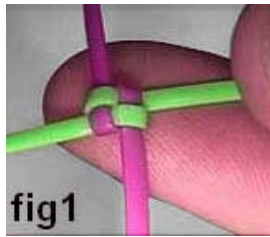




Looking at Fig 21 you can see it being pulled through the centre of the knot. Continue to work counter clockwise and pull one strand at a time up through the centre of the knot, a top quality awl with the best fid point for turkshead and lacing projects, such as shown in Fig 24, may be useful to enable you to do that. Carry on until all the strands have been pulled through. Cut the ends off even with the top of the knot, as the heel knot will be braided over this. Dampen the braids and roll them between two boards.

## Round braiding or round stitch

A knowledge of the square stitch is useful to have before starting this one. Use two strands of lace of equal length (and if you base your estimate of the length required on approximately 1" of round stitch for every foot of lace) you'll know more or less how long your two strands should be to achieve your purpose.



As in fig 1 start with the square stitch, (see [here](#) if you can't remember) continue as in fig 2 taking the strand nearest to you up, over and across the small square shape to create the first loop (remember, *cross* the starter stitch). Next, take the strand farthest from you, fig 3, and bring it up, over and across the starter stitch so that its loop is next to the first loop you made. Now, the first weave does the same crossing. The strand on your left goes up and over the nearest loop then crosses and under the second. Take care, *every* strand needs to cross in this stitch or it will all come apart. Looking at fig 5 you'll see that the strand on your right comes up and over the loop nearest to it, then crosses and goes under the farther loop, that is, it crosses the earlier stitch not the strand you were last working with, it should sit beside that one, as it is shown in fig 6.

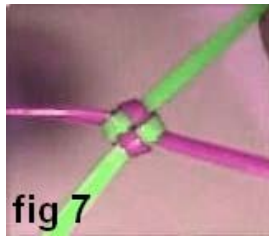
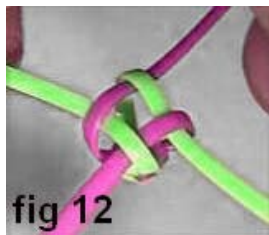


Figure 7 illustrates how it looks after you pull all the strands tight. Now, fig 8, if you do one more stitch, you'll be straight. Take the first strand up, over and across the previous stitch to form the first loop, now as in fig 9, take the opposite strand up over and across to form the second loop which should be sitting beside the first loop. *Don't* cross the loops. Have a look at fig 10 now, the strand on your left comes up and over the loop nearest to it before crossing the centre and going under the second loop.



See, in fig 11, how the right strand comes up and over its nearest loop, the crosses and goes under the farthest loop, once more sitting beside the strand you were last working with. While the strands, fig 12, are still loose, check their placement, before, fig 13, pulling them tight to complete the stitch. Looking at fig 14 you can see what the round stitch will look like when you've done quite a number of the stitches. However, before pulling all the central strands tight, you can add the finishing stitch as shown [here](#).



## Tanners and leather suppliers (pages 103-105)

**Abbey Saddlery & Crafts Ltd:-** Abbey House, Haig Road, Parkgate Industrial Estate, Knutsford, Cheshire WA16 8DX UK. Tel: +44 (0) 1565 650343. Fax: +44 (0) 1565 633825

**E-mail:** [info@abbey saddlery.co.uk](mailto:info@abbey saddlery.co.uk). Contact: Richard Brown. High quality English leathers, Leather Tools, Hardware, Webbing and Outdoor textiles form the core of Abbey's extensive product range. Their truly comprehensive range enables them to offer their clients the best possible service at competitive prices. Following their recent move to larger warehousing premises they are able to hold significant stocks of their broad based inventory. Based in the town of Knutsford, in Rural Cheshire, Abbey is ideally situated to supply throughout the UK and internationally with the M6 motorway only a few miles to the West and Manchester International Airport to the East.



A Family firm in the best sense of the word, and a very reliable company offering excellent service, Abbey was founded some seventeen years ago with the aim of servicing the country saddlery trade in England. They have grown through dedication to this aim and by applying the same principles to their ever widening client base. Personal callers are always guaranteed a warm welcome. A wide range of saddlery and belt leathers are available plus a range of others.

Abbey Saddlery has acquired B B Stanley Brothers, of Walsall, the last remaining brass buckle foundry in the UK saddlery trade. Established in 1837, Stanley's brass foundry has built up a range of patterns over the years, covering all types and sizes of brass buckles, headcollar and harness fittings. "We are pleased to be able to maintain this essential part of the British supply chain and look forward to increasing the production very soon through better marketing and an improvement in the production techniques", said Abbey Saddlery managing director, Richard Brown. Abbey has taken on the production, sales and assets of B B Stanley Brothers, with all sales now handled through Abbey Liston Hardware, its manufacturing division, which already includes Liston Locks – the only remaining British brass lock maker. Production remains at the Long Street factory, in Walsall, overseen by Abbey's production manager, David Broome, and his team at Abbey Liston. (Also see 'Trade Suppliers' for Fittings and Tools. [Here](#)) You can get directions from Local Google by clicking [Here](#). Website <http://www.abbey saddlery.co.uk>

**Assbel BV (Tanner):-** Heuvelstraat 5, 5101 TB Dongen, Nederland. Tel: +31 162 371371. Fax: +31 162 318883. **E-mail:** [info@leather.nl](mailto:info@leather.nl). Contact Riph van den Assam. A group of Dutch tanneries producing quality leather for the manufacture of shoes, leathersgoods and clothing. Assbel markets its leather under the brand name of "Brabant leder". Their tannery has operated as a family business in the same town in the south of the Netherlands since the early 17th century. Today, the world is their market. They export to all of Europe, the Middle East, North America and South Africa. Washable leather is their speciality. The leather will not shrink or stain when you wash the clothes in a washing machine or have them dry cleaned. Guaranteed. The thickness of the leather ranges from 0.6 mm to 1.4 mm. This site is worth visiting for any manufacturer looking for a new source of leather. Website <http://www.leather.nl>.

**BAB Leather Products Intl:-** No. 43 Vaidyanathan Street, Nungambakkam, Chennai-600 034 India. Tel: 0091-44-8321504. Fax: 0091-44-8270458. **E-mail:** [bableather@vsnl.com](mailto:bableather@vsnl.com). Contact: B. Suresh. This tannery produces mainly cow and buffalo hides for the leathersgoods, shoe and upholstery industries. The quality of the hides is excellent and a variety of colours and finishes are available (examples shown on the site). The availability of buffalo hides is of particular interest as this is not always so, especially for the saddlery industry, as their tight grain is preferred when producing stirrup leathers. Website <http://www.bableather.com>

**J T Bachelor & Co. Ltd:-** 9-10 Culford Mews, Balls Pond Road, Islington, London N1 4DZ, UK. Tel: +44 171 254 2962, 020 7254 2962, 020 8254 8521. A reliable company supplying a wide range of leather. They stock leather skins that are sold by weight. They are also used to dealing with re-enactors and sell leather in all shapes and sizes, also buckles, rivets, punches, dyes etc. They hold a vast amount of leather in stock, plus all the tools, dyes and findings that you could wish for (almost). As far as I know they stock Russet leather for tooling and they do hold most others tannages and hides. My experience is that they are much more knowledgeable about certain types of leather working than others. Phone them first, and be very clear about what the leather will be used for. No website or catalogue. They're easy to get to by tube then bus. Nearest Station: Dalston Kingsland (See also 'Tanners and leather suppliers' [Here](#).)

**J & F J Baker & Co Ltd:-** Hamlyns, King Street, Colyton, Devon EX24 6PD, UK. Tel: 01297 552282. Fax: 01297 553274. **E-mail:** [info@jfjbaker.co.uk](mailto:info@jfjbaker.co.uk). J & F J Baker is Britain's only remaining traditional oak bark tannery. Their exclusive methods produce the richly coloured organic leather favoured by distinguished shoe makers and top stables for its quality, durability and finish. Devon river water, oak from renewable sources, and time dedicated to slow tanning (the hides are moved by hand every week for three months into progressively stronger tanning liquors) preserves the natural weave of the fibres in each hide resulting in unique hardwearing luxury.

## Leather tanning process

Hamlyns Colyton has been a tannery since Roman times. Rebuilt over the centuries, the current buildings are set among orchards, fields of grazing horses, and the gentle rolling hills of rural Devon countryside. Sun filters into the serenity of the tanning rooms. Hides hang in calm country air. Website <http://www.jfjbaker.co.uk/>.

**Bowstock Ltd. (Fittings and Tools):-** The Barton, North Tawton, Devon EX20 2BB, UK. Tel; 01837 82077. Fax; 01837 82077. **E-mail:** [info@bowstock.co.uk](mailto:info@bowstock.co.uk). They supply tools and fittings to the Leathergoods industries, also, starter kits for the novice that includes an instruction book. Stitching equipment and threads, finishing tools and supplies, other tools and supplies, rivets, eyelets and studs, starter and stitching kits, books, buckles and fittings (sizes relate to the width of strap that the buckle can accommodate). Leather knives and shears, thonging and cords. All lace is cut from the reel, so your orders will be delivered in single lengths whenever possible. Leather dyes and finishes. Well worth a visit (see also 'Tanners and leather suppliers' [Here](#)). Website <http://www.bowstock.co.uk>

**Braintan.com:-** 10398 Takilma Road, Cave Junction, OR 97523, USA. Tel: (541) 592-3693. **E-mail:** [backcountry@braintan.com](mailto:backcountry@braintan.com). Contact: Matt Richards. 240 pages of information. They are listed here because they supply and tan buckskins. There are books, videos and tutorials on this subject should you wish to make your own leather. (See also 'Trade Suppliers' [Here](#)). Website <http://www.braintan.com>

**Bridge of Weir Leather Company Ltd:-** Baltic Works, Kilbarchan Road, Bridge of Weir, Renfrewshire PA11 3RH, Scotland. Tel: +44 (0) 1505 612132. Fax: +44 (0) 1505 614964. **E-mail:** [mail@bowleather.co.uk](mailto:mail@bowleather.co.uk). (They are a wholly owned subsidiary of Scottish Leather Group Ltd:- 1 Seedhill, Paisley, Renfrewshire PA1 1JL, Scotland. Tel: +44 (0) 141 847 4520, Fax: +44 (0) 141 848 7246, (See [Here](#)) see also their website <http://www.scottishleathergroup.com/sti/scottishleathergroup/home.asp>). This privately owned group of leather manufacturing companies employs around 500 people at locations near Glasgow, Scotland. The Group's activities span raw hide processing and tanning, as well as the manufacture of finished leather. Membership of the Group provides them with ready access to high quality hides and tanning experience, and a means of managing supply, quality and research throughout the leather manufacturing process. One of the early customers was the Ford Motor Company which used Bridge of Weir leather in the Model T from 1911.



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Building upon the natural advantages of pure water, rich pastures and prime beef herds, Bridge of Weir Leather Company Ltd has grown into a major supplier of finished upholstery leather to the automotive, aviation, marine and contract design industries. Bridge of Weir leather is also used in the British Library, the Houses of Parliament in Westminster, Glasgow City Chambers and countless other public buildings and famous hotels around the world. The Company has won three Queen's Awards for export achievement in 1985, 1996 and 2000. The business today remains privately owned and its success is due to the commitment of the generations of employees many of whom were born and bred in Bridge of Weir.

Website [http://www.bowleather.co.uk/sti/BridgeOfWeir/BOW\\_Home.asp](http://www.bowleather.co.uk/sti/BridgeOfWeir/BOW_Home.asp). (Bridge of Weir is located seven miles west of Paisley on the A761 and sits close to the River Gryffe. Bridge of Weir does not have a train station so if you intend to travel by train, you can change to a bus at Paisley or Glasgow. Several buses run to Bridge of Weir from Paisley and Glasgow. If travelling by car, Bridge of Weir is easily accessible from the A737. *Local Bus and Train Services:* All telephone enquiries for public transport timetable information should be directed to Traveline Scotland on 0870 608 2 608, 7am to 10pm, 7 days a week.)

**Buckskin Fur & Leather Co:-** (A division of Canor Development Corp Ltd., a subsidiary of Hide Depot International Inc.) Calgary Distribution Centre, 5220-1A Street SE, Calgary, Alberta T2H 1J1, Canada. Tel: (403) 253-3459. Fax: (403) 252-4270. Toll free USA and Canada 1-888-723-0806. Order desk hours: Monday to Saturday, 10:00am to 5:00pm MST. **E-mail:** [buckskin@buckskinleather.com](mailto:buckskin@buckskinleather.com). Contact: Michael Schluessel. This company is prepared to sell quantities or a single hide to a hobbyists and leather crafters, also to re-sellers and distributors. They will supply manufacturers, and offer discounts on volume. Custom colouring and colour matching is also available. Distribution inquiries are invited from tanners across the world for cost effective supplies and job lots. Website <http://www.buckskinleather.com>

**Joseph Clayton & Sons (Chesterfield) Ltd. (Tanner):-** Clayton Street Tannery, Chesterfield, Derbyshire S41 ODU, UK. Tel: + 44 (0) 1246-232863. Fax: +44 (0) 1246-207807. **E-mail:** [office@claytonleather.com](mailto:office@claytonleather.com). Contact: Barrie Birkin (General Manager). The company was started over 160 years ago. Their experience coupled with modern technology and a 21st Century approach keeps them among the leading UK companies in this field.

A wide and varied selection of leather is available. Choose from, industrial leathers, saddlery leathers, footwear leathers, medieval leathers (for re-enactors), limed rawhide (For drums etc.) The site is easy to navigate and a leather thickness table is also supplied on-line. Website <http://www.claytonleather.com/>

**Clyde Leather Co:-** (Props: Bevan Harris Ltd) Broadlie Works, Neilston, Glasgow G78 3AB, UK. Tel: 0141-881-4558. Fax 0141-881-0522. **Email:** [paul@bevanharris.co.uk](mailto:paul@bevanharris.co.uk). Contact: Paul Harris. The Company has been producing fine suedes and pigmented splits since the 1950s. Specialising in high quality split leathers they offer the following: industrial leathers, leathers and suedes for belts, shoes, fancy goods, keyrings, highland dress, slippers, dance shoes, orthopaedic leathers, leather-goods. They supply leather to colleges, universities, schools and scouting groups. With over 100 embossing plates they have a design that matches most, including exotic animal prints. There is no minimum order. Quantities are from either a single bend (6-9sq ft) or a whole butt (16-22sq ft). With thicknesses from 0.9mm to 3.5mm. Website still under construction?

**Eagle Ottawa (Tanner):-** Headquarters, 2930 Auburn Road, Rochester Hills, MI 48309, USA. Tel: 1-248-853-3122. **Email:** [contact@eagleottawa.com](mailto:contact@eagleottawa.com). Eagle Ottawa is among the oldest automotive leather suppliers in the world. Their history begins long before the invention of the automobile. They are a large and long established company producing upholstery leather for use in the automobile industry. Eagle Ottawa has maintained a longstanding tradition of blending "old world" craftsmanship with leading-edge technology to create truly innovative products.



With their unique blend of technical and artistic capabilities, they're able to provide the exclusive and detailed leathers that automotive designers demand. Their customized grains, textures, aromas, and high-durability performance often surprise and delight the most discerning of tastes. In addition to leather for seat covers, they produce products for nearly every other interior application: door panels, consoles and instrument panels. They also provide special services, including leather perforation, foam lamination, embroidery, component wrapping and sewing. They also have worldwide outlets. Website <http://www.eagleottawa.com>

**Marcus Gear Ltd:-** 64-66 Hollyhedge Lane, Walsall, West Midlands WS2 8PZ, UK. Tel: +44 (0) 1922 632329. Fax: +44 (0) 1922 631717. **E-mail:** [richard@marcusgear.co.uk](mailto:richard@marcusgear.co.uk). They supply customers in over 20 countries and their leathers are to be found in the finest saddles and bridles, as well as a wide range of giftware, furniture, clothing leather, flooring and architectural products, to name only a few. They deal with many of the top tanneries in the world, and through their bespoke service to all their customers they ensure that they receive the ideas, products and quality that they deserve. The range of leathers, colours, textures and quality that they are able to offer ensures that Marcus Gear remains the first choice for any user or designer of leather products or applications. Website <http://www.marcusgear.com>

**Greenhalgh Tannery Pty Ltd:-** 856 Greenhalghs Road, Bunkers Hill, Victoria 3352, Australia. Tel: 03 5342 4304 (Aust), +61 3 5342 4304 (International). Fax: 03 5342 4816 (Aust), +61 3 5342 4816 (International). **E-mail:** [tannery@bigpond.com.au](mailto:tannery@bigpond.com.au). From humble beginnings in the 1800's, through the boom times of the gold rush on the Ballarat goldfields and up to the present, leather produced at the Haddon site, on the outskirts of Ballarat, has been renowned for its quality, versatility and strength. Today the firm still uses genuine crushed wattle bark for its tanning medium. Obtained from the Western districts of Victoria and the Southern tablelands of New South Wales. The only tannery in Australia, if not the world, still using this traditional method. The use of wattle bark for tanning was the earliest traditional method used by tanneries Australia wide. Today those tanneries rely either on imported Mimosa or chemical alternatives.



With the introduction of new technologies and mechanization both the quality and quantity of leather production has improved worldwide. Greenhalgh Tannery has embraced much of these improvements while continuing to have a very much hands-on approach to production, ensuring only the highest quality leather is produced. With over 130 years experience and five generations of Greenhalgh's tanning leather, our customers can be assured of our ongoing commitment to quality and customer service. Click here for Showroom/Retail Outlet [Greenhalgh Tannery](#). Website <http://www.gretannery.com.au/>.

**Hanson Tower Ltd:-** Hanson House, Knights Road, Strood, Rochester, Kent ME2 2JH, UK. Tel: 01634-713363 or Fax: 01634-721099. **E-mail:** [sales@hansontower.com](mailto:sales@hansontower.com). Contact: Paul Hanson. This reliable company offers a wide choice of hides for the saddlery and leathersgoods industry. They supply reputable companies such as Tanner & Krolle. The following leathers are available, bridle, russet, bag and cloak hide. They only supply quality leather. Website <http://www.hanson-tower.com>

**Harmatan Leather Ltd. (Tanner):-** Westfield Avenue, Higham Ferrers, Northamptonshire NN10 8AX, UK. Tel: +44 (0) 1933-412151/312471. Fax: +44 (0) 1933-412242. **E-mail:** [marc@harmatan.co.uk](mailto:marc@harmatan.co.uk). Contact: Marc Lamb. This company, established in the early 1980s, produce the finest quality smooth-grained and vegetable tanned goat and calf skins for the bookbinding and leathersgoods industries. They distribute worldwide and there are facilities for ordering a brochure plus an online order form. Their goat skins come from the Kono and Sakoto regions of Nigeria that are renowned for their beautiful natural grains. Website <http://www.harmatan.co.uk>

[Click for Harmatan Order Form](#)

[Download Adobe Acrobat Reader](#)

**Hewit & Sons Ltd. (Tanner):-** Kinault Leather Works, Currie, Edinburgh EH14 5RS, UK. Tel: +44 (0) 131-449-2206. Fax: +44 (0) 131-451-5081. **E-mail:** [sales@hewit.com](mailto:sales@hewit.com). This tanner and leather dresser produces high quality leather for the bookbinding and leather goods industry (vegetable tanned and special finishes). Calf, goat, skiver (sheep etc) are available in a variety of colours. They sell by the square metre and a useful conversion table is available for conversion to square feet. This is an excellent and reliable company. (See also 'Trade Suppliers' [Here](#)). Website <http://www.hewit.com/>

**Horween Leather Company:-** 2015 Elston Avenue, Chicago, IL 60614. Tel: (773) 772-2026. Fax: (773) 772-9235. Sales Inquiries:- **E-mail:** [john@horween.com](mailto:john@horween.com) or [nick@horween.com](mailto:nick@horween.com). General Inquiries:- **E-mail:** [nick@horween.com](mailto:nick@horween.com). Founded in 1905, Horween Leather Company is one of the oldest continuously running tanneries in the United States, and the only still located in Chicago, Illinois.



We offer an array of tannages utilizing primarily cowhide and horsehide with smaller quantities of calf and bison hides also used. Our leather is used in many products including shoes, sporting goods, bags, belts, and other types of apparel and accessories. We are well known for our production of the finest Genuine Horween® Shell Cordovan, professional football leather, and Chromexcel®, among other leathers. ([see also](#)). Website <http://www.horween.com/>

**Hought Fine Art & Leather (Associated Site) :-** P.O. Box. 2115 McKinleyville, CA 95519, USA. Tel: 707-839-1164 / 1-800-839-1164. Fax: 1-707-839-1871. **E-mail:** [hought@humboldt1.com](mailto:hought@humboldt1.com). Contact: Gail Hought. Supplying specially prepared kangaroo hides suitable for cutting into braiding strips. (Can also be supplied ready cut in the form of kits for projects. (Ideal for beginners). (See also 'Trade Suppliers' [Here](#)). Website <http://www.hought.com>.

**Hutchings & Harding Ltd:-** 163 High Street, Sawston, Cambridge, Cambs CB22 3HN. Tel: +44(0)1223 832281, Fax: +44(0)1223 836401. **E-mail:** [chamois@chamois.com](mailto:chamois@chamois.com). They were established in 1897 and remain a private company. Modern technology has been harnessed to the traditional skills and craftsmanship of the leather industry, providing a top quality Chamois Leather product with a personal customer service.



Aerial view of factory in 1977



Aerial view of factory in 2007

Based in Sawston, just 7 miles from the famous University town of Cambridge in Eastern England and 50 miles from London, their Tannery dates back to 1645. Hutchings & Harding continue to excel as a Tannery for Chamois Leather, Skiver Leather and Pickled Grains. Today, the main activity of the company is the tanning of selected sheep pelts from around the world – exactly as it was when first established over a century ago. Modern machinery, technology and a skilled workforce combine in the production of their leather. They have a pride in their product and service that enables them to claim with justification "The World's Finest Chamois". Website <http://www.chamois.com>

## Tanners and leather suppliers - *continued*

**www.Italian-Fashion.It:- E-mail: [leatherstocklot@yahoo.it](mailto:leatherstocklot@yahoo.it).** This company specializes in offering stock lots of leather and shoe components. This is constantly changing so a regular visit is recommended. Leather is available in lots, small pieces in large bags with large pieces and full skins by weight, strapped to pallets. (Pictures of a selection of prepared pallet loads are viewable on site). Note: It is not possible to purchase individual skins or hides. The shoe components also vary, but mainly refer to soles and again, purchase is by bulk. There is a large range of colours and types of leather in each batch, so it could be useful to colleges, schools and training establishments. Another option is for a group of amateur leather workers to share a pallet of leather. Prices are available from them. (See also 'Italian-Fashion It., C S Osborne & Co, 'Trade Suppliers' [Here](#)). Website <http://www.italian-footwear.it>

**Kershaws Tannery:-** Water Street, Portwood, Stockport SK1 2BP, UK. Tel: +44-161-480-3423 or Fax: +44-161-480-8106. **E-mail: [office@kershawleather.com](mailto:office@kershawleather.com).** Contact: Edward Kershaw. This company is one of the last tanneries still operating in the UK. It was established in 1855 and specialises in 'clothing leather' which it produces to a very high standard using only the finest nappa's, aniline and nubuck. They also produce high quality sheepskin rugs and throws as well as chrome-free leather which is particularly suitable for clothing and children's shoes. They offer a consultancy service to their customers. Hours of Opening:- Monday - Friday 9.30am - 5.00pm, Saturday 10am - 5.00pm, Sunday:- Closed. Large free Car Park. Junction of 27M60 (W) Junction 26M60(E). Next to Tesco's Extra, Stockport. Website <http://www.kershawleather.com>

**Leathersmith Designs Inc:-** 88 Woodlawn Road, Dartmouth, Nova Scotia, B2W 2S5, Canada. Tel: 1-800-845-1829 (Canada & United States)1-902-434-9721. Fax: 1-902-434-9721. Normally Open Monday - Friday 9am - 5pm Atlantic Standard Time. **E-mail: [sales@leathersmithdesigns.com](mailto:sales@leathersmithdesigns.com).** Contact: Jamie Hartling. (President). This company carries a large variety of skins and hides including natural tooling cow hide, horse hide and garment cowhide.

Some of their leather craft supplies stocked for people doing leather craft and leather work are leather hide and leather lace, leather craft tools, solid brass belt buckles, metal steel strap buckles, rapid rivets, leather craft hardware and leather dyes. They are one of the main suppliers leather hobbyists in Canada. (See also 'Trade Suppliers' [Here](#)). Website <http://www.leathersmithdesigns.com>

**Leather Suede, Skins Inc:-** 261 West 35th Street, New York, NY 10001, USA. Tel: (212) 967-6616. Fax: (212) 546-5759. **E-mail: [nyleather@att.net](mailto:nyleather@att.net).** Contact: Faina Golub. This is New York's leading supplier and is known worldwide within the industry for their large, inspiring, selection of skins. They supply the garment, accessories, shoe, plus home markets. Get leather and suede from stock, or order, in a variety of colours, lambskin, pigskin, cowhide, deerskin and goatskin in different finishes.

Prints, perforations and embossings, also patent, metallics, etc. Leather trimmings, rabbit skins, fox, mink, Tibetan lamb. Also exotics such as alligator, ostrich, python and snakeskin. Website <http://www.leathersuedeskins.com>

**G H Leathers Ltd. Associate Company:-** Unit 10, Woodley's Yard, Newton Road, Higham Ferrers, Northants NN10 8HW, UK. Tel: +44 (0) 1933 311116. Fax: +44 (0) 1933 311176. **E-mail: [sales@leathermerchants.com](mailto:sales@leathermerchants.com).** Contacts: Ian, Amos, or John. This go-ahead modern company was only founded in 1998 but has rapidly grown into a major supplier of a wide range of leathers. They supply leather for clothing, shoes, upholstery, interior design, etc. They also provide leather for colleges, schools and universities offering fashion and design courses and diplomas. Their main specialty is sheepskin and they offer a wide selection from many countries. They are now stocking a new range of exotic leathers from MPL in Thailand and will in future offer the entire range. Website <http://www.leathermerchants.com> Note. UK customers and european countries (without an MPL

representative) are advised to contact the above company rather than contact MPL direct. These leathers are in short supply and MPL require large shipping orders to make export practical and these take time to fill. Nor are they keen to ship samples, due to shipping costs, without a firm order or payment for shipping them. G H Leathers now carry stocks of these leathers and are prepared to show samples to prospective customers. These leathers are from animals and fish that form part of the food chain in the region they come from. The skins are part of the waste product.

**Metropolitan Leather Co. Ltd:-** Unit 1B, Cottingham Way, Thrapston, Northants. NN14 4PL, UK. Tel: +44 (0)1832 732216. Fax: +44 (0)1832 732808. Email: [info@metropolitanleather.com](mailto:info@metropolitanleather.com).



**Leather Sales - David Bryant**



**Leather Sales - Roy Winnard**



**Leather Cutting - John Houghton**



**Administration - Sue White**

The Metropolitan Leather Company holds one of the widest ranges of leathers available in the UK. Their helpful staff will be pleased to see you and guide you through the range should you wish to visit them. Quantities are no problem, from one skin to larger pallet loads. As well as a standard colour range, their finishing department can produce shades to match your patterns. They have a large stock of budget priced leathers and these are so wide in range that a visit usually results in buyers finding their exact requirements. The cutting department can cut leather into straps and shapes to your patterns and can incorporate tooling charges into the price. They have supplied leather for Elephant Harnesses, Camel Racing Saddles, Black Jack Tanned Leather Tankards, Hot Air Balloon Basket Edging, Antique Reproduction Fire Buckets, Pig Skin Leather Hood for a Bugatti Car, and leather for restoration of Antique Artefacts from a stately home. No matter how unusual your request Metropolitan will be able to meet your requirements, as they are able to supply leather in any quantity, thickness, colour, texture or size. Website <http://www.metropolitanleather.com>

**A W Midgley & Son Ltd:-** 13 Cheddar Business Park, Wedmore Road, Cheddar, Somerset, BS27 3EB, UK. Tel: +44 (0) 01934 741741. Fax: +44 (0) 01934 741555. The company was founded in April 1921 by Arthur Walter Midgley, the grandfather of Simon and Andrew and great-grandfather of James and William the present directors. Midgley's are leather suppliers, supplying quality leather hides to a wide variety of trades for more than sixty years. Whether it's panel leather hides for saddles, automotive leather hides for car trimmers or natural vegetable tanned leathers for leathercrafts and leather carving, you will be able to find what you need.



The company services many different leather users including saddlers, shoe, belt, bag and clothing manufacturers from their large stocks of leather. All customers are welcome to call at the warehouse in Cheddar, Somerset. If you are unable to visit they are always pleased to deal with your request over the phone, by e-mail (using quick mail form on the website), fax or post. Website <http://www.awmidgley.co.uk/>

**Andrew Muirhead & Son Ltd. (Tanner):-** Dalmarnock Leather Works, 273-289 Dunn Street, Glasgow, Scotland G40 3EA. Tel: +44 (0) 141-554-3724. Fax: +44 (0) 141-554-4741. **E-mail:** [lang@muirhead.co.uk](mailto:lang@muirhead.co.uk). Contact: James Lang. The company's history can be traced back to 1758. In 1870 the company moved to its present site, Dalmarnock Works, formerly a flax and jute mill. Since that time the company concentrated its production of upholstery leathers in conjunction with case, bag and shoe leathers. Over time the company's upholstery leather achieved worldwide recognition and is presently exported to over 30 countries. Case, bag and shoe leathers were phased out of production in the 1960's to allow the company to meet the demand for its high performance leathers. In 1968 Andrew Muirhead & Son, now a limited company, completed the formation of the Scottish Leather Group, a privately owned company with five specialist leather manufacturing subsidiaries, whose aim it is to achieve the highest standard of craftsmanship and quality. Today the company is acknowledged as the largest supplier of quality upholstery leathers to the airline industry, supplying over forty airline and aircraft manufacturers globally. Upholstery leathers for quality contract and domestic seating and specialist automotive application still remain the largest proportion of production with many bespoke and specialist applications also being catered for. The company is a member of the Scottish Tanning Industries Group. They produce a vast range of specialist furnishing leathers. They offer a standard collection (over 100 shades, and will sell from 1 hide up to any quantity). If you can't find what you want, then they will make it. They provide cutting facilities, foil or blind blocking, for designs up to 1000 x 500 mm. Samples can be viewed on line. Website <http://www.muirhead.co.uk>

**Pittards Plc. (Tanner):-** Sherborne Road, Yeovil, Somerset BA21 5BA, England. Tel: +44 (0) 1935 474321, Fax: +44 (0) 1935 427145. **E-mail:** [yeovil\\_reception@pittards.com](mailto:yeovil_reception@pittards.com). An old established reliable and efficient UK company producing leather for the leathersgoods, saddlery and glove industries. Pittards reputation for World Class Leather has seen their leather skins and leather hides used by the world's leading brands of leather gloves, leather handbags, luxury leathersgoods and home furnishings. Website <http://www.pittardsleather.co.uk>

**Relics Of Witney (Leathers for Desks):-** 35 Bridge Street, Witney, Oxon. OX28 1DA, UK. Tel: +44 (0) 1993 704611, Fax: +44 (0) 1993 899870. **E-mail:** [info@leathersfordesks.co.uk](mailto:info@leathersfordesks.co.uk). Contact: Bret Wiles. The Leather Collection from Relics for Desks, Tables and Writing Slopes. Top quality (sheep) skivers are used, plus a good selection of colours. They cut panels to customer's requirements and gold block or blind block to order.



There is a comprehensive selection of edge patterns. Space between the pattern and the edge of the leather is allowed for trimming to an exact fit in the recess. Information on measuring and fitting is



provided. Hides for upholstery and large desks are available. This is an ideal service for furniture restorers. Website <http://www.leathersfordesks.co.uk>

**Samuel Sharp (Curriers) Ltd:-** The Stocks, Cosgrove, Milton Keynes MK19 7JD, UK. Tel: 01908-560179. Fax: 01908-260285. **E-mail:** [sales@claytonleather.com](mailto:sales@claytonleather.com). Contact: Roger Dear (Manager). A company with an extraordinary history, founded in 1600 by the Penn family (who founded the State of Pennsylvania, USA). There is much more on this subject for researchers, so visit their site. The company still trades in the same area today. With a reputation for high quality equestrian leather. All bridle leather is hand curried and finished. They are well known for the Butts and Backs they produce in various weights and shades for specific purposes at the same time holding the view that pit tanned vegetable leather from domestic hides is to be preferred. Website <http://www.sharpleather.com/>

**Scottish Leather Group Ltd:-** (formerly Scottish Tanning Industries Ltd.) 1 Seedhill, Paisley, Renfrewshire PA1 1JL, Scotland. Tel: +44 (0) 141 847 4520, Fax: +44 (0) 141 848 7246. They are the largest manufacturer of bovine leather in the United Kingdom. The Group comprises of four leather manufacturing subsidiaries, all located in the west of Scotland: Andrew Muirhead and Son Ltd, Bridge of Weir Leather Company Ltd, W J and W Lang Ltd, and NCT Leather Ltd. The member companies of the Group are well established with a combined experience in tanning and finishing leather of over 470 years. Their specialist leathers are produced for a wide range of industries: automotive, furniture, marine, aviation, shoe and leathersgoods. The Group export sales represent over 70% of turnover. (See [Here](#).) Website <http://www.scottishleathergroup.com/>

**J & E Sedgwick & Co Ltd:-** Reservoir Place, Pleck, Walsall, West Midlands WS2 9RX, UK. Tel: 01922 622 797 0900. **Email:** [sales@je-sedgwick.co.uk](mailto:sales@je-sedgwick.co.uk). Opening hours: 9:00am - 1:00pm and 1:30pm - 4:30pm. Specialist leather suppliers dealing with equestrian leather, tanned leather and leather saddles. The business of J & E Sedgwick & Co. Ltd leather suppliers was founded in 1900 by James and Emmanuel Sedgwick, who were later joined by Richard Farrow, grandfather of the present day Managing Director. Sedgwick's began supplying leather to the equestrian trade in 1900, and a century on is one of the leading leather suppliers of equestrian leather in the UK.

The company bases its early success on the established UK market, but in recent years has expanded into the growing export market, becoming one of the worldwide leather suppliers. The management and staff at Sedgwick's are committed to providing a service both in the UK and around the world, to produce top quality goods for customers requiring the finest English leather, making them one of the leaders in leather suppliers for the equestrian leather trade. Their after sales service caters for the needs of customers requiring help and understanding with any queries they might have regarding leather and the products we supply. Website <http://www.je-sedgwick.co.uk/jes/4230/index/>

**Shin Her Mian Enterprises Co. Ltd. (Synthetics):-** 8F-2, No.293-2, Chung Shan Road, SEC 1, Panchiao, Taipei, Taiwan. Tel: 886-2-29543898-9 or 886-2-29582221. Fax: 886-2-29585555. **E-mail:** [ahm@shm.com.tw](mailto:ahm@shm.com.tw). Contact: Wilson Chou (Manager). This Taiwan based company is a large, reliable, manufacturer of material and fabric. They produce an extensive range of materials, knitted, sueded, micro polar fleece, furniture fabric, etc. They will produce material to a customer's own designs. They use advanced technology and equipment to produce their highly fashionable materials. (See also 'Trade Suppliers' [Here](#)). Website <http://www.shm.com.tw/>

**Charles F Stead & Co. Ltd:-** Sheepscar Tannery, Sheepscar Street North, Leeds LS7 2BY, United Kingdom. Tel: +44 (0) 113 2621005. Fax: +44 (0) 113 2626309. **E-mail:** [sean@cfstead.com](mailto:sean@cfstead.com). Contact: Sean Conlon (Shipping). Opening Times: Monday & Wednesday (Tuesday by appointment only) 8:00am - 12:00pm and 1:00pm - 3:00pm. Charles F Stead is one of the most respected tanners of suede leather in the world today. They specialise in the tanning, dyeing and finishing of high grade suedes and speciality leathers with interesting grains. They work in the traditional way to produce a distinctive tight-fibred suede which helps their clients to impart an aura of exclusivity for their

products, which is so important in the world of fashion. Their tannage has evolved over the years to ensure two of the most important factors in the creation of a quality suede leather.



Stead shop

One is tightness of nap, and in this respect, their approach shrinks the fibre structure, thereby losing commercial surface area but ensuring a permanent quality of fibre structure, which has immediate and lasting impact in the appearance of the finished product. The second is richness of colour, again directly linked to their own re-tannage and a property which they consider to be of prime importance in the appeal of a quality suede leather. They sell suede and grain leather direct from the tannery at factory prices. Many colours and textures for all purposes including footwear, clothing, upholstery, interior design etc. Minimum quantity one skin. Website <http://www.cfstead.com/index2.htm>

**Tandy (Fittings & Tools):-** 5882E Berry Street, FT Worth TX 76119, USA. Tel: 1-888-890-1611 or Fax: 1-817-451-5254. **E-mail:** [tlc@tandy-leather.com](mailto:tlc@tandy-leather.com). General Sales: Tel: 1-800-433-3201 International Tel: 1-817-496-4874 Canada Tel: 1-800-450-3062 Hours: Monday to Friday, 8 a.m. to 6 p.m., Saturday 9 a.m. to 4:00 p.m. CST. E-mail ordering and pre-sales technical questions **E-mail:** [tlfhelp@leatherfactory.com](mailto:tlfhelp@leatherfactory.com). International order information: **E-mail:** [international@leatherfactory.com](mailto:international@leatherfactory.com). Important! To help us expedite your request, please include your name, phone number (indicate day or evening) and fax number when corresponding via e-mail. Mailing address: Tandy Leather Factory, Inc. Attn: Sales 3847 East Loop 820 South Fort Worth, TX 76119. Corporate Craft Sales: Tel: 817-872-3200 Hours: Monday to Friday, 8:00 a.m. to 5:00 p.m. CST. **E-mail:** [craft@leatherfactory.com](mailto:craft@leatherfactory.com). Mailing address: Tandy Leather Factory, Inc. Attn: Craft 1900 SE Loop 820 South Fort Worth, TX 76140. Government and Education Sales: Tel: 1-800-433-3201 Hours: Monday to Friday, 8:30 a.m. to 6 p.m. CST. **E-mail:** [institution@leatherfactory.com](mailto:institution@leatherfactory.com) Mailing address Tandy Leather Factory, Inc. Attn: Institutional Group 3847 East Loop 820 South Fort Worth, TX 76119 Credit Account Services: Tel: 817-872-3200 Hours: Monday to Friday, 9:00 a.m. to 5:00 p.m. CST. **E-mail:** [credit@leatherfactory.com](mailto:credit@leatherfactory.com). Mailing address: Tandy Leather Factory, Inc. Attn: Credit PO Box 50429 Fort Worth, TX 76105. Customer service: Tel: 817-872-3200 Hours: Monday to Friday, 9 a.m. to 6 p.m., Saturday 9 a.m. to 4:00 p.m. CST. **E-mail:** [tlfhelp@leatherfactory.com](mailto:tlfhelp@leatherfactory.com). Important! To help us expedite your request, please include your name, customer number, order number, phone (indicate day or evening) and fax numbers when you correspond with us via e-mail. Mailing address Tandy Leather Factory, Inc. Attn: Customer Service 1900 SE Loop 820 South Fort Worth, TX 76140. Returns: Tandy Leather Factory guarantees 100% customer satisfaction or your money back! Before returning a product, call Tandy Leather Factory store nearest you for technical support and product return instructions. Investor relations/press inquiries Mailing address Tandy Leather Factory, Inc. Attn: Investor Relations 1900 SE Loop 820 South Fort Worth, TX 76140. Tel: 817-872-3200. **E-mail:** [sgreene@leatherfactory.com](mailto:sgreene@leatherfactory.com). Public relations **E-mail:** [clandry@leatherfactory.com](mailto:clandry@leatherfactory.com). Web team to send feedback about our site, **E-mail:** [webmaster@leatherfactory.com](mailto:webmaster@leatherfactory.com). Important! Please include your name, phone number (indicate day or evening) and fax number when you correspond with us via e-mail. A wide selection of leathers available, especially russet leather for tooling. They also supply pre-cut starter kits for the beginner. (See also 'Trade Suppliers' for Fittings and Tools [Here](#)). Website <http://www.tandy-leatherfactory.com>

**UK Hide Co:-** Unit 11 Trade City, Avro Way, Brooklands, Weybridge KT13 OXQ. Tel: +44 (0) 1932 353 338. Fax: +44 (0) 1932 354 310. **E-mail:** [sales@ukhide.co.uk](mailto:sales@ukhide.co.uk). Contact: Matthew Pactat. This company is an authorized distributor of Connelly Leather, they stock the Autolux, Autocalf and Wentworth ranges. Mail order or customer selection is available and it is possible to view a range of leather samples in all colours in stock from their site. Their Specialist Leather services department offers a comprehensive range of services including leather embossed table and desk inlays tooled in 23ct gold to your own choice of patterns from their standard range. Website <http://www.ukhide.co.uk>

**Whitmore Bacon Group (Tanner):-** The Tannery, West Hill, Milbourn Port, Sherborne, Dorset DT9 5HL, UK. Tel: +44 (0) 1963-250620. Fax: +44 (0) 1963-250627. **E-mail:** [mail@whitmore-Bacon.co.uk](mailto:mail@whitmore-Bacon.co.uk). Contact: Julian Bacon. The Tannery, Wingrove Edge: Produces, shoe upper leather, belt and bookbinding leather, plus garment leather. They will also produce leather to customer's specifications.



**Julian Bacon**

**Marlborough Leathers:** Provides, finished leathers from France, Italy, India, and other worldwide suppliers. Uppers: This division specialises in sourcing uppers from overseas manufacturers. Trading: Contact their export services for wet blue or raw hides. The company holds large stocks of leather, with a choice from the

tannery of cow, goat, pig, horse and sheep. From Marlborough Leathers: French calf, Italian suede, Chinese pigskin, Indian lining leather. They have a library of over 100 embossing plates including exotics, and are able to emboss to order. This company is worth a visit as there is such a wide range of leathers on offer. (Also Newton Road Industry, Higham Ferrers, Northants NN10 8HW. Tel: (01933) 411314. Fax: (01933) 411614. **E-mail: ml@whitmore-bacon.co.uk.**) Website <http://www.whitmore-bacon.co.uk>

**Zahur Sancho Pvt. (Tanner):** - Plot 46, Sector 7A, Korangi Industrial Area, Karachi -74900 Pakistan. Tel: 92-21-5061786 to 90 = 5 lines. Fax: 92-21-5060341 and 5060693. **E-mail: Sales@zahursancho.com.** Established 1978. Contact: Norman Aqeel. A large modern tannery with state of the art equipment, they are an ISO - 9002 certified tannery with a production capacity 1.5 million sq ft. The leather produced is from goat, sheep, cowhide and buffalo. They are prepared for the following usage: leather garments, gloves and shoes. (They are part of a joint venture with the International Group of Rodrigo Sancho. S.A.) A reliable supplier of leather, also a good site and worthy of a visit. Website <http://www.zahursancho.com>

## Trade suppliers (pages 106-108)

**Abbey Saddlery & Crafts Ltd. (Fittings & Tools):-** Abbey House, Haig Road, Parkgate Industrial Estate, Knutsford, Cheshire WA16 8DX, UK. Tel: +44 (0) 1565 650343. Fax: +44 (0) 1565 633825. **E-mail: [info@abbeyesaddlery.co.uk](mailto:info@abbeyesaddlery.co.uk)**. Contact: Richard Brown. A reliable company giving excellent service. Saddlery and leathergoods fittings, thread, plus tools and sundries, adhesive, webbing and textiles, etc. Their baseline activity has always been the Harness, Saddlery, Rug-making and associated equestrian trades in which they are Britain's leading wholesale supplier.



High quality English leathers, Leather Tools, Hardware, Webbing and Outdoor textiles form the core of Abbey's extensive product range. Their truly comprehensive range enables them to offer their clients the best possible service at competitive prices. (See also 'Tanners and leather suppliers' [Here](#)). Website <http://www.abbeyesaddlery.co.uk>

**J T Bachelor & Co. Ltd:-** 9-10 Culford Mews, Balls Pond Road, Islington, London N1 4DZ, UK. Tel: +44 171 254 2962, 020 7254 2962, 020 8254 8521. A reliable company supplying a wide range of leather. They stock leather skins that are sold by weight. They are also used to dealing with re-enactors and sell leather in all shapes and sizes, also buckles, rivets, punches, dyes etc.



They hold a vast amount of leather in stock, plus all the tools, dyes and findings that you could wish for (almost). As far as I know they stock Russet leather for tooling and they do hold most others tannages and hides. My experience is that they are much more knowledgeable about certain types of leather working than others. Phone them first, and be very clear about what the leather will be used for. No website or catalogue. They're easy to get to by tube then bus. Nearest Station: Dalston Kingsland (See also 'Tanners and leather suppliers' [Here](#).)

**Bowstock Ltd. (Fittings and Tools):-** The Barton, North Tawton, Devon EX20 2BB, UK. Tel; 01837 82077. Fax; 01837 82077. **E-mail: [info@bowstock.co.uk](mailto:info@bowstock.co.uk)**. They supply tools and fittings to the Leathergoods industries, also, starter kits for the novice that includes an instruction book. Stitching equipment and threads, finishing tools and supplies, other tools and supplies, rivets, eyelets and studs, starter and stitching kits, books, buckles and fittings (sizes relate to the width of strap that the buckle can accommodate). Leather knives and

shears, thonging and cords. All lace is cut from the reel, so your orders will be delivered in single lengths whenever possible. Leather dyes and finishes. Well worth a visit (see also 'Tanners and leather suppliers' [Here](#)). Website <http://www.bowstock.co.uk>

**Braintan.com** :- 10398 Takilma Road, Cave Junction, OR 97523 Tel: (541) 592-3693. **E-mail:** [backcountry@braintan.com](mailto:backcountry@braintan.com). Contact: Matt Richards. There is something for everybody here. Tools and tanning extracts, dyes and tannins for those that process their own skins. They stock over 50 Patterns for clothing, sports equipment, hats, belts, holsters, bags, moccasins, chaps, etc. These lists are not exhaustive there are over 240 pages to browse. (See also 'Leather Suppliers' [Here](#)). Website <http://www.braintan.com>



**Matt Richards**

**Clpw Leather Co. (Fittings and Tools)**:- Memphis, USA. Tools, fittings, sundries etc. The Leather Factory Inc. (AMEX:TLF) announced that Tandy Leather Co., a subsidiary, has acquired The Leather Shop, an existing leathercraft store in Memphis, Tenn., and its website [www.ShopForLeather.com](http://www.ShopForLeather.com). Catalogue available. Website <http://www.shopforleather.co.uk>

**Corium Solutions Ltd**:- 20 Alexandra Road, Stoneygate, Leicester LE2 2BB, United Kingdom. Tel: +44 (0)116 270 1354. Fax: +44 (0)116 270 3367. **Email:** [info@coriumsolutions.com](mailto:info@coriumsolutions.com). Corium provide their clients with cost effective, creative and innovative ways to purchase, utilise and explore the full potential of leather. They also facilitate, and quality manage, leathercare and finishing solutions for some of the best known brands in the world. They bring global solutions to your doorstep and are able to provide you with a complete leather care solution, giving you access to an extensive range of finishing and leather care products which have been developed, tested and approved on site. Their business is evolving and responds to changes in the market. Through seamless development and by building quality into design, they are working on new leather care, leather cleaner and leather repair products while also formulating and supplying an extensive range of finishing products for synthetic materials such as PU, TPU and PVC soles, vinyl car interiors and car hoods. Website <http://www.coriumsolutions.com/>

**Coates Barbour Threads Ltd. (Thread)**:-Newton Mearns, Glasgow and 472 Thurmaston Blvd, Leicester LLEA 9LN. UK. Tel: (44) 1162-460-120. Fax: (44) 1162-460-470. Contact: Tony Foran. **E-mail:** [tony.foran@coats.com](mailto:tony.foran@coats.com). A major supplier of threads to our industries as well as the clothing industry. An old established and reliable company.

**Gary's Custom Saddlery & Silver. (Fittings and Buckles)**:- 1272 Valle Vista Drive, Fullerton, CA 92831, USA. Tel: 1-714-526-6122. **E-mail:** [garys1@gateway.net](mailto:garys1@gateway.net). The company has been in business for 35 years. They supply Heirloom quality sterling silver belt buckles and buckle sets (comprised of a buckle, fixed loop and point tip). A gold set is also available. (Note: These fittings and in particular a selection of various styles, are difficult to obtain in the UK). Money clips and bracelets are also available as well as award belt buckles made to your specification. Website <http://www.garyscustomsaddleryandsilver.com/>

**Joseph Gleave & Son Ltd**:- 995 Chester Road, Stretford, Manchester M32 0NB, Tel: 0161 865 6025. Fax: 0161 865 0879. **E-mail:** [info@gleave.co.uk](mailto:info@gleave.co.uk). This Company is a leading industrial supplies specialist that can offer you a diverse product range, available nationwide. Whether you need tools, consumables, safety and

hygiene products or site equipment, they provide the goods and services to meet your specific requirements. They are renowned for quality and technical expertise; with over 170 years experience within industry. Their qualified team understand industrial supply requirements and pro-actively support customers by providing a tailored range of products and services. Website <http://www.gleave.co.uk/index.htm>

**J Hewit & Sons Ltd. :-** Unit 28, Park Royal Metro Centre, Britannia Way, London NW10 7PR, UK. Tel: +44 (0) 20-8965-5377. Fax: +44 (0) 20-8453-0414. **E-mail:** [sales@hewit.com](mailto:sales@hewit.com). This company is a welcome addition to this section as they provide a source of components previously missing. Supplies available: Adhesives (PVA), boards, bindery equipment and machinery, bookbinding and gold blocking tools, hand-made paper, machine-made end papers, marble papers, sewing materials, thread, gold leaf and gold foil, etc. (The boards for reinforcements and lining papers plus another source of PVA are very useful). A price list and product fact sheet are available for download from the site. (See also 'Tanners and leather suppliers' [Here](#)). Website <http://www.hewit.com>

**Hoopers Saddlery Shop (Fittings & Tools):-** 12 South Street, Walsall WS1 4HE, UK. Tel: 01922623639. This company supplies the Walsall based saddlery industry as well as the rural saddler with tools, fittings and sundries. Website <http://www.hoopers.uk.com/>

**Hought Fine Art & Leather. (Associated Site):-** P.O. Box. 2115, McKinleyville, CA 95519. Tel: 707-839-1164 / 1-800-839-1164. Fax: 1-707-839-1871. **E-mail:** [hought@humboldt1.com](mailto:hought@humboldt1.com). Contact: Gail Hought. Supplying tools, equipment, leather treatment and Kits for projects (suitable for beginners). All that is required to prepare and finish strips for the artistic art of braiding. (Of special interest for those purchasing Gail's Books). (See also 'Tanners and leather suppliers' [Here](#)). Website <http://www.hought.com>

**India Mart. (Machinery, Thread Fittings):-** They list supplies of leather fittings, threads, machinery and accessories. Website <http://www.indiamart.com>

**www.Italian-Fashion.It.:-** **E-mail:** [leatherstocklot@yahoo.it](mailto:leatherstocklot@yahoo.it). This Company offers tools, fittings and machinery for the leather industry. Fittings are in bulk lots and include bag and case fittings, zips and thread. There is a wide and varied choice available. The pictures of the fittings are large, clear, and give a good indication of what is available. The machinery varies from sewing machines, skiving machines, cutters, splitters etc. These pictures are small but can be enlarged by clicking on them. No prices, you must contact them for a quote. Again ideal for trainees and students. (See also 'Tanners and leather suppliers' [Here](#)). Website <http://www.italian-footwear.it>

**The Jelling Dragon. (Buckles):-** P.O. Box 75, Marshland St. James, Wisbeach, PE14 8UD, UK. Tel: +44 (0) 1945-430266. Or +44 (0) 7714-088132. **E-mail:** [admin@jelldragon.com](mailto:admin@jelldragon.com). Contact: Robert Taylor. An interesting site, they supply sets of belt fittings (Buckle, Loop and Point). All decorated with authentic Viking, Celtic and Norman designs. Website <http://www.jelldragon.com/eshop>

## Trade suppliers - *continued*

**Leather Magic. (Care and Restoration):-** P.O. Box 2946, Mathews, NC 28112, USA. Tel: 1-800-232-4092 and +704-283-5078. **E-mail: [info@leathermagic.com](mailto:info@leathermagic.com)**. Contact Danny Yunker. This company manufactures leather care and restoration products. The products and techniques have been developed from a professional system that has been used successfully for years. They now offer the finest products that enable the average person to make permanent invisible repairs to damaged leather. They offer leather repair kits, re-colouring and refinishing of worn surfaces also change of colour kits. Examples of before and after can be seen on their site. Website <http://www.leathermagic.com>.

**Leathersmith Designs Inc. (Fittings and Tools):-** 88 Woodlawn Road, Dartmouth, Nova Scotia, B2W 2S5, Canada. Tel: 1-902-434-9721. Fax: 1-902-434-9721. Toll free (Canada only) 1-800-845-1829. **E-mail: [sales@leathersmithdesigns.com](mailto:sales@leathersmithdesigns.com)**. Contact: Jamie Hartling (President). This company supplies, beautifully polished solid brass buckles, fittings, tools, adhesives, dyes, etc to craft workers from their shop, by mail order or E-mail. (See also 'Tanners and leather suppliers' [Here](#)). Website <http://www.leathersmithdesigns.com>.

**Lucris Manufacturing Pty Ltd:-** 37 - 39 Steven Street, Camira, Queensland 4300, Australia. Phone: +61 7 3288 3316. Fax: +61 7 3288 4309. **E-mail: [lucris@bigpond.net.au](mailto:lucris@bigpond.net.au)**. Manufacturer of the M A Series III Benchtop Clicker Machine. The surprising power and strength of this industrial quality clicker sets it apart from all other clickers in its class. This very handy bench top clicker has been used for leather, embroidery, badge cutting, card stock, magnetic cards, coasters, small plastic shapes, straps and belt ends, clothing, rubber, key fobs, cork, plastic, felt and many other materials. Ruggedly built with a cam actuated mechanical advantage The MA Series III requires little effort making operation very easy. The swing arm operation provides the operator with a clear view of the work table (cutting board) making location on printed products a snap. (See [Clicker Press](#)) Website [HERE](#). British agent: Alpress hydraulic services. Contact details: Tel: 0141 848 7175. Fax: 0141 889 5280. E-mail: [alpresshs@tiscali.co.uk](mailto:alpresshs@tiscali.co.uk). Website <http://www.alpress.co.uk/>.

**Neumann Leathers:-** New Victoria Mill, Wellington Street, Bury, Manchester BL8 2AL, UK. Tel: +44 (0)161 763 1149, Fax:+44 (0)161 763 1152. **E-mail: [sales@neumannleathers.com](mailto:sales@neumannleathers.com)**. Neumann's was originally established in 1897 by Philip Neumann, the grandfather of the current owners. They are one of the oldest established leather suppliers in the UK with the widest choice of finished hides and skins. Their ranges include everything from upholstery and automotive hides to clothing nappas and shoe leathers. Carrying a rich variety of stock in their warehouses in Manchester comprising cow hides, sheepskins, kid and pigskin, suedes and splits they aim to cater for the needs of even the smallest manufacturers and are happy to discuss any specific requirements. Website <http://www.neumannleathers.com/index.htm>.

**Obenauf's Leather Preservatives. An Associate Site:-** 9075 Donnybrook Ct. Boise, Idaho, 83709, USA. Tel: 208-484-1372. Contact: Robert Grover Obenauf's Online **E-mail: [whitejag@whitejag.com](mailto:whitejag@whitejag.com)**. This company offers high quality Leather Preservatives and leather oils containing beeswax and propolis as part of their formula. The products were originally formulated to preserve the boots of American fire-fighters as conventional treatments were not effective due to the hot ash encountered in most fires. The preservative repels water, acids, petroleum, salt, chemicals, restores dry leather, resists mildew, premature cracking and is odourless after application. The leather oil is effective on dress boots, saddles, tack, garments, upholstery, etc. An interesting and most informative site. Website <http://www.obenaufs.com/>.

**C. S. Osborne & Co:-** 125 Jersey Street, Harrison, N.J. 07029, U.S.A. Tel: (973) 483-3232. Fax: (973) 484-3621 **E-mail: [cso@csosborne.com](mailto:cso@csosborne.com)**. For industrial hand tools, leather tools and upholstery tools. Since 1826, the Osborne family has dedicated itself to providing the very finest of industrial



hand tools, leather working tools and upholstery tools.



Able assisted by employees who average over ten years of service to the company, the seventh generation of the Osborne family still manages the firm and continues the tradition requiring strict adherence to the highest standards of quality and service. This dedication continues to put the best possible industrial tools in the hands of the professional. Please write, call or e-mail us for a catalogue of C. S. Osborne products. <http://www.csosborne.com/>.

**PeVeCette AS:-** Sadolinsgade 126, Postbox 304, DK-5100 Odense C, Denmark. Tel: (+45) 66 14 04 22. Fax: (+45) 66 14 04 21. **E-mail:** [pevecette@pevecette.dk](mailto:pevecette@pevecette.dk). Open hours: Monday to Thursday 08.00 to 16.00 CET, Friday 08.00 to 15.00 CET. Saturday and Sunday closed. Artificial leathers for fashion and upholstery, from textile, non-woven and foam substrates. Also, direct and transfer coated textiles for insulation, footwear, anti-slip and incontinence products, aprons and industrial purposes. Website <http://www.pevecette.dk/>.

**Randall Leather Machinery Corp:-** 401 Irvine Street, Yoakum, TX 77995, USA. Tel: (USA) 1-800-223-6018 / 1-800-327-9420. Tel: 361-293-7015. Fax: 361-293-7817. Opening Hours: Monday-Friday: 8.00am-5.00pm CT, Closed Saturday & Sunday. **E-mail:** [info@randallmachine.com](mailto:info@randallmachine.com). Contact: Jonathan Katz. The company founded in 1858 offers the entire range of industrial and manufacturing machinery for the leather industries. Ranging from strap cutters, skiving machines, clicking presses (hydraulic and hytronic) etc. Everything in fact for producing shoes and leathersgoods. See thumbnail pictures on the site, which can be enlarged, showing all their machines.



(Since 1882, Campbell Bosworth Machinery Company has produced some of the worlds strongest and longest lasting leather stitchers and leather machines. CBMC has continued to make technological advances in their manufacturing and service capabilities to better serve its customers. Randall Leather Machinery Corp (est. 1858) has also been an industry leader in American made leather machinery and reputable distributor of Europes finest leather machines. By combining resources,

Campbell & Randall will be able to better serve its loyal customers.) Website <http://www.randallmachine.com>.

**F J Ratchford Limited:-** Kennedy Way, Green Lane, Stockport, Cheshire SK4 2JX, UK. Tel: +44 (0)161-480-8484. Fax: +44 (0)161-480-3679. Hours of opening: Monday - Friday 9am - 5pm. **Email:** [info@fjratchford.co.uk](mailto:info@fjratchford.co.uk). For over a century F. J. Ratchford Limited has been a significant name in covering materials. Founded in Manchester in 1889 by Frederick John Ratchford, they supply the finest materials which have covered many great works, and lesser known volumes, with the same detailed attention to quality and craftsmanship. In the mid 1970's they moved to a new site in Stockport which was built to their own specifications. The choice of position means they are now in a prime location linking them to the motorway network and to Manchester Airport, thus able to provide a better service to all UK and export customers. Their range range of products covers the full requirements of most book binders, extending further than Rexine Leathercloth. See [Here](#). They can now supply over 40 stock shades in their Heritage Library Buckram (width 1070 mm), more than meeting the requirements of most library binders. Facilities are available for matching special shades. Further information can be obtained from their sales office. In addition to processing bulk orders and supplying large trade binders, they offer a collection and postal service for the hand binder who requires smaller quantities. A comprehensive range of binding accessories is available including threads, tapes, glue, leather, brushes, etc, also fully reconditioned book binding equipment. Website <http://www.fjratchford.co.uk>.

**Richmond Hides Ltd:-** 103 Washway Road, Sale, Cheshire M33 7TY, UK. Tel: +44 161 969 5626. Fax: +44 161 969 5621. **E-mail:** [office@richmondhides.com](mailto:office@richmondhides.com). Founded in 1997 with many years experience with hides, skins and leather. Richmond Hides Ltd has grown by supplying quality goods with the service that their customers require to run their business effectively. Taking only the best, regular sources of raw materials ensures customer satisfaction and helps maintain the good relationship built up over time. Take a look at their raw materials and products or contact them for any information you require. Website <http://www.richmondhides.com/index.htm>.

**Samco Strong Ltd. (Machinery & Press Knives):-** Warren Park Way, Enderby, Leicester LE19 4ZW. UK. Tel: +44 (0) 116 286 2840. Fax: +44 (0) 116 284 7600. Mr Roger Earl - Managing Director, Mr David Evans - Sales And Marketing Director. **E-mail:** [contact@samcostrong.co.uk](mailto:contact@samcostrong.co.uk). This company supplies Cutting Presses and other types of machinery to all the Leather Industries, they also operate a fast and reliable Press Knife service. They can produce a press knife to cut any shape or pattern. Website <http://www.samco-strong.co.uk>.

**Sea Leather Wear:-** c/o Calgary Ecommerce Services, 210 86th Avenue SE, Unit 86, Calgary, Alberta T2H 1N6, Canada. Tel: 403 689 4701. **E-mail:** [customerservice@sealeatherwear.com](mailto:customerservice@sealeatherwear.com). This is a Canadian company and the agent of a fish leather manufacturer, carefully selecting, processing and transforming a variety of fish skins into unique and exotic leather. This leather can be dyed in a variety of colours, and is available in suede and glazed finishes. The glazed leather is scratch and stain resistant, water repellent and never needs polishing. These revolutionary exotic leather skins offer a unique texture, and a distinctive scale pattern. (Click for samples [Sea Leather Wear](#))



large suede:- salmon, perch, carp



large glazed:- salmon, perch, carp

This fish leather is processed from the finest quality skins of non-endangered fish species including carp, pacific salmon, bass, sturgeon, shark, catfish, salmon and Nile perch. Fish skin leather has been under development for over 20 years. The tanning process ensures odourless products and prevents stiffness. Sample packets is their method of introducing their product to you. As most of their inventory is not sorted or counted by colours, they offer stocklots, by texture, colour selection, or species, which are discounted from their regular skin pricing. See [Here](#) and [Here](#).) Website <http://www.sealeatherwear.com/>.

**Shin Her Mian Enterprises Co. Ltd. (Textiles and Materials):-** 8F-2, No.293-2, Chung Shan Road, SEC 1, Panchiao, Taipei, Taiwan. Tel: 886-2-29543898-9 or 886-2-29582221. Fax: 886-2-29585555. **E-mail:** [shm@shm.com.tw](mailto:shm@shm.com.tw). Contact: Wilson Chou (manager). A large, reliable manufacturer and supplier of textiles. Materials available: knitted suede, micro polar fleece, furniture fabrics, etc. They will produce fabrics to customer's own designs. They use advanced technology and equipment to produce their highly fashionable fabrics. Website <http://www.shm.com.tw>.

**Somac Threads:-** Unit 2, Brymau, 4 River Lane, Saltney, Nr Chester. CH4 8RF, UK. Tel: +44 (01244) 680506. Fax: +44 (01244) 680202. **E-mail:** [sales@somac.co.uk](mailto:sales@somac.co.uk). As a family-run business with nearly thirty year's experience of supplying threads and accessories, they uphold traditional values that deliver high quality products and service. Established in 1979, Somac Threads has been supplying sewing thread to a wide variety of industries.



In numerous cases these threads have been designed for specific needs, so providing complete sewing solutions for many applications, these include mattresses, upholstery, quilting, safety harnesses, embroidery and many others. This company is one of the largest thread suppliers to the Textile & Leathersgoods Industries both in the UK and worldwide. A vast range of sewing-machine threads are available in nylon, polyester, linen, etc. For hand-stitching (leathersgoods and saddlery) coloured linen threads are available. Website <http://www.somac.co.uk/>.

**Stadex Industries (Adhesives):-** Coed Aben Road, Wrexham Industrial, Estate, Wrexham, Clwyd LL13 9UL, UK. Tel: 01978 660266. Fax: 01978 660316. Suppliers of PVA Adhesives. They are extremely helpful and provide a prompt delivery service. They will supply large or small drums of adhesive.

**Standing Bears Trading Post. (Fittings and Tools):-** 7624 Tampa Avenue, Reseda, Ca. 91335, USA. Tel: 818 342-9120. **E-mail: [Inquiry@sbearstradingpost.com](mailto:Inquiry@sbearstradingpost.com)**. They are authorized sales centres for Tandy Leather Factory, LF Tandy, Hide Crafter Leathercraft and other major leather and Native American suppliers. You can purchase any of the leathercraft supplies, native craft supplies and other items you find in any of their catalogues through them. In an attempt to supply quality leathercraft supplies they have contacted many different leathercraft companies as well as Native craft suppliers to add to their sources for leathercraft and Native American craft supplies. Because they are authorized distributors for many different suppliers, items listed on the website are items they get from these leathercrafting and Native Crafts suppliers and may not be stocked in their store at all times. Website <http://www.sbearstradingpost.com>.

## Trade suppliers - continued

**Talas. Teflon Bone Folders:-** 146 Halstead Street, Rochester, NY 14610, USA. Tel: 1-585-482-7870. Fax: 1-585-482-7870. **E-mail:** [sales@bonefolder.com](mailto:sales@bonefolder.com). Contact: Earl Vroman. Marketing Director. This company manufactures and supplies Teflon bone folders for the bookbinding and leathersgoods industries. There are two standard sizes, large and small. They are stronger and more substantial than the bone folders normally available as well as being easier to keep free of adhesives. ("We have 25 years experience in designing customised non-stick applications. We provide distributors and wholesalers with a standardised bone folder which is made of PTFE. Our customer base ranges from bone folder wholesalers to direct customers, who may need non-standard bone folder or other non-stick applications. Our experience and ability to leverage existing manufacturing facilities allows us to provide a great product at a competitive price.") Earl Vroman is also the Marketing Director of Fluoro Film Inc, they provide Teflon powder and Ceramic coatings, Talas professional archival conservation and restoration supplies, having done so since 1962. Website <http://www.bonefolder.com>. Also [www.talas-nyc.com](http://www.talas-nyc.com).

**Talas. Bookbinding & Conservation Supplies:-** 330 Morgan Avenue, Brooklyn, NY 11211, USA. Open Monday through Friday: 9am-5:30pm. Tel: 212-219-0770. Fax: 212-219-0735. **E-mail:** [info@talasonline.com](mailto:info@talasonline.com). Contact: Earl Vroman. This division of the company supplies everything required by the bookbinding industry, the conservationist and the hobbyist. Their list of supplies is too long to be included here, but here is a brief summary: tools, machinery, adhesives, fabrics, boards, papers, leather, vellum, parchment, gold-blocking foil etc. An on-line catalogue is available in PDF format. Website <http://www.talasonline.com>.

**Tandy Leather Factory:-** Manager: Roy Fisher, Unit 2 Crofton Oak, North Portway Close, Round Spinney Industrial Estate, Northampton NN3 8RQ. Tel: 01604 647910. Fax: 01604-647951. Toll free Tel: 0800-085-6765 (UK only). **E-mail:** [northampton@tandyleather.com](mailto:northampton@tandyleather.com). Store hours: Monday through Friday: 9:00 am to 5:00 pm. Saturday: 9:00 am to 4:00 pm. Tandy Leather Factory Inc says that its new store in Northampton, UK will operate under the name Tandy Leather Factory serving both wholesale customers as well as the general public. John McNiven, President of the Company's Canadian operation, will be managing the store. He has more than 40 year's experience in the leathercraft industry. Website <http://www.tandyleatherfactory.co.uk/>.

**Tandy (Fittings & Tools):-** 5882E, Berry Street, Ft Worth TX 76119, USA. Tel: 1-888-890-1611. Fax: 1-817-451-5254. **E-mail:** [tlc@tandyleather.com](mailto:tlc@tandyleather.com). They have an extensive selection of tools and fittings (also a wide selection of carving tools). Tool kits, beginners kits & much more. (See also 'Tanners and leather suppliers' [Here](#)). Website <http://www.tandyleatherfactory.com/>.

**Tippmann Industrial Products:-** 3518 Adams Center Road, Ft Wayne, IN 46806, USA. Tel: Toll Free: 866-286-8046; 260-441-9603. Fax: 260-441-8264. **E-mail:** [sales@tippmannindustrial.com](mailto:sales@tippmannindustrial.com). They have been manufacturing precision leather crafting equipment since 1991. Such as: The Tippmann "Boss" leather hand-stitcher which sews through leather, up to 3/4" thick. It will also sew nylon, canvas, urethane, plastic, sheepskin etc. Also the Embosser, a hand powered leather embossing creasing/cutting machine that has been designed to achieve precision quality embossing, creasing and cutting of leather. Then there is the Clicker 700, an air powered die cutting machine delivering 7 tons of cutting pressure, and the Clicker 1500 with 15 tons of cutting pressure, both requiring only the touch of a button. Accessories and parts are available. Tippmann Industrial Sewing Machines are known for their reliability. However, if you ever need assistance, their staff is on hand to help you with any problems that may arise. See [Here](#). Website <http://www.tippmannindustrial.com/>.

**Tool Manufacturer. C S Osborne & Co:-** 125 Jersey Street, Harrison, NJ 07029, USA. **E-mail:** [cso@csosborne.com](mailto:cso@csosborne.com). This company, established in 1826, is a leading producer of high quality tools for all leather industries: shoes, leathersgoods, saddlery, upholstery etc. (For all UK purchasers contact H Webber & Sons Ltd. See their entry below on this list).

**Veritex BV, The Netherlands:-** Direct and transfer coating of woven, knitted and non-woven substrate

fabrics, into printed, grained and finished artificial leathers. Extensive application catalogue, and technical information. English, Dutch, German and French. Website <http://www.veritex.nl/>.

**H Webber & Sons Ltd. (Tools):-** Bridge House, Station Road, Gomshall, Surrey GU5 9NP, UK. Tel: 01483-202963. Fax: 01483-203223. **E-mail:** [info@hwebber.co.uk](mailto:info@hwebber.co.uk). Contact: J Webber. Managing Director. One of the leading suppliers of craft tools in the UK. They will send you an excellent and well presented Catalogue on request, that is fully illustrated, with information on all tools and fittings. (There are also diagrams explaining the use of some of the tools). This company can be recommended to all beginners. Website <http://www.hwebber.co.uk>.

**West Bro's Saddlery:-** 5536 State Highway 7 W Centre, TX 75935, USA. Tel/Fax: (936) 598-2627. **E-mail:** [saddles@myrealbox.com](mailto:saddles@myrealbox.com). Contact Tommy R West. Email: [sand@ktsmet.com](mailto:sand@ktsmet.com) A Family run saddlery company that make their own saddle fittings and also offer a range of very high quality sets of belt fittings made from silver. There is also a selection of the popular large square-peg type belt fittings.



Danny West at Work Bench



Troy West at Engraving Table

They are decorated with intricate and attractive designs which are well illustrated by pictures on the site. The pictures can be enlarged. These buckles are not cheap, but if you want the finest quality, then look no further. Website <http://www.wbsct.com>.

# Education & Training Establishments

**BLC Leather Technology Centre Ltd:-** Leather Trade House, Kings Park Road, Moulton Park, Northampton NN3 6JD, UK. Tel: +44 (0) 1604 679999. Fax: +44 (0) 1604 679998.

**E-mail: [info@blcleathertech.com](mailto:info@blcleathertech.com).** The leading independent leather technology centre, working with hundreds of companies in over 40 countries BLC delivers a range of leather-related services.

Established for over 80 years they have the technical pedigree in leather technology to ensure fast accurate solutions to technical, management or environmental leather problems.

## Leather training courses

BLC offers leather training courses, leather seminars, leather workshops, leather footwear courses, leather upholstery courses, leathersgoods courses, garment courses and leather technology courses. Each leather course can be tailored to individual company needs and is delivered by experienced and practical leather and footwear experts. Leather training courses are also available in Asia and individual corporate courses can be carried out anywhere in the world.

## Leather experts

A strength of BLC is its leather specialisation and its ability to provide in-depth analysis of manufacturing or consumer problems. No matter how well production processes are managed and controlled, leather problems and leather faults do occur. BLC offers leather consulting services to cover all aspects of the leather supply chain. BLC has the leather experts and practical leather knowledge to solve all leather problems. Website <http://www.blcleathertech.com/>

**Cambridge and District Saddlery Courses (International) Ltd:-** 31 St Johns Street, Bury St Edmonds, Suffolk IP33 1SN, UK. Tel: +44 (0) 1284 700640. Fax: +44 (0) 1284 703404. Contact: Sarah Mansworth. This is a long established Training Centre. Providing short and intensive courses linked to The National Skill Assessment and Qualification Scheme for the Saddlery Trade. This is a Test Centre with no website nor Email address.

**Capel Manor College:-** Bullsmoor Lane, Enfield, Middlesex EN1 4RQ, UK. Tel: 08456 122 122. Fax: 01922 717544. **E-mail: [enquiries@capel.ac.uk](mailto:enquiries@capel.ac.uk).** This college now offers the Saddlery Courses instead of Cordwainers. This two-year course comprises two separate qualifications: the level 2 Certificate in Saddlery and the level 3 Advanced Certificate in Saddlery. The full course will introduce you to Saddlery work. It includes both traditional craft saddlery and modern factory-based production methods. Completion of both qualifications leads to the award of the prestigious Cordwainers' Diploma. These courses also have a leathersgoods craft input. Find them at Website <http://www.capel.ac.uk/>

**Cordwainers College:-** 20 John Princes Street, Hackney, London W1G 0BJ, UK. Telephone: +44 (0)20 7514 7400 Fax: 020 7514 7484. **E-mail: [enquiries@fashion.arts.ac.uk](mailto:enquiries@fashion.arts.ac.uk).** Is now known as Cordwainers at the London College of Fashion. It was in August 2000 that this college merged with the London College of Fashion. Leather Fashion and Design courses are as usual still provided and for further information on what is available at present visit the Website <http://www.fashion.arts.ac.uk/> An overview of Cordwainers listing the student accommodation and courses offered can also be found on The British Council Site. Find them at Website <http://www.britcoun.org/eis/profiles/cordwainers>

**The Cumbria School of Saddlery:-** Redhills, Penrith, Cumbria CA11 0DT, UK. Tel: 01768 899919. **E-mail: [davidmay@saddlerycourses.com](mailto:davidmay@saddlerycourses.com).** Principal and Tutor, David May. An experienced and Competent Saddler, he offers a wide range of saddlery and traditional leatherwork courses at beginner and intermediate stages. These courses are mainly short term. Linked to the National Skill Assessment and Qualification Scheme for The Saddlery Trade.



Students at work

An important feature of Redhills is that teaching takes place in a realistic environment where customers come and go, bringing in repairs, collecting tack and being charged for services at the going rate. It follows that tuition has a firm, commercial base and is carried out in a practical atmosphere. The School is a Test Centre for the City and Guilds Skills Assessment Scheme and can prepare students for Skills Tests 1, 2 and 3. Find them at Website <http://www.saddlerycourses.com/>

**Fosen Folk High School:-** Fosen Folkehøgskole, N-7100 Rissa, Norway. Tel: +47 73 85 85 85, Fax: +47 73 85 85 86, **E-mail:** [kontor@fosen.fhs.no](mailto:kontor@fosen.fhs.no). There are a variety of courses available all of which are activity or craft orientated to provide a purpose in life for young people. The Folk High School is located in the small rural community of Rissa, about one hour travel by bus/ferry from Trondheim. Where there are, among other things, shops, a town hall, a library, a post office, bank and a health centre. The poet Johan Bojer grew up in Rissa, and describes the country, coast culture and traditions in his internationally known books. Students must have reached 18 years of age by January 1st of the school year. Exceptions are occasionally made for students that are younger. There is no age limit. Students must accept and follow the schools ground rules. You can learn different craft techniques such as knifemaking, basketry and ceramics. Most of the materials are found in the vicinity of the school. We have sheep of our own, and also work a lot with wool and leather. We emphasize the whole process, from slaughtering the sheep to the finished product. On the way you will learn carding, spinning, dyeing with plants, knitting, feltmaking and weaving. And using the sheepskins, you will be able to sew a warm and cosy skin rug! Website [http://www.fosen.fhs.no/english/eng\\_index.html?&kat=318&m=318](http://www.fosen.fhs.no/english/eng_index.html?&kat=318&m=318)

**Franelli Upholsterers:-** 45 Leyton Avenue, Gillingham, Kent ME7 1RZ. Tel: 01634 577755. **E-mail:** [franco@franelli.com](mailto:franco@franelli.com). Contact: Franco Franelli. (Member of the Association of Master Upholsterers). This Master Craftsman is now offering Courses on this popular craft. The following is taken from the course Prospective: Learn the basic principles of upholstery, how to upholster chairs, sofas, and other pieces of fine furniture. You can learn traditional and modern upholstery. Professional tutor with over 28 years experience · All levels including beginners · Maximum of up to 2 students at a time · Tuition to suit individual requirements · Fully hands on tuition with detailed handouts for students · Fully equipped workshop · All materials & equipment provided · Course dates to suit students including weekends · Cost £85 per student per day plus materials used. · Local accommodation available. Learn how to· Identify tools and sundries. · Strip down your furniture. · Make good the frame. · Web, spring and stuff · Re-cover and trim · Also included will be fabric and leather layout and cutting · Fabric patterns and styles · Measuring up and cutting out. Under your tutor's guidance, you will end up with a piece of furniture you'll be proud to have in your home. Website <http://www.franelli.com>



**J Hewit & Sons Ltd:-** Unit 28, Park Royal Metro Centre, Britannia Way, London. NW10 7PR. UK. Tel: +44 (0) 20-8965-5377. Fax: +44 (0) 20-8453-0414. **E-mail: sales@hewit.com.** Contact: David M Lanning (Director) **E-mail: david@hewit.com.** They produce two publications of "Skin Deep" each year and these plus earlier issues are available for download from their website. Website <http://www.hewit.com/sd12-nbss.htm> The current issue gives information on the availability of Bookbinding courses at North Bennet Street School (Mark Andersson, North Bennet Street School, 39 North Bennet Street, Boston, MA 02113, USA or **E-mail: bookbinding@nbss.org.** Information on workshops and all the full time programs can be found on the school's website. Find it here Website <http://www.nbss.org/>

**Hought Fine Art & Leather:-** P.O. Box 2115, McKinleyville, CA 95519. USA. Tel: 707-839-1164 and 1-800-839-1164. Fax: 1-707-839-1164. **E-mail: hought@humboldt1.com.** Contact: Gail Hought. This talented artisan and maker of horse equipment provides private lessons, short courses, seminars and consultations. These all deal with the Art of Braiding or plaiting as it is known in some areas, at which Gail is an expert. She is also a very talented artist as can be seen in the illustrations included in her books on the subject, as well as the art work displayed on her site. Website <http://www.hought.com/>

**The Leather Training & Technical Dept Ltd:-** Longdale House, 105B Weatherby Road, Harrogate HG2 7SH. UK. Tel: 01423-881027. Fax: 01 423-887324. **E-mail: enquiries@ltsolutions.net.** Contacts: Business Director - Judy Bass. Senior Trainer/Technical Director - Andy Alcock. Leather Technician Courses in the care and treatment of leather, (specifically for Leather Furniture & Upholstery). Leather upholstery is now a major part of the furniture being sold into the domestic market.

Before the rise in popularity leather classification was relatively straightforward Pigment, Aniline, Nubuck/Suede. Now that the furniture industry is more driven by the fashion industry than practical consideration the range and variety of finishes has exploded with new varieties being introduced every year.

Leather as a product is basically the same item, in most cases what changes is the surface finish it is given to alter the look and feel of it. It is this surface finish that technicians, cleaners and sales personnel alike have to be able to identify and service.

Many businesses have seen the benefits of good informative training. These include Members of the Association of Independent Stores (AIS), Members of the NCCA, Members of the Association of Master Upholsterers (AMU), FIRA, Independent Inspections and many other manufacturing, retail and service groups as well as individual technicians and cleaners.

LTT offer a variety of courses to suite specific areas of the market: for Service Technicians, Upholsterers and Cleaners · for Warehouse Managers, Delivery Staff and Repair Technicians · for Retail Sales staff. Website <http://www.ltsolutions.net/training.asp>

**Leather Wise Ltd:-** Moulton Park Business Centre, Redhouse Road, Moulton Park, Northampton NN3 6AQ, UK. Tel: +44 (0) 1604 497568. Fax: +44 (0) 1604 497569. **E-mail: info@leatherwise.co.uk.** This Company was established at the beginning of 2006. With over 30 years experience and knowledge of the leather industry, we provide professional scientific fault diagnosis, arbitration service and provide training in all aspects of leather and leather products. Our fault diagnosis and arbitration services can help you overcome production problems, settle disputes between suppliers and customers throughout the supply chain and provide a leather identification service. Manufacturers can also access these courses so that their management and staff can benefit from a better understanding of the material they are working with. See also [Here](#). Website <http://www.leatherwise.co.uk/>

**Leicester International School of Footwear:-** Tel: 0116 224 2240. **E-mail:** [info@leicester.ac.uk](mailto:info@leicester.ac.uk). Leicester College is centrally located in the Midlands region of the UK. The College has four main Campuses (Abbey Park Campus, Bede Island Campus, Freeman's Park Campus, St Margaret's Campus) conveniently located in the centre of Leicester City within approximately 10 minutes walking distance of each other. Courses offered in Footwear, Bookbinding and Textiles (BTEC First Certificate in Design Fashion and Textiles) They have an excellent reputation, to check the all the course details visit the Website <http://www.leicestercollege.ac.uk/>

**London College of Fashion:-** 272 High Holborn, London WC1V 7EY, UK. Tel (switchboard): 0207 514 6000, (generic course enquiries): 0207 514 6130. High Holborn Reception open Monday - Friday 10.00am - 5.00pm. **E-mail:** [info@arts.ac.uk](mailto:info@arts.ac.uk). The only college in the UK to specialise in fashion education, research and consultancy. They offer a unique portfolio of courses that aim to reflect the breadth of opportunity available in this vibrant industry. Whether a student's passion is for footwear design, make-up for film, fashion buying or styling for photographic shoots, the philosophy of all their courses is to offer creative development alongside a strong vocational slant. The expertise of their highly experienced industry professionals ensures that students are kept aware of changing demands and opportunities within the fashion industry. Many of their tutors combine teaching with careers within the industry. This allows them to pass on invaluable 'insider' knowledge to students, on the latest technologies, techniques and trends. Website [http://www.fashion.arts.ac.uk/courses/footwear\\_accessories.htm](http://www.fashion.arts.ac.uk/courses/footwear_accessories.htm)

**Nene College:-** Postal addresses: The University of Northampton, Avenue Campus, St George's Avenue, Northampton NN2 6JD, The University of Northampton, Park Campus, Boughton Green Road, Northampton NN2 7AL. Course enquiries and general information: Course freephone: 0800 358 2232, Tel: 01604 735500, **E-mail:** [study@northampton.ac.uk](mailto:study@northampton.ac.uk). Website [www.northampton.ac.uk](http://www.northampton.ac.uk). International course enquiries: Tel: 00 44 (0)1604 892017, **E-mail:** [international@northampton.ac.uk](mailto:international@northampton.ac.uk). Website [www.northampton.ac.uk/international](http://www.northampton.ac.uk/international). The main college for the tanning industry in the UK. All courses here are related to the production of leather and no craft courses are available. (*Leather Technology MSc*. The course aims to provide the opportunity to acquire and enhance technical skills related both to self learning and to research appropriate to postgraduate study. *Leather Technology MPhil*. The course is designed for a graduate in a physical science or similar discipline who has recently entered or wishes to enter the leather production or allied industries. *Leather Technology PhD*. The course is designed for a graduate in a physical science or similar discipline who has recently entered or wishes to enter the leather production or allied industries.) Find them at Website <http://www.nene.ac.uk/>

**North Warwickshire College:-** Hinckley Road, Nuneaton, Warwickshire CV11 6BH, UK. Tel: (024) 7624 3000. Fax: (024) 7632 9056. **E-mail:** [the.college@nwhc.ac.uk](mailto:the.college@nwhc.ac.uk). Courses were offered here relating to the making and machining of car seats and interiors. They also used the old City and Guilds 470 Qualifications. These courses may still be available. They also offer an Upholstery course (City and Guilds Diploma in Design 7923-18 Upholstery). Find them at Website <http://www.nwhc.ac.uk/>

**The Saddlery Training Centre:-** 14-17 The Malverns, Cherry Orchard Lane, Salisbury, Wilts SP2 7JG. Contact name: Mark or Dawn Romain. Tel: 01722 341144. Fax: 01722 349669. **E-mail:** [info@saddlerytraining.co.uk](mailto:info@saddlerytraining.co.uk). This new training facility now runs courses which were formally provided by the Countryside agency.



**Mark Romain: Director and Training Advisor of The Saddlery Training Centre**



**Richard Godden: Side-Saddle Specialist**



**John McDonald: Collar Course Consultant**

The New Entrants Training Scheme and Open courses are being delivered on behalf of the Countryside Agency, but a far more flexible approach can now be adopted for candidates outside of rural England and abroad. A full range of courses in Saddlery, Harness and Collar Making and Leatherworking are available. Mark is a highly skilled Saddler and Assessor. There are also two specialist consultants, Richard Godden and John McDonald who are experts in the areas of side-saddle and collar/harness making. Website <http://www.saddlerytraining.co.uk>

**Walsall College of Art:-** St Paul's Street, Walsall, West Midlands WS1 1XN, UK. Tel: 01922 657000. Fax: 01922 657083. **E-mail: [info@walsallcollege.ac.uk](mailto:info@walsallcollege.ac.uk)**. A small but excellent college, they ran Craft Courses under the old City and Guilds 470 Qualifications in both Saddlery and Leathergoods. They now offer the only Academic Craft Courses for Leathergoods with a qualification, as well as an advanced course in this field. For a list of Courses and Qualifications plus the Saddlery Courses, visit their much improved site. Find them at Website <http://www.walcat.ac.uk/>

**West Herts College:-** Hempstead Road, Watford, Hertfordshire WD17 3EZ. UK. Tel: +44 (0) 1923 812000. Fax: +44 (0) 1923 812556. **E-mail: [admissions@westherts.ac.uk](mailto:admissions@westherts.ac.uk)**. Bookbinding and Leather Courses. Message from the Principal

"Join us and you're joining a community where you are valued as a person and encouraged as a student. At West Herts College your future is our inspiration - it's your world and we want to help you make the most of it. We want to hear about your ambitions, your interests and your passions - then we can develop the new skills you need to succeed. We're here for you whatever your plans. It's your future. Let ambition and interests be your guide."

Visit their site for courses offered. Find them at Website <http://www.westherts.ac.uk/>

# Education & Training Establishments

**BLC Leather Technology Centre Ltd:-** Leather Trade House, Kings Park Road, Moulton Park, Northampton NN3 6JD, UK. Tel: +44 (0) 1604 679999. Fax: +44 (0) 1604 679998.

**E-mail: [info@blcleathertech.com](mailto:info@blcleathertech.com).** The leading independent leather technology centre, working with hundreds of companies in over 40 countries BLC delivers a range of leather-related services.

Established for over 80 years they have the technical pedigree in leather technology to ensure fast accurate solutions to technical, management or environmental leather problems.

## Leather training courses

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**Cambridge and District Saddlery Courses (International) Ltd:-** 31 St Johns Street, Bury St Edmonds, Suffolk IP33 1SN, UK. Tel: +44 (0) 1284 700640. Fax: +44 (0) 1284 703404. Contact: Sarah Mansworth. This is a long established Training Centre. Providing short and intensive courses linked to The National Skill Assessment and Qualification Scheme for the Saddlery Trade. This is a Test Centre with no website nor Email address.

**Capel Manor College:-** Bullsmoor Lane, Enfield, Middlesex EN1 4RQ, UK. Tel: 08456 122 122. Fax: 01922 717544. **E-mail: [enquiries@capel.ac.uk](mailto:enquiries@capel.ac.uk).** This college now offers the Saddlery Courses instead of Cordwainers. This two-year course comprises two separate qualifications: the level 2 Certificate in Saddlery and the level 3 Advanced Certificate in Saddlery. The full course will introduce you to Saddlery work. It includes both traditional craft saddlery and modern factory-based production methods. Completion of both qualifications leads to the award of the prestigious Cordwainers' Diploma. These courses also have a leathersgoods craft input. Find them at Website <http://www.capel.ac.uk/>

**Cordwainers College:-** 20 John Princes Street, Hackney, London W1G 0BJ, UK. Telephone: +44 (0)20 7514 7400 Fax: 020 7514 7484. **E-mail: [enquiries@fashion.arts.ac.uk](mailto:enquiries@fashion.arts.ac.uk).** Is now known as Cordwainers at the London College of Fashion. It was in August 2000 that this college merged with the London College of Fashion. Leather Fashion and Design courses are as usual still provided and for further information on what is available at present visit the Website <http://www.fashion.arts.ac.uk/> An overview of Cordwainers listing the student accommodation and courses offered can also be found on The British Council Site. Find them at Website <http://www.britcoun.org/eis/profiles/cordwainers>

**The Cumbria School of Saddlery:-** Redhills, Penrith, Cumbria CA11 0DT, UK. Tel: 01768 899919. **E-mail: [davidmay@saddlerycourses.com](mailto:davidmay@saddlerycourses.com).** Principal and Tutor, David May. An experienced and Competent Saddler, he offers a wide range of saddlery and traditional leatherwork courses at beginner and intermediate stages. These courses are mainly short term. Linked to the National Skill Assessment and Qualification Scheme for The Saddlery Trade.



Students at work

An important feature of Redhills is that teaching takes place in a realistic environment where customers come and go, bringing in repairs, collecting tack and being charged for services at the going rate. It follows that tuition has a firm, commercial base and is carried out in a practical atmosphere. The School is a Test Centre for the City and Guilds Skills Assessment Scheme and can prepare students for Skills Tests 1, 2 and 3. Find them at Website <http://www.saddlerycourses.com/>

**Fosen Folk High School:-** Fosen Folkehøgskole, N-7100 Rissa, Norway. Tel: +47 73 85 85 85, Fax: +47 73 85 85 86, **E-mail:** [kontor@fosen.fhs.no](mailto:kontor@fosen.fhs.no). There are a variety of courses available all of which are activity or craft orientated to provide a purpose in life for young people. The Folk High School is located in the small rural community of Rissa, about one hour travel by bus/ferry from Trondheim. Where there are, among other things, shops, a town hall, a library, a post office, bank and a health centre. The poet Johan Bojer grew up in Rissa, and describes the country, coast culture and traditions in his internationally known books. Students must have reached 18 years of age by January 1st of the school year. Exceptions are occasionally made for students that are younger. There is no age limit. Students must accept and follow the schools ground rules. You can learn different craft techniques such as knifemaking, basketry and ceramics. Most of the materials are found in the vicinity of the school. We have sheep of our own, and also work a lot with wool and leather. We emphasize the whole process, from slaughtering the sheep to the finished product. On the way you will learn carding, spinning, dyeing with plants, knitting, feltmaking and weaving. And using the sheepskins, you will be able to sew a warm and cosy skin rug! Website [http://www.fosen.fhs.no/english/eng\\_index.html?&kat=318&m=318](http://www.fosen.fhs.no/english/eng_index.html?&kat=318&m=318)

**Franelli Upholsterers:-** 45 Leyton Avenue, Gillingham, Kent ME7 1RZ. Tel: 01634 577755. **E-mail:** [franco@franelli.com](mailto:franco@franelli.com). Contact: Franco Franelli. (Member of the Association of Master Upholsterers). This Master Craftsman is now offering Courses on this popular craft. The following is taken from the course Prospective: Learn the basic principles of upholstery, how to upholster chairs, sofas, and other pieces of fine furniture. You can learn traditional and modern upholstery. Professional tutor with over 28 years experience · All levels including beginners · Maximum of up to 2 students at a time · Tuition to suit individual requirements · Fully hands on tuition with detailed handouts for students · Fully equipped workshop · All materials & equipment provided · Course dates to suit students including weekends · Cost £85 per student per day plus materials used. · Local accommodation available. Learn how to · Identify tools and sundries. · Strip down your furniture. · Make good the frame. · Web, spring and stuff · Re-cover and trim · Also included will be fabric and leather layout and cutting · Fabric patterns and styles · Measuring up and cutting out. Under your tutor's guidance, you will end up with a piece of furniture you'll be proud to have in your home. Website <http://www.franelli.com>

**J Hewit & Sons Ltd:-** Unit 28, Park Royal Metro Centre, Britannia Way, London. NW10 7PR. UK. Tel: +44 (0) 20-8965-5377. Fax: +44 (0) 20-8453-0414. **E-mail: sales@hewit.com.** Contact: David M Lanning (Director) **E-mail: david@hewit.com.** They produce two publications of "Skin Deep" each year and these plus earlier issues are available for download from their website. Website <http://www.hewit.com/sd12-nbss.htm> The current issue gives information on the availability of Bookbinding courses at North Bennet Street School (Mark Andersson, North Bennet Street School, 39 North Bennet Street, Boston, MA 02113, USA or **E-mail: bookbinding@nbss.org.** Information on workshops and all the full time programs can be found on the school's website. Find it here Website <http://www.nbss.org/>

**Hought Fine Art & Leather:-** P.O. Box 2115, McKinleyville, CA 95519. USA. Tel: 707-839-1164 and 1-800-839-1164. Fax: 1-707-839-1164. **E-mail: hought@humboldt1.com.** Contact: Gail Hought. This talented artisan and maker of horse equipment provides private lessons, short courses, seminars and consultations. These all deal with the Art of Braiding or plaiting as it is known in some areas, at which Gail is an expert. She is also a very talented artist as can be seen in the illustrations included in her books on the subject, as well as the art work displayed on her site. Website <http://www.hought.com/>

**The Leather Training & Technical Dept Ltd:-** Longdale House, 105B Weatherby Road, Harrogate HG2 7SH. UK. Tel: 01423-881027. Fax: 01 423-887324. **E-mail: enquiries@ltsolutions.net.** Contacts: Business Director - Judy Bass. Senior Trainer/Technical Director - Andy Alcock. Leather Technician Courses in the care and treatment of leather, (specifically for Leather Furniture & Upholstery). Leather upholstery is now a major part of the furniture being sold into the domestic market.

Before the rise in popularity leather classification was relatively straightforward Pigment, Aniline, Nubuck/Suede. Now that the furniture industry is more driven by the fashion industry than practical consideration the range and variety of finishes has exploded with new varieties being introduced every year.

Leather as a product is basically the same item, in most cases what changes is the surface finish it is given to alter the look and feel of it. It is this surface finish that technicians, cleaners and sales personnel alike have to be able to identify and service.

Many businesses have seen the benefits of good informative training. These include Members of the Association of Independent Stores (AIS), Members of the NCCA, Members of the Association of Master Upholsterers (AMU), FIRA, Independent Inspections and many other manufacturing, retail and service groups as well as individual technicians and cleaners.

LTT offer a variety of courses to suite specific areas of the market: for Service Technicians, Upholsterers and Cleaners · for Warehouse Managers, Delivery Staff and Repair Technicians · for Retail Sales staff. Website <http://www.ltsolutions.net/training.asp>

**Leather Wise Ltd:-** Moulton Park Business Centre, Redhouse Road, Moulton Park, Northampton NN3 6AQ, UK. Tel: +44 (0) 1604 497568. Fax: +44 (0) 1604 497569. **E-mail: info@leatherwise.co.uk.** This Company was established at the beginning of 2006. With over 30 years experience and knowledge of the leather industry, we provide professional scientific fault diagnosis, arbitration service and provide training in all aspects of leather and leather products. Our fault diagnosis and arbitration services can help you overcome production problems, settle disputes between suppliers and customers throughout the supply chain and provide a leather identification service. Manufacturers can also access these courses so that their management and staff can benefit from a better understanding of the material they are working with. See also [Here](#). Website <http://www.leatherwise.co.uk/>

**Leicester International School of Footwear:-** Tel: 0116 224 2240. **E-mail:** [info@leicester.ac.uk](mailto:info@leicester.ac.uk). Leicester College is centrally located in the Midlands region of the UK. The College has four main Campuses (Abbey Park Campus, Bede Island Campus, Freeman's Park Campus, St Margaret's Campus) conveniently located in the centre of Leicester City within approximately 10 minutes walking distance of each other. Courses offered in Footwear, Bookbinding and Textiles (BTEC First Certificate in Design Fashion and Textiles) They have an excellent reputation, to check the all the course details visit the Website <http://www.leicestercollege.ac.uk/>

**London College of Fashion:-** 272 High Holborn, London WC1V 7EY, UK. Tel (switchboard): 0207 514 6000, (generic course enquiries): 0207 514 6130. High Holborn Reception open Monday - Friday 10.00am - 5.00pm. **E-mail:** [info@arts.ac.uk](mailto:info@arts.ac.uk). The only college in the UK to specialise in fashion education, research and consultancy. They offer a unique portfolio of courses that aim to reflect the breadth of opportunity available in this vibrant industry. Whether a student's passion is for footwear design, make-up for film, fashion buying or styling for photographic shoots, the philosophy of all their courses is to offer creative development alongside a strong vocational slant. The expertise of their highly experienced industry professionals ensures that students are kept aware of changing demands and opportunities within the fashion industry. Many of their tutors combine teaching with careers within the industry. This allows them to pass on invaluable 'insider' knowledge to students, on the latest technologies, techniques and trends. Website [http://www.fashion.arts.ac.uk/courses/footwear\\_accessories.htm](http://www.fashion.arts.ac.uk/courses/footwear_accessories.htm)

**Nene College:-** Postal addresses: The University of Northampton, Avenue Campus, St George's Avenue, Northampton NN2 6JD, The University of Northampton, Park Campus, Boughton Green Road, Northampton NN2 7AL. Course enquiries and general information: Course freephone: 0800 358 2232, Tel: 01604 735500, **E-mail:** [study@northampton.ac.uk](mailto:study@northampton.ac.uk). Website [www.northampton.ac.uk](http://www.northampton.ac.uk). International course enquiries: Tel: 00 44 (0)1604 892017, **E-mail:** [international@northampton.ac.uk](mailto:international@northampton.ac.uk). Website [www.northampton.ac.uk/international](http://www.northampton.ac.uk/international). The main college for the tanning industry in the UK. All courses here are related to the production of leather and no craft courses are available. (*Leather Technology MSc*. The course aims to provide the opportunity to acquire and enhance technical skills related both to self learning and to research appropriate to postgraduate study. *Leather Technology MPhil*. The course is designed for a graduate in a physical science or similar discipline who has recently entered or wishes to enter the leather production or allied industries. *Leather Technology PhD*. The course is designed for a graduate in a physical science or similar discipline who has recently entered or wishes to enter the leather production or allied industries.) Find them at Website <http://www.nene.ac.uk/>

**North Warwickshire College:-** Hinckley Road, Nuneaton, Warwickshire CV11 6BH, UK. Tel: (024) 7624 3000. Fax: (024) 7632 9056. **E-mail:** [the.college@nwhc.ac.uk](mailto:the.college@nwhc.ac.uk). Courses were offered here relating to the making and machining of car seats and interiors. They also used the old City and Guilds 470 Qualifications. These courses may still be available. They also offer an Upholstery course (City and Guilds Diploma in Design 7923-18 Upholstery). Find them at Website <http://www.nwhc.ac.uk/>

**The Saddlery Training Centre:-** 14-17 The Malverns, Cherry Orchard Lane, Salisbury, Wilts SP2 7JG. Contact name: Mark or Dawn Romain. Tel: 01722 341144. Fax: 01722 349669. **E-mail:** [info@saddlerytraining.co.uk](mailto:info@saddlerytraining.co.uk). This new training facility now runs courses which were formally provided by the Countryside agency.



**Mark Romain: Director and Training Advisor of The Saddlery Training Centre**



**Richard Godden: Side-Saddle Specialist**



**John McDonald: Collar Course Consultant**

The New Entrants Training Scheme and Open courses are being delivered on behalf of the Countryside Agency, but a far more flexible approach can now be adopted for candidates outside of rural England and abroad. A full range of courses in Saddlery, Harness and Collar Making and Leatherworking are available. Mark is a highly skilled Saddler and Assessor. There are also two specialist consultants, Richard Godden and John McDonald who are experts in the areas of side-saddle and collar/harness making. Website <http://www.saddlerytraining.co.uk>

**Walsall College of Art:-** St Paul's Street, Walsall, West Midlands WS1 1XN, UK. Tel: 01922 657000. Fax: 01922 657083. **E-mail: [info@walsallcollege.ac.uk](mailto:info@walsallcollege.ac.uk)**. A small but excellent college, they ran Craft Courses under the old City and Guilds 470 Qualifications in both Saddlery and Leathergoods. They now offer the only Academic Craft Courses for Leathergoods with a qualification, as well as an advanced course in this field. For a list of Courses and Qualifications plus the Saddlery Courses, visit their much improved site. Find them at Website <http://www.walcat.ac.uk/>

**West Herts College:-** Hempstead Road, Watford, Hertfordshire WD17 3EZ. UK. Tel: +44 (0) 1923 812000. Fax: +44 (0) 1923 812556. **E-mail: [admissions@westherts.ac.uk](mailto:admissions@westherts.ac.uk)**. Bookbinding and Leather Courses. Message from the Principal

"Join us and you're joining a community where you are valued as a person and encouraged as a student. At West Herts College your future is our inspiration - it's your world and we want to help you make the most of it. We want to hear about your ambitions, your interests and your passions - then we can develop the new skills you need to succeed. We're here for you whatever your plans. It's your future. Let ambition and interests be your guide."

Visit their site for courses offered. Find them at Website <http://www.westherts.ac.uk/>



## Training, arbitration and problem solving

**Leather Wise Ltd:-** Moulton Park Business Centre, Redhouse Road, Moulton Park, Northampton NN3 6AQ, UK. Tel: +44 (0) 1604 497568. Fax: +44 (0) 1604 497569. **E-mail: [info@leatherwise.co.uk](mailto:info@leatherwise.co.uk)**. Amanda Michel, is the Director of Leather Wise Ltd and her aim is to help you. Leather is a beautiful, natural and unique material prized by many for its individuality. However, it is essential that you understand leather to maximise its full potential. This is where Leather Wise can help you improve your business. With over 30 years experience and knowledge of the leather industry, we provide professional scientific fault diagnosis, arbitration service and provide training in all aspects of leather and leather products. Our fault diagnosis and arbitration services can help you overcome production problems, settle disputes between suppliers and customers throughout the supply chain and provide a leather identification service.



Amanda Michel

Typical types of problems they can help with include: Arbitrating when a customer complains of colour coming off a sofa that you made. Solving why nasty stains are appearing on leather in your tannery. Identifying if a handbag is really genuine leather. Establishing why the jacket that you sold, tore in use. Our interactive leather training benefits anyone in the leather product supply chain by helping you understand the technical aspects of leather, how it is made, its fitness for purpose, its care and what all the leather jargon means. Our tailored training will help you avoid mistakes and maximise sales. See also [Here](#). Website: <http://www.leatherwise.co.uk/>

## Clog maker

**Mike Cahill:-** 47 Churchfield Lane, Glasshoughton, Castleford, West Yorkshire WF10 4DB, UK. Tel: +44 (0) 01977 513444, Mobile: 07806 477053. **E-mail: [mike@cahill.eclipse.co.uk](mailto:mike@cahill.eclipse.co.uk)**. Maker and repairer of traditional English clogs. He says: "As you might expect I am a one man band. Making clogs from scratch from selected local timber, and quality leather.



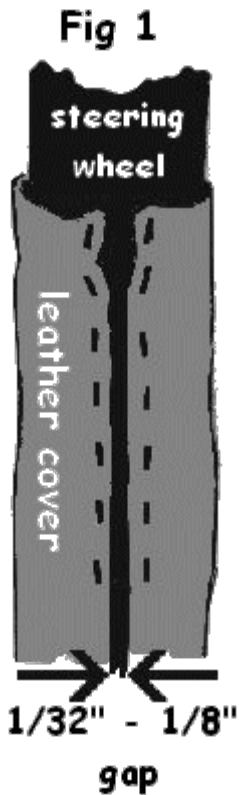
**Mike Cahill**

**I am as far as I know the only clogger providing a mobile re-soling and repair service for Morris teams, working out of the back of my car (sadly not a Morris Minor). As a North West Morris dancer with 30+ years experience, I know what sort of hammer clogs get, and can rectify most problems." Website:**

**<http://www.clogger.eu/>**

# How to make a steering wheel cover

Use a strip of the leather you are going to cover the wheel with to measure the thickness of the wheel rim. Then measure that piece of leather to determine the width of the leather that you cut out, to the length of the outside circumference of the wheel. The leather should wrap around the rim of the wheel, and the edges should have a gap of about  $\frac{1}{32}$ " to  $\frac{1}{8}$ " between them. If this is not the case, the leather cover will not fit properly (see Fig 1).



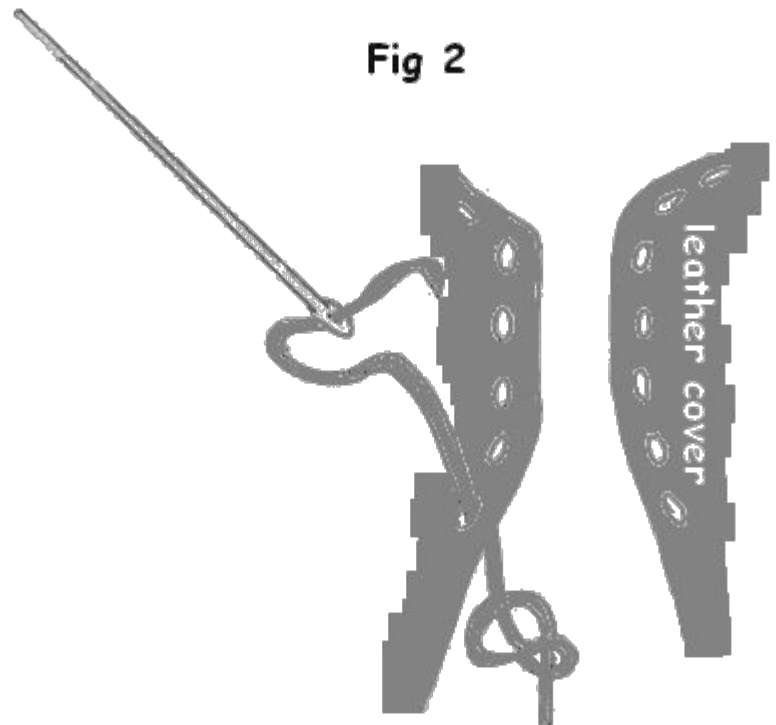
Place double-sided tape along the rim of the wheel to make sure there is no movement of the leather. Put the tape along the outside edge of the wheel and wrap the wheel cover over the wheel. Position the leather uniformly, wrapping it evenly along the inside edge of the rim.

Preparing to sew the cover around the wheel (Fig 2).

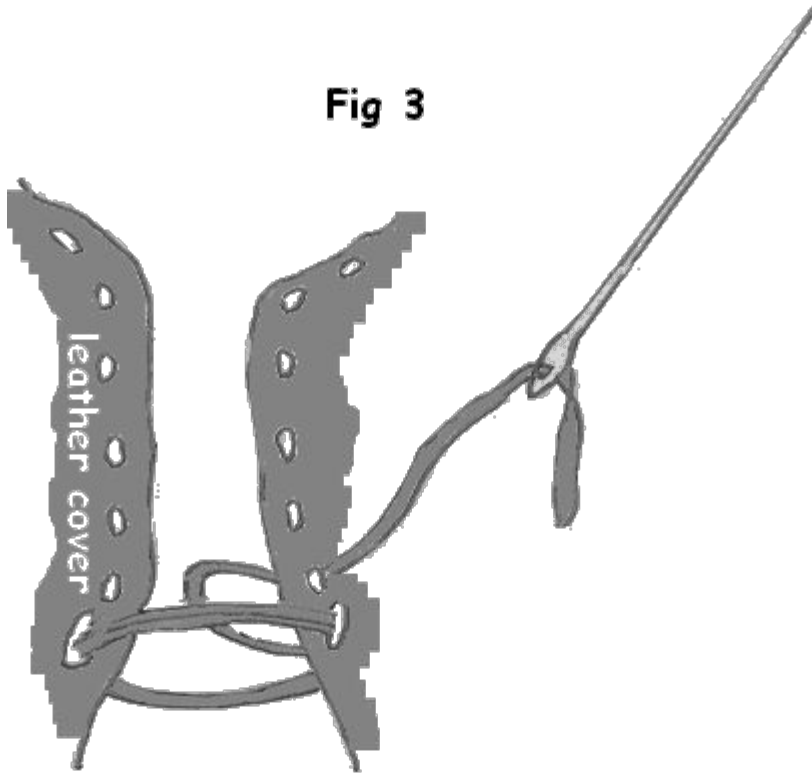
1. You'll need to measure the inside circumference of the wheel to determine how much thread to cut off the reel, bearing in mind it takes about 5ft to sew about 1ft around the rim.

2. Thread your needle and tie a knot in the end of the thread. Begin stitching, starting with a double loop as shown in Fig 3).

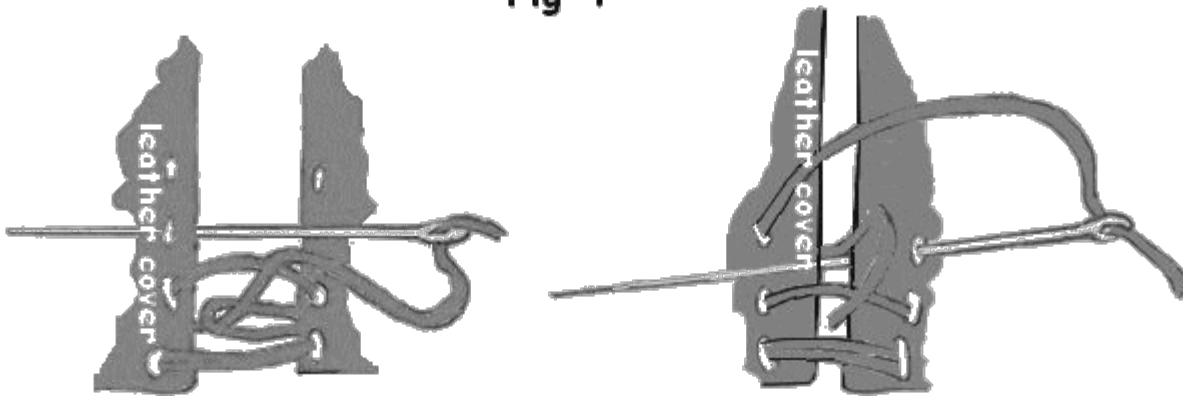
3. Start the herringbone stitch (Fig 4). The first stitch is slightly different. After you form the loop under the right side go over the left side, through the loop and pull tight.



**Fig 3**



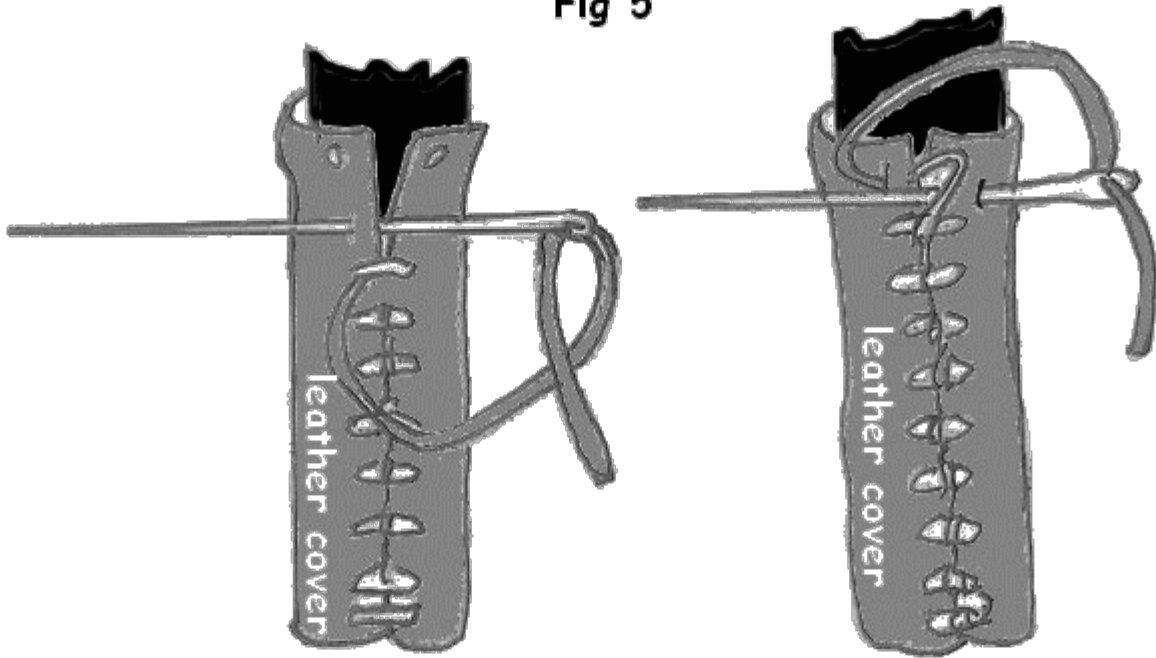
**Fig 4**



The second and remaining stitches are the same. Stitch under the left over the top through the hole on the right side, then through the loop. Pull tight. Note: the thread should always be between the last stitch and crossover thread as you come up through the loop. (Repeat... Under.... Over... Through the loop...Pull tight... Repeat.)

Pull the thread taut by pulling the thread back and forth to ensure the "edges" meet and cover the wheel completely. Note: You may need to case the leather if it is not stretching properly around the rim of the wheel. Wet only the area which requires stretching. This will allow the leather to stretch easily (Fig 5).

**Fig 5**

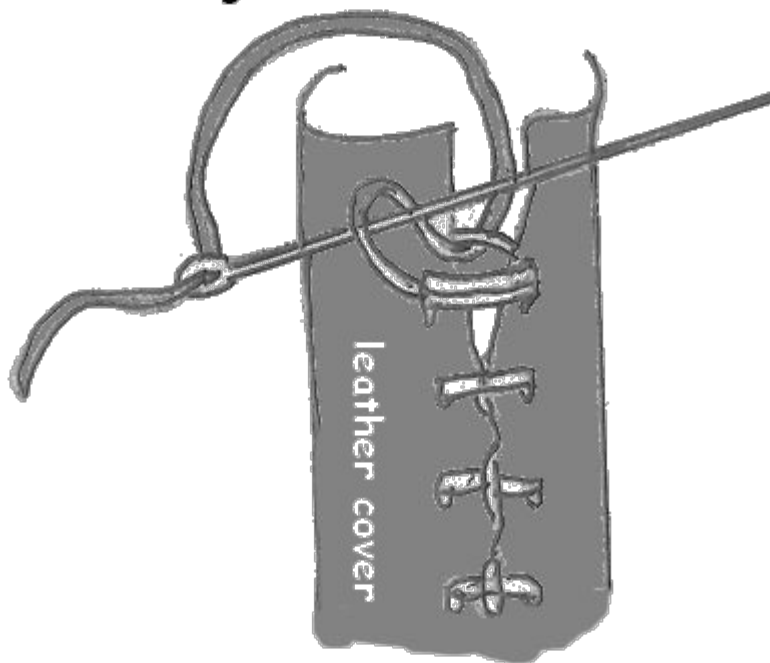


Repeat the herringbone stitch.

4. Use the same stitch around the spokes of the wheel. This will help pull the leather around the spoke. Tuck the thread under the leather around the spoke.

5. Repeat the herringbone stitch until about 18" of thread is left. Tie it off by using a double loop. Pick up one of the double loop strands of thread on the underside. Finish with a "loop" knot on the "inside" of the cover (Fig 6).

**Fig 6**



Repeat step 3 until the complete cover is sewn onto the wheel.

# Make your own guitar strap

## 1. Guitar Strap Pattern

This is but one of many different ways of making a guitar strap. Basically it's not much different than making a belt to hold up your trousers ([Here](#)). Cut out a strip for the main shoulder strap that is a 24" x 3" rectangle. Round off the ends of the shoulder strap with a semicircular cut. Cut the 1" by 1/4" slots (four on each end). Start 1" from the ends, and space them 1" apart. If you are using a circular leather punch, the slots are created by punching two holes, spaced an inch apart, then cutting out the material between them with a clicker knife, and can achieve the same effect using a rotary punch to create the holes. On the other hand you can save yourself time and effort by using a 1" oblong punch.



clicker knife



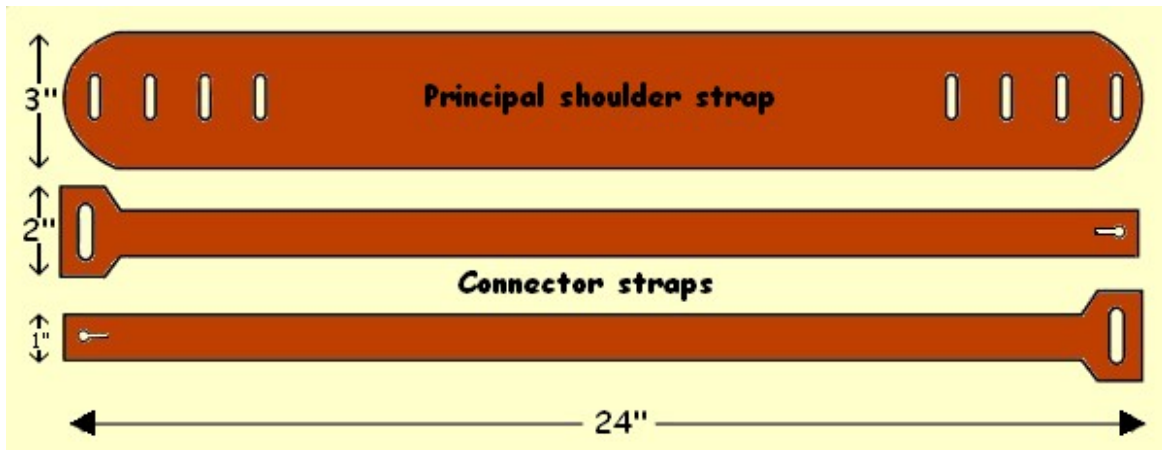
round punch



oblong punch

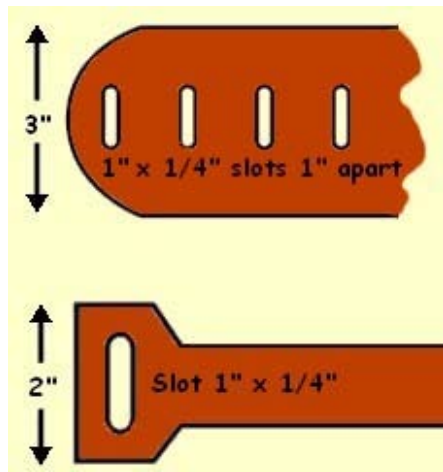


rotary punch



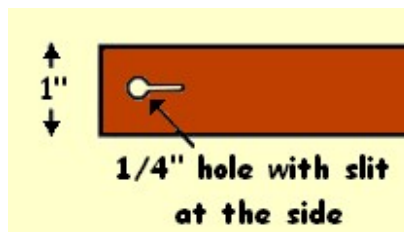
## 2. Slotted strap ends

Cut out two blanks for the connector straps 24" x 2" long. At one end of each strap, cut out a slot 1" by 1/4", precisely a 1/4" from the end. Make a diagonal cut from each edge toward the middle, starting 2" from the end and stopping 1/2" from the centre of the strap. Cut off 1/2" strips from both of the long edges of the strap, starting from the end opposite the slot, and stopping at the end of the diagonal cut.



### 3. Connector strap ends

At the ends of the connector straps that are opposite from the slotted ends, cut out or punch a  $\frac{1}{4}$ " circular hole,  $\frac{3}{8}$ " from the end. Add a thin cut from the inward side of the circle  $\frac{3}{8}$ " long. (This slot allows for the hole to slip over the guitar's strap button.)



### 4. Threading connector straps

Before doing anything else all the cut edges have to be bevelled and properly finished by burnishing them. Also, any carving or stamping has to be accomplished at this stage. After that the straps have to be dyed in whatever colour you've chosen. When all that has been done then you can proceed with the following.



edge beveller



edge beveller in use

Thread the connector strap through the slot nearest the end of the main shoulder strap. Repeat the process to attach the other connector strap at the opposite end of the main shoulder strap. (Adjustments to the strap length for the size of the guitar or the person playing it can be easily made by moving the connector straps inward or outward to loop through different pairs of slots.)



## 5. Attaching top connector straps

Thread the narrow end of one connector strap underneath the guitar strings above the nut of the guitar (the nut is the slotted piece at the top of the neck beneath the tuning pegs). Pull the connector strap through and pass behind the neck of the guitar, forming a loop around the neck long enough to reach completely around the neck. Cut a tie strip that is 12" long by  $\frac{3}{8}$ " wide from the extra material trimmed off the connector strips. Fold the tie strip in half, and thread the looped end through the circular hole at the end of the connector strap. Thread the loose ends through the loop of the tie strip. To fasten the connector strap, wind each of the loose ends around the connector strap and tie securely behind the strap. Cut to size.



Place the opposite connector straps circular button-hole over the strap button at the base of the guitar. Slip the strap over your shoulder and behind your back, and you're all set to start playing.



# KINGSMERE CRAFTS

HAND-CRAFTED LEATHER GOODS

## FAQ

(Frequently Asked Questions)

### *Leather*

A general term for hide or skin with its original fibrous structure more or less intact, tanned or treated to be non-putrescible. The hair or wool may or may not have been removed. Leather is also made from a hide or skin which has been split into layers or segmented before or after tanning, but if the tanned hide or skin is disintegrated mechanically and/or chemically into fibrous particles, small pieces or powders and then, with or without the combination of a binding agent, is made into sheets or forms, such sheets or forms are not leather. Leathers may have surface coatings of a reasonable amount, but beyond this the resulting products shall be described as a laminate or composite. However, the term laminated leather shall not be used if the leather content is less than two-thirds of the total thickness.

### *Are all leathers the same?*

Leathers are not all the same. Finished leather (that is, leather with surface pigments and lacquers) provides a great deal of protection from soiling, fastness to light and wear. Aniline leather, on the other hand, will mark very easily and will show all the natural marks and scars - hallmarks of the natural origins of the hide. This is considered to be a more aesthetic product but generally only suitable for high-end, light traffic environments.

### *What is the best leather for carving with?*

The only type of leather suitable for carving is vegetable tanned, full grain leather. This is because the vegetable tanning process allows the leather to absorb water, which is used to soften the leather before the carving process, and the grain of the leather is necessary to allow the leather to hold the shape after the carving process is complete. Other leathers lack these two essential qualities.

### *What is tooled leather?*

Tooled leather is leather which has been worked in some way to be decorative as well as functional. The designs on tooled leather range from the simple to the ornate, and they are part of the artistic tradition of many nations. Collectively, things which have been made from tooled leather are often known as leather crafts, in a reference to the craftsmanship which went into their construction. Numerous examples of leather crafts can be found for sale around the world, ranging from Italian boots to Western saddles.

### *What is Bridle Leather?*

Bridle leather is vegetable tanned cowhide that has been finished with fats, waxes and tallow. It gets its name from what it was originally created for - a bridle - the straps on a horse's head, to connect to the reins. It is very strong and long lasting.

### *Can the leather stamps be used for stamping metal such as copper or aluminium?*

Although we have several customers that do this, we do not recommend it. These stamps have a plating on them that is not meant to impact something as hard as metal. Even a soft metal will damage these stamps.

### *What is the best way to burnish leather edges, and how does it work ?*

The only part of a leather piece I normally burnish is the edge. First the corners are "rounded" using an edge beveller. Next I apply Gum Tragacanth and allow it to dry. Finally, I burnish it by rubbing briskly along the edge with an edge slicker and/or a folded up piece of denim.

### *What type of leather is lacing made of?*

Lacing is made of cowhide, kangaroo hide etc.

### *How is the embossing wheel used?*

It is put in an overstitch spacer and rolled across cased leather to make the imprint.

### *Can the leather stamping tools also be used to stamp a "soft" metal like sterling silver?*

Officially we have to take the stance of no, since use on metal voids any warrantee. I have known them used for thin soft metals, but be aware that use on any metal may chip the plating on the tool. Furthermore various metals of the same type may have differing amounts of tempering and this may also affect results.

### *What is leather carving?*

Leather carving is a form of leather working in which pieces of leather are cut with fine tools to make a pattern or design. It may be combined with other types of leather crafting such as stamping or burning for additional impact. Leather which has been carved is said to have been "tooled", because it has been shaped with the assistance of tools. Carved leather is used in belts, shoes, saddles and many other leather crafts, and it may also be used as a standalone piece of art.

### *What is figure carving?*

Figure carving is the carving of birds, animals, people, trees, and objects (as opposed to patterns). A lot of figure carving is done with backdrops such as landscapes. Figure carving takes more practice to become skillful, but is very rewarding. In general, figure carving also requires more stamping tools.

### *What is basketweave?*

Basketweave is a stamping technique for applying patterns that look woven. It is most commonly seen on belts, although it can be beautiful in many applications.

### *Can you suggest a good book to learn the basics of leather carving?*

Yes, the Leatherwork Manual covers all the basics.

### *How do I cut belts or straps perfectly?*

Use a Strap Cutter. These are adjustable for width, fairly inexpensive, and easy to use. The only hard part is cutting the first straight edge. To do this you need a long straight edge (such as a metal bar or ruler). Lay the leather on some board and cut along the straight edge with a sharp knife. It is helpful to have someone hold the straight edge while you cut it. Remember, the strap cutter follows this edge so if your first cut isn't straight, your straps won't be either.

### *What is stropping?*

Stropping is used to put a fine polished edge on cutting tools. All tools cut better when stropped. A simple inexpensive strop can be made by applying Jewellers Rouge to a scrap of leather. Rub a thin layer of rouge on the rough side of the leather. Hold the knife bevel flat to the leather and pull it across the leather. Repeat several times on both sides of the blade. When cutting, strop now and then. A properly stropped blade cuts smoothly and easily.

### *How do I know when my swivel knife needs sharpening?*

If your swivel knife is not cutting smoothly and appears to be tearing the leather then it probably needs sharpening. Unless abused, most swivel knife blades will rarely require sharpening. A good stropping should put a razor edge on the blade. If it cannot be stropped to a razor edge, or has nicks then sharpening is necessary.

### *How do I sharpen my swivel knife?*

You need a keen edge sharpener jig and a sharpening stone. The blade is removed from the knife and inserted in the jig. Next adjust the angle so the knife bevel lays flat to the stone. Roll the jig back and forth several times on the stone. Flip the blade and repeat for the other side. This may have to be done repeatedly for very dull blades. When you feel the blade is sharp, give it a good stropping.

### *Can I use a hammer in place of a mallet?*

No. A metal hammer will cause the plating on the tools to chip, eventually leading to a rusty, useless stamping tool. Always use a rawhide or poly mallet when stamping.

### *What is the best way to transfer patterns from books to the leather?*

Tracing film works best. It is waterproof and translucent so you can see where you are positioning it. Tape the film to the pattern. Trace the design with a pencil. Case the leather. Position the tracing film on the leather. Trace the design with a metal stylus. The design is ready for cutting. Save the pattern for future use.

### *Can I use paper to transfer patterns?*

Yes, but it is not recommended. Be careful that the paper doesn't get too soggy. If it tears you will have difficulty tracing accurately and since it is not transparent, you will have difficulty positioning a new copy over partially traced designs. Paper cannot be used more than once.

### *How can I get a professional looking edge on my belts?*

This is a multi-step process as follows: Use an edge beveller tool to reduce the angle of the edges. This is done on both front and back edges. Dye the belt and edges as desired. Optional, but recommended - apply Gum Tragacanth to the edge and allow to dry. Use an edge slicker to burnish the edge until nice and smooth. Apply any leather finish desired.

### *How is an edge beveller used?*

Our goal here is to transform 90 degree corners into 45 degree corners. This will make the burnishing later, easier. Position the leather to slightly overhang the edge of your bench, for example. Hold the cutting area of the beveller against the corner of the leather. It should be held so that it will cut the corner off at about a 45 degrees angle. The beveller is pushed along the edge. Try to cut the entire length of each side without raising the beveller for best results.

### *How is an edge slicker used?*

Position the edge to be burnished to slightly overhang the edge of your bench. My personal preference at this point is to dampen the edge. The groove in the edge slicker is positioned over the edge and rubbed briskly back and forth. The friction will smooth and round the edge as well as hardening it.

### *Does Gum Tragacanth really work?*

Yes. I find that edges with Gum Tragacanth applied, burnish better, much faster, and with a lot less effort. On the other hand you can rub in beeswax and achieve an equal result.

### *Must I use a marble slab when stamping?*

No - any sufficiently hard smooth surface will work. I prefer a marble slab on top of a pouno board since that combination seems to absorb the impacts well and minimizes noise and vibration. If you plan to do a lot of leather stamping, a marble slab and pouno board is a good investment.

### *What does casing mean?*

Basically casing is wetting the leather in preparation for carving. A sponge is used to wet the

surface of the leather. Well cased leather tools easily. The correct amount of moisture is somewhat difficult to describe, so you should practice with some scraps to get the hang of it. I generally wet both sides of the leather, then allow the flesh side (smooth side) to almost return to its original colour before tooling. On thin leather, apply water to the flesh side only.

### *How deep should my swivel knife cuts be?*

For most carving the cuts should be about halfway through the leather.

### *How do I hold the swivel knife?*

The correct way to hold a swivel knife is to grasp the barrel between thumb and middle finger. Place your index finger on top (in the U shaped piece). For additional stability place the fourth fingertip against the side of the blade.

### *How do I use a swivel knife?*

Although it sound complex, with a bit of practice you will be able to use a swivel knife without having to think about it. Practice on some scrap cased leather. Grasp the knife properly, tilt the top away from you and position the front blade corner where you want to start the cut. Apply downward pressure with your forefinger to control the depth of cut. Pull the blade towards you. Curves are followed by swivelling with the thumb and middle finger. Practice making straight cuts first, then S shapes, then C shapes, and finally complete circles with only two cuts.

### *How do I end a cut that does not meet another line?*

This is most common in floral carving. As you approach the end of the cut, gradually reduce the pressure with your forefinger to provide a smooth transition.

### *I am hoping to make jewellery. Are the 3D stamps something I can use to make 3D flowers to wear on a leather necklace?*

These stamps will provide a multi level imprint of a flower (or whatever type of stamp chosen) to make a medallion style necklace. They will not make a fully 3 dimensional sculpture type piece.

### *What is Bonded leather?*

Bonded leather is leather made by the grinding up of leather pieces, which is then mixed with a bonding agent and dyed to create a new very uniform leather.

### *What is man-made leather?*

Imitation leather made up from a composite of plastics, fabric and rubber. The finished product is made to look and feel like real leather, but for a fraction of the cost.

## *What is the difference between top grain and split leather?*

Top Grain is when only the hair and lower dermis have been removed. Split is the leather made from the lower dermis that has been separated from the top grain and given a finish similar to that of the top grain.

## *What is Latigo leather?*

Latigo is a type of tannage used in certain cowhide leather. It is generally quite soft and supple to the touch, and has a slight oily feel to it.

## *What is leather painting?*

As one of the several forms of leather craft, leather painting is the application of a colour or a series of colours to the surface of a section of treated leather. Leather painting allows for the creation of a number of designs and styles on tooled leather surfaces, adding interest to all sorts of items that you've made with the material.

Leather painting differs from leather dyeing, in as much that painting leather only involves applying colour to the surface of the material. Dyeing, on the other hand, involves immersing the leather so that the colour permeates it entirely. This also means that leather painting is not a good choice when the leather is used in the creation of items that bend or are subject to a lot of friction, such as wallets or belts.

Leather carving is a form of leather working in which pieces of leather are cut with fine tools to make a pattern or design. It may be combined with other types of leather crafting such as stamping or pyrography for additional impact. Leather which has been carved is said to have been "tooled", because it has been shaped with the assistance of tools. Carved leather is used for belts, shoes, saddles, and many other leather crafts, and it may on occasion, be seen as a standalone piece of art.

## *Some do's and don'ts for leather*

Roll leather up with the grain side on the inside – the other way round will cause the grain side to stretch, and when you straighten the leather it will probably wrinkle.

Rolls of leather can easily be stored in lengths of PVC pipe having a diameter of eight or more inches.

When you start wetting the leather for tracing, and swivel knife cuts, and tooling, make sure to always wet the full surface of the leather – if you do not, the water will rinse chemicals to the edge of the wet part and when dry, those edges will be seen as stains. These can only be treated with excessive washing with lots of water.

When you spill coffee, tea or a soft drink on an article, immediately take it to a basin and empty the rest of whatever was spilt over the project to cover it completely (consequently staining it completely and seamlessly) and after that rinse it off well under running water.