

MAKING A SADDLE



Making a Saddle



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1 Foreword

The horse population of Britain is increasing year by year, but there is no corresponding increase in the number of saddlers. Any manual of instruction is of value to the saddlery trade, especially in the small businesses where, to a large extent they have to rely upon their own resources.

I believe that this book will be of great assistance in teaching and instructing young people coming into the trade. It will provide a broad basic knowledge of the craft of saddle making capable of adaptation to a firm's individual requirements.

J. E. CHANDLER

Past President, Society of Master Saddlers

2 Preface

This book is particularly addressed to the apprentice or learner, new to the craft of saddle-making. It sets out to show in simple language and photographic illustration, methods employed in making a saddle – methods which apart from the use of some synthetic materials have remained unchanged for generations.

In publishing this book the Council for Small Industries in Rural Areas aims to provide a modern text book which will be of use in teaching the techniques of saddle making to craftsmen, and particularly to those young men who are receiving instruction in country workshops. P. B. Kingdom and M. J. Donovan wrote the text which was edited by W. G. Trust. The photography was supervised by D. O. Brockway, and the book production by G. F. Carter.

The saddler understands well the needs of horse and rider and he will build a saddle to individual specification. Due in part, no doubt, to this good relationship with the customer, and the resultant exchange of knowledge, the shape of the modern saddle, now much deeper in the seat, has evolved.

The racing saddle does not fall within the scope of this book which does, however, cover most other needs; hunting, showing and jumping saddles being readily achieved by modification to the skirt and flap, and sometimes the tree.

Much of the beauty of any hand craft lies in its humanistic quality – saddlery is no exception to this and the product always an individual one, is seldom, if ever, exactly repeated.

3 Materials

Saddle tree

Saddle linen. Fine grained, unbleached

Straining web 1 in and 2½ in wide

White serge (saddle serge)

Blue tacks (½ in, ¾ in, ⅝ in and ¾ in)

Saddle flap butt, pig grained

Pigskin, for seat, pullers and facings

Panel hide (cow) or basil

Lining hide (cow)

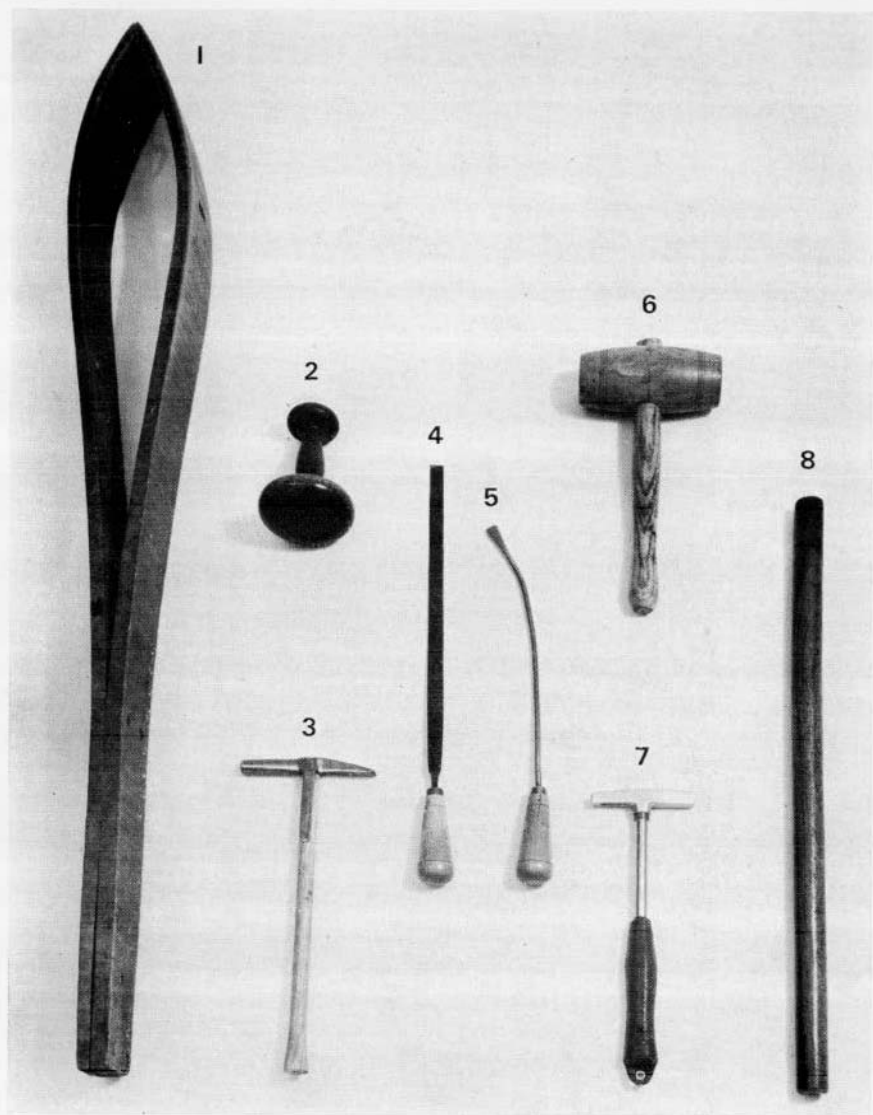
Saddle nails (chrome) and staples

Various threads

Chrome leather 3 to 4mm for girth straps

Bridle leather for forepiece and welt

Grey saddle wool for stuffing seat and panel



4 Tools

1. **Clam**

Required for holding the work when the welt is stitched to the skirt and the skirt to seat as in Fig 22. Also when stitching the surcingle loops on to the flaps and making the forepiece.

2. **Masher**

The masher is used as a smoothing tool on the panel and may also be used in shaping (blocking) the pigskin seat.

3. **Tack Hammer**

This is used in the early stages when fitting the webbing, and finally when hammering tacks 'home'.

4. **Stuffing Stick**

Used in conjunction with the belly stuffer to disperse saddle wool to the extremities of the seat and panel.

5. **Belly Stuffer**

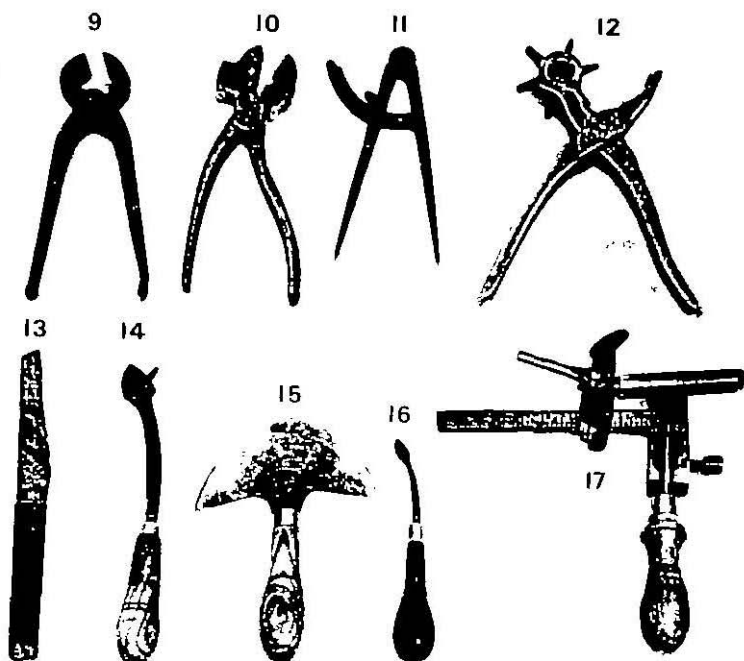
This is a rigid stuffing tool used to feed wool into small spaces such as the knee roll and thigh pad.

6. **Mallet**

Required for 'Crew' punching the surcingle loop holes and oval holes on the girth strap.

7. **Magnetic Hammer**

A very useful tool for tacking with one hand, leaving the other free to hold the work steady in the required position.



8. Rolling Stick

Used for flattening and smoothing the stuffed seat prior to the use of the masher and fitting the pigskin.

9. Pincers

Mainly for the removal of tacks that cannot be removed with a claw.

10. Saddler Pliers

Essential for straining webbing and pigskin. The block on the left hand side, acts as a fulcrum as the material is strained over the edge.

11. Dividers

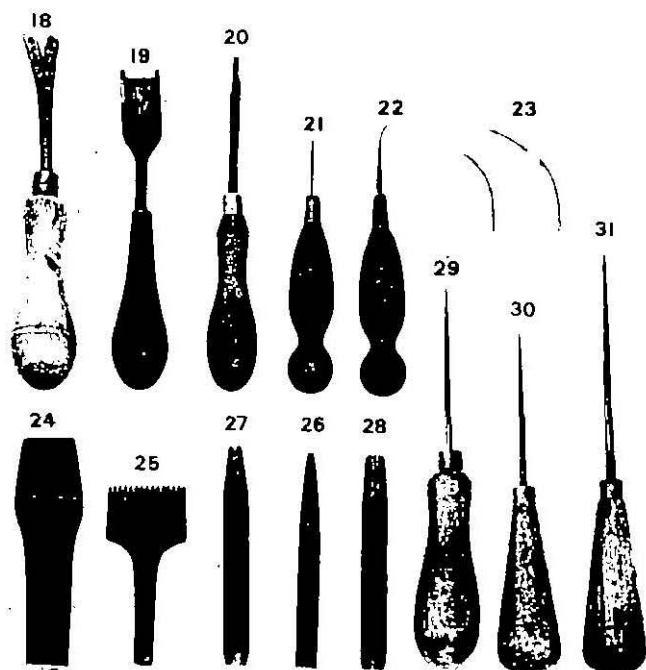
These are used to position the skirts on the seat and also to mark the divisions for punching holes in the girth straps.

12. Revolving Punches

For hand-punching holes from $\frac{3}{32}$ in – $\frac{7}{32}$ in.

13. Straight Knife

For cutting and trimming in confined spaces where a round knife is too large.



14. Screw Creaser

Creasing the forepiece, point pockets and sweat flaps.

15. Round Knife

Used extensively for shaping flaps, skirts, panel and seat. It is often used instead of a skirt shave.

16. Single Creaser

Marking skirt shape on the seat prior to cutting girth points.

17. Plough Gauge

For cutting girth straps.

18. Claw

Used for removing tacks.

19. Skirt Shave

Used to shave the edge of a skirt as an alternative to using a Round Knife.

20. Edge Tool

For removing the 'sharp' edge from flaps, skirts, girth straps, forepiece, etc.

21. Awl

Awls of various sizes are required in stitching saddle seats, girth straps, panel and facings.

22. Curved Awl

This awl is used to make holes for 'blind' stitches on the inside edge at the top of the skirt. Also a useful tool for 'lacing in' the panel.

23. Curved Needles

Used in conjunction with the curved awl for stitching pullers and panels.

24. Crew Punch

The tool required to make the hole in the flap for the sur-circle loop.

25. Pricking Irons

These vary in size and are used to mark the flap, forepiece, girth straps etc. for stitching.

26. Oval Punch

For punching holes in the girth strap.

27/28. Riveting Punch

This tool is required when riveting flexible points to the tree.

29/30/31. Seating Awls

For regulating flock in the serged seat and panel.

5 The Saddle Tree

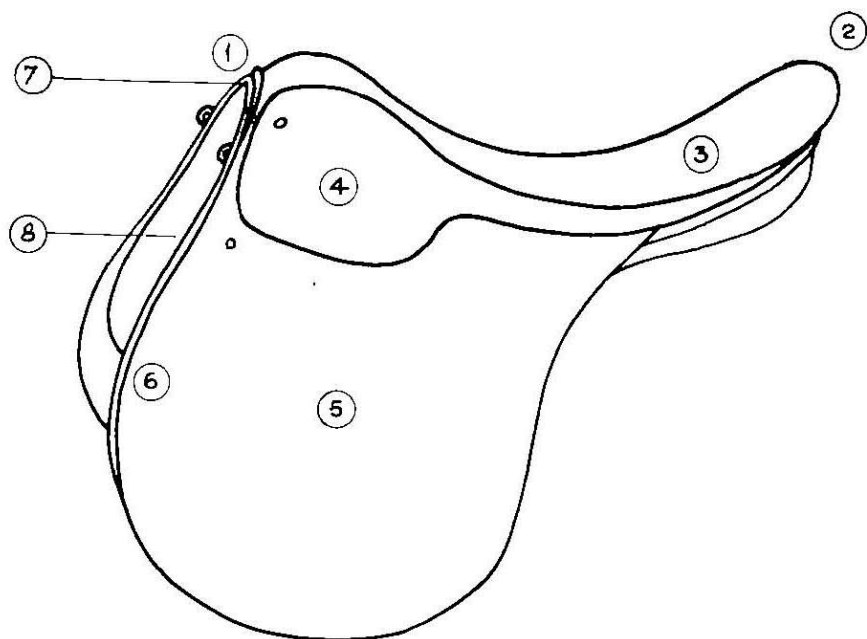


The modern saddle tree is made of roughly shaped laminates of beech which are glued together and set in a hot press. It is then hand finished and covered with fine muslin and sprayed with glue to impart strength and resistance to chipping and splitting.

Reinforcing strips are riveted to the lower cantle and waist to strengthen these areas of the tree. Gullet plates, head plates and stirrup bars are fitted by the same method.

A jig is used to ensure the correct location of these attachments.

There are many trees in current use that are made of a plastic material. Some of these have a plastic foam seat moulded into position, thereby dispensing with many of the operations described in the early chapters.



- 1 HEAD**
- 2 CANTLE**
- 3 SEAT**
- 4 SKIRT**
- 5 FLAP**
- 6 KNEE ROLL**
- 7 FOREPIECE**
- 8 PANEL**

6 Sequence of operations

THE SADDLE

Preparing the tree

- Selection
- Marking out
- Cleaning up

Webbing the tree

- Straining
- Webbing

Fixing the linen

- Cutting
- Tensioning

Making the bellies

- Cutting
- Fitting

Trimming the webs

- Making up
- Positioning

Serging the seat

- Covering
- Flocking
- Shaping

Checking flap pattern

- Marking out

Blocking the seat

- Dampening
- Straining

Making the skirts

- Cutting
- Shaving
- Welting

Fixing the welt

- Cutting
- Stitching

Fitting the skirts

- Aligning

Fixing the pullers

- Shaping
- Stitching

Preparing the flaps

- Cutting
- Blocking
- Finishing

Seaming seat to skirt

Cutting
Shaping
Stitching

Drawing on the seat

Tensioning
Tacking
Trimming

Fixing the seat

Positioning
Tacking

Fixing the saddle nails

Positioning
Clenching

Fitting the flaps

Positioning
Fitting
Tacking

Making the forepiece

Cutting
Shaping
Finishing

THE PANEL**Obtaining the shape**

Marking
Forming
Cutting

Making the lining

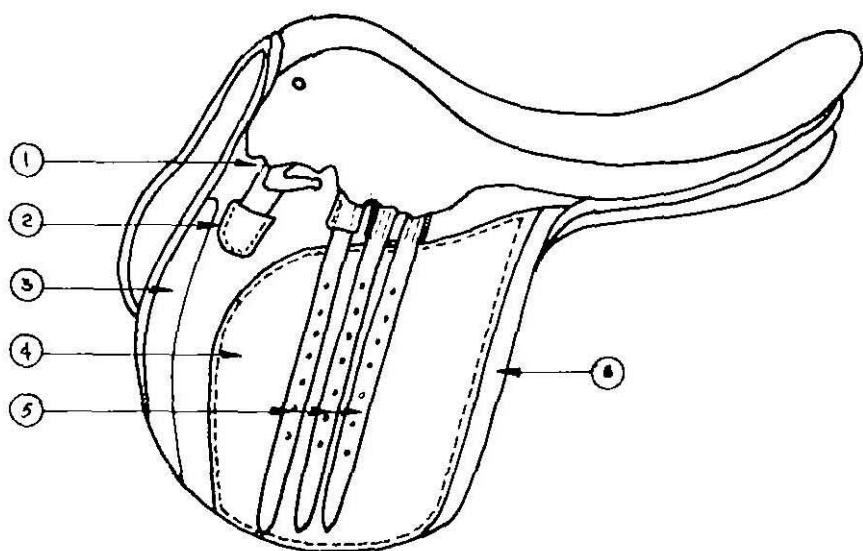
Shaping
Cutting
Joining

Finishing

Stuffing
Closing

Fitting panel to saddle

Lining up
Lacing in
Turning in



- 1 STIRRUP BAR**
- 2 POINT POCKET**
- 3 KNEE ROLL**
- 4 SWEAT FLAP**
- 5 GIRTH STRAPS**
- 6 THIGH PAD**



Fig 1

7 Making a Saddle – techniques

This book describes the method of making a saddle to the following specification: 17in straight head rigid tree, leather lined, continental panel with knee rolls.

To help the student to keep the flaps and skirts symmetrical, it is recommended that he imagines a line running centrally from the cantle to the head.

It is essential to cover the bench with a cloth during and after fitting the seat, to protect it from abrasion.

Preparing the tree

Select a tree that is not warped or twisted, and remove any sharp edges from the wood and metal.

To find the exact centre of the tree at the head (Fig 1), place a seat awl roughly in position, and with a length of thread looped around the blade, check each side of the tree to the point to ensure that the measurements are the same. The seat awl can be moved to the left or right until the centre has been found. Make a mark with an awl at this point on the underside of the head for future reference.

Clean the edges of the square points if necessary and carefully prise the metal away from the underside to facilitate fixing the flexible leather points. The flexible points are made from 4 pieces of 3mm leather cut 'D' shape, and either

stitched or tacked together leaving the straight side open for fixing (Fig 4). Use copper rivets and tacks to fix them to the tree, and trim off surplus material. (The fitting of these points may be left until the serging of the seat has been completed).

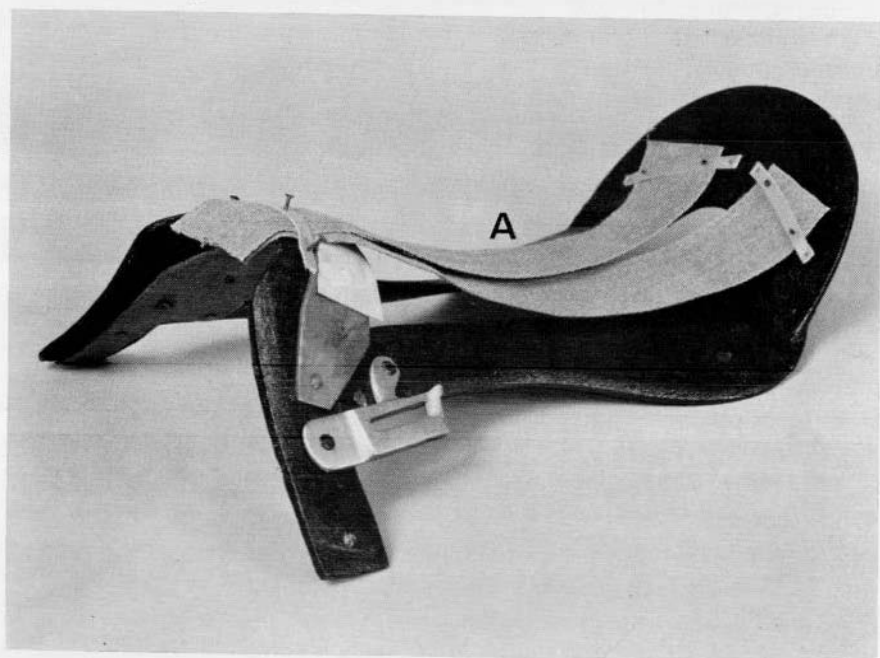
Webbing the tree

Cut two pieces of 2½in webbing ready *strained, sufficient to overhang both the head and cantle by 2in. Cut three pieces of thin leather about ¾in wide, 4in long. †Tack-hold one across the arch of the head and the other two as in Fig 2 on the cantle. The latter should be slightly higher and parallel with the rivets of the tree. Pass both webs under the strip at the cantle and tack-hold in position (Fig 2). The other ends pass under the strip at the head, separate slightly and tack-hold in position. Place a 7lb weight at the lowest point of the slack (Fig 2a) and check to ensure that the webs are clear of the tree.

*See notes under 'Straining the Web', page 61

†'Tack-hold'. Hammer tacks only half way in, it may later be necessary to remove them to re-adjust the webbing.

Fig 2



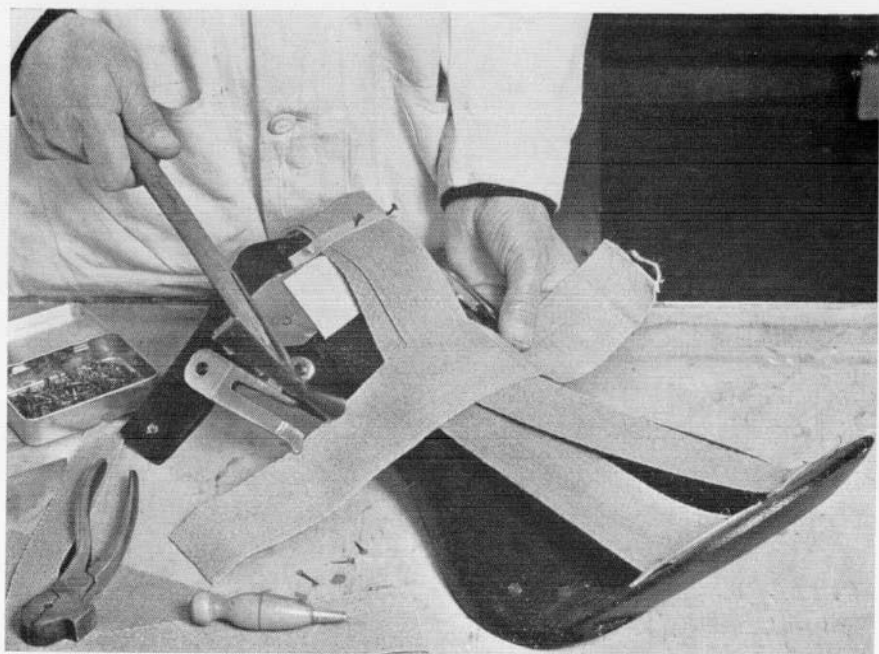
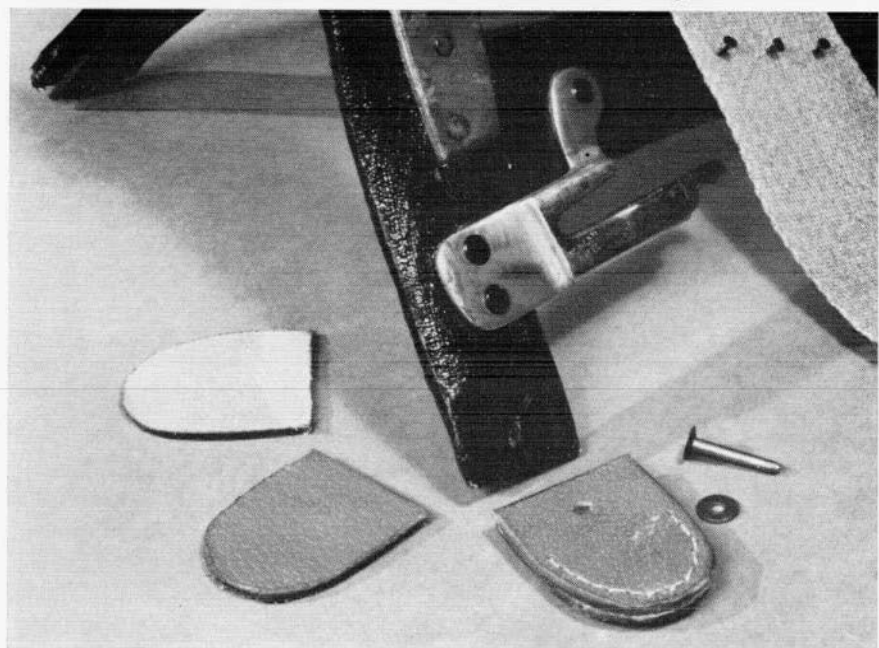


Fig 3

Fig 4



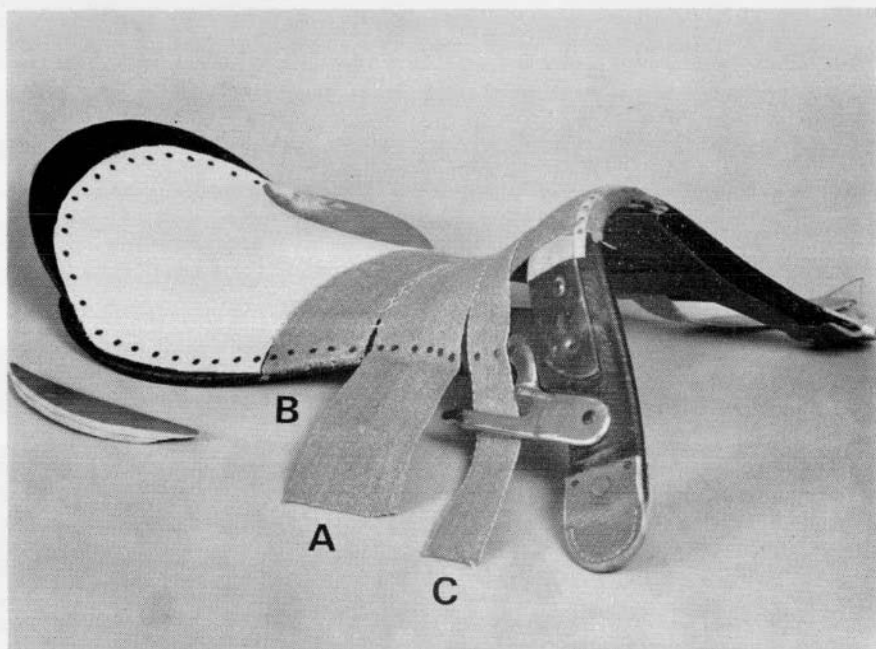


Fig 5

The 'cross webs' are now fitted, these are illustrated in Fig 5 as 'a', 'b' and 'c'. Web 'a' — take a piece of $2\frac{1}{2}$ in webbing of sufficient length to overhang each side of the tree by $4\frac{1}{2}$ in and tack-hold in position (Fig 3). Web 'b' — place web 'b' of the same material behind 'a', tack-hold and trim it so that the edge is flush with the waist of the tree. Web 'c' — which is of $1\frac{1}{4}$ in wide material and, like 'a', overhangs by $4\frac{1}{2}$ in each side, is now tacked in position in front of 'a'. Overstitch webs 'c' and 'a' together through the main webs beneath. Herringbone stitch webs 'b' and 'a' together, but *not* through the main webs, this is to allow some free movement. The girth straps are attached to 'a' and 'c'. All of the cross webs can now be strained, and as necessary, the tacks removed and repositioned. Additional tacks are placed at the head and when the straining is completed, hammered home. Trim off the surplus material at the cantle, and glue the webs at the head together, temporarily tacking under the head until glue has set. (This surplus material is removed later). (Fig 6).

Fixing the linen

Cut a piece of saddle linen about 12in square and place it

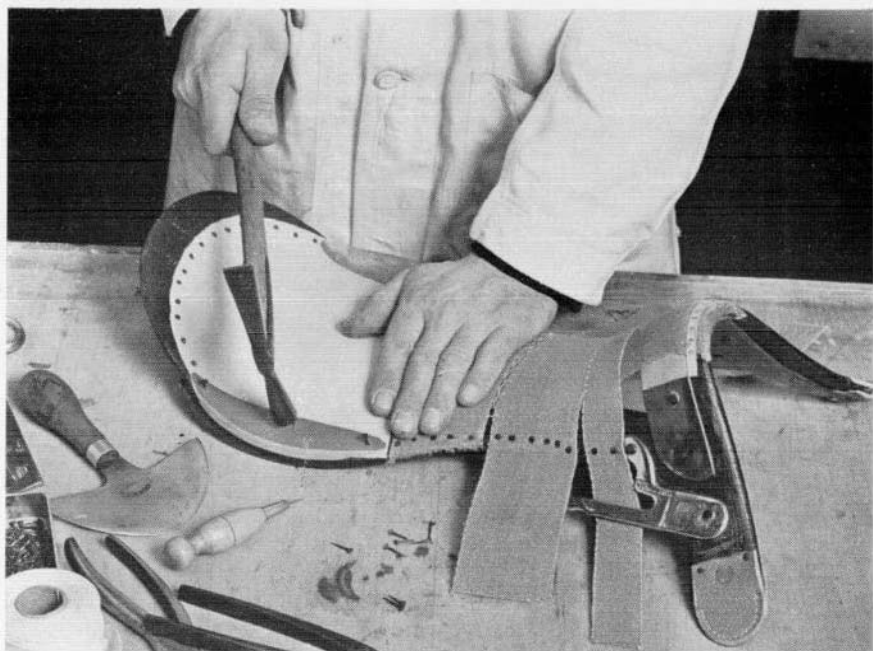


Fig 6

over the cross webs. Make a folded edge $\frac{1}{2}$ in wide and align it with the back edge of web 'b' and overstretch these together. Fold the linen back over the seat and strain until the stitches can be seen from above (Fig 7). Tack-hold at the cantle and at each side of the seat at the widest part. The linen should now be strained over the whole seat area with the saddler's pliers and tack-held, first one side and then the other, in order to distribute the strain evenly. The tacks holding the linen should be approximately $\frac{5}{8}$ in from the edge of the tree and $\frac{5}{8}$ in apart. Those at the cantle will be slightly higher than the tacks holding the webs. All of the tacks are then hammered home and any surplus material trimmed off (see Fig 5 and Fig 7).

Making and Fitting the bellies

Make two bellies by cutting two pieces of 3mm leather about $1\frac{1}{2}$ in wide, and 6in long. Place under the tree seat and mark the outline and cut to 'D' shape. 'Skirt shave' the straight edge. Make two more pieces the same shape but only 3in long, and shave the edge in the same way. Take one of each and tack the outside edges together to form a wedge (Fig 5). Tack

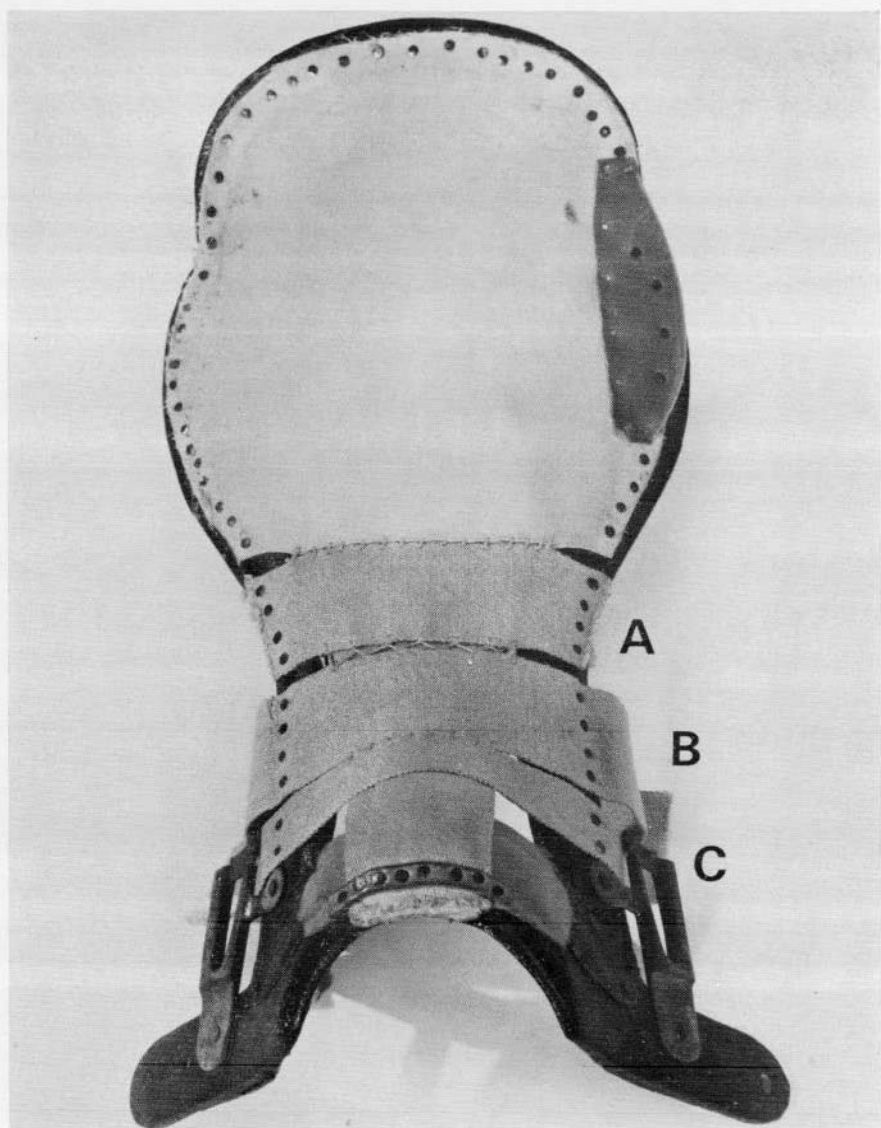


Fig 7

into position on the tree, parallel with the curve and $\frac{1}{2}$ in from the edge (Fig 6). When complete, this forms a shoulder against which the inside seams of the skirt and seat will fit, giving the edge a good shape.

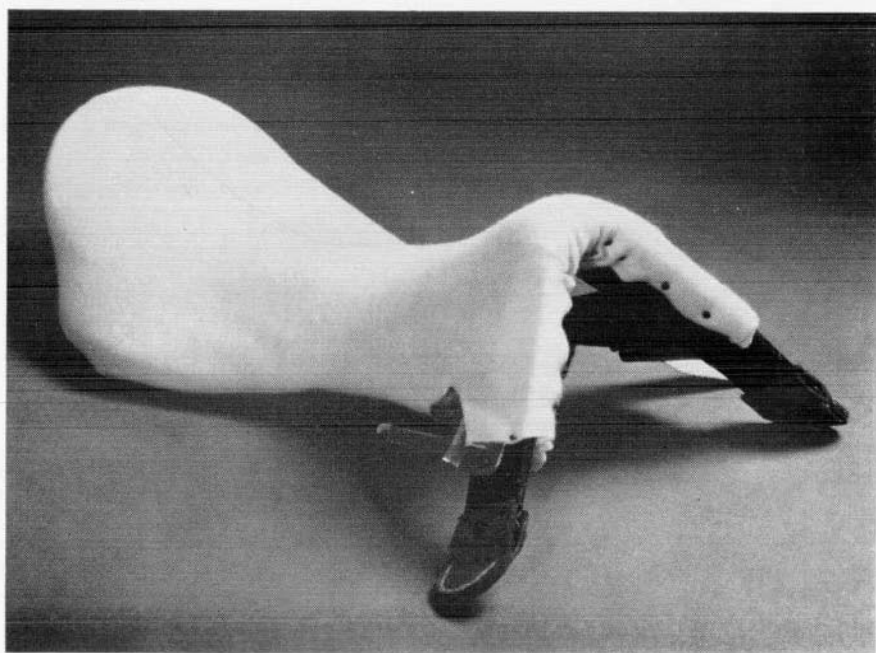
Trimming the webs

When the paste has dried on the webs at the head, the holding tacks are removed. The surplus web is cut off and the hard edge filed to make it smooth. (Fig 7).

Serging the seat

The seat is now ready to be covered with serge and stuffed. This will make the 'cushion' of the saddle. Cut a piece of serge about 14in by 22in and, placing it centrally over the whole saddle, tack under the head. Lightly flock the head and seat, distributing it evenly towards the cantle, and tack-hold the serge over the back of the cantle about 1 in below the edge, as seen in Fig 11. Starting at the cantle and working alternatively left and right, strain the serge over the head and the seat and tack-hold. Roll the surplus serge at the head under the tree and tack-hold (Fig 8). Now cross stitch the serge to the web in the centre of the seat below the cantle, to hold the stuffing in position, as seen in Fig. 10a. The tacks holding the serge underneath the tree are now hammered home. The shape of the skirt is marked on the serge in the appropriate position,

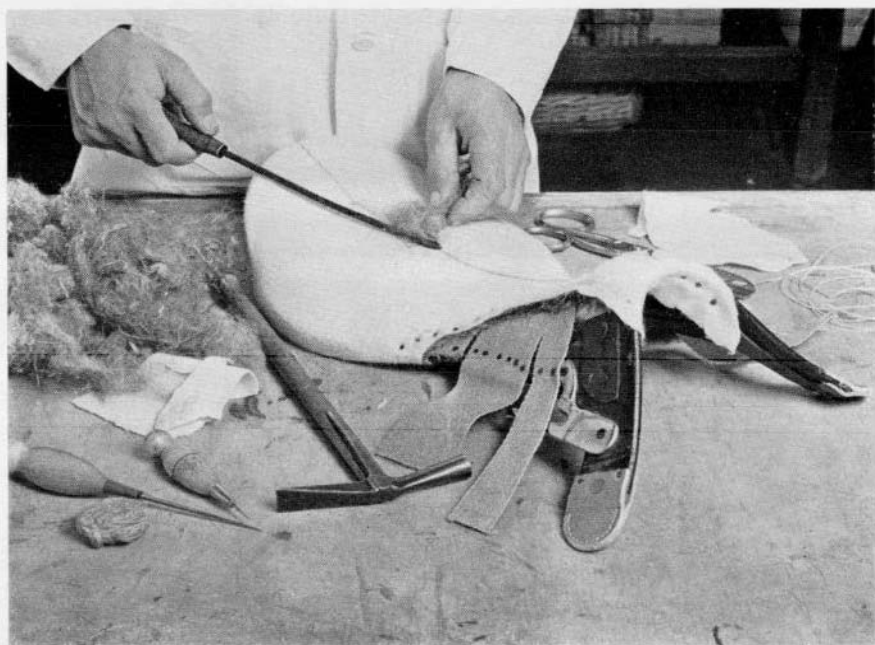
Fig 8



giving a line for the stitching and tacking (Fig 10*b*). A tack hole should be made in both sides of the tree using the skirt pattern to locate them in the correct position. These tacks are left in position (Fig 10*c*). It will be necessary to put a row of tacks on the waist slightly below the line described by the skirt and continue this line with a row of stitches up to the head (Fig 10). Trim off the surplus material around the cantle and hammer tacks home. The serge around the skirt area may now be either trimmed off, as in Fig 9, or left intact.

Take a piece of beeswax and rub it over an area of about 2 square inches at the centre of the seat just below the cross stitching and make a cut 2in long (Fig 9). To position the flock so that it is evenly distributed in the seat, place the saddle on the bench as in Fig 11 and with a seat awl pierce through the serge, about an inch deep and work the flock along the edge of the cantle and the widest part of the seat and up towards the waist and head. This operation, which is known as regulating, moves the flock from the centre to the edges of the seat. Small quantities of flock are added through the centre opening with a stuffing stick (see Fig 9).

Fig 9



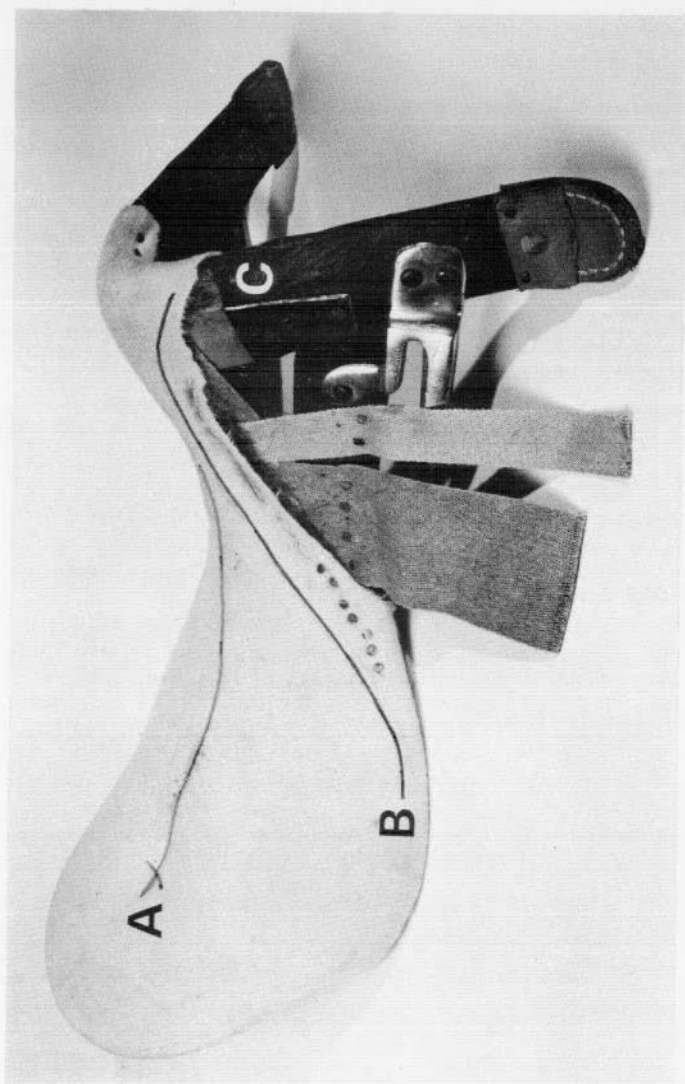


Fig 10

The saddle is now checked to ensure that there are no lumps or indentations. This is done by regulating with the seat awl in one hand and, using the tips of the fingers of the other hand, ensure that it is quite level and smooth. This operation must be carried out very carefully as it determines the shape of the finished seat (Fig 10). When this has been completed to the satisfaction of the saddler, the opening in the serge is

closed by overstitching. Any surplus serge being trimmed off. A rolling stick is now used to complete levelling (Fig 11).

Serging the seat – alternative method

Take a piece of 'closed cell' rubber sheet $\frac{3}{8}$ " thick, and cut it to the shape of the seat as illustrated in Fig 11. Mark a central line along its length to facilitate correct positioning.

Glue into position, making sure the 'neck' is properly aligned, and trim edges of seat and cantle so that they are level with the tree. The top edge of the rubber may also be cut to leave a bevelled edge that presents a good shape after the serge has been fitted.

Tack the serge on to the tree, fit and trim in the manner described in the previous chapter.

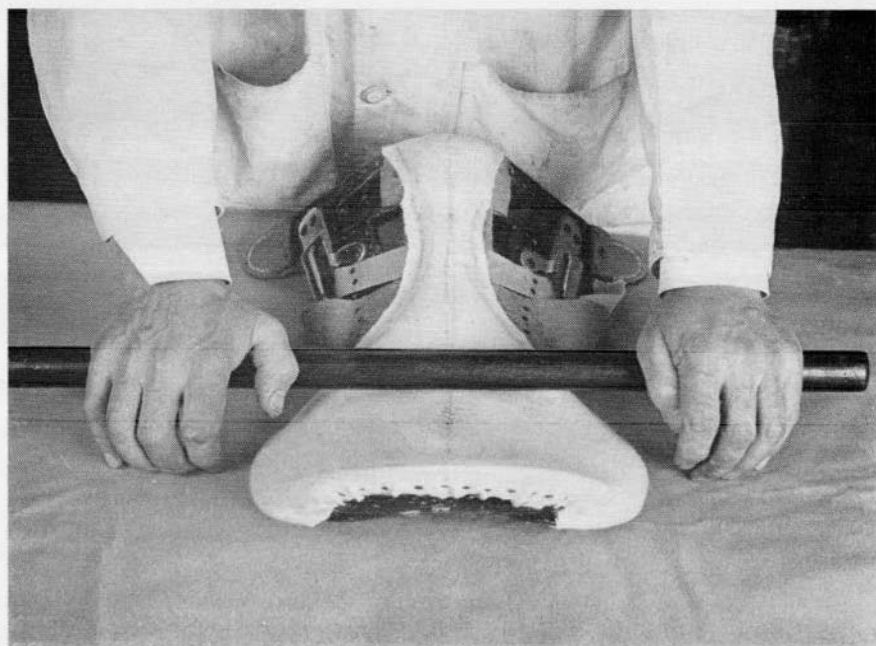
Checking the flap pattern

Take the pattern for the flap and offer it up to the saddle, correcting it as necessary. Put aside until required.

Blocking the seat

Cut a piece of pigskin roughly to shape, allowing sufficient to wrap over the head and cantle. Soak the skin in water. Shake

Fig 11



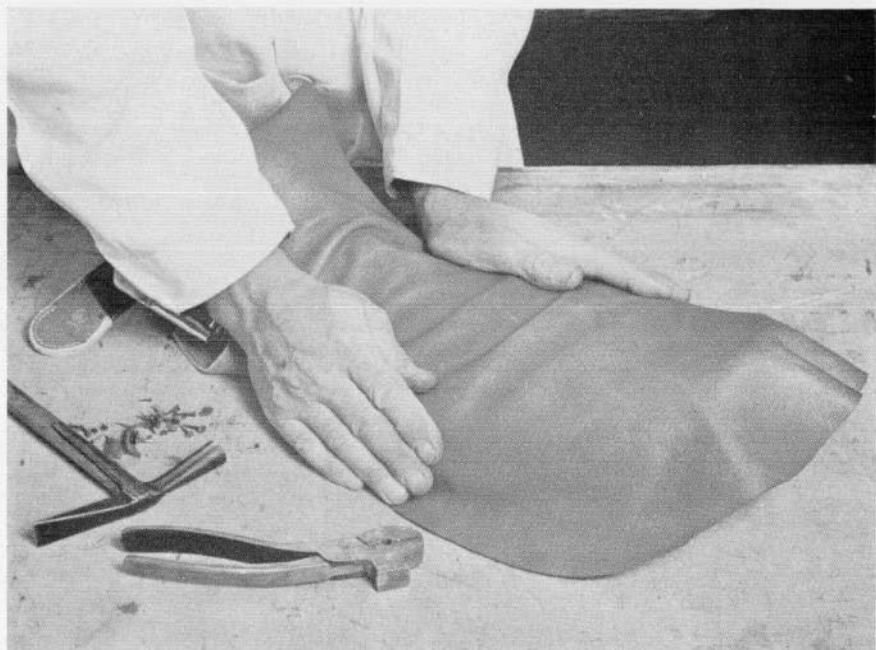
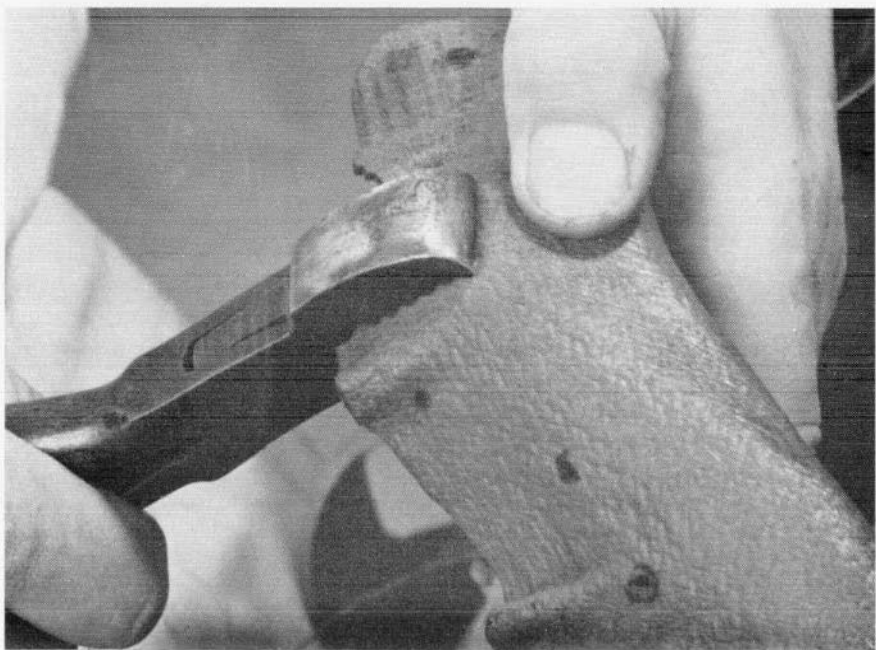


Fig 12

Fig 13



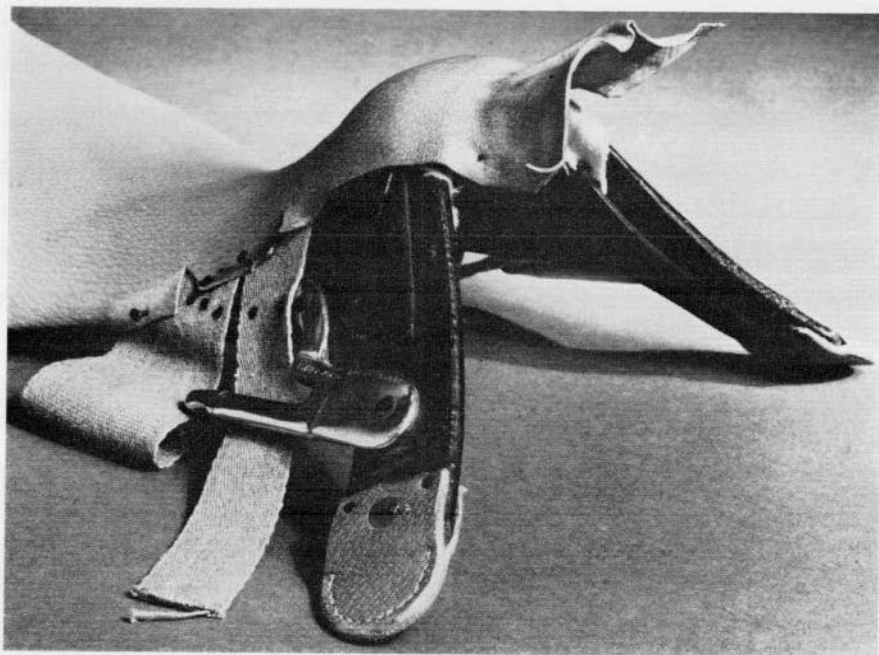


Fig 14

off the surplus moisture and place it over the saddle. Wrap the front round the centre of the head and tack-hold beneath (Fig 13). In the same way wrap the back over the cantle and tack-hold. The seat is stretched over the tree in the same way as the linen and serge, working from the cantle to the waist alternatively, one side and then the other. Carefully hold the pigskin with the saddler's pliers in one hand, using the other hand to smooth away creases and to take some of the strain (Fig 13). The seat is tacked to the underside of the tree, the tacks being $1\frac{1}{2}$ in apart and about $\frac{5}{8}$ in from the edge on the wide part of the tree and close up to the metal reinforcing bar at the cantle. Where the seat covers the tree above the stirrup bars, some tacking may be necessary to hold it until dry. Before straining the seat over the head cut a nick or two in the leather above the stirrup bar (Fig 15a), strain and tack underneath the gullett, near the metal arch (Fig 15b). Ensure that the skin covering the head is well wrapped around for most of the radius of the head (Figs 14 and 15). Where the seat covers the cantle gather the surplus material together so that the many small folds become two or three large ones, tack-hold until

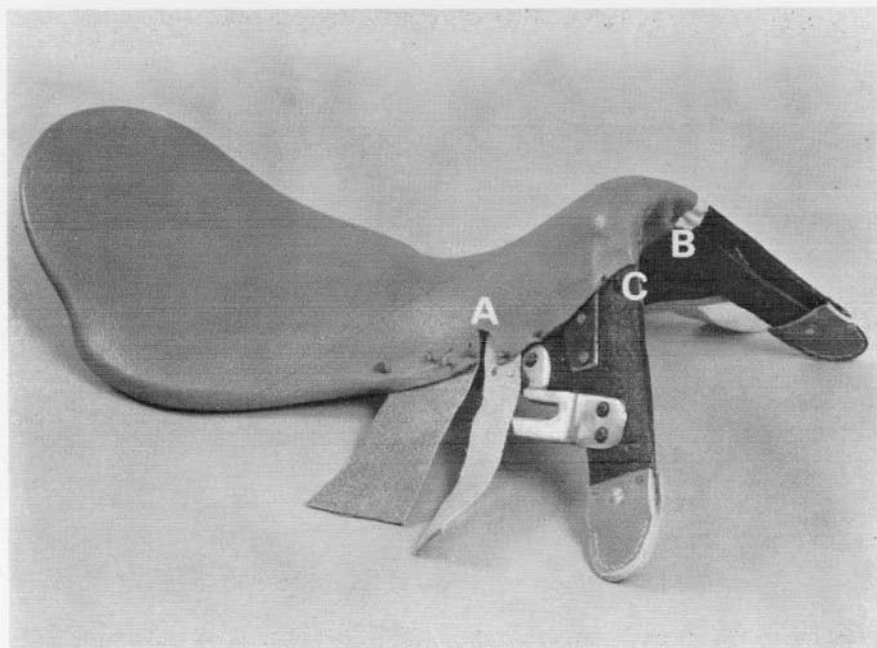
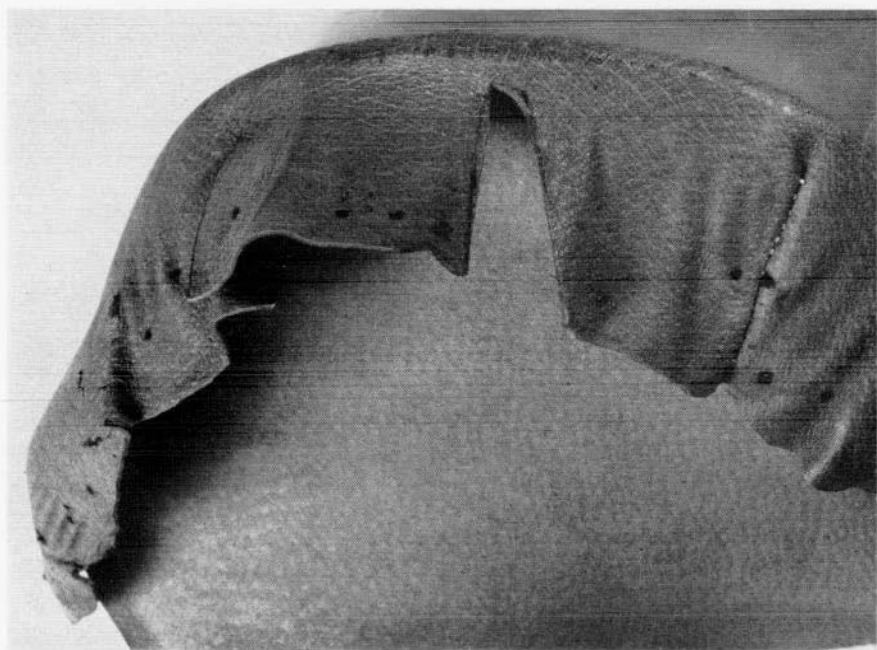


Fig 15

Fig 16



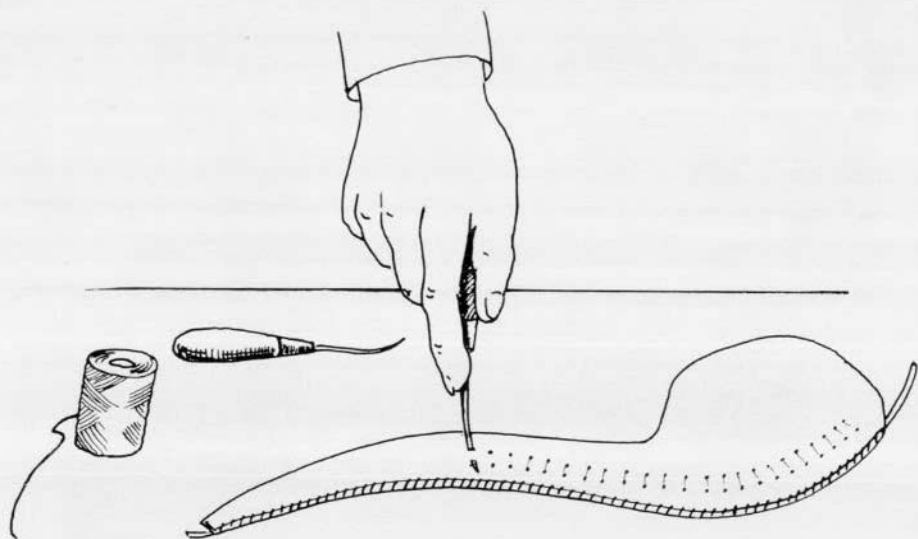
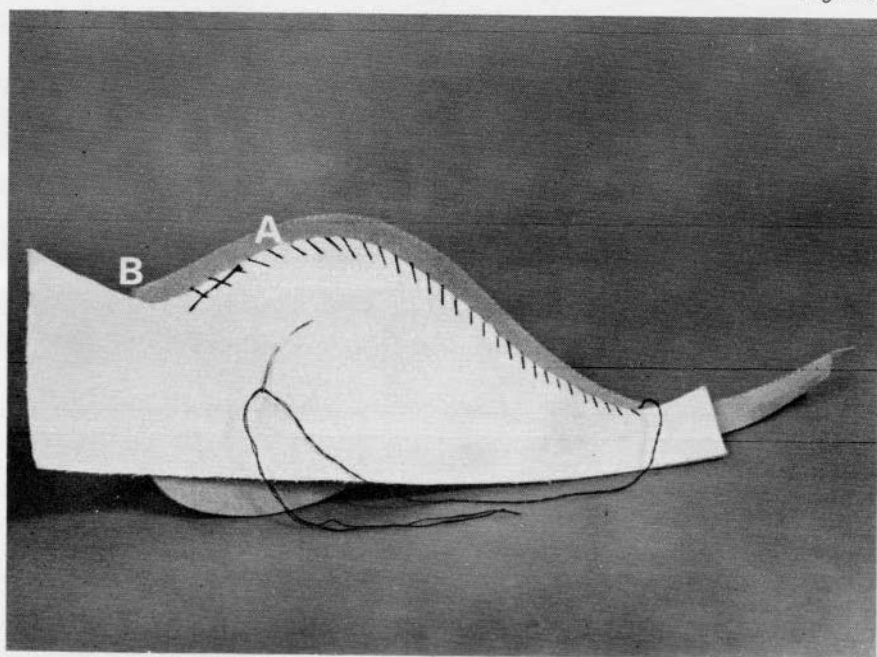


Fig 17 Method of using a curved Awl to make "Blind" stitches in the back of the skirt to attach the Puller.

Fig 17a



dry, cut away the surplus material and stitch the edges together (Fig 16).

Making the skirts (Fig 17)

Take the skirt pattern, already used to mark the serged seat, and use to cut two skirts, right and left hand, from pigskin grained flap butt, edge and stain. The top edges of the skirts must be 'skirt shaved' or tapered down with a round knife $\frac{5}{8}$ in from the top edge, on the underside (Fig 17a). The welt is later attached to the tapered edge with over stitches. Pierce a series of holes $\frac{5}{8}$ in from the top and 2in from the front, using a curved awl, at intervals of $\frac{5}{8}$ in and finishing 6in from the tail end (Fig 17aa). The shape of the skirt tapers towards the tail, the holes should therefore be graduated accordingly. This is important (Fig 17). Care must be taken to ensure that the blind stitches do not pierce the top surface of the skirt. The holes are later used to attach the pullers.

Fixing of the welt to the top edge of the skirt (Fig 18)

The welt is made of thin leather about $\frac{3}{8}$ in wide and 4in longer than the top edge of the skirt to allow a 2in overhang at each end. The welt is reduced to about $\frac{1}{2}$ in, then folded in half lengthwise, lightly hammered and glued. The welt is held in the clam and over-stitched, freehand, about 5 or 6 to the inch, to the top edge of the skirt. A sharp pointed needle and thimble are used for the purpose, but an awl may be used. The fold should be pointing towards the bottom of the skirt and the open ends closed by over-stitching.

Fitting the skirts

When the seat has dried, fit the skirts into position, remove the tacks (Fig 15c) and align. Replace the tacks to secure the skirt. Check to see that the skirts are situated centrally to the imaginary line running from the head to the cantle.

Mark a line on the seat with a single crease at the top edge of the skirt from the head of the saddle to the waist, continue the line along the centre of the groove formed by the belly and the tree (Fig 19) and (Fig. 21a).

A series of marks should now be made on the top edge of the skirt and the same number of marks in corresponding position on the seat (Fig 20). (This is to enable the skirt to be 'set' in the correct curve for stitching).

Fixing the pullers (Fig 18)

The pullers are made from a piece of pigskin, reinforced with

linen. The shape should be such that the top edge is parallel with a line drawn midway between the series of holes in the skirt. There should be enough material in the puller, at the head, to cover the front edge of the tree (Fig 18). The pullers and skirts can now be stitched together using a strong made-up thread, the ends of which are laced back through the existing stitches, allowing more freedom of movement than if they were knotted. The pullers and skirts are now ready to be attached to each side of the seat. (Fig. 17a)

Preparing the flaps (Fig 25)

Take the pattern of the flaps and offer them up to the saddle. Confirm that these are still correct. Modify if necessary. Having determined the position of the flap nail hole (Fig 25a) insert tack to facilitate the subsequent lining-up.

Using the pattern cut the flaps to shape, left and right hand. Edge and stain, prick mark along the front edge in preparation for stitching to the facing. The surcingle loop positions (Fig 25b) should also be prick-marked and the loops cut to size, finished and stitched on. If the flaps are to be blocked to take the shape of the knee roll it is best done at this stage. (A separate chapter on blocking will be found on page 61.)

When the blocking has been completed, stitch a piece of pigskin facing – about 1in wide and folded in half along its length – to the edge of the flap already pricked, from a point just below the pocket to about 1in beyond the knee roll swelling. This is necessary to hold the shape. Both ends of the facing should taper back towards the middle of the flap (Fig 26).

Seaming seat to skirts (Fig 22)

The seat (pigskin) can now be removed from the tree, taking care not to obliterate markings. An allowance of $\frac{1}{8}$ in should be made for turnings on each side of the seat. Cut away the surplus material to a point just below the waist (Fig 20a). Then continue the cut to the point illustrated at Fig 20b but do not detach. This allows the skirt to be stitched so that the 'tail end' is sandwiched between the two cut edges of the seat. (It is this thick seam, when stitched, that will eventually lay in the groove formed by the belly and tree). It is advisable not to cut along the whole length to *b* in Fig 20 but to leave the last $\frac{1}{2}$ in to $\frac{3}{4}$ in until this point has