June 28, 1938. J. PETTY 2,121,822

STRETCHING AND FITTING DEVICE

Filed July 6, 1936

Fig. 1.

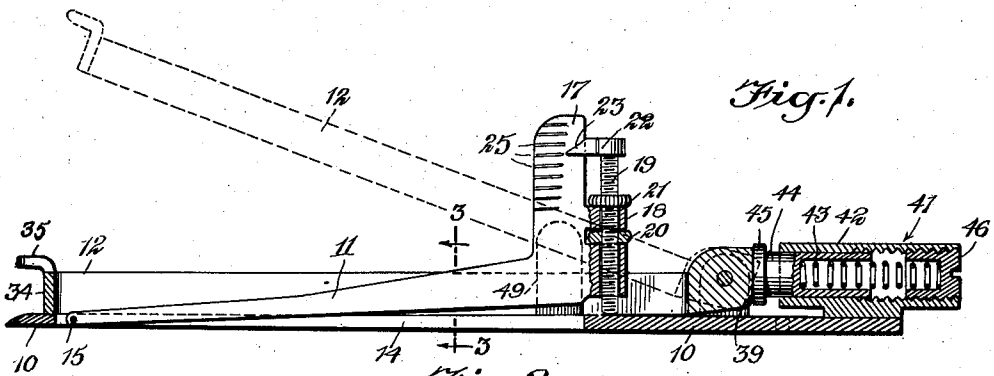



Fig. 2.




Fig. 3.

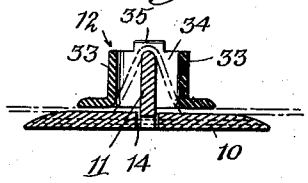
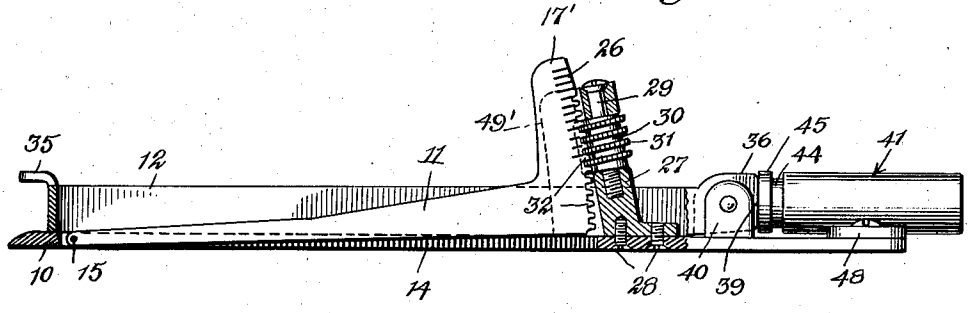



Fig. 4.




WITNESSES

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## STRETCHING AND FITTING DEVICE

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8 Claims. (Cl. 223—61)

This invention relates to improvements in a stretching and fitting device and has particular relation to apparatus for stretching, shaping, and fitting leather and hide, particularly fur skins.

Devices of this general character, which are sometimes referred to as kyles, have previously been used in stretching and shaping skins, hides and the like, particularly in the manufacture of fur coats and garments to cause them to fit properly and conform to the human figure. Prior devices, however, have been unsatisfactory and have had numerous disadvantages, among them the fact that they were not adjustable, and, accordingly, it was necessary to have kyles of varying sizes and shapes in order to stretch or shape the skins and furs to the desired amount.

It is an object of the present invention to overcome the difficulties heretofore encountered and to provide an improved kyle or stretching and shaping device which is readily adjustable so as to stretch the skin, hide or fur to the desired amount.

A further object is to provide a device of the above character having a clamping member which may be readily released by the operator but which is provided with means for holding it in clamping position when in use and prevent it from being accidentally released.

Another object is the provision of a kyle or the like having improved adjusting means which may be conveniently manipulated by the operator so that the kyle will stretch the skin, hide or fur to the desired amount and which is so constructed that the adjustment will not be accidentally released.

Another object is the provision of a kyle or the like having improved adjusting means which may be conveniently manipulated by the operator so that the kyle will stretch the skin, hide or fur to the desired amount and which is so constructed that the adjustment will not be accidently disturbed when the kyle is in use.

For a fuller understanding of the invention reference should be had to the accompanying drawing in which—

Fig. 1 is a side elevation partially in section of a stretching and shaping device embodying my invention showing in dotted lines a clamping member in partially elevated position and in full lines a clamping member in clamping position;

Fig. 2 is a plan view of the stretching and fitting apparatus shown in Fig. 1;

Fig. 3 is a sectional view thereof in the direction of the arrows on the line 3—3 of Fig. 1; and

Fig. 4 is a side elevation partially in section of a stretching and fitting apparatus having a modified type of adjusting mechanism.

My device consists generally of a flat plate-like base portion, indicated by the numeral 10, which is preferably formed of metal and which supports the adjustable upstanding rib or fin 11 and has pivotally mounted thereon a clamping member 12 adapted to fit around the rib portion 11 when in clamping position. As stated above, the base 10 is preferably in the form of a flat plate generally rectangular in shape, and is provided with a central opening or slot 14 extending from adjacent the left-hand side of the base portion, as viewed in Figs. 1, 2 and 4, to a point beyond the center thereof, and pivotally secured in the slot 14 adjacent the end thereof so that it may be pivoted upwardly or downwardly is the upstanding rib or fin 11, which is an elongated relatively thin member and is preferably made of metal and tapers generally from the free end toward the pivoted end, the free end thereof preferably having a greater degree of taper than the pivoted end thereof, as shown in the drawing. However, the degree of taper may be varied in accordance with the amount and type of stretch and fitting desired to be secured in the skins, furs or hides being treated.

Suitable means are provided adjacent the free end of the rib portion 11 for adjusting its position and for retaining it in any desired position. Thus, in the form of my invention shown in the first two figures of the drawing, the rib 11 is provided with a vertical upwardly projecting wing-like portion at its free end, indicated by the numeral 17, and with a cylindrical member 18 formed integral with or secured thereto, and having a central opening for loosely receiving a threaded shaft 19, the lower end of which rests on the base portion 10. The cylindrical member 18 has a horizontal cut-out portion into which is fitted a knurled nut 20 which is threaded to the shaft 19. Since the threaded shaft loosely fits in the opening provided through the cylindrical member 18 and is not threaded thereto, turning of the nut 20 results in feeding the shaft 19 upwardly or downwardly in accordance with the direction that the nut is rotated. In this manner the rib 11 may be pivoted upwardly or downwardly, thereby shifting its height and in that manner varying the amount which the furs, skins or hides being treated are stretched or shaped.

So as to lock the shaft 19 in any desired position and thereby retain the rib 11 at the desired height, I provide a knurled nut 21 threaded to the shaft 19 above the cylindrical portion 18. When the shaft is screwed to the desired position by means of the nut 20, the nut 21 is tightened against the top of the cylindrical portion 18, thereby retaining the shaft in fixed position.

So as to conveniently indicate to the operator the position at which the rib is disposed, the shaft 19 may be provided with a head 22 at its upper end having a forked or bifurcated lateral projection 23, two legs of which pass on either side of the vertical projecting portion 17, which is provided with suitable graduations 25 to indicate the height at which the rib is disposed. The projections 23 also prevent the shaft 19 from rotating when nut 20 is turned.

The adjusting means, of course, may be varied and in Fig. 4 I show a modified type of adjusting means in which the rib portion 11 is provided with a vertical wing-like projecting portion 17' having a curved or arcuate outer face, indicated by the numeral 26, which is a curve or an arc drawn from the pivotal point 15. Disposed at a slight angle adjacent the curved or arcuate face 26 is a post 27 held in position on the base or plate 10 by some suitable fasteners, such as screws 28. Supported in an angular position on the post so that it may freely rotate, as by means of a screw 29, is a cylindrical feed member 30 having a knurled spiral thread 31 formed on the outer surface thereof which engages teeth 32 formed on the arcuate face at the end of the rib portion. So as to allow for the arcuate shape of the outer end of the rib portion, there should not be too tight an engagement between the teeth 32 and the spiral thread 31 formed on the feed member 30. In this form of my invention the rib 11 is adjusted by means of rotating the feed member 30, rotation in one direction resulting in raising the rib portion and rotation in the opposite direction resulting in lowering it. Because of the relatively gradual pitch of the thread 31, the position of the rib portion 11 can not be accidently disturbed.

In both forms of my invention I provide guide members adjacent the free end of the rib or fin 11 so as to hold it in proper position at any adjusted height thereof. In the form of my invention shown in the first two figures of the drawing the guide members are in the form of two upstanding members 49 spaced a short distance apart and between which is disposed the fin or rib. In the form of my invention shown in Fig. 4 the guide members, indicated by the numeral 49', are preferably slightly arcuate in shape and are likewise spaced a short distance apart and the fin or rib 11 is disposed therebetween.

Returning again to the structure common to both forms of my invention, the clamping member 12 is of a size and shape to fit around the rib portion 11 when in clamping position, and is preferably formed from a single piece of metal having side portions 33, the free end portion 34 having a handle member 35 formed integral therewith and a pivotal end portion 36 surrounding a central opening 37 of a size to receive the upstanding rib portion 11 when the clamp is in lowermost or clamping position. The pivoted end 36 of the clamping member is in the form of a solid block having a flat abutment wall 39 formed at the end thereof, substantially at right angles to the top, and is pivotally mounted between two supporting lugs 40 formed integral with or secured to the base portion. The clamping member is so formed and so mounted that it may be shifted from its lowermost clamping position in engagement with the base portion 10 and with the rib portion 11 projecting through the central opening 37 thereof to a partially elevated position, as indicated in dotted lines in Fig. 1, or to a fully elevated position.

In order to hold the clamping member in its lowermost or clamping position when in use and to prevent it from accidentally releasing, I provide suitable retaining mechanism such as that indicated by the numeral 41, comprising a hollow cylinder 42 having a spiral spring 43 disposed therein under tension so as to normally urge plunger 44 outwardly, causing the disc-shaped head 45 thereof to engage and press against the abutment wall 39 formed on the pivoted end of the clamping member, thereby holding the clamping member in clamping position. When the clamping member is pivoted upwardly it will be seen that due to the fact that the abutment wall 39 is substantially vertical and parallel to the face of disc 45 when in clamping position, the plunger 44 will be shifted toward the right in Fig. 1 against the tension of the spring 43. The tension of the spring 43 may be regulated and adjusted by suitable means, such as screw 46, threaded into the end of the cylinder 42 and engaging the end of the spiral spring opposite to that which engages the plunger 44. The retaining mechanism 41 is held in position by suitable means, such as screws 47, passing through brackets 48 formed on the retaining member in the plate or base portion 10. When in use my device may be held in position by suitable means such as screws, tacks or nails passing through the holes 50 formed in the base.

In using my device the rib portion 11 is first adjusted to the desired height by means of releasing the nut 21, in the first form of my invention, and turning the nut 20 to the desired amount, or in the second form of my invention as shown in Fig. 4, by means of turning the adjusting member 30 to the desired degree. The clamping member is then shifted to elevated position and the portion of the skin, hide or fur which is to be stretched or fitted after having been first prepared in the usual manner as by being moistened or dampened with water to soften it is placed over the rib portion 11, and the skin, hide or fur is pulled taut and secured in position, as by being tacked or nailed adjacent its ends to the furrier's board, and the clamping member is then shifted to its lowermost or clamping position, stretching or pulling the skin, hide or fur tightly over the rib portion, as appears in dotted lines in Fig. 3. Due to the pressure of the plunger 44 against the abutment wall at the end of the clamping member, the clamping member will be retained in clamping position and the fur, skin or hide is thus allowed to remain in the clamping member until the desired amount of stretch or fitting has been secured. The clamping member is then shifted to elevated position and the skin, hide or fur is removed.

From the foregoing illustrated and described embodiments of my invention, it will be apparent that I have provided an improved stretching and fitting device for use in stretching and fitting skins, hides, furs or the like, which is adjustable so that the skins, hides or furs may be fitted, shaped, and stretched to the desired amount, which is provided with a clamping member for holding the skins, hides or furs in position, hav-

ing retaining mechanism for holding the clamping member in clamping position so that it can not be accidently displaced, and which is of a simple and inexpensive construction and can be used for a long period of time with comparative freedom from wear.

I claim:

1. A stretching and fitting device comprising a relatively thin elongated member pivotally mounted adjacent one end, means for pivotally shifting the member so as to adjust its height and a clamp for clamping the article to be stretched over and around said member.

2. A stretching and fitting device comprising a relatively thin elongated member tapering from one end toward the other and pivotally mounted adjacent the smaller end, means for pivotally shifting said member so as to adjust the height thereof, and a clamping device for clamping the article to be stretched over and around said member.

3. A stretching and fitting device comprising a relatively thin elongated member tapering from one end toward the other and pivotally mounted adjacent the smaller end, means for pivotally shifting said member so as to adjust the height thereof, and a clamping device pivoted adjacent one end of said member and cooperable to fit around said member to clamp the article being stretched thereover.

4. A stretching and fitting device comprising a relatively thin elongated member pivotally mounted adjacent one end, means for pivotally shifting the member so as to adjust the height thereof, said means having locking mechanism so as to hold the member at the desired position, and a clamping device for clamping the article to be stretched over and around said member.

5. A stretching and fitting device comprising a relatively thin elongated member, a clamping device pivotally mounted adjacent one end of said member so as to be shiftable from clamping position with portions disposed around said member to elevated position above said member, and means for releasably holding the clamping member in clamping position, said means including a spring pressed plunger contacting the end of said clamping device when in clamping position.

6. A stretching and fitting device comprising a relatively thin elongated member, a clamping device pivotally mounted adjacent one end of said member so as to be shiftable from clamping position with portions disposed around said member to elevated position above said member, and means for releasably holding the clamping member in clamping position, said means including an abutment wall at the pivoted end of the clamping device and a spring pressed member positioned so as to engage the wall when the clamp is in clamping position.

7. A stretching and fitting device comprising a base portion having a slot formed therein, a relatively thin elongated member tapering from one end toward the other pivotally mounted in said slot adjacent its smaller end and having means for pivotally shifting it so as to adjust its height, a clamping device pivotally mounted adjacent one end of said member so as to be shiftable from clamping position with portions disposed around said member to elevated position above said member, and means for releasably holding the device in clamping position.

8. A stretching and fitting device comprising a supporting member, a relatively elongated rib tapering in height from one end to the other and supported on said supporting member so as to be shiftable in a vertical plane relative to said supporting member to adjust its height, the higher portion of said rib shifting a greater amount than the lower portion when the rib is adjusted, and a clamping device for clamping the article to be stretched over said rib.

JOSEPH PETTY.