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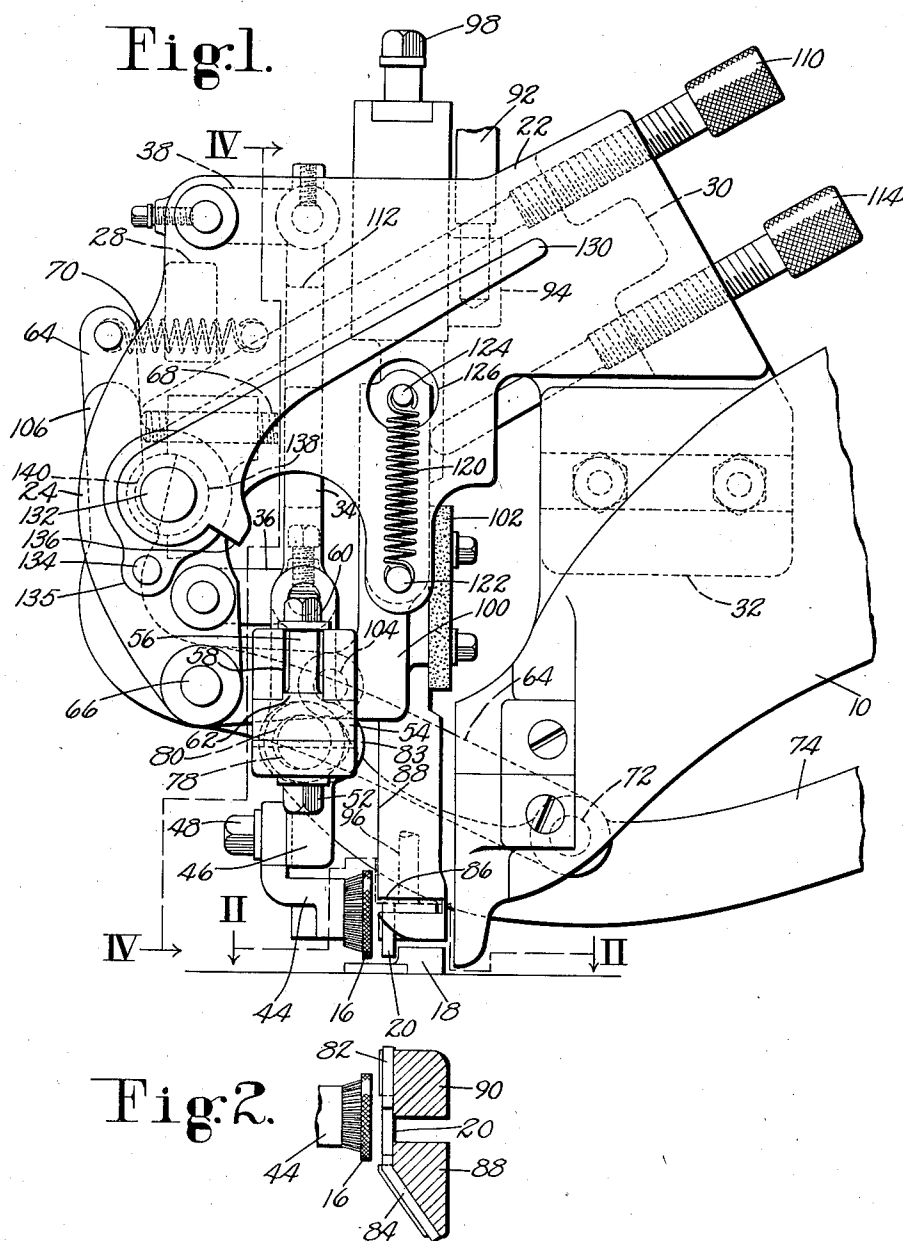
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2,111,610

EDGING MACHINE

Filed Dec. 7, 1936

2 Sheets-Sheet 1



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Fig. 3.

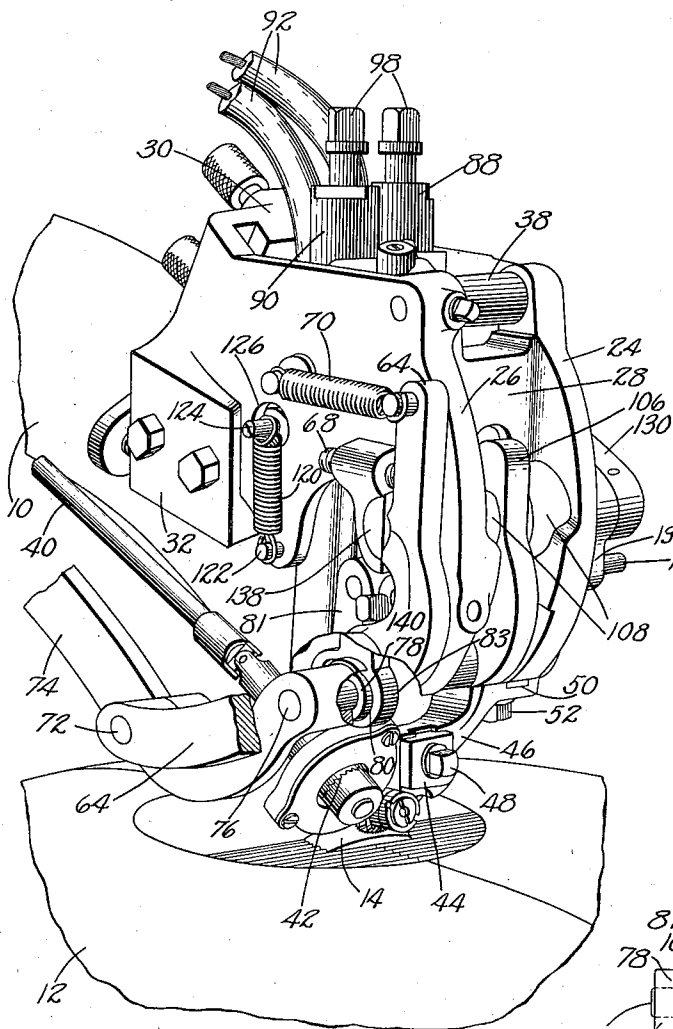
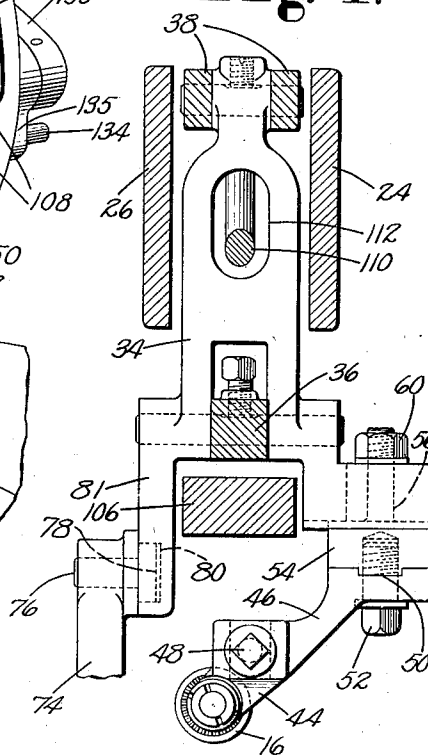


Fig. 4.



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EDGING MACHINE

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Application December 7, 1936, Serial No. 114,541
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9 Claims. (Cl. 69—1)

This invention relates to the finishing of the edges of sheet material and is herein illustrated as embodied in a machine for finishing the edges of pieces of upper leather, such as those used in the manufacture of boots and shoes. Such machines commonly are used to apply heat to the margin of the flesh side of the upper leather to shrink it and to cause the grain side to curl over so as to produce an edge in which only the grain of the leather will be seen.

In some machines of this type, the shrinking of the margin of the leather is accomplished by means of a searing tool heated by the passage of an electric current through the tool. In another type of such machines, the searing tool is heated by a flame, one example of this type being found in Letters Patent of the United States No. 2,017,055, granted October 15, 1935, on the application of Doulette and Hooper. Such machines are usually provided with a plow against which the edge to be finished is pressed as it is carried forward by a feeding member, the searing member or tool cooperating with the margin of the work closely adjacent to the plow. Provision is usually made for adjustment of the position of the searing tool with respect to the plow and for the convenience of the operator in inserting a piece of work, provision is made for lifting the work-contacting members away from the work support.

An important object of this invention is to provide improved means for supporting and adjusting the work-contacting members of an edging machine.

A feature of the invention resides in the provision of a tiltable mounting for the searing tool and of means for adjusting the position of the searing tool with respect to the plow by tilting this mounting. Preferably and as illustrated, the tiltable support for the tool is pivotally mounted on a lever, and an operator-controlled device is provided for swinging this lever to raise the tool away from the work.

Another feature of the invention resides in the mechanism for raising the feeding member and the searing member by a device which serves also to lock the members in raised position. In order that the vision of the operator may not be interfered with, one leg of the searing member is turned aside and the clamp by which this leg is supported is arranged to receive the bent leg.

These and other features of the invention will be best understood from a consideration of the

following description, taken in connection with the accompanying drawings, in which

Fig. 1 is a side elevation of the head of an edging machine employing electric heat;

Fig. 2 is a horizontal section on the line II—II of Fig. 1 and shows the support for the searing tool;

Fig. 3 is an angular view looking at the side of the head opposite that shown in Fig. 1, and

Fig. 4 is a vertical section on the line IV—IV of Fig. 1.

As in the machine of the Doulette and Hooper patent, a frame is provided with an overhanging arm 10 which is made hollow to withdraw the smoke from the searing tool, and the work is fed over a table 12 by the combined action of a lower feed wheel 14 and a feeding member 16. The edge of the work is pressed against a plow 18 and the margin of the work is acted upon by the searing tool 20.

In my improved construction, I have provided a head 22 made up of parallel plates 24 and 26 joined by webs 28 and 30 and having a depending flange 32 by which the head may be bolted to a portion of the overhanging arm 10. In this head, I have provided novel mechanism for supporting the feeding and searing members, allowing them to be lifted away from the work at the will of the operator and permitting adjustment of their positions to suit the needs of the particular work, as will now be described. The feeding member 16 comprises a driven roll which is adjustably supported from a hanger 34 carried by parallel links 36 and 38, the latter of which is forked, as indicated in Fig. 4. The feeding member 16 may be driven by a mechanism, comprising a shaft 40, similar to that described in the above-mentioned patent, and may, if desired, be provided with an operator-controlled clutch 42 so that the drive for the feeding member may be interrupted when the work is being guided around corners. Adjustment of the position of the feeding member with respect to the other work-contacting members of the machine is permitted by connections, shown best in Figs. 1 and 4. From these, it will be seen that the shaft of the feed roll 16 is journaled in an arm 44 which may be vertically adjusted along a rib formed on a bracket 46 and clamped in position by the screw 48. This bracket 46, in turn, may be horizontally adjusted toward and away from the plow along a rib 50 and clamped in position by a screw 52. The rib 50 is formed in a block 54 which has an upstanding stem 56 received in a slot 58 in the lower end of the hanger 34, this slot permitting

the block to be moved horizontally in the direction of the line of feed and, hence, at right angles to the direction of adjustment determined by the rib 50. A nut 60 on the stem 56 clamps the block 54 in position on the hanger. A rib 62 which is received in the bottom of the slot 58 maintains the alinement of the feed roll during this adjustment. By these connections, it is possible to adjust the position of the feed roll with respect to the hanger vertically and horizontally in two directions normal to one another.

When it is desired to move the hanger 34 vertically to carry the feed roll away from the work, this is accomplished by swinging a lever 64 pivoted on a shaft 66 (Fig. 1) passing through the side plates 24 and 26. The lever 64 is urged against a stop screw 68 by a spring 70 and is pivoted at its rear end by a pin 72 to an intermediate point on a lever 74, which is pivotally mounted in the frame at its far end. The near end of the lever 74 has a pin 76 (Figs. 3 and 4), the enlarged head 78 of which is received in a slot 80 in an enlarged portion 83 (Fig. 1) at the lower end 81 (Fig. 4) of the hanger 34. As a result, when the upper end of the lever 64 is swung away from the head, or counterclockwise in Fig. 1, the hanger 34 will be raised, lifting the feeding member 16 away from the work. An arrangement for thus swinging the lever 64 will be later described.

The U-shaped searing tool 20 has one leg bent rearwardly and horizontally at 82 and its other leg bent forwardly and laterally at 84 (Fig. 2), thus taking it away from the operator and causing less interference with the operator's view of the work. These ends 82 and 84 are received in grooves 86 (Fig. 1) in carrier bars 88 and 90, it being noted that the groove in the carrier bar 88 is cut back to the right in Figs. 1 and 2 to coact with the laterally bent end 84 of the searing tool. An electric current is supplied to these carrier bars 88 and 90 through electric leads 92, the lower ends of which are soldered in lugs 94 on the sides of the carrier bars near their upper ends. The searing tool is clamped in these bars by rods 96 actuated from bolts 98, as in Letters Patent of the United States No. 2,073,027, granted March 9, 1937, on an application filed in the names of Ricks and Andrews, although the particular manner of clamping the searing tool is not essential to the present invention.

These carrier bars 88 and 90 lie in a vertical cradle 100 and are clamped therein by a plate of insulation 102, they being insulated from the cradle and from one another, as by surrounding sheets of mica. This cradle 100 is pivoted at 104 to the inner end of a lever 106 mounted on the same pivot pin 66 as the lever 64 and positioned between bosses 108 formed at the inner side of the plates 24 and 26. The searing tool may thus be lifted away from the work by turning the lever 106 counterclockwise, as seen in Fig. 1, by an arrangement to be later described.

Provision is made for adjusting the position of the searing tool heightwise and laterally with respect to the plow 18. Heightwise adjustment is secured by a hand screw 110, the lower end of which bears against the inner side of the lever 106 near its upper end, said screw passing through a slot 112 in the hanger 34. This screw 110 is threaded in the web 30 of the head. An adjacent screw 114, similarly threaded in this web 30 and parallel to the screw 110 bears at its lower end against the cradle 100 and enables the operator to tilt the cradle around the point 104 where it is

pivoted to the lever 106. A fine adjustment of the position of the searing tool laterally with respect to the plow and heightwise with respect to the work may thus be obtained. The cradle is urged downwardly to hold the lever 106 against the adjusting screw 110 and laterally to hold the cradle against the adjusting screw 114 by duplicate springs 120 mounted on the outside of the head, the lower ends of these springs being attached to pins 122 extending outwardly from the head and the upper ends being attached to pins 124 extending outwardly from the upper end of the cradle through openings 126 in the side plates of the head. The line of action of these springs does not pass through the pivot point 104 and consequently the springs are effective to hold the cradle 100 against the screw 114.

In accordance with one of the features of the invention, provision is made for lifting the hanger 34 and the cradle 100 to take the feeding member 16 and the searing member 20 away from the work and for locking them in raised position. This is accomplished by movement of a hand lever 130 secured to a cross shaft 132 and limited in its downward movement by a pin 134 extending outwardly from a boss 135 on the side plate 34 which contacts with a shoulder 136 on the hand lever. On this shaft 132 are two cam blocks 138 substantially semicircular in shape, one of which may be seen in Fig. 3, and which coact with the inner sides of the levers 64 and 106 to turn them in a direction to lift the members 16 and 20 away from the work. As may be seen from Fig. 1, this is accomplished by contact of the straight side of the semi-circular pieces with the levers. Each of these levers is provided with a curved recess 140 so that when it is desired to lock the tools in raised position, the operator has only to swing the hand lever 130 until the shoulder 136 thereon engages the stop pin 134. At this time, the curved faces of the semicircular blocks 138 will enter the curved recesses 140 and provide a non-reversible connection which will securely lock the tools in their raised positions.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In an edging machine, a plow, a searing tool, electrically insulated carriers for said tool, a cradle supporting said carriers, a lever, said cradle being pivotally attached to said lever, means for tilting the cradle on the lever to adjust the searing tool toward and away from the plow, and means for tilting the lever to adjust the tool toward and away from the work.

2. In an edging machine, a tool carrier, a lever supporting said tool carrier for movement toward and away from the work, an operator-controlled lever, and means secured to said lever for tilting said lever to move the tool carrier, said means being constructed and arranged to lock the lever in its tilted position.

3. In an edging machine, a searing member, a feeding member, pivoted means for supporting said members for movement toward and away from the work, and operator-controlled means for swinging said pivoted means and constructed and arranged to lock one of said pivoted means in a position in which the member carried thereby is raised.

4. In an edging machine, a work-engaging member, pivoted means for supporting said member constructed and arranged to lift it from the work, and an operator-controlled lever having a cam for engagement with said pivoted means

thereby to lift the member, said cam being constructed and arranged to lock the member in raised position.

5 In an edging machine, a work-contacting member, a lever for supporting said member for movement toward and away from the work, said lever having a curved recess, and a cam for engagement with said lever to lift the member, said cam having a curved surface adapted to be
10 received in said recess to hold the member in raised position.

6. In an edging machine, a frame, a searing tool, a cradle carrying said tool, a lever fulcrumed on the frame and pivotally connected to said
15 cradle whereby the cradle may be tilted to adjust the tool laterally, and screws, one coacting with said cradle to tilt it and the other coacting with said lever to adjust the tool heightwise.

7. In an edging machine, a searing tool, an upright cradle for said tool, a lever pivoted in
20 the machine having a horizontal portion pivotal-

ly connected to said cradle, an adjusting screw abutting said cradle to tilt it, and a spring for holding said cradle against the screw and said tool against the work, said spring extending heightwise of the machine.

8. In an edging machine, a U-shaped tool
5 adapted to be pressed against the margin of the work as the latter is fed, the legs of said tool being bent substantially horizontally and the rear leg being bent laterally with respect to the line
10 of feed, and means for carrying said tool.

9. In an edging machine, substantially vertical carriers having substantially horizontal grooves adjacent to the lower end of the carriers, and a U-shaped searing tool the legs of which are bent
15 substantially horizontally to enter said grooves, the rear leg of the tool being also bent laterally with respect to the line of feed and the corresponding carrier being cut away and grooved to receive this laterally bent end.

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