Dec. 5, 1933. H. B. LUPIEN 1,937,827

SKIVING MACHINE

Filed March 14, 1932

Fig. 1.

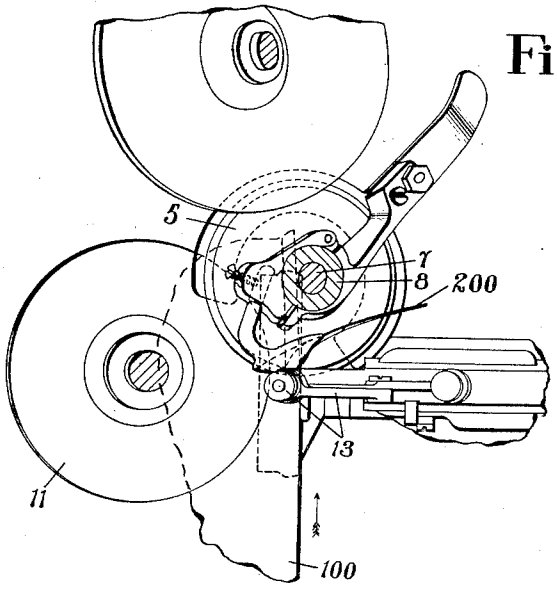


Fig. 2.

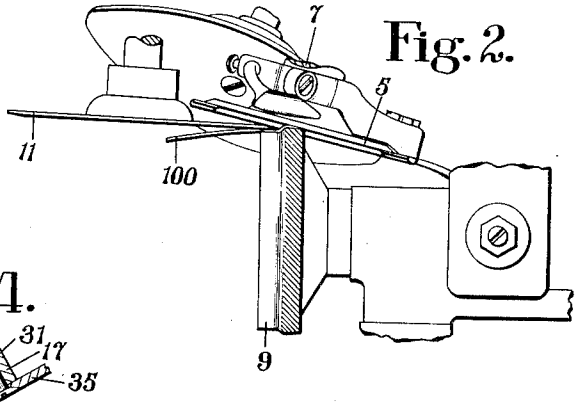


Fig. 4.

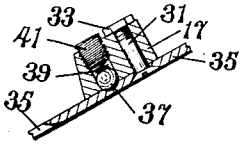
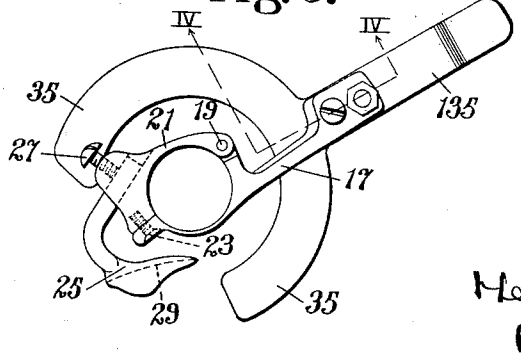


Fig. 3.



INVENTOR.
Henry B. Lupien
By his Attorney
Harlow M. Davis

Patented Dec. 5, 1933 1,937,827

UNITED STATES PATENT OFFICE

1,937,827

SKIVING MACHINE

Henry B. Lupien, Manchester, N. H., assignor to United Shoe Machinery Corporation, Paterson, N. J., a corporation of New Jersey

Application March 14, 1932. Serial No. 598,671

4 Claims. (Cl. 69—16)

This invention relates to skiving machines and is herein illustrated as embodied in a machine for skiving parts of the uppers of boots and shoes.

A common form of leather skiving machine comprises a rotary disk knife mounted upon the lower end of an upright rotary shaft, and a rotary feed roll for feeding the work to the knife, there being provided a presser foot and a feed disk to cooperate with the feed roll.

When pieces of work, such for example as vamps, having curved edges are being operated upon, they must be swung through a considerable angle, and there is danger that in this swinging movement a portion of the work which has already been skived may be accidentally injured by coming in contact with the edge of the knife at its side or rear portions. There is also danger that the fingers of the operator may be cut by coming into contact with these portions of the edge of the knife. During the skiving operation also the chip or skiving which is removed from the work often reaches a considerable length and causes trouble either by winding about the knife shaft or by curling backward over the presser, and being caught between the upper face of the moving work and the under face of the presser.

In order to avoid these and similar occurrences, the present invention contemplates a novel chip deflector and a combined chip deflector and knife-guard which may be readily attached to a stationary part of the machine. In the illustrated construction a chip deflector constructed and arranged both to deflect the chips or skivings to one side of the knife shaft and to prevent the skivings from curling back over the presser, and a knife-guard which extends beneath the knife are both carried by a bracket which is detachably fastened to the stationary knife shaft bearing. With this construction injury to the work or to the operator is avoided, and the skivings, as they are made, are directed to one side, and the combined chip deflector and knife-guard may be readily removed and replaced when desired.

These and other features of the invention including certain details of construction and combinations of parts will be described as embodied in an illustrated machine and pointed out in the appended claims.

Referring to the accompanying drawing,

Fig. 1 is a plan of a portion of a machine in which the present invention is embodied, certain shafts and the knife-shaft-bearing being shown in section;

Fig. 2 is a front elevation of the same portion of the machine, the presser having been omitted;

Fig. 3 is a plan of the chip deflector and knife-guard; and

Fig. 4 is a detail in section on the line IV—IV of Fig. 3 showing the spring-pressed ball for holding the knife-guard in operative position.

The machine comprises a disk knife 5 mounted at the lower end of an upwardly extending rotary shaft 7 rotatable in a stationary bearing 8, the work 100 being fed to the knife by a rotary feed roll 9. In order to hold the work against the roll a rotary disk 11 and a presser 13 are provided. A grinder may be caused to operate when desired to sharpen the knife. The work which is fed in the direction indicated by the arrow in Fig. 1 passes beneath the knife while the chip or skiving 200 passes over the knife. The machine is of the well-known Amazeen type and, as thus far described, is or may be the same as that shown in U. S. Letters Patent No. 823,578, granted June 19, 1906, upon an application filed in the name of Charles H. Bayley, to which reference is made for details of construction not herein shown, including the mechanism for rotating the knife, the grinder, the feed disk and the feed roll. It may be here noted that the feed roll 9 of the illustrated machine is of a somewhat different shape from that of the patented machine and that the presser 11 is of a different construction, but these differences form no part of the present invention, and any suitable feed roll and presser may be used.

Fastened to the stationary bearing 8 is a split bracket 17 comprising a main portion to which is pivoted at 19 an auxiliary portion 21, the two adjacent parts of these portions being shaped to enclose between them when closed a circular space in which the stationary bearing 8 may be received. A small screw 23 passing through a lug on the main portion 17 and threaded into the auxiliary portion 21 furnishes means for detachably clamping the bracket to the stationary bearing 8. A chip or skiving deflector 25 has a stem which is held in adjusted position in a socket in the auxiliary portion 21 of the bracket by a set screw 27. This chip deflector has in its operative face a comparatively deep groove, the bottom of which is indicated by the dotted line 29 in Fig. 3, the overhanging upper wall of the groove being of considerable width, and the groove extending substantially horizontally in a direction oblique to the direction of feed movement of the work. With this construction, the chip 200 (Fig. 1) is prevented from curling upwardly and backwardly by the upper wall of the groove in the deflector and is deflected to the right so as to be directed away from the rotating knife shaft 7 around which it might otherwise be wound.

Pivoted to the main portion 17 of the bracket about the stem of a screw-headed bolt 31 having a nut 33 on one end is a segmental knife-guard 35 having a handle 135 by which it may be manipulated in a manner presently to be described.

Normally, the bracket and guard occupy the positions shown in the figures in which the segmental guard is concentric with the disk knife and its edge extends out beyond the edge of the knife, being held in the position by a ball 37 (Fig. 4) which is mounted in the lower portion of a hole in the bracket 17, the lower portion of this ball being held yieldingly in a shallow socket formed in the stem or handle of the knife-guard 35 by a spring 39 the tension of which may be varied by turning a small screw 41. With this construction the operator may at any time grasp the handle 135 and swing the guard from beneath the knife, for example when it is desired to sharpen the knife.

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

1. A machine of the class described having, in combination, a rotary feed roll, a rotary disk knife, a bearing for the shaft of the knife, a bracket detachably fastened to said bearing, a chip deflector carried by the bracket, and a segmental knife guard located beneath the knife, pivoted to the bracket and having a handle located on the opposite side of the pivot from the guard.

2. An article of manufacture comprising a bracket adapted to be fastened about the bearing of the knife shaft of a skiving machine, a chip deflector carried by the bracket, and a knife guard pivoted on the bracket and having a handle located on the opposite side of the pivot from the guard.

3. A machine of the class described having, in combination, a rotary feed roll, a rotary disk knife, a presser for holding the work upon the roll, a bracket carried by a stationary part of the machine, a chip deflector carried by the bracket, said chip deflector being located above the edge of the knife adjacent to the presser, and having a deflecting groove extending substantially horizontally and oblique to the direction of feed movement of the work, and a knife-guard pivoted to the bracket and having an effective portion extending beneath the knife.

4. A machine of the class described having, in combination, a rotary feed roll, a rotary disk knife, a presser cooperating with the roll, a bracket carried by a stationary part of the machine, and a chip deflector carried by the bracket, said chip deflector being located in position to encounter a chip or skiving as it is being removed from a piece of work by the knife and being provided with a groove extending substantially horizontally in a direction oblique to the direction of feed movement of the work, the upper wall of the groove being of sufficient width to prevent the chip or skiving from curling upward.

HENRY B. LUPIEN.