

E. E. LANE.
 BLANK FEEDING MECHANISM.
 APPLICATION FILED MAR. 8, 1916.

1,247,846.

Patented Nov. 27, 1917.
 2 SHEETS—SHEET 1.

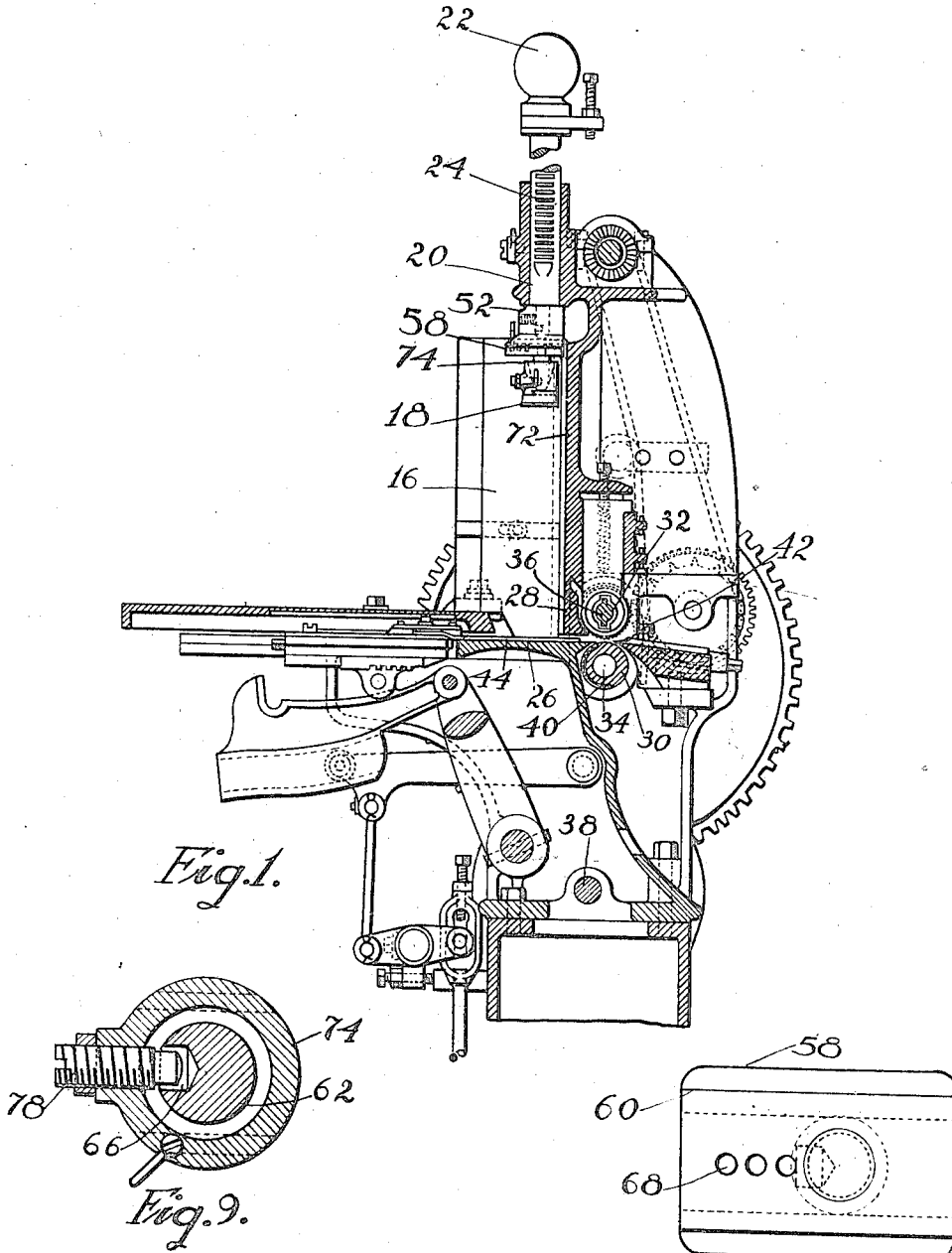
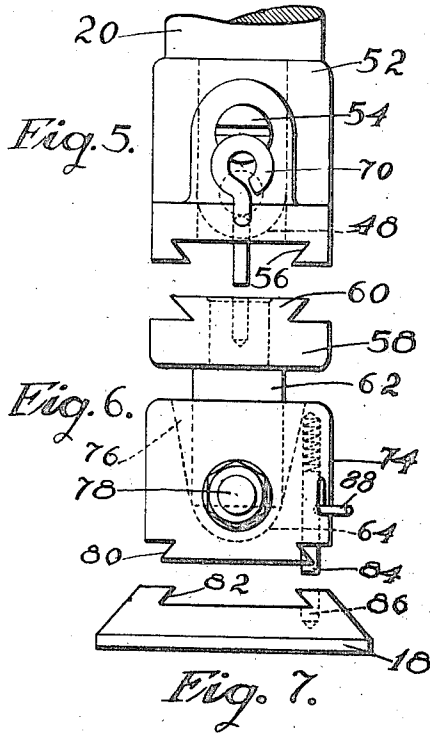
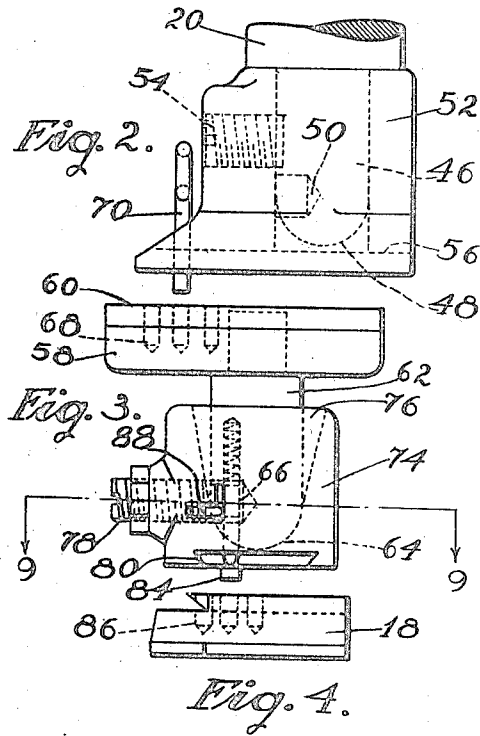
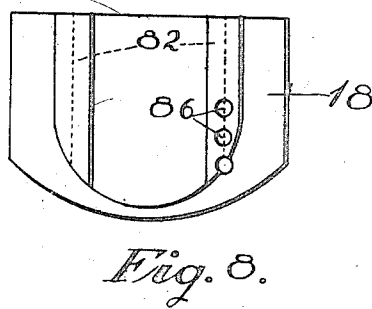


Fig. 9.
Fig. 10.
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UNITED STATES PATENT OFFICE.

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BLANK-FEEDING MECHANISM.

1,247,846.

Specification of Letters Patent.

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Original application filed October 10, 1914, Serial No. 866,064. Divided and this application filed March 8, 1916. Serial No. 82,819.

To all whom it may concern:

Be it known that I, ELMER E. LANE, a citizen of the United States, residing at Beverly, in the county of Essex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Blank-Feeding Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention, which is a division of my pending application, Serial No. 866,064, filed October 10, 1914, relates to feeding mechanism for machines for operating upon parts of boots and shoes, and more particularly to feeding mechanism especially adapted for feeding blanks in machines for skiving box toes and counters for boots and shoes.

In a well-known form of skiving machine of the type illustrated in United States Letters Patent to Jacob R. Scott, No. 760,082, dated May 17, 1904, a pile or series of blanks is supported in a race-way or magazine, from the bottom of which one blank at a time is fed to the pressure and die rolls and to the skiving mechanism. Difficulty has been experienced with machines of the above described type in properly presenting the lowermost blank to the feeding devices. Pressure mechanism has been employed with these machines for subjecting a stack or pile of blanks in the magazine to pressure so that the lowermost blanks shall be maintained in proper flat condition to be engaged by the feeding devices. The pressure mechanism heretofore employed comprised a presser plate or follower for engaging the topmost blank of the pile, and suitable mechanism for maintaining pressure upon the follower as the pile of blanks diminishes. Different sizes and shapes of followers are employed with the different sizes and shapes of blanks, and one of the objects of the present invention is to provide simple and convenient means whereby the follower or presser plate may be easily and quickly changed when a change is made in the size or shape of blanks to be operated upon.

When the cheaper grades of leather are used for the blanks, the latter are often bent or warped to a considerable degree and are

stiff and unyielding, so that difficulty is experienced in properly flattening out the lowermost blank to be engaged by the blank feeding devices. It is one of the objects of the present invention to avoid this objection by so constructing the pressure mechanism that the lowermost blank shall be presented to the feeding devices in proper flat condition.

With these and other objects in view, apparent to those skilled in the art from the accompanying specification, the present invention consists of the devices and combinations of devices hereinafter described and more particularly defined in the claims.

In the accompanying drawings which illustrate a preferred form of the present invention Figure 1 is a vertical section of the upper portion of a machine of the general type disclosed in the patent to Scott above referred to, showing the means for applying pressure to the pile of blanks; Figs. 2, 3, and 4 are enlarged side elevations of the follower and connections showing the relative arrangement of their parts when assembled; Figs. 5, 6, and 7 are corresponding front elevations of the follower and connections; Fig. 8 is a top plan view of the follower; Fig. 9 is a horizontal section on the line 9—9 of Fig. 3; and Fig. 10 is a top plan of the transversely adjustable carrier plate.

In the machine illustrated in the drawings the blanks to be skived are arranged in a vertical stack in the magazine or hopper 16, the stack of blanks being pressed down by a follower 18 secured to the lower end of a vertically movable rod 20 having a weighted upper end 22. The rod 20 is provided with a rack 24 for raising and lowering the follower by power, as is well-known in this type of machine. The blanks are supported on a bedplate 26 and fed forward under a gate 28 to a die roll 30 and pressure roll 32 mounted respectively upon the shafts 34 and 36 driven by suitable gearing from the main driving shaft 38. The die roll is provided with the customary die cavity 40, and a blank skiving knife 42 is supported rigidly upon the frame of the machine directly behind the bite of the die and pressure rolls. One blank after another from the bottom of the pile of blanks in the magazine is fed

to the die roll at the predetermined time with relation to the position of the die cavity, by means of a feed slide 44.

In the machine illustrated in the accompanying drawings the follower or contact plate which engages the topmost blank in the magazine or race-way is not mounted directly upon the rack rod, as has heretofore been the practice, but is connected with said rod by devices which provide not only for an easy and quick change from one form of follower to another, but also for an adjustment of the follower to different positions on the topmost blank. As shown in Figs. 2 and 5, the lower end of the rack rod 20 is of reduced diameter as at 46, the reduced portion being provided with a hemispherical extremity 48 and a recess 50 at the margin of said surface for a purpose to be hereinafter explained. A collar 52 is rigidly secured upon the reduced portion of the rack rod by means of a set screw 54, the lower portion of the collar being provided with a horizontal, dove-tailed groove or guideway 56.

A plate 58 provided at its upper surface with a dove-tailed tongue 60, adapted to enter the groove 56, has rigidly secured thereto the depending stud 62 which is substantially identical in shape with the reduced portion 46 at the lower end of the rack rod and has a similar hemispherical end 64 and recess 66. The plate 58 is provided with the holes 68 in its upper surface, adapted to receive the lower end of a locking pin 70, which passes through a portion of the collar 52. The tongue and groove connection between the collar and the plate permits the latter to be adjusted transversely of the axis of the rack rod in a direction toward or away from the front plate 72 of the magazine, the pin 70 holding the parts securely in adjusted position.

Mounted upon the stud 62 is another collar or support 74 for the follower or contact plate 18, which support is provided with a hemispherical socket to receive the hemispherical end 64 of the stud 62 and a frusto-conical recess 76 extending from the hemispherical socket to the upper surface of the support to permit free tipping or universal movement of the support 74 upon the stud 62. A set screw 78 having its inner end of less diameter than the recess 66 which it enters, prevents the support 74 from dropping off the stud 62 without interfering with the free angular movement between these parts. The lower face of the support 74 is provided with a dove-tailed tongue 80 adapted to enter a correspondingly shaped groove 82 in the upper surface of the follower 18. A spring-pressed pin 84 mounted in the support 74 is adapted to engage one of the recesses 86 in the upper face of the follower, the tongue and groove connection

permitting the follower to be adjusted on the support 74, the pin holding the follower in the desired adjusted position. A small pin or wire 88 projecting from the pin 84 through a vertical slot in the wall of the support 74 may be raised by the operator to disengage the pin 84 from a recess 86 to permit transverse adjustment of the follower 18 or its removal and substitution of another one.

It will be observed that while the adjustment of the plate 58 varies the position of the follower relative to the front plate 72 of the machine, it also varies the point at which the pressure is transmitted to the plate 58 relatively to the front plate of the machine, the pressure being applied, however, over the same point of the follower. When bent or curved blanks of stiff or unyielding material are used, the operator is thus enabled by adjustment of the plate 74 on the collar 52 to apply pressure at such point on the pile of blanks that the lowermost blank will be properly flattened out to be engaged by the feeding devices.

The adjustment of the follower upon the support 74 permits a variation of position of the follower on the topmost blank without, however, changing the point on such blank at which the pressure is exerted. By adjusting the follower on its support in the opposite direction to that in which the plate is adjusted on the collar, the follower may be maintained in fixed position relatively to the front plate of the machine, while the point of pressure is transferred to one position or another, as the operator may find necessary or desirable. If the adjustment of the line of pressure is not required, the collar 52 and plate 58 with the depending stud 62 may be dispensed with and the support 74 mounted directly upon the lower end 46 of the rack rod, the hemispherical end 48 of the latter entering the recess 76 of the support, and the reduced end of the set screw 78 entering the recess 50. This construction is of advantage, in that it provides for the convenient and quick removal of the follower, or adjustment of the latter if it should be desired.

While the present invention has been illustrated and described in connection with a particular type of skiving machine and as embodied in certain constructions and arrangements, it is to be understood that the invention is not limited to use in connection with that particular type of machine, and that it may be embodied in many other constructions and arrangements without departing from the spirit thereof.

Having thus described and explained the nature and principle of the present invention, and what is now considered the preferred form of the invention, I claim:

1. Blank feeding mechanism for machines

for operating upon parts of boots or shoes comprising, a guideway for a stack of blanks, an actuating member movable longitudinally of the guideway, and a contact plate for engaging the end blank of the stack adjustably supported upon the actuating member, to vary the position of the plate transversely of the movement of said member.

2. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a guideway for a stack of blanks, an actuating member movable longitudinally of the guideway, a contact plate for engaging the end blank of the stack, and means, including a ball and socket joint, for adjustably supporting the plate on said member to vary the position of the plate transversely of the path of movement of said member.

3. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a guideway for a stack of blanks, an actuating member movable longitudinally of the guideway, a contact plate for engaging the end blank of the stack, a swiveling support for said plate, and an adjustable connection between said support and the actuating member by which the plate may be adjusted transversely of the path of movement of said member.

4. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a guideway for a stack of blanks, a longitudinally movable bar, a contact plate, means for mounting the same upon said bar, and supplemental means mounted between said bar and said contact plate for offsetting said plate with respect to said bar.

5. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a guideway for a stack of blanks, an actuating member movable longitudinally of the guideway, and a contact plate for engaging the end blank of the stack and adjustable with respect to said member both angularly and bodily transversely of said member.

6. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a table for positioning a stack of blanks, a follower for holding the blanks against the table, a rod for actuating the follower, and connections between the follower and rod by which the follower may be adjusted transversely of the stack of blanks.

7. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a table for positioning a stack

of blanks, a follower swivelly mounted to adapt itself to make a multi-point contact with the end blank of the stack, a rod for actuating the follower, and connections between the follower and rod by which the follower may be adjusted transversely of the stack of blanks.

8. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a table for supporting a stack of blanks, a follower for holding the blanks against the table, a carrier for the follower, a rod for actuating the follower to press the blanks against the table, and connections between the carrier and rod by which the point of application of pressure of the follower upon the end blank of the stack can be shifted transversely of the stack.

9. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a table for positioning a stack of blanks, a follower for holding the blanks against the table, a carrier for the follower, a rod for actuating the follower to press the blanks against the table, adjustable connections between the carrier and rod by which the point of pressure of the follower on the end blank of the stack can be shifted transversely of the stack, and adjustable connections between the carrier and follower by which the follower may be shifted transversely of the stack independently of the point of pressure.

10. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a table for positioning a stack of blanks, a guideway for holding the stack of blanks, a bar movable longitudinally of the guideway, a connection piece secured to the end of the bar, means carried by the connection piece and adjustable transversely of the axis of the bar, a member carried by said means and having a ball and socket connection therewith, and a contact plate mounted upon said member by a tongue and groove connection.

11. Blank feeding mechanism for machines for operating upon parts of boots or shoes comprising, a table for positioning a stack of blanks, a magazine for guiding a stack of blanks, a follower swivelly mounted to adapt itself to a multi-point contact with the end blank of the stack, a rod for actuating the follower, a carrier for the follower, a tongue and groove connection between the rod and carrier, and a tongue and groove connection between the carrier and follower.

ELMER E. LANE.