

Wells & Bray

Shoe-Sole Machine.

N^o 14,426.

Patented Mar. 11, 1856.

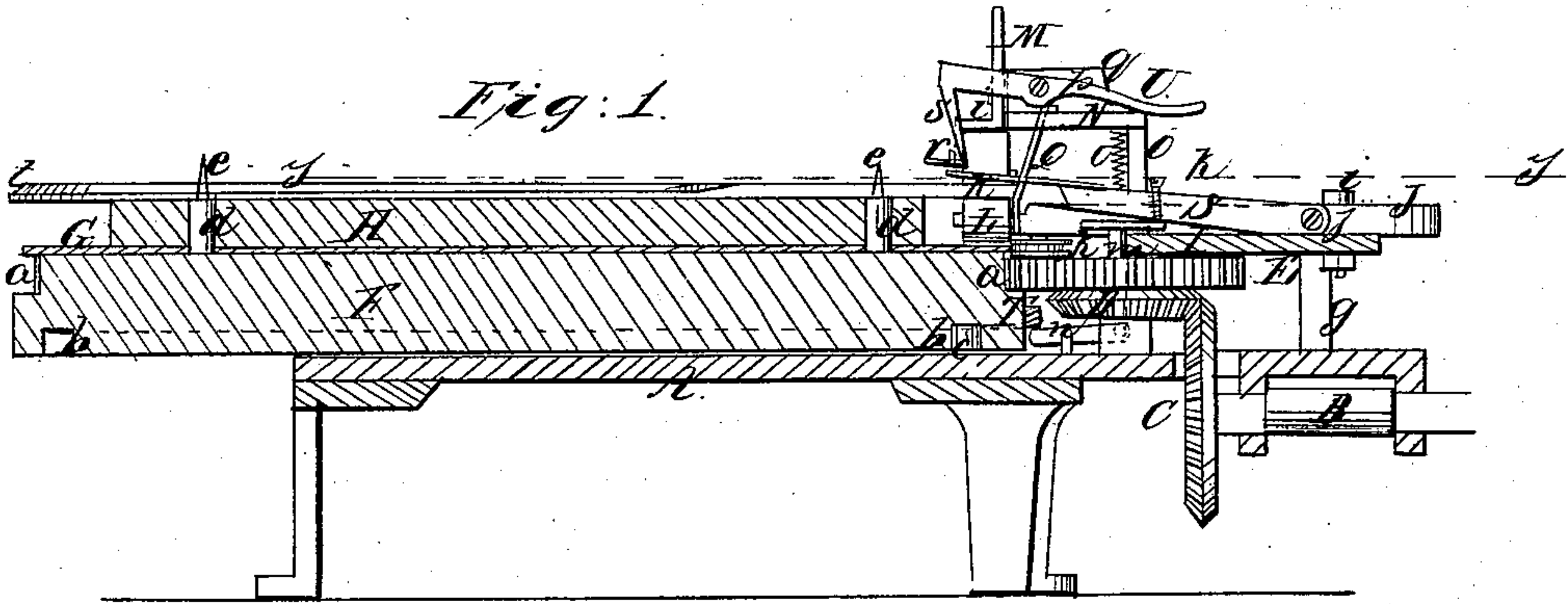
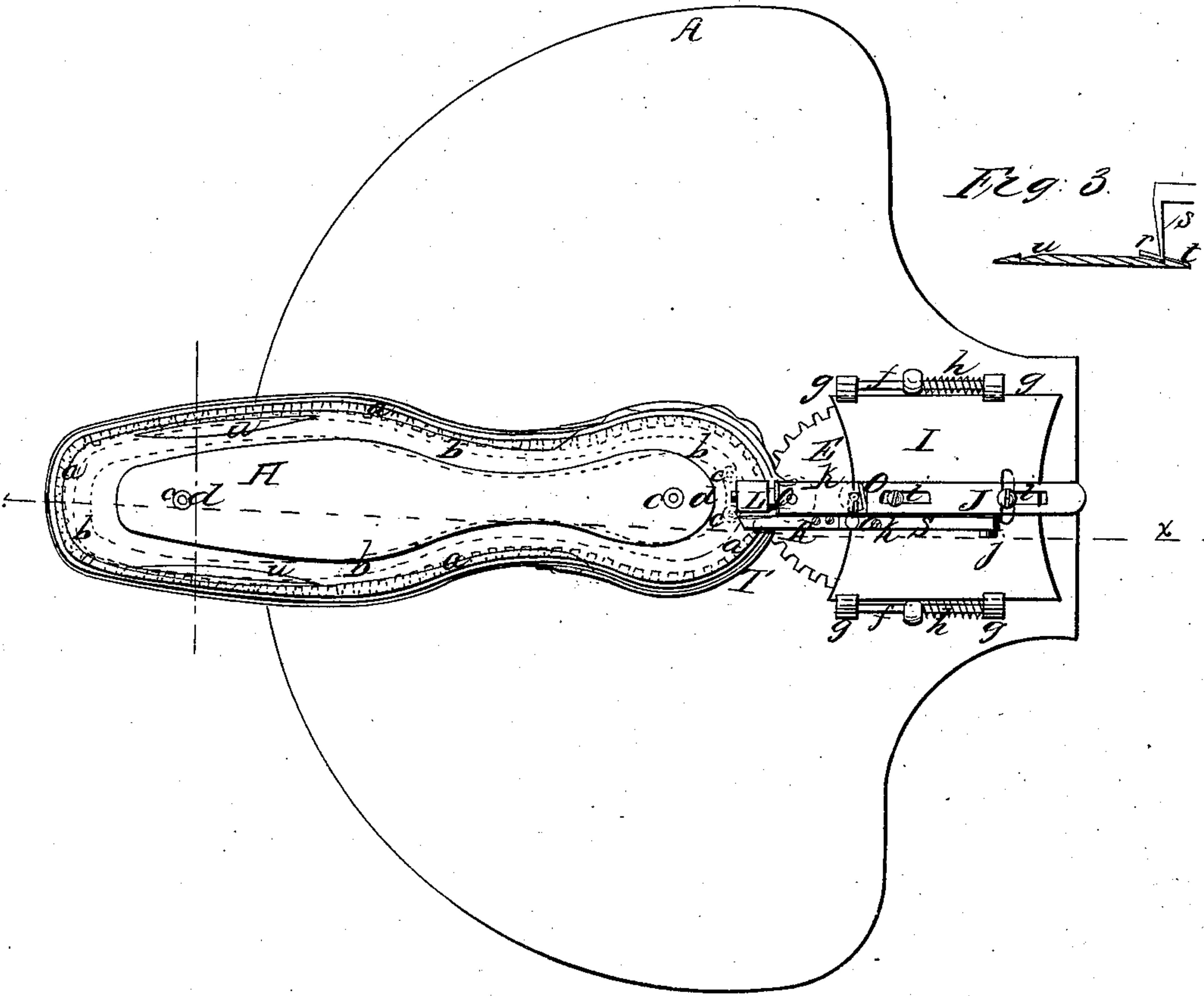


Fig: 2.



UNITED STATES PATENT OFFICE.

WM. WELLS AND MELLIN BRAY, OF TURNER, MAINE.

MACHINE FOR CUTTING OUT AND SKIVING THE SOLES OF BOOTS AND SHOES AND ALSO FOR CUTTING THE RANDS THEREIN.

Specification of Letters Patent No. 14,426, dated March 11, 1856.

To all whom it may concern:

Be it known that we, WILLIAM WELLS and MELLIN BRAY, of Turner, in the county of Androscoggin and State of Maine, have
5 invented a new and Improved Machine for Cutting out Boot and Shoe Soles and also Skiving Them and Cutting the Rands Therein; and we do hereby declare that the following is a full, clear, and exact de-
10 scription of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a longitudinal vertical section of our improvement, (x) (x) Fig. 2 showing the plane of section. Fig. 2, is a
15 horizontal section of ditto, (y) (y) Fig. 1 showing the plane of section. Fig. 3, is a transverse section of the sole of a boot or shoe, showing the rand and the cutter
20 which forms it.

Similar letters of reference indicate corresponding parts in the several figures.

The nature of our invention consists 1st. in the peculiar means employed for oper-
25 ating a skiving knife as will be presently shown and described, whereby said knife may be raised or lowered at the proper time for the purpose of skiving certain parts of the sole only.

30 2nd., our invention consists in the employment or use of cutters arranged as will be presently shown for the purpose of cutting out and operating upon the soles as above specified.

35 To enable those skilled in the art to fully understand and construct our invention, we will proceed to describe it.

A represents a table or platform having a shaft B underneath it at one end, said
40 shaft having a bevel wheel C on its inner end, and a crank on its outer end. The bevel wheel C gears into a horizontal bevel wheel D which is placed loosely on a vertical axis, and the bevel wheel D has a spur
45 wheel E attached to its upper surface and concentric with it, the axis of the wheel D also passing through the wheel E. The two wheels D, E, are above the upper surface of the table or platform A, as shown in
50 Fig. 1.

F represents a movable stock on which the leather to be cut is placed. This stock is formed precisely like the soles to be cut, and has a rack (a) formed all around it as
55 shown clearly by dotted lines in Fig. 1.

The wheel E gears into the rack (a). The under side of the stock F has a groove (b) cut in it a short distance from its edge, said groove extending all around the stock at an equal distance from its edge as shown by
60 dotted lines in Fig. 2. To the table or platform A there are attached two pins (c) (c) having rollers upon them, which rollers fit in the groove (b).

G, is a guide plate which is of the same
65 form as the sole to be cut. This plate is attached to the stock F just above the rack (a) and is snugly fitted to the stock F, the edge of the guide plate extending a short distance beyond the edges of the teeth of
70 the rack as clearly shown in Fig. 1. Upon the plate G there is attached by pins (d) (d) a block H which is of the same form, but somewhat smaller than the plate G and stock F. Upon the block H the leather,
75 shown in red, from which the sole is cut is placed, said leather being secured on the block by points (e) (e) on the upper ends of the pins (d) (d), see Fig. 1.

I represents a vibrating bed which is fitted
80 on horizontal guide rods (f) (f) attached to uprights (g) (g) on the table or platform A, and (h) (h) are spiral springs placed on said rods.

J is a bar attached to the upper surface
85 of the bed I by set screws (i) (i), so that said bar may be adjusted as occasion requires. To the outer end of the bar J on its under side there is attached a friction
90 roller K which bears against the edge of the guide plate G, the roller being kept against the guide plate by the springs (h) (h) and to the extreme end of the bar there is attached a guide roller L.

M is a pendent attached by a set screw
95 (i') to a horizontal bar N which is attached to an upright O on the bar J. The lower end of the pendent M has a guide roller P attached to it, the roller P being directly over the roller L as shown clearly in Fig. 1.
100

Q is a knife the lower end of which is attached to the outer end of the bar J just back of the guide roller L. This knife is somewhat inclined from a vertical position as shown clearly in Fig. 1, its upper end
105 bearing or resting against the bar N.

R is a knife attached to one end of a bar S, the opposite end of which is attached by a screw (j) to one side of the bar J. The knife R is in a horizontal position and
110

placed flatwise, its cutting edge being directly back of the knife Q, and projecting a requisite distance over the edge of the sole or leather. This knife may be inclined
 5 more or less from a horizontal position by a screw (k) which passes vertically through the bar S, the lower end of the same resting upon a horizontal plate (l) which is secured to the upper end of a rod (m) which
 10 passes up through the wheels D, E, and has one end of a lever (n) attached to its lower end. A spring (o) keeps the end of the screw (k) upon the plate (l).

T is a ledge or projection which is attached to the outer side of the heel of the stock F.
 15

U is a lever which is attached by a pivot (p) to a ledge (q) on the upper part of the bar N. The outer end of the lever U has a
 20 knife or cutter (r) attached to it, said knife or cutter being at the lower end of a rod (s) which is attached to the end of a lever, the inner end of the knife being somewhat lower than the outer end, as shown
 25 clearly in Fig. 3.

The operation is as follows: The leather from which the sole is cut is placed upon the block H and kept in proper position thereon by the points (e) (e). Motion is
 30 then given the shaft B in any proper manner, and the spur wheel E, in consequence of gearing into the rack (a), will move the stock F around directly in front of the rollers P, L, the rollers on the pins (c) (c)
 35 keeping the stock in proper position as it is moved, the plate G, serving as a guide or pattern to the knives. The edge of the leather passes between the rollers P, L, and the knife Q cuts out the sole which of

course corresponds with the form of the plate G, the edge of which bears against the roller K. The knife R bevels the edge of the sole as shown at (t) Figs. 1 and 3. This is technically termed "skiving" and the knife or cutter (r) cuts the rand (u) as
 45 shown in Figs. 2 and 3. The edge of the sole is not "skived" or beveled around the heel portion and the knife R is raised free from the heel of the sole while the heel is being cut by the knife Q in consequence of
 50 the lever (n) passing underneath the ledge or projection T, said lever raising the rod (m) and plate (l) and consequently the bar S and knife R.

The rand (u) is cut by raising the outer
 55 end of the lever U by hand or otherwise at the proper time, thereby causing the knife or cutter (r) to be depressed so that it will act upon the sole.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is,

1. Operating the knife, R, which is attached to the bar, S, by means of the lever, (n), rod, (m), with plate, (l), attached, on
 65 which plate the bar, S, rests and the ledge T, on the heel of the stock, F, substantially as shown for the purpose specified.

2. I further claim the knives Q, R, (r) when attached to or connected with an elastic platform I substantially as shown for
 70 the purpose specified.

WILLIAM WELLS.
 MELLIN BRAY.

Witnesses:

M. T. LUDDEN,
 A. H. STRICKLAND.