

(No Model.)

J. G. ROSS.

MACHINE FOR CHANNELING THE SOLES OF BOOTS OR SHOES.

No. 330,928.

Patented Nov. 24, 1885.

Fig. 2.

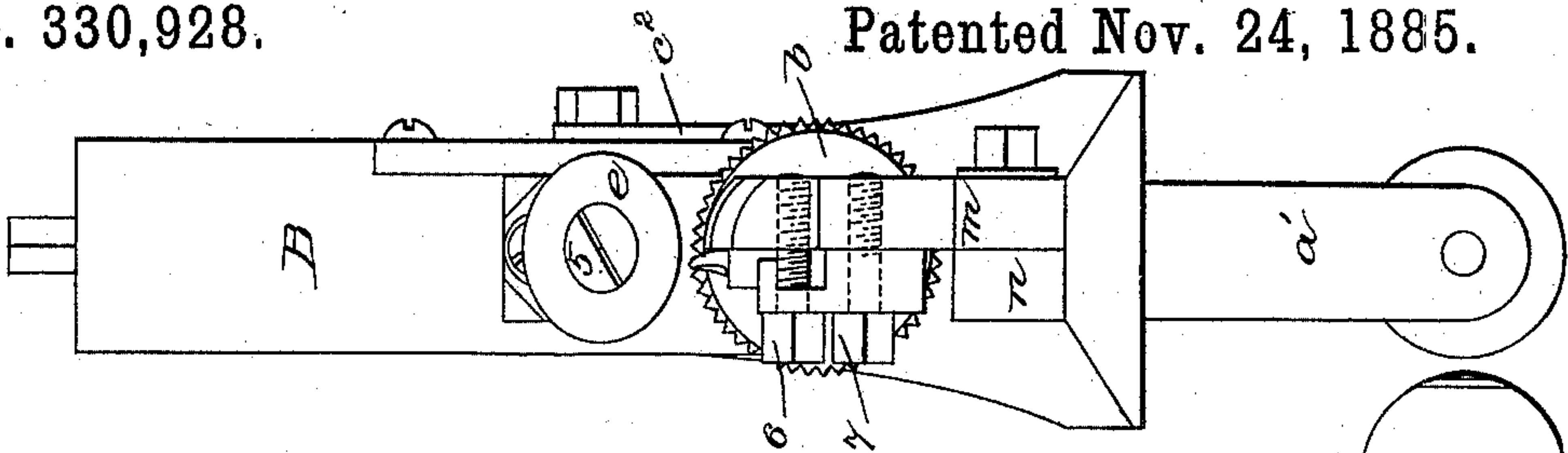


Fig. 3.

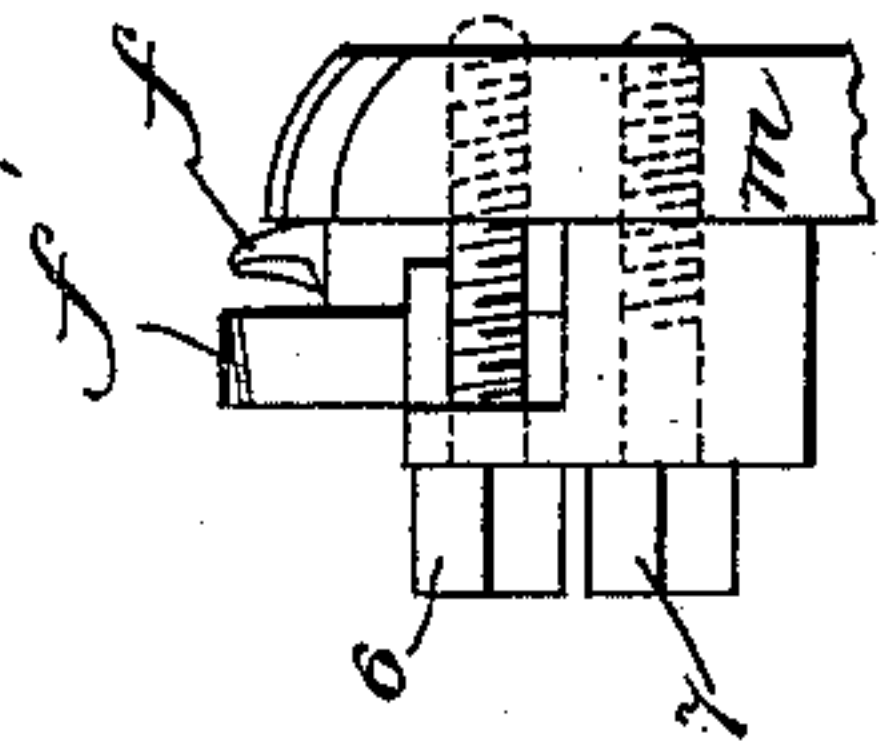


Fig. 1.

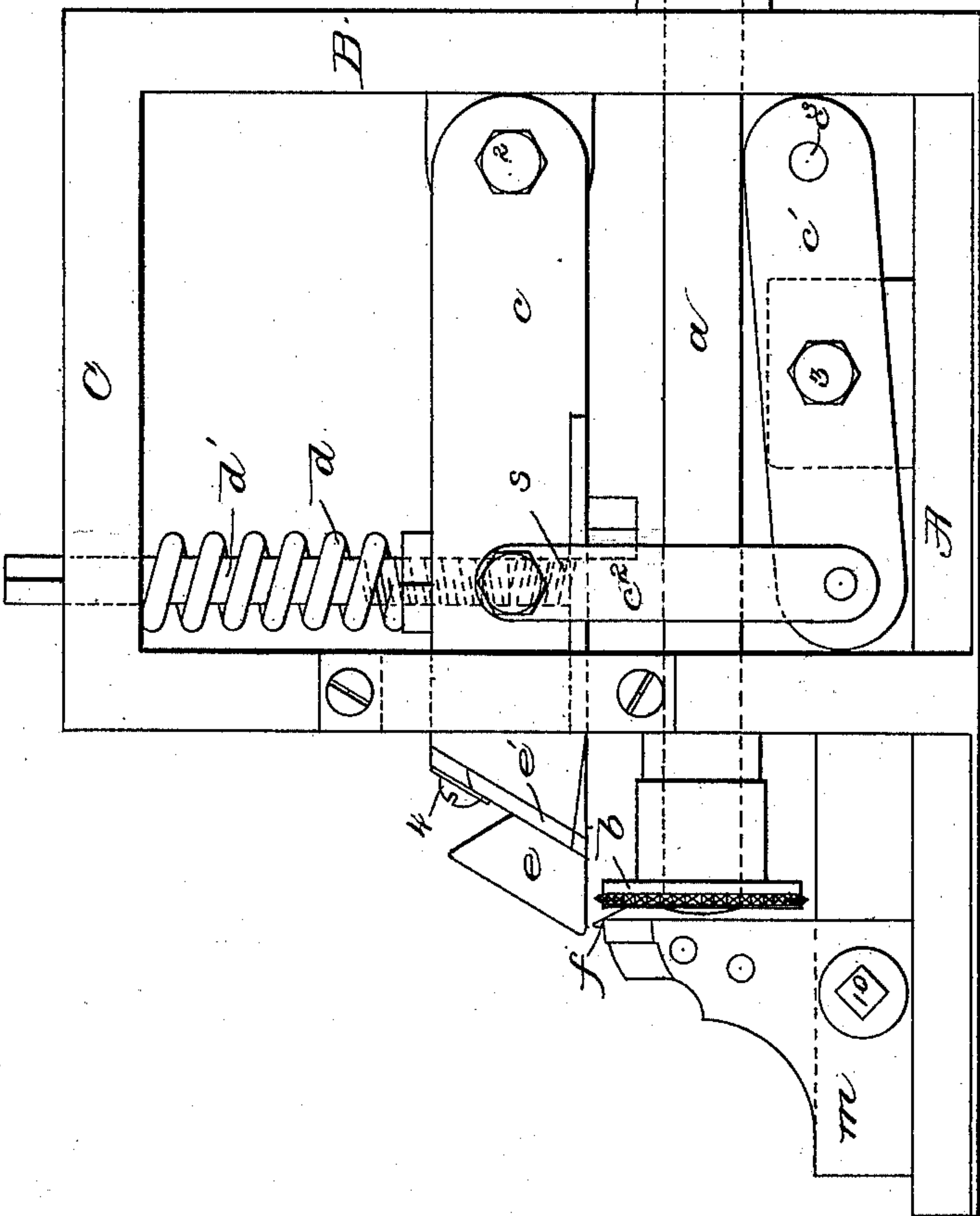
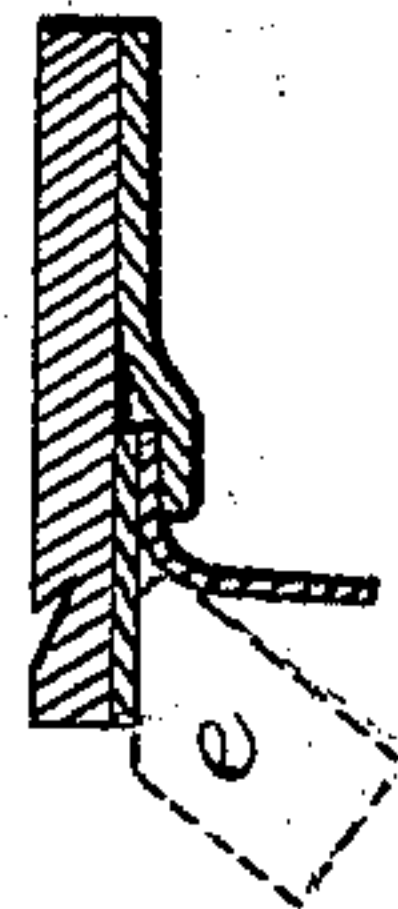


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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MACHINE FOR CHANNELING THE SOLES OF BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 330,928, dated November 24, 1885.

Application filed July 22, 1885. Serial No. 172,319. (No model.)

To all whom it may concern:

Be it known that I, JOHN G. ROSS, of Wakefield, county of Middlesex, State of Massachusetts, have invented an Improvement in Machines for Channeling Soles of Boots or Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

10 This invention has for its object to construct a machine which may effectively channel and groove the sole of a boot or shoe after the same has been lasted in the usual manner, the welt sewed thereon, and the sole secured by tacks
15 or other suitable fastenings.

The invention consists, essentially, in the combination, with a rotary shaft carrying a feed-wheel and a pressure-block carrying a guide pressure-roller, of a channeling-knife
20 mounted in a block adjustable upon the framework of the machine. The channeling-knife is also made adjustable in the block and is followed in its cutting operation by a channel-groover, also adjustably mounted in the said
25 block behind the channeling-knife.

Figure 1 is a side elevation of a channeling and grooving machine embodying my invention; Fig. 2, an end view thereof; Fig. 3, a detail showing both the channeling-knife and
30 channel-groover adjustably mounted in the block, and Fig. 4 a diagram showing the sole in place.

The main frame-work, comprising the bed A, uprights B, and cross-piece C, is of suitable design to sustain the working parts. The
35 shaft *a*, having bearings in the uprights B, is rotated, in this instance, by a hand-crank, *a'*; but it is obvious that the same may be rotated by power. The rotating shaft *a* has mounted
40 upon one end a feed-wheel, *b*, provided with a roughened or serrated periphery. The pressure-block *c*, extending lengthwise of the machine parallel with the rotating shaft *a* and pivoted to one of the uprights B at 2, is held
45 down by a spiral spring, *d*; but to lift it when desired I have employed a link, *c'*, which is pivoted to it and to a lever, *c''*, pivoted at 3, the said lever having a hole, *c'''*, to receive a rod, *c''''*, which will be connected with any usual
50 treadle. The spring *d* surrounds the rod *d'*, which passes down through the cross-piece C

and into the pressure-block *c*, said rod being screw-threaded to regulate the tension of the spring, as well as to vary the position of the pressure-block with relation to the rotating
55 shaft *a*. The pressure-block *c* carries a plate, *e'*, which receives the fulcrum-stud 5 of the guide pressure-roller *e*, the latter rotating freely, said plate being made adjustable toward and from the feed-wheel *b* by the screw 4. 60
The guide pressure-roller *e* is of frusto-conical shape, its smaller end being placed contiguous to the plate *e'*, thus presenting an angular face to bear upon the upper edge of the welt, the large end or base of the roller coming next to
65 or against the upper of the boot or shoe drawn over the last.

The channeling-knife *f*, adjacent to the feed-wheel *b* and guide pressure-roller *e*, is mounted adjustably in a block, *m*, by screws 6 7, (see
70 Figs. 2 and 3,) said block at its upper end contiguous to the channeling-knife being beveled to present a smooth guiding surface for the under side of the sole. The block *m*, carrying the channeling-knife, is adjustable upon
75 the bed A toward and from the guide pressure-roller *b* by a screw, 10, which passes through the said block *m* and into a rib or projection, *n*, upon the bed A. The block *m* may also carry
80 a channel-groover, *f'*, (shown only in Fig. 3,) arranged immediately back of the channeling-knife. The groover follows the channeling-knife as usual in its cutting operation, and cuts a groove at the bottom of the channel to receive the thread, said channel-groover
85 being also made adjustable by the adjusting-screws 6 7.

To channel and, if desired, groove a sole in accordance with this invention, the operator takes the shoe after it has been lasted in the
90 usual manner, the welt sewed thereto, and the sole secured by tacks, and feeds it into the machine between the guide pressure-roller and the channeling-knife and feed-wheel, the guide pressure-roller being raised by the treadle, as
95 described, facilitating such operation. The treadle is then released, so that the guide pressure-roller bears down upon the projecting upper edge of the welt next the upper of the boot or shoe, the base or large end of the
100 roller bearing against the upper, which is tightly drawn over the last, as shown in Fig. 4.

The shaft *a* is then rotated, and the shoe, held in position by the hand of the operator, is fed forward by the feed-wheel *b*.

The channeling knife and groover being adjustable, as described, a more or less deep cut may be made into the sole, as circumstances may require, and the block *m*, carrying the channeling knife and groover, being also adjustable, the channel may be cut any distance from the outer edge of the sole required, and the guide pressure-roller, being also adjustable, accommodates varying thicknesses of stock, while the spring *d*, controlling the pressure of the guide-roller *e* upon the sole, permits the latter to readily yield to variations in the thickness of the sole.

It is obvious that soles may be channeled upon a machine constructed in accordance with this invention before applied to a boot or shoe with but very slight modification; but the essential object is to channel the sole after it has been tacked to the boot or shoe.

I claim—

1. In a machine for channeling the soles of boots and shoes, the frame, rotating shaft, and feed-wheel carried thereby, and the pressure-block and guide pressure-roller thereon, combined with a channeling-knife mounted in a block upon the frame-work and arranged to co-operate with the feed-wheel and guide

pressure-roller to cut a channel as the sole is fed forward, all arranged substantially as described.

2. In a machine for channeling the soles of boots and shoes, the frame, rotating shaft, and feed-wheel, and the channeling-knife, combined with a spring-controlled pressure-block and adjustable guide pressure-roller carried thereby, and the treadle to raise the said pressure-block to permit free entrance of the sole beneath the guide pressure-roller, all arranged substantially as described.

3. The frame, the rotating shaft and its feed-wheel, the pressure-block and its guide pressure-roller, combined with an adjustable channeling-knife mounted in an adjustable block, *m*, substantially as described.

4. The frame, the rotating shaft and its feed-wheel, the pressure-block and its guide pressure-roller, combined with an adjustable channeling-knife mounted in an adjustable block, *m*, and a channel-groover also mounted in said block *m*, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN GILBERT ROSS.

Witnesses:

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B. J. NOYES.