

(No Model.)

C. W. GLIDDEN.

HEEL TRIMMING MACHINE.

No. 321,017.

Patented June 30, 1885.

Fig: 1.

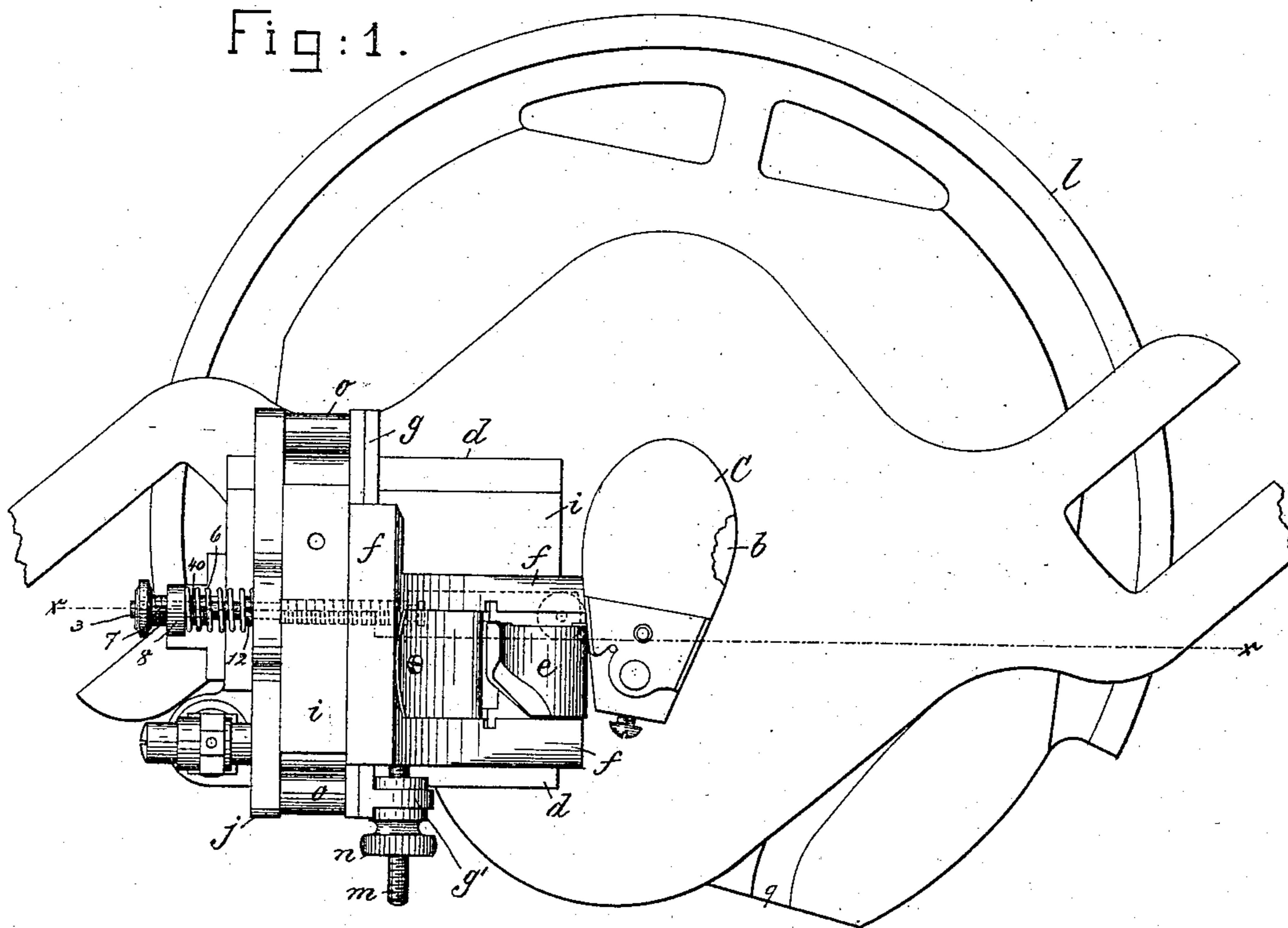
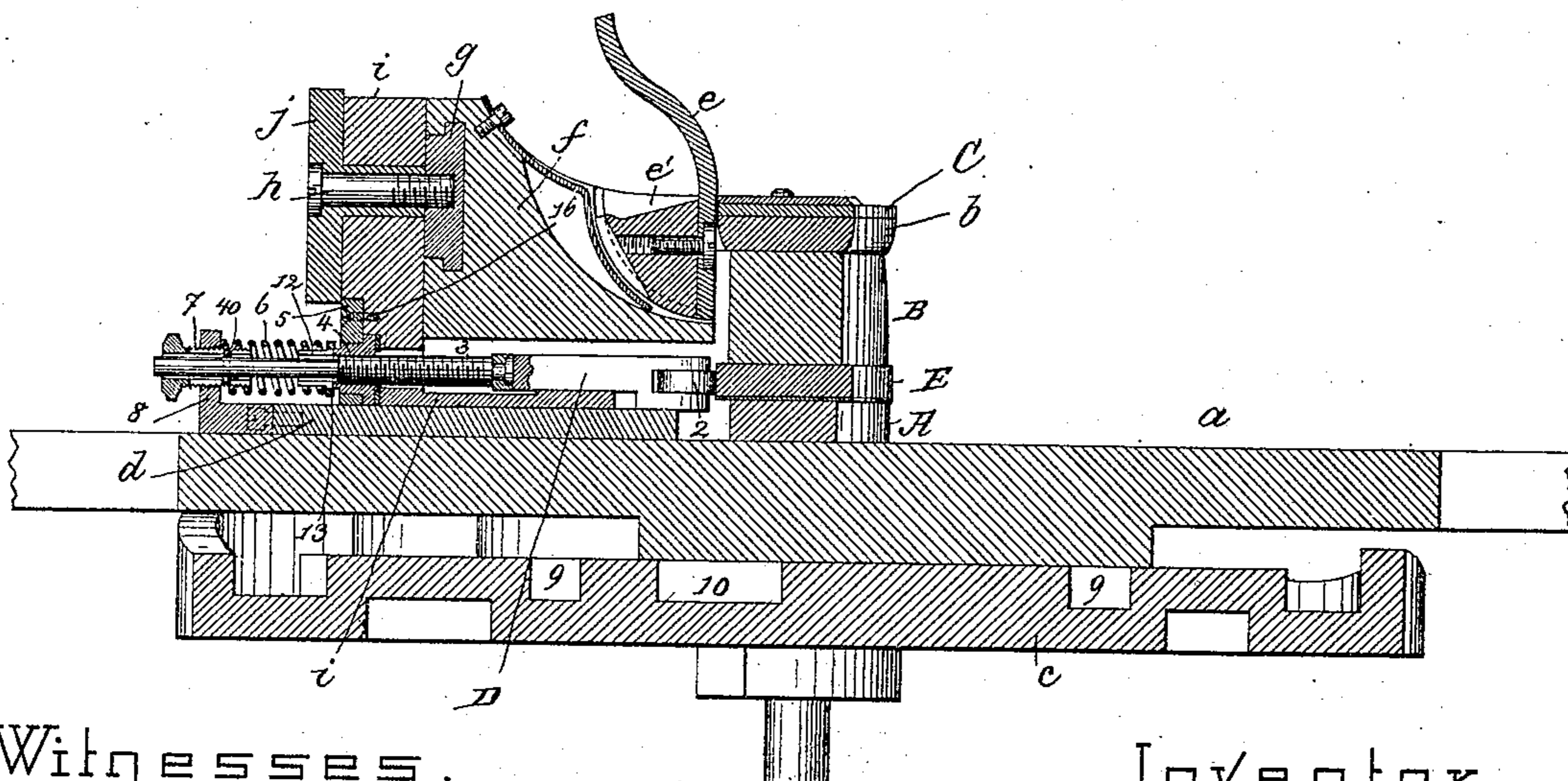


Fig: 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

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HEEL-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 321,017, dated June 30, 1885.

Application filed March 31, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. GLIDDEN, of Lynn, county of Essex, State of Massachusetts, have invented an Improvement in Heel-Trimming Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention is an improvement on that class of machines described in United States Letters Patent No. 217,866 heretofore granted to me; and has for its object to improve the mechanism therein shown, whereby a greater variety of heels or heels of different shape may be trimmed. In that patent the central groove controls the line of movement of the edge of the knife to give to the tread of the heel the shape determined by the said groove, while the outer groove determines the angle of presentation of the cutting-edge of the knife to the leather to enable the knife to cut the same to the greatest advantage. By the aid of these two grooves a pattern-plate at the top of the nail-box and the top-lift plate the tread of the heel is given a certain shape, and to trim a heel of a different shape at the tread a different plate having proper grooves therein and a pattern-plate of the proper shape has to be applied to the machine, heels having different shaped treads requiring separate grooved plates and specially adapted pattern-plates. It has been attempted with the same grooved plates and with only a change of pattern-plate and top-lift plate to change the contour of the tread of the heel, the knife-carriage being drawn forward by the action of the knife alone as it enters the heel, the same knife entering the material of the heel until its edge comes in contact with the pattern-plate; but said plan is in my opinion objectionable, because the wear on the pattern-plate and the top-lift plate is very great, and also because the edge of the knife subjected to such great strain is frequently bent or broken. To obviate this objectionable strain on the knife and wear on the pattern and top-lift plates, I have provided the heel-trimming machine with an auxiliary pattern-plate, and I have applied the said plate between the nail-box and the driver-plate, and, further, I have provided the bearing-block or knife-carrying cross-slide on

which the knife-holder is pivoted with an adjustable follower having, preferably at its inner end, a roller which bears against the edge of the said auxiliary pattern-plate and receives the strain of the parts, thus obviating straining the knife and wearing the pattern-plate out of shape.

Figure 1 in top view represents a sufficient portion of a heel-trimming machine such as referred to with my improvements added; and Fig. 2 is a section thereof in the dotted line *x x*, the line of section intersecting the line of the slot between the side of the follower and the block in which it slides.

The stationary or frame plate *c*, provided with the grooves 9 and 10, the trimming-lever *a*, the heel-support or pattern-plate *b*, the turn-table plate *d*, the knife *e*, the segmental base *e'*, to which is attached the knife-holder *f*, the flange-plate *g*, its ear *g'*, the knife-holder *f*, mounted on the flange-plate *g*, the bearing-block, or slide *i*, fitted to slide in ways formed in the turn-table plate, the arm *j*, connected by the screw *h* with the flange-plate *g*, the screw *m*, and the pins or bolts *o*, and the pattern-surface *n* are all substantially as in the patent referred to, where the same parts are designated by like letters. The driver-plate *A*, the nail-box *B*, and the top-lift plate *C* are all as in the McKay and Bigelow heel-trimming-machine, and as also shown in the above patent, but not lettered therein, because well known at that time.

To enable the form-plate *c*, having grooves 9 and 10, to be used when trimming heels varying considerably in shape, I have added to the parts so far described an auxiliary pattern-plate, *E*, which I have placed between the usual driver-plate, *A*, and the nail-box *B*, as shown in Fig. 2, and I have also provided the bearing-block *i* or knife carrying cross-slide with a follower, *D*, the inner end of which supports a roller, 2, that bears against the said auxiliary pattern-plate and takes the strain which otherwise would be exerted by the edge of the knife *e* upon either the pattern-plate *b* or on the top-lift plate *C*, which latter plates in this my invention will be changed to correspond in shape with the tread of each heel to be trimmed. The follower *D* has swiveled loosely in its outer end the end of the adjust-

able screw, 3, which is made to enter and engage a nut, 4, held in the bearing-block *i* by the cap 5, attached to the said bearing-plate by a screw, 16, so that the nut cannot move longitudinally with the screw 3 or rotate therewith. The outer unthreaded end of the screw 3 is extended through a spiral spring, 6, and then through a hollow nut, 7, which is screwed into an ear, 8, attached to the turn-table plate *d*. Near its outer end the screw 3 is provided with a pin, 40, which is extended therefrom at right angles and enters a longitudinal slot cut through the said nut from its end to its head. A tubular washer, 12, having its flange 13 placed against the outer side of the nut 4, receives about its body one end of the spiral spring 6, the other end of the latter abutting against the inner side of the ear 8. The great strain upon the knife *e* is due to the fact that the edge of the blade as it enters the leather follows into the same until the edge of the blade comes against the edge of the pattern-plate *b*. By turning the slotted nut 7 and screw 3 in operative connection with it by the pin 40 in the slot of the said nut the follower D may be forced more or less out beyond the edge of the bearing-block *i*, so that the roll 2 will run against the auxiliary pattern-plate, the latter thus receiving against it and resisting the strain which otherwise the knife would exert upon the plates *b* and *C*. The farther the follower D is forced from the bearing-block the farther the edge of the knife *e* from the plates *b* and *C*. Under all circumstances it is desired that the force with which the bearing-block *i* is pressed forward in the turn-table plate and against the auxiliary pattern-plate be the same; so, to equalize

the force exerted by the spiral spring 6 and keep it constant in all position of adjustments of the follower D, I have so supported and made the nut 7 that the latter as it is turned to move the screw longitudinally by reason of the pin 40 in the slot of the said nut will not compress the spring additionally.

I claim—

1. In a heel-trimming machine having a nail-box, a grooved form-plate, a trimming-lever, a turn-table plate, a bearing-block, a knife-holder and knife, the combination, with the auxiliary pattern-plate located below the nail-box, of the adjustable follower moving with the bearing-block and turn-table plate and traveling against the auxiliary pattern-plate to lessen the strain of the knife against the regular pattern-plate located above the nail-box, the combination being and operating substantially as described.

2. The turn-table plate *d*, the bearing-block *i*, the follower D, and its loosely attached screw, combined with the spring and the slotted nut screwed into an ear of the turn-table plate, to operate substantially as described.

3. In a heeling-machine, the nail-box and driver-plate, combined with the follower and the intermediate auxiliary pattern plate, to operate substantially as described.

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

CHARLES W. GLIDDEN.

Witnesses:

G. W. GREGORY,
B. J. NOYES.