

(No Model.)

A. McDOWELL.
HEEL TRIMMING MACHINE.

No. 304,838.

Patented Sept. 9, 1884.

Fig. 1.

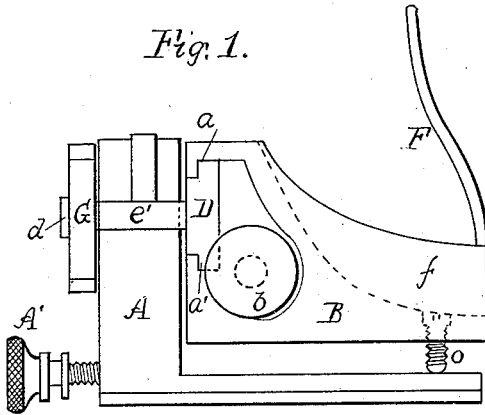


Fig. 5.

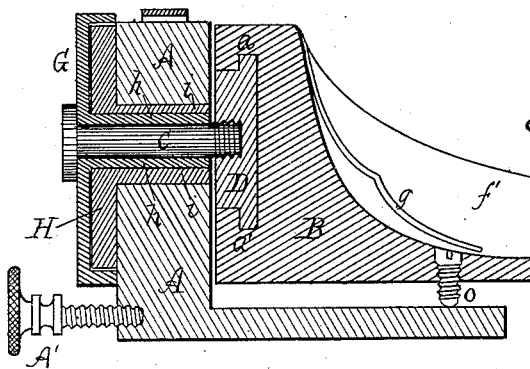
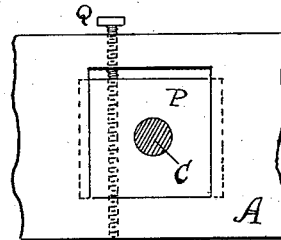


Fig. 3.

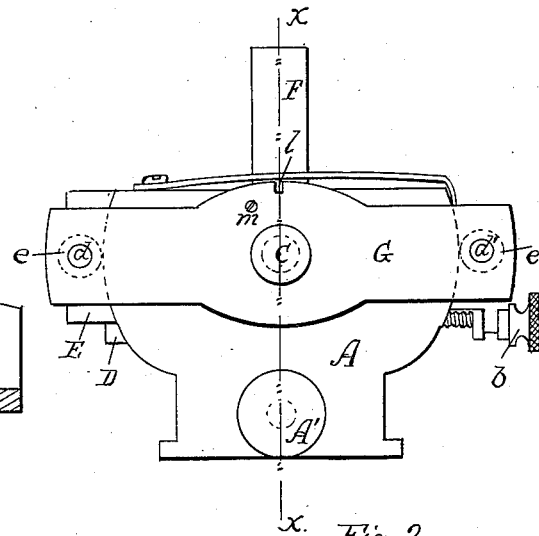


Fig. 2.

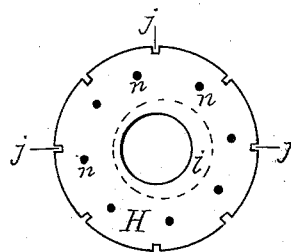


Fig. 4.

Witnesses.
H. C. Lodge.
Thos. J. Bailey

Inventor.
Alex. McDowell.
by W. H. Babcock
Attorney.

UNITED STATES PATENT OFFICE.

ALEXANDER McDOWELL, OF SALEM, MASSACHUSETTS.

HEEL-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 304,838, dated September 9, 1884.

Application filed May 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER McDOWELL, a subject of the Queen of Great Britain, residing at Salem, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Heel-Trimming Machines for Boots or Shoes; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to machinery for trimming or paring the heels of boots or shoes, and concerns especially that class of machines in which a traveling carriage suitably mounted and operated moves an adjustable head round the heel, this head being provided with a knife-stock which has semi-rotary reciprocating movement, the knife being so arranged upon the stock that it automatically accommodates itself to the varying width of the heel edge, in which the rear portion of the edge is much more sloping and consequently deeper than the sides.

My improvements relate especially to the vertical adjustment of the knife-stock, and to means for steadying the inner portion or nose of said stock at or near the pivot-point of the knife, which hitherto has been unsupported, causing unsteadiness in the movement of the knife when in active operation.

The drawings accompanying this specification represent in Figure 1 a side and Fig. 2 a front elevation, of the movable head and knife-stock belonging to a heel-trimming machine of the class above described, while Fig. 3 is a vertical central section on line *x x*, and Fig. 4 is a front elevation, of the adjustable tubular eccentric bushing, to be more fully hereinafter explained. Fig. 5 shows a modified device for effecting vertical adjustment.

In the above-mentioned drawings, A represents the adjustable head, secured to the traveling carriage by the screw A', and B the knife-stock, which has a reciprocating rocking movement upon the pin C, passing through the head A. This pin is screwed into a vertical plate, D, provided with ways or guides *a a'*, upon which the knife-stock B is free to move when

lateral adjustment of the knife F is desired by means of the hand-screw *b*.

To secure the knife-stock B to the movable head, and yet permit of rocking movement thereon, as above mentioned, I have slightly rounded the ends of the head and provided and placed a flat bar or yoke, G, upon the front side of the plate A, which is secured by bolts *d d'*, which unite the two plates D G together on each side of the carriage A, while two collars, *e e'*, are inserted over said bolts and between the plates to prevent them binding on the carriage A when said bolts are tightly set up. The collars bear upon the rounded ends of the yoke G, and serve thereby to assist the bolt C to steady the knife-stock when moving. The knife-stock is represented as being formed with two cheeks, *f f'*, between which is placed a flat spring, *g*, which bears against the knife F, the latter moving within said cheeks while the spring maintains the knife in its proper position against the heel to be trimmed when the machine is in active operation.

The above is a brief description of a movable head, with its knife and knife-stock belonging to a class of machines now extensively employed in trimming the heels of boots or shoes.

In Fig. 3 the yoke G is shown as cast with a hub, *h*, which snugly fits a hole bored in the plate A. This hub receives and contains the bolt C, and forms the pivot upon which the knife-stock reciprocates.

To provide for the vertical adjustment of the knife-stock, I have formed the bore in the plate A sufficiently large to receive an eccentric hub or tubular bushing, *i*, whose inner diameter will just admit of the entrance of the hub *h* of the yoke G, which is free to rock in the same manner as usual. This bushing *i* has formed upon one end a circular plate or disk, H, formed with peripheral notches *j j*, and is further provided with holes *n n*, &c., each of which bears the same relative position with respect to the slot with which it co-operates.

In the top of the yoke G, I have formed an adjusting gage or slot, *l*, by which, when one of the slots *j* coincides with this fixed slot *l*, the operator knows that the disk H has been turned to its proper position, when he secures it rigidly for the time being by means of the set-screw *m*, which fits into one of the holes *n n*, &c., ac-

cording to which notch *j* is uppermost. The
 inside face of the yoke *G* is hollowed out suffi-
 ciently to admit of the disk *H*, which is then
 flush with its inner surface when in proper po-
 sition, and offers no obstruction in the operation
 of the yoke *G*, while it may be readily and eas-
 ily adjusted by the operator from above with-
 out touching or affecting said plate in any way
 whatsoever. Rotation of the disk *H* throws the
 knife-stock up or down, according to the
 amount it is turned, and any slight lateral de-
 viation caused by this movement can be easily
 overcome by adjustment through the screw *b*.
 My second improvement consists in support-
 ing the inner end of the knife-stock, which has
 hitherto been simply attached, where the bolt
 centers the plate *D*; hence there is great strain
 brought upon said bolt and a tendency to slight-
 ly twist or turn the knife from its normal path
 of movement when actively employed, and the
 latter may perhaps enter the heel, take a sheer,
 and either snap the knife or break the machine.
 I have obviated this difficulty by boring through
 the base of the knife-stock *B* between the cheeks
f f', and inserting a steel grub or set-screw, *o*,
 with its projecting end or extremity rounded
 and hardened, which bears upon the plate *A*,
 materially supporting the knife-stock, and
 does not effect the rocking motion of the latter
 or increase the friction. A small friction-roll
 may be substituted for the screw with equally
 good results. There is always more or less play
 between the plate *D* and the plate or head *A*, to

permit of free rocking movement; hence slight
 turning of the screw *o* will raise or lower the
 knife-stock and maintain the nose of the latter
 parallel with the base of the plate or head *A*,
 while elevation or depression of the plate *D* is
 effected by rotation of the eccentric bushing or
 hub *h*.

I claim—

1. In heel-trimming machines, the combina-
 tion, with the adjustable head bearing the piv-
 oted rocking knife-stock and knife, of the tubu-
 lar eccentric bushing, whereby vertical adjust-
 ment of the latter may be accomplished, sub-
 stantially as set forth.

2. In heel-trimming machines, the combina-
 tion, with the head *A*, and the plates *D G*, pivoted
 thereto and carrying the knife-stock *B*, of the
 tubular eccentric bushing *i*, with its circular
 head *H*, as described, whereby movement of the
 latter effects a raising or lowering of the knife,
 substantially as and for the purposes described.

3. In heel-trimming machinery, the knife-
 stock, operated as described, and provided at
 its nose or front portion with an adjustable
 screw, whereby support is afforded the stock
 and steadiness of the knife insured, substan-
 tially as herein set forth.

In testimony whereof I affix my signature in
 presence of two witnesses.

ALEXANDER McDOWELL.

Witnesses:

H. E. LODGE,

THOS. T. BAILEY.