(No Model.)

E. B. ALLEN.

HEEL TRIMMING MACHINE.

No. 332,984. Patented Dec. 22, 1885.

Fig: 1.

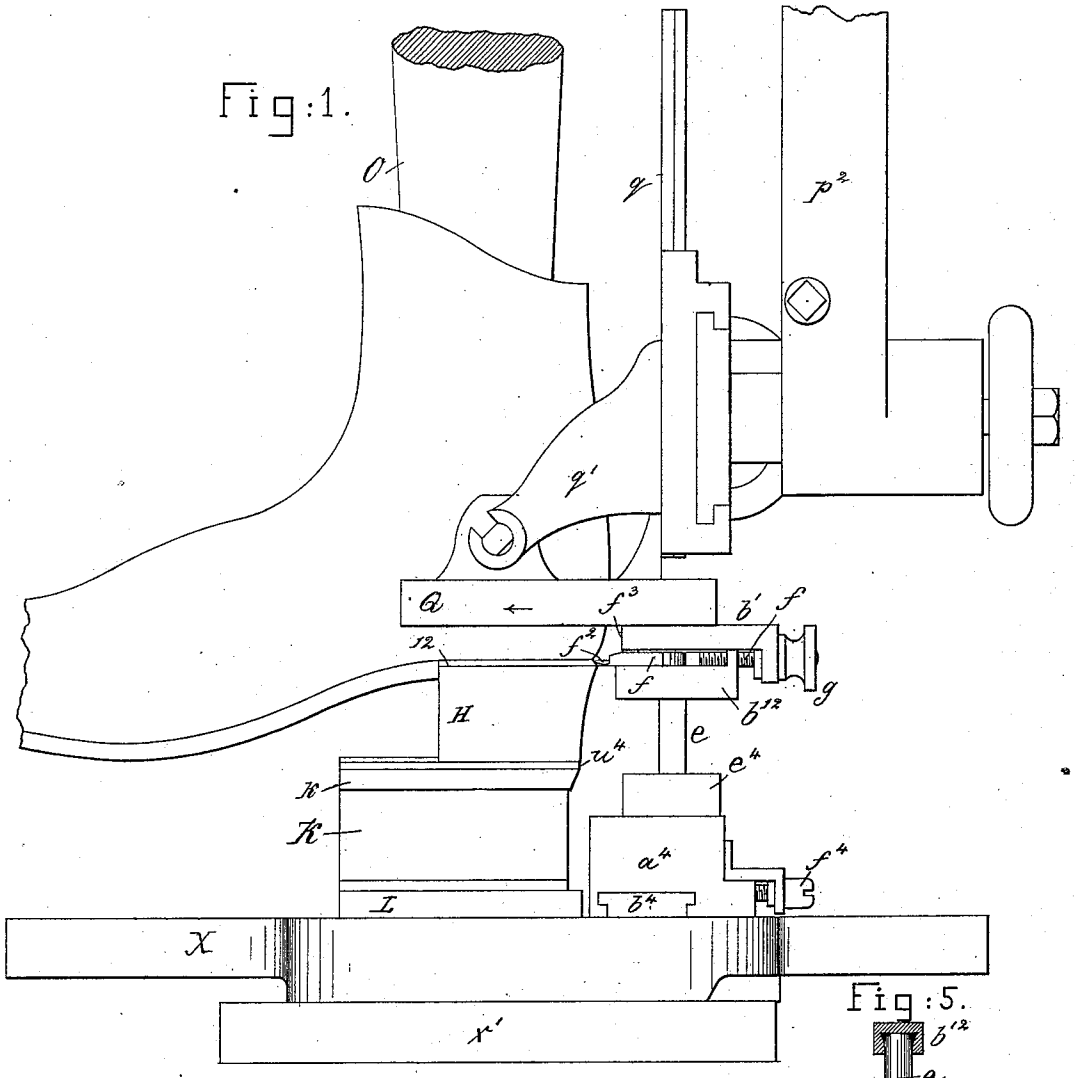


Fig: 5.

Fig: 3.

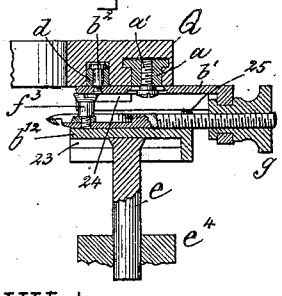


Fig: 2.

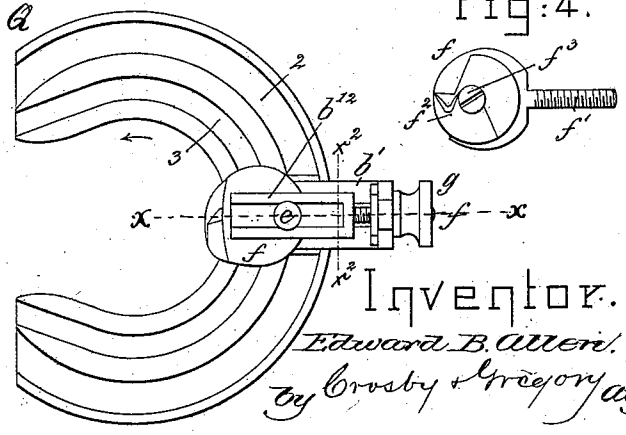


Fig: 4.

Witnesses.

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UNITED STATES PATENT OFFICE.

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HEEL-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 332,984, dated December 22, 1885.

Application filed February 2, 1885. Serial No. 154,638. (No model.)

To all whom it may concern:

Be it known that I, EDWARD B. ALLEN, of Portland, county of Cumberland, State of Maine, 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.

My invention relates to that class of heeling-machine in which the heel is trimmed automatically, and has for its object to automatically perform for the heel that operation known as "randing," or, after the heel is applied, cutting off the upper corner of the heel-end of the sole next the upper.

My invention is shown as embodied in that class of heeling-machine known as the "McKay & Bigelow," the same being represented substantially in United States Patent No. 166,795, dated August 17, 1875.

I have provided the clamp which embraces the heel of the boot or shoe being heeled with two circular concentric grooves, one of which receives a pivoted segmental block, and the other a roller-stud of a holder which receives a rand-cutter, and I have connected this holder by a pin or stud with the carriage which moves the heel-trimming knife about the heel, so that as the said carriage is returning to position after having trimmed the heel the rand-cutter will come into operation.

Figure 1 in side elevation represents a sufficient portion of a heeling-machine of well-known construction with my improvements applied to enable my invention to be understood; Fig. 2, an under side view of the clamp with the rand-cutter and its holder applied thereto. Fig. 3 is a section in the line $x\ x$, Fig. 2, but with the parts right side up, a part of the knife-moving carriage being shown to receive the rod which causes the heel-trimming knife and rand-cutter to move in unison. Fig. 4 is a top view of the rand-cutter detached; and Fig. 5, a section in the line x^2, Fig. 2, looking toward the left, the rand-cutter being omitted.

The grooved plate x', the movable carriage or trimming-lever X, the ledge b^4, which is attached to the turn-table, the turn-table, the driver-plate L, nail-box K, top-lift plate u^4, slide-plate e^4, with which the knife to trim the heel will be connected, the holder a^4, mounted on the ledge b^4, the screw f^4, by which to adjust the plate e^4 in the holder a^4, the arm p^2, slide q, support q', attached thereto, clamp Q, and last-carrying bar O, are all substantially as in United States Patent No. 166,795, referred to, where like parts are designated by like letters.

The gage-plate k and top-lift plate u^4 are common to heeling-machines.

I have provided the under side of the pivoted clamp Q with two grooves, 2 3, the latter being T-shaped in cross-section to receive a T-shaped segmental block, a, pivoted by screw a' on the holder b', the latter having a pin, b^2, which receives upon it a roll, d, that enters the smaller groove 3, as best shown in Fig. 3, while the block a enters the groove 2.

The rand-cutter f (shown separately in Fig. 4, and composed of a stock having a screw-threaded stem, f', and having a blade, f^2, held by a screw, f^3) is of usual shape for hand-work. The head of the screw f^3 of the rand-cutter is extended upward and enters a groove, 24, of the holder b', and the screw-threaded stem f' is entered into a nut, g, having an annular groove, which is entered by a forked or flanged part of the holder, so that the said nut may be rotated freely without being moved longitudinally, thus permitting the rand-cutter to be adjusted longitudinally by the nut g. The stem f' of the rand-cutter is passed loosely through a hole in an ear, 25, of a connecting-block, b^{12}, having at its under side a dovetail slot, 23, (see Fig. 5,) in which is entered the upper end or head (see Fig. 3) of a connecting pin or rod, e, the lower end of which enters loosely a hole in the slide-plate e^4, which moves out and in toward the nail-box and covers the usual trimming-knife. (Not shown.)

The slide-plate e^4 in practice will contain a heel-trimming knife, such as designated by the letter d^4 in the said Patent No. 166,795, and the movable carriage or trimmer-lever X and knife-holder a^4 will in practice be carried about the heel H as in the said patent, and in so doing the pin or rod e, engaging the holder b', will move it about the pivoted clamp in the direction of the arrow thereon; but as the holder and rand-cutter are moved

in that direction the blade of the rand-cutter does not operate, but, the heel having been trimmed and the reverse movement of the parts having been commenced, the blade of the rand-cutter attacks the upper edge or corner of the heel-end of the sole, above the heel and next the upper, and cuts the same away, as shown at 12, Fig. 1, thus "randing the heel," as it is called.

Prior to my invention I am not aware that a heeling-machine was ever made having a blade to trim the main body of the heel and a separate cutter to rand the heel.

I claim—

1. In a heeling-machine, the clamp to embrace the heel of the upper, combined with a holder made movable thereon, and provided with a rand-cutter, substantially as described.

2. The grooved clamp, the holder having the block and roller to enter the grooves of the clamp, and the nut *g*, combined with and to adjust the rand-cutter toward and from the center or axis of the heel, substantially as described.

3. The clamp, the holder, the rand-cutter, the connecting-block, and the carriage to carry a heel-trimming knife about the heel to trim the same, combined with a pin or rod to connect the carriage and connecting-block, to operate substantially as described.

4. In a heeling-machine, the clamp Q, grooved at its under side and adapted to embrace the heel of the upper, combined with a rand-cutter and with a holder made movable on the said clamp, the holder being provided with a block and stud to enter the grooves of the clamp, substantially as described.

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

EDWARD B. ALLEN.

Witnesses:

G. W. GREGORY,

B. J. NOYES.