(No Model.)

J. L. HATCH.

HEEL STIFFENER MACHINE.

No. 346,100. Patented July 27, 1886.

Fig. 1.

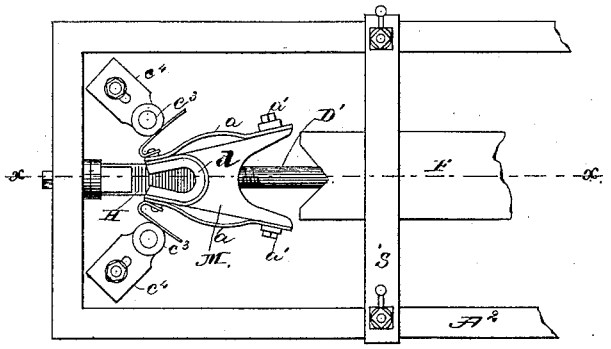


Fig. 2.

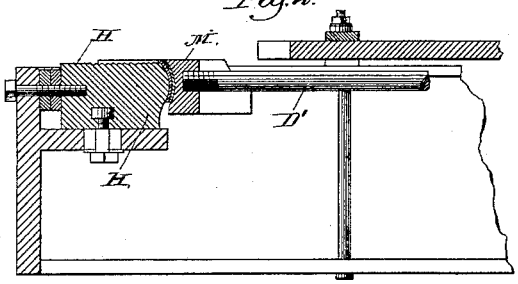


Fig. 3.

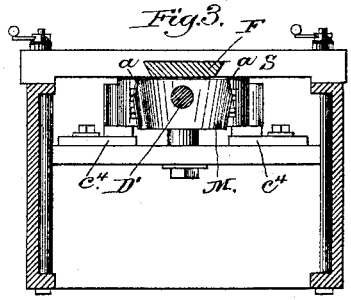


Fig. 4.

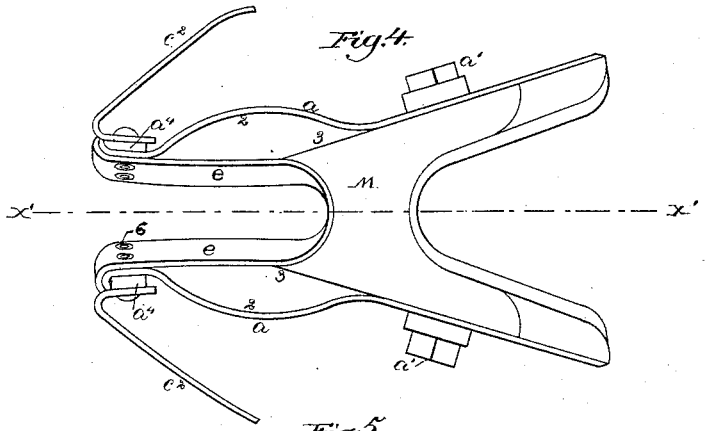
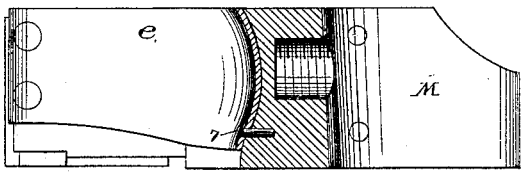


Fig. 5.



Witnesses
Thomas Hobday
John F. C. Reinhardt

Inventor:
James L. Hatch
by Crosby & Gregory Attys.

UNITED STATES PATENT OFFICE.

JAMES L. HATCH, OF ROCHESTER, NEW YORK.

HEEL-STIFFENER MACHINE.

SPECIFICATION forming part of Letters Patent No. 346,100, dated July 27, 1886.

Application filed May 20, 1886. Serial No. 202,736. (No model.)

To all whom it may concern:

Be it known that I, JAMES L. HATCH, of Rochester, county of Monroe, and State of New York, have invented an Improvement in Machines for the Manufacture of Heel or Counter Stiffeners for Boots and Shoes, 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 upon that described in United States Letters Patent No. 309,223, granted to me December 16, 1884. The patent referred to shows a head-block provided with spring-arms which, just prior to the action of the flange-laying device, are pressed inwardly toward the center of the heel-form to thereby effectually hold the counter from slipping thereon while the flange-laying device is being operated. In my present invention I provide the said arms with a flexible mold having a covering of suitable shape to fit the heel-form externally, or to reach around the heel-form between the junction of the mold with the springs and the head-block, the said mold affording additional means to hold the counter immovably, and to mold it to heel-form of any desired shape.

Figure 1, in top or plan view, shows a sufficient portion of a machine for manufacturing heel or counter stiffeners to enable my invention to be understood; Fig. 2, a section of Fig. 1 in the dotted line $x\ x$; Fig. 3, a right-hand elevation of Fig. 1; Fig. 4, a top or plan view enlarged of the head, its attached springs and strap; and Fig. 5 is a section of Fig. 4 in the dotted line $x'\ x'$.

The frame-work A^2, plate S, the flange-laying slide or shovel F, the slide-rod D′, the head M, heel-form H, plates c^4, and roller-studs c^3, are all substantially as in my said patent, to which reference may be had, the said parts being therein designated by like letters. Herein the springs a, attached to the head M of the bolts a', are bent outwardly, as at 2, so as to carry the springs away from the corners 3 3 of the head, and to prevent the springs acting against the mold e, to be described, at the sides of the heel-form. The outer ends of the springs a have riveted or bolted to them blocks a^4, to which are also attached the wings c^2, substantially such as shown in the said patent, the said wings running against the said roller-studs when the springs are to be forced inwardly to cause the mold e to hold the counter or stiffener upon the heel-form.

In the drawings, d represents the flange of the stiffener or counter applied to the heel-form.

Instead of causing the inner sides of the springs connected with the head from bearing directly against the stiffener or counter to hold the latter on the heel-form, as in the said patent, I have provided a mold of strong flexible material, as e—such as steel, brass, leather, rawhide, or other substitutes for leather. This mold is bolted to the ends of the springs at 6, and to the head at 7.

In operation, as the head is moved forward to place the flexible mold in contact with the stiffener or counter at the end of the heel-form, the wings meet the roller-studs and the springs are forced inwardly at the ends to force the mold against the sides of the stiffener or counter on the heel-form, as or about as, or a little after, the said mold, where it is riveted to the head M, meets the said stiffener, the said mold acting with great power to hold the stiffener or counter against the heel-form while the flange-turner F is moved forward in usual manner to rub down or set the flange d of the counter or stiffener.

It will be noticed that the mold e is without joint or hinge, and the springs open and close the mold to embrace the stiffener on the heel-form.

The flexible mold, before being attached to the head-piece, is bent or hammered to the exact shape of the heel-form over which the counter is to be formed, and the outside springs do not press against this inside flexible mold along its sides, but simply act to carry inwardly the ends of the mold at the point at which the mold is attached to the springs, the mold holding the counter or stiffener so firmly that its corners do not get out of place when the flange is being shaped and set for the finished counter.

My improved flexible mold is shaped in cross-section, as well as longitudinally, to conform to the shape of the heel-form and therefrom differs essentially in operation from a plain strip or band.

I claim—

In a machine for the manufacture or treatment of heel stiffeners or counters, a heel-form, the flange-turning device, a concaved reciprocating head, springs, and arms *a a*, combined with a flexible mold, substantially such as described, connected to the said arms and head, and operating to hold the stiffener or counter in position upon the heel-form while the flange-turning device lays or sets the flange of the stiffener or counter, substantially as set forth.

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

JAMES L. HATCH.

Witnesses:
W. W. WEBB,
M. H. MCMATH.