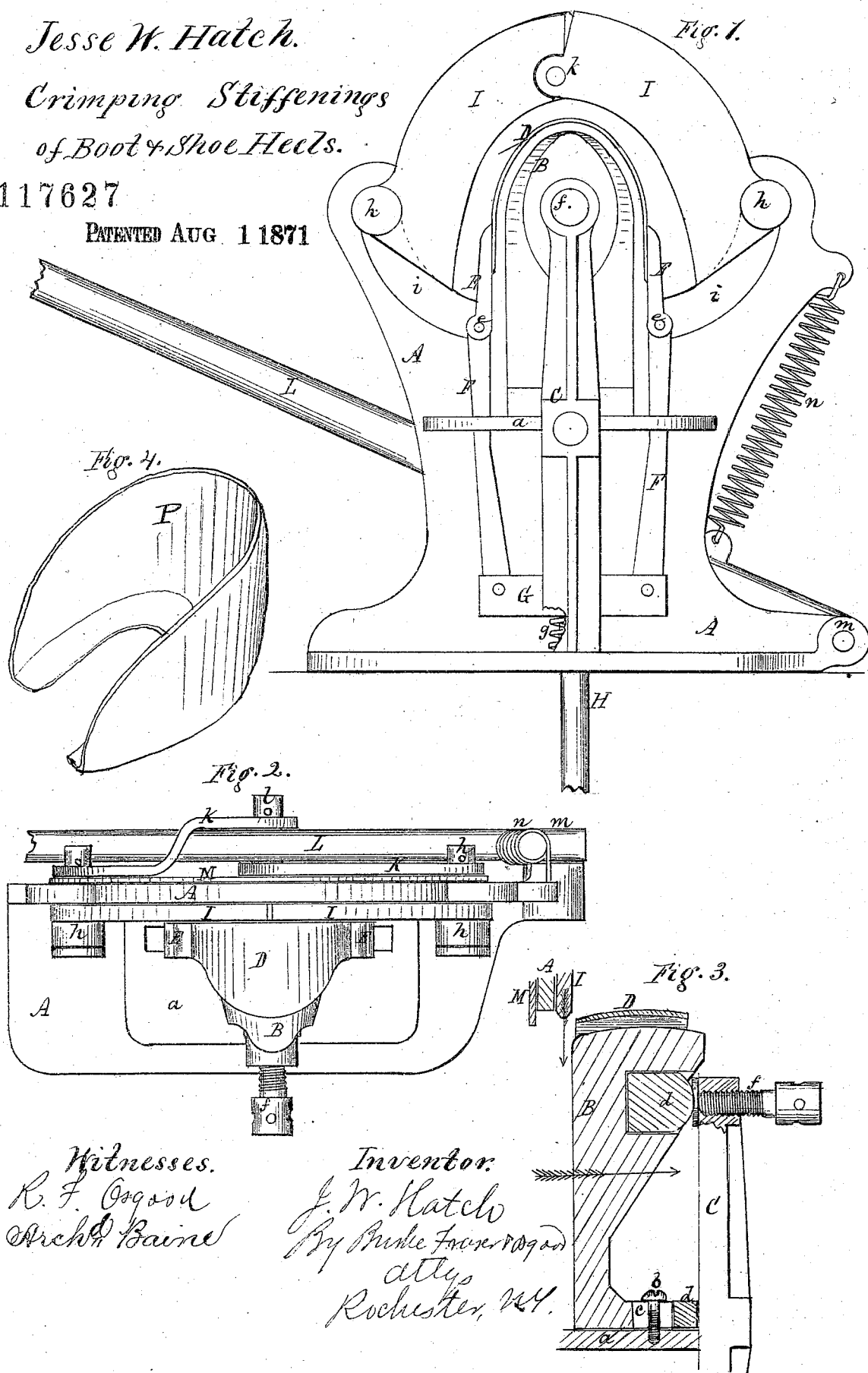


Jesse W. Hatch.

Crimping Stiffenings
of Boot & Shoe Heels.

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PATENTED AUG. 1 1871



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JESSE W. HATCH, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN APPARATUS FOR CRIMPING THE STIFFENINGS OF BOOTS AND SHOES.

Specification forming part of Letters Patent No. 117,627, dated August 1, 1871.

To all whom it may concern:

Be it known that I, JESSE W. HATCH, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Apparatus for Crimping the Stiffenings of Boot and Shoe-Heels, of which the following is a specification:

This invention consists in the combination and arrangement of a yielding heel-form, crimping-jaws, clamping-strap, and other parts, as hereinafter described.

In the drawing, Figure 1 is a front elevation of the machine; Fig. 2, a plan; Fig. 3, vertical cross-section of the heel-form and contiguous parts; Fig. 4, a view of the stiffening.

A represents the frame, which may be bolted to a bench or table in any desired manner. B is the heel-form, on which the leather is placed to be crimped. It is secured to a ledge or leaf, *a*, of the frame by means of a screw, *b*, which passes through a slot, *c*, thus allowing the form to yield backward against the standard C as the crimping-jaws come down behind it. Blocks of rubber *d d*, or equivalent springs, are interposed between the form and the standard to produce the desired spring or elasticity of the form. At the top a set-screw, *f*, presses against the rubber, which is set in a socket of the form, by which means an adjustment of that portion of the form upon which the leather rests may be attained. This arrangement of the form, by which the necessary elasticity is produced, forms one feature of my invention.

D is the clamping-strap, which rests over and covers the heel-form. It consists simply of a strap of thin metal, of sufficient width at the top to cover the leather, which is interposed between it and the form. E E and F F are toggle-arms, jointed at *e*. The clamping-strap is attached to the upper ends E E, while a cross-bar, G, connects the lower ends of F F, as shown. To this cross-bar is attached a rod, H, which extends downward and connects in any suitable manner with a treadle, (not shown in the drawing.) When the foot is applied to the treadle it will be seen that the clamping-strap will be drawn down firmly upon the leather which is interposed between it and the heel-form, thus holding it firmly in place while the crimping action is being performed. The reaction of the strap is produced by means of a coiled spring, *g*, which rests around the trea-

dle-rod, beneath the cross-bar. Any equivalent means may be employed. This arrangement of the clamping-strap and the toggle-arms for operating it constitutes another feature of my invention, when combined with the heel-form, as above described.

I I are the crimping-jaws. These jaws are pivoted at one end each to pivot-pins *h h*, which move up and down in curved slots *i i* of the frame. At the other end they are jointed together, as shown at *k*, thus forming an arch which rests just back of the heel-form and in position to strike close to the rear of the latter when brought down, as shown in Fig. 3. The lower edges of the jaws are made rounded so as not to cut the leather. Connecting-rods or bars K K, Fig. 2, connect the pivots *h h* of the jaws with the pivot *l* of the hand-lever L. This lever has its fulcrum at *m*, and its reaction is produced by a coiled spring, *n*, or any equivalent means. A slot is made in the frame for the pin *l* to work in, and a slot is also made in the end of the lever to work over fulcrum *m*. As the lever is depressed it will be seen that the crimping-jaws will be drawn down bodily, and at the same time contracted in their arch, so as to embrace the edges of the leather which rests over the rear part of the heel-form, thus crimping them into the form they occupy in the heel of the boot or shoe. This is caused by the following down of the pivots *h h* in the slots *i i*. As the jaws strike the leather the form yields against the springs, as before described, and thus prevents the cutting of the leather, at the same time presenting sufficient resistance to insure the proper crimping action. This arrangement of the crimping-jaws, whereby they press bodily upon the leather, and at the same time contract upon the circle, forms another feature of my invention as combined with the heel-form.

The pivots *h h* come opposite the toggle-arms E F, so that when pressed down they rest in contact therewith and assist to hold the clamping-strap upon the leather. In the rear of the crimping-jaws is situated a plate, M, which is also arched, and projects sufficiently low to act as a stop to the leather as it is thrust in place between the strap and form. This may either be jointed upon the pins *h h*, so as to open and close with the jaws, as shown in the drawing, or it may be made stationary with the frame. This, also, constitutes a feature of my improvement.

This apparatus is not only very rapid and effective in execution, but also produces better work than can be produced by hand. It turns the edges down perfectly and obviates notching or slitting of the leather, which is sometimes done, and which impairs the stiffness and ability to retain form.

The stiffening P may be made either of leather or leather-board, which is the pulp of leather pressed with fiber into sheets.

What I claim, and desire to secure by Letters Patent, is—

1. In an apparatus for crimping the stiffenings of boot and shoe-heels, the heel-form B, made adjustable in position, and provided with the rubber or equivalent springs *d d* for producing the necessary elasticity, as herein described.

2. In combination with the heel-form B, the clamping-strap D, operated by the toggle-arms E F and cross-head G or equivalent, in the manner and for the purpose specified.

3. In combination with the heel-form B and clamping-strap D or its equivalent, the crimping-jaws I I, operating in the manner and for the purpose specified.

4. The arrangement of the heel-form B, clamping-strap D or its equivalent, jaws E E, and gauge-plate M, substantially as and for the purpose set forth.

5. The combination as a whole, consisting of the heel-form B, clamping-strap D, and crimping-jaws I I, operating conjointly in the manner and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

J. W. HATCH.

Witnesses:

R. F. OSGOOD,
ARCHD. BAINE.