(No Model.) 2 Sheets—Sheet 1.

P. COX.

APPARATUS FOR MOLDING SPRING HEELS OF SOLES.

No. 410,317. Patented Sept. 3, 1889.

Fig. 1.

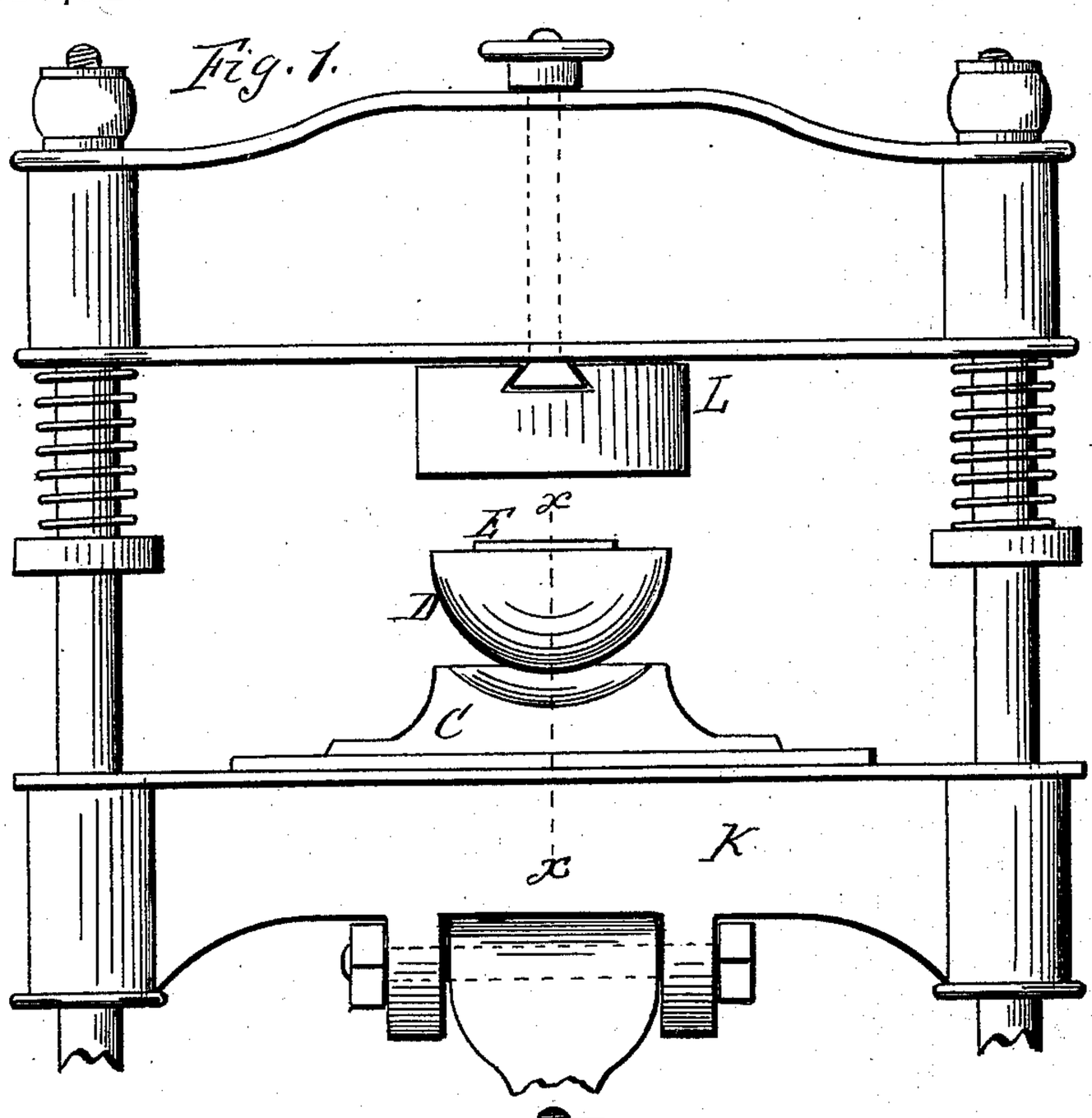
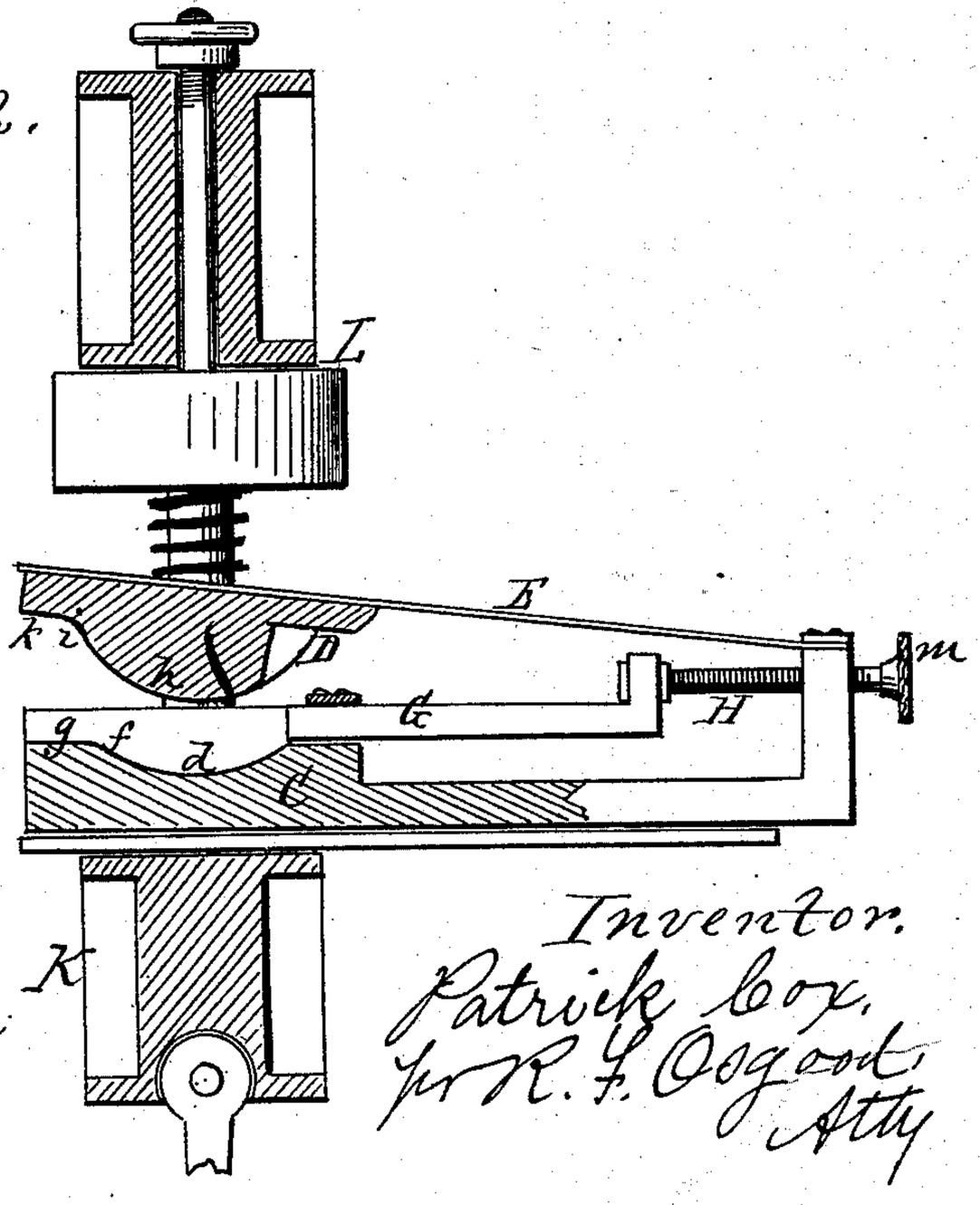


Fig. 2.



Attest.
P. H. Couttick
J. W. Osgood

Inventor.
Patrick Cox.
per R. F. Osgood,
Atty

(No Model.) 2 Sheets—Sheet 2.

P. COX.

APPARATUS FOR MOLDING SPRING HEELS OF SOLES.

No. 410,317. Patented Sept. 3, 1889.

Fig. 3.

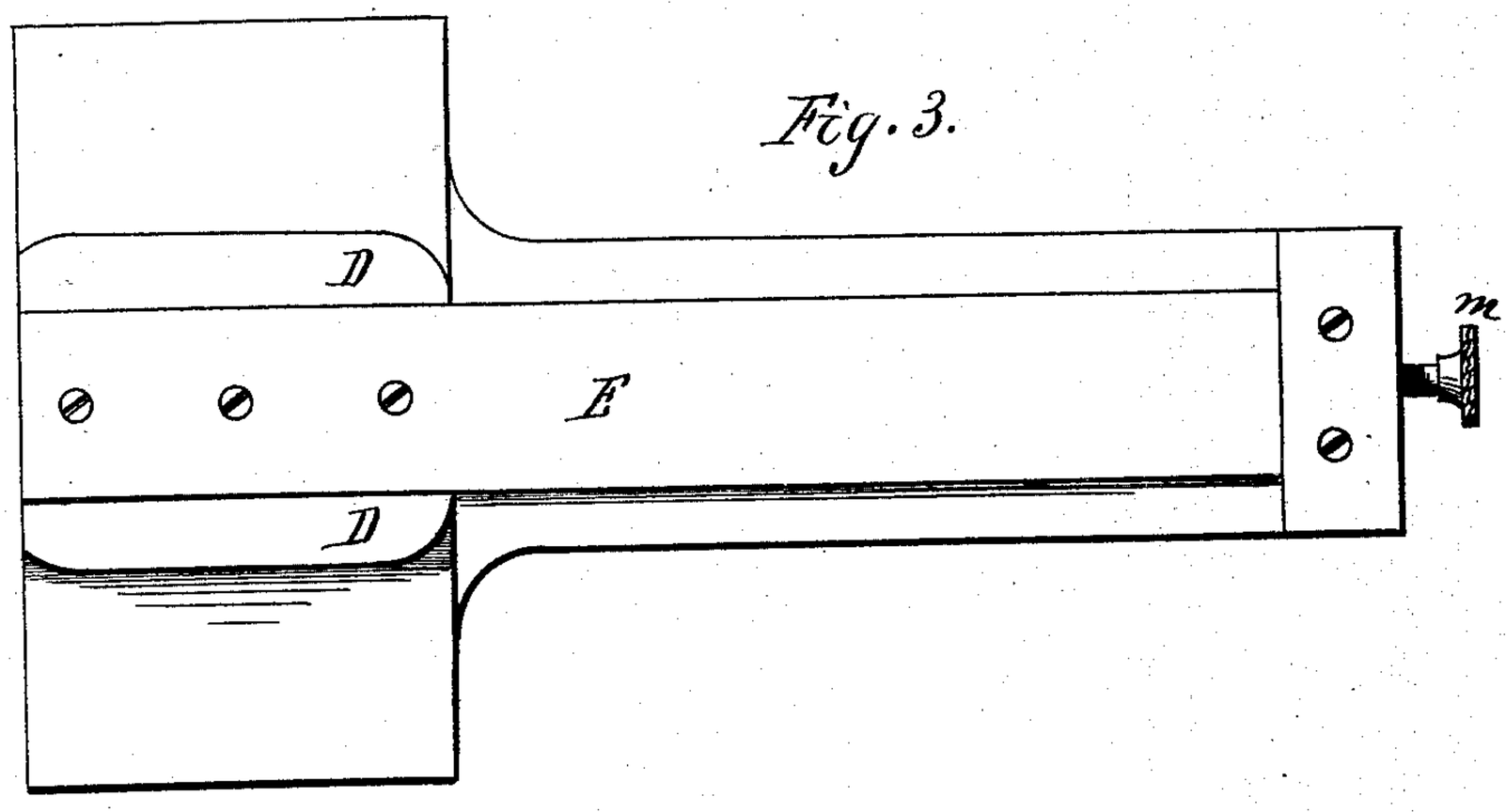


Fig. 4.

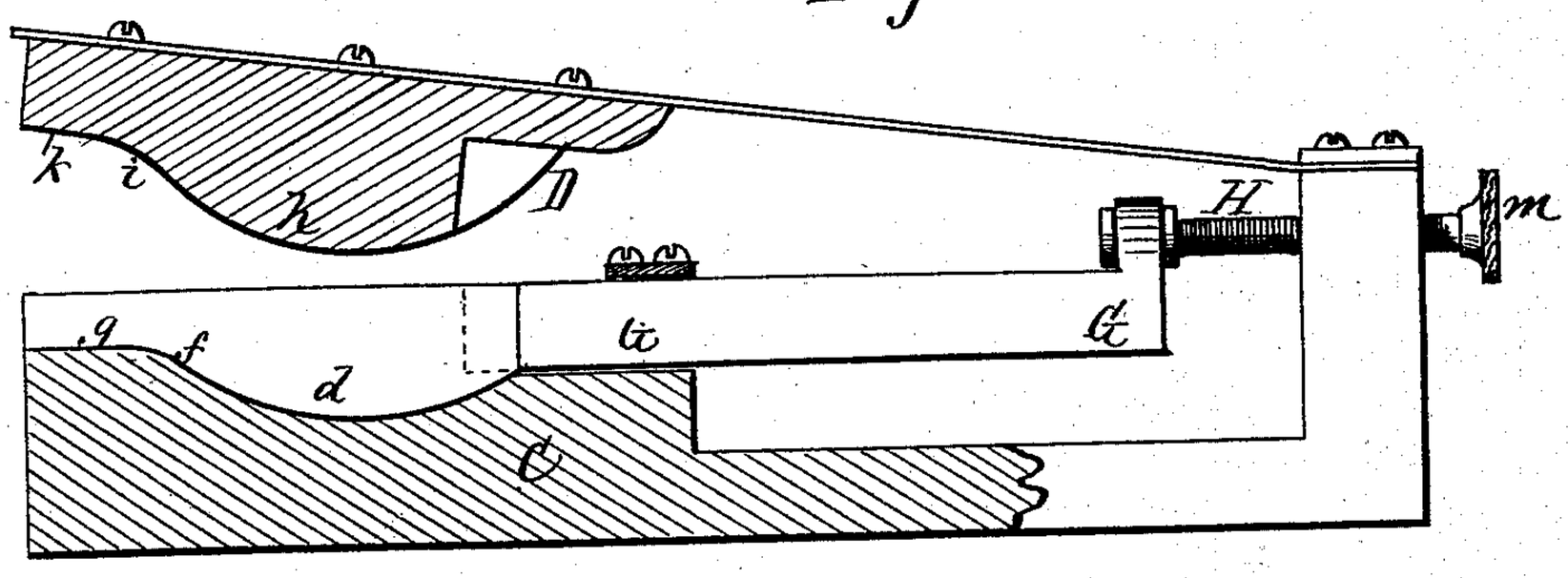


Fig. 5.

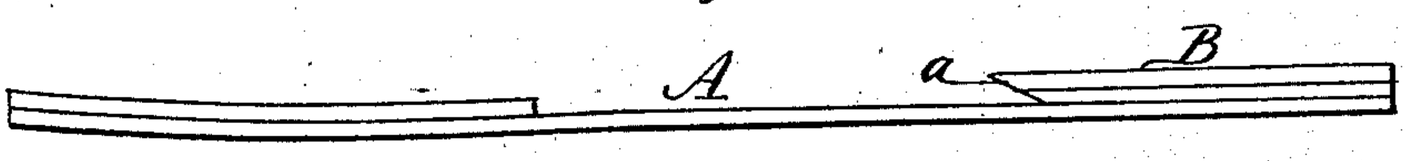
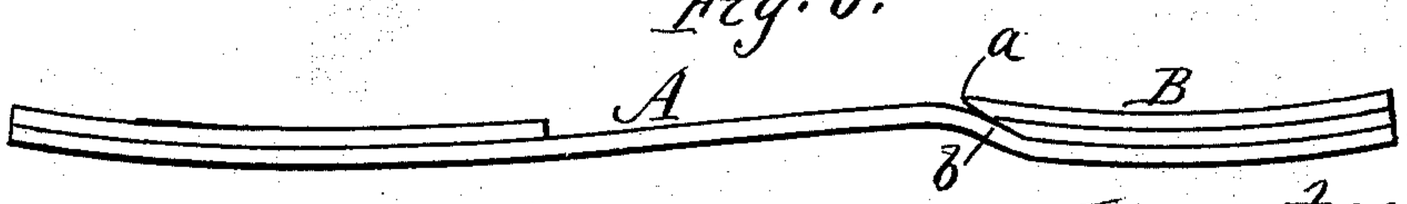


Fig. 6.



Attest.
P. H. Leverich
J. W. Osgood

Inventor.
Patrick Cox,
per R. F. Osgood,
Atty.

UNITED STATES PATENT OFFICE.

PATRICK COX, OF ROCHESTER, NEW YORK.

APPARATUS FOR MOLDING SPRING-HEELS OF SOLES.

SPECIFICATION forming part of Letters Patent No. 410,317, dated September 3, 1889.

Application filed December 24, 1888. Serial No. 294,488. (No model.)

To all whom it may concern:

Be it known that I, PATRICK COX, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Apparatus for Molding Spring-Heels of Soles; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

My improvement relates to apparatus for molding the spring or wedge heels of soles; and it consists in the construction and arrangement of parts hereinafter described and claimed. In making spring or wedge heels the lifts are applied on the heel of the sole, and the inner or forward edges are beveled backward, by which means a spring is produced at that point. In making the shoe after this has been done, the stitching and finishing bring the instep of the sole up to the bevel of the heel, making a bend at that point and substantially closing the joint.

In the drawings, Figure 1 is a front elevation of the apparatus. Fig. 2 is a vertical section of same in line *x x* of Fig. 1. Fig. 3 is a plan view of the dies enlarged. Fig. 4 is a longitudinal vertical section of Fig. 3. Fig. 5 is an edge view of a sole before being operated on. Fig. 6 is a similar view of the sole after being operated on.

A indicates the sole and B the heel-lifts applied in place. In this condition the front or inner end of the lifts is beveled, as shown at *a*, after which the sole is struck up, as shown at *b*, to meet the bevel and produce a close joint. To perform this work I employ the following arrangement:

C is the lower die and D the upper one, the latter being attached to a flat spring E, the tendency of which is to throw the upper die open and away from the lower one, which allows the heel to be entered. The lower die is made with a concave or cavity *d* of sufficient size to receive the heel, and at the outer end is a curve *f*, and outside of this is a straight portion *g*, the form being that to which the bottom of the heel is to be shaped. The bottom of the upper die has a convex pad *h*, a concave *i*, and a straight portion *k* of similar shape, by which the pressure is applied.

G is a gage consisting of a bar which passes through a slot at the rear end of the matrix in the lower die, and is movable in and out. With the rear end of the gage is connected a screw H, with a thumb-piece *m*, on turning which the gage will be moved forward or back. This gage serves as a stop to limit the entrance of the heel of the sole.

The operation is as follows: After the sole has been prepared, as shown in Fig. 5, the heel is inserted between the dies till it rests against the gage G. The upper die is then forced down, which stamps the heel and "breaks" or bends the sole at its point of junction with the bevel *a*, making a close joint with said bevel and shaping the sole so as to fit the foot properly. By this means better work can be done than in the ordinary way in which the sole is bent by drawing up the stitching, or by hammering the sole after the shoe is formed.

The gage G is a necessity where soles of different sizes are stamped, as by adjusting the same forward or back the portion of the sole to be bent can be brought directly over the turn in the die where the bending takes place.

The dies may be operated by any suitable means, that shown in the drawings being a fixed bed K, on which the lower die is placed, and a movable head L, which comes down to apply pressure on the upper die.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The mold for spring-heels of soles, consisting of the lower die C and upper die D, connected by spring E, and the adjustable gage G, passing into the cavity of the lower die and serving as a stop to the heel of the sole, as and for the purpose specified.

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

PATRICK COX.

Witnesses:
R. F. OSGOOD,
J. W. OSGOOD.