

(No. Model.)

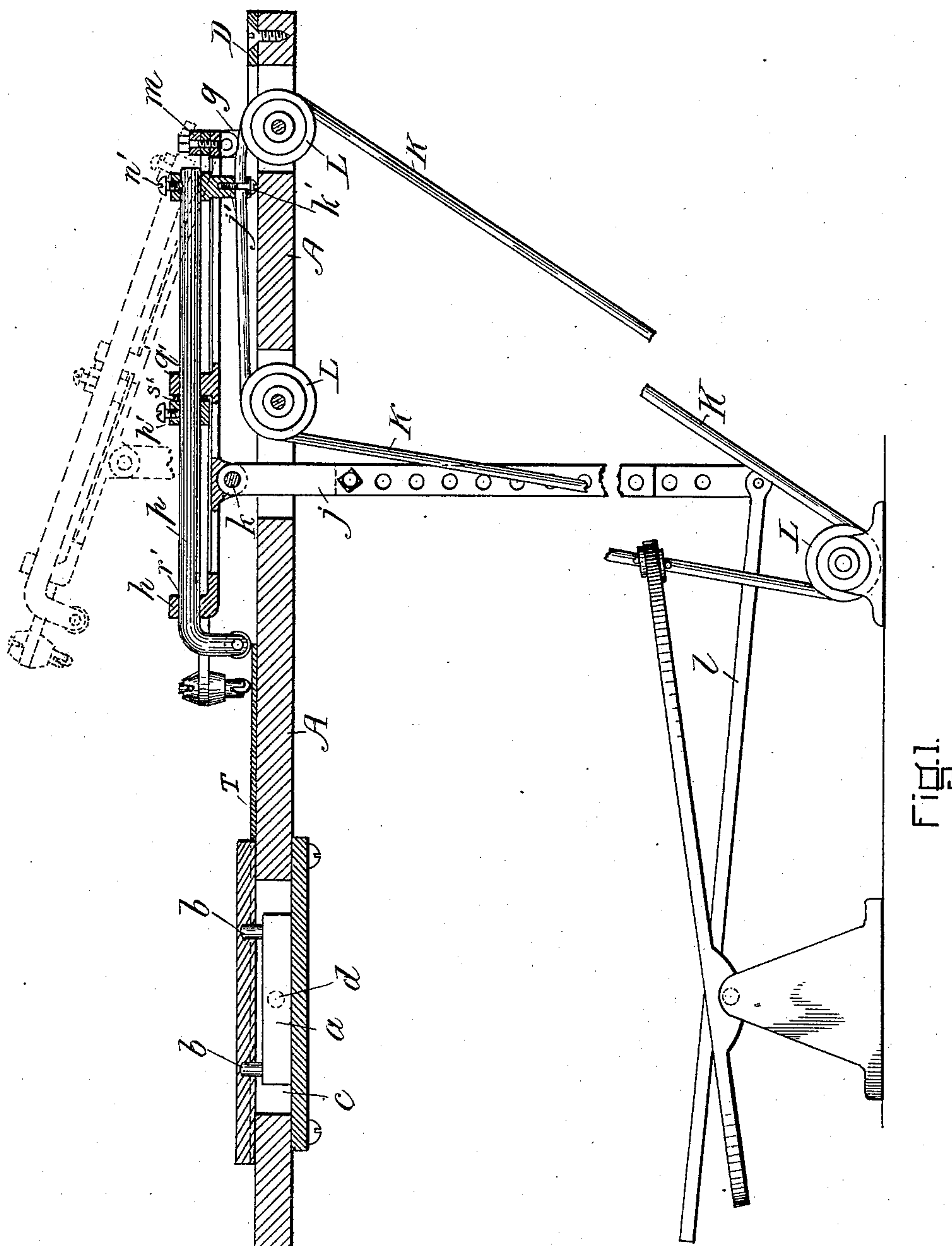
2 Sheets—Sheet 1.

J. E. PLUMMER.

MACHINE FOR MARKING THE UPPERS OF BOOTS OR SHOES.

No. 387,106.

Patented July 31, 1888.



WITNESSES.

Robert Wallace,
Conrad Reno.

INVENTOR.

John E. Plummer,
by Wm. A. Macleod,
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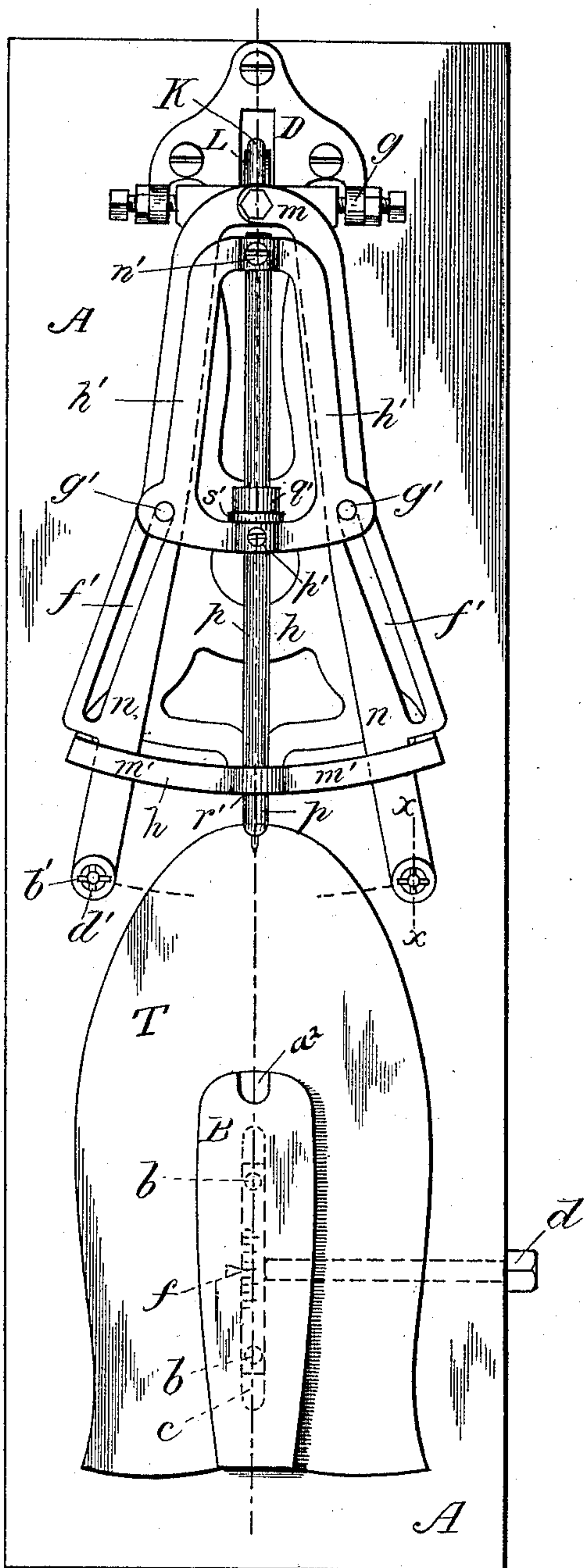


Fig 2.

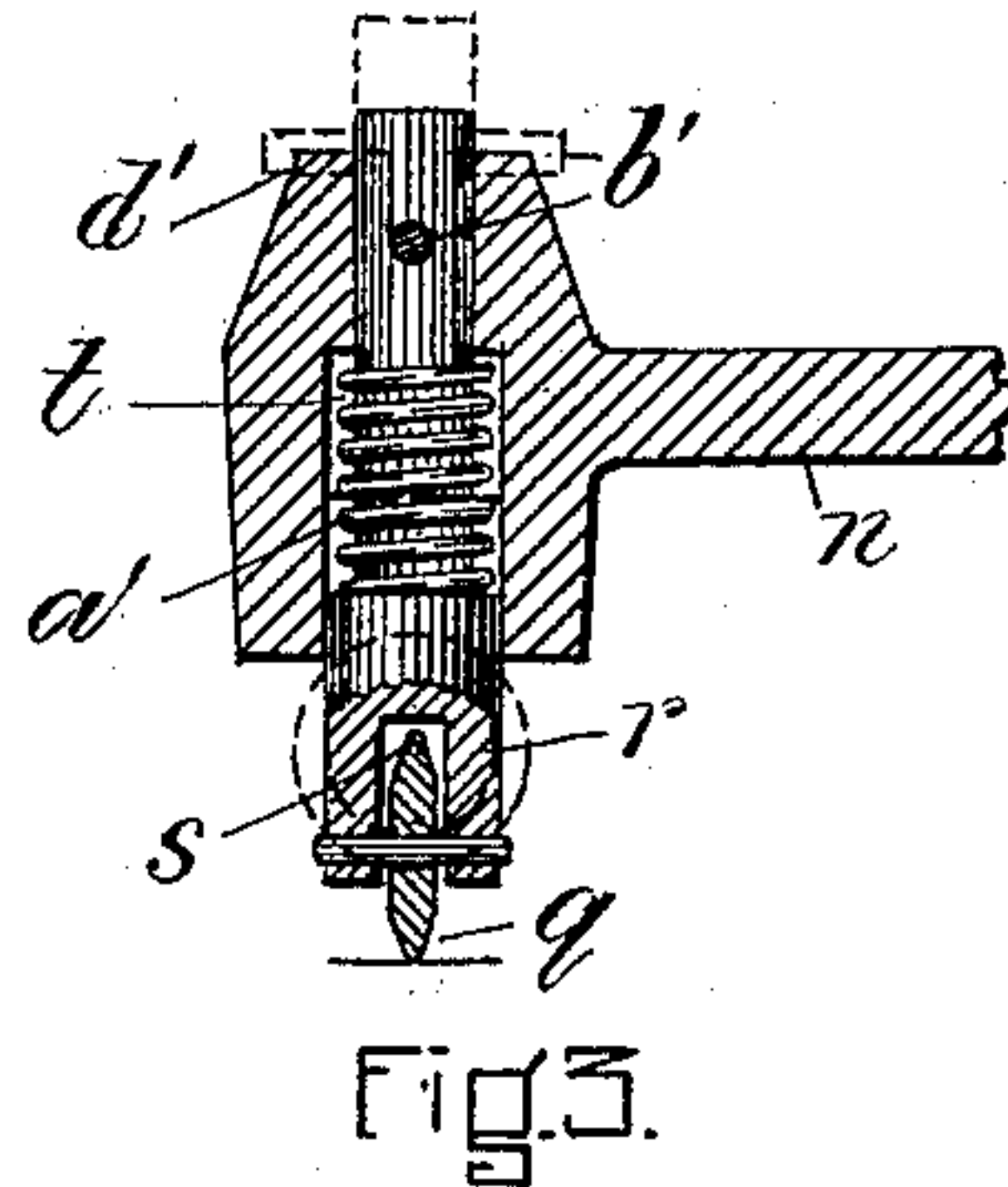


Fig 3.

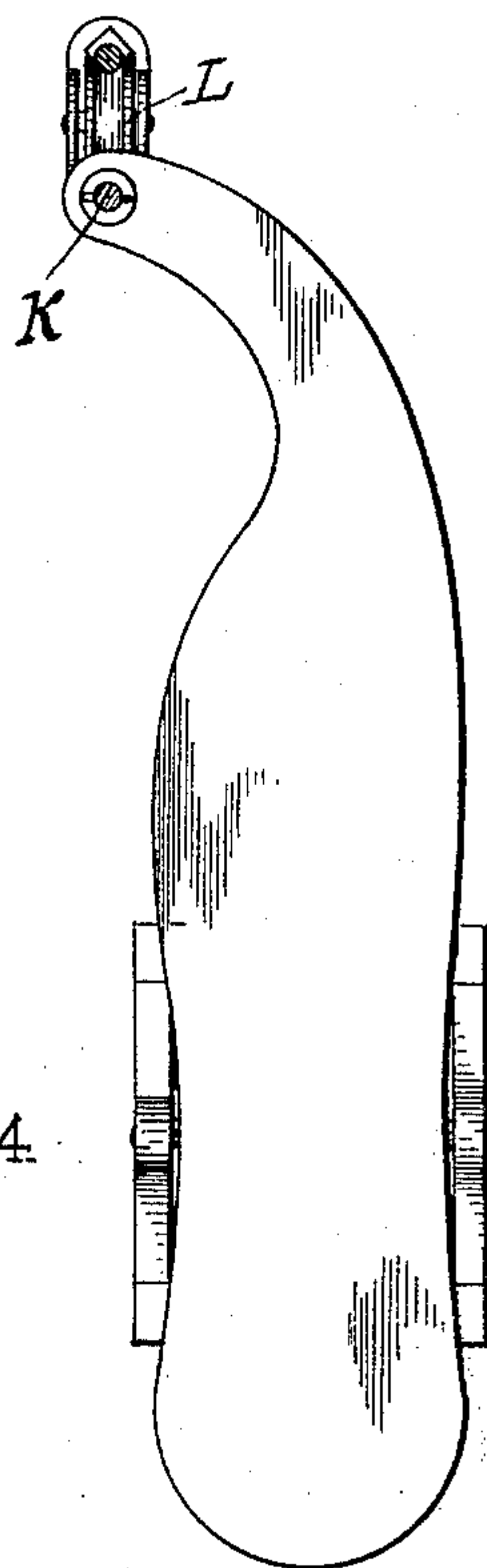


Fig 4.

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UNITED STATES PATENT OFFICE.

JOHN E. PLUMMER, OF WATERVILLE, NEW YORK.

MACHINE FOR MARKING THE UPPERS OF BOOTS OR SHOES.

SPECIFICATION forming part of Letters Patent No. 387,106, dated July 31, 1888.

Application filed December 16, 1887. Serial No. 258,051. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. PLUMMER, of Waterville, county of Oneida, State of New York, have invented certain new and useful
5 Improvements in Machines for Marking the Uppers of Boots or Shoes, of which the following is a specification, reference being had to the drawings accompanying and forming a part hereof, in which—

10 Figure 1 is a vertical section, the treadles by which the machine is operated being shown in side view and the mechanism which carries the marking-tools being shown in its raised position in dotted lines. Fig. 2 is a plan view
15 showing an upper in position to be marked. Fig. 3 is a vertical section on line *x x*, Fig. 2. Fig. 4 is a top view of the pedal which actuates the continuous belt, showing, also, the pulley below the pedal, around which the belt
20 passes.

Uppers for shoes, after they are cut from the stock, are of the general form shown in Fig. 2 and require to be marked to indicate the center from the toe to the instep—that is, along
25 the dotted line, Fig. 2. This is commonly called “centering” the upper. They also require to be marked on either side of the toe and crosswise thereof to indicate the point at which the rear edge of the toe-cap is to be set.
30 This marking and centering aids in accurately placing the upper in the shoe, and is now commonly accomplished by folding the upper upon itself, and thus creasing it along the middle line, and while it is folded putting an awl
35 through the edges to indicate the point at which the rear edge of the toe-cap is to be set. This process is slow, expensive, and often inaccurate.

The object of my invention is to produce a
40 machine which shall do this marking speedily, cheaply, and accurately; and it consists in a device provided with moving arms carrying marking-tools actuated by suitable mechanism, and arranged to operate on a bed pro-
45 vided with a form of the shape of the opening in the upper, the whole being constructed and operated as hereinafter described.

A represents the bed or table of the machine, which may be placed on a common bench
50 or mounted upon suitable supports. At the front of this bed, toward the operator, is placed

a guide consisting of a block, *a*, provided with two studs, *b*, projecting upwardly therefrom, the block *a* being received in a slot, *c*, cut lengthwise of and centrally in the bed A. The
55 slot *c* is somewhat longer than the block *a*, so as to permit of the movement of the block in the slot. A set-screw, *d*, passes through the bed from the edge thereof to the slot *c* and serves to hold the block *a* securely at any point
60 in the slot. A pointer, *f*, is set in the upper surface of the bed, so as to project over the slot *c* and the block *a* for the purpose of indicating the movement of the block *a* in the slot
65 when it is desired to adjust the block, the upper surface of the block being provided with a scale by which its movement relatively to the fixed pointer *f* may be determined. The
70 object of the block is to receive and hold the form B, which fits the opening in the upper T, and by which the upper is accurately placed on the bed or table.

The form B is provided with two holes to receive the studs *b*, which hold it in place and permit of its ready removal when it is desired
75 to change from one size or style of upper to another. The slot *a*² in the front end of the form B receives the end of rod *p*, which carries the centering-tool, and thus prevents the rod from striking the form, and also allows the
80 tool to move entirely across the upper.

When it is desired to vary the distance which the toe-cap projects onto the toe and mark the upper for a smaller or larger cap, the adjustment may be accurately made by loosening the set-screw *d* and adjusting the block *a*
85 by the means already described.

Near the rear end of the bed A, I secure the plate D, which is provided with lugs *g*, (see Fig. 2,) between which is pivoted the frame
90 *h*, which supports the moving arms which carry the marking-tools. The frame *h* is pivoted at its rear end to the plate D, and is provided forward of its center with an adjustable connecting-rod, *j*, pivoted thereto at *k*, Fig. 1,
95 by means of which the frame *h* and the marking-tools may be raised when it is desired to carry the tools forward onto the upper T. The lower end of the connecting-rod *j* is pivoted to a treadle, *l*, so that the marking-tools may
100 be raised by the pressure of the foot of the operator. To the back part of the frame *h*

two arms, n , are pivoted at m and adapted to swing on the pivot toward and from the central arm, p , which marks the center of the upper. The free ends of the arms n are provided with marking-tools, (see Fig. 3,) which consist of a small roll or disk, q , having its periphery sufficiently narrow or sharp to mark the upper, mounted in an upright shank, r . The shank r is cut away, as shown at s , Fig. 3, to receive the roll q , which is journaled therein, as shown. The end of the arm n is provided with an aperture, into which the shank r is set. The lower portion of this aperture is enlarged, as shown at t , Fig. 3, to accommodate a spiral spring, a' , which encircles the shank, and which bears at its lower end against a shoulder thereon and at its upper end against the top of the enlarged portion t of the aperture. The spring a' acts to throw the shank and marking-roll downwardly and press the roll against the upper and hold it in yielding contact therewith. A pin, b' , is set through the top of the shank r' and serves to keep the shank in its socket and from turning therein when the arm is raised, as also as a means of raising the marking-tool and keeping it from contact with the upper when the machine is used for centering alone—that is, when it is not desired to mark the toe for a toe-cap. The pin b' lies in a vertical groove or slot, d' , in the top of the arm when the roll q is in position to mark the upper. By raising the pin b' and turning the shank one quarter round into the shallow groove d' , Fig. 3, at right angles to the groove d' , the marking-roll is raised out of contact with the upper and held in its raised position. (See dotted lines, Fig. 3.)

The arms n are each provided with a divergent slot, f' , Fig. 2, which receives a stud, g' , set on the under side of the sliding frame h' . The forward or backward movement of the sliding frame causes the studs g' to traverse the slots f' , thus swinging the arms n inwardly and marking the upper across the toe. The sliding frame h' is operated by means of a fixed stud, j' , projecting downwardly from the rear portion thereof, (see Fig. 1,) which is secured by a screw, k' , or in other suitable manner, to an endless belt, K , which passes over pulleys L , two of which are set in the bed A and the third on the floor. The belt K is made fast at another point to a treadle. (See Figs. 1 and 4.) As the toe of the treadle is raised and lowered, the sliding frame h' will be moved backward and forward, as will be clear. This frame h' also actuates the rod p , which carries the tool for marking the center of the upper. The arm or rod p is placed in the center of the machine in line with the center of the block B , (see Fig. 2,) around which the upper is set, in order that it may center the upper accurately, and is secured rearwardly to the frame h' by a screw, n' , or in other convenient manner. It is also secured in like manner in the front part of frame h' , as shown at p' , Figs. 1

and 2, and slides in a hole in the projection q' , set on the stationary frame h , and in another hole at r' , in the front part of the frame h .

The front part, m' , of the stationary frame h is raised to accommodate the arm p , and the swinging arms n pass under the raised front portion. (See Fig. 2.)

A washer, s' , of leather or similar elastic material, is placed on the arm p between the front portion of the sliding frame h' and the fixed projection q' , to prevent the frame from coming in contact with the projection and breaking the parts when the frame is thrown back. As the uppers always require to be centered, whether they are marked for toe-caps or not, I have shown the arm p turning downwardly at its forward end and the marking-roll set in the downwardly-turned portion. The roll in the arm p may of course be mounted as are the rolls in the side arms, n , in case that should, for any reason, be deemed desirable. The marking-rolls may also be of much greater diameter, in which case they could be used without raising the frame as it moves forward onto the upper. I prefer, however, the form shown.

The operation of the machine is as follows: The operator places an upper on the bed A around the form and by pressure on the treadle l raises the arms and their supporting parts to the position shown in dotted lines, Fig. 1. The toe of the belt-treadle is then depressed, which throws the centering-arm forward and the side arms inward over the upper. The arms are then allowed to drop downwardly until the marking-rolls rest on the upper, when the heel of the belt-treadle is depressed, moving the arms in the reverse directions and causing the marking-rolls to mark the upper, as indicated by the dotted lines, Fig. 2.

I have shown and described my device as operated by foot-power; but I do not desire to limit myself to that method of operating it, as the arms can as well be raised and reciprocated by steam-power, or other power employed in the factory in which the machine is used.

What I claim is—

1. In a machine for marking uppers, the combination, with a bed or table provided with a form for centering the uppers, of a sliding frame, as h' , movable toward and from the said form, a marking-tool carried by the said frame, a stationary support, as frame h , for the sliding marker-carrying frame, and means for moving the said sliding frame and marking-tool toward and from the said form on the said stationary support, substantially as set forth.

2. In a machine for marking uppers, the herein-described combination, with a bed or table provided with a form for centering the uppers, of a sliding frame movable toward and from the form, a marking-tool carried by the said frame and arranged central relative to the said form to produce a central line or mark on the uppers, a stationary frame or support

for the said sliding frame, and two laterally-swinging side arms pivoted to the said stationary frame and having marking-tools to make transverse or toe-cap marks on the uppers, substantially as set forth.

3. In a machine for marking uppers, the herein-described combination, with a bed or table provided with a form for centering the uppers, of a sliding marker-carrying frame movable toward and from the said form, a stationary frame or support on which the said sliding frame is adapted to travel, said stationary frame being pivoted at its rear end to the said bed or table or to a device secured thereto, and being provided forward of its pivotal point with means by which it may be raised to lift the marking-tools when desired, substantially as set forth.

4. In a machine for marking uppers having one or more moving arms carrying marking-tools, the combination, with said arms and their actuating mechanism, of the form around which the upper is placed, the block *a*, provided with studs for securing the form in place and received in a slot in the bed, and means, as the set screw *d*, by which the block may be secured at any point in the slot, substantially as shown and described.

5. In an upper-marking machine, the combination, with the form *B*, of the arm *p*, carrying a marking-tool, the frame *h*, in which said arm slides, and the sliding frame *h'*, to which

said arm is secured, and mechanism for actuating said sliding frame, substantially as shown and described.

6. In an upper-marking machine provided with means, as block *B*, for holding the upper in position, the combination therewith of the frame *h'*, the movable arms *n*, having divergent slots *f'*, and the sliding frame *h'*, having studs *g'* to coact with said slots, and means, as belt *K* and its treadle, for actuating said frame *h'*, substantially as shown and described.

7. In an upper-marking machine having one or more movable arms, the combination, with said arms and their operating mechanism, of the shank *r*, set in the free end of the arm and provided at its lower end with a marking-tool, said tool being held in yielding contact with the upper by means of spring *a'*, substantially as shown and described.

8. In an upper-marking machine, the combination, with the movable arm *n*, of shank *r*, marking-roll *q*, spring *a'*, and pin *b'*, substantially as shown and described.

9. The combination of the bed *A*, form *B*, pivoted frame *h*, pivoted arms *n*, sliding frame *h'*, arm *p*, connecting-rod *j* and its operating-treadle, and belt *K* and its operating-treadle, substantially as shown and described.

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Witnesses:

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FRANK STODDARD.