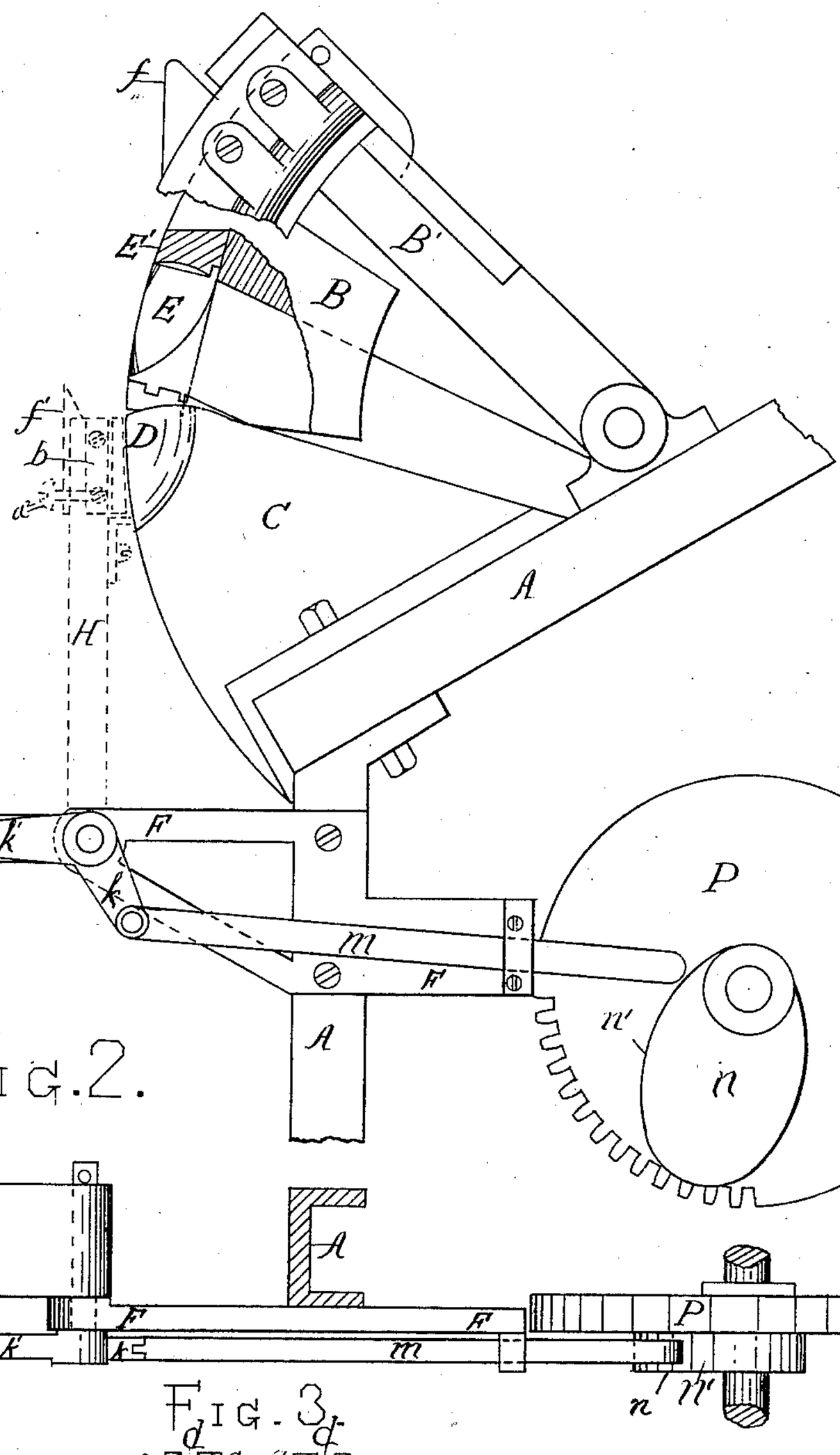
(No Model.)

G. T. SHEPLEY.

MACHINE FOR FORMING COUNTER STIFFENERS.

No. 302,168. Patented July 15, 1884.

FIG. 1.



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MACHINE FOR FORMING COUNTER-STIFFENERS.

SPECIFICATION forming part of Letters Patent No. 302,168, dated July 15, 1884.

Application filed May 19, 1884. (No model.)

To all whom it may concern:

Be it known that I, GRANVILLE T. SHEPLEY, of West Groton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Machines for Forming Counter-Stiffenings for Boots and Shoes, of which the following is a full, clear, concise, and exact description, reference being had to the drawings accompanying and forming a part hereof.

My improvement relates to the machine known as the "Moffitt machine," which is fully shown and described in Letters Patent of the United States No. 178,869, dated June 20, 1876, granted to John R. Moffitt; and it consists in the mechanism hereinafter more fully described, which may be attached to the reshaping or second-process part of said Moffitt machine, and by the aid of which the rolled or "clam-shelled" stiffening is placed evenly and symmetrically on the form, and held there until seized by the descending mold.

In the drawings, Figure 1 shows a side view of the reshaping part of a Moffitt machine, with the head broken away to show the molds and form, and with my improvement attached. The full lines indicate the position of my attachment when it receives the stiffening, and the dotted lines its position when delivering the stiffening on the form. Fig. 2 is a plan view of my improvement detached. Fig. 3 is a cross-section on line *x x*, Fig. 2, enlarged.

I will describe my improvement, using letters of reference to the accompanying drawings.

A represents the supporting-frame of the Moffitt machine, and B B′ the heads, which carry, respectively, the three-part mold and the flange rolling and smoothing mechanism. D is the form, and C its backing or support. One side of the three-part mold is shown at E, and the back part at E′.

In the Moffitt machine as at present constructed the rolled stiffenings are placed on the form by the hand of the operator, and to allow time for this the heads B B′ are made to rise a considerable distance farther above the form than would be otherwise necessary. This consumes time and power, and increases the wear and tear of the machine. The Moffitt machine is also provided with a guide in front of the form, by which, with the aid of a notch cut centrally in the flange-edge of the stiffening, the operator is enabled to place it on the form evenly, thus insuring in the finished stiffening a flange of proper width and shanks of equal length. This guide is not required when my attachment is used; neither is it necessary to notch the stiffening to enable the operator to place it evenly on the form.

My guide and feeding mechanism is supported by the arm or bracket F, which is secured to the supporting-frame A, and projects horizontally toward the operator. (See Fig. 1.) To this bracket is pivoted one end of a lever or arm, H, on the other end of which is secured the adjustable receiver or guide K, into which, when the arm is in a horizontal position, (see Fig. 1,) the rolled stiffening is placed by the operator. This receiver K is substantially a horseshoe-shaped channel, *d d*, with an adjustable bottom, *r*, which may be raised or lowered, thus making the channel shallower or deeper, and thereby gaging the width of the flange of the stiffening. It consists of a strip, *a*, preferably of metal, bent to the heel shape shown in Fig. 2, and secured to arm H, the curve of the strip being substantially the same as the curve or outline of a stiffening from shank to shank.

Parallel with the sides of strip *a*, and a short distance therefrom, are secured the strips *b b*, which form the outer walls of the channel *d d*, into which the straight or flange edge of the rolled stiffening is placed. This edge being circular in outline and the rolled stiffening having a tendency, from the resiliency of the material, to retain this circular contour, where the edges of the sides of the stiffening are straightened and rendered more nearly parallel to each other by being thrust into the channel *d d*, they bear on the sides of the channel sufficiently to hold the rolled stiffening securely in the receiver while the arm H swings upward to a vertical position, (see dotted lines, Fig. 1,) and delivers it to the form and mold.

At the inner ends of strip *a* the pieces *a′ a′* are secured to the arm H by screws and slots, so that they may be adjusted. These pieces form the ends of the channel *d d*, and gage the length of the shank parts of the stiffening. It

will be obvious that if they are set back from the ends of strips *a a* and *b b* the shanks of the stiffening will be longer, or the shanks may be made of unequal length, if desired, by setting back one only of the pieces *a'*. As it is generally deemed desirable to have the shanks of precisely the same length in the finished stiffening, the chief value of these gages *a' a'* is to insure perfect equality of length in the shanks. The bottom or floor *r* of the channel *d d*, I prefer to make of a thin sheet of metal which can be sprung up to make the channel shallower by the pressure of the screws a^2 a^2 on its under side. By screwing in the screws the strip *r* will be raised, making the channel *d d* shallower, thus causing the rolled stiffening to be set farther on the form and lessening the width of the flange in the finished stiffening. A piece, *f*, of the shape shown in Fig. 1, is secured to the head B', and as the head descends comes in contact with the piece *f'*, secured to the arm H, pressing the arm outward away from form D, and freeing the receiver from the edge of the stiffening, which is now securely held between the form D and the back part, E', of the mold. The arm thus thrown back falls again into a horizontal position ready to receive the next stiffening.

The mechanism for actuating arm H may be of any suitable construction. A simple form is shown in the accompanying drawings, consisting of a bell-crank lever, *k k'*, pivoted to the bracket F. The arm *k'* of the lever is provided with a pin, k^2, which bears in a hole or slot cut in arm H. The arm *k* of the lever is pivoted to a pitman, *m*, which slides through a slot, *m'*, cut in a rearwardly-projecting portion of the bracket. The rear end of the pitman projects near to and partially across the face of the intermediate driving-gear, P, on which is secured the elliptically-shaped piece *n*. As the gear revolves, the cam-edge *n'* of piece *n* comes in contact with the end of the pitman and forces it forward, thus raising the arm of the lever, and consequently raising arm H. As the gear P continues its revolution the piece *n* passes the end of the pitman, and the weight of the lever *k'* causes it to drop back with arm H into the position it occupied before the arm H was raised.

The operation of the machine with my improvement attached is as follows: The arm H being in a horizontal position, the operator, holding the rolled stiffening in one hand, with the lower or flange edge downward, thrusts it forward into the channel *d d* of the receiver until the ends of the shank parts are in contact with the gage-pieces *a' a'*. The arm H is then raised to a vertical position and the stiffening is delivered on the form; the heads B B' descend; the stiffening is then seized between the mold and form, and the piece *f* striking *f'*, the arm H falls back into a horizontal position ready to receive the next stiffening.

What I claim is—

1. The combination, with the mold and form of a counter-machine, of the receiver adapted to receive the stiffening and deliver it between the form and mold, substantially as described.

2. The arm H, provided with receiver K, in combination with form D and back piece, E', substantially as described.

3. The receiver K, consisting of the heel-shaped strip *a*, the strips *d d*, set outside of and substantially parallel with the sides of strip *a*, and the gage-blocks *a' a'*, substantially as described.

4. The combination of the curved strip *a*, the outer strips, *d d*, gages *a' a'*, and the adjustable bottom strip, *r*, substantially as described.

5. The combination of arm H, strips *a b b*, and channel-bottom *r*, secured to the arm, and screws a^2 a^2, adapted to raise or lower the bottom strip, *r*, substantially as described.

6. The arm H, provided with piece *f'*, in combination with head B', provided with piece *f* and its operative mechanism, for the purposes and substantially as described.

7. The arm H and the mechanism for raising it, consisting of lever *k k'*, provided with pin k^2 and pivoted to bracket F, the pitman *m*, and cam *n'*, substantially as described.

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