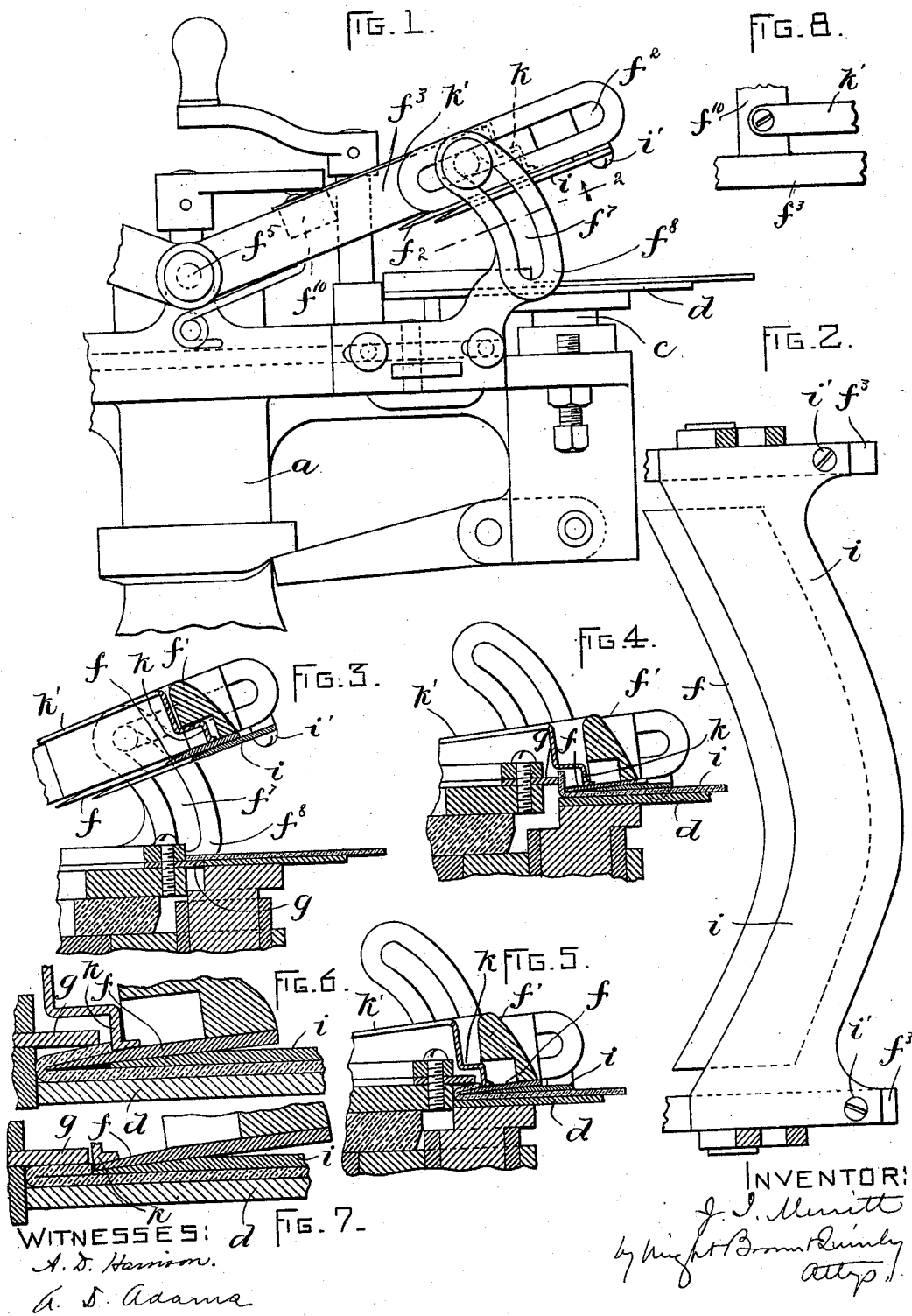


(No Model.)

J. I. MERRITT.  
LEATHER FOLDING MACHINE.

No. 569,930.

Patented Oct. 20, 1896.



# UNITED STATES PATENT OFFICE.

JAMES I. MERRITT, OF BROCKTON, MASSACHUSETTS, ASSIGNOR TO  
CHARLES C. MERRITT, OF SAME PLACE.

## LEATHER-FOLDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 569,930, dated October 20, 1896.

Application filed February 6, 1896. Serial No. 578,201. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES I. MERRITT, of Brockton, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Leather-Folding Machines, of which the following is a specification.

This invention relates to machines for folding pieces of flexible material, and particularly the edges of uppers of boots and shoes, in order to produce a finished margin in turning back the raw edges of the piece and pressing the backwardly-turned portion against the main body of the piece. The invention is an improvement upon a machine of the character shown in Letters Patent No. 550,929, dated December 3, 1895. The machine set forth in said patent comprises a work-support upon which the piece to be folded is laid, a thin plate or former, one edge of which has the shape which it is desired to impart to the folded edge, said former being movable sidewise toward and from the work-plate to descend upon and rise from the work, and a folding-jaw located beside the work-plate and having its edge shaped to fit the edge of the former. The work-plate and former are movable vertically together after the former has descended upon the work, the folding-jaw at first remaining stationary until the edge of the material has been turned upwardly, partially forming the fold, after which the work-plate and the former remain stationary, while the folding-jaw moves over one edge of the work-plate and the former and completes the fold, pressing the turned-over portion down upon the former. The former is then withdrawn from the fold and the turned-over portion is pressed against the body of the piece. In operating said machine a difficulty has been experienced, due to the frictional contact of the former with the work while the former is being withdrawn from the fold, said contact being liable to displace the work while the former is being withdrawn. My invention has for its object to obviate this difficulty and to prevent the folded lip from being drawn backwardly by the former.

The invention consists, first, in the combination, with the work-plate, the former, and the folding-jaw operating substantially in

the manner set forth in said Letters Patent, of a clamp which moves sidewise with the former toward and from the work-plate, but does not move edgewise with the former when it (the former) is being withdrawn from the fold, the said clamping-plate being interposed between the former and the work and acting to clamp or hold the work forcibly down upon the work-plate while the former is being withdrawn from the fold, thus preventing the displacement of the work.

The invention also consists in the combination, with the parts above specified, of a flange or stop adapted to prevent the lip folded over the former from being pulled backwardly thereby.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a portion of a folding-machine provided with my improvement. Fig. 2 represents a section on line 2 2 of Fig. 1 and a side view of the parts above said line. Figs. 3, 4, 5, 6, and 7 represent sectional views illustrating the operation of the machine and of my improvement. Fig. 8 represents a detail view hereinafter referred to.

The same letters of reference indicate the same parts in all the figures.

In the drawings, *d* represents the work-plate or support, which is mounted on a yielding spring-pressed plunger *c*.

*f* represents the former, which is affixed to a holder *f'*, the ends of which are fitted to slide in guides or slots *f<sup>2</sup>* in a swinging frame, comprising arms *f<sup>3</sup>*, pivoted at *f<sup>5</sup>* to the supporting-frame.

The ends of the holder *f'* are engaged with curved slots *f<sup>7</sup>* in sliding brackets *f<sup>8</sup>*, which are formed and arranged so that when the former *f* is depressed by means provided for that purpose, namely, an arm *h*, bearing on the swinging frame, and a rod *h'*, affixed to said arm and extending downwardly through the standard *a* to a suitable bearing, (not shown,) the former *f* will come to a bearing upon the upper on the work-plate *d* and its inner edge will coincide with the inner edge of the work-plate, the upper being clamped between said former and work-plate.

*g* represents the folding-jaw, which is movable both horizontally and vertically by means

substantially such as those described in the patent above mentioned, the said folding-jaw being formed to fit the edge of the former  $f$  and located so that a continuation of the downward movement of the former below the position shown in Fig. 3 will depress the work-plate below the jaw  $g$ , thus turning the edge of the upper upwardly against the edge of the jaw  $g$ , as shown in Fig. 4. The folding-jaw is then advanced, as shown in Fig. 5, folding the edge of the piece over upon the upper side of the former, as shown clearly in Fig. 6, after which the former is withdrawn from the fold, as shown in Fig. 7.

In carrying out my invention I attach to the arm  $f^3$  of the swinging frame a clamping-plate  $i$ , which is interposed between the former  $f$  and the work-plate  $d$ , and is arranged so that when the former is in its operative position the edge of the clamping-plate will be behind the edge of the former, as shown in Figs. 1, 2, 3, 4, 5, and 6. When the former descends upon the work, the clamping-plate descends with it and bears upon the work behind the edge of the former, so that when the former is withdrawn the clamping-plate holds the work upon the work-plate and prevents it from being displaced by the withdrawal of the former. I prefer to make the clamping-plate of a piece of sheet metal and attach it at its ends by screws  $i' i'$  to the arms  $f^3 f^3$ , as shown in Figs. 1 and 2.

When the work is coated with cement at and near the fold to cause the turned lip to adhere to the body portion, the lip, which is first pressed upon the former, is caused by the cement to adhere to the former, so that when the former is withdrawn it is liable to draw the lip with it and thus distort the fold. To prevent this, I attach to the swinging frame

a stop  $k$ , which is arranged to bear on the upper surface of the former at the rear edge of the lip, which is turned over on the former and prevents the lip from moving back with the former. Said stop is preferably a blade or strip of metal curved to correspond to the contour of the edge of the former and provided with arms  $k'$ , which are attached to a cross-bar  $f^{10}$ , Fig. 8, forming a part of the swinging frame.

I claim—

1. In a folding-machine, the combination with a work-support, a former, and a folding-jaw, arranged to cooperate substantially as described in forming a fold on a piece of work supported by the work-plate, the former being movable edgewise to withdraw it from the fold: of a clamp interposed between the former and work-plate and adapted to prevent displacement of the work by the edgewise movement of the former.

2. In a folding-machine, the combination with a work-support, a former, and a folding-jaw, arranged to cooperate substantially as described in forming a fold on a piece of work supported by the work-plate, the former being movable edgewise to withdraw it from the fold: of a stop arranged to bear on the upper surface of the former to prevent the folded-over portion of the work from being drawn backwardly by the former.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 1st day of February, A. D. 1896.

JAMES I. MERRITT.

Witnesses:

ELMER H. FLETCHER,  
HERBERT H. CHASE.