G. F. MOORE.

MACHINERY FOR FORMING BOOT AND SHOE COUNTERS.

No. 192,341. Patented June 26, 1877.

Fig. 1.

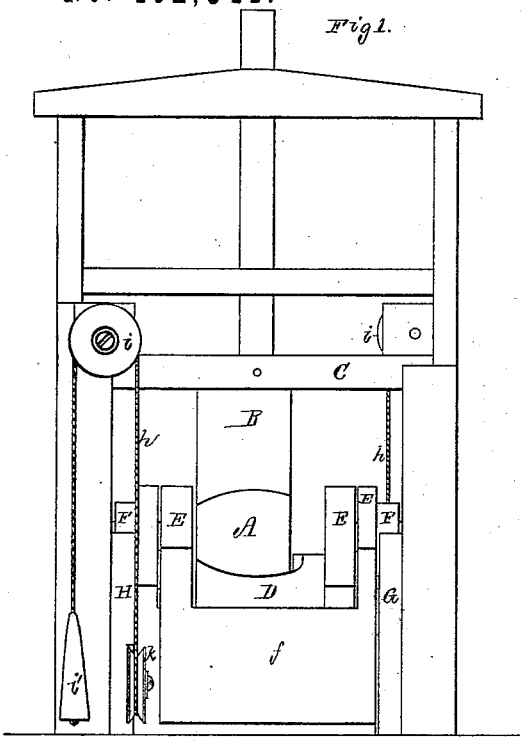


Fig. 2.

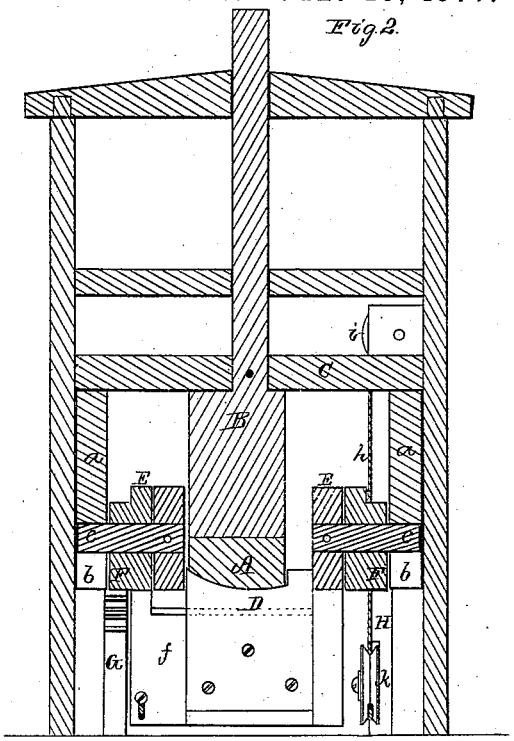


Fig. 3.

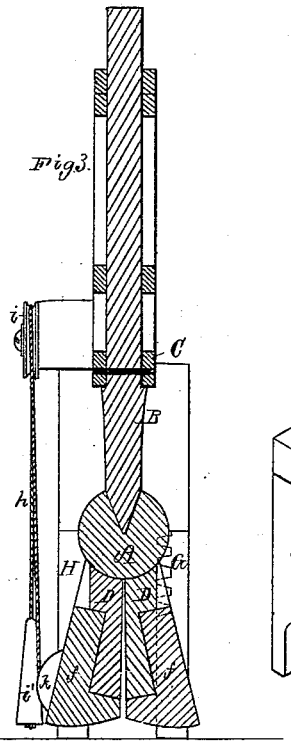


Fig. 5.

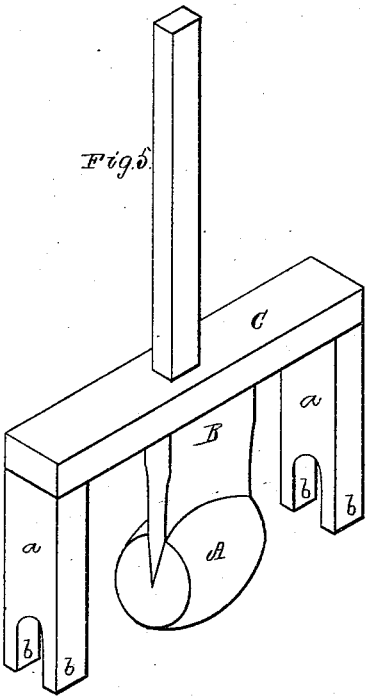
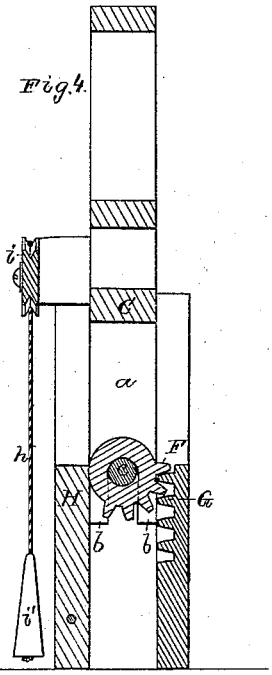


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE F. MOORE, OF KENNEBUNK, MAINE, ASSIGNOR TO MOUSAM MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN MACHINERY FOR FORMING BOOT AND SHOE COUNTERS.

Specification forming part of Letters Patent No. **192,341**, dated June 26, 1877; application filed May 28, 1877.

To all whom it may concern:

Be it known that I, GEORGE F. MOORE, of Kennebunk, of the county of York, of the State of Maine, have invented a new and useful Machine for Shaping Counters for Boots or Shoes; and do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, Fig. 2 a vertical and longitudinal section, and Fig. 3 a transverse section, of it. Fig. 4 is a section taken vertically through the rack and frame of one of the movable stretchers.

In this machine the counter-blank is shaped on a convex surface or former, and by means of two movable concave stretchers or shapers moving in opposite directions about such convex former. Furthermore, by the machine as represented the counter-blank is not only shaped by the former and the shaper, but is subsequently discharged from the former by the shaper. Although I have described the said former as movable vertically, and the shaper to move in opposite directions about it, I would remark that such former may be stationary and the shaper alone be moved about it.

Each of the weighted carriers of the shapers of the machine, as shown, has, while in operation, a compound motion imparted to it—that is, it not only swings on a center or axis, but moves downward or upward while so doing—the convex former having at the same time a vertical movement.

My invention consists, mainly, in the combination of a convex former and two concave wipers or shapers, arranged substantially in manner and to operate as herein explained.

In the drawings, A denotes the convex former, which, as represented, is ovoidal in shape and truncated at its ends, it being attached to a carrier, B, arranged within and supported by a frame, C, so as to be capable of being moved vertically and rectilinearly therein. Fig. 5 is a perspective view of the said carrier and former. Each of the side bars *a a* of such carrier is furcated or slotted, as shown at *b*, in order for it to straddle one of the journals *c c* of the two shaper-carriers E E. These carriers, formed as shown, support two shapers, D D, whose upper surfaces are concave and concentric with the convex former, as represented. Each of the shaper-carriers, arranged with the other in manner as shown, has one of the journals *c c* projecting from it through the other carrier and into one of the slots *b b*. It also has fixed on it one of two toothed sectors or gears, F F, which engage with two vertical and stationary toothed racks, G G, arranged as shown. Opposite each of such racks is a vertical guide, H, between which and the rack the gear or pinion F is disposed, in manner as seen in Fig. 4.

The parts *f f* of the shaper-carriers are intended to be heavy enough to move the shapers toward each other, or keep them up to the convex former, while the latter may be in the act of being raised upward; but springs or other proper means may be adopted for such purpose. In the drawings I have represented each of the said carriers as having attached to it a line, *h*, going around guide-wheels *i k*, and having appended to it a weight, *i'*. These devices are for the said purpose.

On account of the slots *b b*, the carrier B can be raised above the shapers sufficiently for a counter-blank to be laid on the upper surfaces of the said shapers. This having been done, the said carrier is next to be forced downward. While it may be descending the shapers will be moved apart in opposite directions, and will stretch and shape the blank against the convex former until the blank may have been depressed below such shapers. Should the blank not drop from the convex former after the shapers may have thus acted on it, (the said blank,) such shapers, while the said former may be next drawn upward, will, by their action against the edges of the blank, hold it so that the former will be drawn out of and away from it. Thus the blank, by the action of the said former and shapers, will be shaped, and next will be discharged from the machine.

I do not claim, for shaping counters, a last or former, in combination with two jaws provided with mechanism to cause them to move rectilinearly both toward and away from the said former, as the concave shapers hereinbe-

fore described have mechanism by which, while they are in operation, they are caused to rotate or revolve relatively to the former; therefore,

Having thus described my new shoe-counter-blank-shaping machine, what I claim as my invention is as follows:

1. The combination of the convex counter-former with the two rotary concave shapers, arranged to operate therewith, substantially as set forth.

2. The two shaper-carriers, pivoted together and provided with the gears, as described, in combination with the stationary racks and guides therefor, and with the convex counter-former carrier, all being arranged and applied substantially as shown and described.

GEORGE F. MOORE.

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