H. J. Batchelder,

Horseshoe Machine,

No. 55,042, Patented May 29, 1866.

Fig. 1.

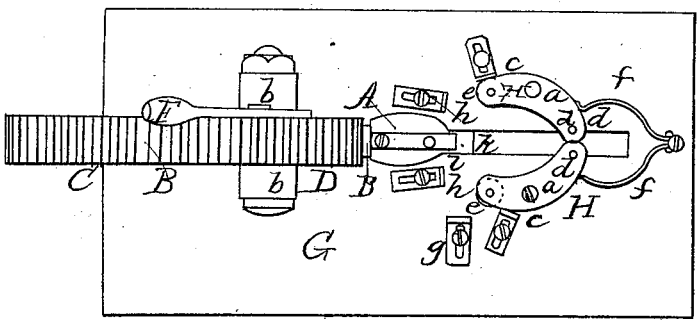
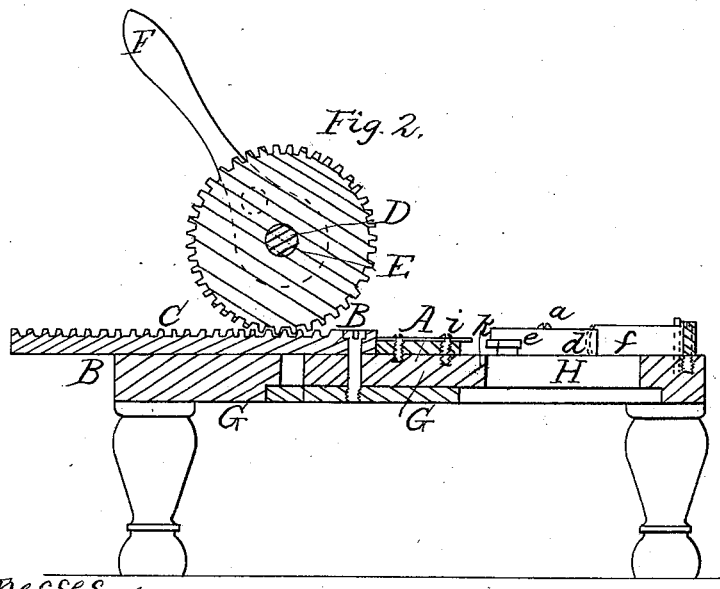


Fig. 2.



Witnesses

George H. Warblow

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Inventor

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UNITED STATES PATENT OFFICE.

HAZEN J. BATCHELDER, OF BOSTON, MASSACHUSETTS.

IMPROVED MACHINE FOR BENDING HORSESHOES.

Specification forming part of Letters Patent No. **55,042**, dated May 29, 1866.

To all whom it may concern:

Be it known that I, HAZEN J. BATCHELDER, of Boston, of the county of Suffolk and State of Massachusetts, have invented a new and useful or Improved Machine for Bending Iron for its Conversion into a Horseshoe; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a top view, and Fig. 2 a longitudinal and vertical section of such machine.

In the said drawings A denotes a former, which is arranged on a bed-plate, G, and shaped to correspond with the interior edge of a horseshoe. This former is made on or affixed to a pitman or slide, B, provided with a toothed rack or series of teeth, C, to engage with a gear, D. Such gear is duly supported by a shaft, E, sustained in standards *b b*, and has a lever, F, by which it may be revolved so as to impart to the pitman or slide and the former A their forward and backward movements.

In advance of the said former and on the bed-plate G are two bending or curved levers, H H, which when in use turn horizontally on fulcra *a a*, projecting upward from the said plate. These levers, by co-operating with the former A, serve to bend a horseshoe-blank or metal bar around the edge of the said former, so as to impart to such bar the form of a horseshoe.

The shorter arms of the levers, when such levers are open or in positions to receive a blank, rest against abutments or adjustable stops *c c*, arranged as represented. The longer arms *d d* of the levers are curved toward each other, so that while the blank is in the act of being forced against them by the former A the levers may be made to turn on their fulcra in a manner to cause their longer arms to gradually approach one another in a manner to set the horseshoe-blank in a line at its quarters and at the heels, and cause it to conform to the shape of the forming-edge of the part A.

There may be friction-rollers *e e* in the arms of the bending-levers, and there may also be a spring, *f*, to each bending-lever, the said spring being so applied to it and the bed-plate as to force open the levers or press them into their proper positions for the reception of a blank, which, prior to being bent, is to be placed against the extreme ends of the longer arms of the levers, and so that the former A during its advance may first touch the blank at its middle. For this purpose one end of the blank may be pressed against a stop, *g*, fixed to the bed-plate.

For separating the blank from the former A, I employ two dischargers, *h h*, which are stationary abutments, against which the heels of the blank are drawn by the pitman or slide B while it is in the act of being retracted and after the blank may have been drawn away from the levers. The abutments spring the blank off the former A, the elasticity of the quarters afterward serving to restore the blank to, or about to, its proper shape.

In order to prevent the blank from curling or being bent laterally or upward or downward at its toe during the process of bending such blank, there are two jaws, *i k*, projecting from the front end of the former A. These jaws embrace the blank at its middle and on opposite faces of it; or, in other words, the blank enters between the said jaws, and they prevent it from being bent either up or down.

I make no claim to the invention of any mechanism or combination of parts described in the patent of William Gibson, dated December 27, 1843.

I claim—

1. The benders H H, made and arranged in combination with the spring *f*, in manner and so as to operate with the former A, substantially as described.

2. The combination and arrangement of the jaws *i k* with the former A, combined and to operate with the spring bending-levers H H, substantially in manner as described.

3. The combination as well as the arrangement of the dischargers *h h* with the former A and the bending-levers H H.

HAZEN J. BATCHELDER.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.