

H. H. GILMORE.

Rolls for Rolling and Creasing Horseshoe-Bars

No. 163,864.

Patented June 1, 1875.

Fig. 1.

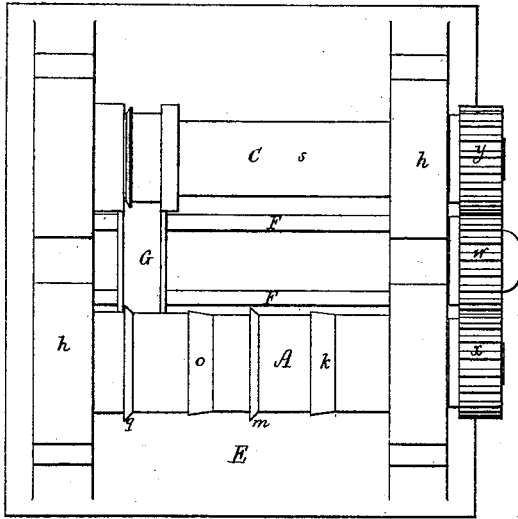


Fig. 6.

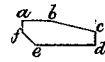
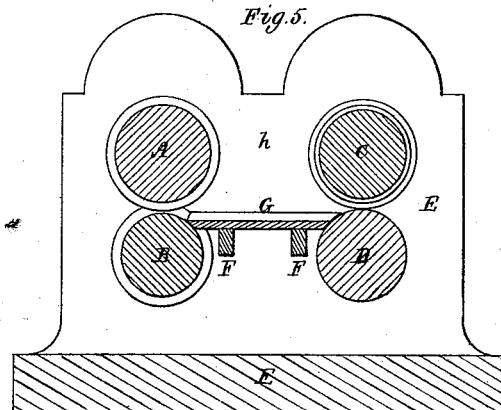
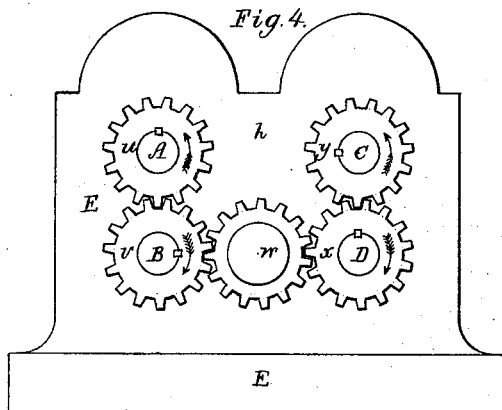
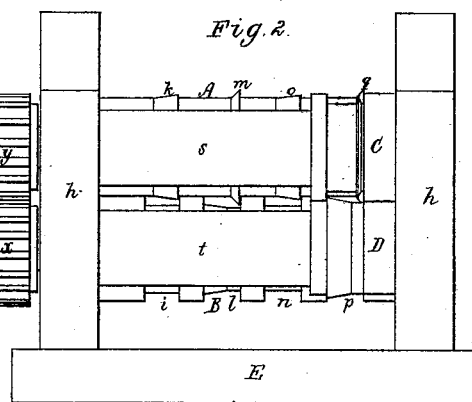
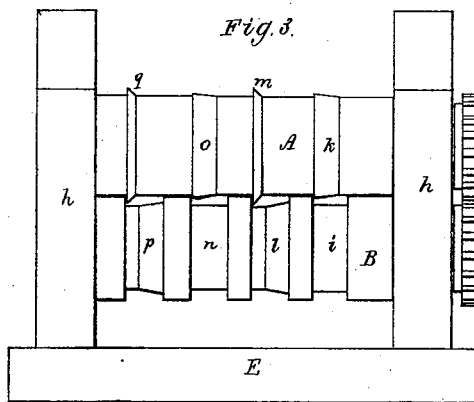
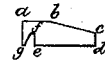


Fig. 7.



Witnesses.
S. V. Piper
L. N. Foster.

Henry H. Gilmore.
by his attorney.
R. H. Wood

UNITED STATES PATENT OFFICE.

HENRY H. GILMORE, OF CAMBRIDGEPORT, MASSACHUSETTS.

IMPROVEMENT IN ROLLS FOR ROLLING AND CREASING HORSESHOE-BARS.

Specification forming part of Letters Patent No. 163,864, dated June 1, 1875; application filed April 14, 1875.

To all whom it may concern:

Be it known that I, HENRY H. GILMORE, of Cambridgeport, of the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Machinery for Rolling and Creasing Horseshoe-Bars; and 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, Fig. 2 a front elevation, Fig. 3 a rear elevation, Fig. 4 an end elevation, and Fig. 5 a transverse section, of my improved horseshoe-bar-rolling machine.

Its purpose is to first roll a bar of iron so as to impart to it a transverse section throughout its length, as exhibited in Fig. 6, and next to crease it, substantially as shown at *efg* in Fig. 7, so as to give it a transverse section throughout its length, as shown at *abcdefg* in Fig. 7. To this end I make use of a set of reducing-rolls and a set of creasing-rolls. The reducing-rolls (shaped as represented) are shown at A B, one being disposed over the other, and both having their journals sustained in bearings in the bits or standards *h h* of a frame, E. The creasing-rolls CD (shaped as shown) are arranged in the frame, in advance of the rolls A B. Between the two sets of rolls are two support-bars, F F, which extend horizontally across the frame E, and sustain a platform or trough, G, leading from the reducing to the creasing rolls. The grooves *in* of the lower reducing-roll B, and the flat frustums *k* and *o* of the upper roll A, serve to effect the first and second reductions of the bar, or to impart to it the bevel or slope *bc*. The grooves *lp* of the lower roll, the frustums or flanges *mq* of the upper roll, and the cylindrical parts of said upper roll, situated directly over the grooves *l* and *p*, are to receive the bar and reduce it so as to impart to it the slope *ef*. After being thus reduced and shaped by the receiving-rolls, the bar is passed or passes from them through the trough to and between the creasing-rolls, by which it is creased and thrown out throughout its length with the sectional form shown in Fig. 7. The slope *ef* of Fig. 6 is to

save the usual "hemming in," which has to be done on an ordinary bar by the smith preparatory to bending and creasing it in the process of converting it into a horseshoe. The rails or bars F F, besides answering to sustain the trough G, serve to guide the bar from the reducing-rolls to and between the shaft parts *st* of the creasing-rolls. These shaft parts, while in movement, guide and advance the bar out of the machine, after such bar may have left the reducing-rolls, at each of the first, second, and third reduction of it by them. The shafts of the several rolls are connected by a train of gears, *uvwxy*, arranged as shown, the directions of revolution of the several rolls being shown in Fig. 4 by arrows.

In making a bar by the machine, such bar is first to be run between the reducing-rolls until it may have been sloped, as set forth, it being next run between the creasing-rolls and creased by the upper of them. It then becomes in a state for sale in the market as a bar from which horseshoes are to be made by a smith, he being saved the labor of creasing and sloping each piece of the bar while converting such piece into a shoe. He, of course, will have to puncture the shoe at the crease to form in it the nail-holes.

The first reduction of the bar is to be accomplished by passing it between the rolls and in the groove *i*, by which it will be drawn down approximately to the required shape.

It next is to be passed between the rolls and in the groove *l*, and submitted to the action of the first edge-beveler *m*, which makes the edge bevel, which has to be finished by the groove *p* and beveler *q*. After passing through the groove *p*, the bar goes between the rolls C D, and by their action on it is creased at the point *e*, and the bevel *ef* obliterated, so as to give to the bar the form in transverse section as shown in Fig. 7.

I claim—

1. In the horseshoe-bar-rolling machine, the rolls A B, constructed to reduce the bar with the tread slope *bc* and the edge slope *ef*, in combination with the rolls C D for creasing it, substantially as described.

2. The combination of the discharging rolls

or cylinders *s t* with the creasing-rolls C D and the rolls A B, for reducing and sloping the bar on its upper surface and edge, as set forth.

3. The combination of the guide-rails F F and the trough G with the frame, the reducing-rolls A B, the creasing-rolls C D, and the discharging rolls or cylinders *s t*, all being ar-

ranged and applied substantially in manner and to operate as and for the purpose explained.

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Witnesses:

R. H. EDDY,

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