F. HOLUB.

Machine for Rolling Horseshoe Blanks.

No. 205,386. Patented June 25, 1878.

Fig 1.

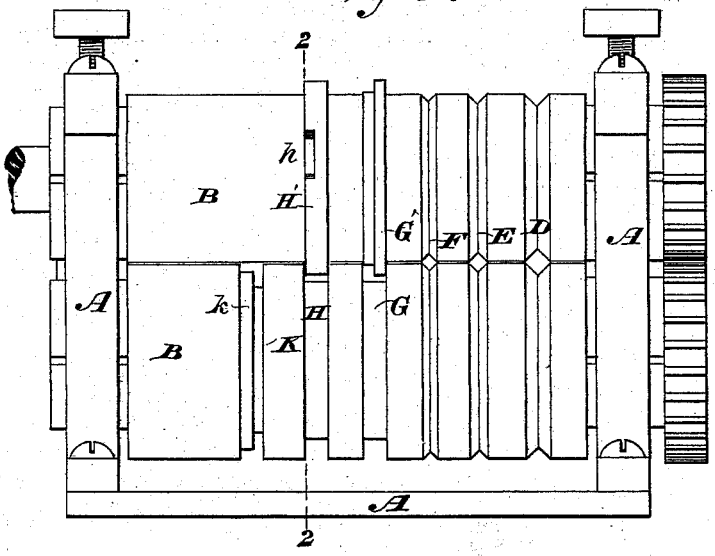
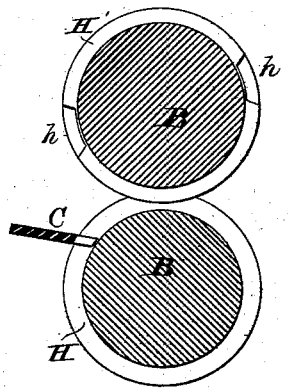


Fig 2.



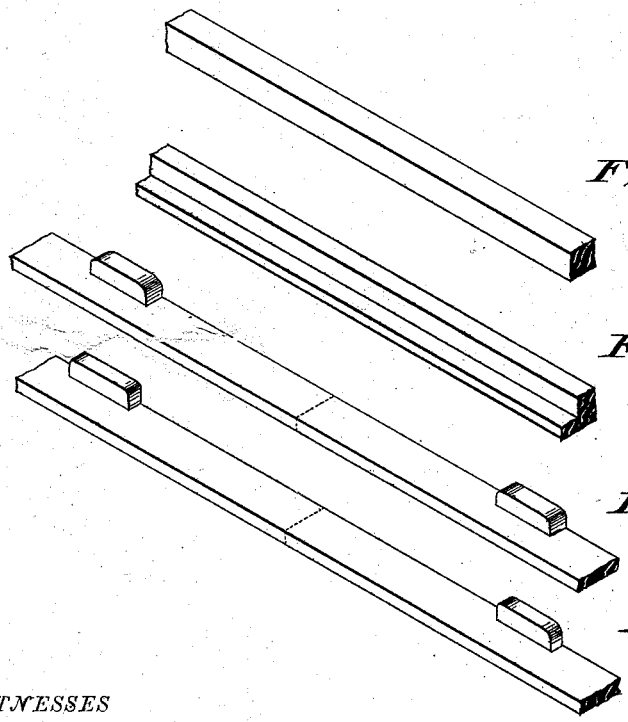


Fig 3.

Fig 4.

Fig 5.

Fig 6.

WITNESSES

Wm A Skinkle

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INVENTOR

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By his Attorneys

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UNITED STATES PATENT OFFICE.

FRANK HOLUB, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO NATHAN E. PLATT AND EDWIN THORN, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR ROLLING HORSESHOE-BLANKS.

Specification forming part of Letters Patent No. **205,386**, dated June 25, 1878; application filed June 13, 1878.

To all whom it may concern:

Be it known that I, FRANK HOLUB, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in the Manufacture of Horseshoe-Blanks, of which the following is a specification:

The object of my invention is to form from a billet, by a single heating and by the use of a single set of rolls, a bar suitable for making horseshoe-blanks, and by a continuous operation to form a connected series of blanks from the bar.

My invention consists of a pair of adjustable rolls provided with a suitable number of grooves for reducing the billet and forming it into a bar, and also provided with a suitable number of dies for forming the bar into a connected series of blanks.

It also consists in the process of forming a series of horseshoe-blanks from a billet of metal by a single heating of the same, and by passing it to and fro through a set of rollers provided with suitable reducing and forming dies.

In the accompanying drawings, Figure 1 is a view, in elevation, of so much of a rolling mill as is necessary to illustrate my invention. Fig. 2 is a vertical transverse section through the rolls on the line 2 2 of Fig. 1. Figs. 3, 4, 5, and 6 show the bar or blank formed by my machine at different stages of its formation, considerably enlarged for better illustration as compared with the sizes of the dies and grooves illustrated in Figs. 1 and 2.

A indicates the frame of a rolling-mill of any ordinary pattern; B B, the rolls, resting in suitable bearings in the frame; and C, a table or support for the bars. There may be a like table on each side of the rolls, and I propose to employ three-high rolls, and to have the operating-rolls run in opposite directions, in the usual manner, by ordinary means, so that the stock can be passed through one side and back from the other, as is well understood in the art of rolling metal.

D E F indicate grooves in the rolls, coincident one with another, for reducing and elongating the heated billet by passing it through the larger groove, and then successively through the smaller ones, until it has the proper lateral dimensions and form for being introduced into the groove G, to be operated upon by the die G′, which gives it the form shown in Fig. 4. This is the first step in the process of forming the series of blanks from the rectangular bar. It is next passed through groove H and subjected to the action of the die H′. This die is provided with depressions *h h* on opposite sides, and of such a distance apart as to form up a projection in the center of each blank to constitute the toe-calk.

Instead of having two of these depressions in the die, there may be only one, or more than two, according to the size of the roll employed, the condition being that when only one is employed the circumference of the roll should be equal to the length of the blank to be formed by that roll, and where more than one is employed the circumference of the rolls should be equal to two, three, four, or more lengths of the blank, according to the number of depressions. This is the second step in the process of forming the connected series of blanks, and gives the formation represented in Fig. 5, showing the toe-calk partly developed and unfinished, being too broad and not sufficiently high.

The bar is now finally turned on its edge and passed through groove K. This groove is provided with die *k*, which serves to flatten, elongate, and finish the broad part of the blank, and at the same time to compress and bring out and finish the toe-calk on each blank, producing a series of blanks of the formation shown in Fig. 6, in which condition the bars are ready to be cut into sections, creased, punched, and bent by succeeding operations.

By the operation of this simple mechanism, I am enabled, as above stated, to form a series of blanks from a billet with a single heating of the same; but I might employ rolls provided only with the grooves and dies G H K, and adapted only to form a series of blanks from an already-formed bar.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a set of rolls, the combination of the billet-reducing grooves or dies D E F with the horseshoe-blank-forming dies G H K of the conformation shown, substantially as described.

2. In a set of rolls, the combination of the horseshoe-blank-forming grooves and dies G H K of the conformation shown, substantially as described.

In testimony whereof I have hereunto subscribed my name.

FRANK HOLUB.

Witnesses:
WM. J. PEYTON,
JOHN F. PARET.