J. D. BILLINGS.

MACHINES FOR ROLLING HORSESHOE BLANKS.

No. 194,028. Patented Aug. 14, 1877.

FIG. 1.

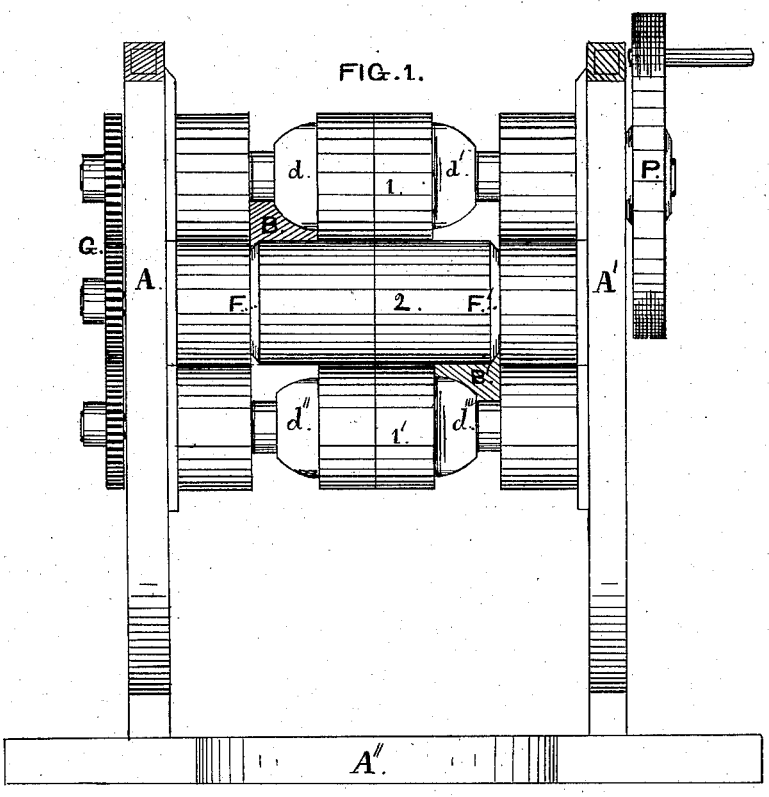


FIG. 2.

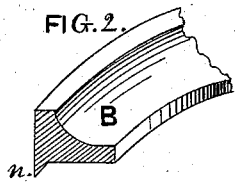
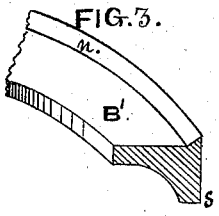


FIG. 3.



WITNESSES:

James P. McLean

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UNITED STATES PATENT OFFICE.

JOHN D. BILLINGS, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR ROLLING HORSESHOE-BLANKS.

Specification forming part of Letters Patent No. **194,028**, dated August 14, 1877; application filed August 2, 1877.

To all whom it may concern:

Be it known that I, JOHN D. BILLINGS, of the city, county, and State of New York, have invented certain novel and useful Improvements in Machines for Forming Horseshoe-Blanks by Means of Grooved Rolls; and I hereby declare the following to be a full, clear, and exact description of the construction and operation thereof, reference being had to the accompanying drawings, which are lettered to correspond with and form a part of the specification.

To enable those skilled in the mechanic arts to construct and apply my said improvement and the public to understand the nature thereof, I will describe it as follows, to wit:

Figure 1 is a side or front elevation of my machine.

A A′ A″ is the supporting frame-work. B B′ are sections of the metallic blanks or bars in the act of passing through the forming-rolls 1, 1′, and 2. These rolls are provided with shaping-grooves *d*, *d′*, *d″*, *d‴*, and F F′, to press the bars B into the required form by means of the gearing G, operated by the band-wheel P, or its equivalent, arranged substantially as shown in the drawings or otherwise.

Fig. 2 is a section of a blank after having been passed through the machine at B, Fig. 1. Said section represents the bottom or tread of the shoe upward, with the toe flange or lip and foot-surface downward.

Fig. 3 is also a section of the same blank or bar, B′ representing the top or foot surface, and top flange or upward-projecting lip *n* (shown in Fig. 1,) in the act of passing in an opposite direction to B in the machine at Fig. 1.

The shoe made from this blank, being the subject-matter of another application for a patent, forms no part of this specification, which is confined to the *modus operandi* of producing a concavo wedge-shaped horseshoe-blank provided with a flange, *n*, passing around the outer curve of the horizontal foot-surface, and with a continuous tread or concavo wedge-shaped downward projection, *s*, Fig. 3, (thus forming a substitute for the well-known calks,) the same passing around the entire bottom, and the whole forming an integral part of the body of the shoe, by means of a set of rolls, 1, 1′, and 2, arranged and operating substantially as shown in the drawings at Fig. 1, or by means of other well-known mechanical devices, provided with the shaping-grooves *d*, *d′*, *d″*, and *d‴*, and F F′, to produce the blanks B B′ by pressure ready to be curved around the horn of the anvil and punched, when the shoe may be nailed to the hoof, I believe, at less labor and expense than by any other process.

Therefore, the novelty of my invention consists in the construction of the rolls 1, 1′, and 2, provided with shaping-grooves *d*, *d′*, *d″*, and *d‴*, and F F′, to press the bars B B′ into the forms shown at Figs. 2 and 3, the same having been passed through the machine in either or both directions.

The above device may be changed to suit the exigencies of the situation to produce the same result. Therefore,

What I claim as novel and useful, and wish to protect by Letters Patent of the United States, is—

The rolls 1, 1′, and 2, provided with shaping-grooves *d*, *d′*, *d″*, *d‴*, and F F′, to produce by pressure a horseshoe blank or bar composed of the integral parts B *n s* thereof, substantially in the manner as above set forth.

In testimony whereof I hereunto subscribe my name in the presence of two witnesses.

JOHN D. BILLINGS.

Witnesses:

JAMES P. MCLEAN,

SAML. MCCONKEY.