J. WIKE.

MACHINES FOR BENDING HORSESHOE BLANKS.

No. 182,541. Patented Sept. 26, 1876.

Fig. 1

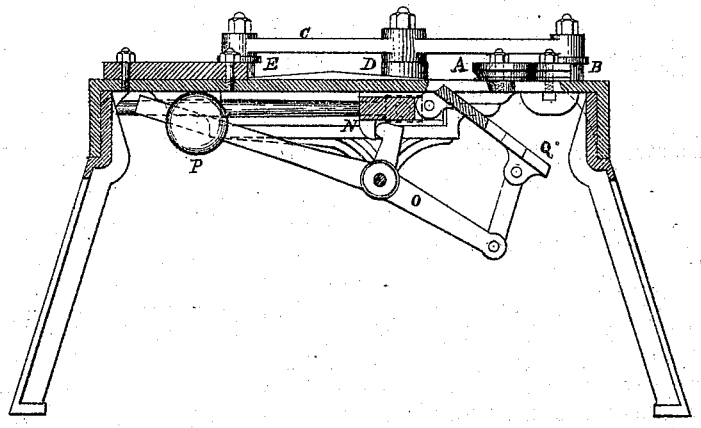


Fig. 2

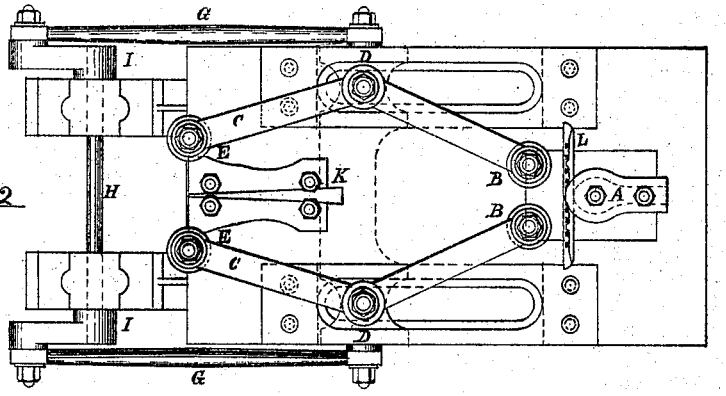


Fig. 3

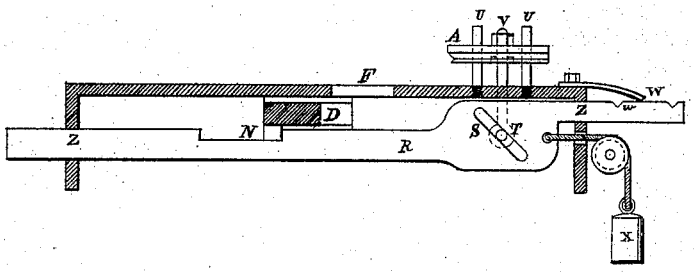
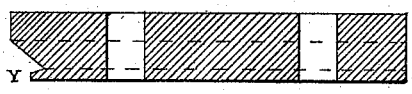


Fig. 4



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UNITED STATES PATENT OFFICE.

JOHN WIKE, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN MACHINES FOR BENDING HORSESHOE-BLANKS.

Specification forming part of Letters Patent No. **182,541**, dated September 26, 1876; application filed July 10, 1876.

To all whom it may concern:

Be it known that I, JOHN WIKE, of the city of Providence and State of Rhode Island, have invented new and useful Improvements in Horseshoe-Bending Machines, which improvements are fully set forth in the following specification, reference being had to the accompanying drawing.

The object of my invention is to bend horseshoes in a rapid and economical manner by means of a stationary former or die, A, Figures 1 and 2, and moving bending-rollers B B, carried forward and back again by means of levers C C, pivoted on a reciprocating cross-head, D, and guided to the form of shoe desired by rollers and complementary guides E E at the opposite ends of the levers.

In operating my invention motion can be communicated to the cross-head D in any convenient manner; but the use of the two cranks I I, fastened to the shaft H and the connecting-rods G G, is preferred. By this means independent yet co-operative powers are applied to each of the bending-rollers.

The guides E E are divided through their center by a wedge, K, so that they can be adjusted to take up any lost motion that may arise from wear or other causes. The former A and guides E E are fastened with bolts or studs, so that they can be easily removed and exchanged for a different size when desired.

In Fig. 2, L represents a bar or blank shoe before being bent, and is shown in place ready for bending. The guide-rollers are to be held to the guides E E at the beginning of the stroke by means of a spring or its equivalent, or by the use of a wedge-shaped projection fastened to the former A. The object of this is to have the bending-rollers strike the straight bar or blank shoe at exactly equal distances from the toe of the shoe. Now, the cross-head D moves forward, and the rollers B B bend the shoe to the shape of the former A. After the shoe is bent the bending-rollers travel some distance beyond the heel of the shoe. At the time the rollers leave the heel of the shoe the lug N, Fig. 1, on the under side of the cross-head D, strikes a projection on the lever O, and opens the trap-door Q in the table immediately under the former A. This allows the bent shoe to drop from the former, and also frees the former and table of all scale that drops from the hot bars while bending. As the cross-head again returns to the beginning of its stroke the door Q is brought back in position by the counter-weight P. The shoe may also be taken from the former, as shown in Fig. 3. R is a sliding bar, moved forward and back in its guides Z Z by the lug N on the under side of the cross-head D. S is an oblique slot in the sliding bar. T is a pin working in it, and is also firmly connected with the vertical shaft V. This vertical shaft is also provided with a collar and nut at its upper end, between which the former A can be firmly held. U U are two pins or studs to guide the motion of the former up and down. Now, when a forward motion is communicated to the sliding piece R by means of the lug N on the cross-head D, the oblique slot S gives an upward motion to the pin T and also to the former A. This, as in the other case, is so arranged that motion in the sliding bar R begins just as the bending-rollers have left the heel of the shoe, thus allowing the bent shoe to remain on the table. When the cross-head D has completed its stroke, the projection on the spring W falls in the notch *w*, and, with the counter-weight X, holds the sliding bar still, and the former in its upmost position. As soon as the former A has been lifted to its full height the bending-rollers B B, Fig. 1, are brought close together by means of a spring or its equivalent, and as they return for another stroke they pass under the former and drag the bent shoe along until it drops through the hole F, Fig. 3. Just before the cross-head D has completed its back stroke the lug N carries the sliding bar R back with it, and the former A is again brought in position for receiving the next shoe.

Fig. 4 represents a section through the center of the former A, drawn to a larger scale.

Y is a small projection at the toe of the shoe to catch the inner edge of the shoe while bending, and to prevent any twisting of the shoe at that point.

Having described my invention, what I claim therein as new and of my own invention is—

1. The combination of a stationary former,

A, and projection Y, the bending-rollers B B, and levers C C, with the guides E E, divided by an adjusting-wedge, K, in a horseshoe-bending machine, substantially as shown and described.

2. The combination of a trap-door, Q, of the lever O, counter-weight P, and lug N, with a horseshoe-bending machine, substantially as and for the purposes set forth.

JOHN WIKE.

Witnesses:
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