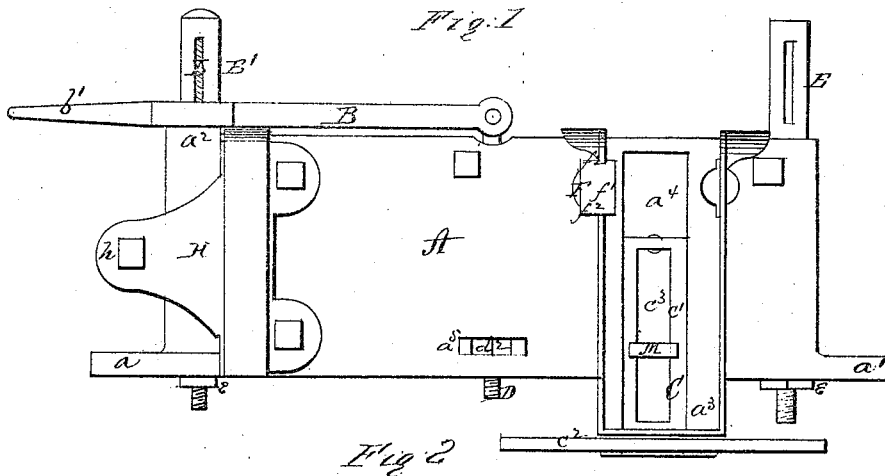


J. H. De Valin,

Stirrup Farmer.

No. 110,748.

Patented Jan. 3. 1871.



Witnesses
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JOHN H. DE VALIN, OF BALTIMORE, MARYLAND.

Letters Patent No. 110,748, dated January 3, 1871.

IMPROVEMENT IN MACHINES FOR BENDING METAL STIRRUPS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, JOHN H. DE VALIN, of Baltimore, in the county of Baltimore and in the State of Maryland, have invented certain new and useful Improvements in Stirrup-Formers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and general arrangement of a device for forming stirrups and bending and twisting bars of metal, as will be hereinafter fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side view, and

Figure 2 is a plan view of my entire machine.

A represents the block, with the flanges a a' at the bottom, the flange a' being only on one side and the end. These flanges are for the purpose of securing the block to suitable standards.

a^2 represents a shoulder on one end of the block A, extending on the two vertical sides and on the top, forming a guide.

a^3 represents a part of the block A, projecting downward, and of the same thickness as the rest of the block.

a^4 represents a recess in the block, which extends from the bottom of the projection a^3 to near the top of the block, and of sufficient depth to receive the gauge C, making the vertical part thereof even with the side of the block.

a^5 represents a hole or slot through the block for the reception of a nut, d .

D represents a bolt screwing into the nut d , and passing vertically through the middle of the block. By a knuckle-joint the bolt D is secured to the clamp B at one end. The opposite end of the clamp B terminates in a handle, which extends beyond the end of the block A.

Near each end of the block A there is an upright bolt, E E', passing vertically through the block, and secured by means of a nut, e .

The upper ends of the bolts E E' extend above the block A, and have slots through them for the reception of a key, L.

The bolts E E' are situated at equal distances from the middle bolt D, and the clamp B has an oblong hole, b^2 , near the handle b^1 , so that the clamp can pass freely over the ends of the bolts E E', and the key L put into the slot with its under side bearing on the

top of the clamp B. The bolts E E' have shoulders resting on the top of the block A.

The gauge C has a slot, c^3 , in its vertical part c^1 , through which a bolt, M, passes and secures it to the block A. The horizontal part c^2 of the gauge extends laterally beyond the vertical side of the block A, and is of any required length.

The lip-bolt F is provided with a lip, f^1 , wings f^2 , and a key, f^3 . The wings f^2 fit into corresponding recesses in the holes in the block, which prevent the bolt from turning. The key f^3 is for the purpose of drawing the lip-bolt through the block.

The block A is provided with holes for the reception of the lip-bolt F at convenient places in the vicinity of the gauge C.

The thickness-piece H is provided with lugs and countersunk holes for the purpose of securing it by bolts to the block A. The inner face is made to fit on the side of the block A, between the middle and the shoulder a^2 , and the same side as the gauge C.

The lug h extends beyond the end of the block. The recess h^1 fits over the projection a^2 of the block.

There is a shoulder, h^4 , on the thickness-piece H, which, when bolted to its place on the block, comes even with the shoulder a^2 of the block, and serves for a guide in bending the stirrup.

On the opposite side of the block A the thickness-piece K is bolted opposite the piece H, the lug k^1 coming opposite the lug h , and the recess k^2 fitting over the projection a^2 . In both cases the tops of the thickness-pieces H and K come even with the top of the block A.

On the same side of the middle bolt, and on the opposite side of the block from the gauge C, the thickness-piece G is bolted by means of bolts, the top of said thickness-piece coming even with the top of the block A, the heads of the bolts in all cases being countersunk so as to make the sides of the machine fair.

The operation of the machine is as follows:

The clamp B is raised, and the middle of the bar to be bent is placed in the middle of the block A, against the shoulder a^2 on top. The clamp B is then brought down on top of the bar, and keyed there by means of the key L in the bolt E'. Both ends of the bar are then bent down against the sides of the block A and along the shoulders a^2 , (the thickness-pieces H K being removed,) thus forming the seat of the stirrup. The clamp B is then unkeyed and raised, and the bent bar taken off the block.

The gauge C having been set to the required distance from the top of the block, the seat of the stirrup is then placed on the top of the horizontal part c^2 thereof, with the two upright side-pieces of the

stirrup against the block A. One side-piece of the stirrup is then secured by means of bringing it under the lip of the lip-bolt F, and keying up the lip-bolt by means of the key f^3 . The side-piece is then twisted and bent down on the top of the block A. The clamp B is then brought down on the stirrup, and keyed fast by means of the key L in the bolt E.

The end of the stirrup is bent down against the opposite side of the block A, thus forming one of the straps of the stirrup. The clamp B is then raised and the lip-bolt loosened, and the bar is taken off; the lip-bolt is reversed, and, if necessary, changed to another hole in the block A; the bar is replaced on the block, with its seat resting, as before, on the horizontal part of the gauge C, and the other upright side secured by means of the lip-bolt. The bar is then twisted, bent down on the top of the block; the clamp B brought down and keyed; the end of the bar bent down on the opposite side of the block A, and the stirrup is complete.

The block A must not be greater in width than the narrowest stirrup to be made. By adding thickness-

pieces H, K, and G, the stirrup can be made of any desired dimensions.

Having thus fully described my invention,

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

1. In combination with the block A, constructed as described, with flanges a a' , shoulders a^2 , projection a^3 , and recess a^4 , the slotted gauge C, adjusted in the recess a^4 by means of the screw M, and the lip-bolt F, provided with lip f^1 , wings f^2 , and key f^3 , all substantially as and for the purposes herein set forth.

2. The combination of the block A, bolts D E E', clamp B, gauge C, lip-bolt F, and with or without the thickness-pieces H K G, all constructed and arranged as described, to operate substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 21st day of July, 1870.

JOHN H. DE VALIN.

Witnesses:

J. H. W. ONION,
J. M. MASON.