N. Brand.

Making Hoes.

No. 5 2 1.
31,525.

Patented Feb. 26, 1861.

Fig. 1.

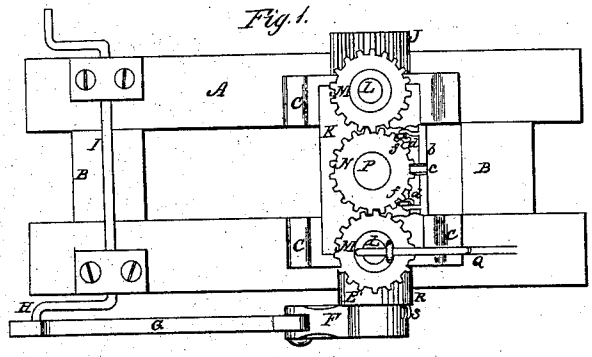


Fig. 4.

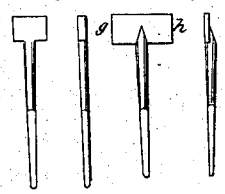
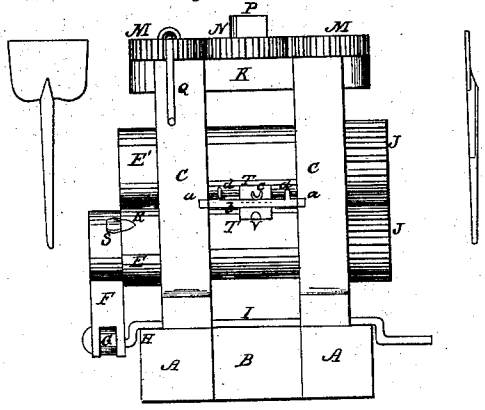


Fig. 2.

Fig. 3



Witnesses:
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UNITED STATES PATENT OFFICE.

NATHAN BRAND, OF LEONARDSVILLE, NEW YORK.

MACHINE FOR MANUFACTURE OF HOE-BLANKS.

Specification forming part of Letters Patent No. 31,525, dated February 26, 1861; Reissued May 26, 1863, Nos. 1,481 and 1,482.

To all whom it may concern:

Be it known that I, NATHAN BRAND, of Leonardsville, Madison county, and State of New York, have invented certain new and useful Improvements in Machinery for Manufacturing Hoes; and I do hereby declare that the same are described and represented in the following specifications and drawings.

To enable others skilled in the art to make and use the improvements which I have invented I will proceed to describe their construction and operation referring to the accompanying drawings in which the same letters indicate like parts in each of the figures.

The nature of my invention and improvements in machines for making hoes consists in vibrating dies to plate the hoes provided with vibrating or traversing guides fitted to receive and hold the shanks of the hoes while they are rolled and plated as described in the following specification.

Figure 1 is a plan, Fig. 2 is a side elevation, and Fig. 3 is a front elevation.

In the accompanying drawings A, A, are sills connected by the bars B, B, making a strong frame, to which the standards C, C, are fastened a proper distance apart to receive the boxes D, D, for the journals of the rollers E, E′, which are made in the form shown in the drawing. The roller E, is provided with a crank F, connected by the rod G, to the crank H, on the shaft I, which turns in boxes on the sills A, and may be provided with a pulley or gear to operate it, and vibrate the rollers E, E′, which are connected by the gears J, J, so as to turn in unison when they are operated.

The standards C, C, are connected at the top by the bar K, to which they are firmly fastened. This bar K, has female screws in it right over the boxes D, D, to which the male screws L, L, are fitted and provided with gears M, M, which are connected by the stud gear N, which turns on a stud P, in the bar K, as shown.

The crank Q, is fastened to the gear M, to enable the workman to turn the screws L, L, with one hand and close the rollers or dies on the hoe blank while he holds it between said rollers or dies with the other hand.

My improvements are adapted to making hoes with shanks to be inserted in the handles, and the hoe blanks are formed under a hammer to prepare them for the machine with a shank and head, as shown in Fig. 4. The ends of the rollers E, E′, project beyond the stands as shown in the drawing, and the roller E has a score R, in it, and a forked guide S, right opposite the score to receive the shank of the hoe blank. The rollers E, E′, have the faced dies T, T, upon them to roll and plate the hoe, and the lower one has a score V, in it to permit the thickness of the shank to extend onto the hoe.

To hold the shank of the hoe and traverse it in each direction, while the plate is being rolled, I make come scores *a*, *a*, in the standards C, C, and fit the bar *b*, to traverse in them and fasten the curved plates *c*, to the middle of the bar, right opposite to the score in the die to receive the shank of the hoe.

To traverse the bar *b*, and hoe, to correspond with the dies T, T, the rods *d*, *d*, are fastened in the bar *b*, and hinged to the eyes *f*, in the roller E, so that as the roller is rocked to vibrate the dies, the bar *b*, and curved guide plate *c*, are traversed, which curved guide plate is adapted to receive the shank of the hoe.

The hoe blank Fig. 4, is prepared and properly heated and placed between the ends of the rollers with the shank in the forked guide S, and is held between the rollers with one hand while the other turns the crank Q to close the rollers and roll the blank a proper length in the direction *g*, *h*, when it is taken while still hot and the shank placed in the guide plate *c*, which traverses it between the dies T, T, which are pressed together by the screws L, L, until the hoe is of a proper thickness when it may be taken to the shears and cut the size and shape required. From the foregoing description it will be seen that the hoe blank is rolled first in one direction and then in the other at a right angle to the first.

I contemplate that a lever may be hinged to the forked guide S, and also to the curved plate C, so as to clamp the shanks of the hoes in the guides while they are rolled. With my machine one man plates six hoes in

the time required to plate one under a hammer; and besides the rollers plate them so much smoother than the hammer that it is far less work to finish them, that is to grind and polish them, than it is when they are hammered. This machine will also answer to plate trowels and some other articles.

I believe I have described and represented my improvements in machinery for manufacturing hoes, so as to enable any person skilled in the art to make and use them.

I will now state what I desire to secure by Letters Patent, to wit:

In combination with vibrating dies for making hoes a traversing guide constructed as described to hold and traverse the shank of the hoe rolled substantially as described.

NATHAN BRAND.

Witnesses:
DENNIS HENDIN,
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