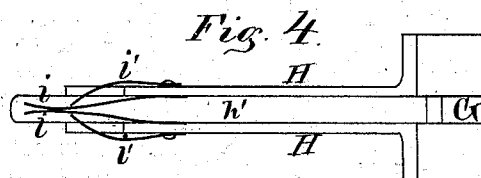
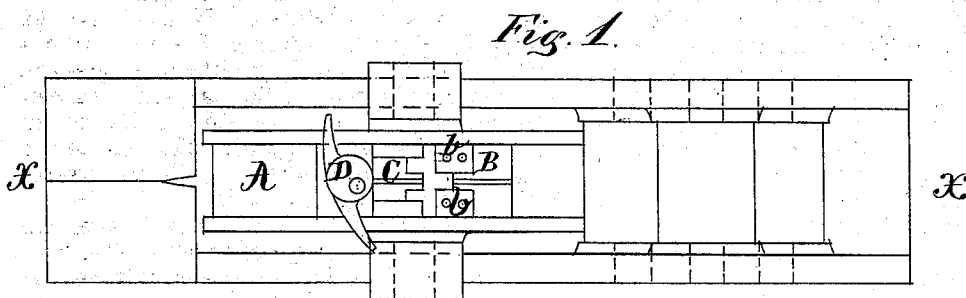
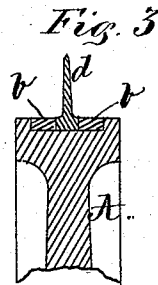
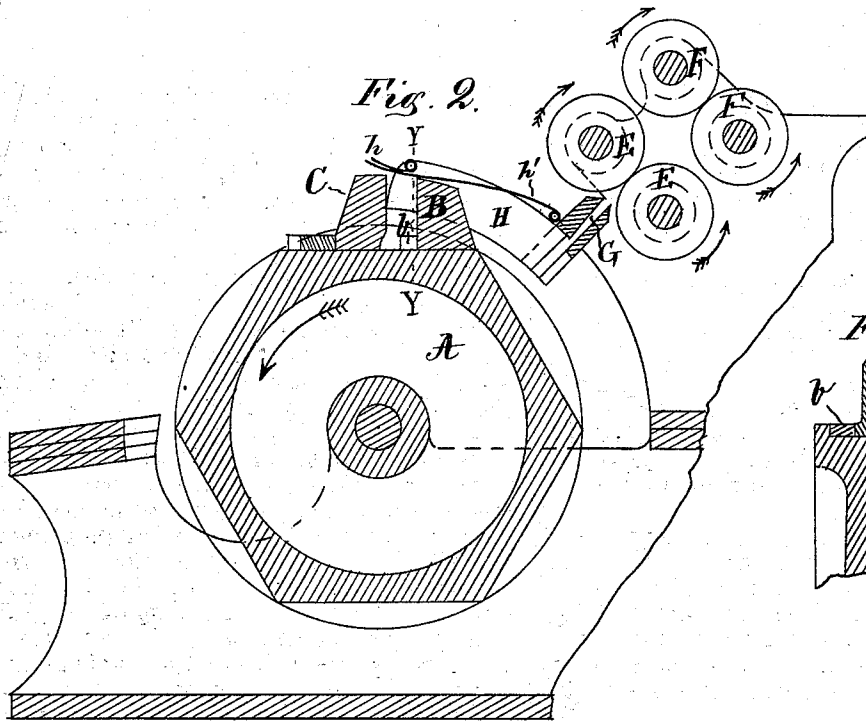


J. M. LAUGHLIN.

Horseshoe Nail-Machines.

No. 135,993.

Patented Feb. 18, 1873.



Witnesses:
Helen S. Andren.
Harry Coleman.

Inventor:
Joseph M. Laughlin.
by Arvan Andren his att.

UNITED STATES PATENT OFFICE.

JOSEPH M. LAUGHLIN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN HORSESHOE-NAIL MACHINES.

Specification forming part of Letters Patent No. 135,993, dated February 18, 1873.

To all whom it may concern:

Be it known that I, JOSEPH M. LAUGHLIN, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Horse-Nail Machines, of which the following is a specification:

My invention is an improvement on the patent of Edward W. Kelley for horse-nail machines, dated May 23, 1871, and relates to improvements on the clipping-wheel, and the guide from the rollers, whereby the nail is guided properly into the space between the dies on the clipping-wheel without any danger from turning round or being placed edgewise between the dies, as will now be fully shown and described.

On the drawing, Figure 1 is a ground plan. Fig. 2 is a longitudinal section over the line X X taken on Fig. 1. Fig. 3 is a cross-section over the line Y Y taken on Fig. 2. Fig. 4 is an enlarged bottom view of the nail-guide.

Similar letters refer to similar parts wherever they occur on the different parts of the drawing.

On this kind of nail-clipping machine it has been found difficult to keep the nails in their proper position between the dies after they have left the rollers and before the presser has got a firm hold of the nail. When it happened that a nail got turned round or placed edgewise between the male dies and the locking apparatus behind, the presser pushing the dies together, something was sure to break, from the fact that the nail took a larger room between the dies than the machine was calculated for; and to prevent this displacing of the nails between the dies is the purpose of my invention, wherefore I construct it as follows:

A is the rotating polygonal clipping-wheel, on each face of which is secured a male die, B, that is attached firmly to the clipping-wheel A. C is the presser or movable male die that is pressed against the nail and the die B, by means of a suitable locking apparatus, D. I have only shown one set of dies, B C, on the drawing, but similar ones are used on every face of the polygonal wheel A. E E F F are the rollers, between which the nail is rolled and shaped. On each side of the dies B I attach to the said die or to the clipping-wheel A, or in any other suitable manner, a small guide-piece, *b b*, that project a little above the face of the wheel A, and that serve as a rest

and guide for the head of the nails, till the presser C has got hold of the nail firmly.

I do not wish to confine myself to any particular construction of the said guide-pieces, as they may be made in one piece with the die B or with the wheel A, or in any other suitable way, as may be desired.

d, on Fig. 3, represents a nail resting and kept in proper place between the said guide-pieces *b b*, as described. The nail, after leaving the rollers E E, enters the tube G, that is made tapering in its lower end, so as to just allow of the passing of the nail to the clipping-wheel. The lower end of the guide G is made curved, as shown in Fig. 2 at H H, and made in two pieces, one on each side of the dies B C, that pass between the guides H H during the revolution of the clipping-wheel A. The curved guide H is provided with springs *h h'* that press down the nail from above onto the face of the clipping-wheel A. I also employ side springs *i i' i''*, attached to the curved guides H H, by the combined action of which the nail is kept in a central position till the presser C gets a firm hold on it.

I employ the guide-pieces *b b* alone or the curved guides H H alone, or combined together, as may be desired. When I use the guides H H, with its springs *h h' i i'*, without using the guides *b b*, I am obliged to raise the support for the head of the nail and lengthen the dies, so that the lower side of the curved guides H H and springs will take hold of the sides of the head of the nail till the presser C has got a strong hold on it.

I wish distinctly to state that I make no claims as to the clipping-wheel A, dies B C, and rollers E F, that are old and patented by the aforesaid E. W. Kelley; but

What I wish to secure by Letters Patent and claim is—

1. In combination with the wheel A and dies B C, the employment and use of the guide-pieces *b b* on each side of the die B, in a manner and for the purpose set forth.

2. The construction and arrangement of the tube G, curved guides H H, with their springs *h h' i i' i''* or their equivalents, in combination with the rotating dies B C, as and for the purpose set forth.

JOSEPH M. LAUGHLIN.

Witnesses:

ALBAN ANDRÉN,
HELEN S. ANDRÉN.