(No Model.)

E. MERRITT, Dec'd.

E. CROCKER, C. W. SUMNER & C. D. NASH, Administrators.

HEEL NAILING MACHINE.

No. 385,748. Patented July 10, 1888.

Fig. 1.

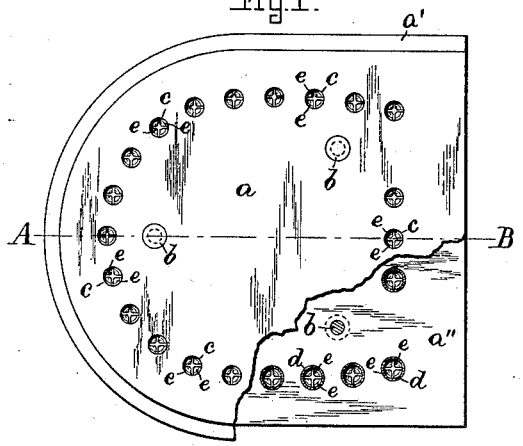


Fig. 2.

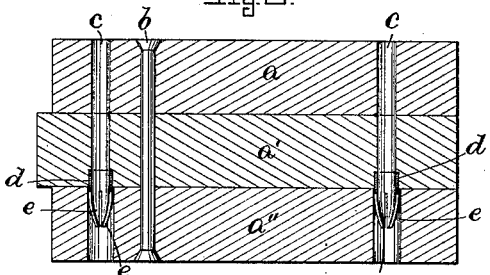


Fig. 3.

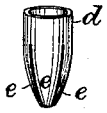


Fig. 4.

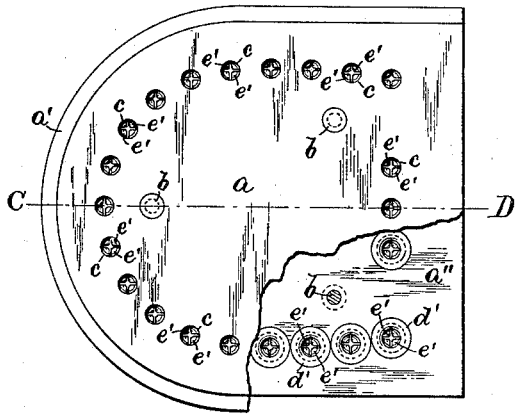


Fig. 5.

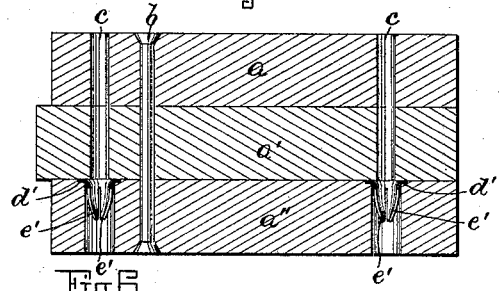


Fig. 6.

Fig. 7.

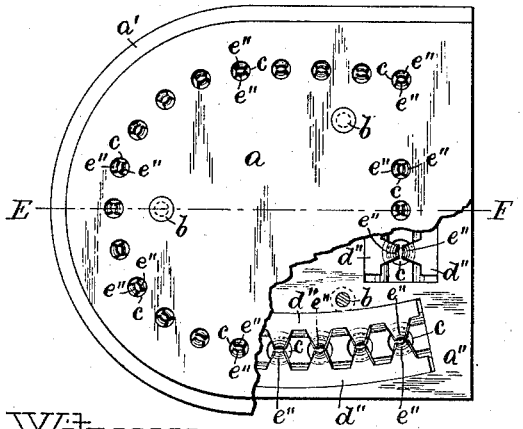
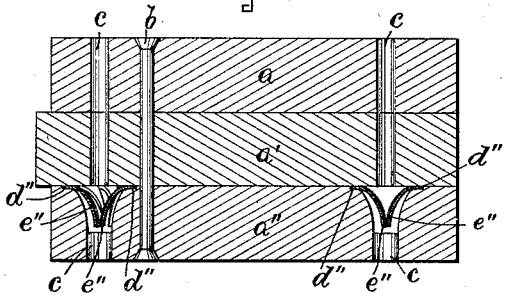


Fig. 8.



Witnesses,

Henry Chadbourn.

Harry W. Robinson.

Inventor,

Edward Merritt.

by Albert Andrén.

atty for administrators de bonis non of the estate.

UNITED STATES PATENT OFFICE.

EDWARD CROCKER AND CHARLES W. SUMNER, OF BROCKTON, AND CHARLES D. NASH, OF WHITMAN, MASSACHUSETTS, ADMINISTRATORS DE BONIS NON OF THE ESTATE OF EDWARD MERRITT, ASSIGNORS TO THE AMERICAN HEELING MACHINE COMPANY, OF MAINE.

HEEL-NAILING MACHINE.

SPECIFICATION forming part of Letters Patent No. 385,748, dated July 10, 1888.

Application filed May 21, 1888. Serial No. 274,532. (No model.)

To all whom it may concern:

Be it known that EDWARD MERRITT, deceased, late a citizen of the United States, and a resident of Brockton, in the county of Plymouth and State of Massachusetts, did invent certain new and useful Improvements in Nail-Centering Dies for Heeling-Machines; and we do hereby declare that the same are fully described in the following specification and illustrated in the accompanying drawings.

This invention relates to improvements in perforated nail-dies for heeling-machines for the purpose of properly guiding and centering headed or tapering nails while being driven through the perforations in the nail-die, and it is carried out as follows, reference being had to the accompanying drawings, wherein—

Figure 1 represents a plan view of the improved nail-die; and Fig. 2 represents a cross-section on the line A B, shown in Fig. 1. Fig. 3 represents a perspective detail view of one of the centering-springs shown in Figs. 1 and 2. Fig. 4 represents a plan view of a modification of the improved self-centering nail-die; and Fig. 5 represents a cross-section on the line C D, shown in Fig. 4. Fig. 6 represents a perspective detail view of one of the centering-springs shown in Figs. 4 and 5. Fig. 7 represents a plan view of another modification of the improved self-centering die; and Fig. 8 represents a cross-section on the line E F, shown in Fig. 7.

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

In driving headed or tapering nails through perforated nail-dies as used in heeling-machines it is necessary that the perforations in the nail-die should be as large or a little larger than the head or largest portion of the nail to be driven, and consequently as the pointed or lower end of the nail does not fill the perforation in the nail-die it is liable to be driven out of a vertical line into the heel. To avoid such objection, and for the purpose of causing the nails to be guided in a vertical direction while being driven, the perforated nail-die is provided with the yielding self-centering device, as will now be more fully described.

In the drawings the nail-dies are represented as being made each of three horizontal plates, *a a' a''*, secured together by means of rivets *b b b*, this being the usual manner of making nail-dies for heeling-machines; but such construction is not essential, as said nail-dies may each be made of a single piece of metal, or two or more secured together, if so desired.

c c c represent a series of vertical perforations made through each die, as shown. In Figs. 1, 2, and 3 the self-centering device is shown to consist of a cylindrical tube, *d*, having the contracted or tapering yielding lower spring jaws or prongs, *e e e e*, such tube being secured in a suitable manner, one within each of the nail-die perforations, as shown in Figs. 1 and 2, the said yielding spring-prongs *e e* serving to hold and direct the point and shank of the nail in a central and vertical direction at the time of driving the nail through the perforated nail-die, the said spring-prongs being made very light and slender to permit their expansion sufficiently to allow the head or upper end of the nail to pass freely between them as the nail is driven.

Instead of making the self-centering device in the form shown in Figs. 1, 2, and 3 as a modification, it may be made as shown in Figs. 4, 5, and 6, in which *d'* is an annular flange or rim adapted to be clamped or otherwise secured between two of the adjoining plates of which the nail-die is composed, said flange *d'* being provided with downwardly-projecting spring-prongs *e' e' e'*, similar to those already described, and shown in Figs. 1, 2, and 3.

Another modification is shown in Figs. 7 and 8, in which, instead of using an independent self-centering device for each perforation in the nail-die, is used a pair of metal spring-plates, *d'' d''*, clamped or otherwise secured between two of the adjoining plates of which the nail-die is composed, and having continuous

or separate spring centering-prongs *e''* *e''* in their lower ends, as shown in said Figs. 7 and 8.

The invention claimed is—

A nail-die for heeling-machines, having perforations *c c*, and having the self-centering device consisting of the expansion metal prongs *e* or its equivalent arranged in connection with the perforations *c c*, as and for the purpose set forth.

In testimony whereof we have hereunto officially affixed our names, in the presence of two subscribing witnesses, on this 16th day of May, A. D. 1888.

EDWARD CROCKER,
CHARLES W. SUMNER,
CHARLES D. NASH,
Administrators de bonis non of the estate of Edward Merritt.

Witnesses:
HERBERT H. CHASE,
LUCIUS LEACH.