

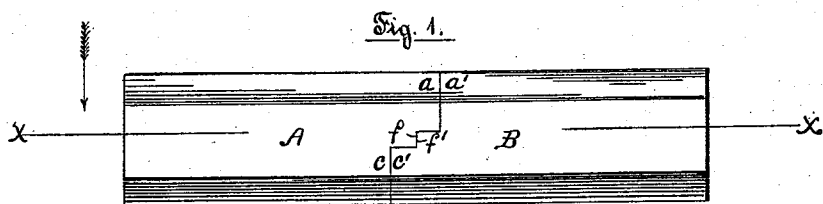
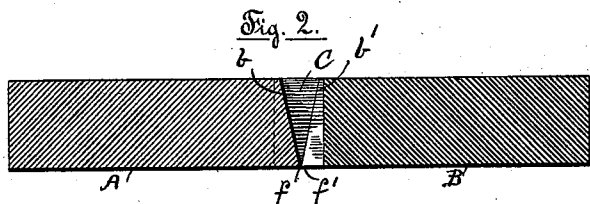
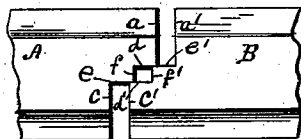
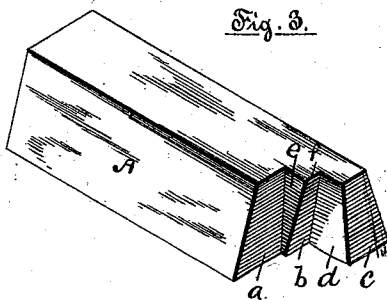
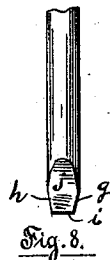
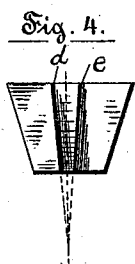
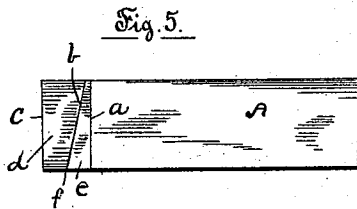
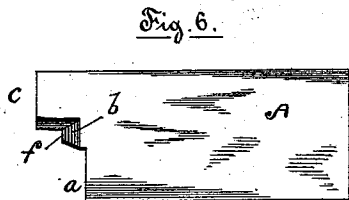
(No Model.)

H. A. STONE.

DIE FOR CUTTING AND POINTING WIRE NAILS.

No. 377,722.

Patented Feb. 7, 1888.



Witnesses.

Chas. F. Schmelz.

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UNITED STATES PATENT OFFICE.

HARLEY A. STONE, OF WORCESTER, MASSACHUSETTS.

DIE FOR CUTTING AND POINTING WIRE NAILS.

SPECIFICATION forming part of Letters Patent No. 377,722, dated February 7, 1888.

Application filed May 12, 1887. Serial No. 238,009. (No model.)

To all whom it may concern:

Be it known that I, HARLEY A. STONE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Dies for Cutting Wire Nails, of which the following is a specification, accompanied by drawings, forming a part of the same, showing a pair of wire-nail-cutting dies embodying my invention, and in which—

Figure 1 is a front view of the dies with their cutting ends in contact. Fig. 2 is a sectional view on line X X, Fig. 1. Fig. 3 is a perspective view of one of the dies. Fig. 4 is an end view, Fig. 5 is a top view, and Fig. 6 is a rear view, of one of the dies. Fig. 7 shows the cutting ends of the dies as slightly separated. Fig. 8 is a side view of the "chisel-point" of the nail as made by the action of the dies, and Fig. 9 is an edge view of the nail-point.

Like letters refer to like parts in the several views.

My invention relates to the dies employed in machines for making wire nails for the purpose of cutting off the wire forming the nail from the coil and shaping the point of the nail; and it consists in the features hereinafter described, and specifically set forth in the claims.

A and B, Figs. 1 and 2, represent a pair of cutting-dies which are held in the operating parts of the nail-machine, and by which they are given a reciprocating motion in a straight horizontal line, alternately bringing the cutting ends together, as shown in Fig. 1 and in section in Fig. 2, and separating them, as shown in Fig. 7. The horizontal reciprocating movement of the dies is common in nail-machines, and the operating parts of a nail-machine employed in producing the movement of the dies are well understood, and therefore require no detailed illustration or description.

The cutting ends of the dies A and B are identical in shape and operation, except that the position and action of each die are the reverse of its mate, one of the dies forming one side and edge of the point of the nail and the opposing die the opposite side and edge of the point.

The form of the cutting ends being identical in each die, a description of one as illustrated

in Figs. 3, 4, 5, and 6 will serve as a description of both. The end of the bar A is formed of the three steps, as shown in perspective view in Fig. 3, the surfaces *a*, *b*, and *c* being in a vertical plane, with the surfaces *a* and *c* at right angles to the line of motion of the die and the surface *b* placed obliquely to the line of motion of the die, the surface *b* and its corresponding surface *b'* on the die B forming a wedge-shaped opening, C, Fig. 2, when the cutting ends are brought together. The surfaces *d* and *e* are inclined in opposite directions, forming slight but equal angles with a horizontal plane, as indicated by the broken lines in Fig. 4. The surfaces *a'*, *b'*, *c'*, *d'*, and *e'* of the opposing die, B, are similarly formed, so that when the cutting ends are brought together, as shown in Fig. 1 and in section in Fig. 2, the surfaces *a* and *a'* and the surfaces *c* and *c'* abut against each other, and the oblique surfaces *b* and *b'* are brought against the sides of the wire, compressing it into a wedge-shaped point, the edges *f f'* forming cutting-edges and severing the wire with the point of the nail inclosed in the opening C, Fig. 2. As the ends of the dies are brought together, the surface *d* of the die A slides over and in contact with the surface *e'* of the die B, compressing the corner *g* of the nail-point, and the surface *d'* of the die B slides over and in contact with the surface *e* of the die A, compressing the corner *h* of the point and making the edge *i* either equal to or, as shown in Fig. 8, slightly less than the diameter of the body of the nail. The bevel of the sides *j j* is varied by changing the angle of the oblique surfaces *b b'*, and the edges *g h* of the nail-point are changed by varying the angle of the surfaces *d d'* and *e e'*. As the surfaces *d d'* pass entirely over the body of the wire as it is held between the oblique surfaces *b b'*, the surfaces *g* and *h* on the nail are left smooth, whereas in the case of dies which only pass to the center of the nail a ridge or "fin" is left on the surface of the nail. It has been customary heretofore to make what are known as "chisel-pointed" nails by the use of dies having a recess on one of the dies, into which a portion of the opposing die enters. In my improved die, however, the wire is entirely released as soon as the dies are separated, and as the cutting-edges

f f' are formed by the oblique surfaces *b b'* and the front surface of the bars A and B, which are parallel with the line of motion of the dies and at right angles with the wire, the end of the wire is left smooth for the formation of the head of the succeeding nail.

I do not claim, broadly, a die for making a chisel-pointed nail; but

What I do claim as my invention, and desire to secure by Letters Patent, is--

1. A pair of cutting-dies similar in form but reversed in position, each provided with cutting-edges for severing the nail from the

rod or wire, and oblique surfaces for swaging the sides and the edges of the point, substantially as described.

2. In a pair of dies having a reciprocating motion in a horizontal line at right angles with the line of feed of the wire, the cutting-edges *f f'*, oblique sides *b b'*, the swaging-surfaces *d e'* and *d' e*, and the abutting surfaces *a a'* and *c c'*, substantially as described.

HARLEY A. STONE.

Witnesses:

RUFUS B. FOWLER,
H. M. FOWLER.