W. J. BOYLE.

DIES.

APPLICATION FILED APR. 12, 1917.

1,274,848. Patented Aug. 6, 1918.

Fig. 1.

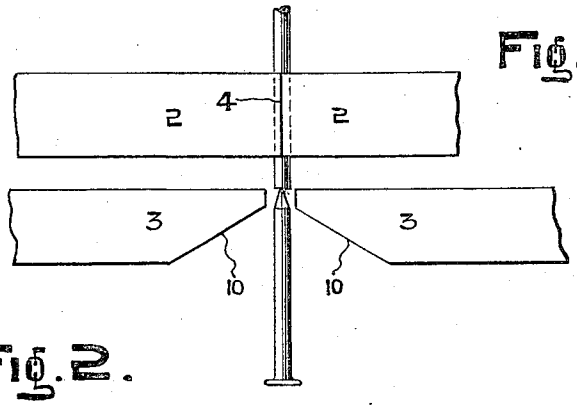


Fig. 2.

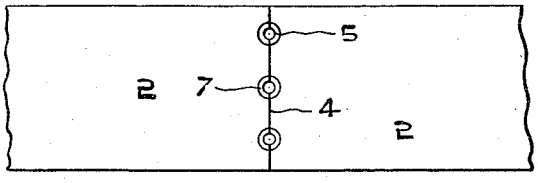
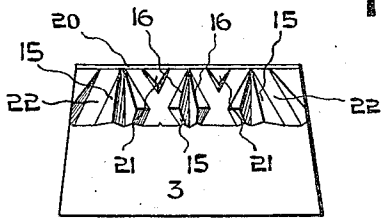


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM J. BOYLE, OF COLLINGWOOD, ONTARIO, CANADA, ASSIGNOR OF ONE-HALF TO GARFIELD I. EVANS, OF COLLINGWOOD, ONTARIO, CANADA.

DIES.

1,274,848. Specification of Letters Patent. Patented Aug. 6, 1918.

Application filed April 12, 1917. Serial No. 161,488.

To all whom it may concern:

Be it known that I, WILLIAM J. BOYLE, of the city of Collingwood, Province of Ontario, Dominion of Canada, have invented certain new and useful Improvements in Dies; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates particularly to dies for cutting nail points, and it has for its object to provide dies for this purpose by which two or more nails may be cut with one pair of cutters and dies such as are usually employed in nail-making machines for making only one nail per revolution of the machine.

The invention may be said briefly to consist of a pair of co-acting dies constructed and arranged to operate with a pair of co-acting cutters the meeting ends of the dies being formed with a plurality of parallel grooves having their ends at one side of the dies enlarged to present head matrices, the grooves of the respective dies coinciding as usual in work of this kind. The cutting tools have cutting facets converging in points coinciding with the axial lines of the heads. These points are located in one and the same cutting edge formed by one straight edge of the tool, facets being located intermediate of the converging facets and at the corners of the tool, and being spaced therefrom to present clearance channels for the clippings. The converging facets are not only cutters but form the points.

For full comprehension, however, of my invention reference must be had to the accompanying drawings in which similar reference characters indicate the same parts, and wherein:

Figure 1 is an elevation of a pair of dies and a pair of cutters arranged with the cutters in positions assumed immediately the points of a plurality of nails are formed and severed from the stock-wire;

Fig. 2 is a face or plan view of the heading dies showing accommodation for three nails; and

Fig. 3 is an elevation of the cutting face of one of my improved cutters for simultaneously cutting a plurality of points.

There are nail-making machines in use which are designed to produce two or more nails at each operation of the dies, but in all cases separate dies are necessary for each nail.

Referring to Fig. 1 of the drawing, the heading dies and cutters are arranged in juxtaposition and are illustrated respectively at 2 and 3. The heading dies 2 consist of a pair of reciprocatory co-acting members presenting engaging faces 4 movable in opposite directions to and from the axial line of the stock. Each of these faces is provided with a plurality of parallel grooves 5 corresponding in number to the number of blanks to be formed during each operation, the embodiment illustrated being provided with three grooves. The grooves of one die are adapted to coincide with the grooves of the other and their lower ends are flared to present heading matrices 7.

The cutters 3 (see Figs. 1 and 3) are located immediately beneath the dies and adapted to co-act therewith. They consist of a pair of reciprocatory tools having movement in opposite directions to and from the axial line of the stock, the contacting ends of the tools being beveled as at 10 to present cutting faces equal in depth to the length of a point desired. The cutting face (see Fig. 3) of each tool is formed with a series of pairs of cutting facets 15, each pair presenting cutting edges 16 converging in points coinciding with the axial line of its respective head immediately above and in a horizontal line constituted by the upper cutting edge 20 of the tool. Located between the pairs 15 are triangular projections or facets 21 which are spaced therefrom to present clearance channels 22 to prevent the clippings jamming together. The converging edges 16 are not only cutters but form the points also.

What I claim is as follows:—

In a nail machine, a pair of coacting horizontally arranged reciprocatory gripping dies adapted to grip a plurality of blanks located in the same plane; of a pair of co-acting reciprocatory cutting tools located immediately beneath and extending parallel to the said dies each of said tools having a contacting face having a straight cutting edge and being formed with a series of pairs of cutting facets converging in said cutting

edge, each pair being constructed and arranged to act upon one of the blanks, and triangular facets located between the pairs of cutting facets and spaced therefrom to present clearance channels for the purpose of preventing the clippings from jamming together.

In testimony whereof I have signed my name to this specification in the presence of two witnesses.

WILLIAM J. BOYLE.

Witnesses:
LOIS I. KNOX,
C. I. EVANS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."