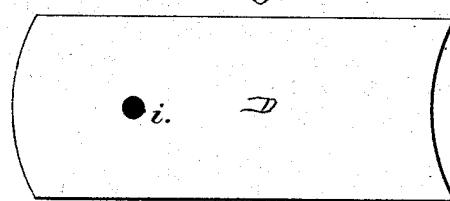
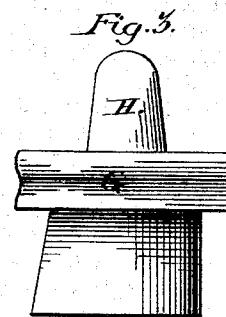
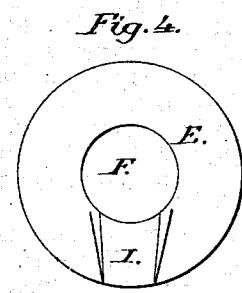
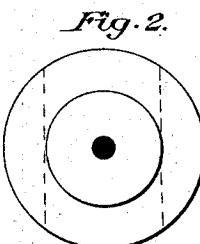
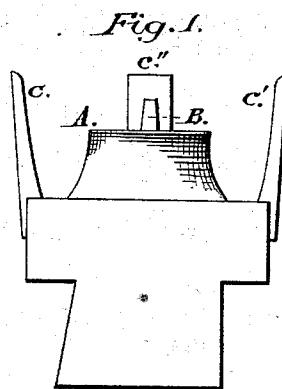


F. J. FISCHER.  
Dies for Making Hoes.

No. 158,366.

Patented Jan. 5, 1875.



WITNESSES

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By

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# UNITED STATES PATENT OFFICE.

FRANCIS J. FISCHER, OF HAMILTON, OHIO.

## IMPROVEMENT IN DIES FOR MAKING HOES.

Specification forming part of Letters Patent No. **158,366**, dated January 5, 1875; application filed November 27, 1874.

*To all whom it may concern:*

Be it known that I, FRANCIS J. FISCHER, of Hamilton, in the county of Butler and State of Ohio, have invented a new and useful Improvement in Dies for Making Hoes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Figure 1 is a perspective view of the lower half of the perforating gaged die. Fig. 2 represents the face of the upper half or counter part of the perforating-die. Figs. 3 and 4 represent the two parts of the eye swaging die, and Fig. 5 represents the blank of steel of which the entire hoe is formed.

The object of my invention is to prepare the blanks and form the eyes of hoes, made of a plate of steel without welding; and it consists in the use of the two sets of dies or formers, constructed as hereinafter described.

In the drawings, A denotes the seat of the gaged punching-die, which is provided with a central punch, B, and three upright arms, C C', equally distant from the punch B. The blank D, Fig. 5, is cut off from a bar of steel in the shape represented, and it corresponds in width with the distance between arms C C', so that when it is placed between the arms C C', with its rounded end in contact with arm C', it will rest with its center upon the end of the punch B ready for the action of the punching-dies, which will cause the perforation to be made at *i*, Fig. 5. The counterpart, Fig. 2, of the punching-die corresponds in form with the die-seat A, Fig. 1, it being provided with a central aperture for the punch B.

When in use the part represented in Fig. 1 is seated and secured upon an anvil, and the perforated counterpart, Fig. 2, is secured to a trip-hammer beam or drop, by the operation of which the punching is performed. After the blank D has been perforated, as described, it is placed upon the face of die E, Fig. 4; with the perforation *i* centrally over the circular opening F, and the die E being secured upon an anvil or rest, and its counterpart G, Fig. 3, being secured to a drop or trip-hammer centrally over the perforation *i*, the eye of the hoe will be swaged and drawn into form by the repeated strokes of the plunger H. In the swaging operation a V-shaped brace will be raised in front of the eye corresponding with the depression I. (Shown in Fig. 4.) The eye of the hoe being thus formed by the two progressive steps of the process described, the blade is then drawn out to the desired thickness.

By the use of these improved dies the work is rapidly accomplished, and may be performed by an ordinary workman.

Having described my invention, I claim and desire to secure by Letters Patent—

The combination of the dies represented in Figs. 1, 2, 3, and 4, constructed as described, for making hoes in the manner specified.

Witness my hand this 14th day of November, A. D. 1874.

F. J. FISCHER.

Witnesses:

H. P. K. PECK,  
HOWARD L. ROSS.