2 Sheets--Sheet 1.

M. JOHNSON.

Hoe.

No. 159,332. Patented Feb. 2, 1875.

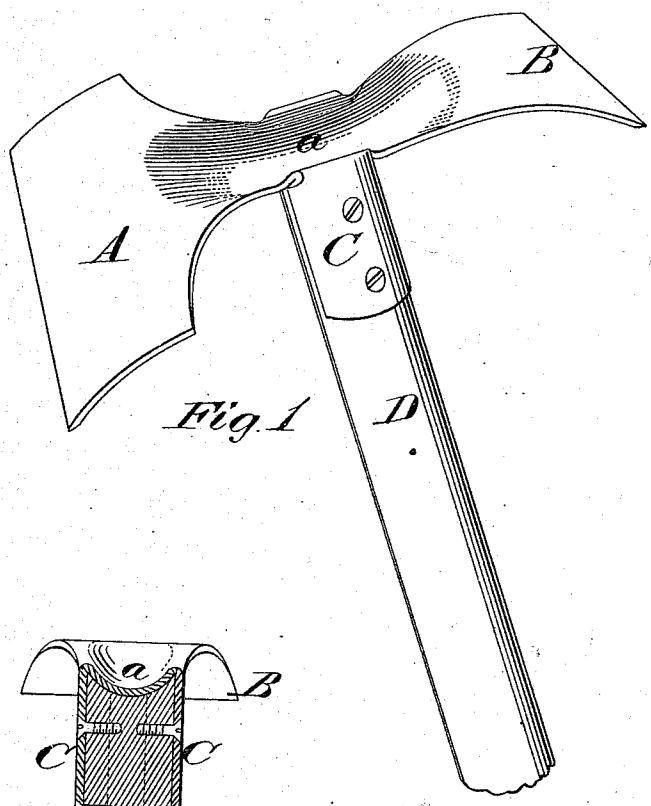

Fig. 1

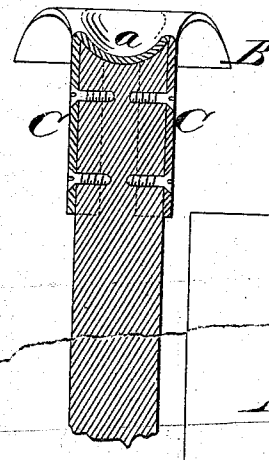

Fig. 2

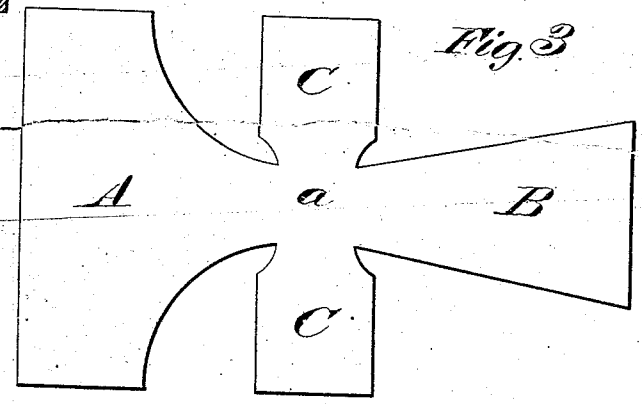

Fig. 3

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M. JOHNSON.

Hoe.

2 Sheets--Sheet 2.

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Patented Feb. 2, 1875.

Fig. 4

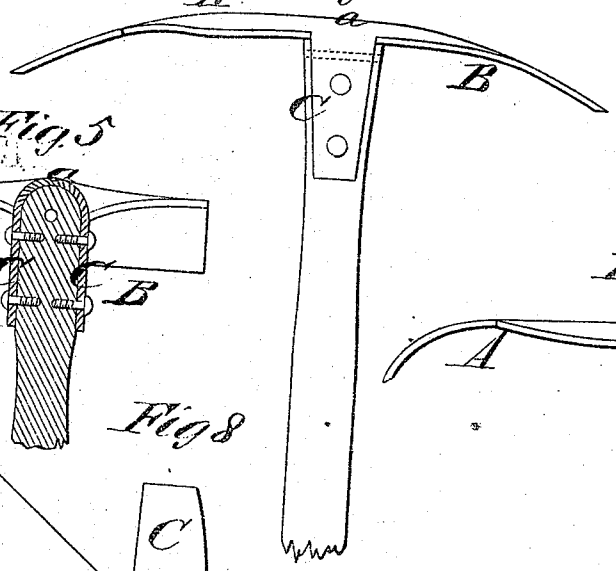


Fig. 5

Fig. 7

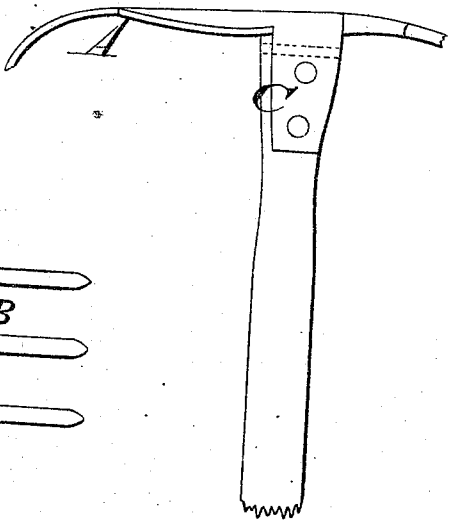


Fig. 8

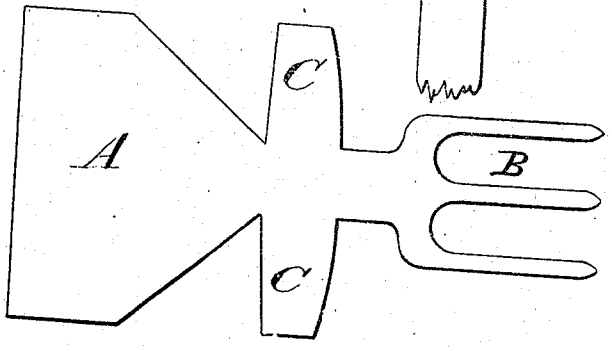
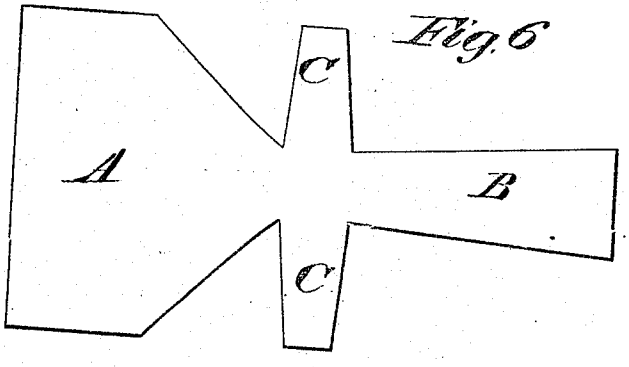


Fig. 6



WITNESSES

Villette Anderson.

E. F. Bates

INVENTOR

Moses Johnson

Chipman Fosnur & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

MOSES JOHNSON, OF THREE RIVERS, MICHIGAN, ASSIGNOR TO THE UNION MANUFACTURING COMPANY.

IMPROVEMENT IN HOES.

Specification forming part of Letters Patent No. **159,332**, dated February 2, 1875; application filed December 5, 1874.

To all whom it may concern:

Be it known that I, MOSES JOHNSON, of Three Rivers, in the county of St. Joseph and State of Michigan, have invented a new and valuable Improvement in Hoes; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a perspective view of my hoe. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a plan view of the hoe-blank. Fig. 4 is a modification of my hoe, and Fig. 5 is a transverse sectional view of the same. Figs. 6, 7, and 8 are views of modifications of my hoe, Figs. 6 and 8 being of the hoe-blank.

This invention has relation to garden-hoes; and it consists in cutting out of a single piece of sheet metal a hoe having one or two blades, with an intermediate connecting-piece between them, and two side wings, which, when properly bent, constitute the socket for the handle, as will be understood from the following description.

In the annexed drawings, A designates a broad hoe-blade, and B a smaller hoe-blade, while C C designate two concavo-convex portions, which, when they are bent, as shown in Figs. 1 and 2, form a socket for receiving a handle, D.

The four parts A B and C C are struck out of a piece of sheet metal, as represented in Fig. 3, which is the blank for a double-bladed hoe. The narrow connecting portion *a* between the blades is then made concave longitudinally, the concavity extending some distance into each one of the blades. The wings are then turned down and curved to form the attaching-socket for the handle. I secure the socket-pieces to the handle by means of screws or rivets.

The concavity gives strength and stiffness to the narrow connecting portion between the blades A B; and it also stiffens the blades themselves.

If desirable, one of the blades may be omitted.

Figs. 4, 5, 6, 7, and 8 show a modification of the hoe of Figs. 1, 2, and 3, and consists in making the attaching portions C C flat instead of curved, and also in making the portion *a* convex instead of concave.

What I claim as new, and desire to secure by Letters Patent, is—

A hoe cut out of a single piece of sheet metal, and consisting of the blade or blades A B, having a convexity or concavity, *a*, between them, and projections C C, bent to form a socket for the handle, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

MOSES JOHNSON.

Witnesses:

M. C. RICHARDSON,

J. J. ARNOLD.