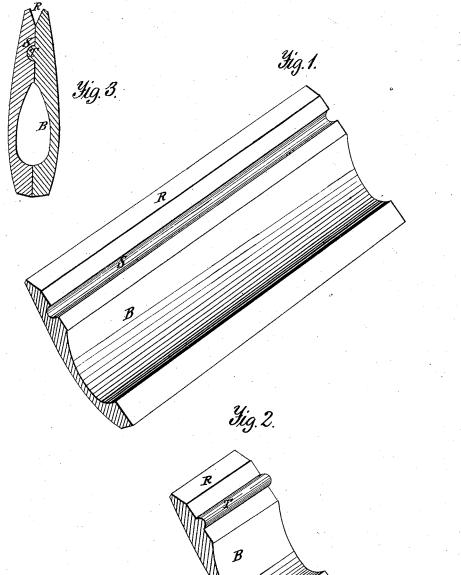
## J.L. Lewis.

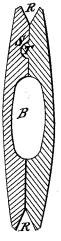
## Making Axes.

JY 953,155.

Patented Mar. 13, 18 66.



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Witnesses. Sosiah W. Ells. Eb. Williams Jr.

Inventor.

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## United States Patent Office.

JOHN L. LEWIS, OF PITTSBURG, PENNSYLVANIA.

## IMPROVEMENT IN MAKING AXES.

Specification forming part of Letters Patent No. 53,155, dated March 13, 1866.

To all whom it may concern:

Be it known that I, John L. Lewis, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in the Method of Making Axes; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, and to the letters of reference marked thereon.

The nature of my invention consists in forming axes by first rolling iron bars of such a shape that a cross-section of a bar will represent the half of a an ax, without the steel, split longitudinally through the eye.

To enable others to understand my plan and make axes in accordance therewith, I will proceed to describe my invention by reference to

the accompanying drawings.

I first roll a bar of iron, Figure 1, slightly rounding on the back, or of such a shape as will resemble the outside of half an axe, while on the other side of the bar is a longitudinal groove, B, the form of half the eye, leaving a flat space on one side of the groove B of about one inch for the poll, while on the other side of the groove B the flattened space is somewhat wider, and has a small channel, S, running parallel with the groove B, for purposes hereinafter to be explained, that part of the blank intended to receive the steel being tapered down to the edge. The bar so rolled is then cut across into pieces sufficiently wide to suit the breadth of the required ax.

Another bar, Fig. 2, of a similar shape is then rolled and cut as before; but in this case, in place of the channel S, this bar has a projecting bead, T, of a corresponding shape and intended to fit therein. The blanks when severed from the respective bars are then put together, as shown in Fig. 3. The projection T on one bar fitting closely into the channel in the other prevents any displacement while welding, the tapering part R of such blank forming a wedge-shaped notch for the insertion of the steel.

Fig. 4 represents a mere modification of the shape of the bar as applied to the making of double-bitted axes.

Having thus briefly described my invention, what I claim is—

1. Forming the blanks for axes of two pieces by rolling the bars from which said pieces are cut, with a groove therein for the handle, and of such a shape that when two of the pieces are put together a cross-section thereof will represent an ax, without the steel, considered as split longitudinally through the eye.

2. Rolling said bars with a bevel edge, so that when the blanks are put together they will form a notch for the reception of the steel.

3. Forming on said bars the projection T and corresponding channel S, for the purpose of holding the blanks in place during the operation of welding.

J. L. LEWIS.

Witnesses:

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