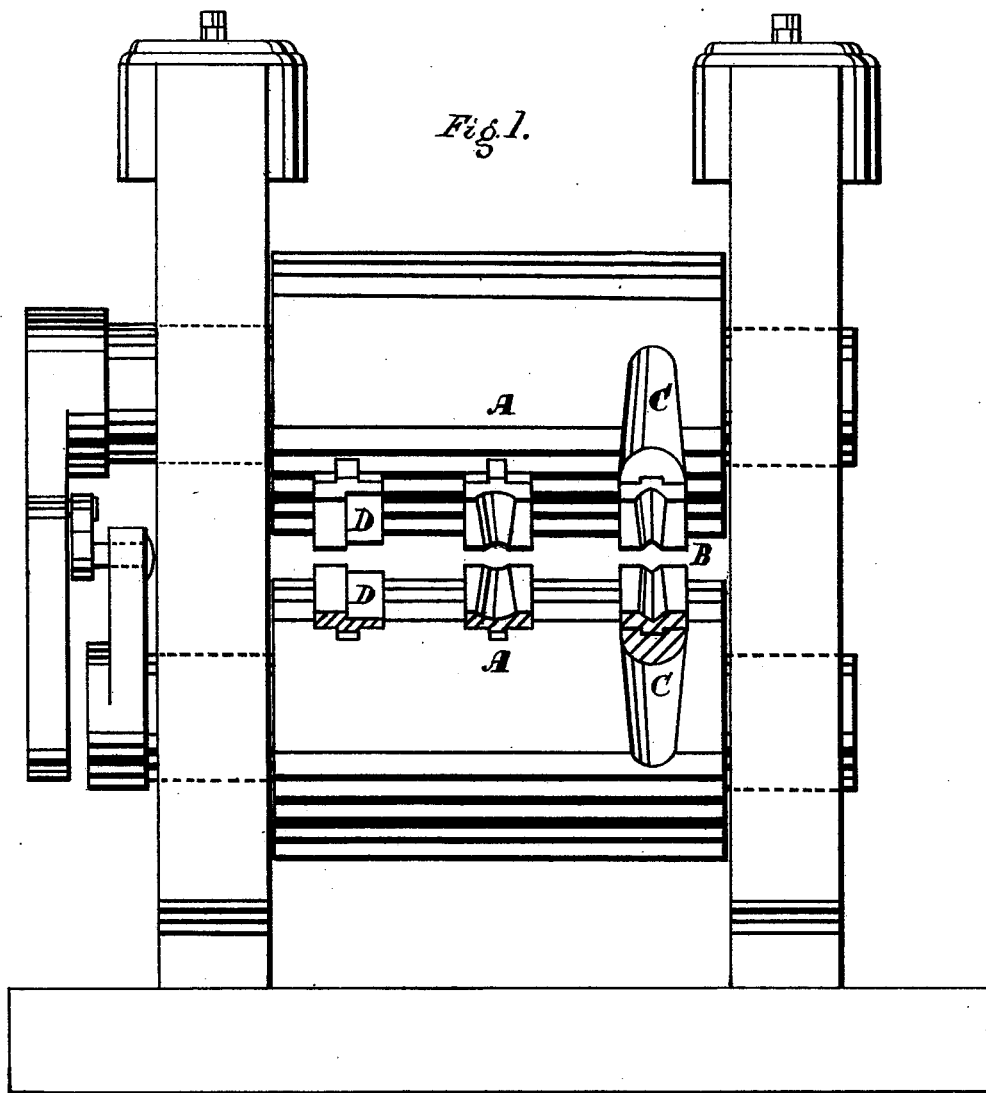


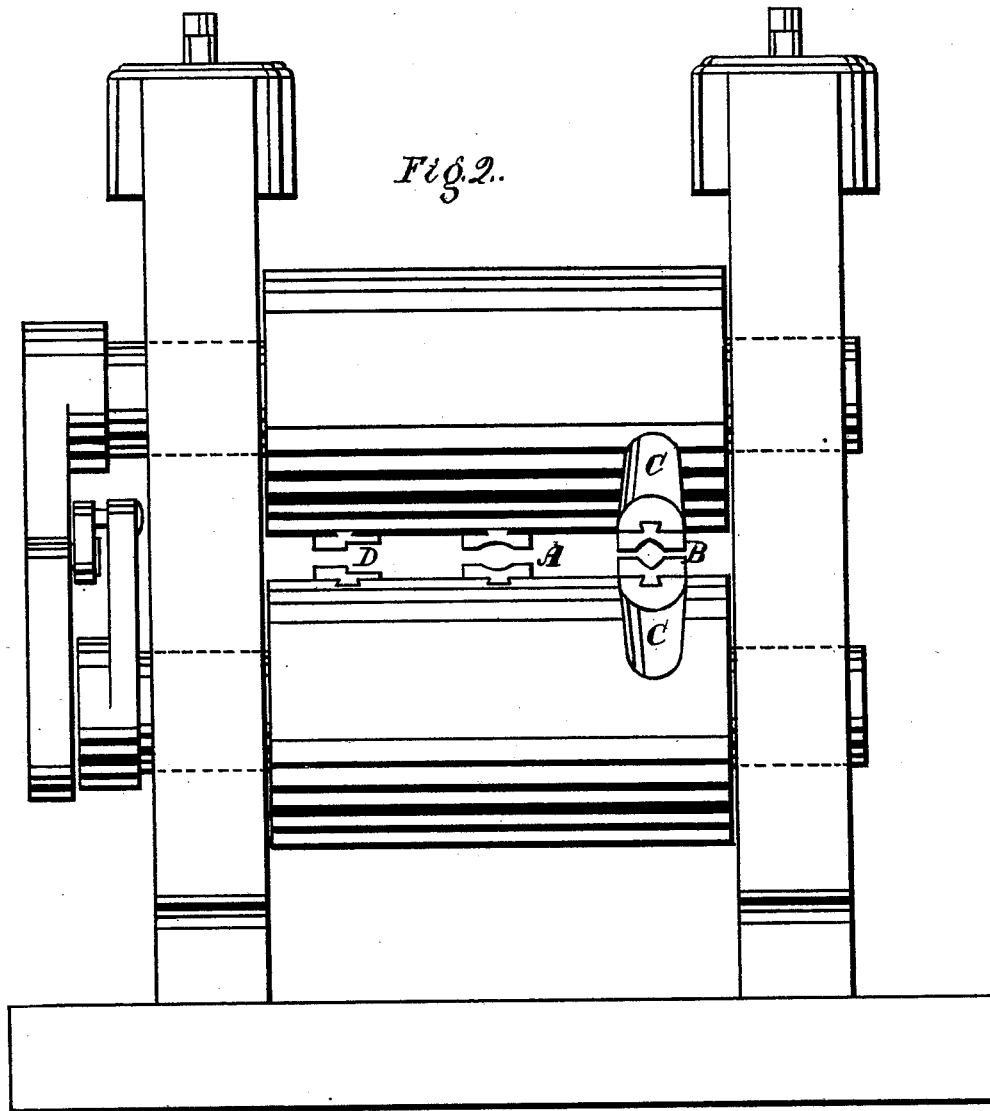
J. BESLER.
Manufacture of Picks, &c
No. 204,417. Patented June 4, 1878.



Attest:
Jeremiah F. Gooding
Dan Kelly

Inventor:
John Besler
By *[Signature]*
His Attorney

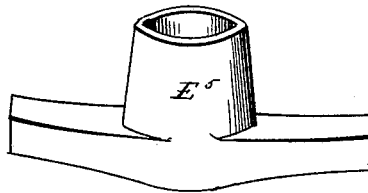
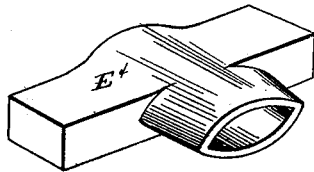
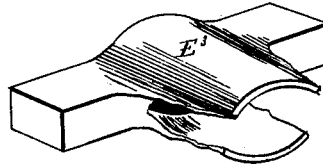
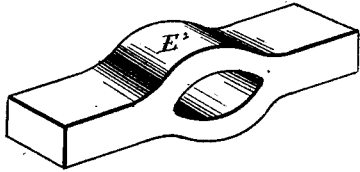
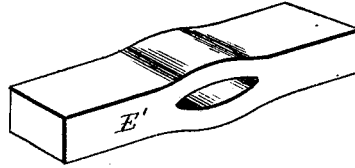
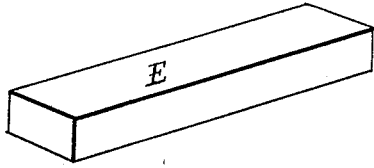
J. BESLER.
Manufacture of Picks, &c
No. 204,417. Patented June 4, 1878.



Attest
Jeremiah F. Twobig
Paul Miller.

Inventor
John Besler
By *Arthur D. Dickinson*
His Attorney

J. BESLER.
Manufacture of Picks, &c
No. 204,417. Patented June 4, 1878.



Witnesses:

Chas. A. Meale
D. P. Low

John Besler
Inventor.

By: J. J. Eils
Attorney.

UNITED STATES PATENT OFFICE.

JOHN BESLER, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN THE MANUFACTURE OF PICKS, &c.

Specification forming part of Letters Patent No. **204,417**, dated June 4, 1878; application filed April 30, 1877.

To all whom it may concern:

Be it known that I, JOHN BESLER, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented new and useful Improvements in the Manufacture of Picks, Mattocks, and analogous articles; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the manufacture of picks, mattocks, &c., and more especially to that mode of making them where the eye is formed on them by means of rolling-dies, which draw out the metal for the eye over a mandrel.

My invention consists in operating upon a rectangular blank in the following way: I take a rectangular bar of iron, heat it, and punch it in the usual way; then force a mandrel into it, and pass it transversely between rolling-dies which are convex longitudinally and concave in a transverse direction, and which operate to displace and draw out the metal on both sides of the eye of the blank. I then give it a pass between oscillating or rolling dies, which are grooved or V-shaped at their working-faces, and which operate on the edges of the projections rolled out at the sides of the eye, and weld them together on the mandrel, thus forming a high solid eye. These dies may be mounted in the same pair of rolls, side by side, forming, in fact, two grooves in the rolls. The groove containing the edge dies is cut deep into the roll to admit of the arms entering, or they may be mounted upon independent rolls or die-carriers. I make a third groove of tapered form for drawing down the arms or shanks of the pick or mattock.

Referring to the drawings, Figure 1 is an elevation of a pair of rolls containing dies for making pick-eyes by my method, showing the faces of the dies. Fig. 2 is the same, showing the edges of the dies.

The diagrams on Sheet 3 of the drawings illustrate a blank for a pick in its various stages. E represents the original bar of iron. E¹ shows the bar punched; E², the form it assumes on inserting the mandrel; E³, its condition after the first pass through the rolls, (showing the drawn-out ends trimmed;) E⁴, its appearance after the second pass, and E⁵ the finished blank ready to receive the steel points.

A A are the dies for drawing out the eye. The bar having been punched and a mandrel inserted, it is passed transversely between these dies, by which the metal is drawn out on both sides of the mandrel.

The dies B B are then made to act on the edges of the metal drawn out by the dies A, and thus weld the two sides together, so as to form a long solid eye. The working-faces of these dies B B are V-shaped, as shown, so as to bring the edges of the metal together, and the surface of the rolls is cut out or deeply grooved at C C to leave space for the arms of the blank. The arms of the blank are then drawn out on the tapered dies D D, and the pick or mattock is completed.

Having thus described my invention, I claim—

The herein-described method of making picks or mattocks, consisting in first drawing out the metal from a rectangular blank over a mandrel to form the sides of the eye, then welding these sides together in another pair of dies, and finally drawing out the arms of the blank, all substantially as set forth.

In testimony whereof I, the said JOHN BESLER, have hereunto set my hand.

JOHN BESLER.

Witnesses:

T. B. KERR,
WM. WUSTENHAGEN.