D. W. & H. JOHNS & H. EMBS.
Machine for Making Ax-Polls.

No. 214,151. Patented April 8, 1879.

Fig. 1.

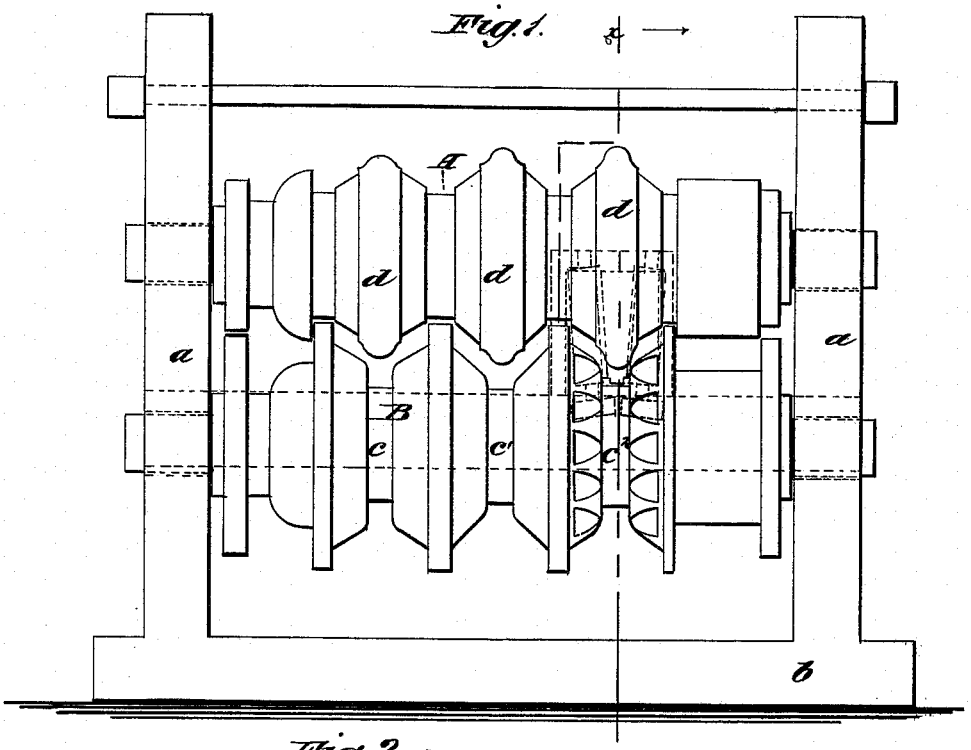


Fig. 3.

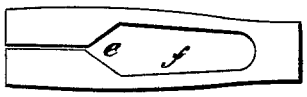
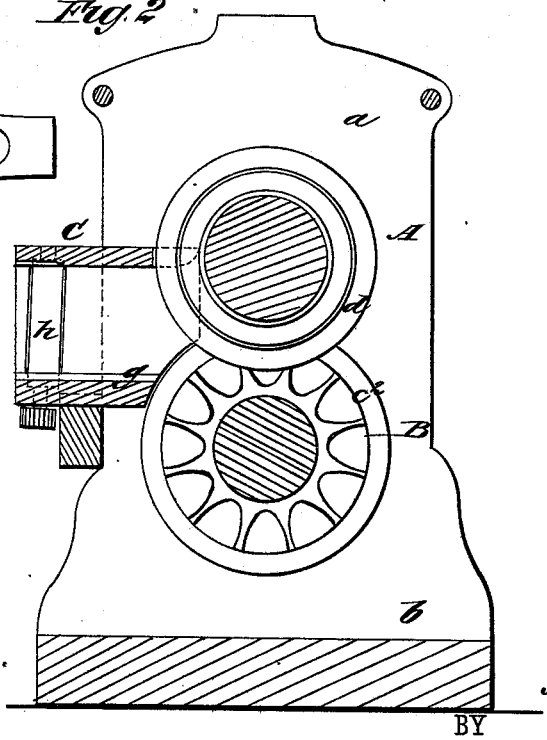


Fig. 2.



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UNITED STATES PATENT OFFICE.

DAVID W. JOHNS, HENRY JOHNS, AND HENRY EMBS, OF NEW ALBANY, INDIANA.

IMPROVEMENT IN MACHINES FOR MAKING AX-POLLS.

Specification forming part of Letters Patent No. **214,151**, dated April 8, 1879; application filed January 8, 1879.

To all whom it may concern:

Be it known that we, DAVID W. JOHNS, HENRY JOHNS, and HENRY EMBS, of New Albany, in the county of Floyd and State of Indiana, have invented a new and useful Improvement in the Manufacture of Ax-Polls, of which the following is a specification.

Our invention relates to the manufacture of ax-polls by a rolling process.

We make use of a train of rolls, by which the iron bar is bent into a V shape, the eye formed, and the ends or flanges then closed together by stationary dies as the poll comes from the rolls.

The apparatus is shown in the accompanying drawings, wherein Figure 1 is a side elevation of our improved apparatus. Fig. 2 is a vertical cross-section on line *x* of Fig. 1. Fig. 3 shows the ax-iron in the form as made by the apparatus.

Similar letters of reference indicate corresponding parts.

The upper roll, A, and lower roll, B, are journaled in the standards *a a*, that rise from the base *b*. These rolls are to be geared together and driven by competent power.

The lower roll, B, is formed with a series of channels or annular grooves, *c* c^1 c^2, three or more in number, and the roll A is formed with enlargements *d*, these parts forming roller-dies, between which the bar of iron is rolled in succession and brought to the desired shape.

The flat bar of iron is first entered into the first die, and by the annular enlargement on roller A the center portion is pressed into the channel *c*, and the sides or flanges caused to assume a V shape. It is then passed through the second die, which completes the operation still further, and then to the third die. The sides of the channel c^2 are shaped so as to leave a fullness, that when the flanges are closed, as hereinafter described, forms a gutter between the eye and flange, as seen at *e*, Fig. 3.

The poll, as it comes from the last-named operation, goes to the bending apparatus C, that is fitted in a position to receive the poll, and acts to close the flanges to the form, as shown in Fig. 3, leaving the eye *f* of the proper shape. If desired, a mandrel may be used, over which the poll will be forced during the closing operation, the mandrel passing through eye *f*.

The bending apparatus C is provided with a central channel, *g*, in which the head of the ax-poll slides, and its sides contract gradually from the end next to the rolls to the delivery end, where the flanges of the ax-poll are completely closed.

In the delivery end of the device C are two vertically-fitted rollers, *h*, one at each side of the delivery-opening, which rollers are to be driven by gearing or belts, and act to give the final shape to the poll, and draw the same forward through the former after its end has left the dies. These rollers *h* are to be adjustably fitted.

The poll, completed as described, is ready for sawing into blanks of the desired breadth.

It will be understood that the rolling-dies may be constructed so as to produce any form of poll usually made by the punching process.

Our apparatus will furnish ax-polls equal to any heretofore made in quality and much cheaper.

We do not limit ourselves to the details of construction set forth, nor to the stated number of rolling-dies in the train, as these features may be varied without departing from our invention.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination, in a machine for manufacturing ax-poll blanks, of rolls having dies that bend a metallic bar into a V shape, and a former through which the blank passes from the rolls, and by which the eye is closed, substantially as described.

2. The former C, having a tapered central channel, *g*, and a shaping-roll, *h*, at each side of the delivery-opening, as specified.

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Witnesses:
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