

J. C. KLEIN.
MANUFACTURE OF PICKS, &c.

No. 171,143.

Patented Dec. 14, 1875.

Fig. 1.

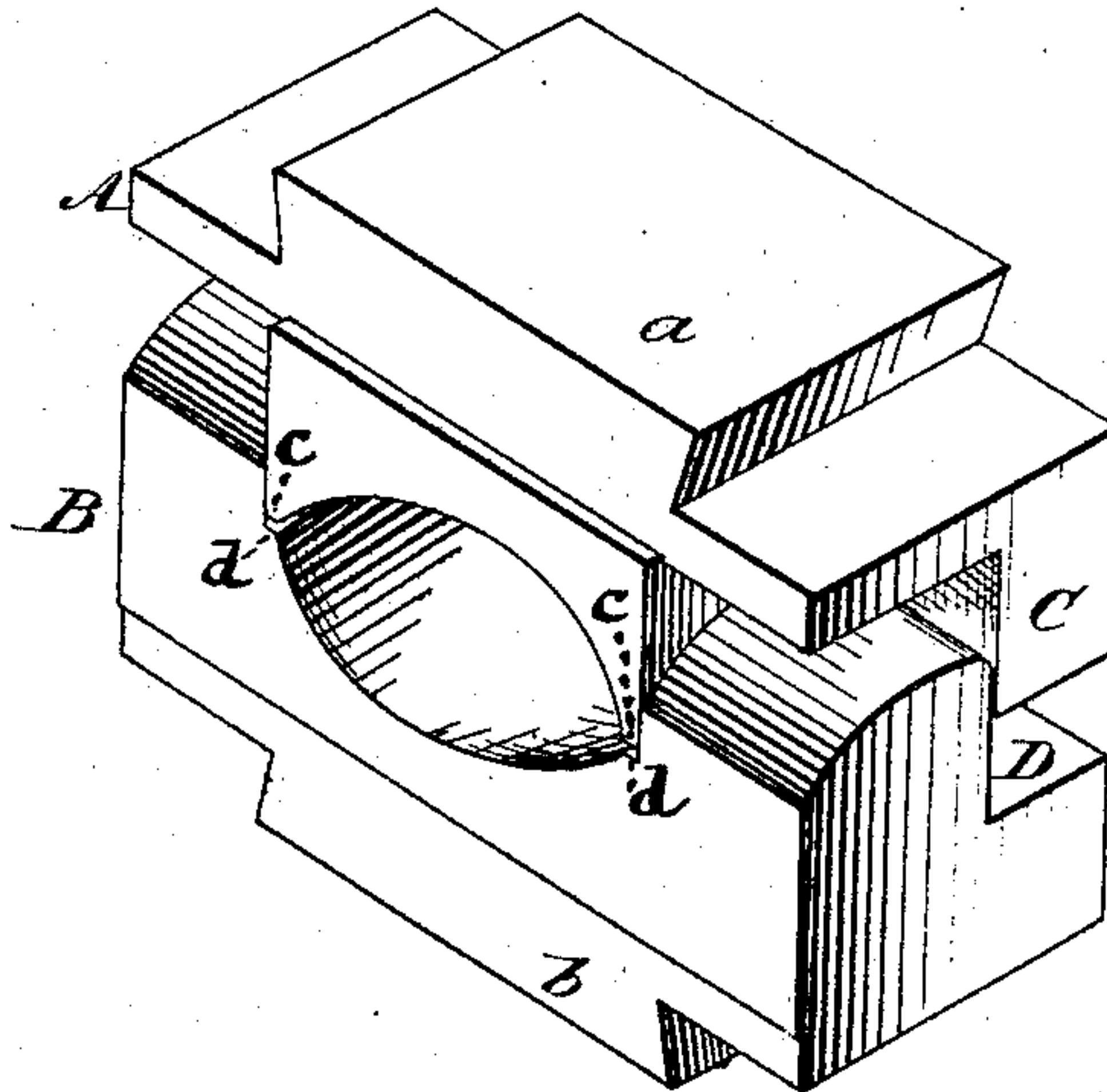


Fig. 2.

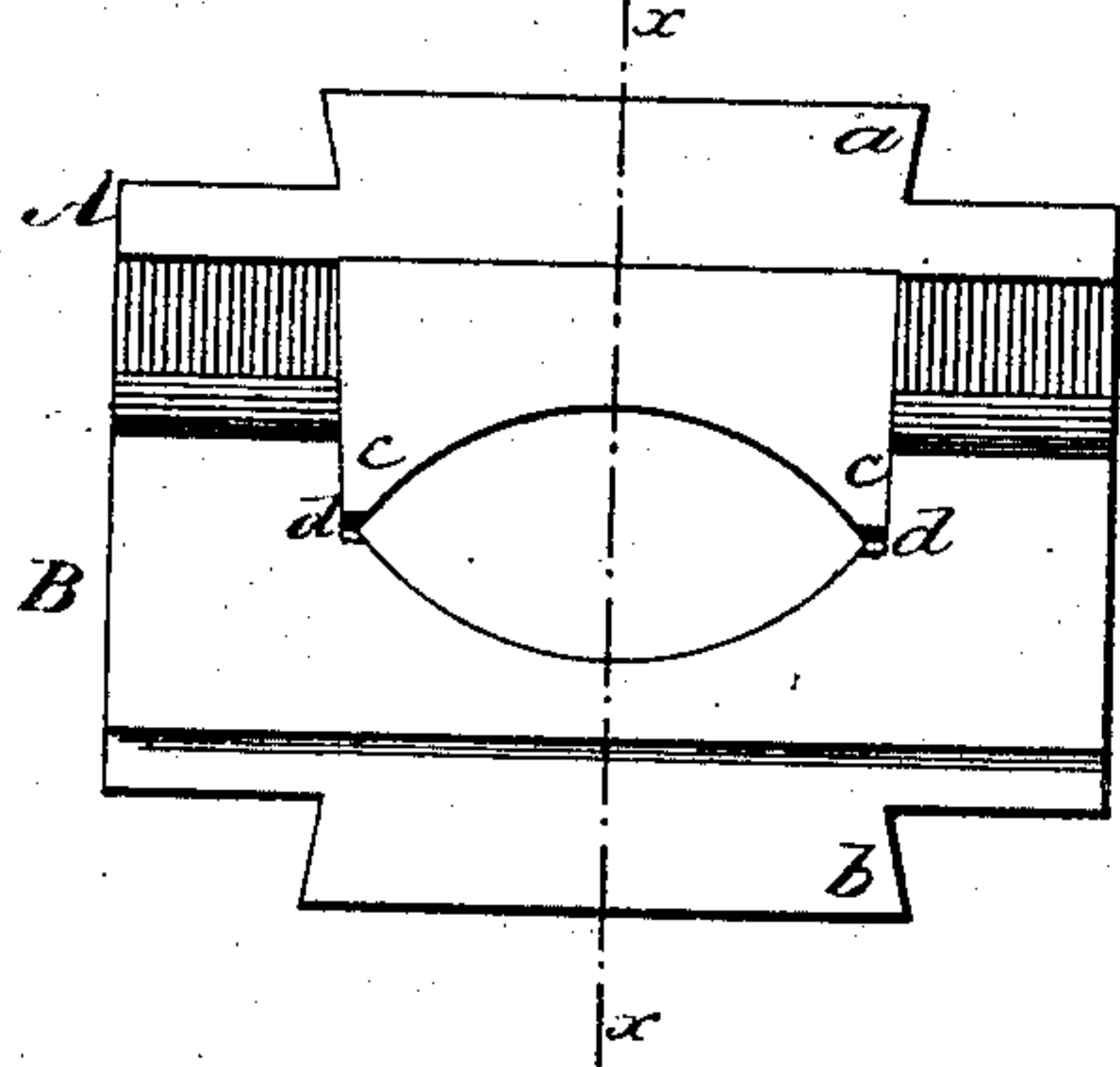


Fig. 3.

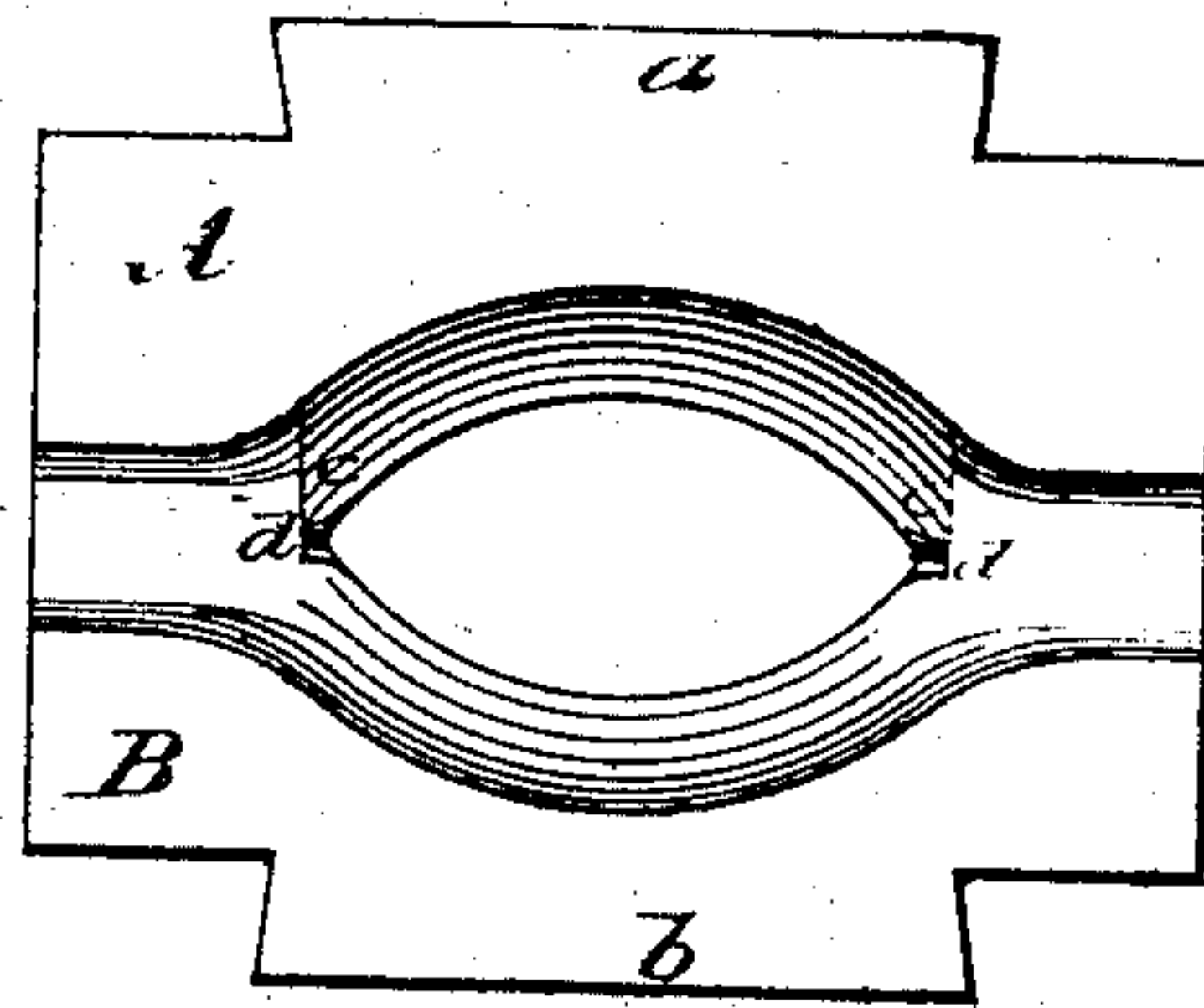


Fig. 4.

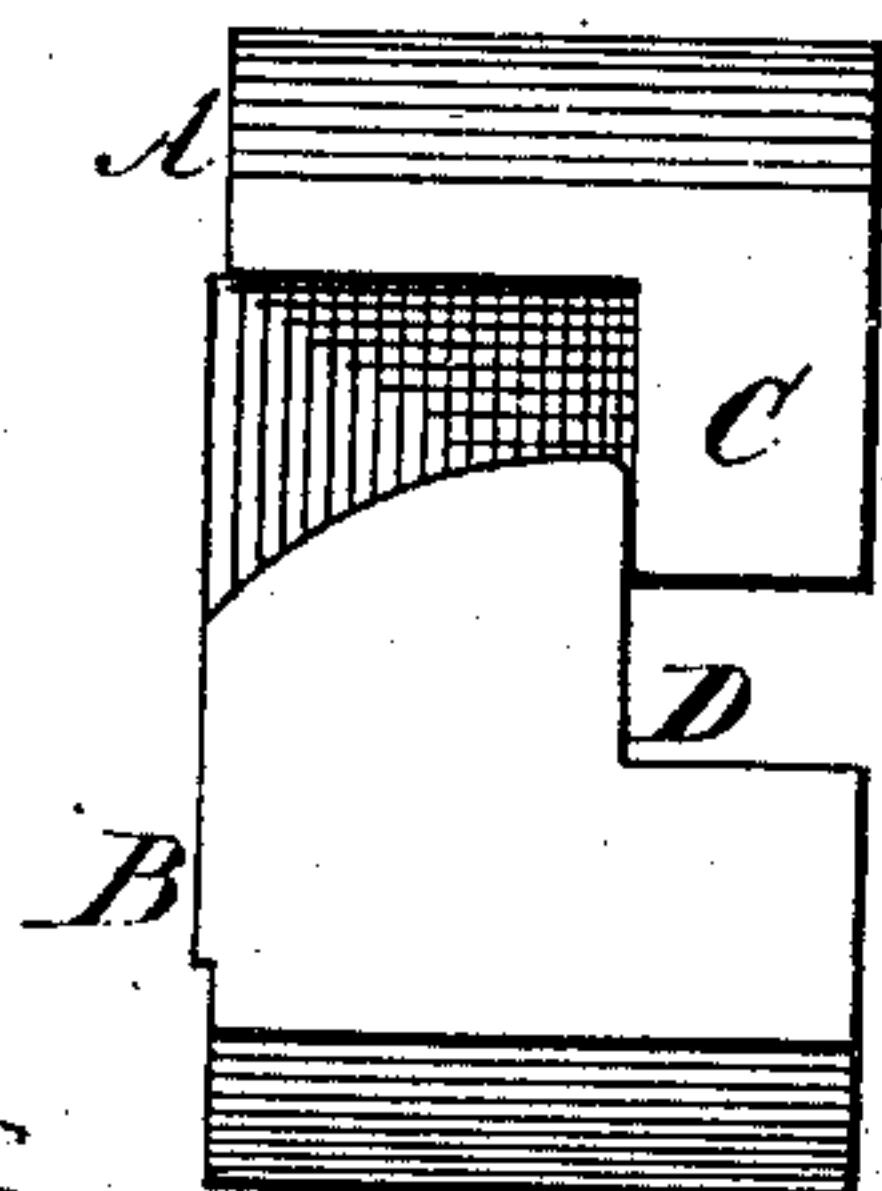
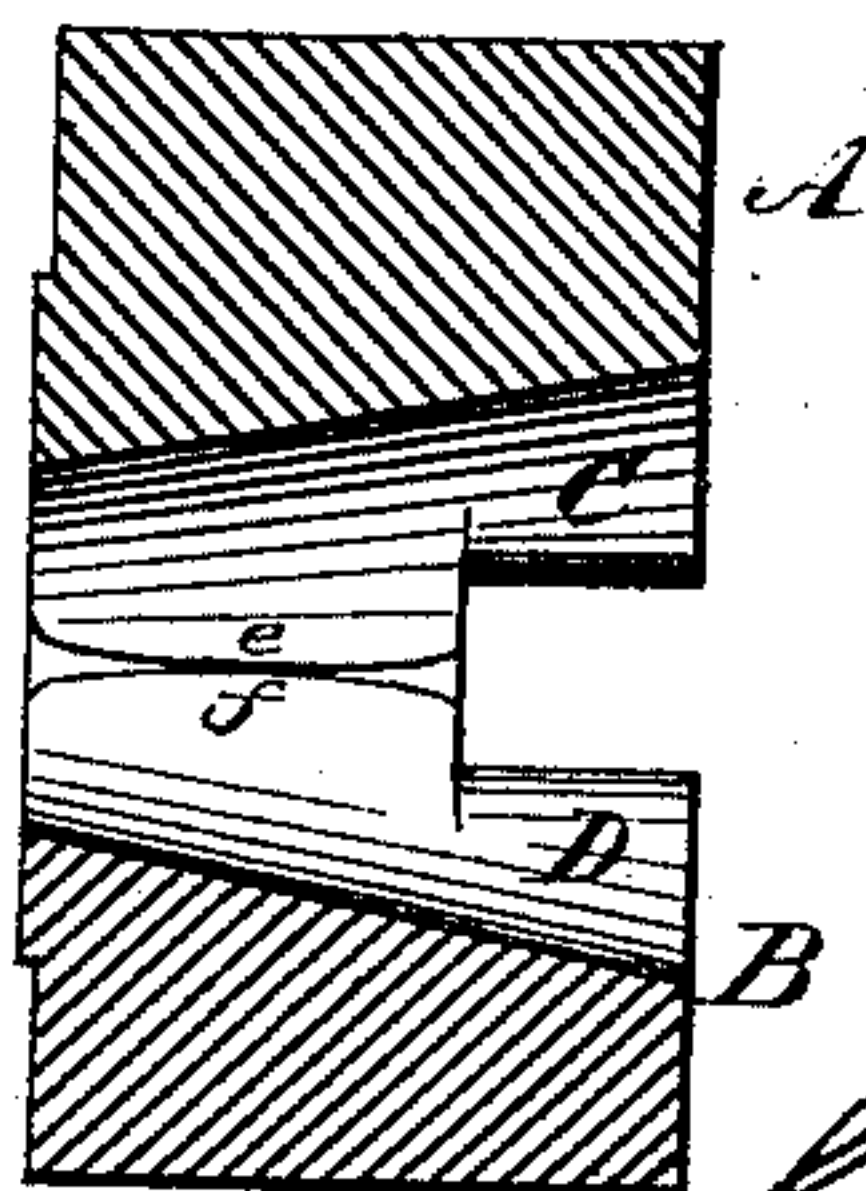


Fig. 5.



Witnesses:

Jos. W. K. Plant
Wm. H. H. H.

Inventor:

John C. Klein

UNITED STATES PATENT OFFICE

JOHN C. KLEIN, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN THE MANUFACTURE OF PICKS, &c.

Specification forming part of Letters Patent No. **171,143**, dated December 14, 1875; application filed June 17, 1875.

To all whom it may concern:

Be it known that I, JOHN C. KLEIN, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Picks, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing and to the letters of reference marked thereon, which form a part of this specification.

In the manufacture of picks and similar implements, as well known, it is desirable to form a high eye, into which the helve may be secured. This eye has been heretofore made by hammering or by passing the blank between cam-faced dies, as described in Letters Patent No. 146,597, granted to me January 20, 1874. The blank, as described in that case, was placed upon a mandrel and passed transversely through peculiarly-shaped concave dies, that gave to the eye its final shape and finish; but the defect in that case was that the eye had always a feather-edge on the sides where the dies came together, which was caused by the iron being forced sidewise between said dies. To remedy this defect is the object of my present improvement, and to give the eyes a smooth finish all around by dies with cheeks snugly fitting into recesses in the lower dies.

In order that my invention may be carried into effect and better understood, I will more definitely describe it, reference being had to the accompanying drawing, in which—

Figure 1 represents the dies in perspective. Fig. 2 is a front view of the dies. Fig. 3 is a rear view of the same; Fig. 4, a side view of the same; Fig. 5, a cross-section on the line *x x*, Fig. 2.

As described in my former patent, I take a rectangular block of iron of the proper size and heat it to the proper degree. This blank

is then placed under the press and the eye punched through it. The blank is next placed between dies to set down the edges around the eye. The blank thus formed is then reheated and a mandrel driven into the eye to enlarge it, and also to manipulate the blank during the finishing operation. When thus prepared the blank is passed transversely between the dies A B, which are provided with dovetails *a b*, to attach them to a drop-hammer or to oscillating rolls. The upper die A has the cheeks *c*, which fit snugly into the recesses *d* of the lower die B to form the eye, while the rear end is provided with projections C, which fit into the recesses D, set down the edges, and form the prongs of the blanks for the picks or mattocks. By means of the cheeks *c* and recesses *d* the iron around the eye cannot be forced sidewise and form a feather-edge, but the eye receives a smooth finish. The cheeks are made slightly rounding at their lower sides *e f*, as best seen in Fig. 5, so as to allow the dies to freely roll upon each other when attached to the oscillating rolls. When the eyes have been thus formed the prongs of the blank are reheated separately and drawn out and finished in the usual way.

By this peculiar form of my improved dies I am enabled to form a stronger eye and give it a more perfect finish than can be obtained by the hammering and swaging heretofore employed, and it also improves the quality and reduces the cost of the products.

I claim as my invention—

The dies A B, provided with dovetails *a b*, cheeks *c d*, projection C, and recess D, when constructed as shown, and for the purpose described.

In testimony that I claim the foregoing as my own I hereto affix my signature in presence of two witnesses.

JOHN CHR. KLEIN.

Witnesses:

JOS. T. K. PLANT,

WM. G. NOLEN, Jr.