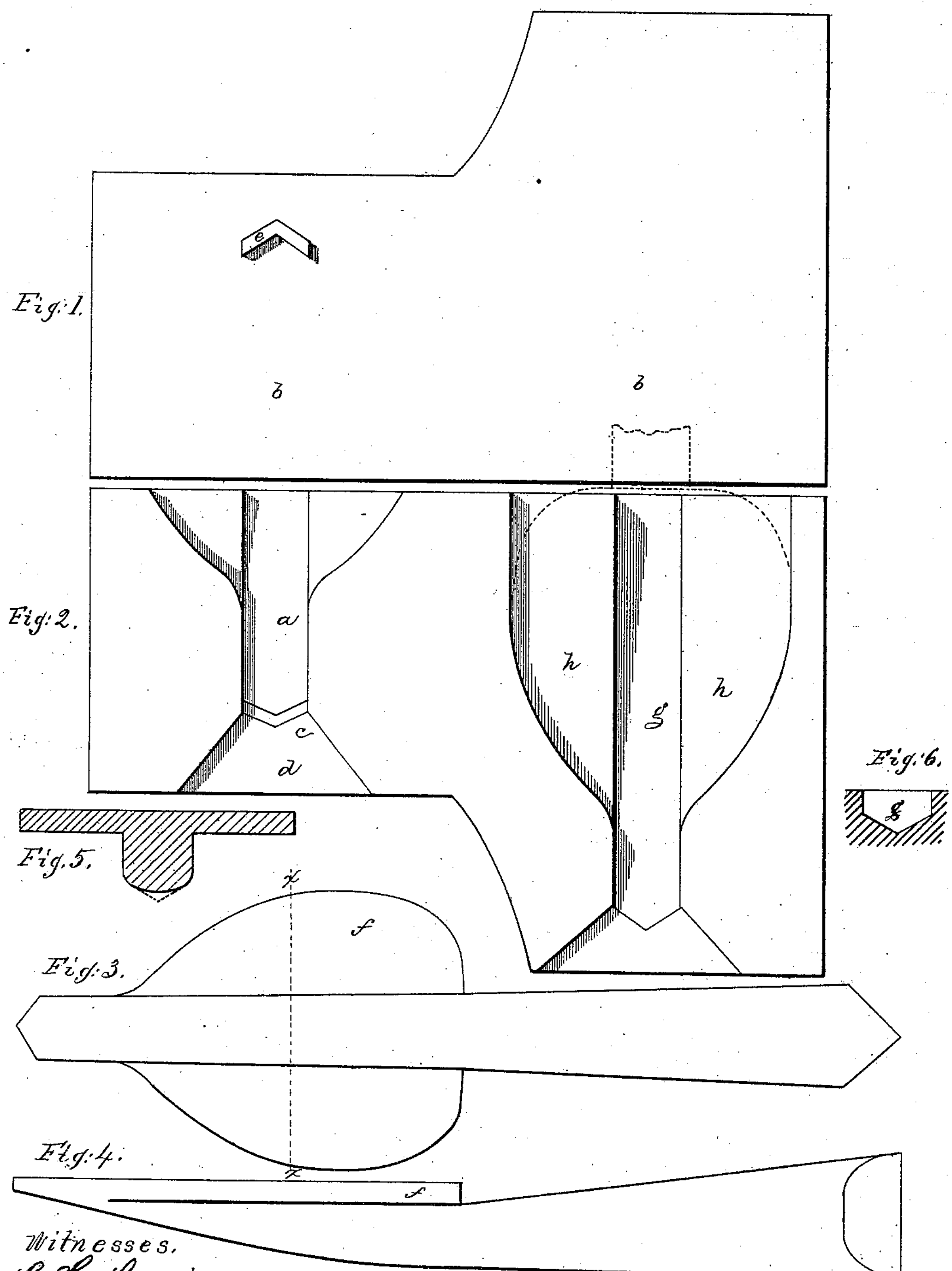
W. N. FISHER.
MANUFACTURE OF ANCHOR-POINTS.

No. 193,236. Patented July 17, 1877.



Witnesses.
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E. C. Perkins.

Inventor.
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UNITED STATES PATENT OFFICE.

WILLIAM N. FISHER, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO BOSTON FORGE COMPANY, OF SAME PLACE.

IMPROVEMENT IN THE MANUFACTURE OF ANCHOR-POINTS.

Specification forming part of Letters Patent No. **193,236**, dated July 17, 1877; application filed April 17, 1877.

To all whom it may concern:

Be it known that I, WILLIAM N. FISHER, of Boston, county of Suffolk and State of Massachusetts, have invented Improvement in Forming Anchor-Points and Attaching Flukes or Palms, of which the following is a specification:

This invention relates to dies to form the points of anchor-arms, and to weld the fluke or palm thereon.

In the manufacture of anchors, as now practiced, the arm is first shaped, except at the point, by sledges; then the palm is welded to the arm at the broad portion of the palm; then the point of the palm and end of the arm are welded, and the point is drawn down by sledges. In this way a portion of the palm at its center is left unwelded to the arm, and the points are not made uniform, nor can they be made very smooth.

In my improved plan I take a piece of iron of suitable size to form an arm and point, and partially draw and shape it under a trip-hammer; then I place such partially-drawn arm and point, and a palm, both at welding-heat, in proper-shaped dies, and weld them together, the dies drawing and shaping the point to conform therewith; then the point placed in another die-groove is sheared to the right length and shape.

The preferable form for the under side of the point of the anchor is that of an obtuse angle. By the hand process this is very difficult to accomplish; but by forming the bottom of the die of such shape the bevel is made evenly and uniformly.

The end of the point is sheared or cut to proper length and shape by the die, it having at one end a raised edge to co-operate with a cutter upon the movable member of the dies.

Figure 1 represents an under side view of the upper die; Fig. 2, a top view of the under die; Figs. 3 and 4, bottom and edge views of the anchor-point and palm; Fig. 5, a cross-section on line *x x*, Fig. 3; and Fig. 6, a cross-section of the shape in which I prefer to make the groove.

A piece of metal of sufficient size, and partially shaped to form an anchor arm and point, is heated to a welding-heat and placed in the die-groove *g*, a palm also heated to a welding-heat being placed thereon in the portion *h* of the die, when by the action of the upper die *b* the two are welded together the whole length of the palm, and the point is drawn so as to conform in shape with the form of such groove *g*. The extreme end *c* of the cutting-die is made of steel, and is higher than the cut-away portion *d*, so that the surplus metal at the end of the point may be readily cut away to shape the point and determine its length.

In practice, I prefer to form the bottom of the die *g* as an obtuse angle, the line forming the angle coinciding with the extreme point of the anchor-arm.

All the anchor-points formed in one die will be of uniform size and length, and will be smoother than if made by hand, and they may be made quicker and with fewer heats, and, therefore, better.

Instead of curving the bottom portion of the anchor-point, as at Fig. 5, it may be made angular, as shown by dotted lines.

I claim—

1. The dies to receive the anchor point and palm, to weld or unite the palm to the arm, and draw the point, substantially as described.

2. The point-receiving groove *a* and cutting-dies *c c*, to hold the point of the anchor and shear it to proper length from the palm, substantially as described.

In testimony whereof I have signed my name to this specification before two subscribing witnesses.

WILLIAM N. FISHER.

Witnesses:

G. W. GREGORY,

E. C. PERKINS.