(No Model.) 2 Sheets—Sheet 1.

J. T. WILSON.

MANUFACTURE OF DRAW BARS.

No. 356,814. Patented Feb. 1, 1887.

Fig. 1.

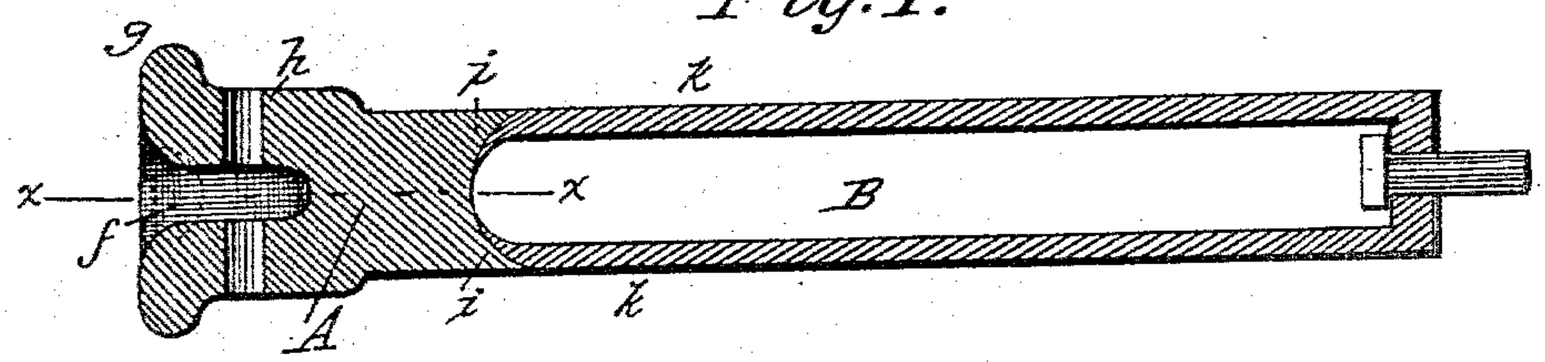


Fig. 3.

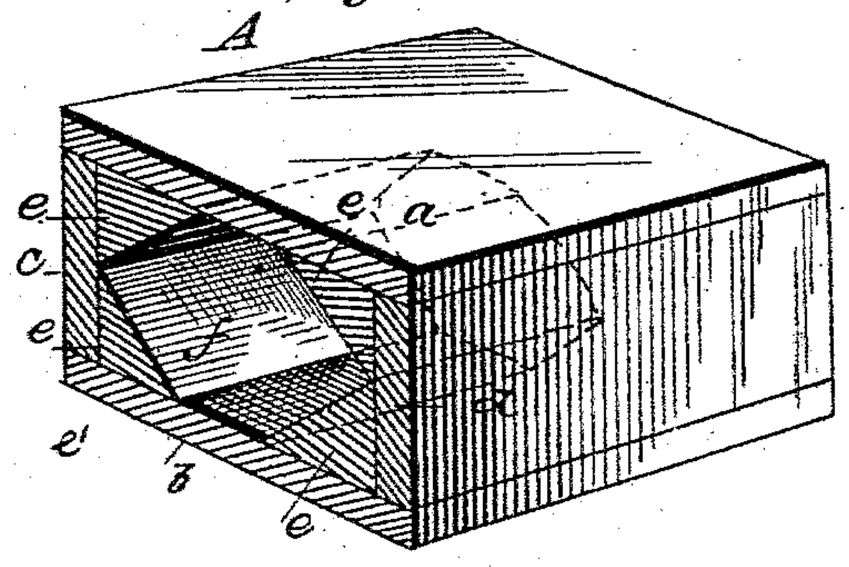


Fig. 2.

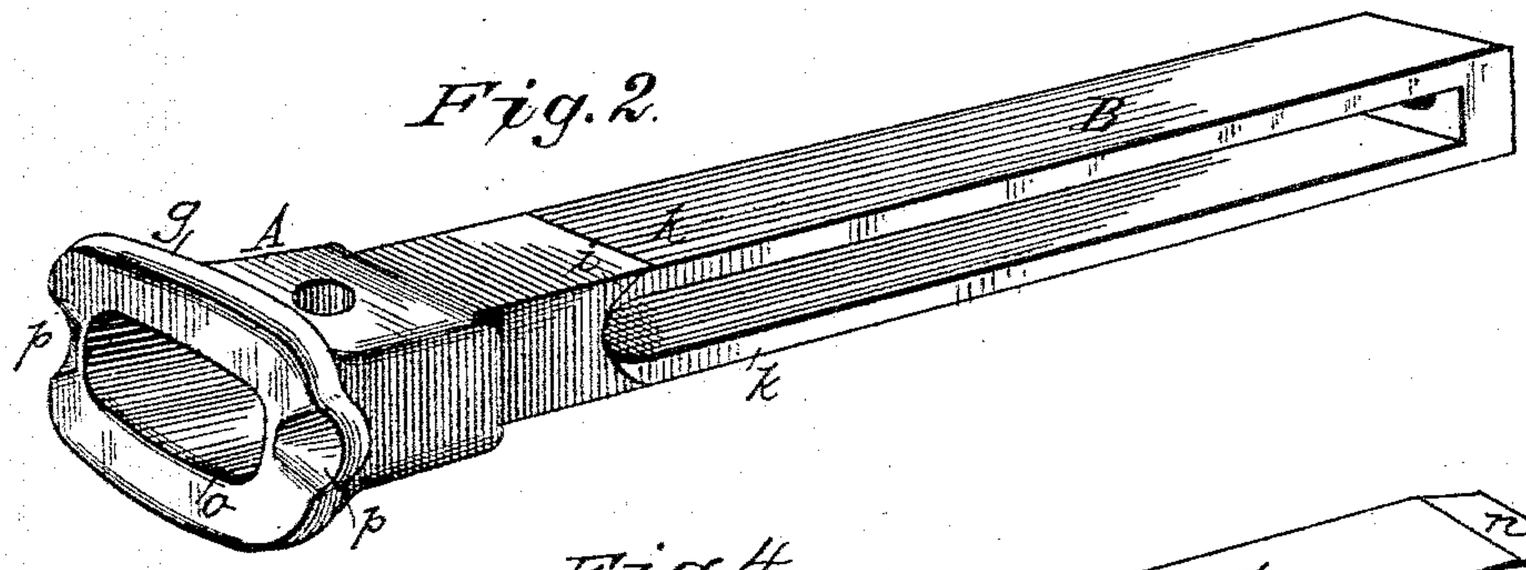
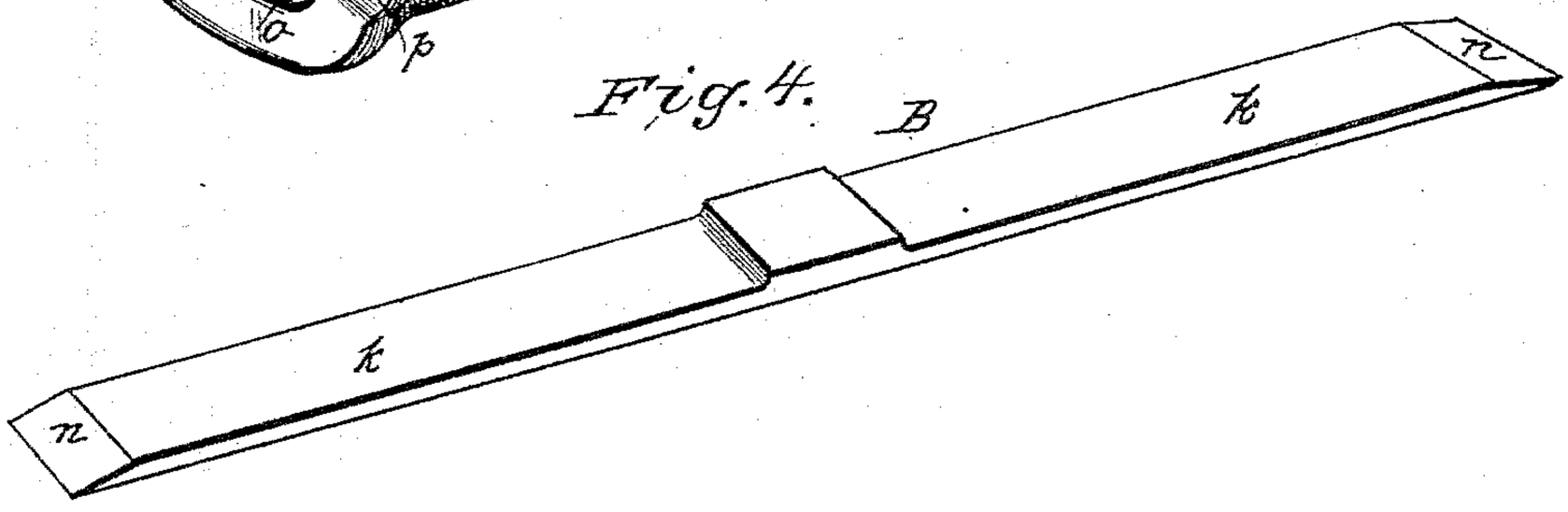


Fig. 4.



Witnesses
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(No Model.) 2 Sheets—Sheet 2.

J. T. WILSON.

MANUFACTURE OF DRAW BARS.

No. 356,814. Patented Feb. 1, 1887.

Fig. 5.

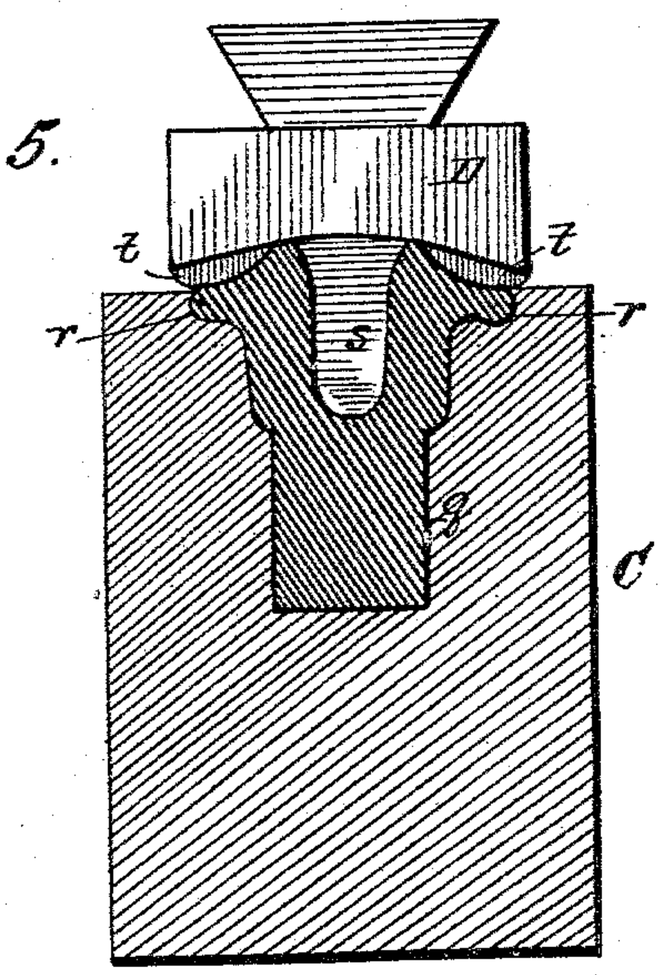


Fig. 6.

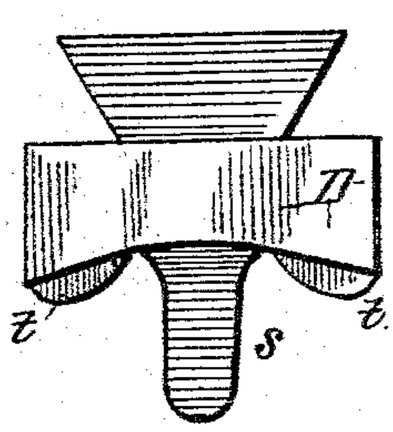
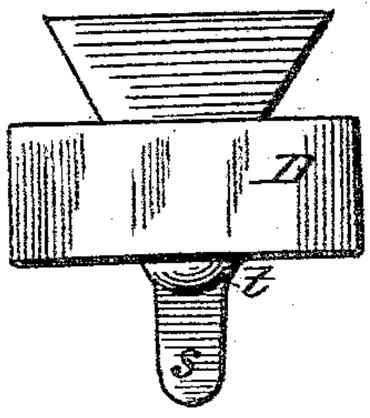


Fig. 7.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN T. WILSON, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO THE PITTSBURGH FORGE AND IRON COMPANY, OF SAME PLACE.

MANUFACTURE OF DRAW-BARS.

SPECIFICATION forming part of Letters Patent No. 356,814, dated February 1, 1887.

Application filed September 21, 1886. Serial No. 214,180. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. WILSON, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Draw-Bars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the manufacture of wrought-metal draw-bars, and has for its object the construction of a draw-bar in which the head and a portion of the body are formed together and the straps or top and bottom bars welded thereto.

The invention will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 represents a longitudinal section of my improved draw-bar. Fig. 2 is a perspective view of the same. Fig. 3 is a perspective view of a pile. Fig. 4 is a perspective view of the draw-bar straps before bending. Fig. 5 is a sectional elevation of one of the dies, and Figs. 6 and 7 are front and side views of the male die.

Reference being had to the drawings and the letters marked thereon, A represents a blank which forms the front end of the draw-bar, and consists of a billet of metal, which may be forged into shape by welding or cast as an ingot. When made by welding, it is constructed out of a pile, which consists of top and bottom pieces, *a b*, and side pieces, *c d*, with corner pieces or fillets, *e*, in the angles and a block, *e'*, to close one end. The cavity *f* forms a chamber for the reception of a link. The billet thus formed is shaped in a suitable die and forged into the configuration shown, with a head, *g*, a thickened portion, *h*, through which the coupling-pin passes, and chamfered end portions, *i i*, for welding the straps *k k* thereto. When the billet is made by casting, it is turned out of the flask in the shape shown in Fig. 1, but is finished in suitable dies, as will hereinafter appear.

B represents the body part of the draw-bar, which consists of top and bottom straps, *k k*, the free ends of which are welded to the rear end of the front section, as shown.

The blank from which the body part B is made is shown in Fig. 4, and consists of a rectangular bar, with its ends chamfered at *n n*, and by preference it is provided with a projection in the center. The face of the draw-head is provided with a continuous bearing-surface, *o*, around the borders of the aperture for the link, and on both sides of said aperture are formed concavities *p p*, which commence at the bearing-surface around the aperture and deepen as they recede therefrom, thus forming a chamber of sufficient depth to protect the hand of an operator when two draw-heads are brought together for coupling, without weakening the head or destroying the continuity of the bearing-surface.

Heretofore the heads of draw-bars have been cut away for the same purpose; but the cavity destroyed the continuity of the bearing surface for an adjacent head, and resulted in breaking the upper or lower half of the head from the remaining portion. By my improvement the advantage of the cavity is had without impairing the strength of the head.

The concavities *p p* are formed in the face of the head by means of the dies shown in Figs. 5, 6, and 7, and in which C represents the lower half of the die, which is secured to an anvil and is provided with a central aperture, *q*, and side cavities, *r r*.

The upper half, D, of the die is formed with a central projection, *s*, and side convex projections, *t t*, which correspond with the cavities *r r*, and is attached to the head of an ordinary steam-hammer or other reciprocating head of a machine for the purpose.

Instead of forging or casting the billet in the manner shown and described, it may be made in two longitudinal sections and welded on the line *x x* of Fig. 1.

The operation of constructing a draw-bar from the blanks shown is as follows: The blank A having been forged into shape, the body part B is welded thereto, thus forming a draw-bar that will endure severe thrusts without liability to break, and present a continuous

fiber of the metal between the body and the flange of the head.

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

1. A pile for the manufacture of draw-bar heads, composed of top, bottom, and side pieces piled together with corner fillets, and having a central aperture closed at one end, substantially as described.

2. A draw-bar head consisting of a block of metal provided with a central aperture for the reception of a link and having one end chamfered and adapted to have the straps of a draw-bar welded thereto, substantially as described.

3. A draw-bar having a head provided with a continuous bearing-surface for an abutting head, and cavities sunk into the face of the head on opposite sides of the central aperture, so as to leave a small bearing-surface between said aperture and said cavities, substantially as described.

4. A forged draw-head having an aperture for the reception of a link, a continuous bearing-surface around said aperture, and cavities sunk in the face of the head, said cavities increasing in depth from said bearing-surface to the edge of the face of the head jointly, with straps welded to said head, substantially as described.

5. A die for forming the heads of draw-bars, consisting of a die-block having a central aperture with concavities on opposite sides of said aperture, in combination with a companion die provided with a central projection and convex projections on opposite sides thereof, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN T. WILSON.

Witnesses:
S. A. TERRY,
D. C. REINOHL.

Corrections in Letters Patent No. 356,814.

It is hereby certified that in Letters Patent No. 356,814, granted February 1, 1887, upon the application of John T. Wilson, of Pittsburgh, Pennsylvania, for an improvement in the "Manufacture of Draw-Bars," errors appear in the printed specification requiring correction, as follows: On page 2, line 27, a comma should be inserted after the word "head," and the comma after the word "jointly" should be stricken out; and that the Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 8th day of February, A. D. 1887.

[SEAL.]

D. L. HAWKINS,
Acting Secretary of the Interior.

Countersigned:

R. B. VANCE,
Acting Commissioner of Patents.