(No Model.)

# J. T. WILSON.

## MANUFACTURE OF DRAW BARS.

No. 264,015. Patented Sept. 5, 1882.

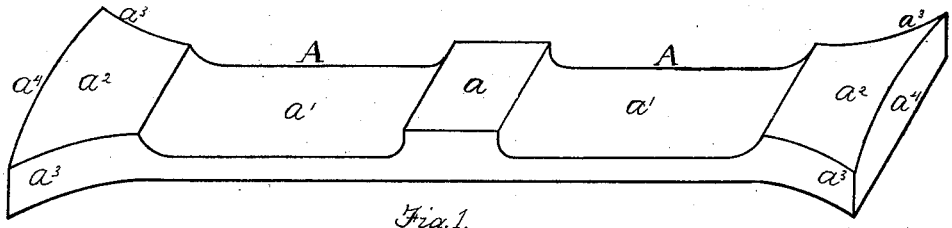


Fig. 1.

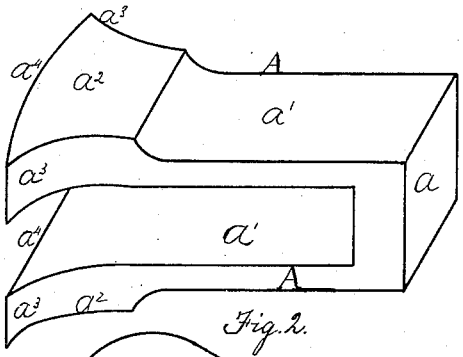


Fig. 2.

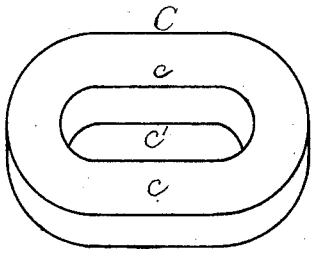


Fig. 3.

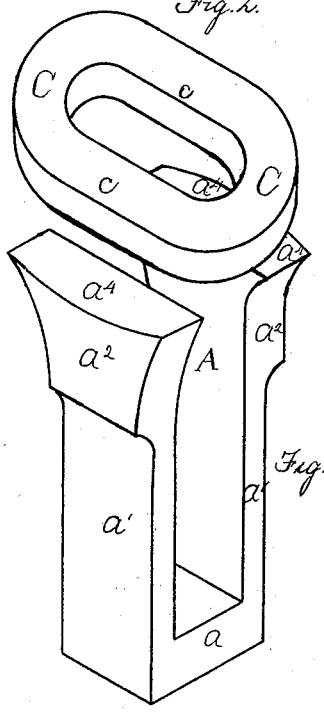


Fig. 4.

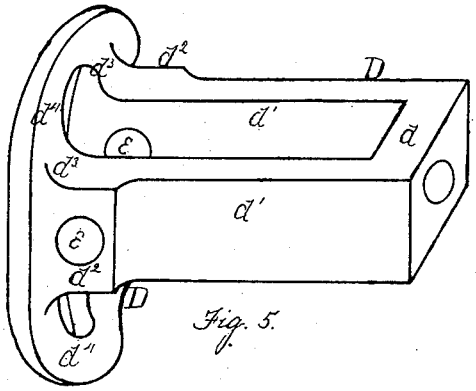


Fig. 5.

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# UNITED STATES PATENT OFFICE.

JOHN T. WILSON, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO WILSON, WALKER & CO., (LIMITED,) OF SAME PLACE.

## MANUFACTURE OF DRAW-BARS.

SPECIFICATION forming part of Letters Patent No. 264,015, dated September 5, 1882.

Application filed April 24, 1882. (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, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in the Manufacture of Draw-Bars; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a perspective view of a blank illustrative of a preliminary step in the manufacture of a draw-bar in accordance with my invention. Fig. 2 illustrates the blank Fig. 1 bent so as to form the straps or top and bottom bars and rear end of the draw-bar. Fig. 3 shows a ring-blank for forming the head of the draw-bar. Fig. 4 illustrates the manner of welding the parts shown in Figs. 2 and 3, and Fig. 5 is a perspective view of the draw-bar as made by my invention.

My invention relates to certain improvements in the art of making wrought-iron draw-bars for railway-cars of the class shown in Fig. 5; and it consists in forging a ring-blank for the head of the draw-bar and forging and bending a body-blank, to the open ends of which the face of the ring-blank is welded by a butt-weld, as hereinafter more fully described and claimed.

In carrying out my present invention I form, by forging or rolling, a blank for the body part of the draw-bar—such as represented at A, Fig. 1—having a central rectangular enlargement, *a*, on one side for forming the rear end, *d*, of the draw-bar D, Fig. 5, with straps or bars *a'* *a'* extending from either side of such central part, *a*, designed to form the top and bottom straps, *d'* *d'*, of the draw-bar. On the outer extremities of the straps *a'* are formed enlargements $a^2$ $a^2$, thickened and raised on the same side of the blank as the central part, *a*. These re-enforced ends are designed for forming the shoulders $d^2$ $d^2$ of the draw-bar, through which the pin-hole *e* is made, and to the ends of which the head $d^4$ is secured. Also, by preference, the ends $a^2$ are widened toward their extremities, as at $a^3$, to form fillets $d^3$ in rear of the head $d^4$. The end faces, $a^4$, of the blank are made full and nearly flat, though I prefer to round them slightly from the center toward the edges for convenience in welding the head thereto and shaping the same as in the draw-bar D. These blanks A are, by preference, forged from a bar or billet to the described form, though, if desired, a succession of them may be rolled in continuous lengths and afterward severed and fitted by hammering. Or the ends $a^2$ may be formed by upsetting; but in order to secure strong and uniformly-disposed fiber, I prefer to shape the blank principally by forging it down to the required dimensions from a larger bar or billet. The blank A is then bent to the form shown in Fig. 2, the raised or thickened portions *a* $a^2$ being on the outside and the straps *a'* *a'* parallel.

In forming the head of the draw-bar I make a blank, C, Fig. 3, in the shape of a flattened or oval ring, having straight, or nearly straight, sides *c* *c* and central opening, *c'*. It is made, by preference, from a flat bar bent edgewise to the ring form shown and welded at the meeting ends, whereby continuous fiber is obtained entirely around it. A similar blank may be made, however, by punching and shearing from a plate; but in such case I prefer to form the plate by cross-piling, so as to obtain fiber in different directions, and thereby secure the requisite strength. The ring-blank thus formed and the open ends of the blank A, Fig. 2, being raised to a welding heat, are placed together, as represented in Fig. 4, the sides *c* *c* of the ring being placed upon the end faces, $a^4$, of blank A, and the two thus welded together by what is known as a "butt-weld." In doing this the body-blank A may be set in the cavity of a suitable die, with the ends $a^2$ protruding a little, or the parts may be welded upon an anvil, in the usual manner of working iron. After welding the blanks C and A they may be finished up and the head shaped with tools usually employed for such purposes, thus completing the draw-bar, as represented at D, Fig. 5.

In this method of forming draw-bars the various steps are all simple and easily performed by persons possessing ordinary skill in iron-working. Consequently draw-bars can be formed in this way with comparatively little expense. These are considerations of great importance in the manufacture of such articles

on a large scale, since the quality and amount of labor required form an important factor in the expense of manufacture.

If desired, the welding of the open ends of ring C, when the same is made by bending and welding, may be done at the same time and heat as the welding of blank C to blank A, thus saving the expense of one heat on blank C.

While I have described with considerable minuteness the form of blank A, yet I do not wish to have it understood that I limit my invention to the making of this specific form, as other shapes may be given to both the body-blank A and head-blank C, and still carry out my invention by making substantially the same or equivalent body and head blanks in separate pieces and uniting them by a butt-weld, substantially as described and shown.

I claim as my invention—

1. The method of manufacture of wrought-iron draw-bars herein described, consisting in forging wrought-metal blanks A and C for body and head parts of the draw-bar, respectively, such blanks being in separate single pieces, as described, reheating blank C and the open ends of blank A, and uniting the side face of the head to the end faces of the body-blank by welding, substantially as set forth.

2. The method of manufacture of wrought-iron draw-bars herein described, consisting in forging from a bar or billet a blank, A, for the body of the draw-bar, such blank having thickened center $a$, straps $a'$ $a'$, and enlarged ends $a^2$, bending such blank to an open-end rectangular form, as in Fig. 2, forming a ring-blank, C, for the head of the draw-bar, reheating and welding the side face of blank C to the end faces of blank A by a butt-weld, substantially as set forth.

In testimony whereof I have hereunto set my hand.

JOHN T. WILSON.

Witnesses:
C. L. PARKER,
R. H. WHITTLESEY.