J. T. WILSON.

Manufacture of End-Pieces for Cross-Bars of Truck-Frames.

No. 219,335. Patented Sept. 2, 1879.

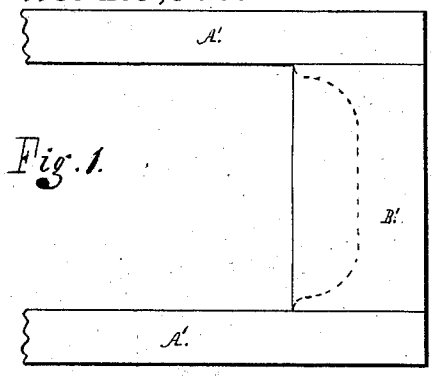


Fig. 1.

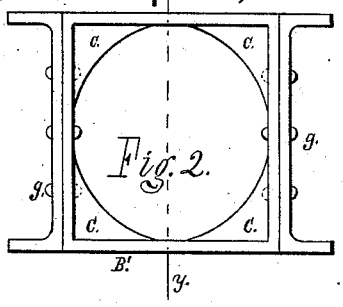


Fig. 2.

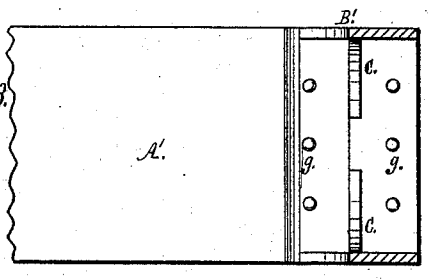


Fig. 3.

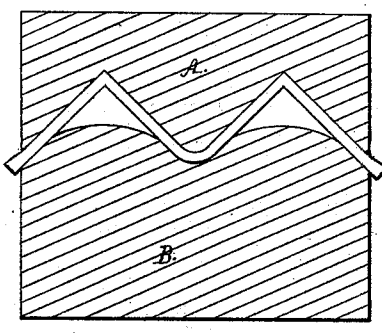


Fig. 6.

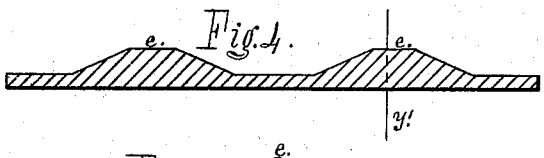


Fig. 4.

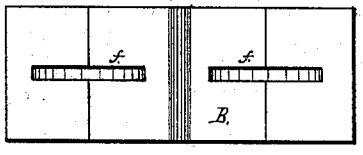


Fig. 7.

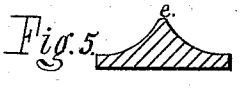


Fig. 5.



Fig. 8.

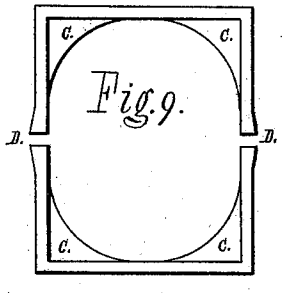


Fig. 9.

Witnesses

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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN THE MANUFACTURE OF END PIECES FOR CROSS-BARS OF TRUCK-FRAMES.

Specification forming part of Letters Patent No. **219,335**, dated September 2, 1879; application filed August 15, 1879.

To all whom it may concern:

Be it known that I, JOHN T. WILSON, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in the Manufacture of the Ends for Cross-Bars for Truck-Frames of Railway-Cars; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates to an improvement in the manufacture of the ends for cross-bars of truck-frames of railway-cars; and consists in a novel method of constructing from blanks of wrought-iron or steel the end pieces for cross-bars of truck-frames of railway-cars in a single piece, with web corner-braces, by swaging, forging, and welding.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and advantages.

In the accompanying drawings, which form part of my specification, Figure 1 is a top view of the end piece, arranged and secured between metallic cross-bars of truck-frames, which end piece may be cut out, as indicated by the dotted line, which cutting may be done after the end piece is constructed, or after the blank shown in Figs. 4 and 5 has been struck up in the dies shown in Fig. 6. Fig. 2 is an end view of said cross-bars, and front view of the end piece used in securing said bars together. Fig. 3 is a vertical section of the same at line *y* of Fig. 2. Fig. 4 is a longitudinal section of a blank used for forming one half of the end piece. Fig. 5 is a transverse section of the blank at line *y'* of Fig. 4. Fig. 6 is a vertical section of the swaging-dies used for forming one half of the end piece. Fig. 7 is a face view of the die having the recesses for forming the web corner-braces in the end piece. Fig. 8 represents one half of the end piece as it comes from the swaging-dies. Fig. 9 represents the two halves of the end piece prior to being united by welding.

In constructing my improved end piece for cross-bars of truck-frames of railway-cars, I form blanks of iron or steel by rolling or forging of the form indicated in Figs. 4 and 5, which blanks are heated to the proper degree, laid on the die B, with the part *e e* of the blank placed in the recesses *f f*, and subjected to the action of the drop-die A, which forces the parts *e* of the blank down into the recesses *f f* and swages the blank into the form (between the dies represented in Fig. 6) shown in Fig. 8, with the web-braces C, shown in the accompanying drawings. The swaged and forged half of the end piece is then bent into the form represented in Fig. 9, and the two halves of the end piece are heated at D to the welding degree, and then united together by welding into the form represented in Figs. 1 and 2. The end piece is then furnished with suitable openings for the bolts or rivets for uniting the cross-bars A' A' (constructed of angle-iron) to the end piece, B', as indicated at *g* in Figs. 2 and 3.

By constructing the end piece, B', with the web corner-braces C, said end piece will be made light and very strong, and a very desirable substitute for the heavy cast-iron end piece heretofore used in the construction of truck-frames.

To substitute a wrought-iron end piece in the place of the heavy cast-iron end piece referred to, and at the same time secure the necessary strength of the parts, required much study and many experiments, and resulted in the method of constructing the end piece as hereinbefore described.

By constructing the end piece from rolled blanks, and, through the medium of dies, swaging and forging the blanks into the form herein described and represented, so as to form two halves of an end piece, and then uniting said halves together by welding, as before described, and thereby forming a single piece, the end piece, B', is constructed with great economy of labor, time, and with great facility.

Having thus described my improvement, what I claim as of my invention is—

The method hereinbefore described for con-

structing wrought-iron or steel end pieces for cross-bars of truck-frames for railway-cars, to wit: rolling or forging blanks into the form indicated in Figs. 4 and 5, properly heating said blanks and subjecting them to the swaging and forging action of the dies A B, for forming two halves of the end piece with web corner-braces, and subsequently uniting said halves by welding, as and for the purpose set forth.

JOHN T. WILSON.

Witnesses:
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