

No. 653,798.

Patented July 17, 1900.

W. R. FOX.
TUBULAR RIVET.

(Application filed June 20, 1898.)

(No Model.)

Fig. 1.

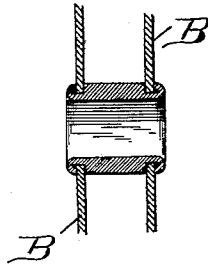


Fig. 2.

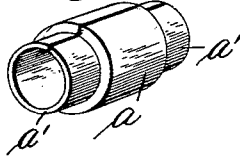


Fig. 3.

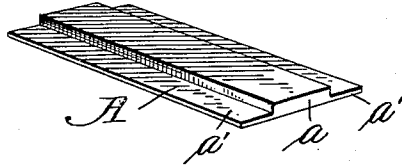


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM R. FOX, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO THE FOX MACHINE COMPANY, OF SAME PLACE.

TUBULAR RIVET.

SPECIFICATION forming part of Letters Patent No. 653,798, dated July 17, 1900.

Original application filed February 23, 1898, Serial No. 671,323. Divided and this application filed June 20, 1898. Serial No. 683,958. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM R. FOX, a citizen of the United States, residing at Grand Rapids, county of Kent, and State of Michigan, have invented certain new and useful Improvements in Tubular Rivets, of which the following is a specification.

This application is a division of my application filed February 23, 1898, Serial No. 671,323, which was patented November 15, 1898, No. 614,166.

My invention relates to improvements in tubular rivets of that class having annular shoulders for spacing the articles to be connected and reduced portions or extensions adapted to be headed down or upset to clamp the articles firmly against the shoulders. Heretofore such rivets have usually been made by turning down a piece of metal tubing or by making the rivet out of a solid piece of metal or rod, boring out the hole, and turning down the ends; but such a method adds too much to the cost of the article to make it a commercial success.

The object in the present invention is to overcome this difficulty; and my invention consists in the improved article, said article consisting of a tubular rivet composed of a sheet-metal blank rolled with its edges reduced to form a shoulder.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a sectional view showing two metal plates connected by my improved rivet.

Fig. 2 is a perspective view of the rivet. Fig.

3 is a view of the blank previous to its being rolled up to form the rivet, and Fig. 4 is a plan view of a modification.

In the manufacture of my improved rivet I first form a plain blank in which the edges are reduced by rolling or pressure similarly applied, so that the central part *a* of the blank, which forms the body of the rivet, is of the normal thickness of the blank or wall of the body of the rivet, while the edges *a'* *a'* are reduced in thickness to form the ends of the rivet, and there is left on each side of the thicker central portion of the blank a shoulder. The blank for the rivet, cut to proper length, is then rolled into the form of a rivet, as shown, for example, in Fig. 2, and is then complete for use. Its application is illustrated in Fig. 1, in which the plates *B* rest upon the shoulders, with the thicker portion *a* between and the thinner or flange portions forming the ends of the rivet inserted through the plates and burred or turned over upon the plates.

I claim—

A tubular rivet composed of a rolled shouldered blank having a thicker central portion and thinner edges, said blank being formed in tubular shape, with the shouldered surface outward, substantially as described.

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

WILLIAM R. FOX.

Witnesses:

GEORGE S. MILLER,

GEO. K. McMULLEN.