

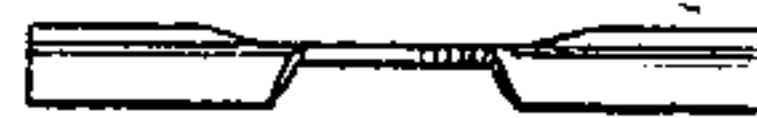
M. BRAY.  
Tubular Rivet.

No. 227,673.

Patented May 18, 1880.



*Fig. 2.*



*Fig. 4.*



*Fig. 1.*



*Fig. 3.*



*Fig. 5.*



*Fig. 6.*



*Fig. 7.*

**Witnesses:**

*H. M. Swann*  
*H. G. Ohnsted*

**Inventor:**

*Mellen Bray*

# UNITED STATES PATENT OFFICE.

MELLEN BRAY, OF NEWTON, MASSACHUSETTS.

## TUBULAR RIVET.

SPECIFICATION forming part of Letters Patent No. 227,673, dated May 18, 1880.

Application filed February 26, 1880.

*To all whom it may concern:*

Be it known that I, MELLEN BRAY, of Newton, in the State of Massachusetts, have invented a new and useful Improvement in Tubular Rivets formed from sheet metal, of which the following is a specification.

The invention relates to tubular rivets made from a single piece of sheet metal.

There are several methods by which tubular rivets may be made from a single piece of sheet metal; but, so far as I am acquainted with the art, all tubular rivets made from sheet metal have shanks formed in sections for a part or a whole of their length; and my invention consists in corrugating the said sections.

I make rivets embracing my said invention as follows: I first cut blanks to the shape shown in the drawings at Figures 1 and 2, each blank consisting of a disk with two arms, and next strike these blanks in dies to the form shown in Figs. 3, 4, and 5, the dies so acting upon the arms of the blank that the greater

portion becomes semi-tubular and corrugated, while a portion remains as nearly flat as may be. The arms are then folded underneath the disk, the flat portions being pressed against the disk to form a head, and the semi-tubular portions coming together to form a tubular shank, as shown in Figs. 6 and 7; but I make no claim to this method of construction as new except where the corrugations form a feature thereof; and it is obvious that the head of a sheet-metal rivet having a tubular shank formed in sections might be made in any well-known way without departing from my invention.

I claim—

A tubular rivet made of sheet metal, the shank being formed in sections, corrugated, substantially as described.

MELLEN BRAY.

Witnesses:

W. W. SWAN,  
H. G. OLMSTED.