April 26, 1927. 1,625,805

S. HANSSON

TRUCK LEVER CONNECTION

Original Filed Nov. 21, 1924

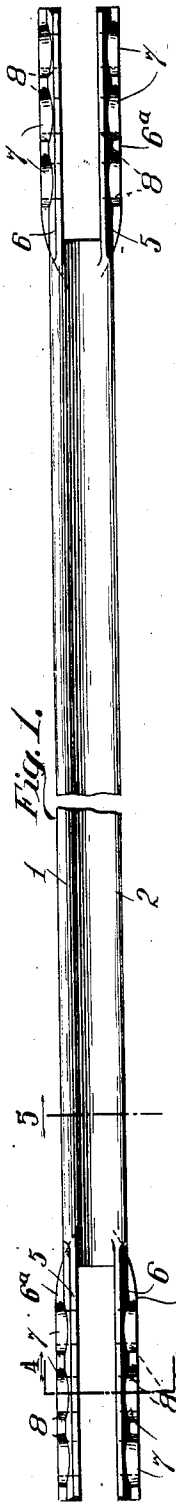


Fig. 1.

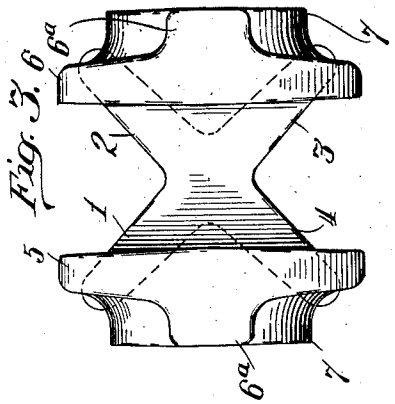


Fig. 3.

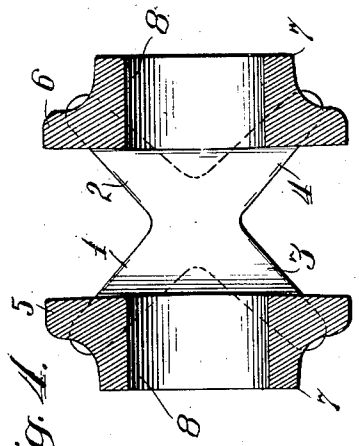


Fig. 4.

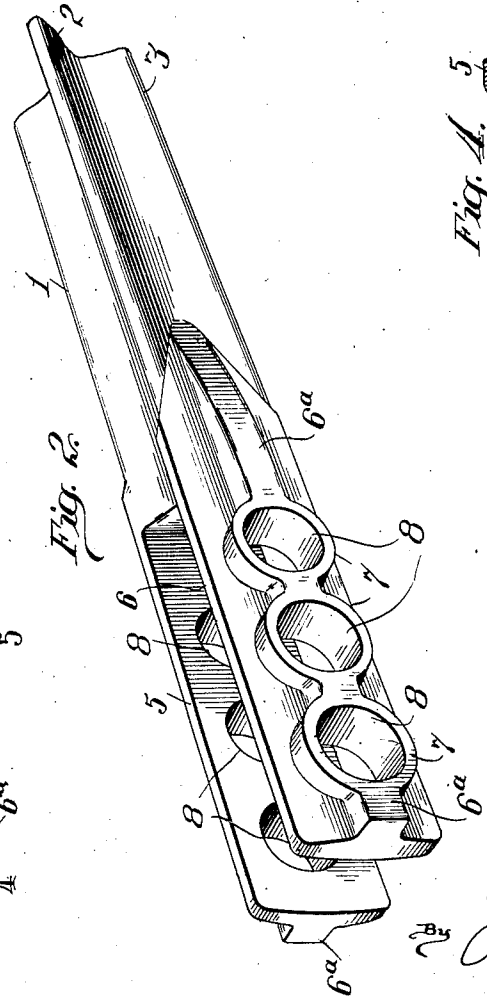


Fig. 2.

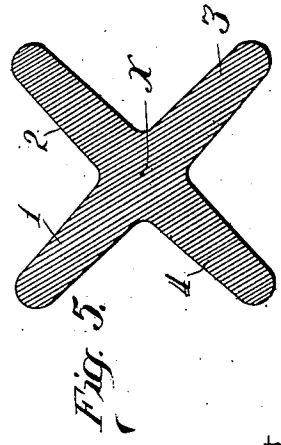


Fig. 5.

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UNITED STATES PATENT OFFICE.

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TRUCK-LEVER CONNECTION.

Original application filed November 21, 1924, Serial No. 751,314. Divided and this application filed January 2, 1926. Serial No. 79,013.

This invention relates to an improved truck lever connection, connecting bar, or the like, these bars being particularly suitable for use in the operating mechanism of railway brakes, and other portions of railway rolling stock.

The object of this invention is to produce an improved form of single piece metal connecting bar, of peculiar configuration, which is lighter in weight and stronger than the usual solid bars of round or angular cross-section heretofore used.

According to the present invention, a length of angle bar is rolled so as to have a uniform cross-section resembling a four-pointed star. The bar will comprise four similar flanges, radiating from a common center and preferably at right angles to one another. In other words, the four flanges are formed symmetrically about two planes crossing one another at right angles along the center line of the bar. Integral clevises are formed at one or both ends of the connecting bar. This is preferably accomplished by cutting sections, somewhat longer than the desired length of the connecting bar to be formed, from a rolled metal beam of the desired star-section, and then forming the clevis at each end by an upsetting and forging process which is disclosed and claimed in detail in my copending application, Serial No. 751,314, filed November 21, 1924, of which pending application this present application is a division.

The objects and advantages of the invention will be more apparent from the following detailed description of one approved form of the connecting bar.

In the accompanying drawings:

Fig. 1 is a plan view of the improved connecting bar.

Fig. 2 is a perspective view, on an enlarged scale, of one end of the bar.

Fig. 3 is an end view of the bar on a still larger scale.

Fig. 4 is an enlarged transverse section, taken substantially on line 4—4 of Fig. 1.

Fig. 5 is a transverse section through the bar, taken substantially on the line 5—5 of Fig. 1.

The main body portion of the bar is of uniform cross-section from end to end, and comprises four preferably substantially equal flanges, 1, 2, 3 and 4, all radiating at right angles with one another, from a common center x, as best shown in Fig. 5. The flanges 1 and 3 are formed symmetrically, and in opposite directions from the center x, about one plane containing the axis x, and flanges 2 and 4 are similarly formed about a second plane which crosses the first mentioned plane at right angles along the center line x. It will be noted that this bar resembles a four-pointed star in cross section, and for this reason will be hereinafter referred to as a star section.

One or both ends of the bar are formed with a pair of similar parallel side members 5 and 6, each having an outer longitudinal strengthening rib 6^a, which is enlarged at intervals to form bosses 7, in which bosses are drilled the bolt holes 8. The holes 8 are in alignment in the two parallel side members 5 and 6.

Although this connecting bar may be formed in any desired manner, it is preferably and economically constructed from a section of a rolled metal bar of the necessary star cross section, the clevises at the ends being formed by a plurality of upsetting and forging processes which are set forth in detail in my copending application, Serial No. 751,314, hereinabove referred to. This connecting bar, despite its peculiar configuration, is quite simply manufactured, there being but two stamping operations necessary, and the dies used are simple and rugged.

The completed connecting bar has great strength and rigidity in proportion to its weight, which is considerably less than that of solid round bars of corresponding strength. It will be noted, particularly in Fig. 3, that the side members 5 and 6 of the clevis outline a rectangle, and that the flanges 2 and 4 of the body portion of the bar lie substantially along one diagonal of this rectangle, and the flanges 1 and 3 along the other diagonal. These diagonally arranged body flanges 1, 2, 3 and 4 offer great resistance to bending stresses, and form a wide, strong, anchoring base for the inner ends of the side members 5 and 6 of the clevis.

While it is preferable to make the bar of the type described in detail hereinabove, it is not absolutely essential that the angles between the side flanges of the bar all be right-angles. That is, the opposing angles

between flanges 2, 3 and 1, 4 could be either greater or less than the angles between flanges 1, 2 and 3, 4, thus the connecting bar could be formed of greater width than height or vice versa, as might be desired. It will only be necessary to properly proportion the dies used, to receive stocks of either form, and the operations will otherwise be as described hereinabove.

In the following claims, when the expression "star section" is used, it is to be construed as referring particularly to a bar of uniform cross-section of four-pointed star shaped, as indicated in the drawings, and as hereinabove described.

I claim:

1. A metal connecting bar having a body portion of star cross-section, including four substantially equal flanges radiating from a common center line, and an integral clevis formed at one end of the bar comprising a pair of parallel side members, the center lines of the flanges of the star lying in substantially the same planes as the diagonals of the rectangle outlind by the clevis members.

2. A metal connecting bar having a body portion of star cross-section, including four substantially equal flanges radiating at right-angles with one another from a common center line, and an integral clevis formed at one end of the bar comprising a pair of parallel side members, the center lines of the flanges of the star lying in substantially the same planes as the diagonals of the rectangle outlined by the clevis members.

3. A metal connecting bar having a body portion of star cross-section, including four flanges radiating at angles with one another from a common center line, and an integral clevis formed at an end of the bar comprising a pair of parallel side members, the flanges of the body portion extending substantially in the planes of the diagonals of the rectangle outlined by the clevis members.

4. A metal connecting bar having a body portion of star cross-section, including four flanges radiating at angles with one another from a common center line, and an integral clevis formed at an end of the bar comprising a pair of parallel side members, the free edges of the flanges of the body portion lying substantially in line with the side edges of the clevis members.

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