Nov. 1, 1927. 1,647,252

T. N. RUSSELL

BRAKE LEVER CONNECTION

Filed March 29, 1926

Fig. 1

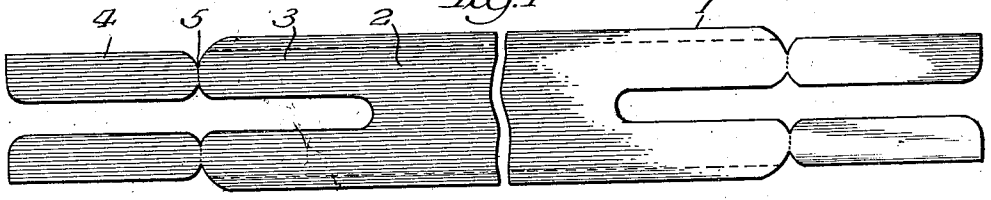


Fig. 2

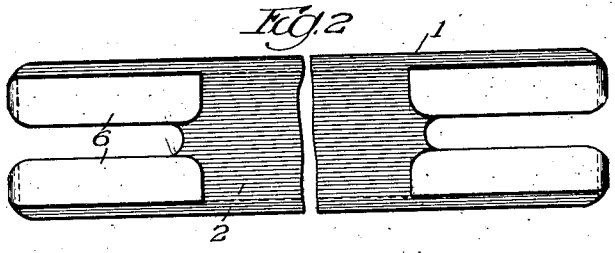


Fig. 3

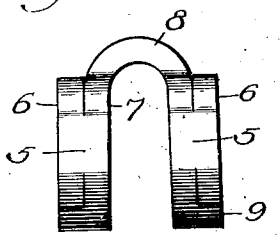


Fig. 4

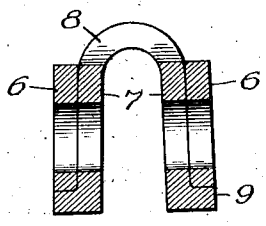


Fig. 5

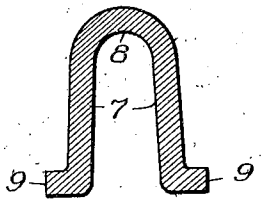


Fig. 6

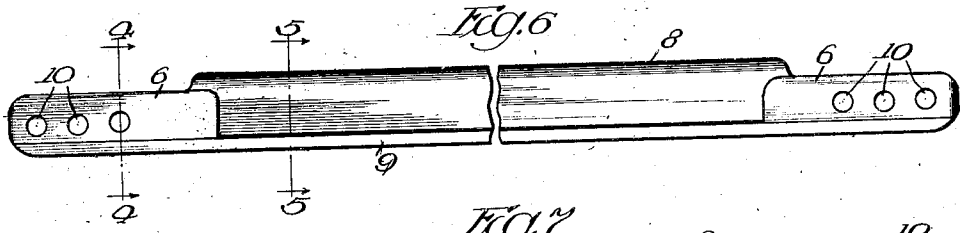


Fig. 7

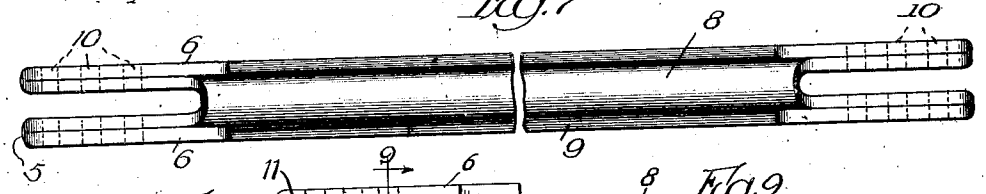


Fig. 8

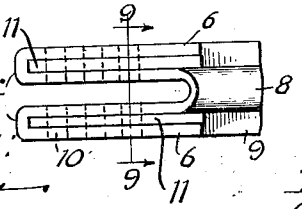
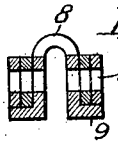


Fig. 9



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS N. RUSSELL, OF CHICAGO, ILLINOIS.

BRAKE-LEVER CONNECTION.

Application filed March 29, 1926. Serial No. 98,299.

This invention relates mainly to brake rigging and more especially to connecting bars therefor and bars for various other purposes, including push rods for air brakes.

The main objects of the present invention are to provide a simplified and less expensive form of metal construction for bars such as referred to and to provide a simple method of producing the same adapted for power operation; to provide simple and effective means for stiffening the bar throughout its length against bending and to provide, in spaced pairs, end tips or lugs of thickened character adequate to withstand rough usage and to avoid wear; to make up such a bar of integral character throughout from a single punching or piece of sheet metal; and to provide for die pressing of sheet metal into the proper shape and securing the same in permanent and dependable form.

An illustrative embodiment of this invention is shown by the accompanying drawings, in which:—

Fig. 1 is a plain flat blank or punching as stamped initially from a plate of sheet metal by means of a punch press.

Fig. 2 shows the punching, of Fig. 1, with the ends turned over and welded.

Fig. 3 is an end view of the finished bar folded into channel shape and with the edge flanges turned out.

Fig. 4 is a section on the line 4—4 of Fig. 6.

Fig. 5 is a section on the line 5—5 of Fig. 6.

Fig. 6 is a side elevation of the finished bar with the connection rivet holes drilled.

Fig. 7 is a top plan of the finished bar.

Fig. 8 is a modified form of end construction, showing filler blocks to increase the thickness of the arms where a thicker jaw is desired.

Fig. 9 is a cross section on the line 9—9 of Fig. 8.

In the construction shown in the drawings, the flat punching 1 includes an oblong body part 2 forked at each end, as shown in Fig. 1, each fork having two arms including an inner part 3 and outer part 4 connected by a narrow neck 5 where the outer part 4 is subsequently bent back over the inner part 3, as shown in Fig. 2.

When the end members 4 have been folded over flat against the corresponding inner parts, according to the first step, the ends of the bar are successively brought to a welding heat and the folded over tips 4 welded integrally against the parts 3 to form the ears or lugs 6. The bar is then pressed or molded by a suitable die (not shown) into the finished form shown by Figs. 3 to 7, wherein the central body sides 7 are connected by an inverted U-part 8, with edge flanges 9 turned into mutual coplanar alinement at the outer edges of the sides, as shown at the bottom of Figs. 3 to 6, said flanges extending the full length of the bar, including the parts 3 of lugs 6, and here being turned outwardly away from each other.

The holes 10 are then drilled in the lugs 6, for which purpose the ends of the bar are thrust successively into a gang drill press and both lugs are drilled by a single operation. Both sides of each bar end are thus drilled in exact alinement, ready for the bolts or rivets (not shown) to secure the bar in its place in whatever mechanism it is to function.

The method of forming the bar above described, in brief, is to first punch or stamp the blank 1 from sheet metal; then second, to turn over the tips 4 of the forked ends as shown in Fig. 2; then third, to weld said tips in place on the parts 3; then fourth, to form in a die into channel shape with flanges 9; and fifth, to drill the holes 10.

The bar as thus made combines the lightness of thin sheet metal construction, the rigidity of a heavy solid bar, and the massive and long-wearing quality of castings for the end lugs. The forked ends are adapted to admit the tongued ends of other members which may be held pivotally by bolts, one at each end of the rod, as will be understood. The double layer end lugs 6 provide ample bearing and wear surface for the connection pins or bolts and the flanges 9 prevent side bending of said lugs at their bases.

This construction and method of manufacture is extremely simple throughout and the product is highly adapted for the rough usage to which such bars are commonly subjected.

Whenever it is desired to provide thicker jaws than represented by the construction shown by Figures 1 to 7, a filler block 11 is inserted between the inner and outer walls of each jaw and is welded thereto, as shown by Figures 8 and 9. By means of this construction the jaw may be increased to any thickness desired.

Although but one specific embodiment of this invention is herein shown and described, it is to be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of the invention as defined by the following claims:—

I claim:

1. A light weight connecting bar adapted to be formed from sheet metal and comprising a channel shaped body part capable of withstanding great bending stresses and four durably constructed end lugs arranged in pairs at the ends of said body part and projecting substantially in alignment with the adjacent side portions of said body part respectively, said body part having outwardly turned stiffening flanges on its edges, and said lugs consisting of medially back-folded lengthwise extensions of the sides of said body part respectively, together with corresponding extensions respectively of the said edge flanges for the inner parts of the several lugs.

2. A sheet metal connecting bar including a channel member having a pair of oppositely disposed forged ears at each end, said ears each including a folded wall, one wall being in alignment with the side of the channel member, and the other being turned back from the end and extending beyond the full depth of the ear, and being there secured to the body of the bar, whereby the ears are reinforced at their base and spreading is prevented.

3. A sheet metal connecting bar including a channel member having a pair of oppositely disposed jaws at each end, said channel member having its edges turned outwardly in a common plane, said jaws comprising endwise extensions of the sides of said channel member with the extremities turned outwardly and backwardly snug against the sides of the channel and extending rearwardly of the jaws, the lower edges of the back-turned members resting flush against the out-turned edges of the channel member, thus providing double reinforcement of the jaws.

Signed at Chicago this 26th day of March, 1926.

THOMAS N. RUSSELL.