

No. 757,404.

PATENTED APR. 12, 1904.

J. F. LEVER.
METALLIC TIE AND RAIL FASTENER.
APPLICATION FILED DEC. 5, 1903.

NO MODEL.

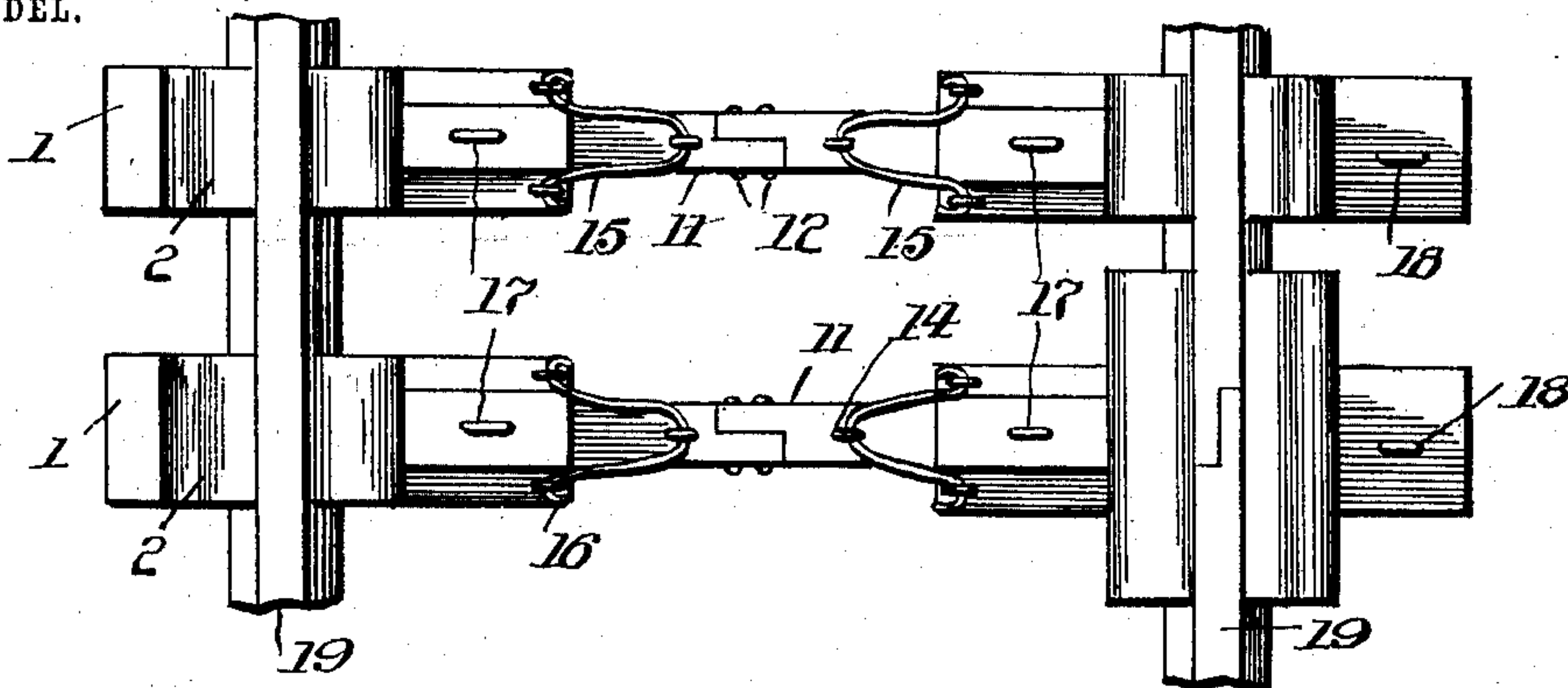


Fig. 1.

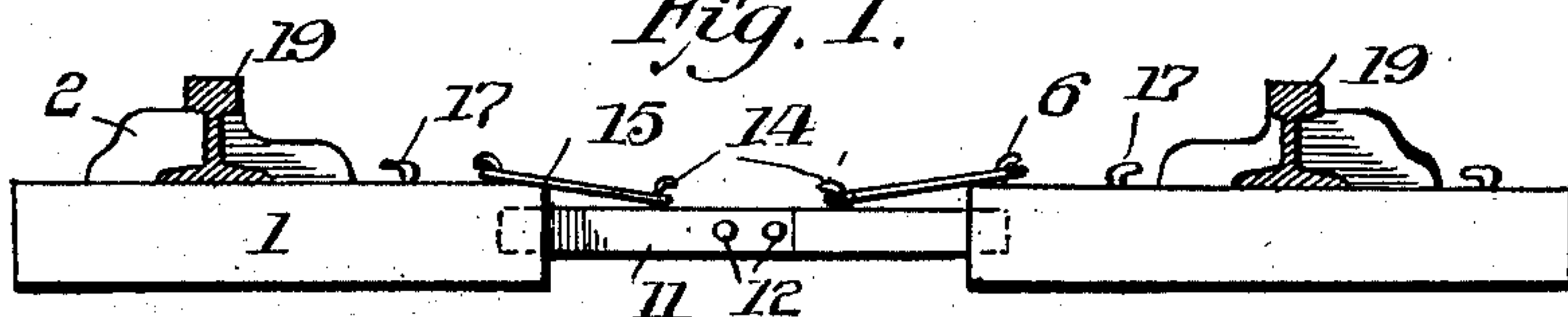


Fig. 2.

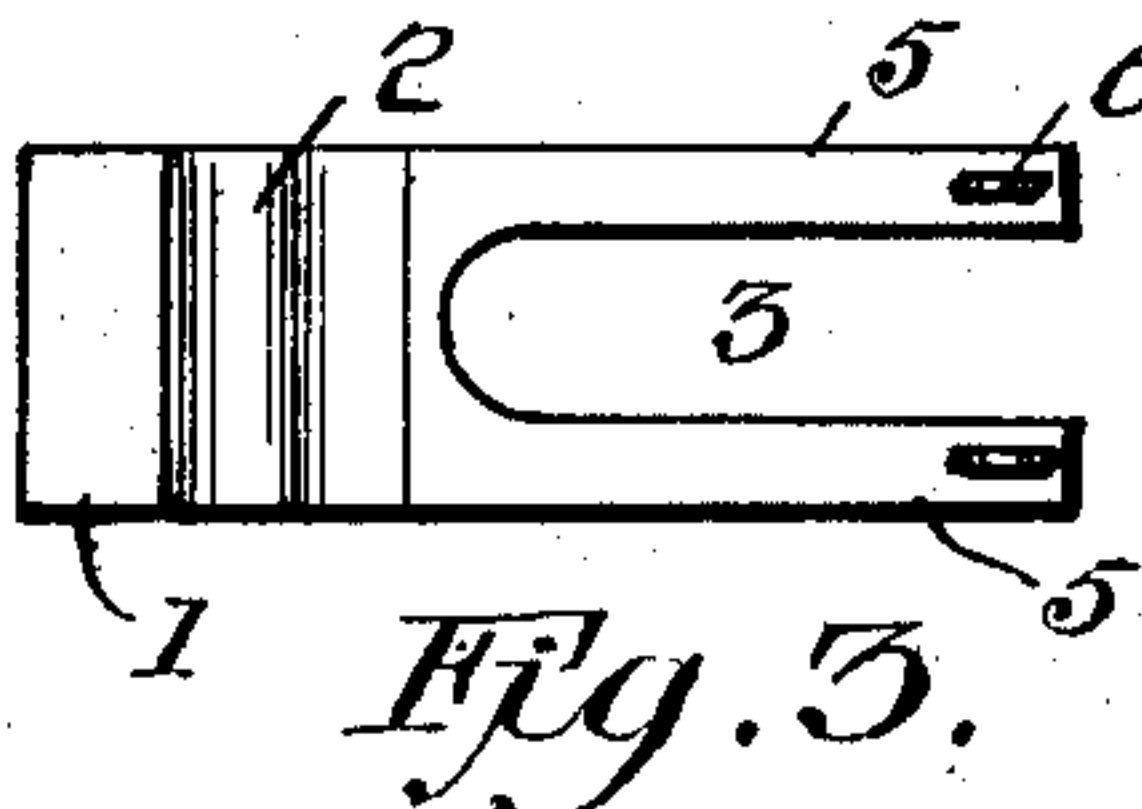


Fig. 3.

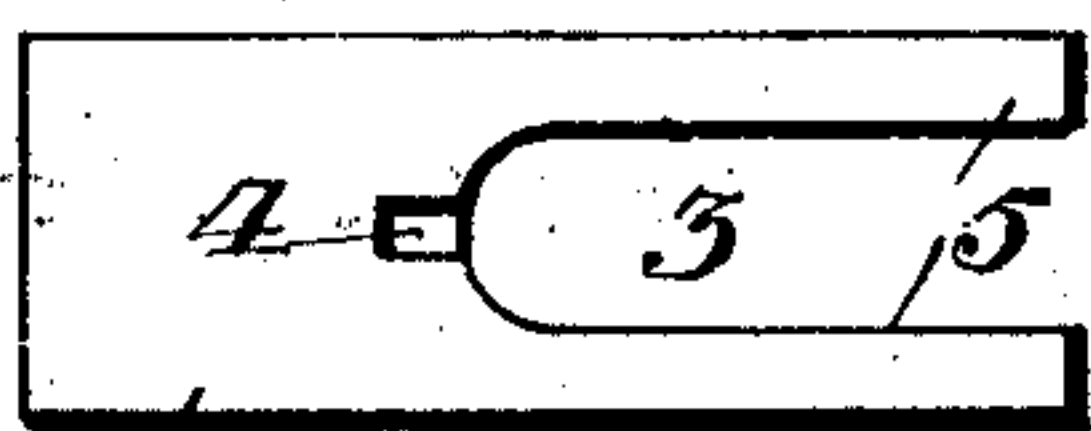


Fig. 4.

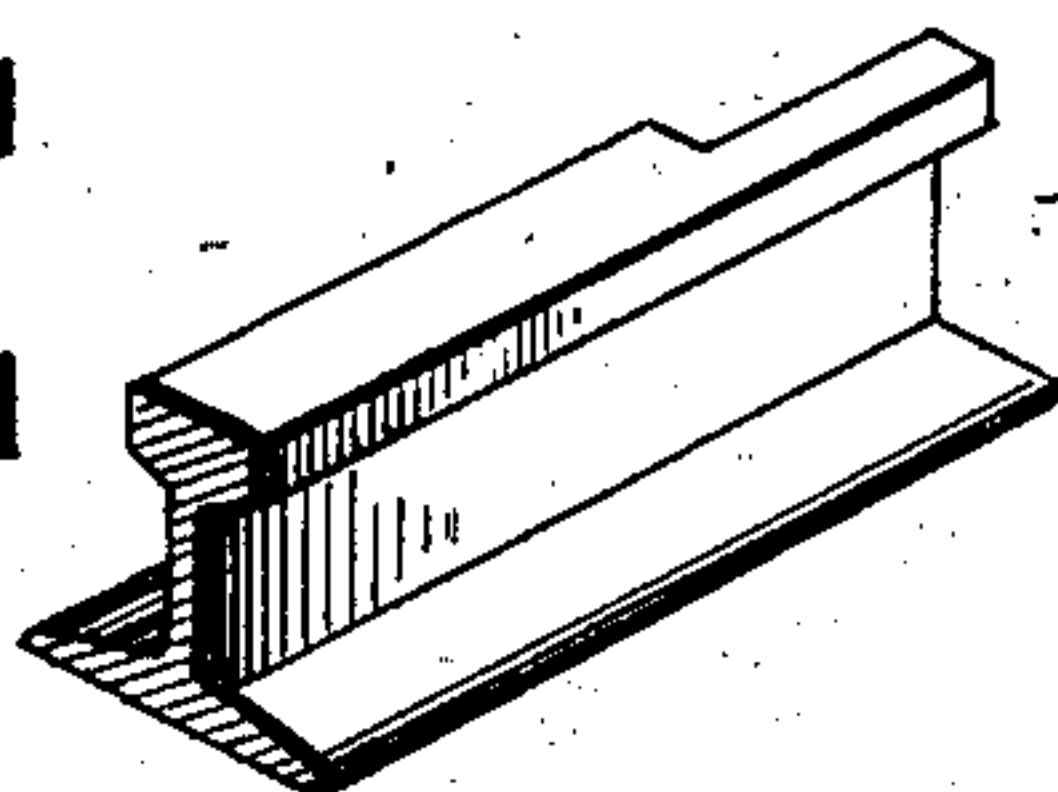


Fig. 5.

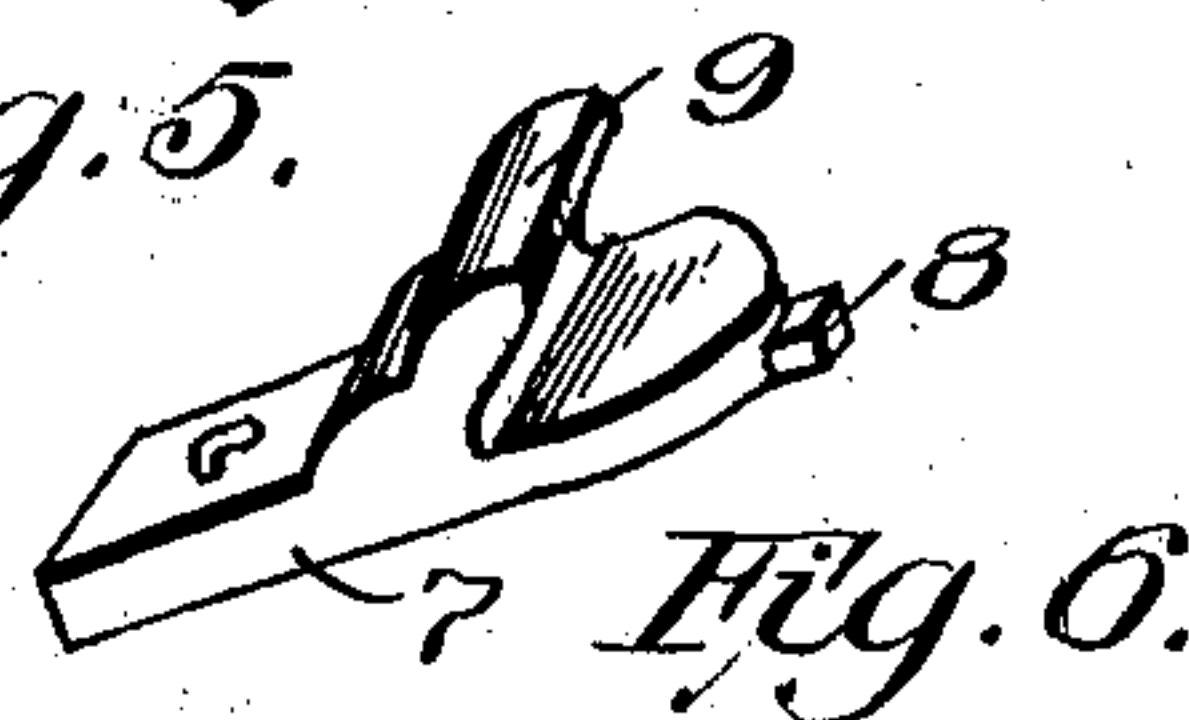


Fig. 6.

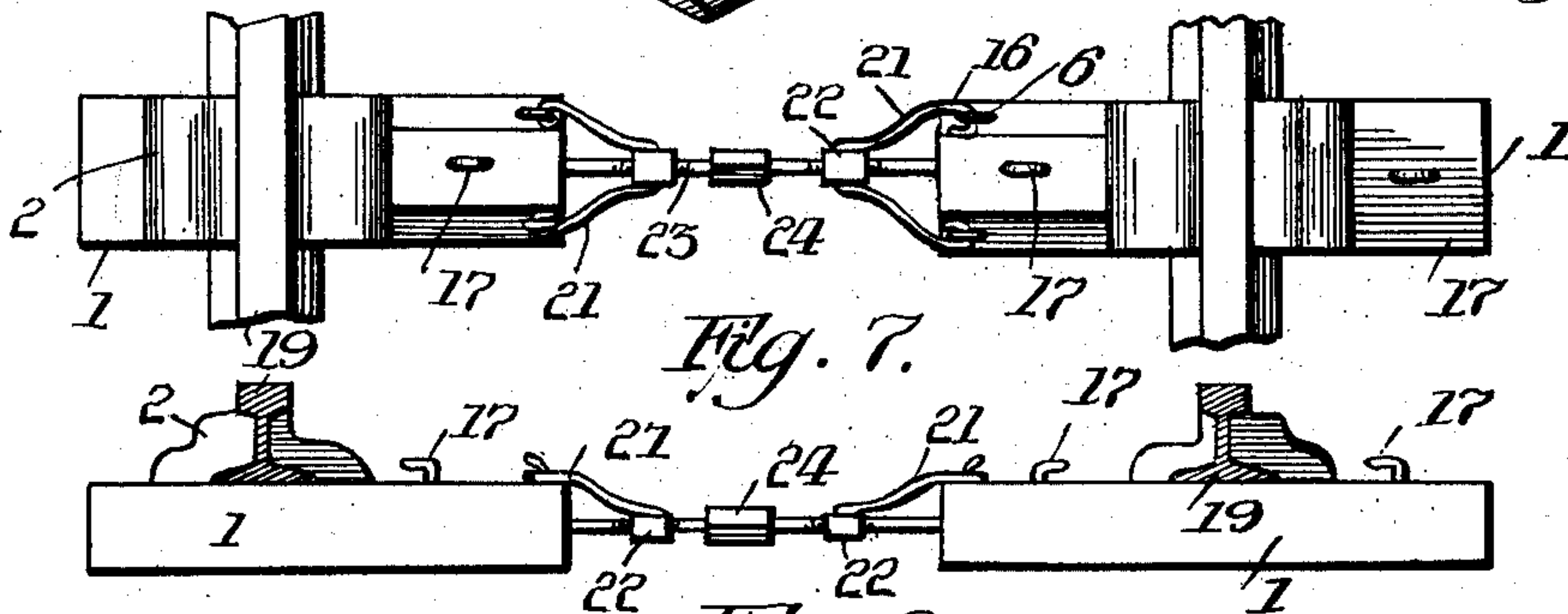


Fig. 7.

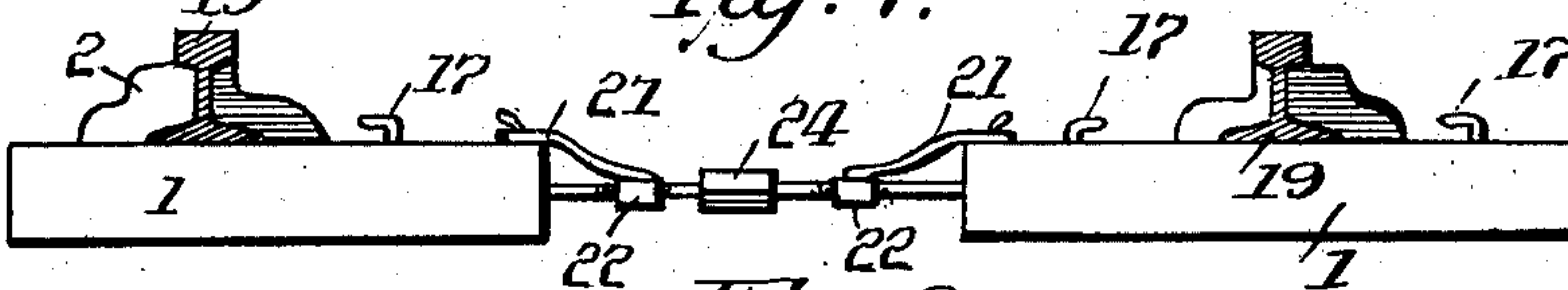


Fig. 8.

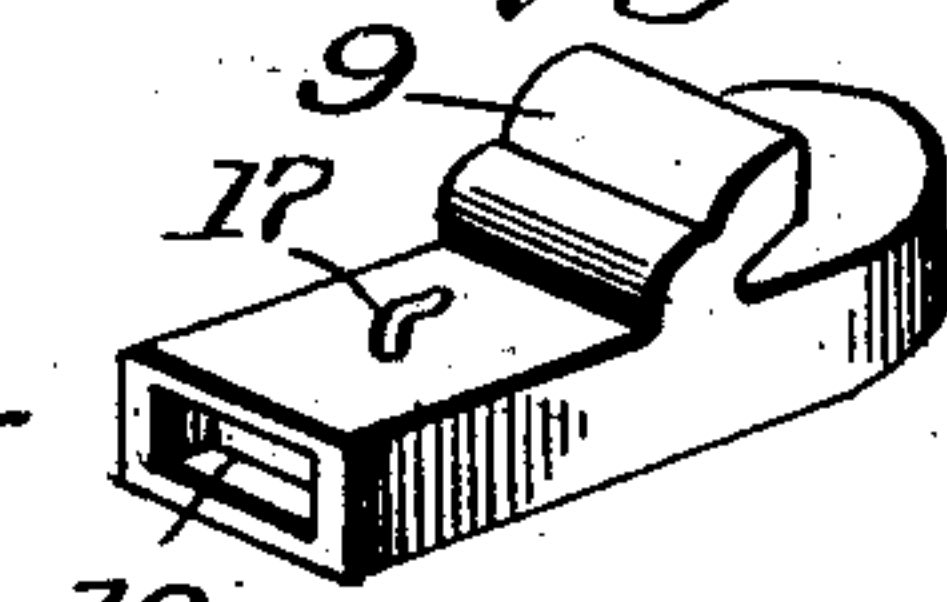


Fig. 9.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH F. LEVER, OF BRADDOCK, PENNSYLVANIA.

METALLIC TIE AND RAIL FASTENER.

SPECIFICATION forming part of Letters Patent No. 757,404, dated April 12, 1904.

Application filed December 5, 1903. Serial No. 183,865. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH F. LEVER, a citizen of the United States of America, residing at Braddock, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Tie and Rail Fasteners, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in metallic tie and rail fasteners; and the invention has for its object the provision of novel means for the laying of a track with metallic ties and the secure fastening of the rails to the ties.

Another object of the invention is to provide means whereby the rails may be readily removed from the ties when so desired; and a still further object is to provide means whereby a portion of the tie which supports the rails at one side of the track may be removed for replacing or other purposes without requiring the removal of the entire tie.

Other objects of the invention will be apparent, as hereinafter more fully described, and specifically pointed out in the accompanying claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this application, and wherein like numerals of reference indicate like parts throughout the several views, in which—

Figure 1 is a top plan view of a pair of ties, showing the rails broken away in accordance with my invention. Fig. 2 is a side elevation of a tie and rail fastener constructed in accordance with my invention, the rails being shown in cross-section. Fig. 3 is a detached detail top plan view of one of the tie sections or members. Fig. 4 is an underneath plan view of the same. Fig. 5 is a perspective view of a part of the rails, showing the preferred manner of connecting the rails at the joints. Fig. 6 is a detail perspective view of the removable member of the fastener detached. Fig. 7 is a top plan view of a modified form of construction of tie. Fig. 8 is a side elevation of the same, showing the rails in cross-section. Fig. 9 is another detail per-

spective view of the inside member of the fastener.

To put my invention into practice, I provide two members or tie-sections of exactly similar construction, one for the rails at one side of the track and one for the rails at the other side of the track. These members 1 carry on their upper face near their outer ends integral fish-plates 2, adapted to embrace the web of the rails, on the outside of the latter, and which are preferably made so as to fit neatly between the underneath face of the rail-tread and the upper face of the rail-base. At their inner ends these tie-sections are cut away, as at 3, and have on their underneath face a notch or recess 4. Arms or brackets 5, formed by cutting away the tie-sections 1 at the inner end thereof, are each provided on their upper end with a hook 6. An inside fastener or clamp member is provided, which consists of a plate or block 7, shaped to conform to the openings 3, in which it is adapted to fit, and has a lug 8 on its inner end adapted to engage in the recess or notch 4, the purpose of which is to prevent the forcing up of the plate or block 7 independently of the tie-sections in the tamping of the ties. This block 7 carries a fish plate or bar 9, adapted to engage the inner face of the rail-web, and like the outside fish plate or bar 2 is adapted to engage between the underneath face of the rail-tread and the upper face of the rail-base. The said plate or block 7 is provided in its inner end with a socket 10, the socket 10 in the two different tie-sections being adapted to receive the respective outer ends of a connecting-bar 11, made in two sections, as shown, with the ends cut away, so as to overlap each other, as seen in Fig. 1, and secured by a pair of bolts 12. Each of the sections of the bar 11 carries a hook 14, with which is engaged the looped end of the link 15, the ends of which are provided either with eyes or hooks 16 to be engaged with the hooks 6. The links 15 tie the connecting-bar 11 securely to each of the tie-sections. In the laying of the track the sections of the tie-bar 11 are placed in their respective sockets. The tie-link 15 has its loop engaged with the hook 14, and the

eyes of the hook 16 engage with hooks 6, and the two sections of the tie-bar 11 enforced down into alinement with each other, and the bolts 12 passed through the overlapping ends to hold the tie-bar in proper relation. I preferably provide a hook 17 on the upper face of the block or plate 7, with which the instruments may be engaged for pulling the same out of engagement with the tie-sections and rail, and for withdrawing the tie-sections with convenience I preferably also provide them with hooks 18, with which the instruments may be engaged for pulling the tie-sections out from under the rails. I may abut the ends of the rails 19 together, as in the usual form of construction, or I may construct the rails as shown in Fig. 5 and in the right-hand side of Fig. 1, in which the rail 19' is cut away on one side, at the end thereof, as shown at 20, so that the ends of the tread will overlap, as seen in right-hand side of Fig. 1.

In the laying of the tie of this construction at switches or the like it may not be possible to use the connecting-bar 11 in the form above described, and in Figs. 7 and 8 I have shown an adaptation of my invention for such use, and in this construction the tie-links 21 have hooked ends 16 to engage with the hooks 6 and at their loop ends are provided with threaded sockets 22, one of the sockets having right-hand threads and the other socket left-hand threads, and which sockets receive the tie-rod 23, having threaded sections corresponding with the threads of the sockets. This tie-rod is adapted to have its ends engaged in sockets provided therefor in the inner ends of the plate or block 7 and is provided with a nut 24 centrally of its length, whereby to afford a means for turning the rod to tighten the same. The construction of the tie-sections is the same as aforescribed.

In the practice of the invention it will be

noted that various slight changes may be made in the details of construction without departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a metallic tie and rail fastener, tie-sections carrying outside fish-plates on their upper faces and being cut away at their inner ends, blocks fitted in said cut-away portions and provided at their inner ends with lugs to engage in notches in the tie-sections, connecting-bar having its ends engaging the ends of said blocks, and means connecting said tie to the tie-sections, substantially as described.

2. In a metallic tie and rail fastener, a pair of tie-sections each provided on its upper face with an outside fish plate or bar, a block fitted into each tie-section and provided with an inside fish plate or bar, and detachable tying means connecting the tie-sections together, substantially as described.

3. A metallic tie and rail fastener comprising outer tie-sections, inner fastening members, means engaging said inner fastening members, and means operated by said first-named means for drawing said tie-sections toward each other to secure the track-rails in place, substantially as described.

4. A tie formed of a plurality of spaced-apart sections, removable blocks arranged therein, a securing means engaging the ends of said blocks, and a flexible means connected to said first-named means and the tie-sections respectively.

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

JOSEPH F. LEVER.

Witnesses:

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