

P. MONSON.
TIE ROD CONNECTION.
APPLICATION FILED APR. 4, 1908.

914,496.

Patented Mar. 9, 1909.

Fig. 1

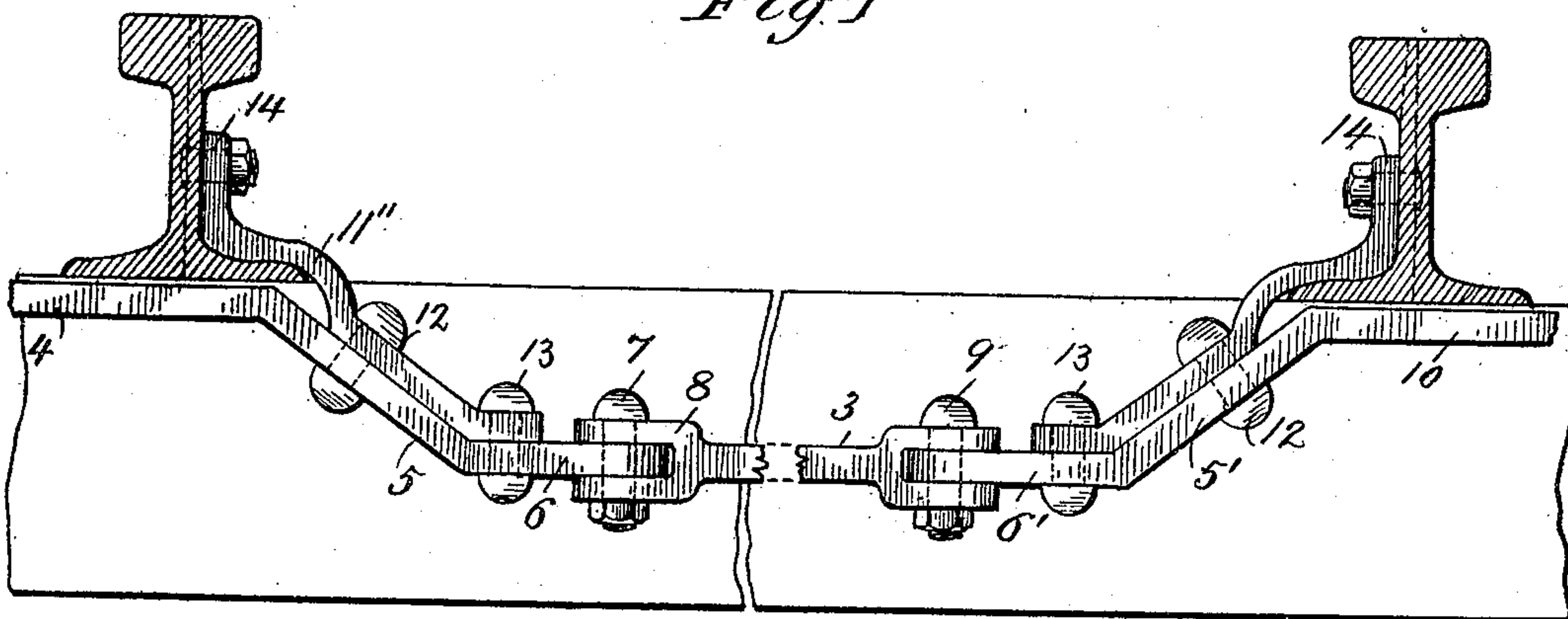


Fig. 2.

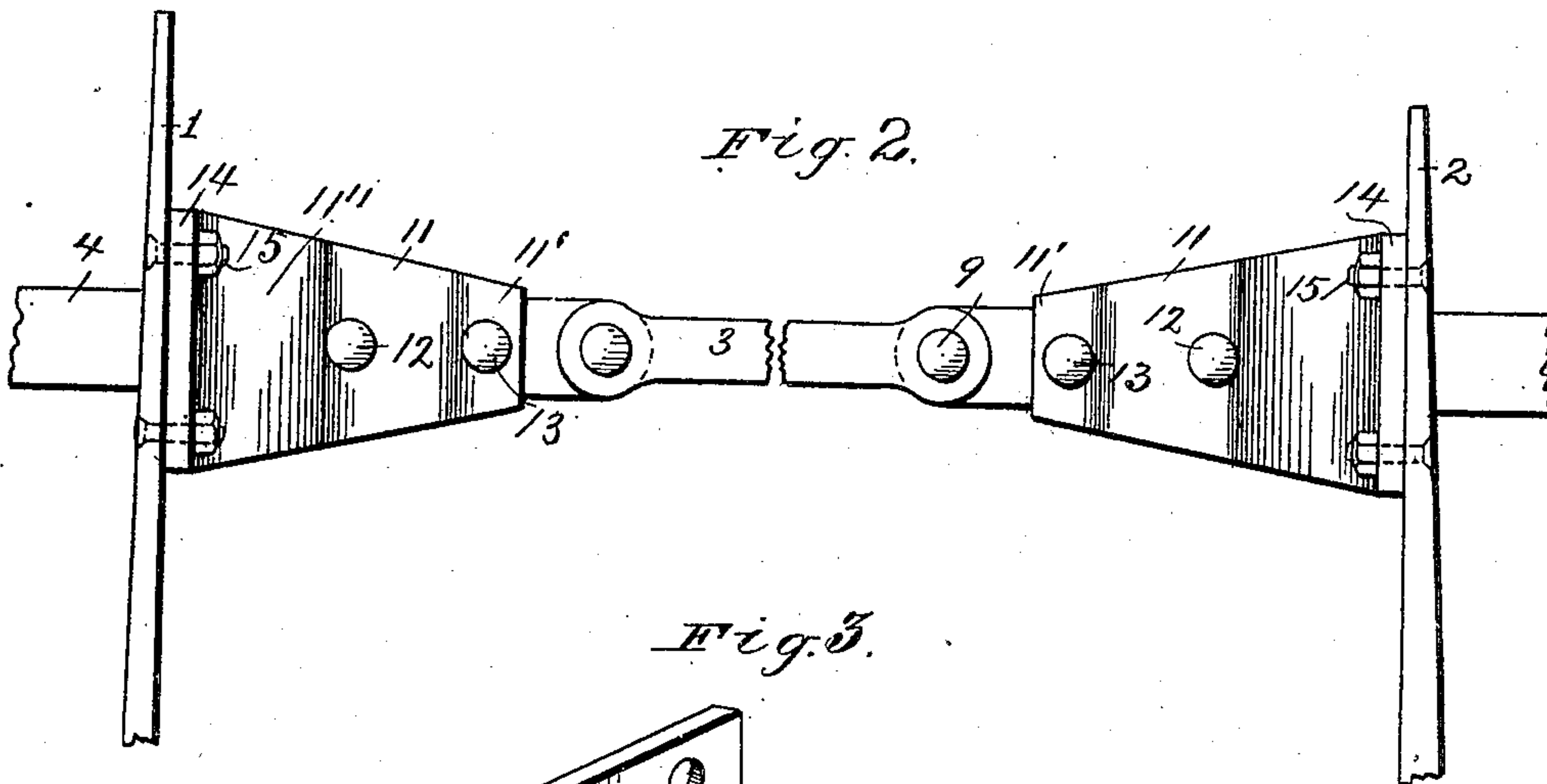
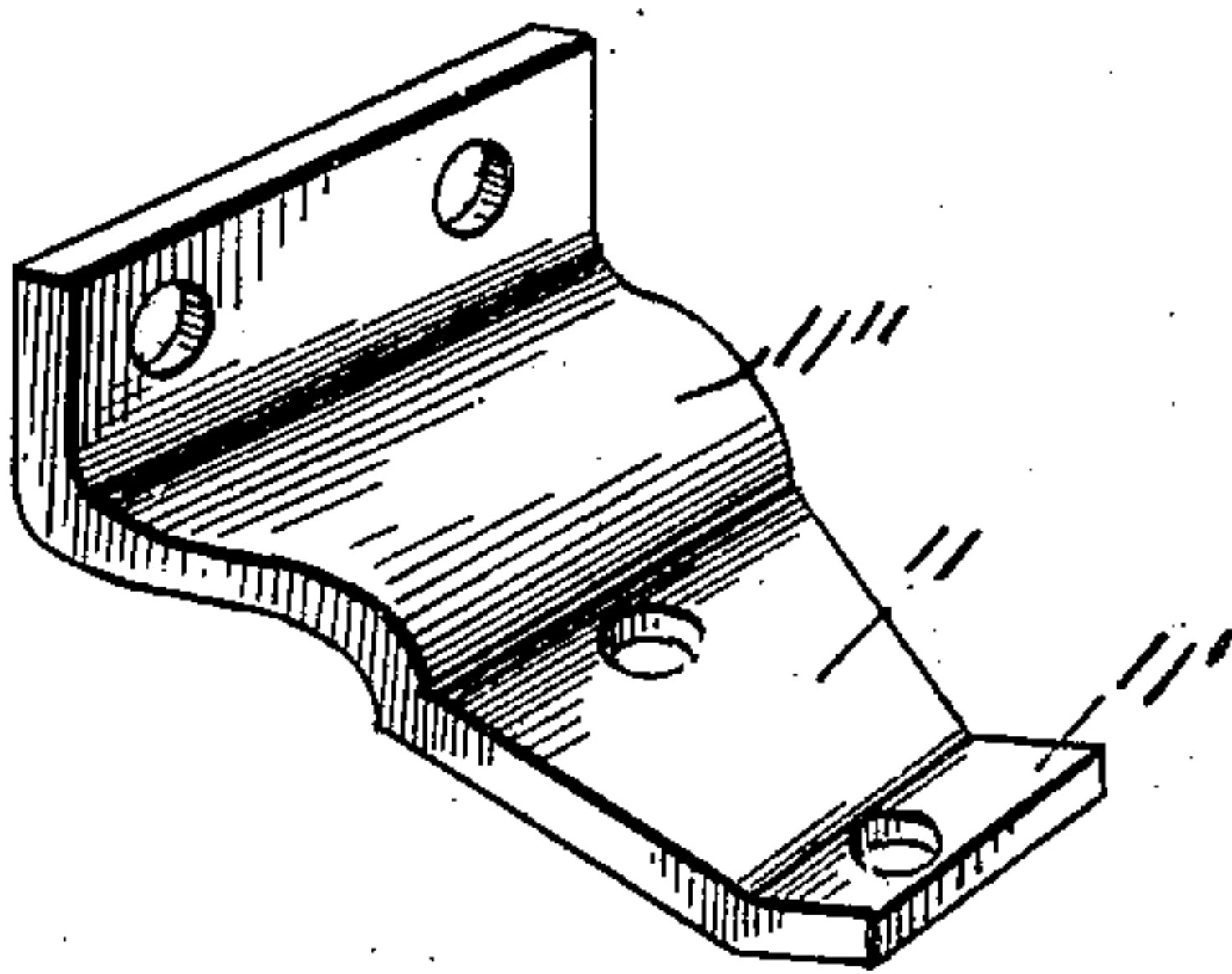


Fig. 3.



Witnesses

M. A. Beeler
H. R. Edelen.

Inventor

P. Monson.
Beeler & Robb

By

Attorneys

UNITED STATES PATENT OFFICE.

PETER MONSON, OF YUMA, ARIZONA TERRITORY.

TIE-ROD CONNECTION.

No. 914,496.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed April 4, 1908. Serial No. 425,163.

To all whom it may concern:

Be it known that I, PETER MONSON, a citizen of the United States, residing at Yuma, in the county of Yuma and Territory of Arizona, have invented certain new and useful Improvements in Tie-Rod Connections, of which the following is a specification.

As is well known in the common construction of railway switches, the switch rails which are thrown in order to open or close a switch with respect to the main track, are connected by a switch or tie rod. The tie rod is usually arranged above the surface of the ties of the track and is often bent, or otherwise injured, by being struck by objects hanging from trains passing over the switch. Very frequently a defective switch is caused in the above manner and by reason of the same wrecks are often incurred.

The present invention relates to the construction of the switch parts whereby the tie rod connecting the switch rails is arranged quite a distance beneath the surface of the cross ties of the track so that it is protected thereby and cannot be injured or otherwise thrown out of working condition, in the manner above described.

For a full understanding of the invention and the advantages and mode of operation thereof, reference is to be had to the following detail description and to the several figures of the drawings, in which,

Figure 1 is a vertical longitudinal sectional view showing switch rails and operating means therefor embodying my invention; Fig. 2 is a top plan view, and Fig. 3 is a detail perspective view of one of the attachment plates used for securing the switch rails to the switch bar and the switch plate.

Similar reference characters refer to similar parts throughout the description and on the several views of the drawings.

Referring to the drawings the numerals 1 and 2 denote the switch rails or tongues, the same being of the ordinary type, the customary tie rod 3 being employed to connect said rails.

My invention comprises essentially the peculiar connecting members by which the switch rails 1 and 2 are attached or connected with the tie rod 3. The switch rail 1 rests upon the usual switch bar 4 which is connected with the switch stand, or with any other suitable means, in the well known manner. One end of the switch bar 4 is formed

with a downwardly inclined arm 5 provided at its lower end with a horizontal extension 6. The outer end of the extension 6 is connected by a bolt or similar fastening 7 with the adjacent bifurcated end 8 of the tie rod 3. The opposite end of the tie rod 3 is also bifurcated and connected by a fastening 9 with the extension 6' of an arm 5' which inclines downwardly from the switch plate 10 located beneath the switch rail 2. The switch bar 4 and the switch plate 10 are both slidably mounted upon the cross ties of the road bed in the customary way.

Secured to the portions 5 and 6 of the switch bar 4 is an attachment plate 11 comprising an inclined body connected with the arm 5 by a rivet or similar fastening 12, and another fastening 13 secures an angular extension 11' of the plate 11 to the extension 6 of the arm 5. The attachment plate 11 is comparatively wide at its upper end and tapers toward its lower end. At its upper portion the plate 11 curves upwardly and laterally and is formed with a transverse flange 14 at its uppermost portion, a curved portion 11'' of the plate conforming with the shape of the adjacent basal portion of the switch rail 1. Suitable bolts or fastenings 15 are employed to secure the flange 14 of the plate 11 to the web of the switch rail 1, said flange 14 having a firm broad bearing against the rail as will be readily apparent. An attachment plate 11 is also employed to secure the arm 5' and extension 6' of the switch plate 10 to the switch rail 2. The manner of attachment of the plate 11 connecting the plate 10 and the rail 2, being the same as the connecting means between the rail 1 and plate 11, such is not substantially described. The securing means by which the members 11 are connected with the rails 1 and 2, and with the bar 4 and plate 10, is such that the tie rod 3 is arranged a considerable distance below the surface of the ties of the road bed, as well as below the horizontal plane of the members 4 and 10. Furthermore such securing means is effective in affording a substantial connection between the switch rails and the tie rod 3, without the necessity of modifying the construction of the various operating parts which are ordinarily connected with the switch rails for actuation thereof.

The many advantages of the invention will be appreciated from the foregoing.

Having thus described the invention, what is claimed as new, is:

In switch construction the combination of switch rails, a switch bar arranged beneath one of said rails and having one end thereof provided with a downwardly inclined arm having a horizontal extension projecting therefrom, a switch plate arranged beneath the other switch rail and also having a downwardly inclined arm provided with a horizontal extension, a tie rod having its opposite ends connected with the respective extensions in the arms of the switch bar and switch plate, and attachment plates connecting the downwardly inclined arms of the switch bar and switch plate with the switch rails, each attachment plate consisting of a downwardly

inclined body secured to the inclined arm adjacent to which it is disposed and having its upper portion curved upwardly and laterally to engage over the basal portion of the adjacent switch rail, said upwardly curved portion being formed with a vertical flange, and fastenings connecting the vertical flanges of the attachment plates with the switch rails, said attachment plates being broad at their upper portions and tapering toward their lower portions.

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

PETER MONSON.

Witnesses:

JOHN NADIN,
ALBERT C. BYRNES.