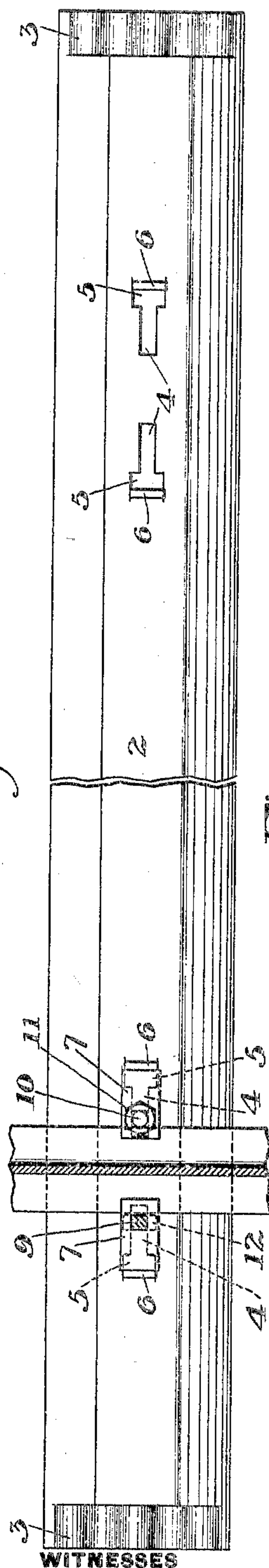


H. T. PORTER.
RAIL FASTENING.
APPLICATION FILED MAR. 10, 1903.

Fig. 1.



WITNESSES

Warren U. Swartz
J. M. Corwin

Fig. 2.

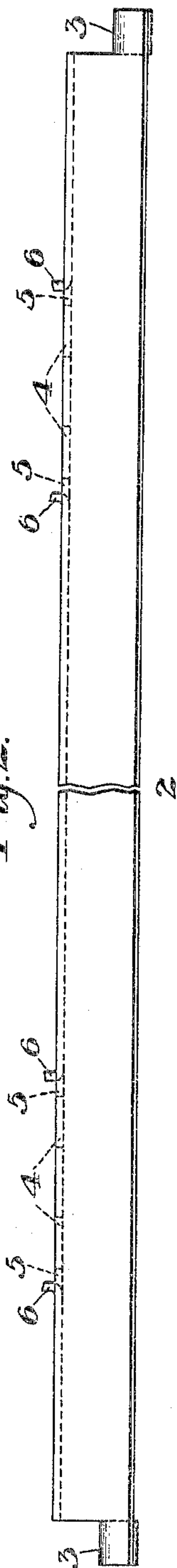
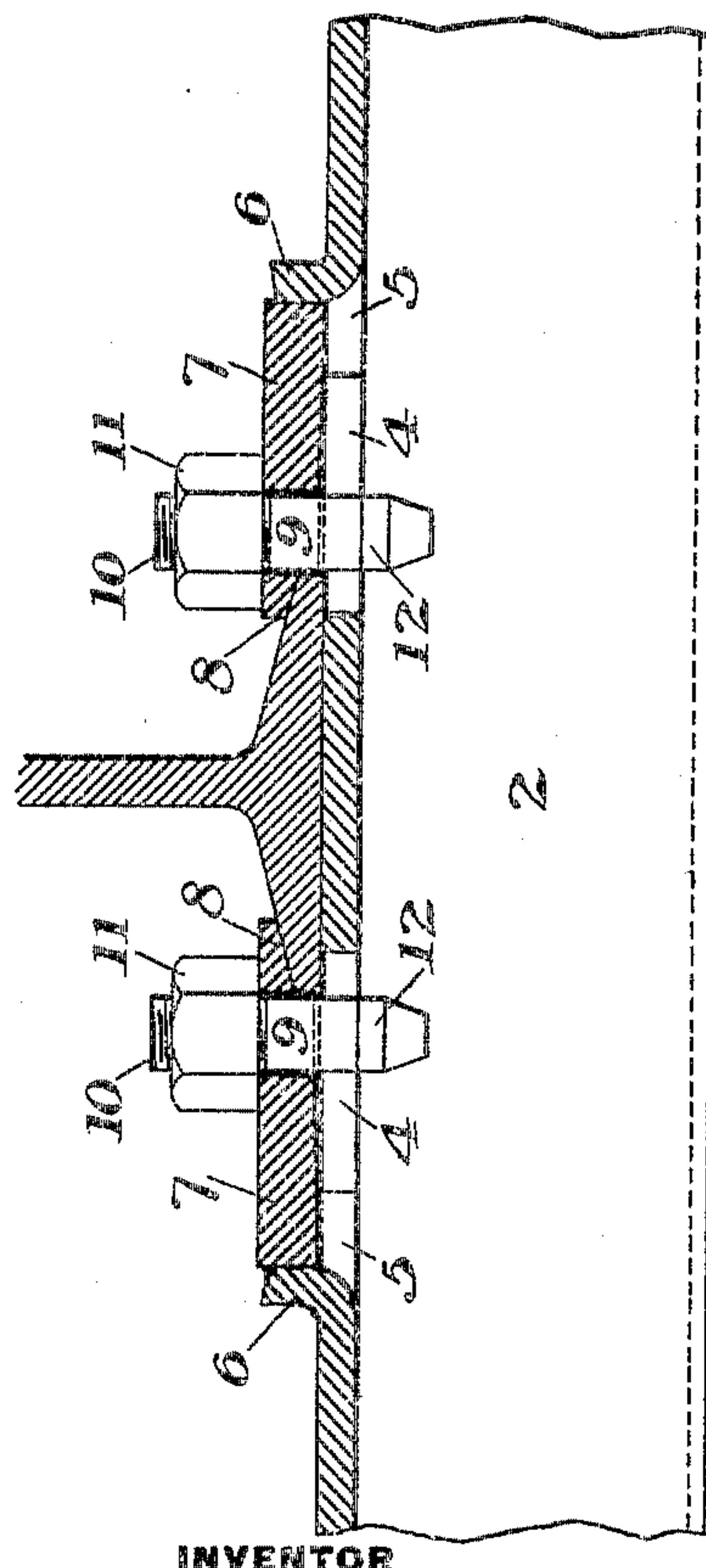


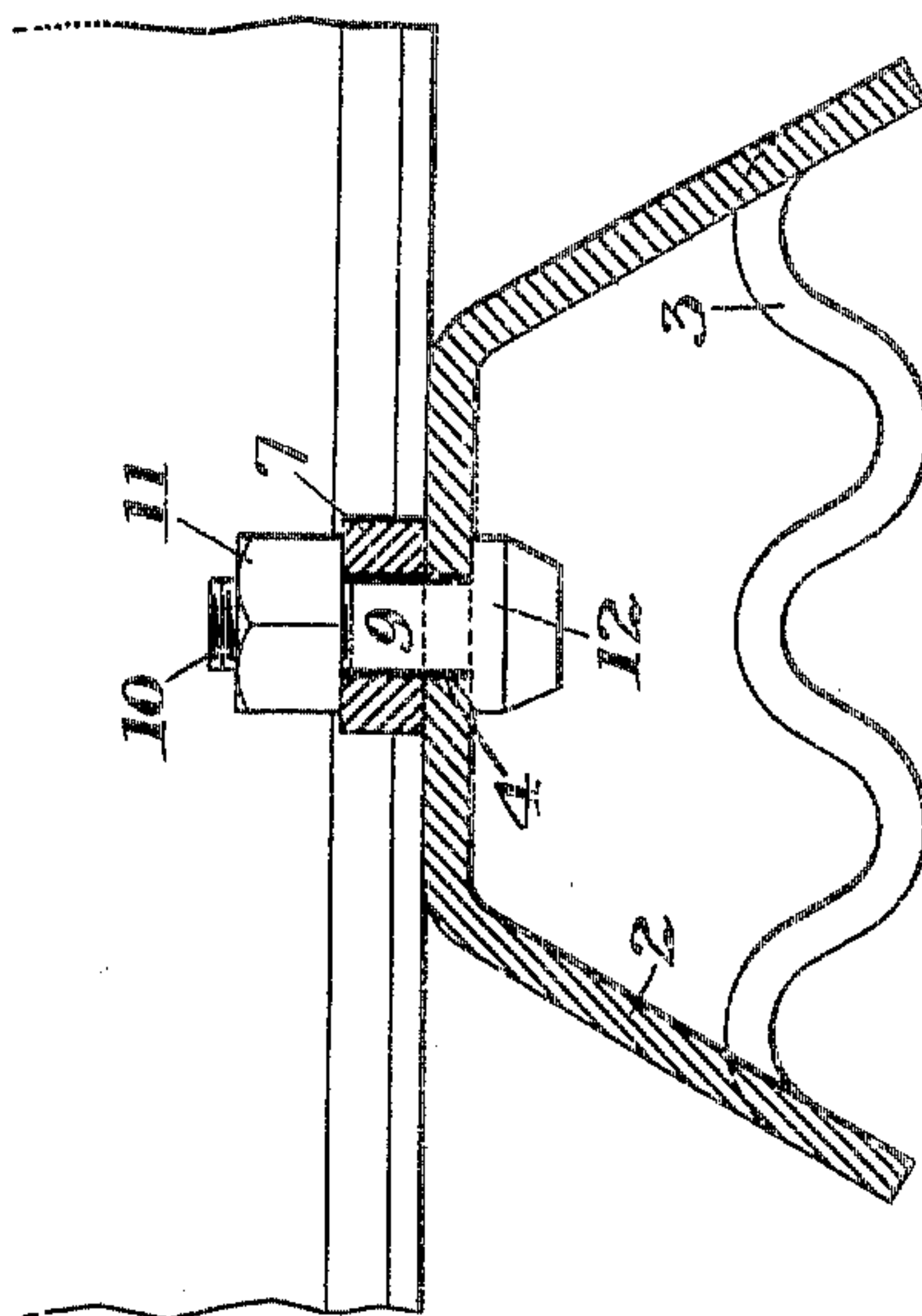
Fig. 3.



INVENTOR

Henry T. Porter
by Wallace R. Myers
his atty

Fig. 4.



UNITED STATES PATENT OFFICE.

HENRY T. PORTER, OF GREENVILLE, PENNSYLVANIA.

RAIL-FASTENING.

SPECIFICATION forming part of Letters Patent No. 793,905, dated July 4, 1905.

Application filed March 10, 1903. Serial No. 147,087.

To all whom it may concern:

Be it known that I, HENRY T. PORTER, of Greenville, in the county of Mercer and State of Pennsylvania, have invented a new and useful Rail-Fastening, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view, partly broken away, of a steel tie provided with my improved fastening. Fig. 2 is a side elevation of the same. Fig. 3 is a partial longitudinal section on a larger scale, and Fig. 4 is a cross-section through the clip.

My invention relates to the fastening of railroad-rails to steel ties and is designed to provide an improved device of simple construction which may be cheaply made and readily applied and detached.

In the drawings, 2 represents a steel tie of inverted-trough shape having end portions 3 3, which are cut and bent down in the manner described in my Patent No. 714,820, dated December 2, 1902. It will be understood, however, that the fastening may be applied to any form of steel tie. At the points where the rails extend across the tie I provide pairs of T-shaped slots, each having the inner narrow portion 4 and the outer enlarged hole 5. These slots are cut through the body of the tie, and I preferably bend up a portion of the material at the outer end of the slot or hole into the lugs 6, thus providing a backing or stop for the clip 7. This clip consists of a rectangular metal plate having a beveled end portion 8 arranged to rest upon the base-flange of the rail and having a square bolt-hole back of this inclined portion. The square bolt-hole in the clip is arranged to fit about the square stem 9 of the bolt 10, having its upper portion of cylindrical form and provided with screw-threads to receive the nut 11. The lower integral head 12 of this bolt is preferably of T shape, being considerably longer than its width and preferably tapered toward its lower end, as shown.

In assembling the parts the stem of the bolt is slipped through the hole in the clip-plate and the nut started on. The head of the bolt is then slipped down through the larger hole

or portion of the slot 5 and the clip and bolt are then slid forward until the square neck of the bolt enters the narrow portion 4 of the slot and the rear end of the clip-plate drops in front of the lug 6. In this position the inclined face of the clip-plate rests on the rail-flange and the nut is then screwed tight, drawing the head firmly against the lower face of the tie at the sides of the slot.

The advantages of my invention result from the use of the slot with the enlarged hole at its outer end. This allows any section of rail to be used, and any variation of gage for curves can be made without change by using clips of different lengths. The elongated head of the bolt will drop down through the enlarged hole and the use of a bolt with a square stem extending through the slot and through the square hole in the clip-plate up to the cylindrical threaded part aids in holding the parts in place. The clip thus gives a reliable and permanent fastening means, especially in connection with the turned-up lug on the tie, which prevents backing off of the plates.

Many variations may be made in the form and arrangement of the tie, the slots, and the bolt-fastenings without departing from my invention.

I claim—

1. In a rail-fastening, a tie having a slot with an enlarged portion at the end remote from the rail position, a struck-up lug adjacent to the enlarged portion of said slot, a clip-plate arranged to contact with said lug and the rail-base, and a bolt adapted to pass through said clip and said slot to secure the parts; substantially as described.

2. In a rail-fastening, a tie having a slot, an integral lug formed from the metal displaced from the slot, a clip-plate contacting with said lug and the rail-base, and a square-shanked bolt passing through said slot and clip to secure the parts; substantially as described.

3. In a rail-fastening, a tie having a slot with an enlarged portion at its outer end, an integral lug formed from the metal displaced from said slot, a clip-plate arranged to rest over the slot and against said lug and the rail-base, and a bolt extending through said clip-plate and having a head arranged to pass

through the enlarged portion of the slot and engage the walls of said slot; substantially as described.

4. In a rail-fastening, a slotted tie having a
5 lug adjacent to said slot, a clip-plate having a square hole resting over the slot in the tie and against the lug thereof, a bolt having a square shank engaging both the clip and the tie-slot, and a nut on the upper end of said bolt for se-
10 curing the parts; substantially as described.

5. A tie having a slot with an enlarged hole at its outer end, and a struck-up lug at the

outer edges of the hole; a clip-plate having an end abutting against the lug, and a bolt extending through the clip-plate and having a
15 head arranged to drop through the enlarged hole and engage the walls of the slot; substantially as described.

In testimony whereof I have hereunto set my hand.

HENRY T. PORTER.

Witnesses:

E. J. RANDALL,

E. E. McCracken.