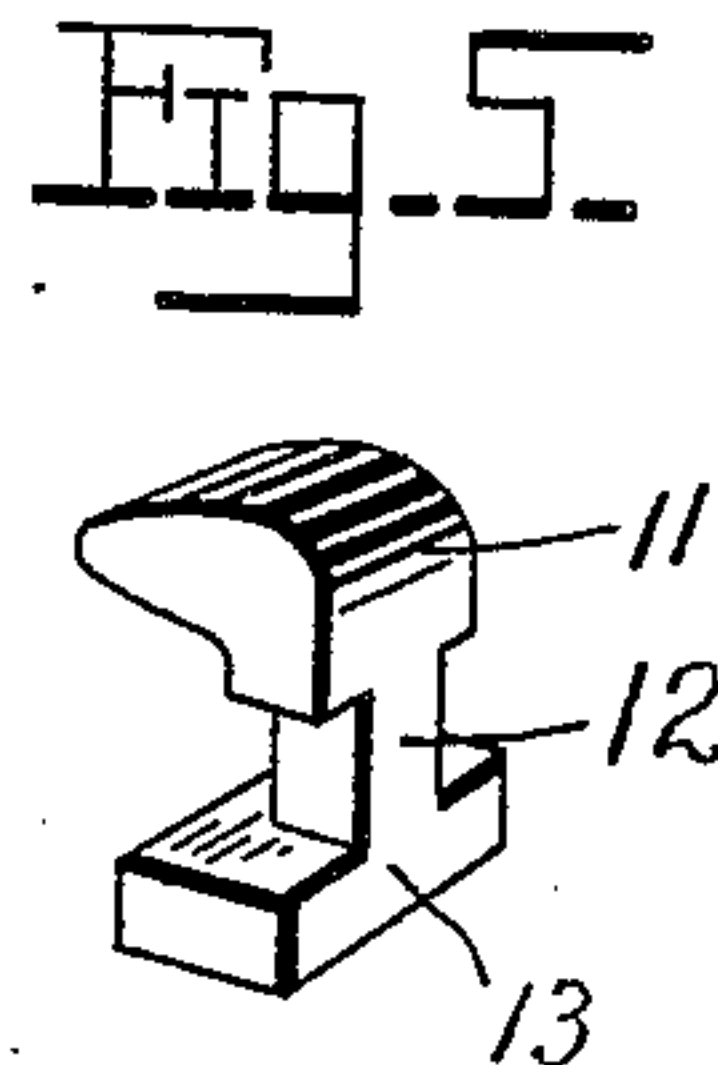
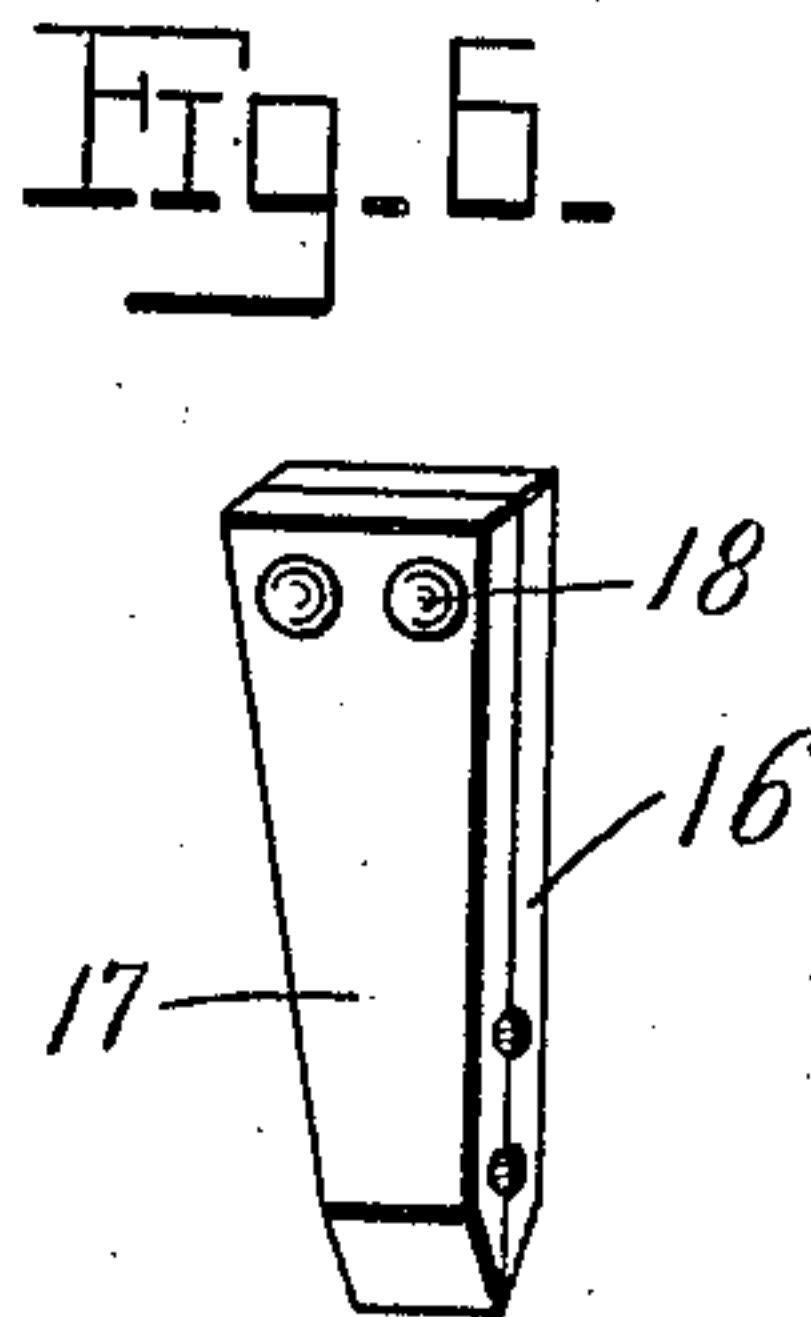
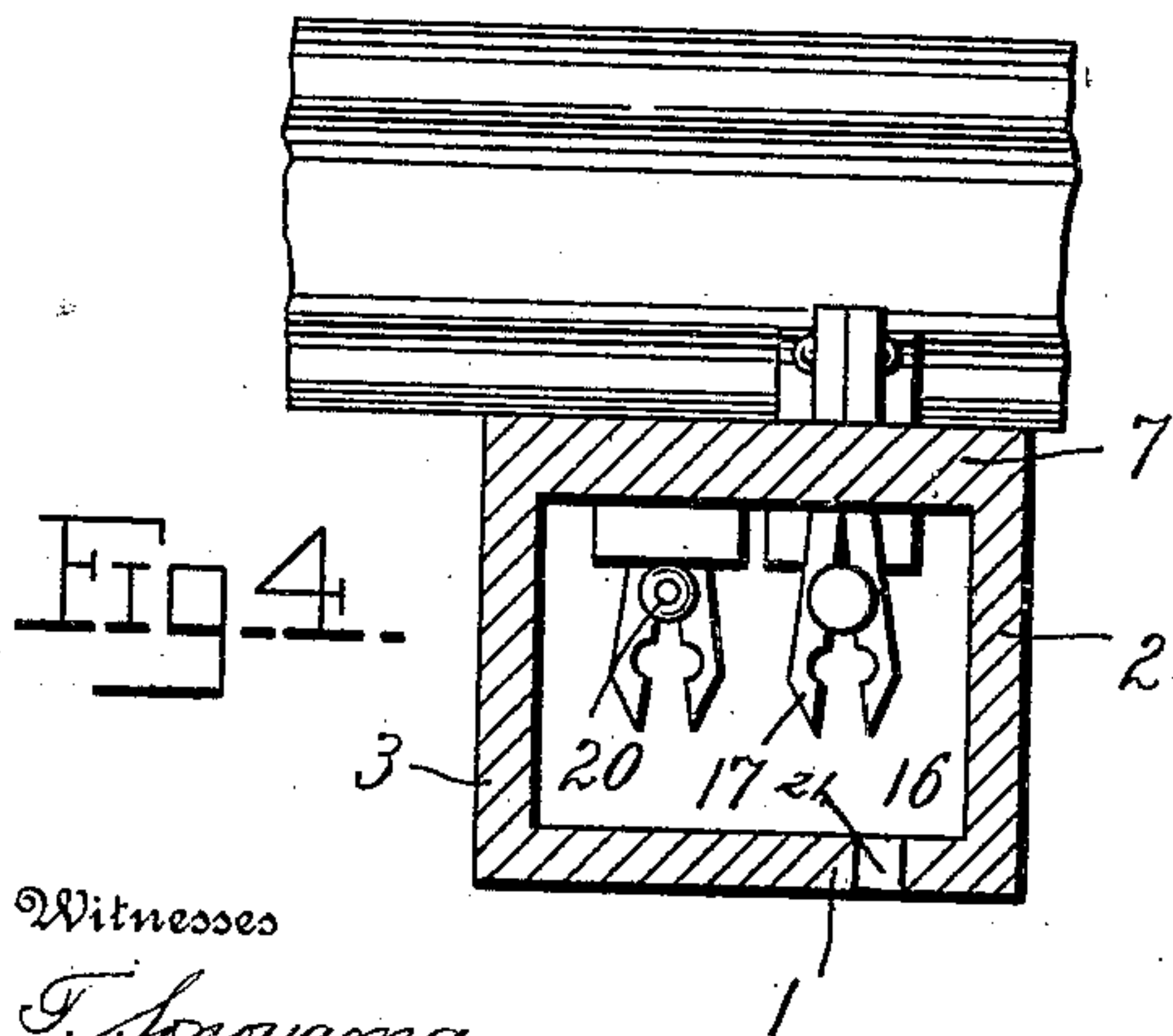
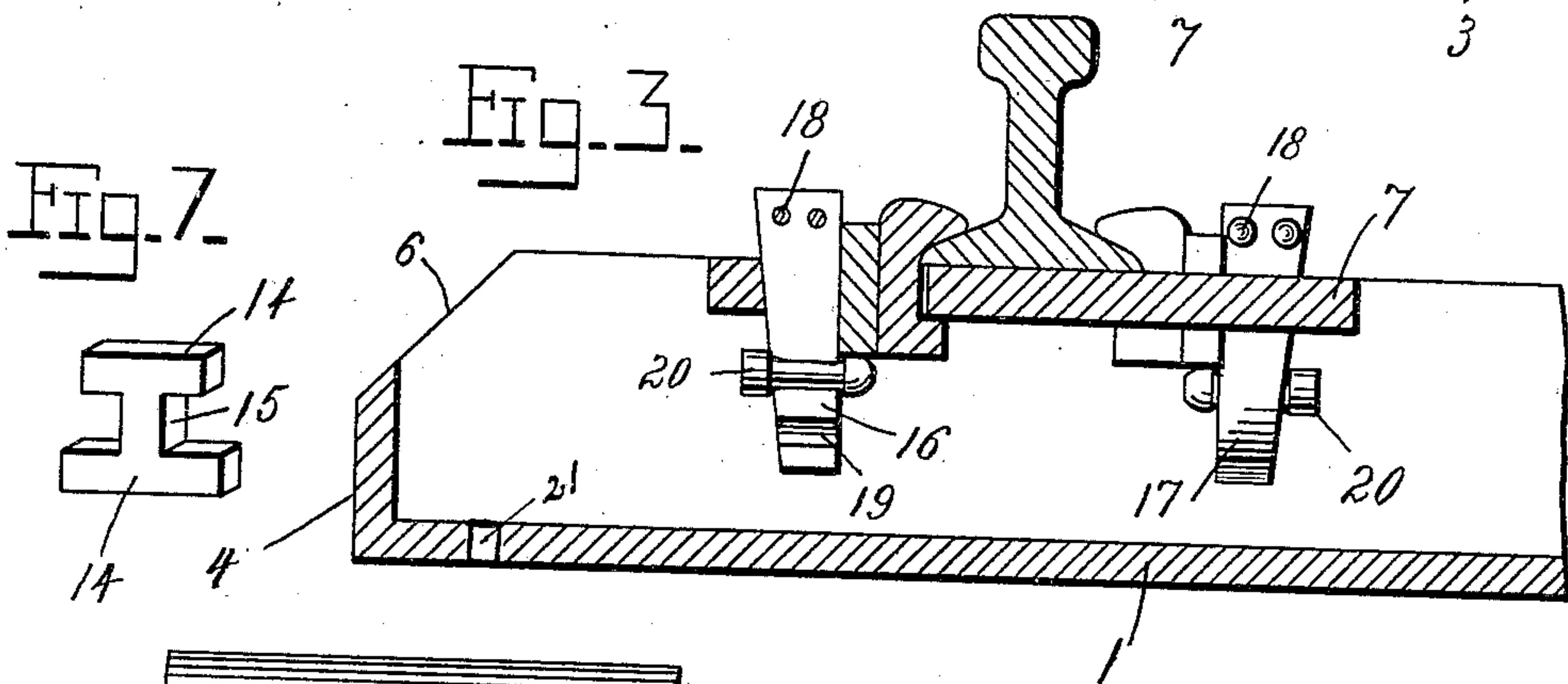
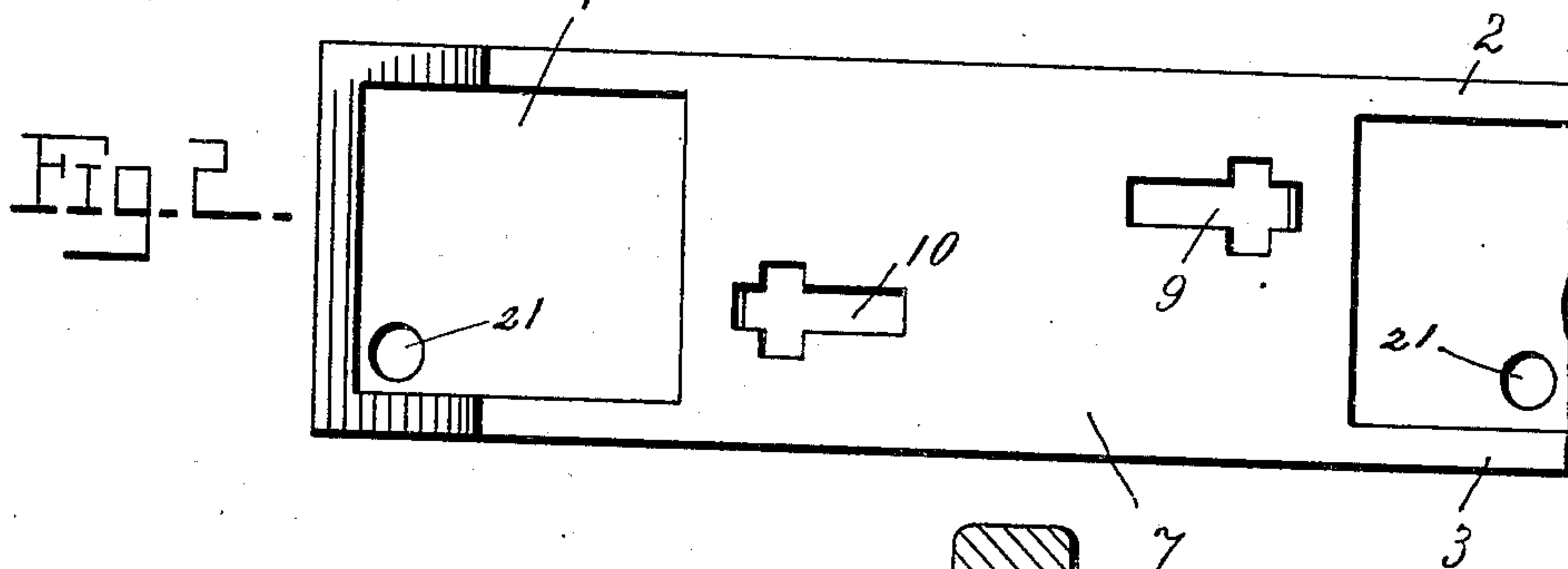
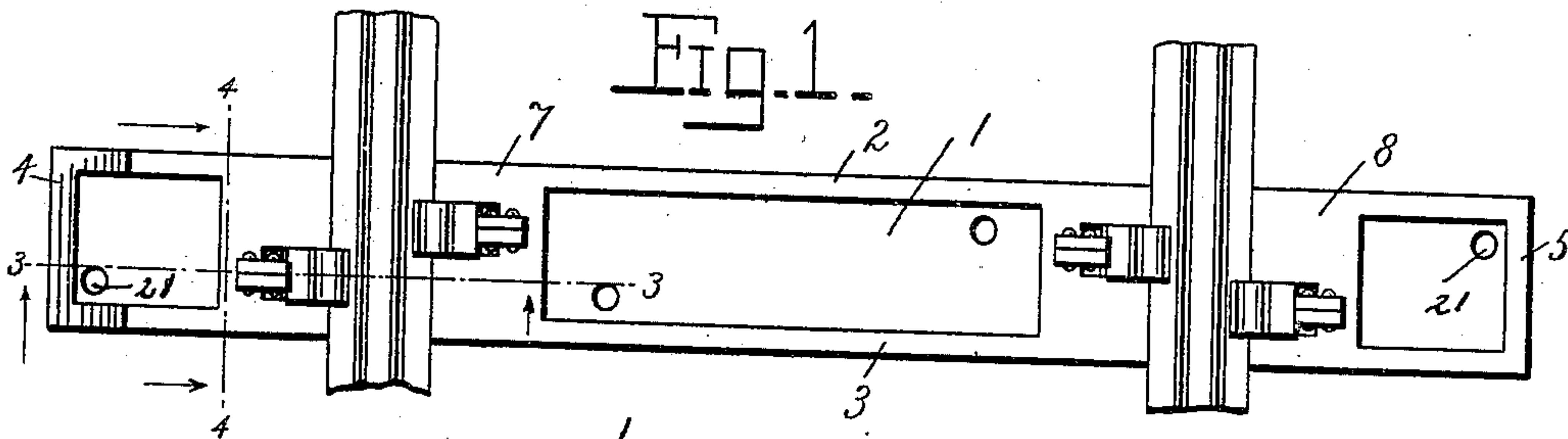


H. W. SNYDER & C. M. CRONK.
METALLIC RAILWAY TIE.
APPLICATION FILED NOV. 23, 1908.

923,307.

Patented June 1, 1909.



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UNITED STATES PATENT OFFICE.

HENRY W. SNYDER AND CHARLES M. CRONK, OF MONTFORT, WISCONSIN.

METALLIC RAILWAY-TIE.

No. 923,307.

Specification of Letters Patent.

Patented June 1, 1909.

Application filed November 23, 1908. Serial No. 464,136.

To all whom it may concern:

Be it known that we, HENRY W. SNYDER and CHARLES M. CRONK, citizens of the United States, residing at Montfort, in the county of Grant and State of Wisconsin, have invented certain new and useful Improvements in Metallic Railway-Ties, of which the following is a specification.

This invention relates to an improvement in metallic ties, and has for its objects to provide a tie of such a construction that it may be firmly embedded in the road bed and constitute a solid base for the rails to rest upon.

Another object is to provide a tie which will be comparatively light in weight, simple in construction and to reduce the cost of construction to a minimum.

Still a further object is to provide an improved means for fastening the rails to the ties, the construction being such that the rails may be readily fastened without the use of the usual bolts, thereby permitting the same to be readily disengaged at any time since the rust produced by exposure to the elements will not in any way bind the fastening members.

With these and other objects in view, the present invention consists in certain novel details of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the appended claim, it being understood that various changes in the form, proportion, size and minor details of the device, may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings forming part of this specification, Figure 1 is a plan view of our improved tie and fastenings. Fig. 2 is a detailed plan view of the rail seat. Fig. 3 is a longitudinal section taken on line 3—3 Fig. 1. Fig. 4 is a cross section taken on line 4—4 Fig. 1. Fig. 5 is a detailed perspective view of the rail engaging member. Fig. 6 is a similar view of the locking member. Fig. 7 is a perspective view of the follower.

Similar numerals of reference are employed to designate corresponding parts throughout.

In the construction illustrated, the tie shown is preferably formed of metal, or other suitable material cast or otherwise formed, and consists of a base plate 1 substantially rectangular in marginal contour, from the longitudinal sides of which, rise the side

plates 2, and 3, the upper edges of which are at their opposed terminals, beveled as shown at 6. The end plates 4 and 5 rise from the opposed ends of the base plate 1 and have their upper edges beveled and in a plane with the beveled edge of the side plates as shown in Fig. 3. The rail plates 7 and 8 are cast integral or otherwise secured to the inner faces of the side plates and in a plane with the upper edges thereof, and are of a length considerably greater than the width of the base flange of an ordinary rail; these plates are disposed on either side of the horizontal centers of the bases and side plates and the distance between their opposed inner ends is sufficient to form an oblong opening as shown in Fig. 1, while their outer ends extend to a point adjacent the terminals of the side walls. With this construction it is obvious that a tie has been formed provided with a central and end openings, the functions of which will appear later.

The rail plates are each provided with a pair of openings 9 and 10, substantially the shape of a Latin cross. These openings are diagonally opposite each other, and are so disposed that the portion corresponding to the tree of a cross extends in the direction of the plate's length, while that part corresponding to the arms of a cross lies adjacent the terminals of the plate. The distance between the inner terminals of the longitudinal openings is designed to be slightly less than the width of the base flange of an ordinary rail, so that when the latter are placed upon the plates as shown in Figs. 1, 3, and 4 the opposite edges of the flange will extend over a portion of the openings. These openings form a reception for the rail fastening devices which in the present instance consists of three parts, and a description of each in the order of application will now be given:—

The rail engaging member is preferably formed of metal and consists of an oblong head portion 11, one end of which is thickened and the opposed faces of which converge toward the opposite end. The thickened end of the head is centrally provided on the lower face with a shank 12, considerably less in length and width than the head and one face of which lies in a plane with the thickened end of the head. The shank terminates in a rectangular base 13, the opposed ends of which lie equal distances from the opposed faces of the shank and in a

vertical plane with the sides of the head 11. The length of the base 13 is slightly less than the length of the transverse portion of the openings 9 and 10. While the width of the shank 12, is slightly less than the width of the longitudinal part of the said openings, so that when the base is inserted into the opening, the rail engaging member may be moved toward the inner terminal of the longitudinal opening until the lower face of the head 11 rests upon the flange of the rail to be secured, the construction being such that the length of the shank 12 will be slightly greater than the thickness of the rail plates in order that the head and base may move over the opposed faces thereof.

A follower (Fig. 7) is shown as being formed of a single piece of metal, and is substantially I shaped in marginal contour. The function of this member is to abut against the rail engaging member when the latter has been inserted into position, so as to reduce a portion of the remaining space, it being understood that the arms 14, and shank 15, are of a size to enter the cross shaped openings 9 in a manner similar to the engaging member.

A locking member is herein shown as consisting of a pair of metallic plates 16 and 17, of considerably greater length than the engaging member and the follower. These plates are substantially wedge shaped in marginal contour and are secured together at their bases by rivets 18. These plates are each provided on their opposed inner faces and adjacent their free ends with one or more horizontal grooves 19, so that when the inner faces of the plates are together as shown in Fig. 6 annular openings will be formed. These openings form a reception for a pin 20 of greater diameter than the openings, and

either end is provided with a head so that when the pin is driven into the opening, the free ends of the plates will spread apart as shown in Fig. 4. The heads of the pin 20 are beveled thereby to facilitate insertion and removal. The construction of this locking member is such that when the engaging member and follower have been inserted the small end of the member is then inserted into the openings 9 or 10 with its slant side facing that end of the opening adjacent that end of the terminal of the plate. It being understood that this end will be beveled to conform to the locking member. When the parts are in this position the locking member is driven as far as it will go into the opening, which depth is designed to be sufficient to permit the horizontal grooves 19 to lie beneath the lower ends of the rail engaging member and follower. The pin is now driven between the plates causing the latter to spread and lock the parts as shown in Fig. 4. Openings 21 are provided in the plate 1 whereby to permit drainage.

What is claimed as new is,—

A metallic tie embodying a base plate, side and end plates, rail plates interposed between said side plates and in a plane with the upper edges thereof, said rail plates being provided with diagonally opposite cross shaped openings, adapted to receive a locking device for securing a rail to said tie, substantially as described.

In testimony whereof we affix our signatures, in presence of two witnesses.

HENRY W. SNYDER.
CHARLES M. CRONK.

Witnesses:

FRANK E. PARISH,
CHAS. PARISH.