

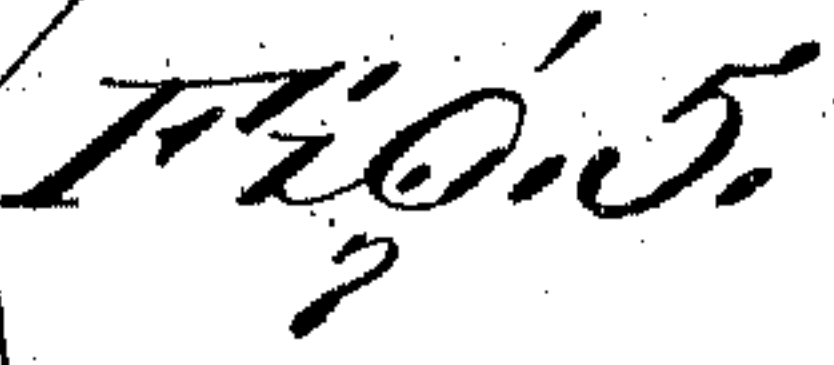
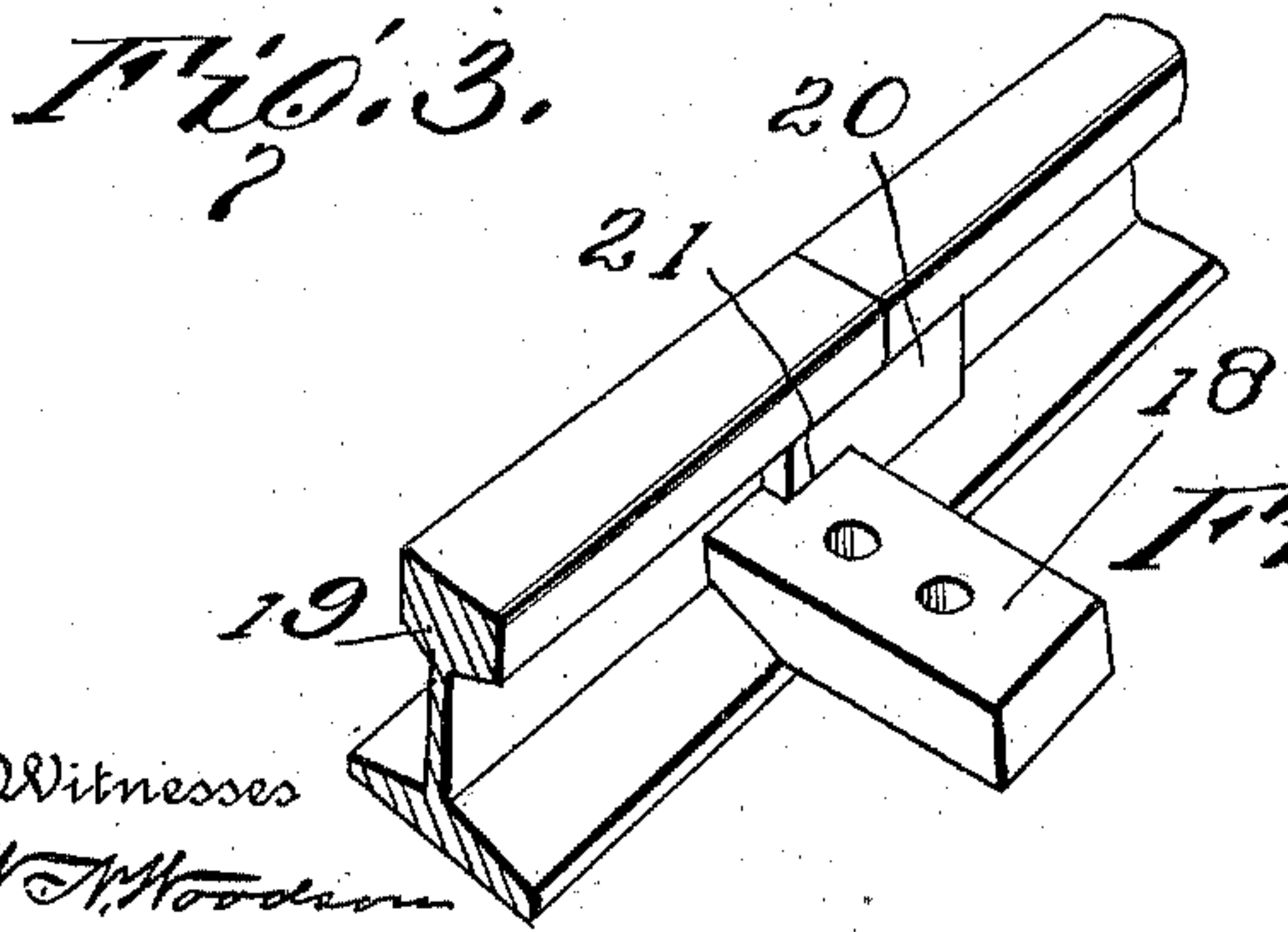
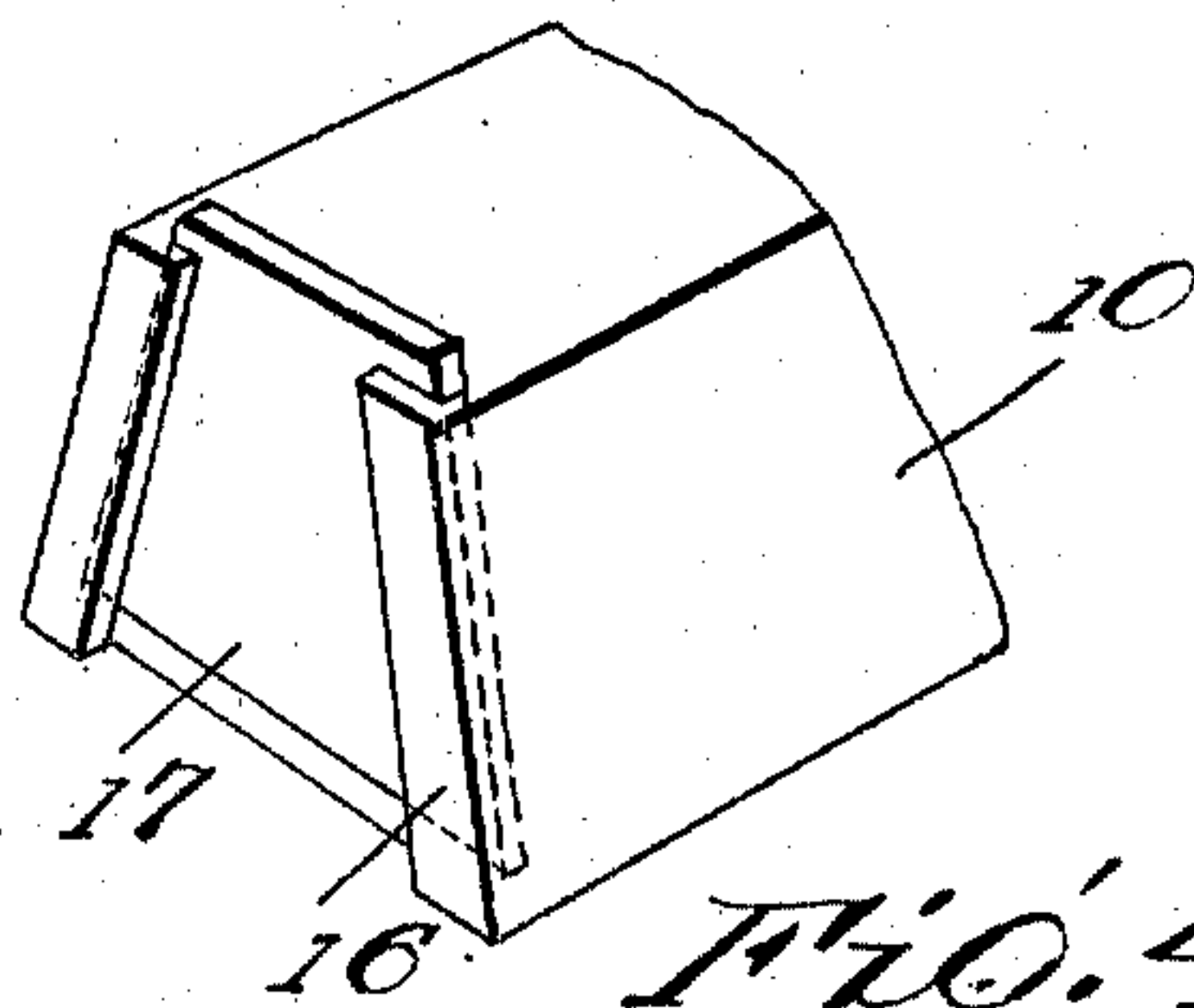
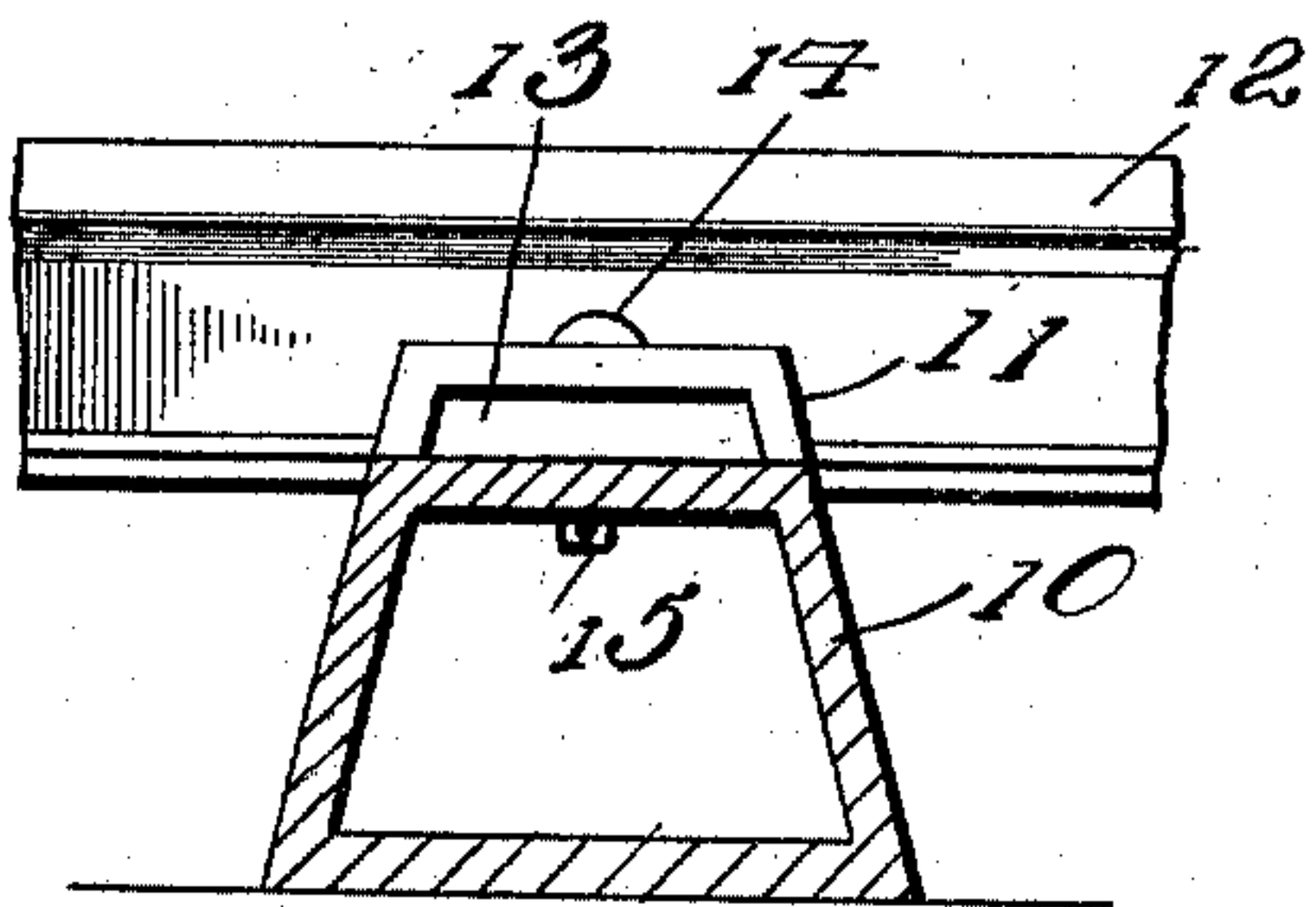
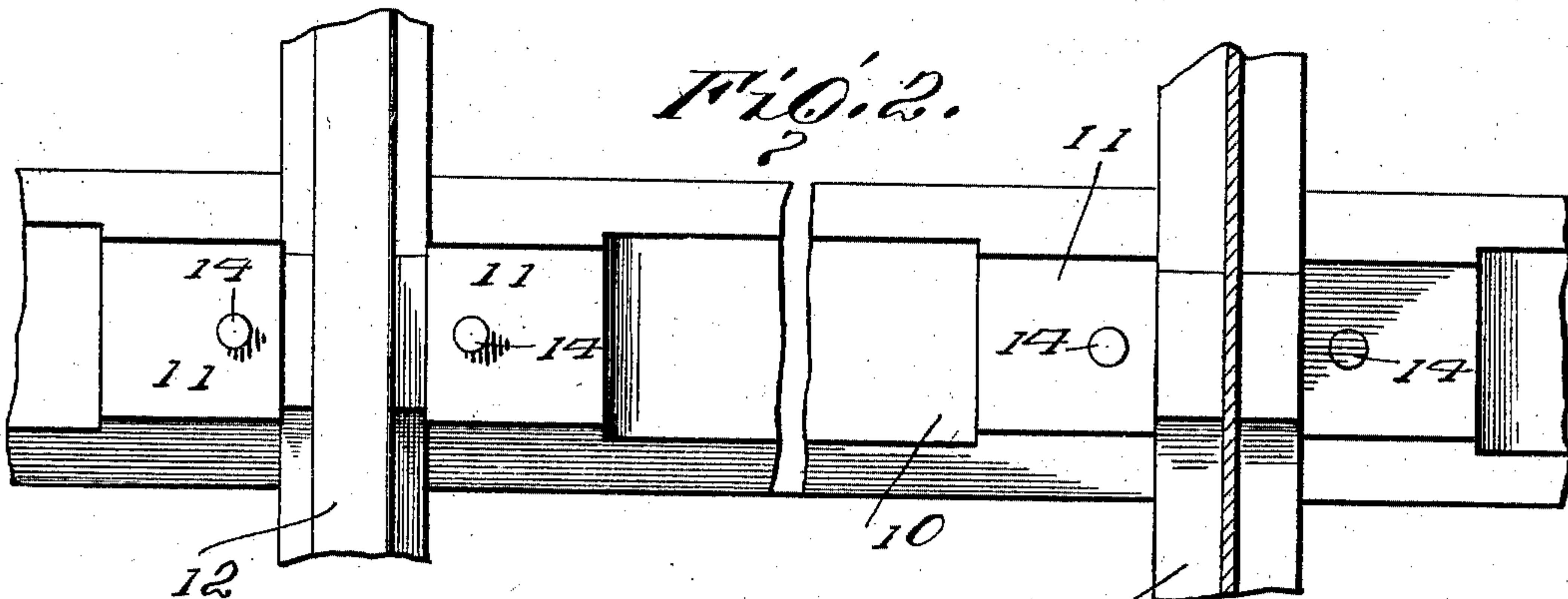
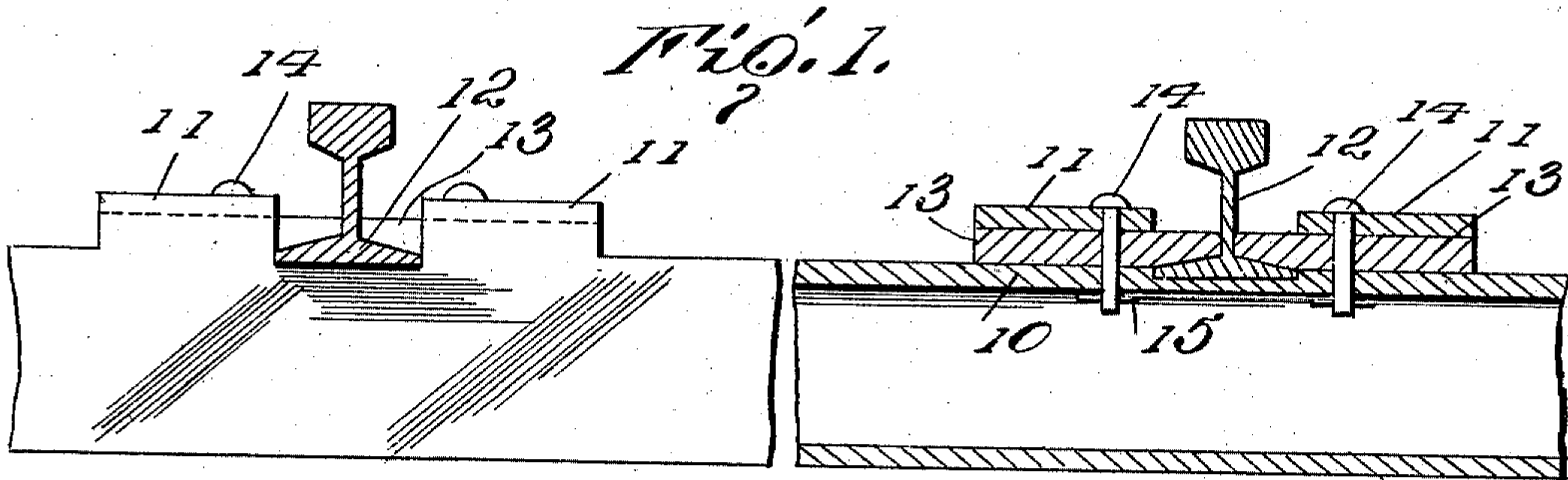
R. A. FINLEY & J. S. GLASPY.

METALLIC TIE.

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966,895.

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UNITED STATES PATENT OFFICE

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METALLIC TIE.

966,895.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, ROSS A. FINLEY and JOHN S. GLASPY, citizens of the United States, residing at Glencoe, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Metallic Ties, of which the following is a specification.

This invention relates to railroad ties and refers particularly to an improvement in that class of such devices which are known as metallic ties.

An object of the invention is to provide a tie with an improved means for securing a rail thereto, such fastening means being adapted to be entirely removed from the rail so as to admit of the dropping of the tie from the rail without any lateral displacement of the rail whereby the tie may be quickly and easily withdrawn.

This invention has for another object the provision of sliding blocks on a tie to engage a rail, and guides formed on the tie to house the blocks for their protection, and also to provide a fastening means which comprises but few parts which are of substantial formation and are adapted for such coöperation that a practical locking means is effected between the tie and the rail.

A further object of this invention is to provide means in conjunction with a metallic tie for preventing the spreading and overturning of the rails when supporting a considerable weight.

For a full understanding of the invention reference is to be had to the following description and accompanying drawing, in which:—

Figure 1 is a side elevation of the improved tie having rails secured thereto, part of the tie being disclosed in section. Fig. 2 is a top plan of the same, disclosing one of the rails in section. Fig. 3 is an end view of the improved tie supporting a rail thereon. Fig. 4 is a detail perspective view of one end of the tie, and Fig. 5 discloses a slight modification in the formation of the locking or sliding block.

Corresponding and like parts are referred to in the following description and indicated in all the views of the accompanying drawing by the same reference characters.

Referring to the drawing the numeral 10 designates the body portion of the tie which comprises an elongated hollow member

formed from metal and having the opposite sides thereof converged toward the upper face of the tie. Upon the upper face of the tie are arranged in pairs, and adjacent the opposite ends of the tie, guides 11 which are in the form of channel members or housings which extend the entire width of the upper face of the tie and are so reduced at their upper ends as to form a continuation of the body 10. The inner adjacent ends of the guides 11 are spaced apart a distance equal to the width of the base of the rail 12, while the upper face of the tie 10 is recessed to receive the base of the rail 12 and to prevent the lateral movement of the same.

Within each of the guides 11 a sliding block 13 is mounted which is provided with a beveled under face to engage over the upper face of the base of the rail for the purpose of locking the same in the seat formed in the face of the tie. Each sliding block 13 is provided with a central aperture which is adapted to register with an aperture formed through the supporting guide 11 and the upper face of the tie 10 for the purpose of accommodating a bolt 14, which is transversely apertured at its lower end to receive a cotter-pin 15. From Fig. 1 it will be observed that the bolt 14 is disclosed in position through the guide 11, the locking or sliding block 13 and the upper face of the tie 10. It will be observed that the lower end of the bolt 14 projects slightly below the under face of the top wall of the body 10 and that the cotter-pin 15 is engaged snugly against the under face of the top of the tie. The apertures formed through the sliding blocks 13 are so arranged with respect to the outer ends of the blocks 13 that the beveled faces of the blocks snugly engage against the upper faces of the base of the rail 12 and that the adjacent extremities of the sliding blocks are positioned apart sufficiently to snugly engage with the opposite sides of the web of the rail 12.

From Fig. 4 it will be noted that the sides of the body 10 are provided with inturned flanges 16 at their ends which support a plate 17 which is positioned between the flanges and rests at its lower end upon the base of the body 10. The plate 17 is employed for the purpose of closing the end of the tie so as to prevent the access of water, mud, and the like when the tie is embedded to a considerable extent in the supporting

road-bed for the track. After the rails 12 have been secured upon the body 10 of the tie, the end plates 17 are positioned against the open ends of the body within the flanges 16. The flanges 16, at this time, extend outwardly in the plane of the sides of the tie. The plates 17 rest upon the bottom of the tie and are secured in position by turning the flanges 16 inwardly against the outer faces of the plates 17.

In Fig. 5 is disclosed a slight modification of the sliding block 18 which is provided with the beveled underface at one end to seat upon the upper face of the base of the rail 19 and against the web of the rail 19. In this figure is disclosed the meeting ends of the rails which are provided in the usual manner with fish-plates 20, and wherein the block 18 is recessed as at 21 to accommodate the end of the fish-plate 20 and to admit of the snug engagement of the end of the block 18 against the rail and the fish-plate at the same time. The recess 21 extends practically one-half of the distance across the end of the block 18 so as to insure a firm gripping surface for engagement against the web of the rail 19 and fish-plate 20.

When the tie 10 is to be positioned upon a track the road-bed beneath the track must be dug away in order to slide the tie longitudinally to a position beneath the rails 12. The tie can now be raised upwardly to engage the bases of the rails 12 in the transverse recesses formed in the upper face of the tie 10. The sliding blocks 13 are now forced inwardly toward one another to engage the opposite sides of the rails 12 when the bolts 14 are positioned and the tie is secured in place. To remove the tie the sliding blocks are released from the guides 11 when the tie 10 is permitted to fall downwardly a slight distance and to then be laterally withdrawn from the track. In these instances the rails 12 remain stationary without any lateral movement, and a tie is thus formed which can be secured at any point in the track without the necessity of disconnecting the rails from the permanent ties.

The structure of block 18 disclosed in Fig. 5 is employed at the rail joints to engage with the fish plates and to prevent the creeping of the rails by the binding of the ends of

the fish plates against the shoulders formed in the recesses in the ends of the blocks 18. The blocks 18, by their recessed construction, also serve to retain the rails at their meeting ends from displacement laterally and upwardly as well as from longitudinal movement or creeping.

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

1. A tie including a hollow body portion, flanges at the opposite ends of said body portion, plates loosely engaged against the ends of said body portion and within said flanges, channel members formed in pairs adjacent the opposite extremities upon said body portion, sliding blocks disposed in said channel members for engagement with rails, and locking bolts carried by said channel members and engaged through said blocks.

2. A tie including an upwardly tapering body having upwardly tapering guides formed in pairs thereon adjacent its ends providing continuations of the tapering body, blocks slidably disposed in the guides having beveled edges to snugly engage against the inner walls of said guides to prevent the lateral movement of the blocks, said blocks being formed at one end to seat against the sides of a rail, and means passing through the guides and engaged with the blocks for retaining the same against the rail.

3. A tie including a body having upwardly tapering sides and spaced guides arranged in pairs at its ends and upon its upper face to form continuations of the tapering sides, correspondingly formed blocks slidably positioned through the guides to engage the opposite sides of a rail, retaining bolts positioned through said guides, said blocks and the upper side of the body to hold the blocks in position, and keys disposed through the lower ends of said bolts for engagement against the inner face of the body to prevent the withdrawal of the bolts.

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

ROSS A. FINLEY. [L. s.]

JOHN S. GLASPY. [L. s.]

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