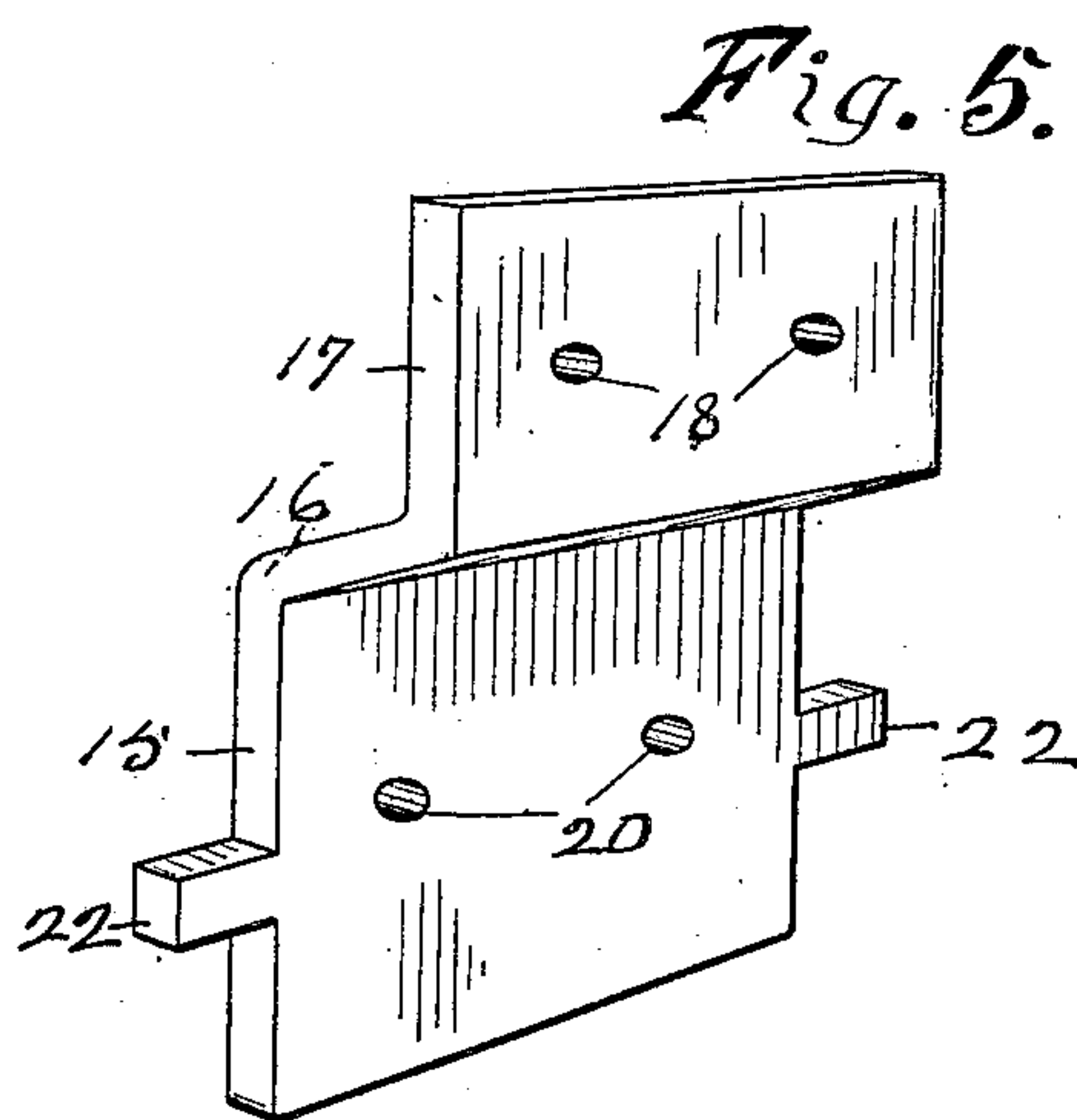
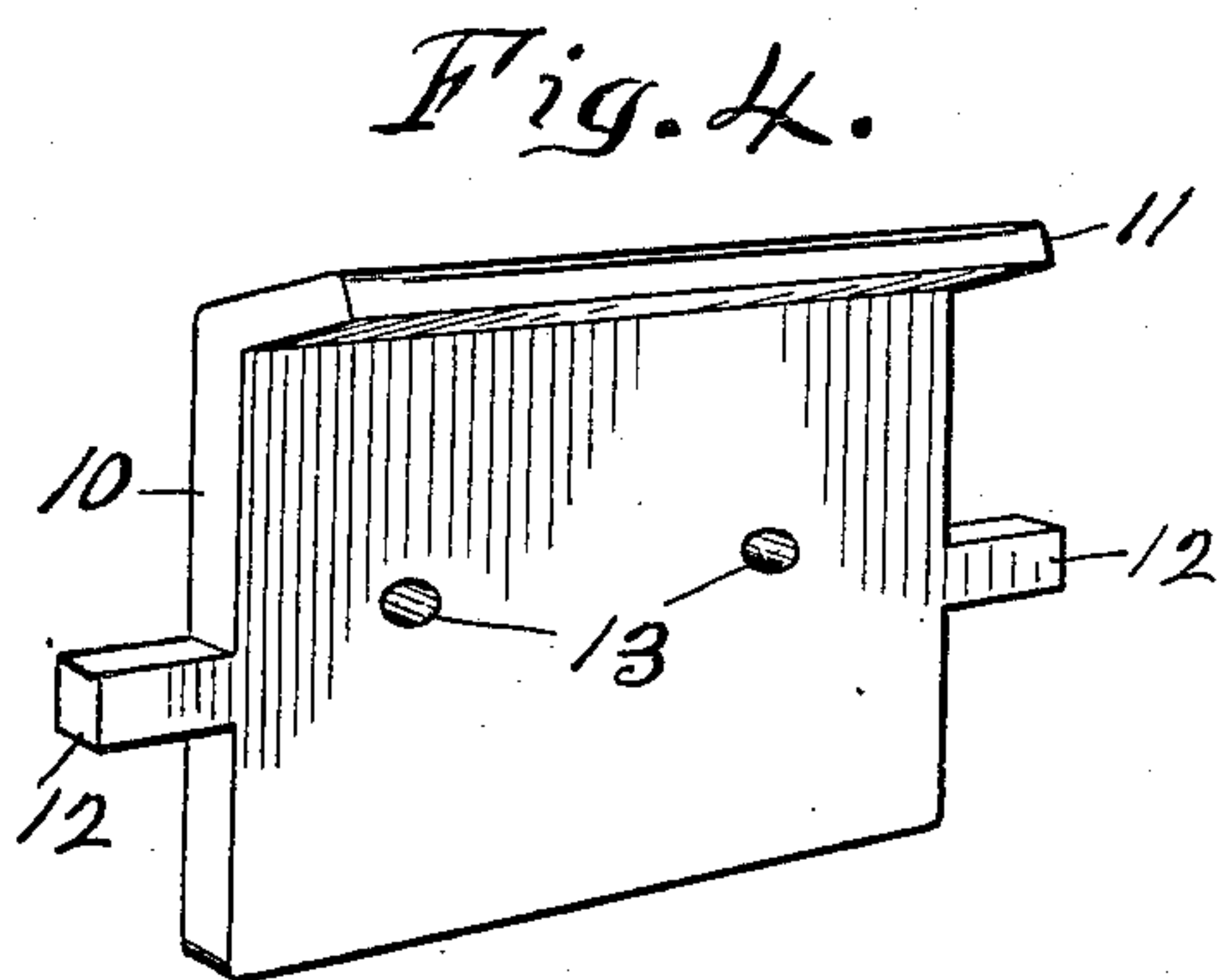
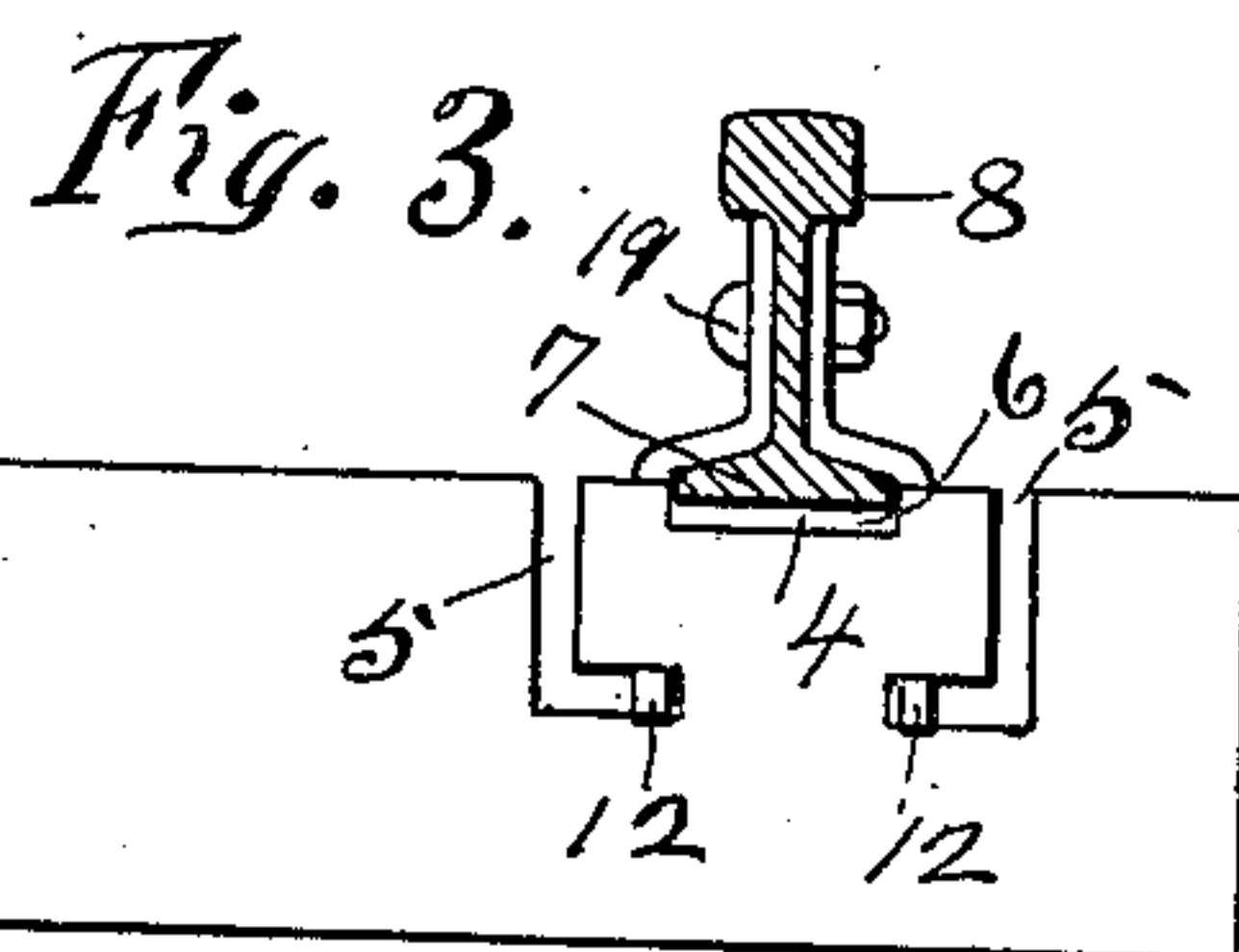
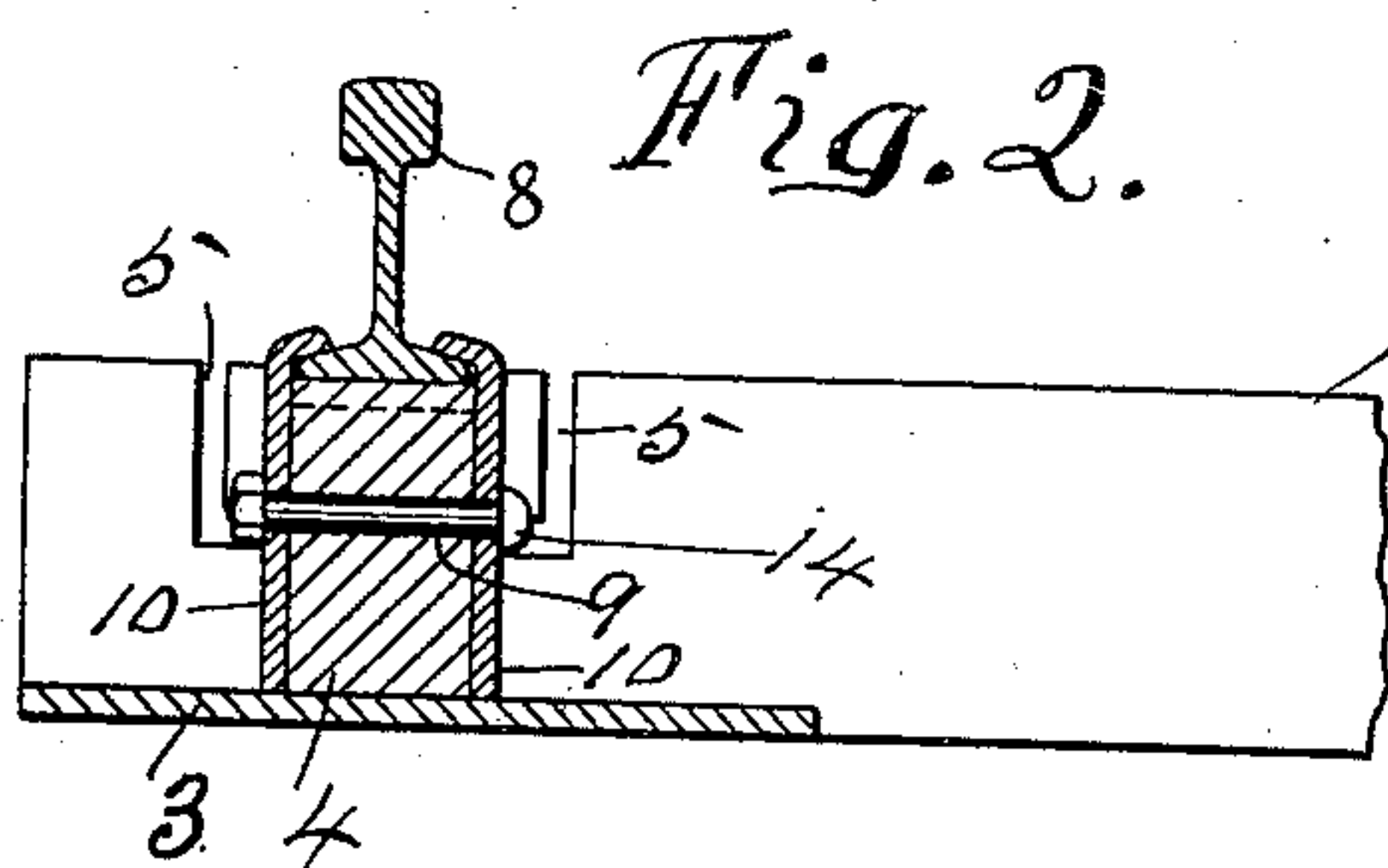
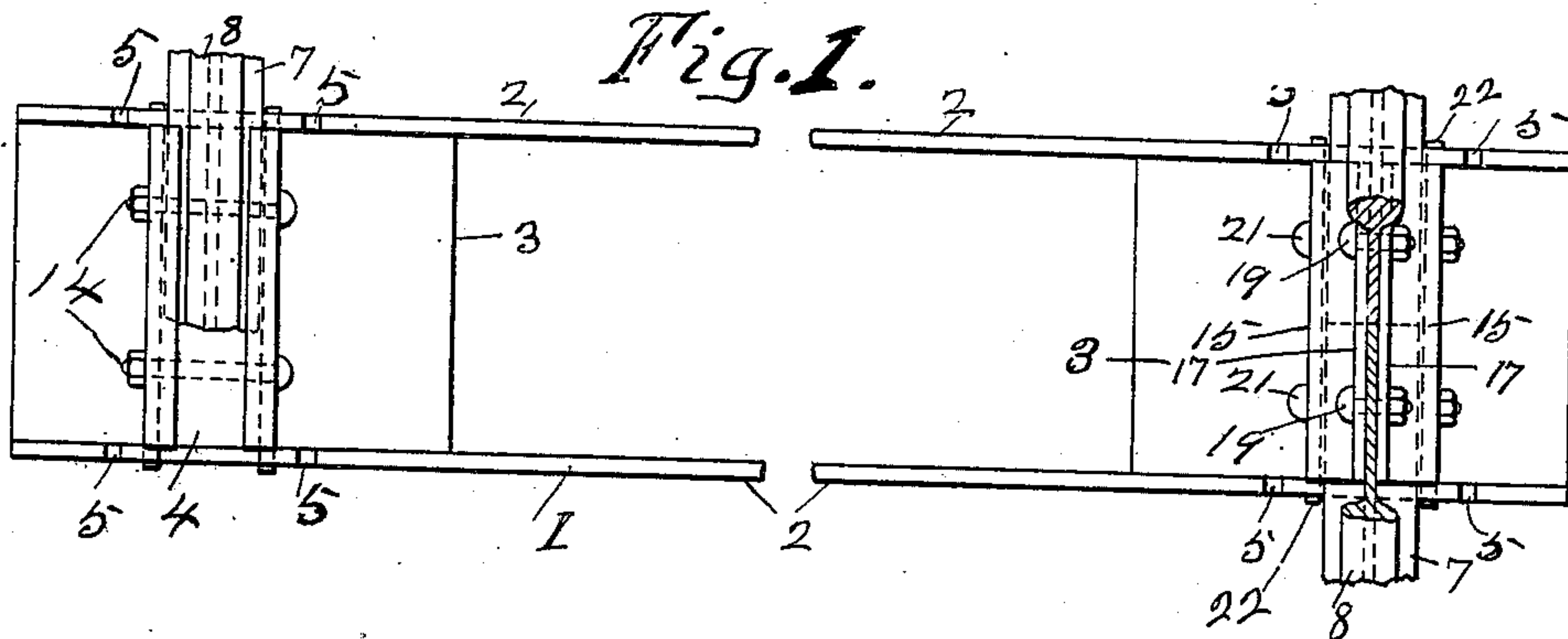


923,370.

Patented June 1, 1909.



J. M. Dickens

Auguste Spiegel

Mary R. McLean INVENTOR.

BY *Chapin & Denny*

Per ATTORNEYS.

UNITED STATES PATENT OFFICE.

MARY F. McLEAN, OF DENVER, COLORADO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF THREE-EIGHTHS TO DAVID ATHAY AND THREE-EIGHTHS TO LEON J. FINDLAY, BOTH OF LOGAN CITY, UTAH.

METAL RAILWAY-TIE AND RAIL-FASTENING MEANS.

No. 923,370.

Specification of Letters Patent.

Patented June 1, 1909.

Application filed July 13, 1908. Serial No. 443,213.

To all whom it may concern:

Be it known that I, MARY F. McLEAN, a citizen of the United States, residing at Denver, in the county of Denver, in the State of Colorado, have invented certain new and useful Improvements in Metal Railway-Ties and Rail-Fastening Means; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in metal railway-ties, and rail fastening means.

The object of my present invention is to provide a comparatively cheap, simple, efficient, and durable metallic railway tie having wooden bed block and improved rail fastening means so arranged as to present but small liability to displacement under the most severe conditions of service.

My invention consists of a metallic casing; a pair of transverse wooden rail-chairs or supporting blocks arranged therein; and a novel means for securely maintaining the rails in a locked relationship with the said supporting blocks, and for rigidly uniting the meeting ends of the rails.

Similar reference numerals indicate like parts in the several views of the drawings in which—

Figure 1 is a top plan of my invention partly broken away at its central portion, and having the rails also partly broken away to show the relative arrangement of the operative parts. Fig. 2 is a fragmentary view of one end of the same in cross section. Fig. 3 is a side view of one end of the tie with the surmounted rail in cross-section, and showing that form of fastening means employed as a substitute for fish-plates at the meeting ends of the rails. Fig. 4 is a perspective detail of the clamping plate employed with each tie except at the ends of the rails. Fig. 5 is a perspective of the form of clamping plate I employ to secure the ends of the rail to the ties.

The tie-body consists of a metal casing 1 having parallel upright sides 2 of proper height. This casing is open at the top and bottom except that the bottom near the ends thereof has the fixed or integral sections 3 of suitable length to impart proper strength

and solidity to the tie. These sections also form a support for the rail-supporting blocks hereafter described.

The sides 2 of the tie near the ends thereof are provided with the oppositely arranged lateral L-shaped slots 5 opening at the upper edge of the sides, as shown in Figs. 1 and 2. These slots are so spaced apart as to admit the width of the wooden blocks 5 between the inner ends thereof, Fig. 2.

The sides 2 of the tie intermediate of the slots 5 have the vertical recesses 6 at their upper edges of a slightly greater length than the width of the base 7 of the railway rail 8. These transversely arranged wooden blocks 4 rest upon the base sections 3 of the tie and fit snugly between the sides thereof, and extend sufficiently above the bottom of the recess 6 to prevent the bottom of the rails from resting upon the metal tie at the bottom of the recess under any condition of service, thereby forming at all times a wooden cushion for the rails. These blocks 4 have a pair of transverse openings 9, as shown at Fig. 2.

The rails are rigidly secured to the ties by means of the clamping plates 10 having their upper edge provided with a slightly inclined lateral flange 11 of proper width and adapted to firmly engage the upper face of the rail base 7, upon both sides thereof, as shown in Fig. 2. These clamping plates 10 have a longitudinally extended lug 12 adapted to form a locked engagement with the slots 5 in the manner hereafter described. These plates also have a pair of lateral apertures 13 adapted to register with the apertures 9 in the rail cushioning blocks 4, and are adapted to receive the transverse bolts 14 by means of which the block 4, the plates and the base of the rail are all firmly clamped together, Fig. 2.

My improved means for rigidly uniting the meeting ends of the rails consists of a clamping plate 15 identical in construction with the plate 10, excepting that the lateral rail-clamping flange 16 is provided with an upright extension 17 provided with a pair of lateral apertures 18 adapted to receive proper bolts 19 which pass through registering openings in the web of the rail, and thereby take the place of the ordinary fish-plates in rigidly uniting the meeting ends of the rails.

The upper edge of the extension 17 is preferably slightly beveled to fit snugly

against the lower face of the ball of the rail, Fig. 3, and thereby aid in the rigidity of its union therewith.

The plate 15 has a pair of lateral openings 5 20 adapted to receive the transverse bolts 21 which pass through the openings 9 of the blocks 4, and the lugs 22 on the opposite ends thereof engage the inner ends of the slots 5, as shown in Fig. 3.

10 The manner of employing my invention thus described is obvious, and briefly stated is as follows: The operator places the wooden blocks in position in the tie between the inner ends of the slots 5, after which the rails 15 8 are placed in position on these blocks with their bases arranged in the upper part of the recesses 6. The clamping plates 10 are next secured in position one upon each side of the rail, by passing the lugs 12 down into 20 the slots 5 and to the inner ends thereof, after which they are rigidly secured together and to the block and rail by means of the bolts 14. When these parts are thus united it is evident there can be neither 25 lateral or vertical motion of the rail, relative to the tie body, and that when for any reason it is desired to substitute a new plate, a new rail, or a new tie, the parts can readily and conveniently be disunited in an obvious 30 manner. The plates 15 for the ends of the rails are similarly interlocked with the slots 5, and similarly secured to the wooden blocks 4, but they impart additional rigidity and security to their union with the ends of 35 the rails by means of the extensions 17, and thereby avoid the expense of fish-plates.

When the ties thus constructed and interlocked with the rails are leveled up they are filled with suitable ballast which is prop- 40 erly tamped therein.

Having thus described my invention and the manner of employing the same what I desire to secure by Letters Patent is:

45 1. A railway tie consisting of a metal shell or open topped casing having integral bottom

sections near the ends thereof, and their vertical sides being provided with oppositely arranged L slots; a wooden block transversely mounted in the said casing between the said slots and adapted to support the railway rail; 50 a pair of coacting clamping plates arranged upon opposite sides of the said block having longitudinal terminal lugs adapted for a locked engagement with the said lateral slots, the said plates being adapted to fit 55 snugly between the parallel sides of the tie to prevent longitudinal displacement thereof, and each plate being provided upon its upper edge with a lateral longitudinal flange adapted to engage the base of the rail; and 60 means for securing the said plates, the said block, and the rail firmly together.

2. In a metal railway tie the combination of a hollow open topped tie-body or casing having spaced bottom sections near each end 65 thereof and L-shaped slots at their upper edges; a pair of wood rail-supporting blocks transversely arranged in the tie body on the said respective bottom sections; a pair of clamping plates arranged upon opposite 70 sides of the said block and provided upon their upper edges with rail clamping jaws and provided with end lugs adapted to engage the said slots; means for securing these plates and the block firmly together; and 75 means for rigidly uniting the meeting ends of the rails consisting of a pair of clamping plates having terminal lugs adapted to interlock with the said slots, and each having a lateral longitudinal shoulder adapted to en- 80 gage the base of the rail, and provided with a vertical extension adapted to engage the web of the rail.

Signed by me at Denver, in the county of Denver, and State of Colorado, this 6th day 85 of July, 1908.

MARY F. McLEAN.

Witnesses:

T. B. EVANS,
C. H. KING.