

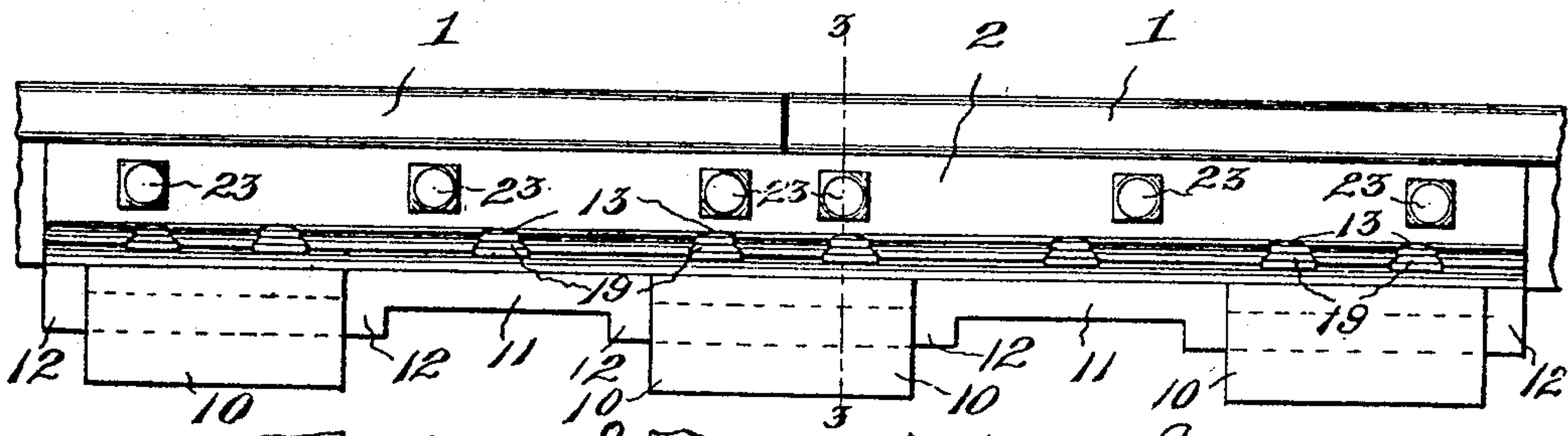
No. 880,381.

PATENTED FEB. 25, 1908.

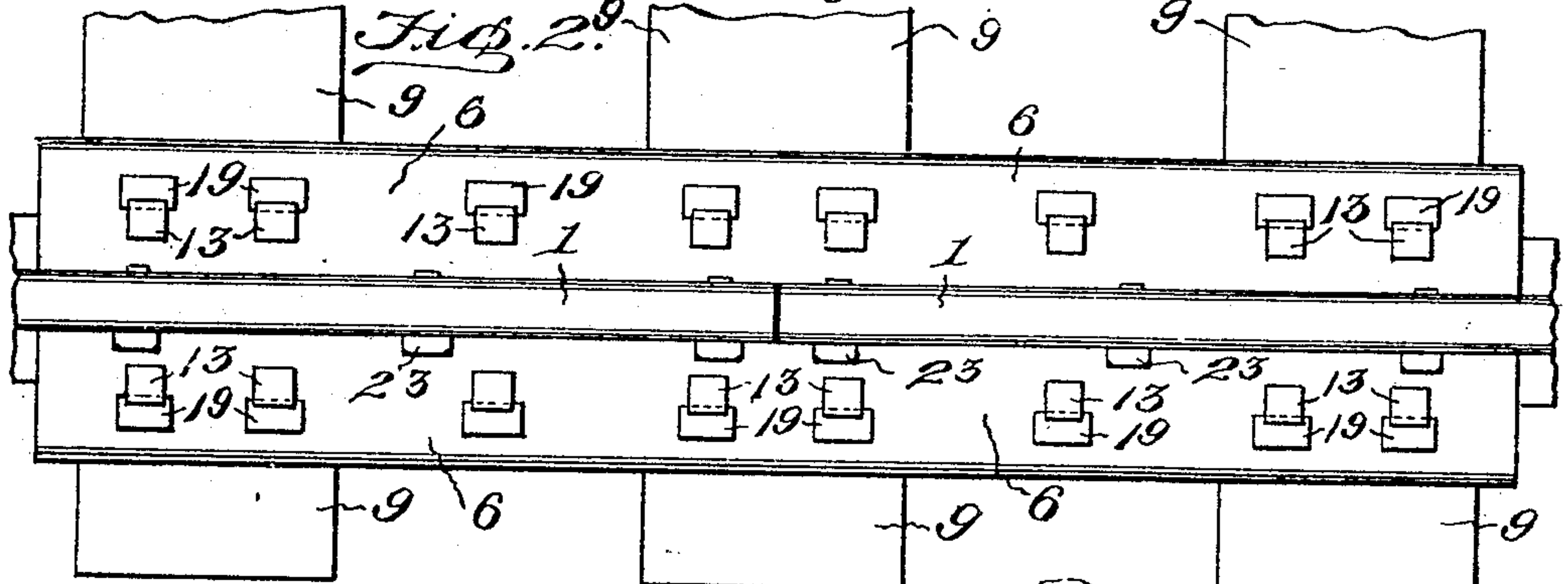
G. L. HINDMAN.  
METAL RAIL TIE.

APPLICATION FILED MAY 23, 1907.

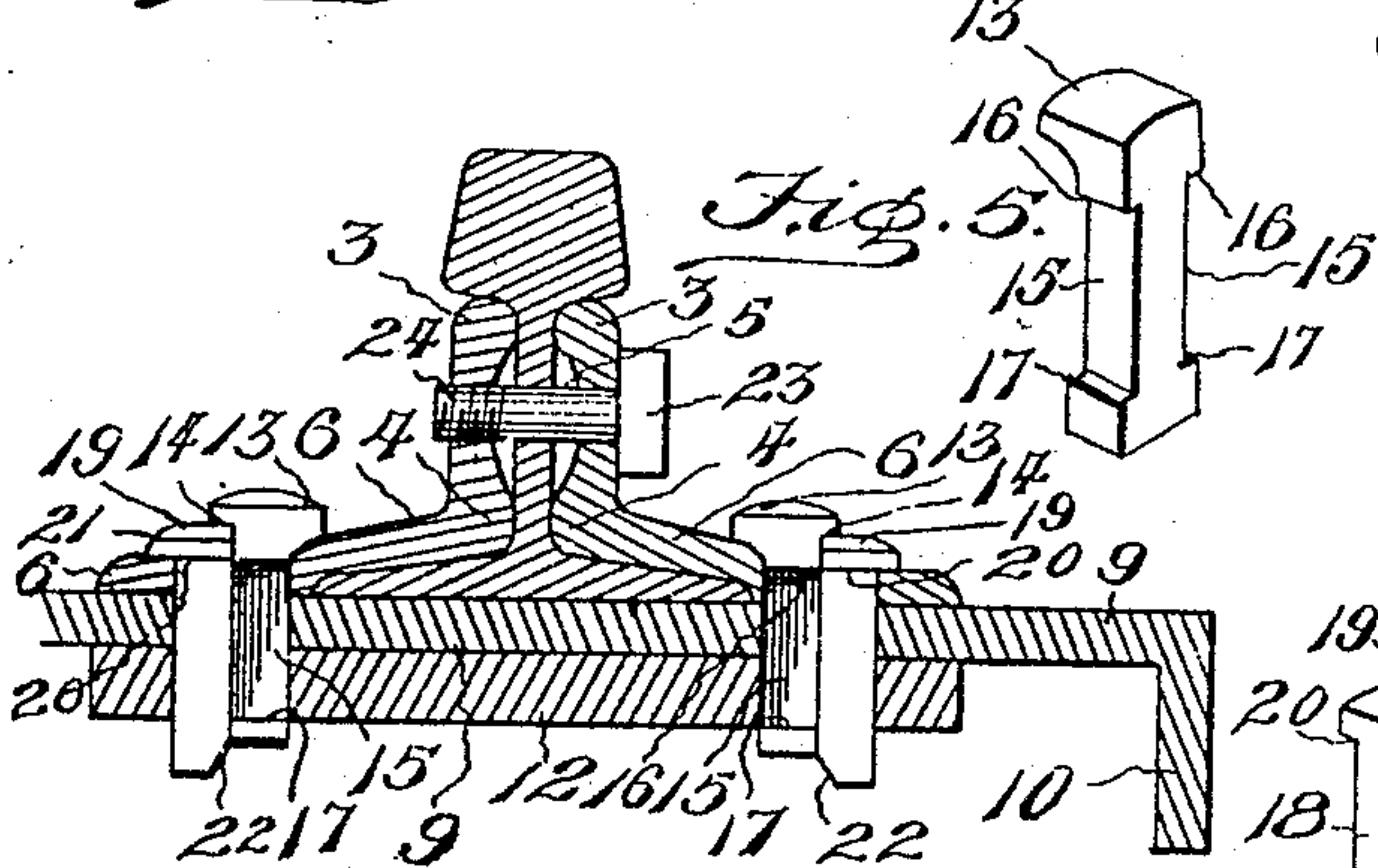
*Fig. 1.*



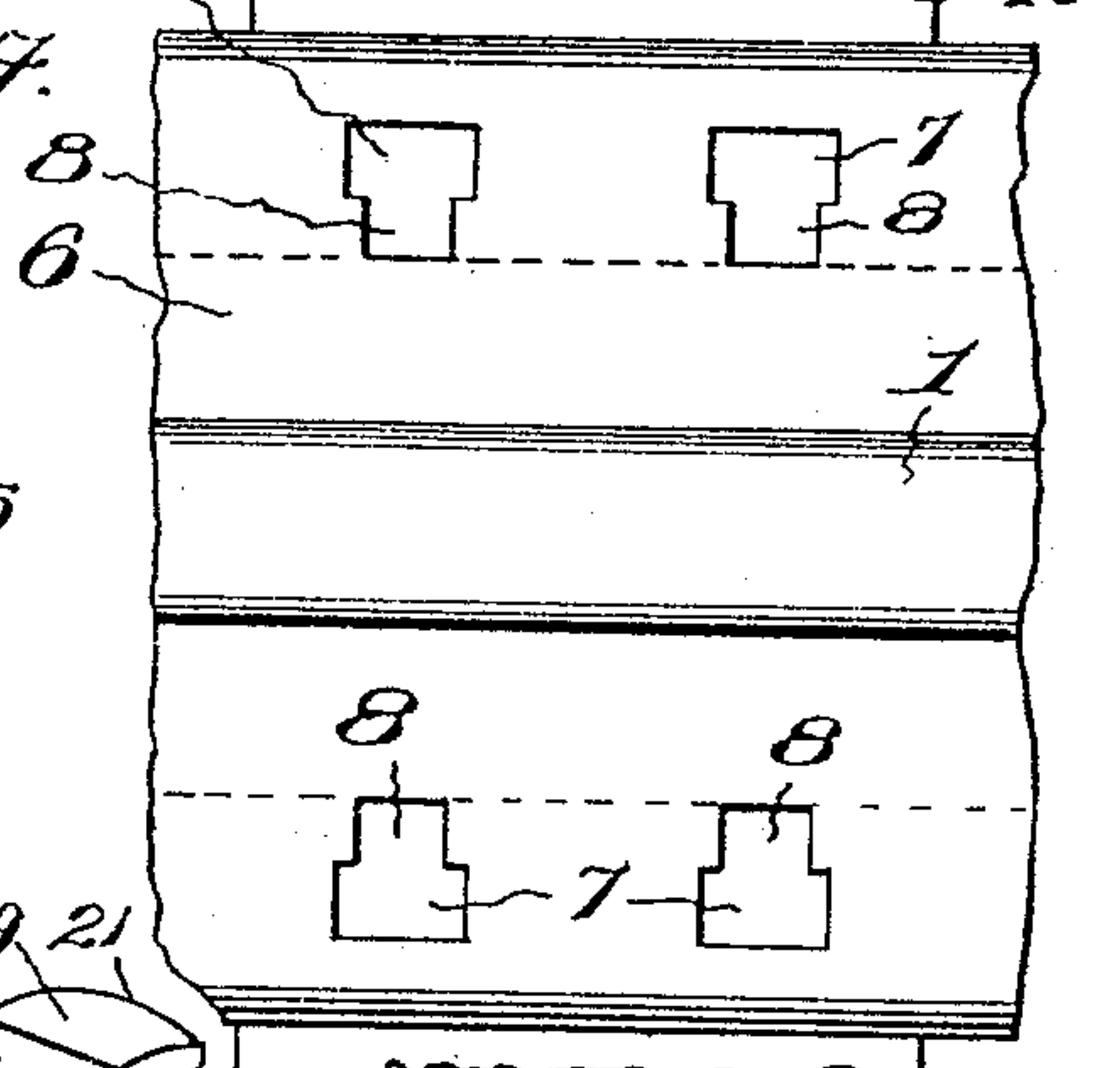
*Fig. 2.*



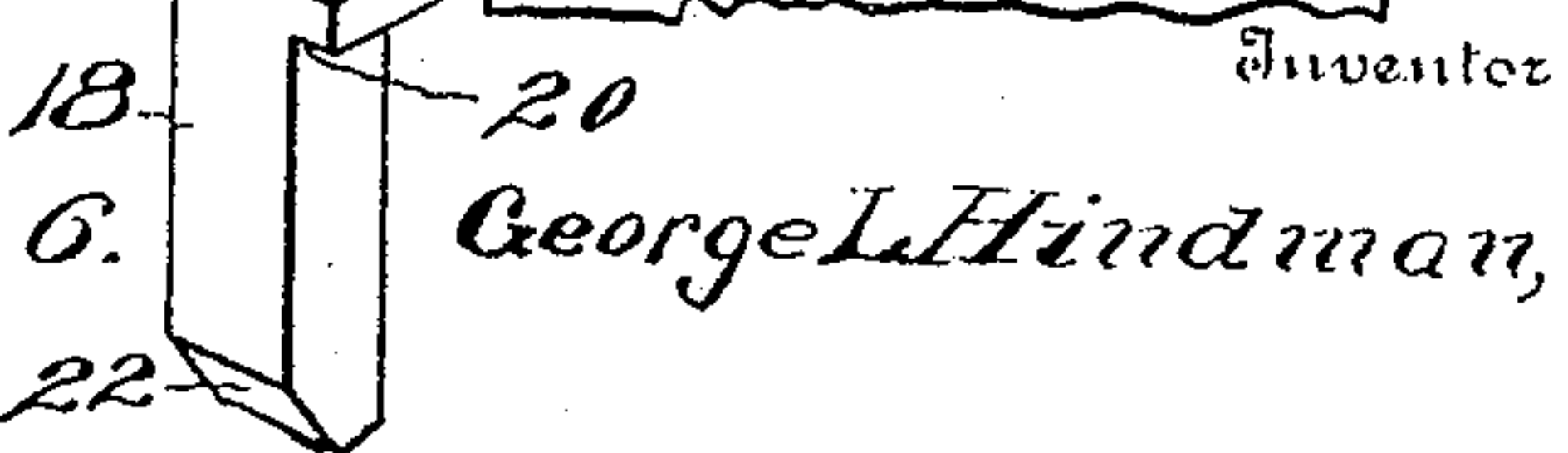
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



Witnesses  
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# UNITED STATES PATENT OFFICE.

GEORGE L. HINDMAN, OF WORTHINGTON, PENNSYLVANIA.

## METAL RAIL-TIE.

No. 880,381.

Specification of Letters Patent.

Patented Feb. 25, 1908.

Application filed May 23, 1907. Serial No. 375,280.

*To all whom it may concern:*

Be it known that I, GEORGE L. HINDMAN, a citizen of the United States of America, residing at Worthington, in the county of Armstrong and State of Pennsylvania, have invented new and useful Improvements in Metal Rail-Ties, of which the following is a specification.

This invention relates to metal rail ties, and one of the principal objects of the same is to provide means for locking the rails to the ties to prevent spreading, creeping or sinking of the rails at the joints thereof.

Another object of the invention is to provide strong, durable and efficient means for securing rails to metal ties to prevent the rails from movement in any direction after they have been secured in place.

These and other objects may be attained by means of the construction illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation of a pair of railway rails of ordinary construction connected together by devices made in accordance with my invention. Fig. 2 is a plan view of the same. Fig. 3 is a sectional view on the line 3—3, of Fig. 1. Fig. 4 is a plan view of a portion of one of the rails, the splice bars, and the metal tie. Fig. 5 is a perspective view of one of the spikes or fasteners. Fig. 6 is a similar view of the key.

Referring to the drawing for a more particular description of my invention, the numerals 1 designate the meeting ends of a pair of railway rails of the usual construction, and 2 are the splice bars disposed upon opposite sides of the rails, and extending for some distance upon opposite sides of the rail joint, said splice bars each comprising the vertical flanges forming fish plates having upper and lower ribs 3 and 4, and the intermediate space 5 formed by providing longitudinal grooves in the inner faces of the fish plate portions.

Formed integral with the fish plate portions are the flanges 6 which extend over the base flange portions of the rails and are provided with apertures 7, each having a reduced portion 8. The metal ties 9 are each provided with a downturned end 10 designed to anchor the tie in the ground at opposite ends thereof to prevent the spreading of the rails. The ties 9 are each provided with apertures similar to the apertures 7 and 8 in

the splice bars, said apertures adapted to register with the apertures in the splice bars. The ties 9 are each seated in a tie chair 11 having offset portions 12 forming seats for the ties, and the tie chairs 11 are also provided with apertures which register with and conform in contour to the apertures 7 and 8 in the splice bars.

The spikes or fastening devices each consists of an overhanging head 13 which engages the upper surface of the splice bar. As shown in Fig. 3 the head 13 is upset, as at 14, over the head of the key 18 by a blow from a sledge after the spike and key have been placed within the apertures 7 and 8. At the sides of the shank of the fastening recesses 15 are provided, said recesses having upper shoulders 16 and lower shoulders 17, as shown more particularly in Fig. 5. The key 18 consists of a head 19 provided with a shoulder 20 upon opposite sides thereof and a projecting head portion 21, while the lower end of the shank of the key is beveled, as at 22.

In securing the splice bars to the meeting ends of the rails I use a series of bolts each consisting of a squared head 23 and a shank provided with threads 24 at one end thereof, the threads designed to engage a threaded aperture in one of the fish plate portions of one of the splice bars, as shown more particularly in Fig. 3. After the splice bars have been secured in this manner in place, the fastening devices are placed in the apertures 7 and 8 which register in the splice bars, the ties, and the tie chairs, as shown in Fig. 3, and after the fasteners are pushed up into the contracted portion 8 of the apertures, the keys 18 are inserted and the head 13 is upset, as at 14, to engage with the upper surface of the head 19 of the key. In this position the rail ends, the ties and the tie chairs are firmly held in position, and will prevent the rails from spreading, sinking or creeping.

From the foregoing it will be obvious that a rail joint made in accordance with my invention is of comparatively simple construction, will firmly hold the rails in place, can be quickly assembled, and as a whole can be produced at slight cost.

Having thus described the invention, what I claim is:

1. A rail tie provided with downwardly bent ends to anchor the tie in the road-bed,



a chair for said tie, splice bars, said splice bars, tie, and tie chair having registering apertures, fastening devices passed through the apertures, and keys for holding the fastening devices in place.

2. A rail joint comprising metal ties, a tie chair in which said ties are seated, splice bars, keys fitted in registered apertures in the splice bars, ties and tie chairs, and keys for holding the fasteners in place.

3. A rail tie comprising a bar of metal having apertures therein, spikes fitted in the apertures, keys for holding the spikes in place, a tie chair in which the ties are fitted,

said tie chair being secured to the ties and to the rail flanges by the fastenings.

4. A rail joint comprising metal ties, a chair in which the ties are fitted, apertures in the ties and chair, spikes fitted through said apertures, and keys for holding the spikes in said apertures with their heads engaging the rail flanges.

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

GEORGE L. HINDMAN.

Witnesses:

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