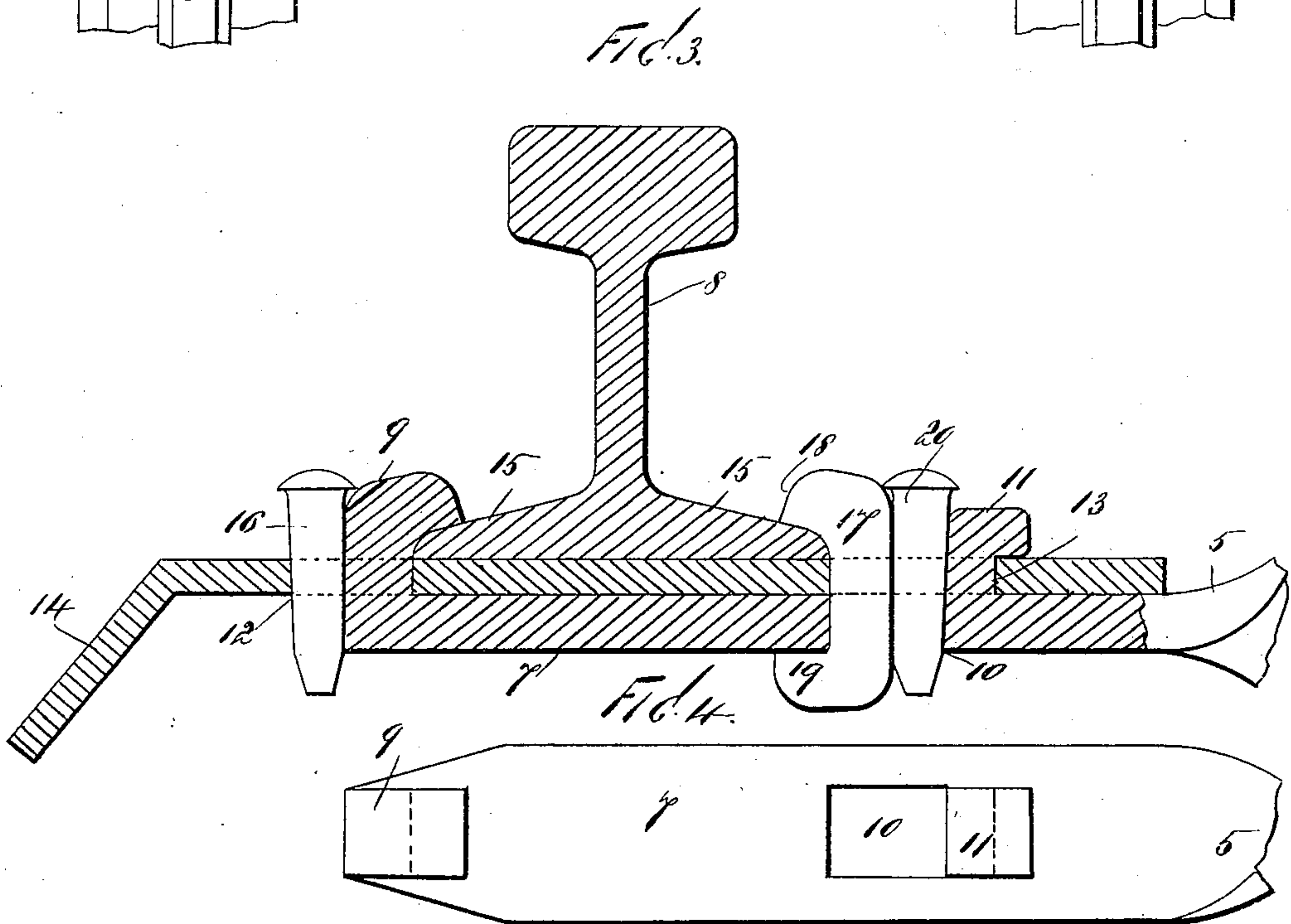
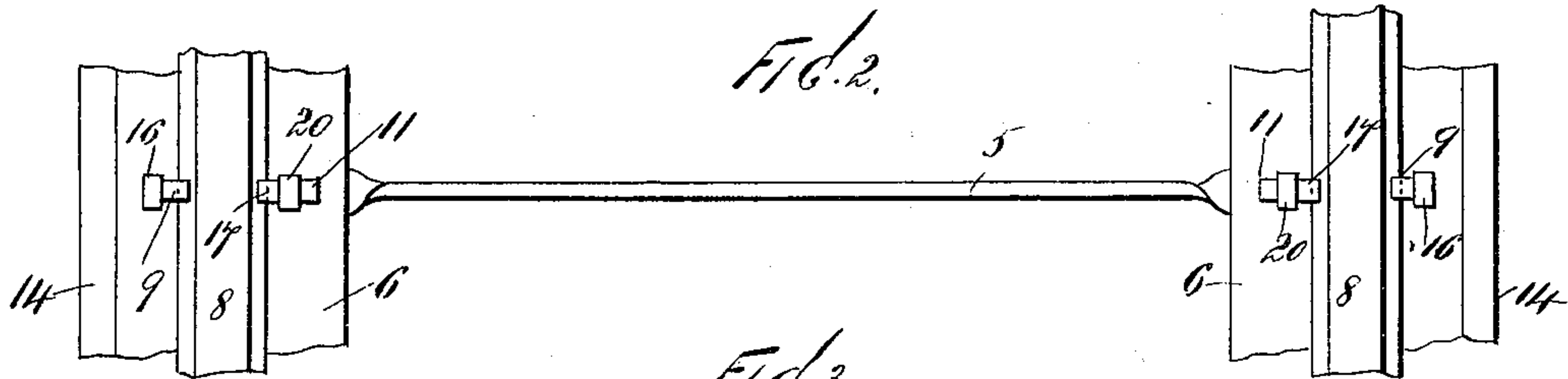
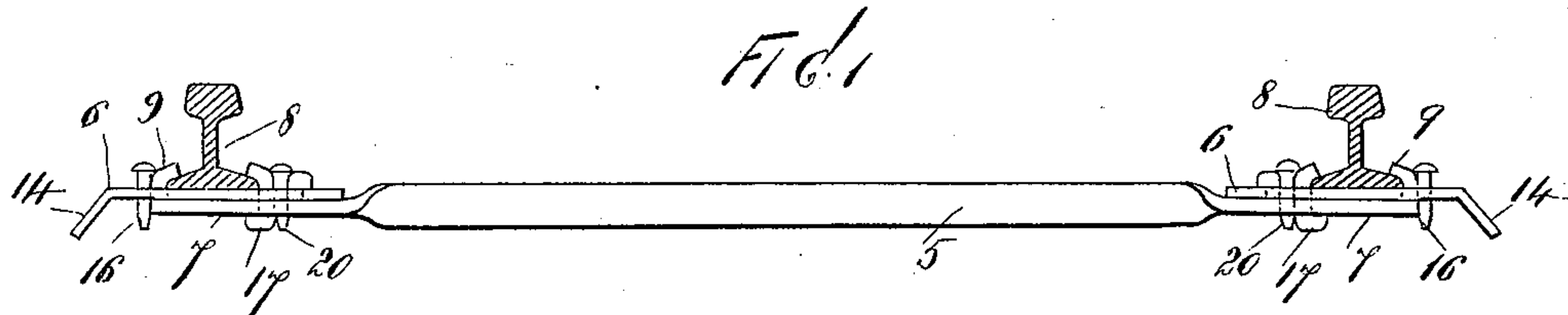


(No Model.)

C. S. PHELPS.
RAILWAY.

No. 598,957.

Patented Feb. 15, 1898.



WITNESS
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RAILWAY.

SPECIFICATION forming part of Letters Patent No. 598,957, dated February 15, 1898.

Application filed June 22, 1897. Serial No. 641,755. (No model.)

To all whom it may concern:

Be it known that I, CHARLES SPENCER PHELPS, a citizen of the United States, residing at Charleston, in the county of Charleston and State of South Carolina, have invented certain new and useful Improvements in Railways, of which the following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to railways, and particularly to means for securing the railway-rails in position; and the object thereof is to provide improved devices of this class which consist in longitudinal stringer-plates placed beneath the rails and metal cross-ties by which said plates are connected and to which the rails and said plates are secured.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a cross-section of a railway-track made according to my invention; Fig. 2, a plan view of a section thereof; Fig. 3, a view similar to Fig. 1 of one side of the track, on an enlarged scale; and Fig. 4, a plan view of one end of one of the cross-ties.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference in each of the views, and in said drawings I have shown at 5 one of my improved cross-ties and at 6 the stringer-plates, which are placed beneath and longitudinally of the rails.

The cross-tie 5 consists of a metal plate the ends of which are bent at right angles to the body portion thereof, as shown at 7, and the stringer-plates 6 are connected with the flat ends 7 of the cross-tie 6, and the rails 8 rest on said stringer-plates.

Each of the flat ends 7 of the cross-tie is provided at its extreme end with an upwardly and inwardly directed shoulder or projection 9, and adjacent to the center thereof, but near the inner end of the flat portion, is formed an opening 10, which is provided with an upwardly and inwardly directed shoulder or projection 11, and each of the stringer-plates 6 is provided with two openings 12 and 13, the opening 12 being arranged adjacent to the outer edge of said stringer-plates, and the

outer edges of the stringer-plates are bent downwardly to form downwardly-directed flanges 14, which are intended to hold the outer side of the road-bed in place, and also to prevent the slipping of the stringer-plates.

The rails 8 are provided at the bottom thereof with the usual outer and inner side flanges 15, and in practice the stringer-plates are placed on the ends of the cross-tie, so that the upwardly-directed shoulders or projections 9 and 11 pass through the openings 12 and 13 in the stringer-plates, and said plates are then moved outwardly, so that the inner sides thereof fit beneath the inwardly-directed portion of the shoulder or projection 11, and the outer flange 15 of the rail passes beneath the inwardly-directed portion of the shoulder or projection 9, as clearly shown in Fig. 3. An ordinary railway-spike or any suitable spike 16 is then driven through the outer opening 12, and a locking-plug 17 is passed through the opening 10, and said locking-plug is provided at its upper end with an outwardly-directed shoulder or projection 18 and at its lower end with a similar outwardly-directed shoulder or projection 19, and the upper shoulder or projection 18 overlaps the inner base-flange of the rail, and the lower shoulder or projection 19 fits beneath the bottom of the flat end 7 of the tie, and a spike 20 is then driven through the opening 10, so as to force the locking-plug firmly into the position shown in Fig. 3. By means of this construction the rails 8 are securely locked in place upon the stringer-plates, and said stringer-plates and rails are securely locked to the ends of the tie.

The body portion of the tie may be made of any desired width and is held in a vertical position and is also sunk into or covered by the road-bed, of gravel or other suitable material, and this also serves to hold the tie and the stringer-plates firmly in position. By means of this construction I provide a perfectly firm and secure support for the rails and one by which the rails are prevented from moving laterally, and the consequent spreading of the track, which frequently results in wrecks, is thus avoided, and it will also be observed that the means which I employ to accomplish this end is simple in construction and operation and also comparatively inexpensive.

Having fully described my invention, I claim as new and desire to secure by Letters Patent—

1. The herein-described means for supporting railway-rails and securing them in position, consisting of metal cross-ties, the ends of which are flat, and stringer-plates which are placed thereon, and longitudinally of the rails, and on which said rails are secured, said stringer-plates being provided with holes or openings at the opposite sides of the base-flanges of the rails, and said ties being provided at their outer ends with upwardly and inwardly directed shoulders or projections, and also near the middle of the flat ends thereof with openings at the inner ends of which are upwardly and inwardly directed shoulders or projections, and a locking-plug, and spikes which are passed through said openings, and by means of which the rails are held in position, and the stringer-plates secured to the cross-ties, substantially as shown and described.

2. The herein-described means for supporting railway-rails and securing them in position, comprising cross-ties 5, stringer-plates 6, mounted transversely of each end thereof and adapted to engage the under side of each rail, each of said cross-ties 5 consisting of a

metal plate having the ends bent at right angles to the body portion and the said stringer-plates being in connection with the flat ends thereof, each of the said flat ends being provided at the extremity thereof with an upwardly and inwardly directed shoulder or projection 9, and adjacent to the center thereof with an opening 10 having an upwardly and inwardly directed extension 11, each of said stringer-plates being provided with openings 12 and 13 and the outer edges of the said plate being bent downwardly to form flanges 14, a locking-plug 17 mounted in said opening 10 and provided at its upper end with an outwardly-directed shoulder or projection 18 and at the lower end with a similar outwardly-directed shoulder or projection 19, said plug and opening being so proportioned that a metal spike may also be driven through said opening, substantially as and for the purpose described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 17th day of June, 1897.

CHARLES SPENCER PHELPS.

Witnesses:

PERCY LOCKE,
S. L. SIMPSON.