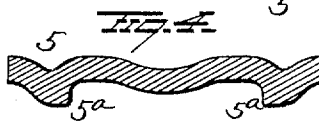
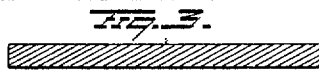
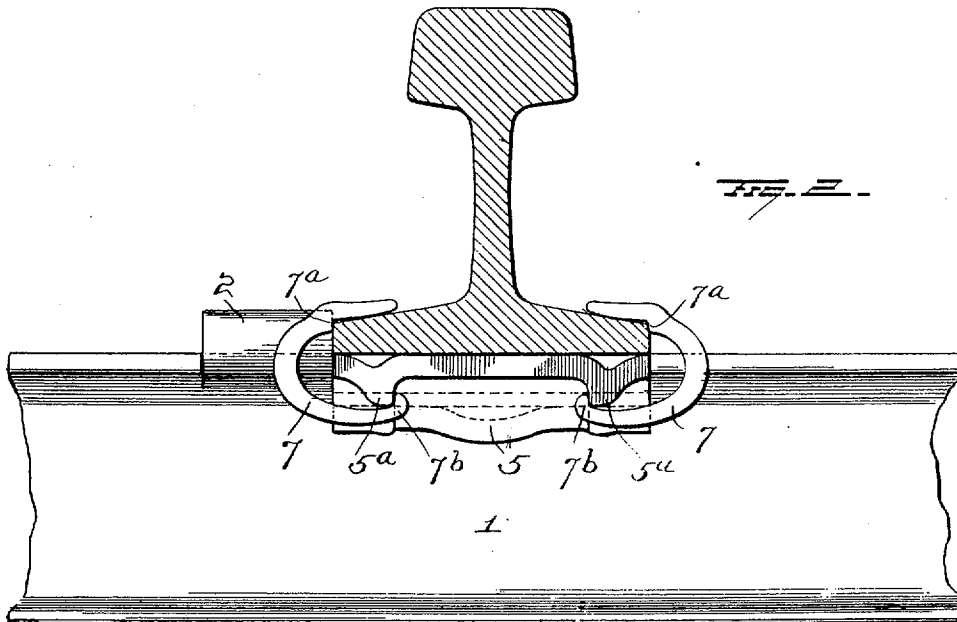
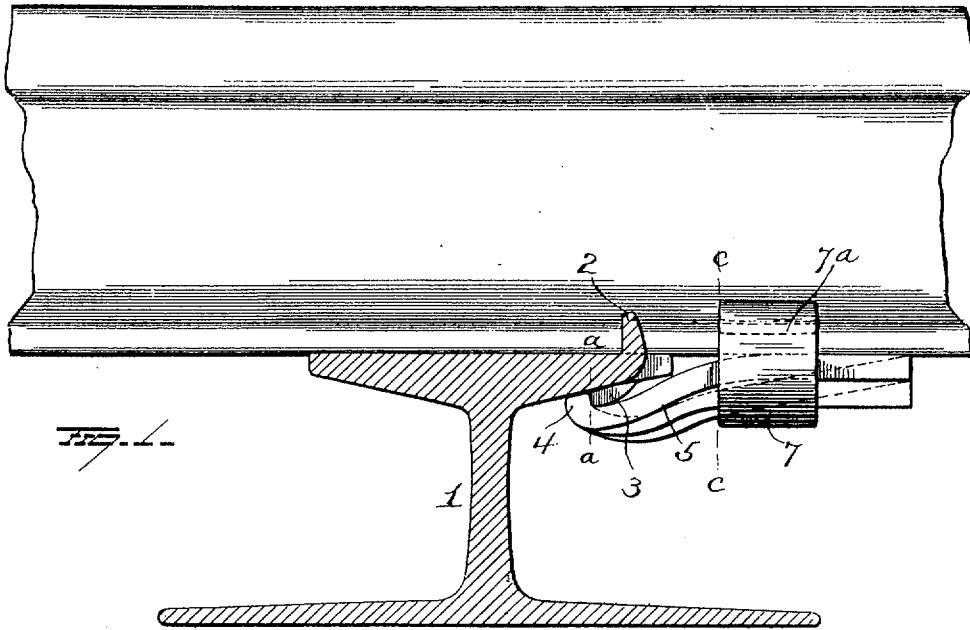


C. L. TAYLOR.
 MEANS FOR SECURING RAILS TO METAL TIES.
 APPLICATION FILED MAY 26, 1911.

1,017,925.

Patented Feb. 20, 1912.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

FIG. 5.

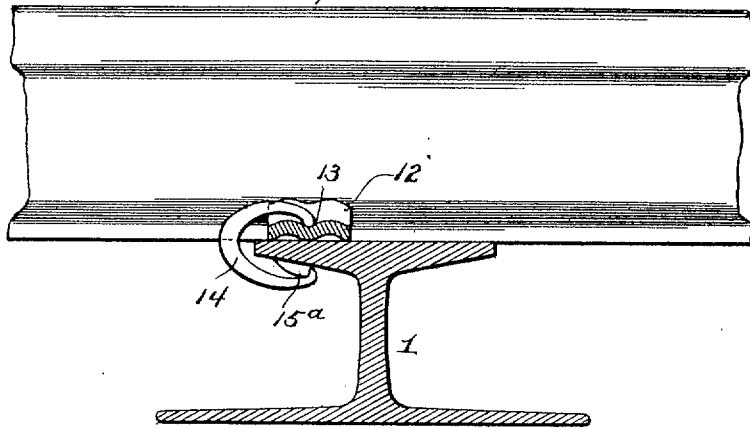


FIG. 6.

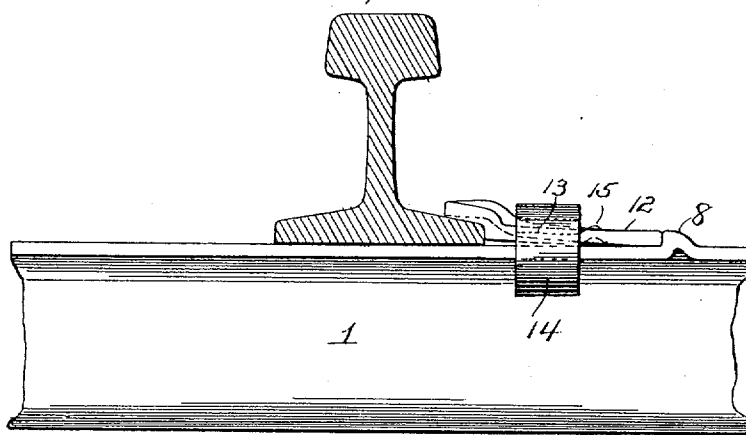
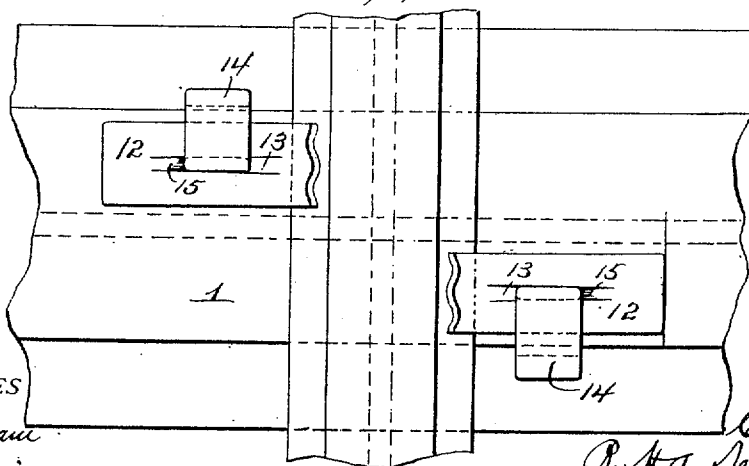


FIG. 7.



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CLARENCE L. TAYLOR, OF ALLIANCE, OHIO, ASSIGNOR TO WILLIAM H. MORGAN, OF ALLIANCE, OHIO.

MEANS FOR SECURING RAILS TO METAL TIES.

1,017,925.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed May 26, 1911. Serial No. 629,626.

To all whom it may concern:

Be it known that I, CLARENCE L. TAYLOR, a citizen of the United States, residing at Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Means for Securing Rails to Metal Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in means for securing rails to metal ties.

In a pending application No. 615,397 filed by W. H. Morgan and W. V. Hartzell, March 18, 1911, they describe and claim the rails supported on the parallel members of Z-shaped metal ties, the rails being secured to said parallel members by spring clamps. Their system of construction also comprehends the employment of straight metal ties arranged alternately between the Z-shaped ties, and the object of my invention is to provide means whereby the spring clamps employed to secure the rails to the parallel rail supporting members of the Z-shaped tie, may also be employed for securing the rails to the straight ties.

With this object in view my invention consists in the parts and combination of parts and in the details of construction as will be more fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in cross section of the tie and side elevation of the rail, showing the manner of securing the rail securing device. Fig. 2 is a view of these parts with the rail in cross section and the tie in side elevation, and showing the rail securing device. Fig. 3 is a view in section on the line *a, a*, and Fig. 4 a section on the line *c, c*, of Fig. 1, and Figs. 5, 6 and 7 are views of a modification.

1 represents a straight tie of I-shape, the top flange being preferably of less width than the lower flange, and provided at one or both edges with lugs 2 formed by splitting the flange and bending the split portion upwardly as shown in Figs. 1 and 2, to form abutments against which the base flange of the rail bears, and which operate to prevent the rails from spreading. These abutments are at the outside of the rails, or at the outside and inside also. The top flanges are also provided with the depending shoulders

3, which latter are formed by displacing the metal by means of dies. The inner faces of these shoulders are vertical and are engaged by the bent or hooked ends 4 of the securing plates 5, the said bent ends being approximately as deep as the shoulders 3. The securing plates are bent longitudinally as shown in Fig. 1, so that when applied to the tie and rail, a portion thereof will lie flat against the underside of the base flange of the rail, and have an extended bearing against the latter, as shown in Fig. 1, and are grooved or corrugated longitudinally, as shown in Fig. 4, to add strength to the plate, the corrugations becoming shallower toward the outer end of the plate, and run out at the end so that the latter rests, at its end, flat against the tie. The clamps 7 are of substantially U-shape, and are made of spring metal, of a size to withstand the severe usage and shocks to which rail fastening devices are subjected. They straddle the outer edges of the base flange of the rail and the side edge of the securing plates 5, as clearly shown in Fig. 2, and each is provided on the lower face of its upper jaw, with a shoulder 7^a to engage the outer edge of the base flange of the rail, and at the free end of its lower jaw, with an upwardly projecting lip 7^b adapted to engage the longitudinal rib 5^a of plate 5. These clamps are preferably placed on the securing plates at the outer free ends of the latter, and then driven laterally toward the tie 1 to the position shown in Fig. 1, the ribs 5^a being beveled, at their extreme outer ends, if necessary. With this construction, it will be seen that the spring clamps 7 lock the securing plate to the rail and to the tie, and the rail to the tie, against the possibility of accidental displacement, and dispense altogether with the use of bolts and nuts which, as is well known, are liable to work loose and endanger traffic over the road.

In the constructions shown in Figs. 5 and 6, I have provided shoulders 8 projecting upwardly from the upper face of the tie, and extending transversely across same, to form abutments for the outer ends of the securing plates 12 to prevent spreading of the rails, the inner ends of said plates resting against the upper surface of the base flange of the rail. These plates engage the rails at both sides, as shown in Fig. 7, and those engaging the inner sides of the rails may

be supported at their free ends against abutments 8, in the event it should be necessary to brace the plate against inward movement. Each clamping plate 12 is provided with a central longitudinal groove 13, for the reception of the upper end of the spring clamp 14, shoulders 15 being formed at the outer ends of said grooves, to prevent the clamp from backing off after it has been secured in place. The clamps 14 are similar to those shown in Figs. 1 and 2, but instead of having a flat face to bear on the base flange of the rail, has a downwardly turned end to engage the groove in the plate, its lower end interlocking with the shoulder 15^a on the under side of the top flange of the tie. With this construction, the clamps are driven on laterally or lengthwise the securing plates, and as the latter bear only at their inner ends on the flange of the rail, the plates will give or bend between these ends, and this elasticity, together with that of the clamps will operate to effectually lock the rail to the tie against the possibility of accidental displacement.

It is evident that many slight changes might be resorted to in the relative arrangement of parts shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction and arrangement of parts shown and described, but,

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

1. The combination of a metal tie having a top flange, a rail on said tie, a clamping plate bearing at one end against the tie and at its other end against the rail, and a U-shaped spring clamp the latter straddling one side edge of the clamping plate and the flange of the part against which the outer end of the clamping plate rests.

2. The combination with a metal tie having a top flange, a rail resting on said tie,

a clamping plate engaging at one end a shoulder on the tie, and at its other end the base of the rail, and a U-shaped spring clamp for locking said parts together.

3. The combination with a metal tie having a top flange, a rail resting on said tie, a clamping plate engaging at one end a shoulder on the tie, and at its other end the base of the rail, and a U-shaped spring clamp for locking said parts together.

4. A plate for securing rails to ties, rectangular in plan, and provided at one end with a lip adapted to engage a shoulder depending from the tie, and provided adjacent each side edge on its underside with a rib extending lengthwise the plate.

5. The combination with a tie having a top flange provided with a depending shoulder, a rail on said tie and a securing plate adapted to interlock at one end with said shoulder and engage the rail at its opposite end, the said plate having ribs depending from its lower face, of a U-shaped spring metal clamp, one jaw of which engages the base flange of the rail and the other interlocks with one shoulder or rib on the securing plate.

6. The combination with a tie having a top flange provided with a depending shoulder, and an upwardly projecting lug, a rail resting on tie and against said lug, and a securing plate adapted to interlock at one end with said shoulder and engage the rail at its opposite end, the said plate having ribs on its lower face and extending longitudinally thereof, of a U-shaped spring clamp one jaw of which engages the base flange of the rail, and the other interlocks with one shoulder or rib on the securing plate.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

CLARENCE L. TAYLOR.

Witnesses:

C. R. RICHARDS,

S. F. KALLENBAUGH.