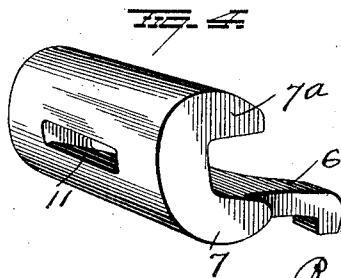
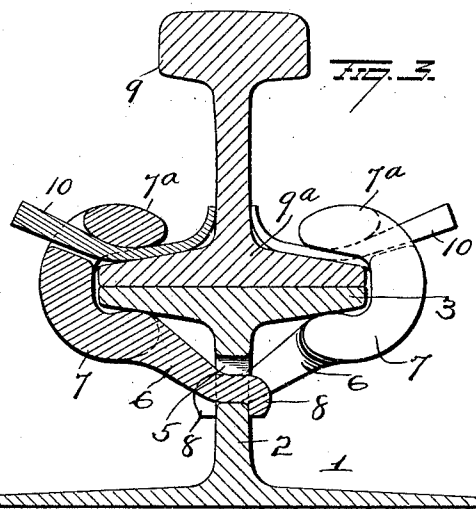
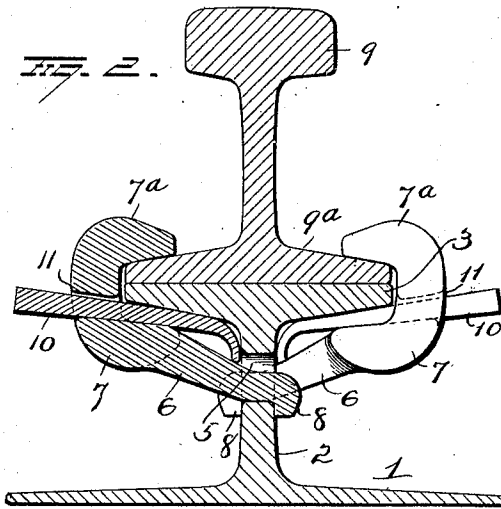
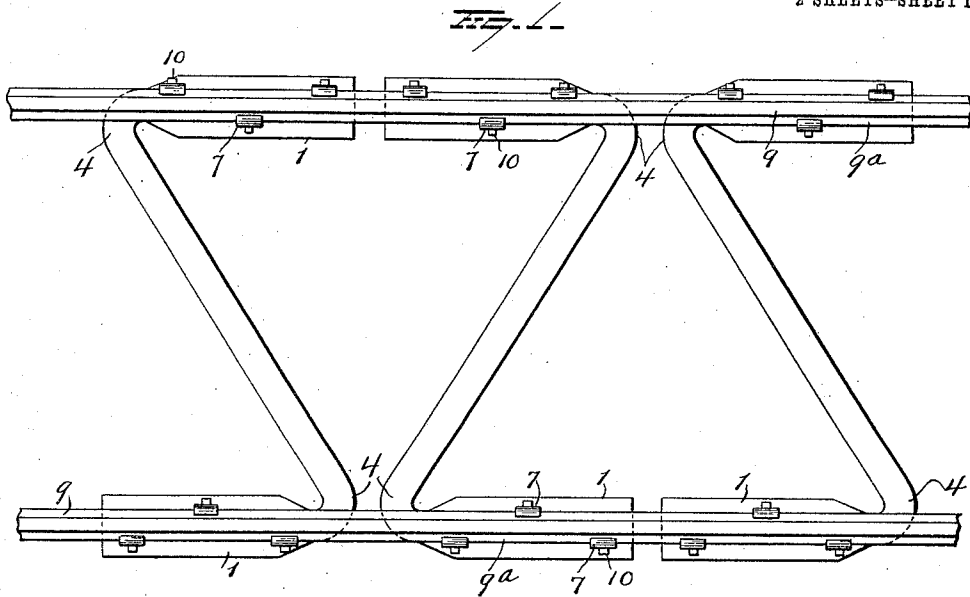


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CLAMP FOR SECURING RAILROAD RAILS TO METAL TIES.  
APPLICATION FILED JAN. 31, 1911.

1,005,278.

Patented Oct. 10, 1911.  
2 SHEETS—SHEET 1.



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Fig. 5.

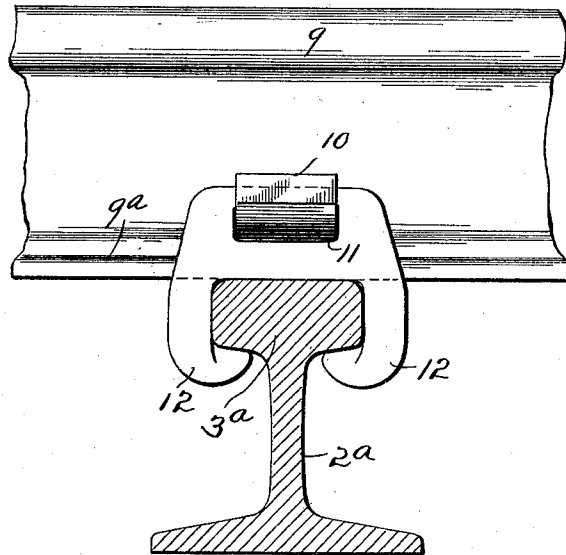
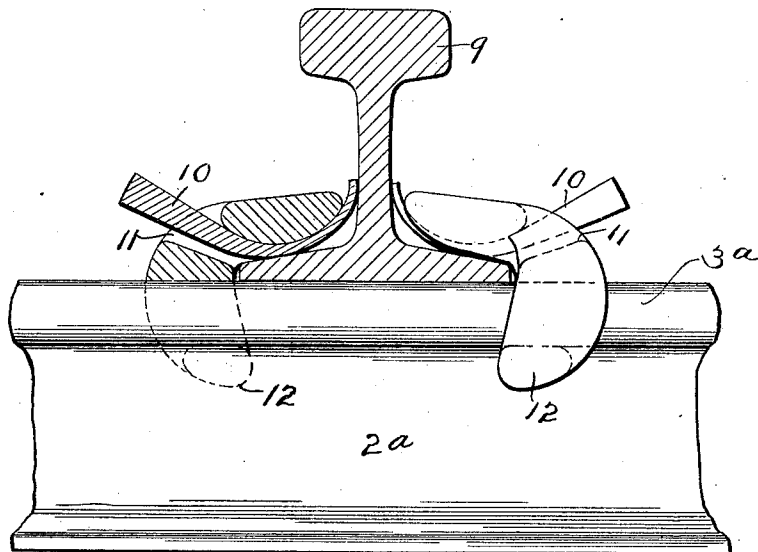


Fig. 6.



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# UNITED STATES PATENT OFFICE.

WILLIAM HENRY MORGAN, OF ALLIANCE, OHIO.

CLAMP FOR SECURING RAILROAD-RAILS TO METAL TIES.

1,005,278.

Specification of Letters Patent.

Patented Oct. 10, 1911.

Application filed January 31, 1911. Serial No. 605,668.

*To all whom it may concern:*

Be it known that I, WILLIAM H. MORGAN, of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Clamps for Securing Railroad-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 clamps for securing railroad rails to metal ties, the object being to provide simple and comparatively inexpensive devices, that can be readily and quickly applied; which will permit of the necessary adjustments of the rail on the tie to secure the proper gage to the rails both in new work and also when necessary to shift the rails to compensate for wear, and which cannot be displaced by the contact therewith of derailed wheels.

With these and other objects in view my invention consists in the parts and combinations of parts as will be more fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in plan showing the preferred form of ties used, with the rails secured in place. Fig. 2 is a view in cross section of the rail, tie and one clamp, and showing another clamp in elevation. Fig. 3 is a view similar to Fig. 2 of a modified form. Fig. 4 is a view in perspective of the clamp. Fig. 5 is a view of a clamp adapted for use on a straight tie and also showing the tie and rail. Fig. 6 is a view in section of same.

The clamp shown in Figs. 1 to 4 is specially designed for securing rails to metal ties having ends bent parallel with each other so as to provide rail supports extending lengthwise the rails as shown in my pending application No. 602,666 filed January 14, 1911, while that shown in Figs. 5 and 6 is intended for straight ties made of sections of rail road rail, or other I-shapes.

In the application above referred to, the tie is of I-shape, in cross section and preferably made from a section of old rail, the whole of the head of the rail section, or the end portions only of said head, being expanded laterally to form the base flange of the tie, and the base flange of said rail section forming the head of the tie. I prefer

to make the tie Z-shape in plan and for the purposes of illustrating my invention, have so shown it.

The tie comprises a base flange 1, a web 2, and a head or top flange 3, the base flange being preferably wider than the top flange. When made from old rails, the whole, or end portions of the rail section, are expanded laterally to form the widened base flange 1, thus converting the base flange of the rail into the head or top flange of the tie. The tie having substantially the cross section above described, is bent at its ends as at 4, into parallel planes, the proper distance apart to carry the rails at the required gage.

The web 2 of the tie is provided with holes 5 for the reception of the shank 6 of the clamp, and the shank 6 is provided with a hook shaped end 8, adapted to readily pass through hole 5, and engage the side of the web as clearly shown in Fig. 2. The clamp consists simply of two connected integral jaws 7—7<sup>a</sup> which are also integral with the shank 6. These jaws have inclined gripping surfaces, the gripping surface on jaw 7<sup>a</sup> adapted to engage the upper surface of the base flange 9<sup>a</sup> of the rail 9, while the inclined face of jaw 7 is engaged by the wedge 10 which latter passes through an opening 11 in the clamp, the said opening being in line with the under surface of head 3 of the tie. The clamp is preferably made of malleable iron or steel casting, and the wedge 10 of soft steel.

The space between the jaws of the clamp is sufficiently large to permit of the necessary lateral adjustment of the rails on the tie, to secure the proper gage, both in new work, and also where it is necessary to adjust the rails to compensate for wear. One clamp may be used on, say the inner side of the rail, and two on the outer side, at each end of the tie, or one or more may be used on each side of the rail, and they are applied by simply passing the jaws over the edges of the tie, and base flange of the rail, and the end of the shank 6 through hole 5. By now driving in the wedge 10, the latter will engage the lower jaw and the under side of the head of the tie, and the web of the latter, and be bent downwardly at its inner end. The insertion of the wedge firmly locks the hooked end of the shank to the web of the tie, and locks the rail to the

tie, while the bending of the wedge, locks the latter against the possibility of accidental displacement.

With a clamp thus constructed and applied, it will be seen, that it cannot be removed or displaced while the wedge is in position, and when properly locked, operates to hold the rail solidly and firmly on the tie.

The construction shown in Fig. 3 is substantially identical with that above described, except that, the hole 11 in the clamp, is so located that the wedge 10 will engage the upper jaw 7<sup>a</sup> of the clamp and the upper surface of the base flange of the rail, and will be bent by engagement with the rail, instead of by engagement with the tie, as in the previously described construction. This same type of clamp can be employed for locking a rail to a straight metal tie, of approximately I-shape in cross section, whether specially rolled or made from a section of old rail.

Fig. 5 shows the application of such clamp to a straight tie. In this construction, the clamp has but one jaw which overlaps the base flange of the rail and is provided with a depending stirrup 12 adapted to embrace the head 3<sup>a</sup> of the tie, the stirrup being open at its center for the passage of the web 2<sup>a</sup> of the tie. The body of the clamp is provided with an opening 11 for the passage of the wedge 10, which latter is driven in between the jaw and the base flange of the rail. The stirrup 12 snugly embraces the head of the tie, so that when tilted by the driving of the wedge into position between the jaw and the base flange of the rail, the stirrup will grip the head of the tie and be locked thereto, while the jaw and wedge lock the rail to the tie. With this construction the clamps are threaded onto the ends of the tie, and are free to be adjusted lengthwise the latter.

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. A device for securing rails to metal ties comprising a clamp having two integral jaws, one adapted to overlap the base flange of the rail, and the other underlie and engage the head of the tie, the lower jaw having means engaging the tie for locking the clamp thereto, the said clamp having an opening through same in a plane intermediate its jaws for the passage of a wedge,

which when in place, clamps the base flange of the rail to the head of the tie.

2. A device for securing rails to metal ties, comprising a clamp having two integral jaws, one adapted to overlap the base flange of the rail, and the other underlie and engage the head of the tie, the lower jaw having means engaging the tie for locking the clamp thereto, and a wedge passing through the clamp intermediate the jaws and engaging one jaw and the part of the tie or rail adjacent said jaw.

3. A device for securing rails to metal ties, comprising a clamp having two integral jaws, one adapted to overlap the base flange of the rail and the other underlie and engage the head of the tie, the lower jaw having an integral member adapted to interlock with the web of the tie and a wedge passing through said clamp intermediate the jaws, and adapted to engage one jaw and the flange of the rail or tie adjacent said jaw.

4. A device for securing rails to metal ties, comprising a clamp having two integral jaws one adapted to overlap the base flange of the rail and the other underlie and engage the head of the tie, the lower jaw having means engaging the tie for locking the clamp in place, and a wedge adapted to pass through the clamp intermediate the upper jaw and base flange of the rail and engage both.

5. A device for securing rails to metal ties, comprising a clamp having an upper jaw adapted to overlap the surface of the base flange of the rail, and a lower jaw to engage the head of the tie, the lower jaw having integral member provided with a hookshaped end for interlocking with the web of the tie, and a wedge adapted to be driven into the clamp below the upper jaw and engage the latter and also the base flange of the rail.

6. The combination with a metal tie having bent ends to form seats for the rails, the said bent ends being parallel and substantially I-shape in cross section, of a clamp having two jaws one adapted to overlap the base flange of the rail and the other underlie the head of the tie, the lower jaw having means engaging the tie for locking the clamp thereby, and a wedge passing through the clamp to a plane between the jaws and engaging the upper jaw and the base flange of the rail.

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

WILLIAM HENRY MORGAN.

Witnesses:

JOHN H. LLOYD,  
N. C. FETTERS.