

A. P. BAMBERGER & G. PORTER.
 SPLICE PLATE FOR RAILS.
 APPLICATION FILED FEB. 23, 1912.

Patented June 11, 1912.

1,029,166.

Fig. 1.

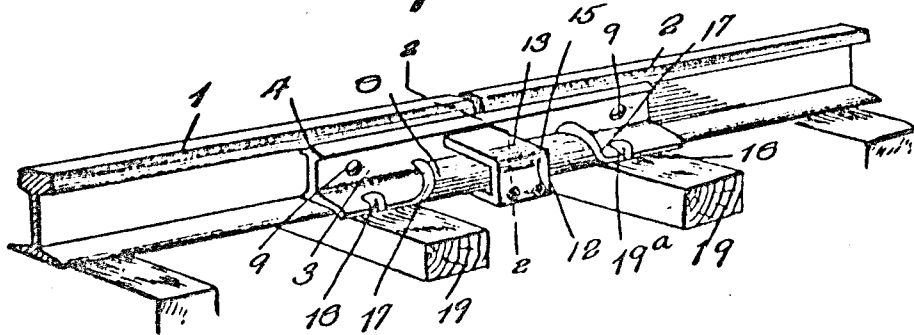


Fig. 2.

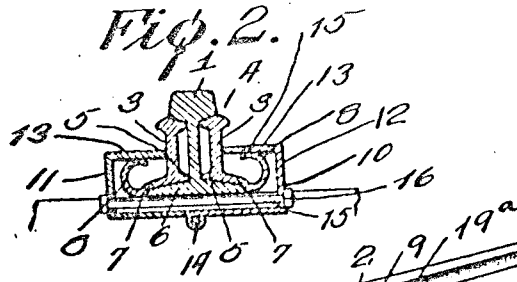


Fig. 3.

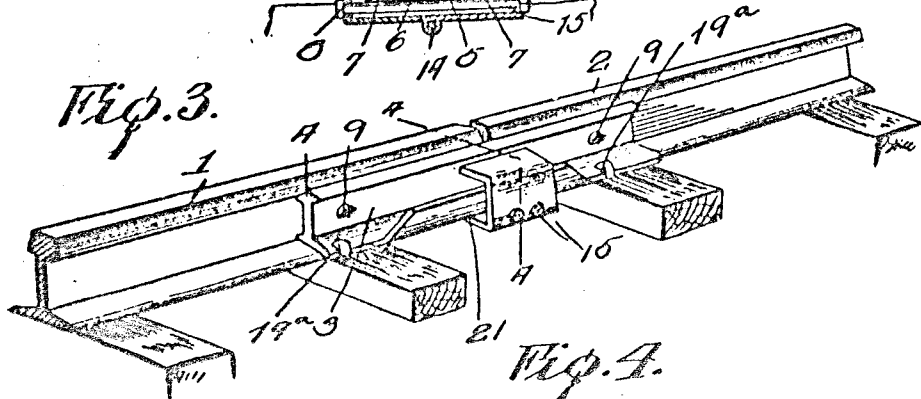
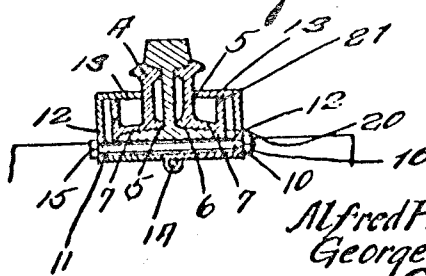


Fig. 4.



Witnesses
 M. A. Bond.
 R. R. Bond.

Inventors.
 Alfred P. Bamberger
 George Porter
 E. M. Bond
 Attorney

UNITED STATES PATENT OFFICE.

ALFRED P. BAMBERGER, OF NEW CUMBERLAND, AND GEORGE PORTER, OF NEW MARKET, PENNSYLVANIA, ASSIGNORS OF ONE-FOURTH TO WALTER M. SMITH AND ONE-FOURTH TO FORREST N. BURNS, BOTH OF NEW CUMBERLAND, PENNSYLVANIA.

SPLICE-PLATE FOR RAILS.

1,029,166.

Specification of Letters Patent.

Patented June 11, 1912.

Application filed February 23, 1912. Serial No. 679,509.

To all whom it may concern:

Be it known that we, ALFRED P. BAMBERGER and GEORGE PORTER, citizens of the United States of America, and residents of New Cumberland, in the county of Cumberland, State of Pennsylvania, and New Market, in the county of York, State of Pennsylvania, respectively, have invented certain new and useful Improvements in Splice-Plates for Rails, of which the following is a specification.

This invention relates to certain new and useful improvements in fastenings for meeting ends of railway rails and it has for its object among others to provide a simple and improved construction embodying splice-plates and clamps which may be readily applied, easily adjusted, and which when in place will serve most efficiently to secure the rails at the joints and to subserve all the purposes and bring about the results desired in this class of devices.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

The invention is capable of embodiment in a variety of forms, the most desirable of which we have chosen to show in the present instance, but these will serve to illustrate the principle involved. The invention, in such preferred forms, is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view showing the application of our improved device. Fig. 2 is a vertical cross section on the line 2—2 of Fig. 1. Fig. 3 is a view similar to Fig. 1 showing a modified form of construction. Fig. 4 is a vertical cross section on the line 4—4 of Fig. 3.

Like numerals of reference indicate like parts throughout the different views.

Referring to the drawings, 1 and 2 designate rail sections, at the abutting ends of which our improvement is applied.

Referring first to Figs. 1 and 2, 3 are the splice-plates, each having a vertical or web portion and at the upper edge thereof the laterally enlarged portion 4 adapted to engage under the tread of the rail, as seen best in Fig. 2. The lower edge of the web

portion terminates in the inward extension 5 which rests upon the base 6 of the rail and abuts against the web of the rail at its junction with said base. Extending in the opposite direction or outward from the web of the splice-plate is the portion 7 which bears against the upper face of the base of the rail and from thence extends upward, forming a curved member 8, the upper portion of which forms a rest for a member of the clamp soon to be described. As the splice-plates upon opposite sides of the rail are identical in construction, the above detail description of the one will suffice for both. The splice-plates are secured to the abutting ends of the rails by suitable means, as, for instance, the bolts 9 passed through the webs of the splice-plates and the web of the rail, as seen clearly in Fig. 1. The clamp comprises two like members 10 and 11, each comprising a base portion extended beneath the bottom of the rail, a vertical end member 12 and a horizontal upper member 13, which latter rests upon the upper or horizontal portions of the curved members 8 of the splice-plates, as seen clearly in Fig. 2.

In use, the splice-plates are applied, as shown, and secured to the abutting ends of the rails. The clamp is then applied. For ease of application, the members 10 and 11 are pivotally united at their adjacent ends and mounted in any suitable manner upon a pivot 14. This permits of the clamp being placed under the rail between the ties and the two ends then brought over the curved members 8 of the splice-plates and when in position, as seen in Fig. 2, a bolt or bolts 15 are applied by passing the same through the vertical members of the clamp, beneath the rail, suitable nuts 16 being applied for an obvious purpose.

While the parts above described may be of any desired dimension, both as to length, thickness and width, we have found in practice that the splice-plates serve quite efficiently when made say twenty-six and one-half inches in length, the shank or web of the splice-plate to be at least five-eighths of an inch in thickness, although these dimensions are not necessary. The curved members 8 are sheared off or cut away at their ends, as seen at 17, so as to provide room for the application of a claw bar for pulling out

the spikes 18 when necessary, the said spikes being employed to secure the ends of the splice-plates to the ties 19. The splice-plates are provided with slots 19a for the reception of the spikes. These spike slots may be at any desired distance from the ends of the splice-plates. These slots, in connection with the spikes engaged therein at each end of the splice-plate and the bolts 19 passing through the plate and rail at each end of the plate, serve to keep the rails from shoving endwise.

In Figs. 3 and 4 we have shown a modified form of the device which, however, embodies all of the essential features of that shown in Figs. 1 and 2. In this form, the splice-plates are substantially the same as in Fig. 2 in so far as the members 4, 5 and 7 are concerned. In this form, however, the member 7, instead of being turned up in the form of a curve, has a downward extension 20 which abuts against the outer edge of the base 6 of the rail and an upward extension 21 which, instead of being curved as in the other form, rises substantially vertically and upon the upper face of which rests the horizontal member 13 of the adjacent portion of the clamp. In this form, the clamp is substantially the same as in the form shown in Fig. 2, the parts being secured in position in substantially the same manner, the bolt passing through the vertical end members of the clamp and under the rail, the clamp being applied in the same manner as before.

The rod which serves as the pivotal connection between the two members of the clamp should be so constructed as to prevent the rod or bolt from working loose out of the clamp hinges. This may be accomplished in any of the well-known ways, such, for instance, as forming the head upon one end and a key at the other, or any other well-known means may be provided for accomplishing this end.

It will be noted that the clamp jaws bear against the shanks of the splice-plates upon both sides of the rail and serve the purpose of bolts, no bolts being necessary except at each end of the splice-plate. It will be observed that no bolts pass through the center of the splice-plates and thus we do away with the necessity of the employment of bolt holes in the ends of the rails and all liability of breaking of the rails by reason of the bolt holes in their ends is avoided. This construction, in connection with the raised or bent up portion of the splice-plates extending substantially from tie to tie, makes a much stronger construction and in putting down new steel rails the non-cutting and shifting of the ties results in a material saving of time and labor and greatly increases the life of the fastening device.

Our plates are turned upward out of the

way, there being no ears or other projections running down between the ties. We not only thus avoid the necessity of cutting out some of the tie or else moving the latter which requires time and weakens the ties, but the upturned portion of the plate which extends substantially from tie to tie or from spike to spike greatly reinforces and strengthens the plate and, consequently, the joint between the rails.

Modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is:—

1. In a railway rail fastening, a splice-plate having an upturned portion between its ends to overlap the joint between the rails and a clamp having a portion resting on said upturned portion of the splice-plate the end of said clamp bearing against the vertical portions of the splice plates.

2. A splice-plate embodying a web, a tread-engaging portion, and a lateral base member with an upturned member, combined with a clamp having a lateral portion to rest upon said member the free end of said lateral portion bearing against the vertical portion of the web of said splice plate.

3. A splice-plate embodying a web, a tread-engaging portion, and a lateral base member with an upturned member, combined with a clamp having a lateral portion to rest upon said member, said clamp being formed in hinged sections.

4. A splice-plate comprising a web, a tread-engaging portion, a lateral base member with web-engaging portion, and an upturned member forming a rest for a clamp the free end of said lateral portion bearing against the vertical portion of the web of said splice plate.

5. A splice-plate embodying a web portion, a tread-engaging member, and a base member having an upturned portion forming a rest for a clamp member, the base member terminating at a point above the tie-engaging plane of the splice-plate combined with a clamp having an inwardly extending portion bearing against said upturned portion and engaging the web of said splice plate.

6. A splice-plate having an outwardly extended lateral base member terminating in an upwardly and inwardly curved member, combined with a clamp having an inwardly extended upper member adapted to rest upon the upper face of said curved member of the splice-plate, the inner end of said inwardly extended upper member bearing against the web of the splice plate.

7. A splice-plate having an outwardly extended lateral base member terminating in an upwardly disposed part, a clamp having an inwardly extended upper member adapt-

ed to rest against the shank of said splice-plate, and a bolt passed through said clamp and beneath the rail.

8. Splice-plates having outwardly extended lateral base members terminating in upwardly disposed parts, a clamp in hinged sections, each section having an inwardly extended upper member adapted to abut against the shanks of the splice-plates and
5 to rest upon the upper face of the upturned
10 to rest upon the upper face of the upturned

parts of the splice-plates, and a bolt connecting the vertical members of the clamp and disposed beneath the base of the rail.

Signed by us at New Cumberland Pa.
this 16th day of February 1912.

ALFRED P. BAMBERGER.
GEORGE PORTER.

Witnesses:

R. R. MACIVOR,
E. M. HELM.