

S. A. HOLMAN.
RAIL JOINT.
APPLICATION FILED JAN. 18, 1909.

946,545.

Patented Jan. 18, 1910.

Fig. 1.

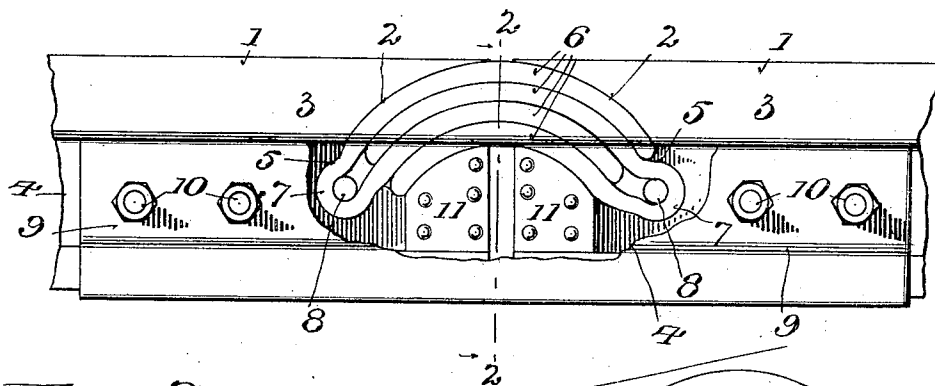


Fig. 2.

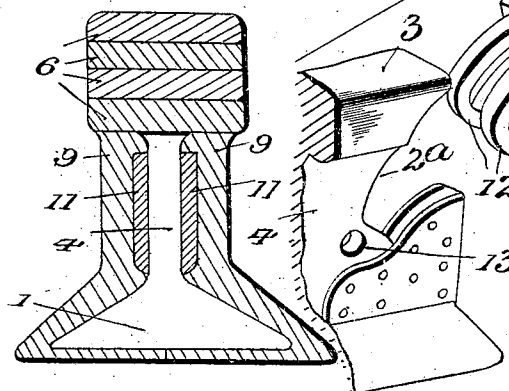
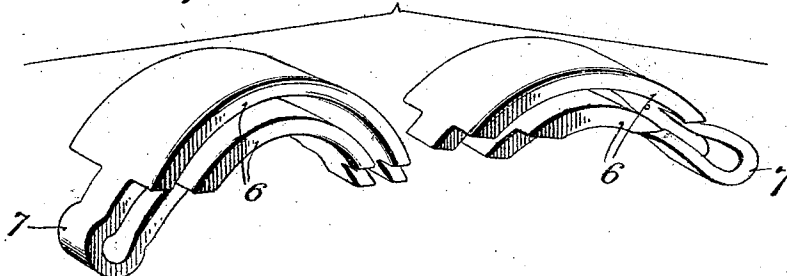


Fig. 4.

Fig. 3.



Inventor

S. A. Holman

Witnesses

[Signature]

[Signature]

By

[Signature]

Attorneys

UNITED STATES PATENT OFFICE.

STEPHEN A. HOLMAN, OF SANTA MARIA, CALIFORNIA.

RAIL-JOINT.

946,545.

Specification of Letters Patent.

Patented Jan. 18, 1910.

Application filed January 18, 1909. Serial No. 472,874.

To all whom it may concern:

Be it known that I, STEPHEN A. HOLMAN, citizen of the United States, residing at Santa Maria, in the county of Santa Barbara and State of California, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention comprehends certain new and useful improvements in rail joints, and the invention has for its object a simple, durable and efficient construction of device which is designed to be applied to the meeting ends of the rails and is arranged to afford a continuous tread, in event of the rails being spaced slightly apart, the device being susceptible of being readily secured in position and being adapted to adjust itself automatically upon the expansion or contraction of the rails from changes in temperature.

With this and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe, and then point out the novel features thereof in the appended claims.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a side elevation, partly in section, illustrating the application of the invention; Fig. 2 is a transverse section on the line 2—2 of Fig. 1; Fig. 3 is a detail perspective view of the truss members; and Fig. 4 is a detail view of a modified form hereinafter specifically described.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing, the numeral 1 designates two rails which are formed in their adjacent ends with corresponding segmental recesses 2 extending transversely therethrough. These recesses lead from the heads 3 of the rails at points in close proximity to the tread surfaces and curve oppositely and downwardly and extend into the webs 4 with their extremities contracted, as indicated at 5, it being observed that with

this construction, the portions of the heads that overhang the recesses are tapered, so as to terminate substantially in knife edges. Located in each of the recesses 2, are one or more truss members 6, preferably two, which are superposed and spaced apart vertically, and which project beyond the respective ends of the rails and terminate in the recesses in the opposite rails, the truss members secured to the respective rails, overlapping and interlocking, as best seen in Fig. 1, so as to constitute a substantially arch-shaped extensible support, which is arranged at its highest point below the tapered extremities of the heads 3 and substantially in the plane of the tread surface of the rails. In the present instance, the two truss members carried by each rail, are constructed of a single plate of spring metal which is doubled upon itself transversely near its middle point, as indicated at 7, and which has such doubled portion seated in the contracted extremity 5 of the corresponding recess.

Bolts 8 are passed transversely through the doubled portions 7 and are engaged with suitable fish plates 9 disposed on opposite sides of the webs 4, the said fish plates being further secured to the rails by other bolts 10. The doubled portions 7 and the portions of the truss members 6 located in the webs 4, are substantially the same in width as the latter, so as to fit in between the fish plates 9, the remaining portions of the truss members that are mounted in the heads 3 of the rails, being relatively wide and substantially equal to the width of the tread surface, the wider portions being arranged, when the ends of the rails are in contact, to bear against the uppermost edges of the fish plates to strengthen the structure as a whole. The meeting ends of the rails are preferably reinforced by side plates 11 that are applied to the opposite faces of the webs 4 below the lower walls of the recesses 2, and that are riveted or otherwise rigidly secured in position.

From the foregoing description, in connection with the accompanying drawing, it will be manifest that in the event of the rail ends being spaced apart upon the contraction of the rails, the interlocking truss members 6 will be drawn apart longitudinally to extend the support and compensate for the movement of the rail, while the uppermost portion of the uppermost truss member 6

will be exposed between the spaced extremities of the heads 3 of the rails, as illustrated in Fig. 1. Inasmuch as this uppermost portion of the support is located substantially in the plane of the tread surface of the rail, it will substantially fill the gap between the ends thereof, and will afford a practically continuous tread. It will be obvious that should the rails contract further to increase the space between the ends thereof, the arch-shaped support will automatically adjust itself to such condition, or if the rail should expand to close the gap, the truss members composing the support will return to their former or normal positions.

Attention is particularly directed to the fact that this improved device may be quickly and conveniently applied to the rail, and in addition to its function above described, also assists to some extent in holding the meeting ends of the rails together. Furthermore, the device embodies to a marked degree the characteristics of simplicity, durability and efficiency in construction and operation, and consists of comparatively few parts so that it may be easily and cheaply manufactured and readily assembled.

In one embodiment of the invention, as illustrated in Fig. 4, the truss members 6^a are provided at their doubled ends with pairs of transversely spaced ears 12 by means of which they are attached to the corresponding rails, the ears projecting beyond the extremity of the recess 2^a and being disposed on opposite sides of the web 4, and being adapted for registry with a bolt hole 13 formed therein so as to admit of the bolt 8 being passed therethrough to secure the parts together.

Having thus described the invention, what I claim is:

1. In a rail joint, the combination with rails formed in their meeting ends with registering segmental slots, and an arch shaped extensible support spanning the joint and seated at its opposite ends in the slots.

2. In a rail joint, the combination with the meeting ends of the rails, of a support seated therein and extending therebetween and adapted to be exposed between the ends of the rails, the support being extensible to compensate for the expansion and contraction of the rails.

3. In a rail joint, the combination with the meeting ends of the rails, of an arch-shaped extensible support mounted therein and having its uppermost portion arranged substantially in the plane of the tread surface of the rails and adapted to be exposed between the ends thereof to afford a continuous tread.

4. In a rail joint, the combination with rails formed with curved slots leading from the opposing ends of the heads of the rails in close proximity to the tread surfaces, the

extremities of the heads overhanging the slots and being tapered, and a support seated in the slots and spanning the joint and adapted to be exposed between the said tapered extremities to afford a continuous tread.

5. In a rail joint, the combination with the rails formed in their meeting ends with corresponding segmental recesses leading from the heads of the rails in proximity to the tread surfaces thereof and curving oppositely and downwardly, of an extensible arch-shaped support seated in the respective recesses and extending between the rails with its uppermost portion adapted to be exposed between the ends thereof to afford a continuous tread.

6. In a rail joint, the combination with rails formed at their meeting ends with overhanging tread portions terminating substantially in knife edges, and a member interposed between the said meeting ends and supporting the overhanging tread portions and adapted to be exposed between the knife edges thereof to afford a continuous tread.

7. In a rail joint, the combination with the meeting ends of the rails, of an extensible support mounted therein and extending therebetween and composed of a plurality of superposed interlocking truss members secured to the respective rails.

8. In a rail joint, the combination with the meeting ends of the rails, of an extensible support mounted therein and extending therebetween and composed of a plurality of interlocking truss members connected to the respective rails, the truss members carried by each rail being superposed and spaced apart and formed from a plate doubled upon itself at an intermediate point.

9. In a rail joint, the combination with the rails formed in their meeting ends with corresponding recesses having their opposite extremities contracted, of an extensible support seated in the recesses and extending between the rails and composed of a plurality of interlocking truss members connected to the respective rails, the truss members carried by each rail being superposed and spaced apart and formed from a plate doubled upon itself intermediate of its ends, and the doubled portion of the plate being engaged in the contracted end of the recess, as and for the purpose specified.

10. In a rail joint, the combination with the rails formed in their meeting ends with corresponding recesses having their opposite extremities contracted, of an extensible support mounted in the recesses and extending therebetween and composed of a plurality of interlocking truss members connected to the respective rails, the truss members carried by each rail being superposed and spaced apart and formed from a plate doubled upon itself intermediate of its ends,

the doubled portion of the plate being seated in the contracted end of the recess, fish plates disposed on opposite sides of the rails, and fastening elements passing through the
5 doubled portions of the plates and engaged with the opposite fish plates.

11. An extensible support adapted to span a rail joint and consisting of separate pairs of interlocking members, the members of
10 each pair being constructed of a single plate doubled upon itself at an intermediate point.

12. An arch-shaped extensible support spanning a rail joint and consisting of sepa-

rate interlocking members connected to the respective rails. 15

13. An arch-shaped extensible support spanning a rail joint and consisting of a plurality of superposed interlocking members connected to the respective rails.

In testimony whereof I affix my signature 20
in presence of two witnesses.

STEPHEN A. HOLMAN. [L. S.]

Witnesses:

DAVID GRIFFITH,
J. A. BARTON.