J. FOSTER.

RAILROAD RAILS.

No. 188,617. Patented March 20, 1877.

Fig. 1.

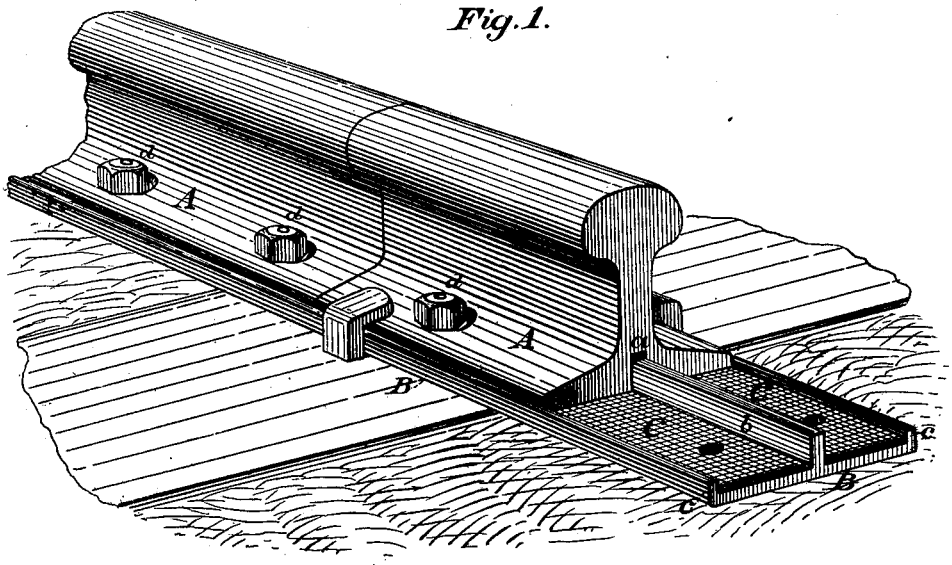


Fig. 2.

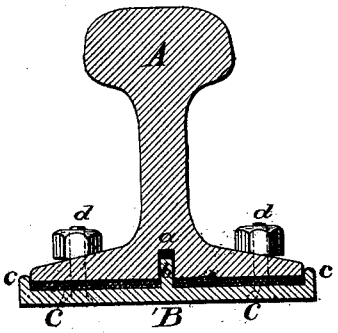
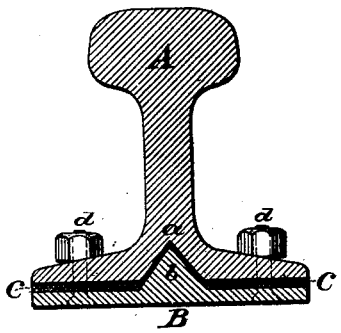


Fig. 3.



Attest:

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UNITED STATES PATENT OFFICE.

JOSIAH FOSTER, OF HONESDALE, PENNSYLVANIA.

IMPROVEMENT IN RAILROAD-RAILS.

Specification forming part of Letters Patent No. **188,617**, dated March 20, 1877; application filed October 3, 1876.

To all whom it may concern:

Be it known that I, JOSIAH FOSTER, of Honesdale, in the county of Wayne and State of Pennsylvania, have invented a new and useful Improvement in Railroad-Rails; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object I have in view is an improvement in railroad-rails with a view to dispense with fish-plates, make the rails more durable in wear, more safe in use, less destructive to the rolling-stock, and adapted to be laid with such a uniformity of track-surface as will enable an engine to draw greater loads at higher speeds than upon railroad-tracks as made at present.

My invention therein consists in constructing the rail with a central groove upon the under side of its base, extending its whole length, and in combining with such a rail a shoe or supplementary rail of a length equal to ordinary rails, having a central fin or rib to correspond with the groove in the main rail. Between these two rails an elastic packing may be used, and whenever so used the shoe or supplementary rail may have side flanges embracing the sides of the base of the main rail. These two rails are to be laid so as to break joints.

In order that those skilled in the art may know how to make and use my rail, I now proceed to describe the same, having reference to the drawings, in which—

Figure 1 is a perspective end view of my rails in position; Fig. 2, a vertical cross-section of the same; Fig. 3, a cross-section showing a modification of the same.

Similar letters denote corresponding parts in each figure.

A represents the main rail, of ordinary construction, and having a central groove, *a*, running its entire length on the under side of the base. This groove is preferably rectangular or angular, as shown in the drawings, and should not extend into the base a greater distance than a point at or about the level of the top of the base, so that there may be at least as much thickness and strength of metal on each side of the top of the groove that there is in the web of the rail.

B represents the shoe or supplementary rail, of the ordinary length of railroad-rails, and made, preferably, of steel. This rail has a central fin or rib, *b*, corresponding in shape and size with the groove *a*.

C is an elastic packing, of any suitable description, preferably of textile fabric, intended to be made in strips of suitable width, and interposed between the rails A and B.

When this packing is used it will be found convenient to have the shoe-rail B made with edge-flanges *c* embracing the outsides of the base of the rail A.

This packing, however, may be used when the rail B has no such flanges, as shown in Fig. 3.

The two rails are secured together by means of suitable bolts *d* at the ends of the bases of the rails A, and at intermediate points of the same, where the ends of the rails B meet, it being understood that these rails should break joints.

The rails are laid by placing the rail B upon the ties, and fitting the rail A with the packing upon it, and securing them all together by the bolts.

The combined rail is then secured by chairs or spikes, or both, in the usual way.

As the rails are of the same length they may be transported, fitted together, and secured by any convenient wires, hoops, or other temporary fastening.

It will be perceived then that I provide a compound rail, where fish-plates, with their great expense and various annoyances, are dispensed with; where the losses arising from broken rails are almost wholly obviated, as there will be very little probability of a flaw in both rails at the same point; where the track can be maintained at a uniform level, and thereby the engine can draw greater loads at higher rates of speed; and where, in consequence of the breaking of joints, and the uniform support of the ends of the rails, there is little or no destruction of the ends of the rails.

In consequence of the intimate union of the two rails at all points there is no danger of

the shoe-rail being pounded or anviled out by the main rail.

It will be understood that these rails may be used with or without the packing, as may be preferred; but, ordinarily, it will be found of advantage to use it.

Having thus described my railroad-rail, what I claim as new therein, and my own invention, is—

1. In railroad-rails, the combination of the T-rail A, provided with the groove *a*, and the flat shoe-rail B, having a central fin or rib, *b*, the several parts constructed and arranged substantially as described.

2. In railroad-rails, the combination of the T-rail A, provided with the groove *a*, the flat shoe-rail B, having a central fin, *b*, and the interposed packing C, the several parts constructed and arranged substantially as described.

This specification signed and witnessed this 2d day of October, 1876.

JOSIAH FOSTER.

Witnesses:
R. N. DYER,
E. C. WEAVER.