J. FOSTER.
Railroad-Track.

No. 198,370. Patented Dec. 18, 1877.

Fig. 4.

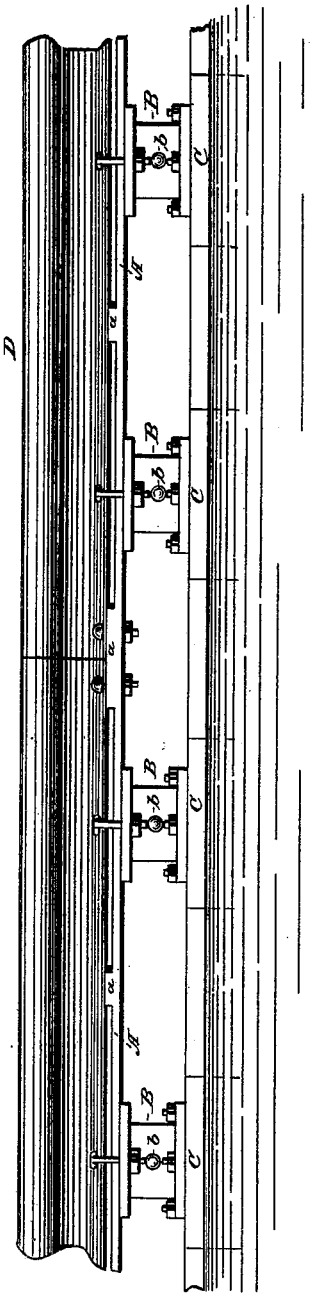


Fig. 2.

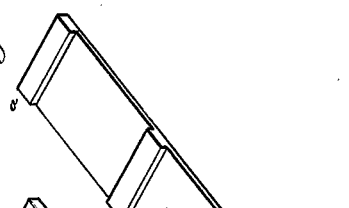


Fig. 1.

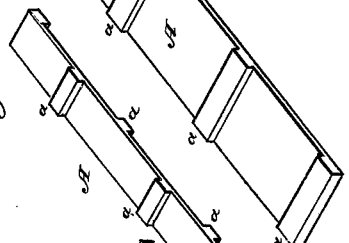


Fig. 3.

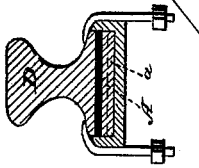
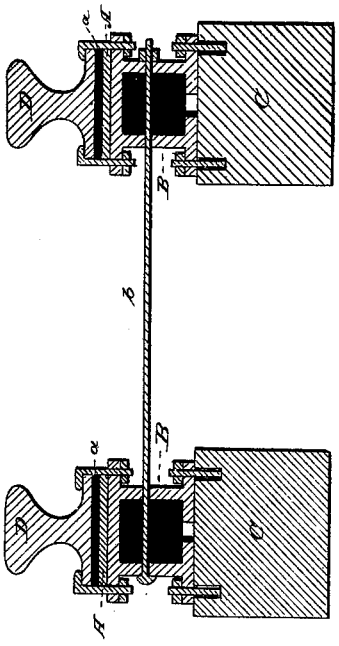


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSIAH FOSTER, OF HONESDALE, PENNSYLVANIA.

IMPROVEMENT IN RAILROAD-TRACKS.

Specification forming part of Letters Patent No. **198,370**, dated December 18, 1877; application filed October 2, 1877.

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 the production of a metallic spring-plate to be interposed between the portions of a two-part rail, such as is shown in Letters Patent No. 188,617, granted to me March 20, 1877, or any other rail constructed on a like principle, and which can also be employed as a supplementary rail, to give the necessary elasticity when the rails are supported on a rigid bed, as one constructed of concrete or masonry, or upon rigid pillars; and my invention therein consists, mainly, in supporting a T or other rail upon a spring metallic supporting plate or plates extending longitudinally under the same; and, further, in constructing such plate of a thin piece of metal, and providing it with projecting bearing-points upon one or both sides, all as more fully hereinafter explained.

To enable others skilled in the art to manufacture and use my invention, I proceed to describe the same, having reference to the drawings, in which—

Figure 1 is a view of the spring-plate with bearing-points upon both sides; Fig. 2, a similar view, showing bearing-points only on one side; Fig. 3, a cross-section of a two-part rail with my spring-plate with bearing-points on both sides applied thereto; Fig. 4, a side elevation, showing the rails supported upon rigid pillars and the spring-plate interposed between the rails and pillars; and Fig. 5, a cross-section of the same through two pillars.

Like letters denote corresponding parts.

A represents the spring-plate, which I intend to roll from steel. The width of the plate is varied to adapt it for the different constructions of rails to which I apply it, and its thickness vertically is sufficient to support the weight which will be imposed upon it. From one or both sides of the plate project bearing-points *a*, running across the same. In Fig. 1 these bearing-points are shown as formed on both sides of the plate, and arranged alternately, so that each bearing-point is half-way between the two adjoining ones on the opposite side, while in Fig. 2 the bearing-points are only on one side of the plate, and in both instances these points are placed such a distance apart as to give the necessary elasticity.

The manner in which I propose to use my spring-plate is as follows: With the two-part rail described in my patent, No. 188,617, before referred to, I would employ the construction shown in Fig. 1 of the drawings, and two sets of these plates would be required, one on each side of the central rib, which would be placed between the T-rail and the shoe-rail, and would act as a spring-support for the T-rail; but I have also designed to do away with the central rib, as shown in Fig. 3, and use but one single wide spring-plate between the T-rail and the shoe-rail, and the side flanges to the shoe-rail can also be dispensed with.

Another manner of supporting the rails upon the spring-plates is illustrated in Figs. 4 and 5. In this instance short metallic pillars B, with top and bottom flanges, are used, and these are bolted to rigid blocks C of stone. These pillars B are preferably cast hollow, and have four solid sides, as shown, a hole being left in the bottom of each, through which the sand is withdrawn after casting. A single set of wide spring-plates with the bearing-points only on the upper side, Fig. 2, is laid on each line of pillars, the bearing-points coming centrally between the pillars. On these are placed the rails D, and both the rails and the spring-plates are secured in position on the pillars by spike-bolts passing through the flanges on the pillars, and bearing against the sides of the rails and the spring-plates, the heads of the spikes catching on the flanges of the rails. For additional strength, the pillars may be connected by tie-rods *b*.

It will be noticed that in this case the pillars act the same in connection with the single set of bearing-points to produce the elasticity of the plate as do the double set of bearing-points in the previously-described application of such spring-plate.

Where the ends of two rails meet they can

be secured to the spring-plate by bolts, as shown in Fig. 4, and the bearing-point can be extended to give room for the bolts, if desired; or the two adjoining pillars could be set nearer together to take the strain.

It will be seen that by the use of my spring-plate the road-bed of the railroad can be constructed rigidly of concrete and stone, or any solid masonry, and the wooden cross-ties ordinarily used may be dispensed with, since the rails will have sufficient elasticity to prevent them from being hammered or pounded out by passing trains.

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

1. The combiantion, with a T or other rail, of a spring-plate rail, A, placed longitudinally under the same, and having bearing-points formed thereon upon one or both sides, substantially as described and shown.

2. The combination, with a T or other rail, of a spring-plate rail having bearing-points formed threeon upon one or both sides, placed longitudinally under the same, and supporting-pillars, upon which the spring-rail rests, substantially as and for the purposes set forth.

3. In a foundation for railroads, the combination of the masonry-work C and the hollow metal supports B, substantially as described.

This specification signed and witnessed this 28th day of September, 1877.

JOSIAH FOSTER.

Witnesses:
R. N. DYER,
L. W. SEELY.