

FROG PLATES FOR RAIL ROAD TRACKS

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71905

PATENTED
DEC 10 1867.

Fig. 1.

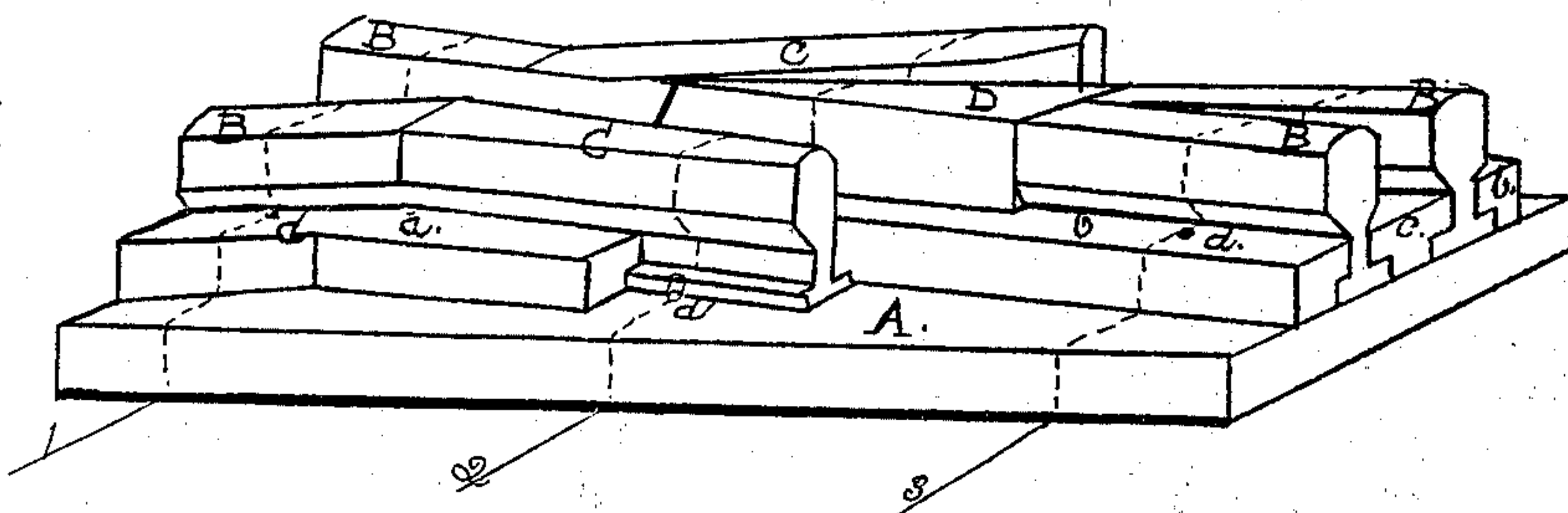


Fig. 2.

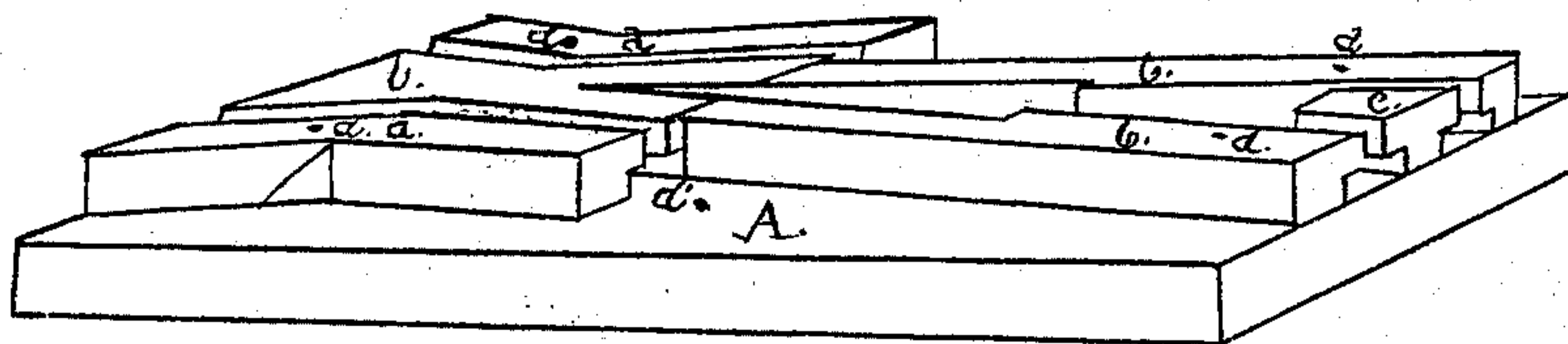


Fig. 3.

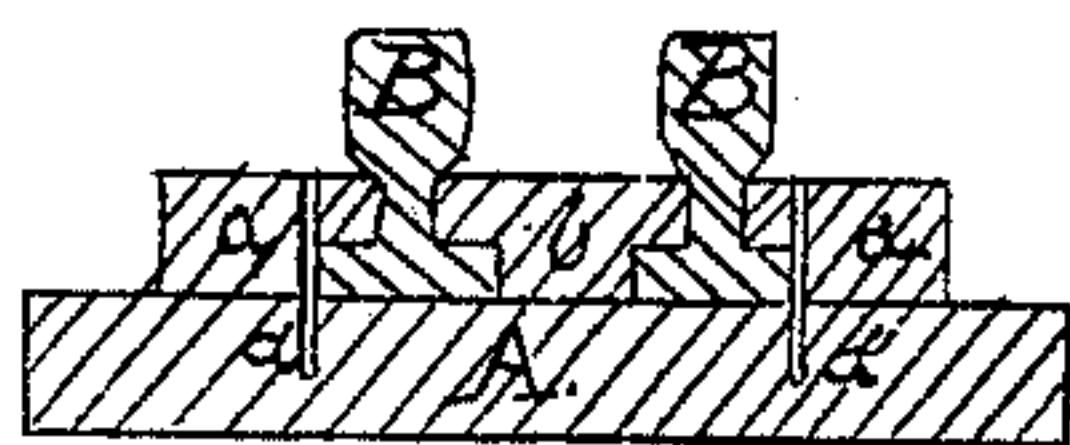


Fig. 4.

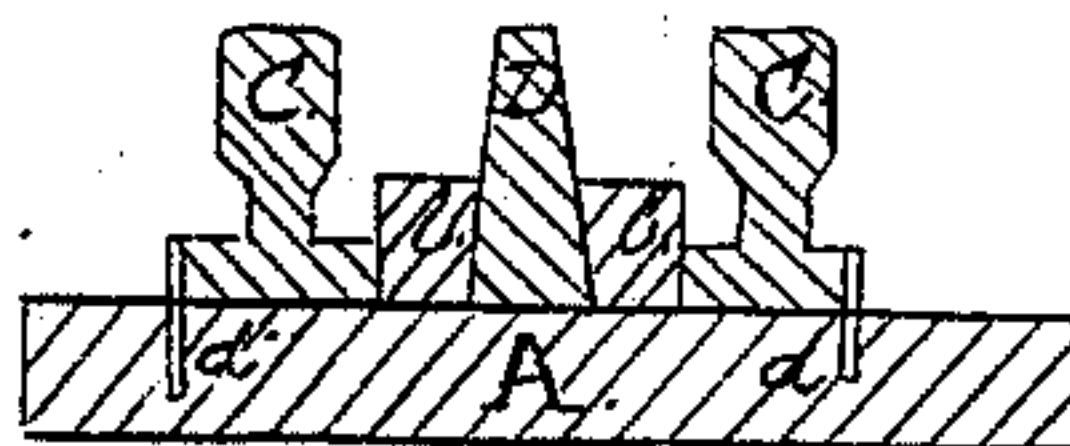


Fig. 5.

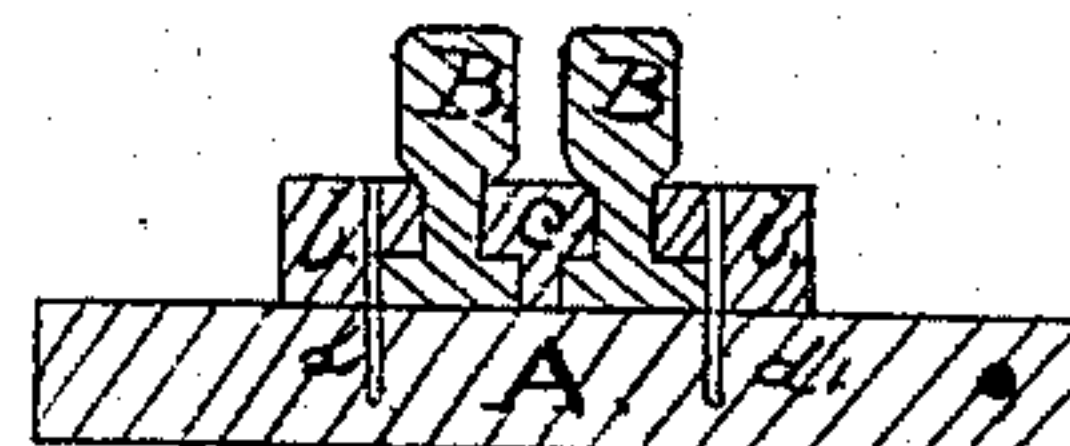
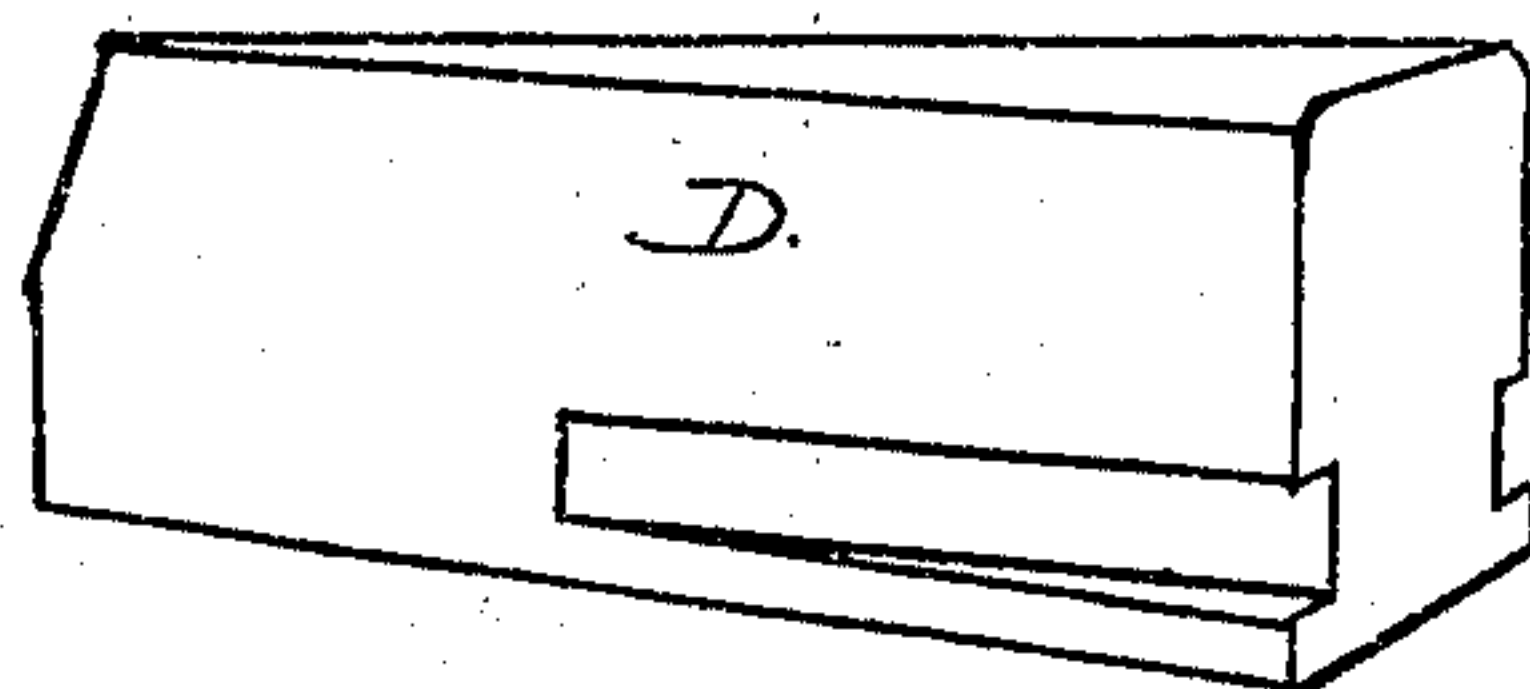


Fig. 6.



Witnesses
J. L. Shaw
And J. S. Seams

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STAATS N. PARK, OF BLOOMSBURY, NEW JERSEY.

Letters Patent No. 71,905, dated December 10, 1867.

IMPROVED RAILWAY-FROG.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, STAATS N. PARK, of Bloomsbury, in the county of Hunterdon, and State of New Jersey, have invented certain new and useful Improvements in the Construction of Frogs or Frog-Plates for Railway-Tracks; and I do hereby declare that the following is a full, clear, and exact description thereof, and of their mode or manner of operation, reference being had to the accompanying drawings, and to the letters of reference marked thereon, and making a part of this specification.

Railway-frogs, as heretofore constructed, have been made solid, that is, the plate which supports the rail-sections, guard-rails, and the frog-point, and such rail-sections, frog-point, &c., have been made in one and the same piece, or permanently fixed together so as to be immovable upon each other. Such frogs have also generally been made of cast iron, and consequently have required to be of considerable thickness in order to have necessary strength, and consequently they have been of great weight, and thereby rendered both inconvenient and difficult to handle, either to put down or to remove in case of repairing fracture, &c. Frogs so constructed are also very liable to become broken, particularly in cold weather, in which case new ones can be substituted only at considerable expense.

By my invention the frog can be made much lighter than heretofore, and at the same time it will be much stronger and less liable to become broken. The plate and rail-sections, frog-point, &c., are made separate, and the latter can be detached from the plate without disturbing or moving it, and the entire structure can be made much cheaper, and kept in good order and condition at trifling expense:

Figure 1 is a perspective view of a frog complete.

Figure 2 is a like view of the frog-plate with the rail-sections, &c., removed.

Figures 3, 4, and 5 are sections of fig. 1 through the lines 1, 2, 3.

Figure 6 is a detached view of the frog-point.

The distinguishing feature of my invention consists in so constructing the frog-plate, (or the plate supporting the rail or track-sections, guard-rails, and frog-point,) and the track-sections, guard-rails, and frog-point with reference to each other, that such plate and the parts resting thereon can be made entirely separate from each other, and the latter, that is, the track-sections, guard-rails, and frog-point, can be detached from the plate, whenever necessary, without removing or taking up the plate.

The base or foundation-plate A can be made of wrought or rolled iron, and will thereby be much stronger than if made of cast iron, and will not be liable to crack or become broken from frost or other causes, and such plate can also be made comparatively light and still have all required strength. The parts *a b c*, which hold or connect the rail or track-sections B B, guard-rails C C, and frog-point D, to the frog-plate A, are also made of wrought or rolled iron, and are bolted or fastened to the frog-plate so as to be immovable thereon. The plate A and the fixed parts *a b c*, constitute together the frog-plate, which is to be firmly and securely fixed to the foundation-timbers or support of the road. The pieces *a b c*, before they are fixed to the plate A, are cut away by a planer, as shown in fig. 2, so as to correspond in shape with the neck and foot of the rail, so as to form, when fixed to such plate, recesses or grooves, into which the track-rails can be inserted, as shown in fig. 1, and more clearly in section in figs. 3 and 5. The rail-sections B B are portions of the rails forming the track beyond the frog, and a more steady and continuous track is thus obtained than can be secured with the use of the ordinary frogs. The guard-rails C C may be pieces of the ordinary track-rails, and are to be inserted in recesses or grooves, shown in fig. 2, fitted for them. The frog-point D may be made with a foot, like that of the ordinary track-rail used, or may be made with a base broader than its top, and have inclined or bevelling sides, as shown in section in fig. 4, or may be made with both bevelled sides and a partial foot, as shown in fig. 6, and the pieces *b b* will be shaped, where the frog-point is to rest, to correspond with it, so as to firmly retain and secure such point, and the ends of the track-rails, abutting against the frog-point, will prevent it moving backwards and forwards in its seat. The track-sections B B are secured in the frog-plate by means of spikes, *d*, which pass through the parts *a* and *b* and into the frog-plate, and the guide-rails C are in like manner fastened by spikes *d'*. The inclination towards each other of the rail-sections B B will depend upon the angle at which the tracks cross each other, and the position of the parts *a b c* will be adapted to the circumstances of any particular case.

It will be at once apparent, by constructing the frog-plate and the track-sections, frog-point, &c., separate from each other, and so forming such plate and such rail-sections, frog-point, &c., with reference to each other, that the latter can be detached from the former, that if at any time the ends of the track-rails, resting on the frog-plate, or the guard-rails or the frog-point become battered or worn or broken, so as to in any degree affect the motion of or injure the rolling-stock, that such worn or broken parts can be easily removed, and new parts substituted in their places at but little trouble or expense, and without moving or disturbing the frog-plate. The frog can thus be repaired as required, and kept continually in good and complete order with but comparatively little trouble and at small expense, and in a very short time, and without interfering with the operations of the road. And as the ordinary rails of the road-track form track-sections B B of the frog, the frog is thus in fact made a part of the track, and is not a separate part inserted in it, and the track is thus rendered more continuous, and the jolting and jarring, which are ordinarily produced in crossing a frog, will be, to a very great degree, prevented, thus not only increasing the comfort of the passenger, but also preventing injury to the rolling-stock.

The pieces *a b c* can be shaped to correspond to any form of rail used upon any railway, and can be readily placed on the plate A to meet any angle of crossing required. The plate A, being made of wrought or rolled iron, can be made comparatively light, and can thus be much easier placed in position, or removed, if found necessary. The guard-rails C C may be made of steel, if desired. The whole frog will also be much more durable than as heretofore constructed, and can be kept in more complete order and repair, and at the same time be made much cheaper.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. So constructing the frogs of railways that the frog-plate and the rail or track-sections, guard-rails, and frog-point are separate from each other, and so that the rail-sections and guard-rails and frog-point can be inserted in or attached to and detached from the frog-plate, for the uses and purposes set forth.
2. So constructing the frogs of railways or the frog-plate, that the track-rails of any railway can be extended upon and combined with such frog-plate to form the track or rail-section of the frog, substantially as and for the purposes set forth.

Witnesses:

S. D. LAW,
FRED. B. SEARS.

STAATS N. PARK.