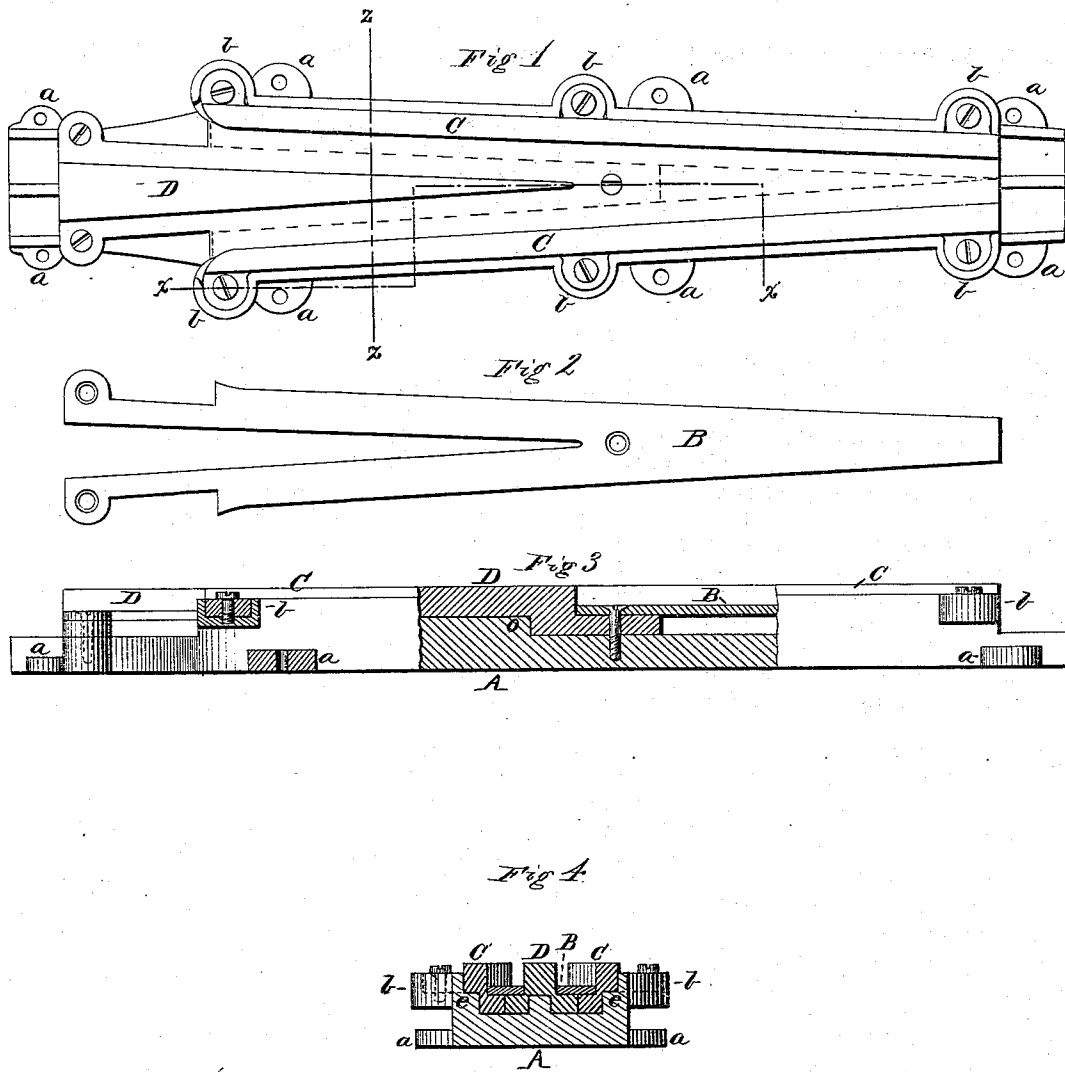


D. C. PIERCE.

Improvement in Railway-Frogs.

No. 126,082.

Patented April 23, 1872.



Witnesses.

Harry King
Phil. T. Dodge

Inventor.

D. C. Pierce
by Dodge Munn
Atty.

UNITED STATES PATENT OFFICE.

DENISON C. PIERCE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN RAILWAY-FROGS.

Specification forming part of Letters Patent No. 126,082, dated April 23, 1872; antedated April 10, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, DENISON C. PIERCE, of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Railway-Frogs, of which the following is a specification, reference being had to the accompanying drawing.

My invention relates to railroad-frogs; and the invention consists in an improved method of constructing and arranging the parts, as hereinafter more fully explained.

Figure 1 is a top-plan view of the frog complete. Fig. 2 is a view of the top plate detached. Fig. 3 is a side elevation, with a portion shown in section on the line *xx* of Fig. 1; and Fig. 4 is a transverse vertical section on the line *zz* of Fig. 1.

The present invention is an improvement upon the frog patented to me, February 1, 1870, whereby I am enabled to reduce the size and weight of the detachable rails and point, thus making it cheaper and in some respects better.

To construct my improved frog, I provide a base-plate, A, of cast-iron, as in the former case, but of different form. In the former case, the frog and side rails were provided with a lateral flange on each side at the bottom, in order to give them the necessary bearing on the base-plate, which was made flat on its upper face, or nearly so; this construction requiring the steel rails and point to be made very heavy in order to have the requisite strength. In the present case, I make the base-plate A with a raised ledge, *e*, along each side, almost as high as the top of the side rails, as shown in Figs. 3 and 4, this ledge or flange being formed along its inner face with an offset or shoulder, as shown in Fig. 4. This base-plate A, I also provide with two series of ears or projections, *a* and *b*, as represented in Figs. 1, 3, and 4, the series *a* being for the purpose of bolting the frog to the sleepers, and the other series, *b*, being for the purpose of securing the rails to the base-plate. The base-plate A is also provided with a raised portion or projection at the center, where the point or frog-rail D is to be secured, the latter being made with a cavity on its under side to fit snugly down over this raised portion, which is shown at *o*, Fig. 3. I then construct the side or guard rails C of steel, and of a form in cross-section corresponding with the shouldered sides or

flanges *e* of the base-plate A, as shown in Fig. 4, and with ears on their outer edges to fit into recesses on the upper surface of the ears *b*, as shown in Fig. 1. By this method of construction, it will be seen that I am enabled to make the rails C and the point D much lighter than by my former plan; and that by the raised and shouldered flanges *e* the rails C are held very securely in place. By providing the rails with the laterally-projecting ears, I am able to bolt them securely to the base-plate without weakening them by making holes through their body, and, as shown, these ears are so arranged that the bolts or screws used in them can be removed without taking up or removing the base-plate whenever it is necessary to replace any of the rails. I also provide an upper plate, B, suitably formed to fit down over the bottom flanges of the rails and point, as in the former case, this plate being securely bolted in position, thus assisting to hold the parts all in place, the plate being shown detached in Fig. 2, and in position in the other figures. It is, however, obvious that this plate B may be dispensed with if desired, bolts in such case being inserted through holes in the base of the rails into the base-plate A, to hold the rails firmly in place; or, if preferred, the rails C and point D may be cast in one piece, and secured by bolts through the ears only. By this plan of construction I greatly lessen the amount of steel or wrought metal used, while the cast-iron base-plate is increased but little in weight. The elastic material may be used with this form of frog the same as with the other.

Having thus described my invention, what I claim is—

1. The base-plate A, provided with the shouldered ledges or flanges *e*, in combination with the rails C of corresponding form, constructed and arranged substantially as described.

2. The base-plate A, having the elevation or projection *o* thereon, in combination with the point rail D, having a cavity in its under side to fit said projection, as set forth.

3. I claim a railway-frog, consisting of the base-plate A, with its shouldered flanges *e* and projection *o*, with the rails C, point D, and plate B, all constructed and combined substantially as herein described.

Witnesses:

D. C. PIERCE.

W. C. DODGE,
PHIL. T. DODGE.