C. C. SHELBY.

Railway-Frogs.

No. 151,923. Patented June 9, 1874.

Fig. 1.

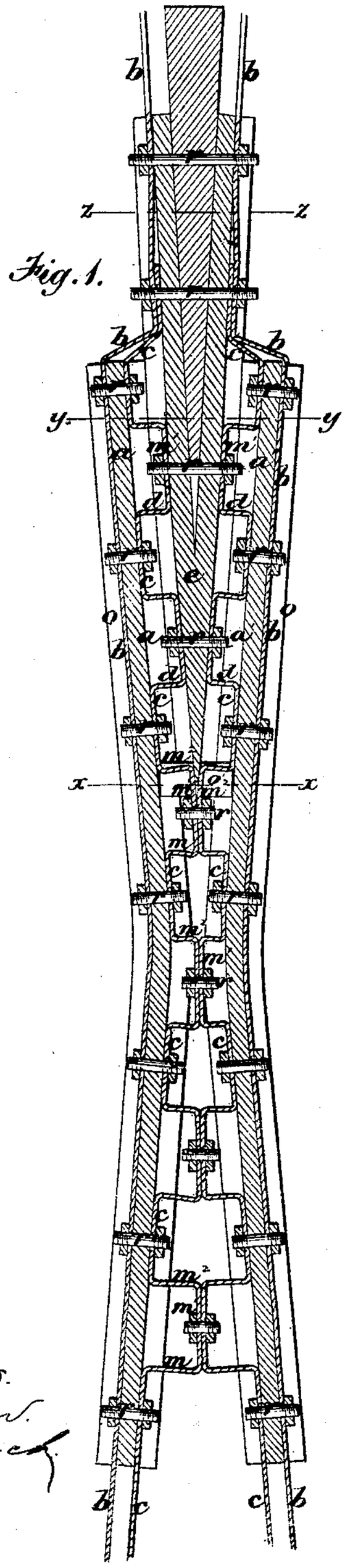


Fig. 2.

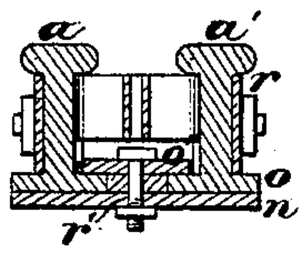


Fig. 3.

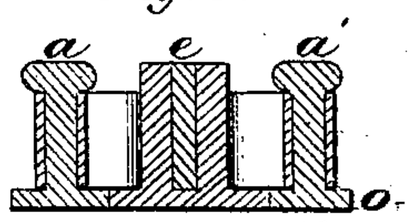
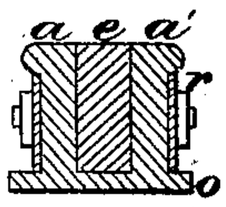


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHRISTOPHER C. SHELBY, OF SPRING VALLEY, NEW YORK.

IMPROVEMENT IN RAILWAY-FROGS.

Specification forming part of Letters Patent No. **151,923,** dated June 9, 1874; application filed February 14, 1874.

To all whom it may concern:

Be it known that I, CHRISTOPHER C. SHELBY, of Spring Valley, in the county of Rockland and State of New York, have invented a new and Improved Railroad-Frog; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top view of my improved frog. Figure 2 is a cross-section in the line *x x*, Fig. 1. Fig 3 is a cross-section in the line *y y*, Fig. 1; and Fig. 4 is a similar section in the line *z z*, Fig. 1.

Similar letters of reference in the accompanying drawings indicate the same parts.

My invention relates to improvements in railroad-frogs; and consists in strengthening the frog and the adjacent rails by outer and inner fish-plates, attached to the rails and frogs, the inner fish-plates being provided with folds and bends which abut against each other, and the frog rendering the parts elastic, the inner fish-plates and frogs being fastened together, as hereinafter more fully set forth.

In the accompanying drawings, *a a'* represent the two rails of the frog *e*, made of a T shape, in the outer grooves of which are inserted the fish-plates *b*, which, after extending along the grooves in the rails *a a'*, are bent at an acute angle, and made to extend in the grooves on each side of the frog, the outer fish-plates for the rails *a a'* and the frog *e* being the continuations of the same plates. *c c* are the inner fish-plates, situated in the inner grooves of the rails *a a'*, and the grooves in the frog *e*. The inner fish-plates *c c* are bent or folded, so as to form three sides of rectangles, *m* m^1 m^2, the parts m^1 between the rails abutting against each other, and being fastened together by screw-threaded bolts *r r*, and nuts. In that part of the construction in which the frog intervenes between the rails *a a'*, the same form of rectangular bends or folds for the inner fish-plates is preserved, and the bolts *r r* pass through the upper parts *m' m'* of the bends of the inner fish-plates, and also through the frog. Bolts provided with nuts also securely fasten the outer and inner fish-plates together, as shown in the drawing. By this construction it will be seen that the open form of the bends or folds in the inner fish-plates allows a ready connection, and the bolts *r* can readily be tightened or loosened, while the open form also gives a spring or elasticity to the parts, and a cheapness to the construction not attained by the use of solid blocks abutting against each other, and bearing against the inner fish-plates, or between them and the opposite sides of the frog. The inner fish-plates *c c* on the frog side of the construction terminate a short distance after meeting the outer grooves in the frog, the outer fish-plates resting on the inner fish-plates in the grooves in the frog, and the inner and outer fish-plates being bolted together, and the outer fish-plates extending some distance beyond the inner fish-plates. At the end of the construction opposite the frog both the outer and inner fish-plates are extended for the reception of the rails connecting with the rails *a a'*. *o o* are the lower rail-plates of the rails *a a'*; and *n*, (see Fig. 2,) is a cross-plate bolted to the rail-plates *o o*, below the point of the frog. *o'* is a similar cross-plate, resting on the inner flanges of the T-rails *a a'*, the plates *o o'* and *n* being connected together by the headed bolt *r''*, provided with a nut on its lower end. In case one or both of the rails should break, and it is desired to replace them, the bolt *r* is removed, and the bolts connecting the outer and inner fish-plates with the rails are taken out, and either or both rails *a a'* replaced by others without interfering with the frog. In a similar manner the frog may be replaced readily, if desired, the rails and fish-plates remaining in their normal positions.

It will be seen that the point of the frog is made to enter between two of the bends or folds *m'* of the inner fish-plates, which abut against each other, and that there are no connecting-bolts passing directly through the rails *a' a* and the frog *e*. By this construction the point of the frog gives or is elastic to some extent, thus obviating in a great degree the danger of breaking the point of the frog, and preventing jar in the passage of the cars from the frog to the rail.

Having thus described my invention, what I claim is—

1. The T-shaped rails *a a'* and T-shaped

frog *e*, in combination with the outer fish-plates *b b*, extending along the grooves in the rails, and continued in one piece in the grooves in the T-shaped frog *e*, the outer fish-plates being bolted to the rails and frog, substantially as described, and for the purpose set forth.

2. The T-shaped rails *a a'* and T-shaped frog *e*, in combination with the bent inner fish-plates *c c*, abutting against each other and the frog-point at the folds, and connected by bolts or other similar fastenings, substantially as described, for the purpose set forth.

3. The rails *a a'* and frog *e*, constructed as set forth, in combination with the outer fish-plates *b b*, inner bent fish-plates *c c* abutting against each other, and the frog-point and connecting-bolts *r r*, substantially as described, and for the purpose set forth.

4. The inner fish-plates *c c*, provided with bends which abut against, and are fastened to, each other, in combination with the frog-point *e*, which is made to enter between the abutting bends to give elasticity or spring to the point of the frog, substantially as described, and for the purpose set forth.

CHRISTOPHER C. SHELBY.

Witnesses:

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