

W. CLOSE.

Improvement in Railway Frogs.

No. 132,750.

Patented Nov. 5, 1872.

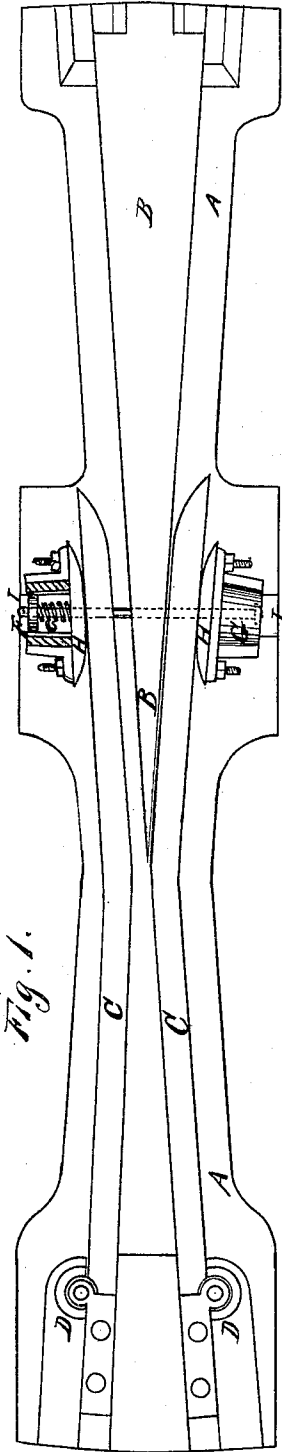


Fig. 1.

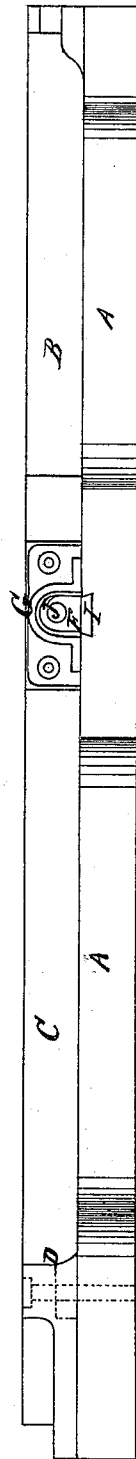


Fig. 2.

Witnesses.  
W. L. ...  
E. McQueen!

Inventor.  
William Close  
By W. M. Smith, atty

# UNITED STATES PATENT OFFICE.

WILLIAM CLOSE, OF SACRAMENTO, CALIFORNIA.

## IMPROVEMENT IN RAILWAY-FROGS.

Specification forming part of Letters Patent No. 132,750, dated November 5, 1872.

*To all whom it may concern:*

Be it known that I, WILLIAM CLOSE, of Sacramento, in the county of Sacramento and State of California, have invented an Improved Frog for Railways; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The object of my invention is to provide an improved frog for use upon railways; and it consists in so constructing it that it will have all the advantages of the spring-rail frog, with greater strength and durability. This is accomplished by constructing the two rails which meet upon each side of the point of the frog in short lengths, which are hinged so as to have a movement to and from the point. Upon the outside of these rails are placed springs which act between the rails and suitable lugs, for the purpose of forcing the rails against the sides of the point at all times when trains are not passing. These lugs are mounted upon a transverse sliding piece, which slides in the base of the frog, and by its free motion relieves the strain and jar from the lugs, which are ordinarily broken in a short time.

Referring to the accompanying drawing for a more complete explanation of my invention, Figure 1 is a plan of my improved frog. Fig. 2 is a side elevation.

A is the base-piece; and B, the point in which the converging rails terminate. C C are the two rails, upon one or the other of which the wheels will travel according as one track or the other is to be used. The rails C are short, and properly made to fit snugly against the point B, running a short distance upon each side of it, and gradually diverging as they leave it. At their ends they are formed into a hinge, as shown at D, and at this point unite with the continuous rails forming the track. In order to prevent the constant jar and the battering of the rails which takes place in ordinary frogs, it is necessary to retain the rails C C in close contact with the

point B, by means of an elastic device which will permit them to be pressed apart by the flange of a passing wheel. This device consists of a stout spring, *e*, which presses against the outside of the rail C, being retained in place by a stout lug, F. The spring is covered and protected by a housing, G, and an elongated washer, H, is secured to it, as shown, to receive the pressure of the spring and transmit it to the side of the rail. The lug F is secured to a transverse bar, I, and this bar moves in a slot or groove in the body A, so as to be below the rails. A stout rod, J, passes through from one lug to the other, and thus binds the whole together in one.

Whenever a train passes the flanges separate the rail B, upon one side, from the point, but the other remains in contact, so that the wheels shall have a continuous track upon which to move, and thus the wear of the point and the side of the rail are much reduced. The motion of the rail C is, however, quite violent and constant when a train passes, and the movable bar I serves to receive and lessen the strain, and thus protect the lugs and springs from straining and breakage.

By this arrangement I am enabled to make a frog which will be strong and exceedingly durable.

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

1. The rails C C with their hinge joint, as shown at D, in combination with the retaining-spring *e* and the adjustable lugs F, substantially as and for the purpose described.

2. The lugs F secured to the transverse sliding bar I, for the purpose of relieving the jar and transmitting the power of the spring, substantially as herein described.

In witness whereof I have hereunto set my hand and seal.

WILLIAM CLOSE. [L. S.]

Witnesses:

C. W. M. SMITH,  
PHILLIP MAHLER.