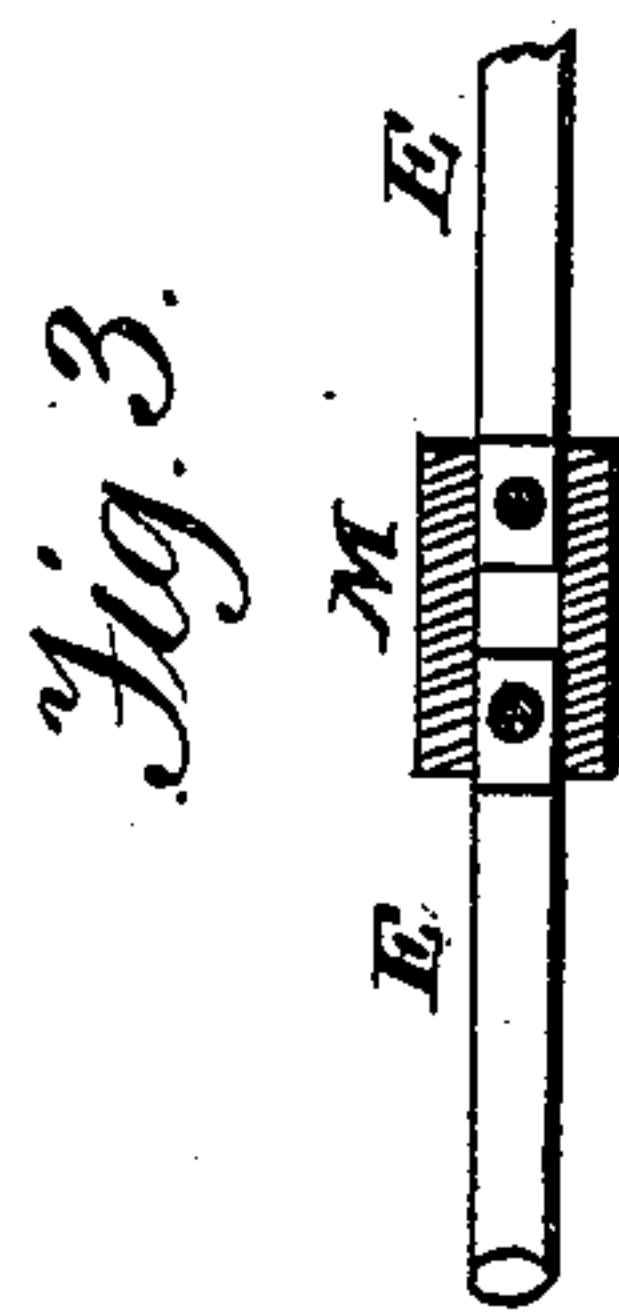
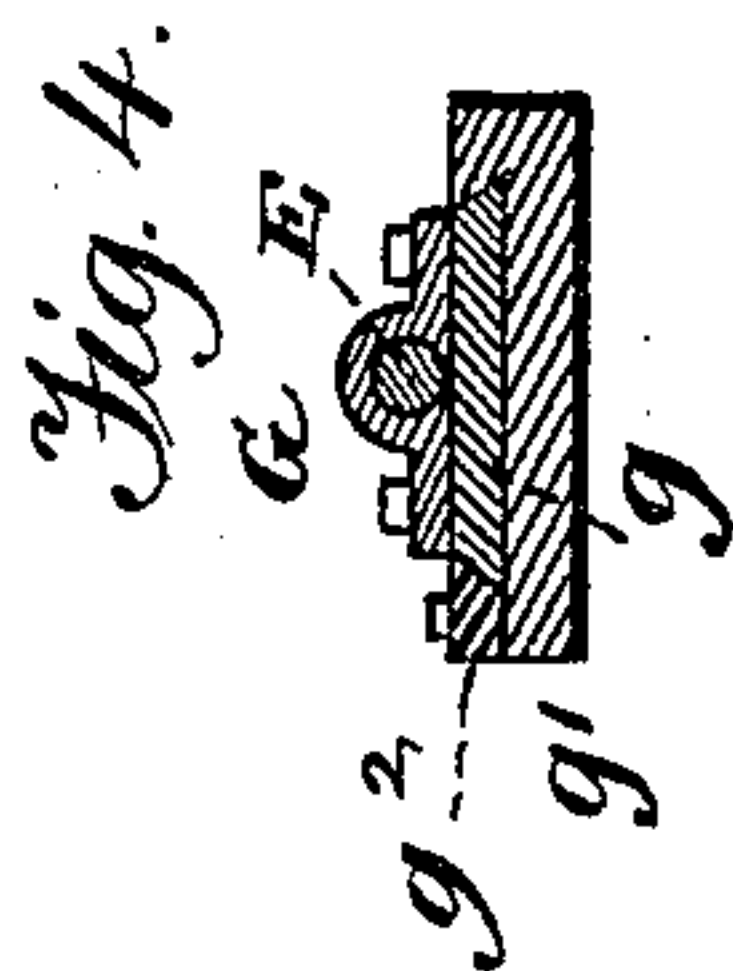
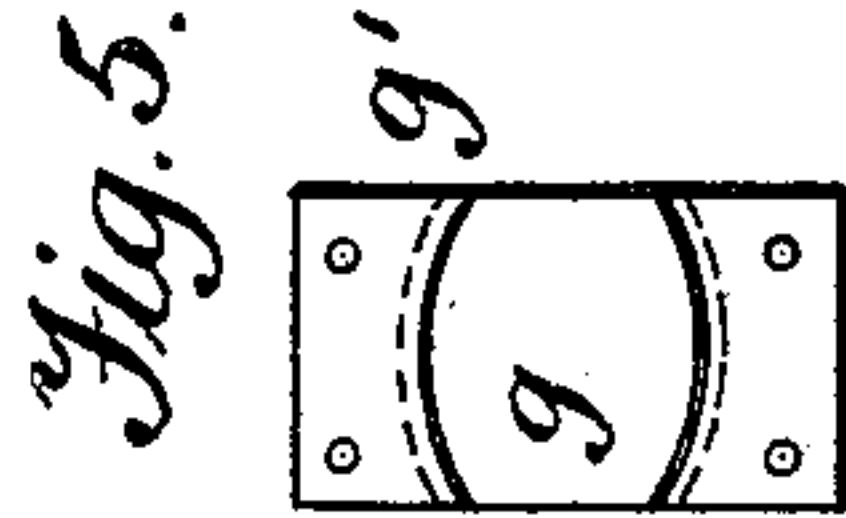
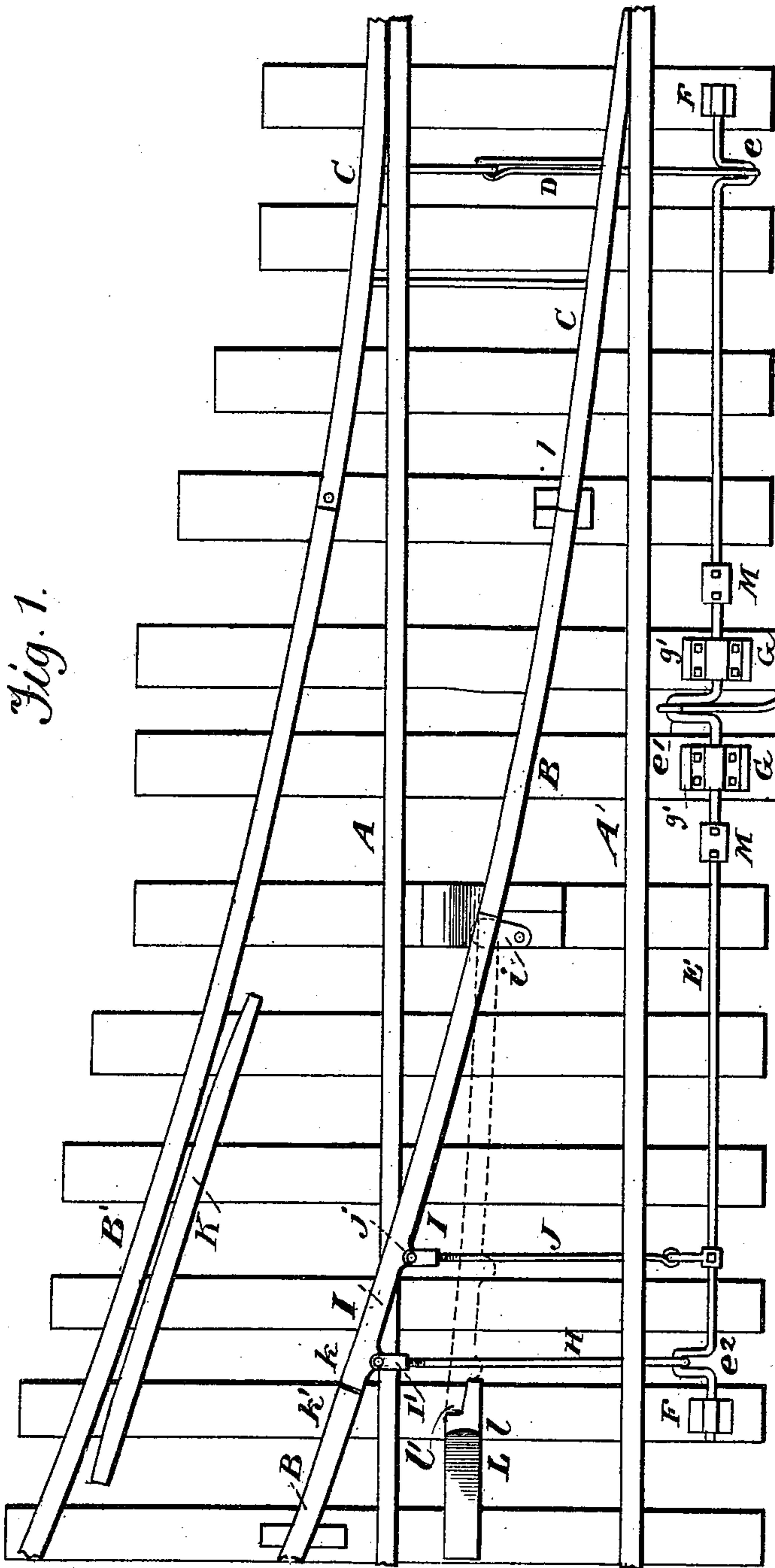


(No Model.)

P. P. MERRIMAN.  
RAILROAD FROG.

No. 464,032.

Patented Dec. 1, 1891.



Witnesses.

A. Ruppert.  
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Inventor.

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# UNITED STATES PATENT OFFICE.

PERRY P. MERRIMAN, OF HARDEEVILLE, SOUTH CAROLINA.

## RAILROAD-FROG.

SPECIFICATION forming part of Letters Patent No. 464,032, dated December 1, 1891.

Application filed January 19, 1891. Serial No. 378,324. (No model.)

*To all whom it may concern:*

Be it known that I, PERRY P. MERRIMAN, a citizen of the United States, residing at Hardeeville, in the county of Beaufort and State of South Carolina, have invented certain new and useful Improvements in Railroad-Frogs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The special object of the invention is to improve railroad-frogs so as to lessen the chances of derailment when cars are passing from the main track to a branch one, or the reverse.

Figure 1 of the drawings is a plan view; and Figs. 2, 3, 4, 5, 6, and 7, detail views, which will be particularly described hereinafter.

In the drawings, A A' represent the rails of a railroad-track, which are fixed, unbroken by frog or switch rails, and without any guard-rail between them, so that trains of cars may run at any desired speed over them without danger of accident or derailment.

B B' represent the branch rails, in which I make the usual switch-rail C C to be operated by the mechanism D E F. I provide the shaft E with three cranks  $e$   $e'$   $e^2$ , so as to simultaneously actuate the frog and switch-rails, the shaft being turned back and forth by the ordinary lever E' in the bearings F G. I make the shaft E in three sections and connect them by the intermediate blocks M M, which turn with the shaft.

The object which I have in view in making shaft E in sections is to allow the "head" to be shortened from a standard or theoretical one which has been adopted by many roads. The numbers of frogs range from four to twelve, and the length of the shaft-rod E is different with each number. Hence it is important to have a maximum shaft in a middle and two outer sections, as the latter can be conveniently cut to shorten it.

G G are the middle bearings of the shaft E, bolted to a turn-plate  $g$ , connected by a dovetail joint with the base-plate  $g'$ , the turn-

plate being arc-shaped on two opposite edges and being inserted or removed by taking off the detachable piece  $g^2$  of the base-plate. In this way I give a certain horizontal play to the shaft E as it turns to lessen the torsional strain thereon. The crank  $e^2$  is jointed to the eye of a rod H, which is adjustably connected with the frog-rail I by means of its end thread and a nut I', pivoted to said rail. I may use one or more additional rods J, jointed at  $j$ , to connect the shaft with the frog-rail, if deemed expedient. I pivot the rail I at  $i$ , so that the meeting ends of the frog-rail and rail B may make a square joint, as shown at  $k$   $k'$ , so as to enable the frog-rail as it is moved to clear away the ice or other obstruction in its path for itself. I may sometimes use the short diagonal joint shown in Fig. 2 of the drawings; but it does not so perfectly clear its pathway to the joint at any time, and is better adapted to its purpose in summer than in winter.

K is the guard-rail, which I arrange within and near the outside branch rail B', opposite to the frog-rail, so as to take a part of the strain on the frog and switch mechanism when the cars are passing.

L is a block, made preferably of metal and provided with a shoulder behind which the end of the switch-frog rail I rests, so as not to be struck by the pilot, brake-rods, or brake-beams, which are liable to catch under the end of the frog-rail. I also make a side flange  $l$ , which serves as a stop or limitation of its backward movement, and an incline  $l'$ , up which the pilot, brake-rods, or brake-beams may slide and pass over the end of the frog-rail. The frog rail I rises upwardly from its pivot  $i$  to its free end  $k$ , crosses the main track-rail A, and meets the equally high end  $k'$  of the branch rail B, while the ends  $k$   $k'$  are rabbeted, respectively, on top and underneath to form a lap-joint, as shown in Fig. 7 of the drawings, thus making a solid support for the car-wheel at the ends  $k$   $k'$  and one not liable to separate from any cause.

What I claim as new, and desire to protect by Letters Patent, is—



1. The combination, with the turn-shaft bearings G G, of the plate *g*, arranged to turn in a base-plate *g'*, as and for the purpose described.

5 2. The switch-rail I and branch rail B, surface-jointed at the meeting ends *k k'* to enable the end *k* to sweep all obstructions from its path and in front of the end *k'*, thus leav-

ing the ends *k k'* evenly aligned with nothing jammed between them.

In testimony whereof I affix my signature in presence of two witnesses.

PERRY P. MERRIMAN.

Witnesses:

A. RUPPERT,

HENRY J. ENNIS.