

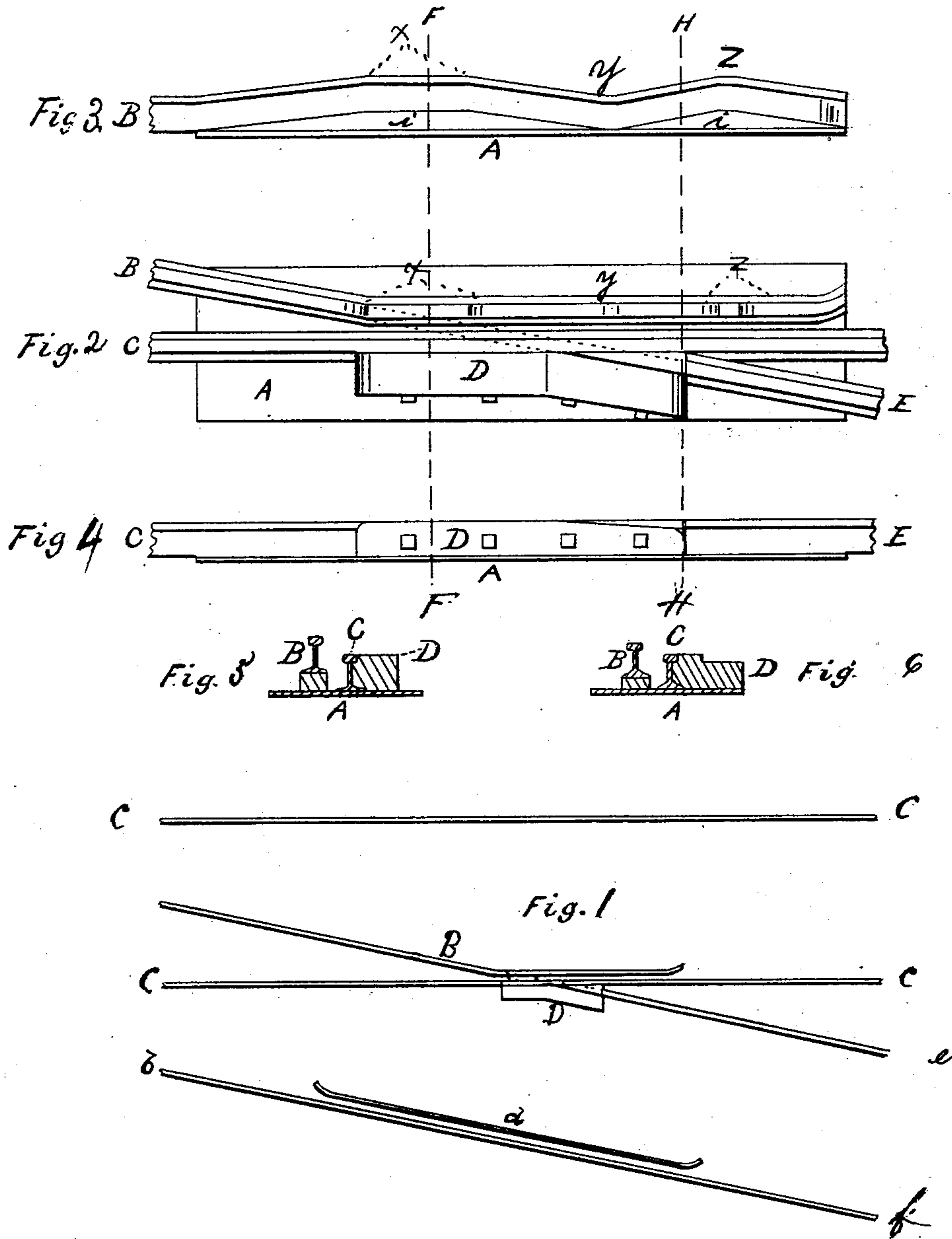
(No Model.)

N. STEDMAN & J. N. SARGENT.

RAILROAD FROG.

No. 328,864.

Patented Oct. 20, 1885.



WITNESSES

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# UNITED STATES PATENT OFFICE.

NATHAN STEDMAN AND JOHN N. SARGENT, OF AURORA, INDIANA.

## RAILROAD-FROG.

SPECIFICATION forming part of Letters Patent No. 328,864, dated October 20, 1885.

Application filed April 8, 1885. Serial No. 161,612. (No model.)

*To all whom it may concern:*

Be it known that we, NATHAN STEDMAN and JOHN N. SARGENT, citizens of the United States, residing at Aurora, in the county of Dearborn and State of Indiana, have invented certain new and useful Improvements in Railroad-Frogs; and we 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.

Our invention relates to railroad-frogs, and is adapted to all kinds of tracks where steam, horse, or hand cars are used.

The objects of our invention are to provide a frog such that the main-track rails are left unbroken, at the same time allowing the cars to move over either the main or side track with perfect safety and at a high rate of speed.

To this end our invention consists, first, in providing the frog with a double elevated rail, and, second, such other details of construction and combinations as will more fully hereinafter appear.

In the drawings, Figure 1 represents both the main and side tracks at the crossing. Fig. 2 represents the double elevated rail, the inside rails of the main and side tracks, the bed-plate, and lifting-bar. Fig. 3 represents the double elevated rail, the double-wedged-shaped supports, and bed-plates. Fig. 4 represents the continuous rail, the lifting-bar, the inside rail of the side track and bed-plate. Fig. 5 represents a sectional cut at the line F F of Figs. 2, 3, and 4. Fig. 6 represents a sectional cut at the line H H of Figs. 2, 3, and 4.

B represents the double elevated rail, which begins a short distance from the point of intersection of the inside rails of the main and side tracks, and extends to and beyond said point of intersection without crossing the main-track rail. It then gradually descends to a level with the main-track rail, and then gradually makes a second elevation until it rises to an equal height as that made by the first elevation. The elevation at  $x$  serves the double purpose of carrying the wheels of the cars up and over the main-track rail over and onto the lifting-bar; also, to keep the wheels close to the main-track rail when the car is passing along the main track. The elevation at  $z$  is also for the

purpose of keeping the wheels close to the main-track rail when the cars are passing along the main track.

It is found that in engines having on each side three large driving-wheels the middle or blind wheel is apt to take the elevated rail at the depression  $y$ , it being at that point necessarily level with the main-track rail. In this way the entire weight of the engine is thrown onto the blind or middle wheel at the point  $x$ , owing to the direction the cars are moving, which often results in throwing the engine from the track.

To prevent this the rail is extended and elevated from the point  $y$  to and beyond the point  $z$ , so as to allow the elevations  $x$  and  $z$  to strike the flanges of the front and rear wheels and keep them in line until the middle or blind wheel has passed the point  $y$ .

C C represent the continuous rails of the main track.

E represents the inside rail of the side track on the outside of the main-track.

D represents the lifting-bar on which the flanges of the wheels rest on being carried over the main-track rail.

A represents the bed-plate upon which the frog rests.

b represents the outside rail of the side track.

d represents the guard-rail of the side track.

i i represent the double-wedged-shaped supports.

The operation is as follows: The frog is so constructed that when an engine having three drivers on each side is passing the frog the front and rear drivers are opposite the points  $x$  and  $z$ , while the middle or blind wheel is opposite the point  $y$ . In this way the wheels are kept in line and the blind wheel prevented from climbing the elevated rail B. The cars entering the switch are carried up and over the main-track rail onto the lifting-bar by the elevated rail. In passing out of the switch the flange of the wheel is carried up by the lifting-bar D until the face of the wheel is carried over the double elevated rail B at the depression  $y$ . The wheel is then carried up and over the main rail by the elevation  $x$ , and passes down to the track-level beyond.

Having thus described our invention and the best means at present known to us for op-



erating the same, what we desire to secure by Letters Patent, is—

1. In a railroad-frog, the double elevated rail B, as herein described, as and for the purposes set forth.

2. In a railroad-frog, the combination, of the continuous rail and double elevated rail B, as and for the purposes herein set forth.

3. The combination, in a railroad-frog, of the double elevated rail B, the continuous rail C, and the lifting-bar D, as and for the purposes set forth.

4. In a railroad-frog, the double elevated rail, in combination with the double-wedged-shaped supports *i i*, and main rail C, as and for the purposes set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

NATHAN STEDMAN.

JOHN N. SARGENT.

Witnesses:

JOHN STEDMAN,

H. W. FARNHAM.