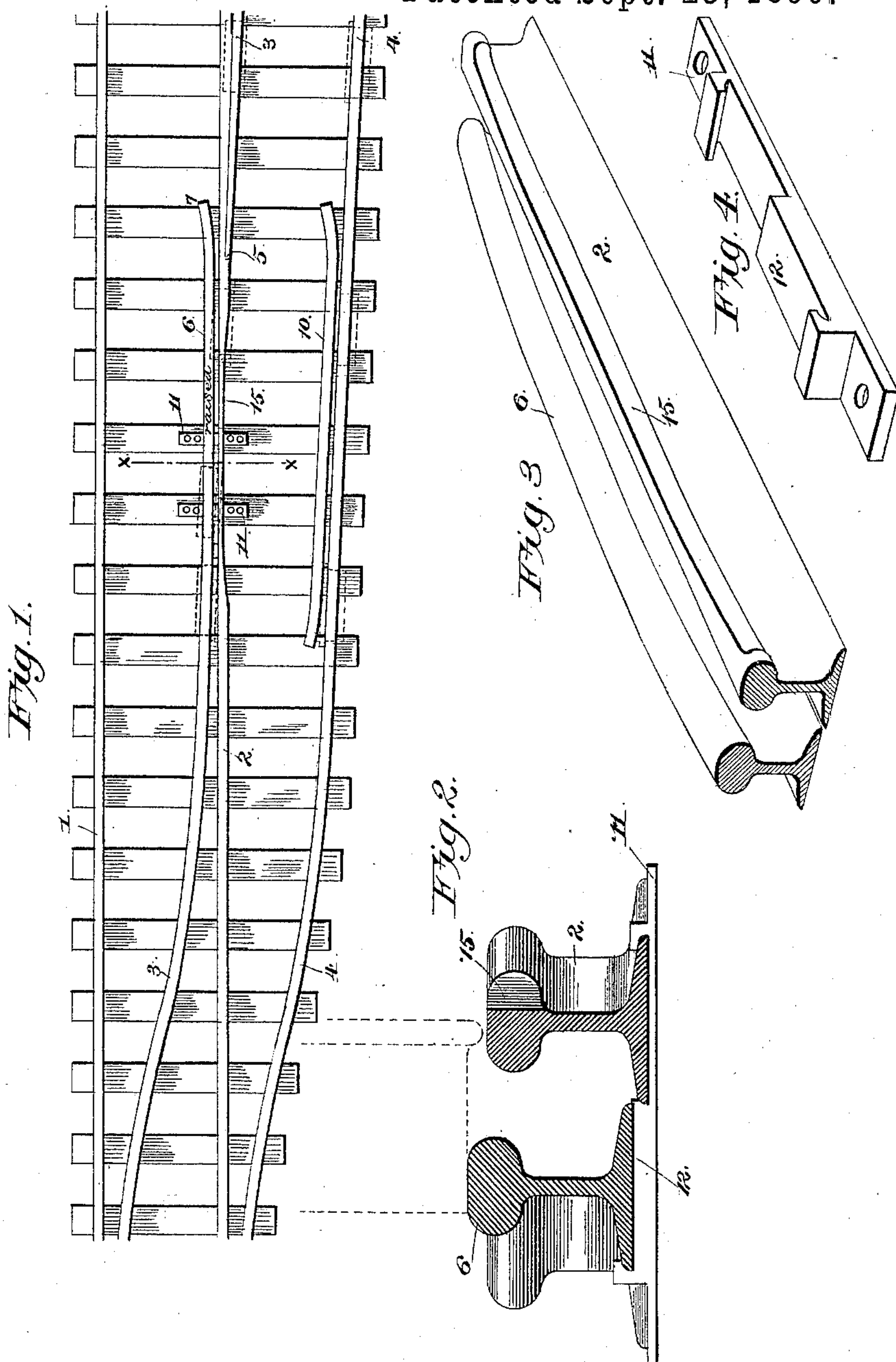


(No Model.)

A. M. GRUBBS.  
RAILWAY FROG.

No. 436,906.

Patented Sept. 23, 1890.



Witnesses

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# UNITED STATES PATENT OFFICE.

ALBERT MARION GRUBBS, OF CEDAR RAPIDS, IOWA.

## RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 436,906, dated September 23, 1890.

Application filed December 13, 1889. Serial No. 333,580. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT MARION GRUBBS, a citizen of the United States, residing at Cedar Rapids, in the county of Linn and State of Iowa, have invented a new and useful Rail-Crossing, of which the following is a specification.

This invention relates to railroad-frogs; and it consists in the improved construction and arrangement of parts, which will be hereinafter more fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view of the frog, diagrammatically showing the position of a car-wheel in passing over the continuous rail of the main track at the frog. Fig. 2 is a transverse sectional view taken on the line  $x x$  in Fig. 1. Fig. 3 is a perspective detail view showing a portion of the main-line rail and the elevated rail located adjacent thereto. Fig. 4 is a perspective view of the railroad-chair used in connection with my invention.

Like numerals of reference indicate like parts in all the figures.

1 and 2 designate, respectively, the outer and inner continuous rails of the main track.

3 is the inner and 4 the outer siding-rail, the former of which joins the inner main-line rail at 5.

At the point 5, where the inner switch-rail 3 joins the inner main-line rail 3, is located a raised or elevated rail 6, which has an outwardly-turned terminal end 7, and which for a portion of its length is parallel to the said main-line rail 2 and only at a sufficient distance from the latter to admit of the passage of the flanges of car-wheels traveling upon the main track. Only the central portion of the rail 6 is elevated, and its ends are beveled or inclined downwardly to a level with the main-track rails. A guard-rail 10 is placed adjacent to the outer siding-rail opposite to the elevated rail 6 for the purpose of guiding the flanges of the car-wheels passing from the main track to the siding, or vice versa. A railroad-chair 11, having a raised portion 12, serves to support the main-line rail 2 and the elevated rail 6 in the desired position with

relation to each other. A portion of the head of the outer side of the main-line rail 2 is removed, as will be seen at 15, so as to enable the wheels traveling to or from the switch-track to get a full tread upon the elevated rail 6 when about to cross the main-line rail 2, as will be seen most clearly in Fig. 2 of the drawings.

The operation and advantages of my invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. When a train approaches the frog, the treads of the wheels will ride upon the elevated rail, which is sufficiently raised to prevent the flanges of the wheels from coming in contact with the main-line rail, the head of which is, moreover, cut away, as shown, to avoid contact with the wheel-flanges. The transfer of the wheels across the main-line rail is thus easily and safely accomplished.

It will be seen that by my invention a frog is provided, by means of which all necessity is avoided for cutting or severing the main-line rails, thereby reducing or avoiding the danger of cars leaving the track. All jolting is also prevented, thereby preserving the rolling-stock from injury, and inasmuch as the car-wheels or the flanges of the same do not come in contact with the main-line rails at the points of crossing the said main-line rails are preserved from excessive wear.

I claim—

1. The elevated rail forming a portion of the inner siding-rail terminating adjacent to the inner side of the inner main-line rail and having its ends inclined downwardly to a level with the main-track rails, in combination with the inner main-line rail having a portion of its head removed on its outer side, substantially as set forth.

2. The elevated rail forming a portion of the inner siding-rail and terminating adjacent to the inner side of the inner main-line rail, in combination with the inner main-line rail having a portion of its head removed on its outer side, substantially as set forth.

3. The combination of the main-line rails 1 2, the latter having a portion of its head re-

moved on its outer side, the siding-rails 3 4, the elevated rail 6, having the outwardly-turned end 7, said elevated rail being placed parallel to the inner main-track rail, and the  
5 guard-rail 10, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in presence of two witnesses.

ALBERT MARION GRUBBS.

Witnesses:

WM. BAGGER,

J. H. SIGGERS.