

No. 719,571.

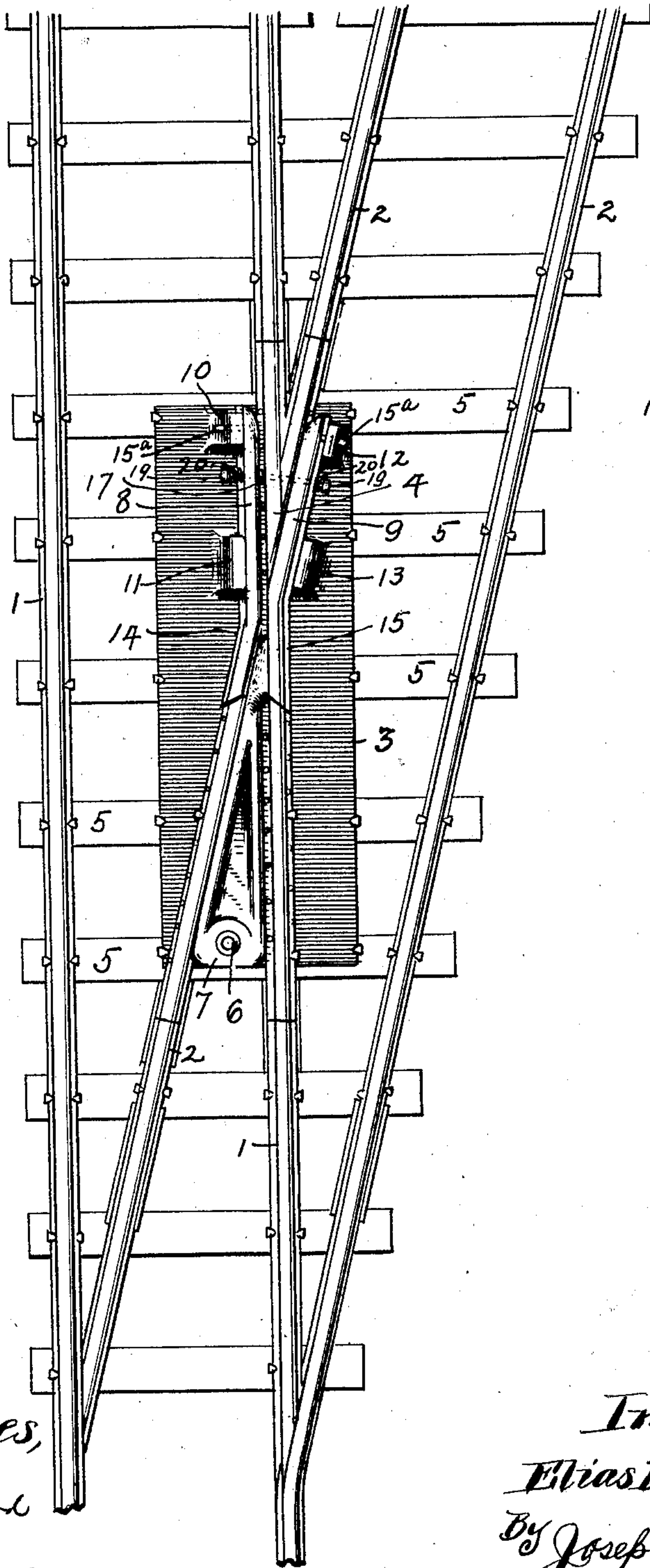
PATENTED FEB. 3, 1903.

E. B. DOUGLASS.  
RAILWAY FROG.

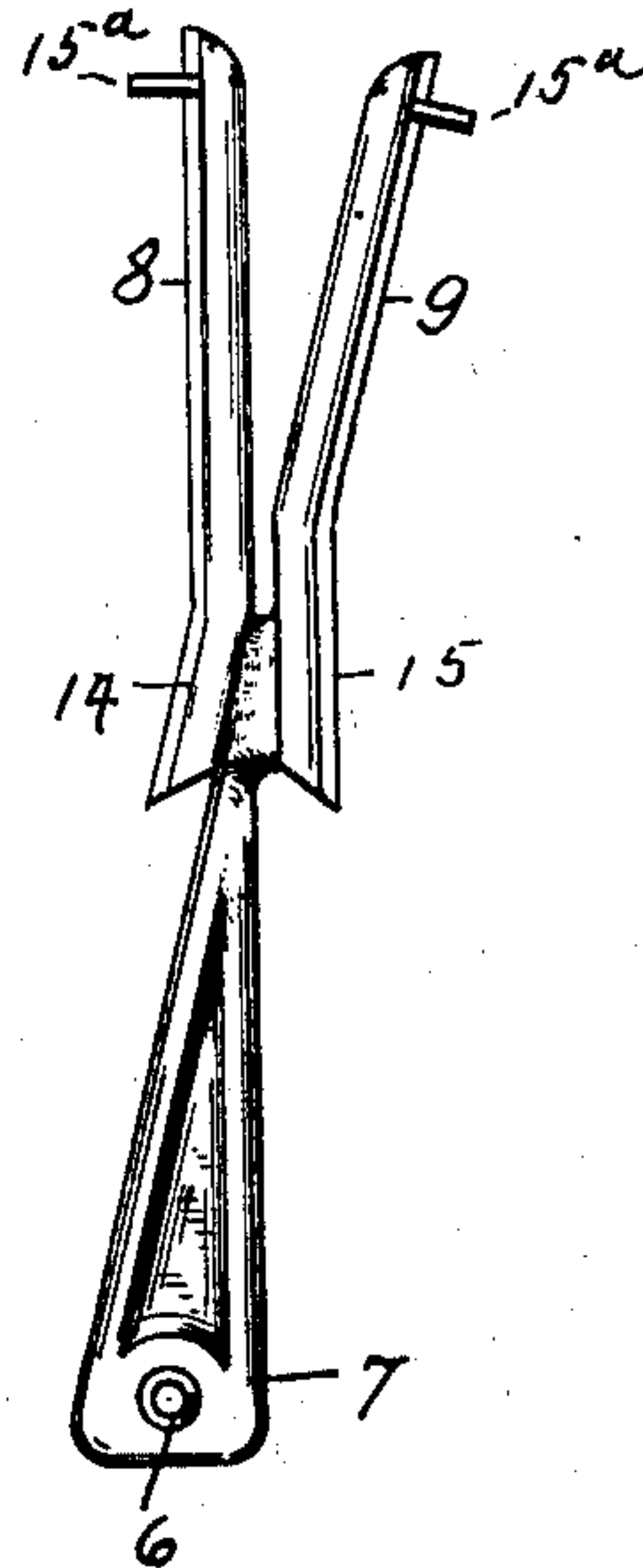
APPLICATION FILED MAR. 14, 1902.

NO MODEL.

*Fig. 1.*



*Fig. 2.*



*Witnesses,*

*John B. Sherman  
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# UNITED STATES PATENT OFFICE.

ELIAS B. DOUGLASS, OF CORTLAND, INDIANA, ASSIGNOR OF FORTY-NINE ONE-HUNDREDTHS TO ELLSWORTH JOHNSON, OF SEYMOUR, INDIANA.

## RAILWAY-FROG.

SPECIFICATION forming part of Letters Patent No. 719,571, dated February 3, 1903.

Application filed March 14, 1902. Serial No. 98,210. (No model.)

*To all whom it may concern:*

Be it known that I, ELIAS B. DOUGLASS, a citizen of the United States, residing at Cortland, in the county of Jackson and State of Indiana, have invented certain new and useful Improvements in Railway-Frogs, of which the following is a specification.

The leading object of this invention is to dispense with the guard-rails in frog construction, which have always been regarded as a necessity to prevent the car-wheels from leaving the track. These guard-rails are not only an item of considerable expense, but they are often so carelessly placed and maintained that they are of no practical value as a guard against the derailment of the wheels.

A further object of my invention is to provide a device that will operate directly upon the wheel of the car passing over the frog to prevent its displacement, and thereby render superfluous the guard-rail at the other or opposite side of the track.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a plan of a portion of the main railway-track with my improved safety-frog applied thereto and set for the main track, and Fig. 2 represents the wing-rails and integral shifting and guard bar detached from the parts associated with them in use.

Like figures of reference indicate like parts throughout both views of the drawings.

The main rails 1 and the siding-rails 2 are arranged in relation to the frog in the usual or any approved way. A metal base-plate 3 supports the point 4 of the frog, which is of usual construction and also all of the operative parts of my device, whereby in laying a frog it will only be necessary to place the plate in proper relation to the rails of the main track and the siding and spike it to the cross-ties 5.

Pivoted at 6, between the inner rails 1 and 2, is the bar 7, the point of which carries the wing-rails 8 and 9 of the frog. The wing-rails are preferably made integral with the plate; but they may be separate pieces rigidly secured in any convenient manner. The wing-rail 8 is capable of a horizontal movement between the rail 1 on one side and the lugs 10

and 11 from plate 3 on the other. When the wing-rail is against the said lugs, just sufficient space is provided between said rail and the rail 1 to allow the car-wheel flange to pass, and the wing-rail acts as a guard-rail to keep the wheel on the track. The edge of the wing-rail adjacent to the rail 1 is in alinement with the edge of the shifting and guard bar 7, and the latter acts as a guard to keep the car-wheel on the track when the wheel reaches it. The wing-rail 9 has a like play between the rail 2 and lugs 12 and 13, and the edge of it which is adjacent to the rail 2 is in alinement with the edge of bar 7, adjacent to rail 2. Between the wing-rails and the bar 7 are rail-segments 14 and 15, which fill the gaps in the rails 1 and 2 at each respective shifting of the frog. The points of the wing-rails are kept from raising under pressure applied at their opposite ends by the pins 15<sup>a</sup>, which take with a sliding fit into openings in the lugs 10 and 12. These wing-rail points are rounded on the sides next to the rails, as shown, to guide the car-wheel flanges into the joints between the wing and main rails. The broad end of the bar 7 is likewise rounded at the corners for the same reason. It will thus be seen that whether the car be moving on the main track or upon the siding the flanges of the wheels will automatically open the frog in the proper manner to allow the wheels to pass. As the main track will be in more general use than the siding, I provide the spring 17, between the rail 1 and wing-rail 8, to hold the frog in the normal position shown in the drawings. A pin passing through spring 17 holds the latter in proper position. The ends of this pin have the heads 19, and springs 20 and 21, between the wing-rails and said heads, of less stiffness than spring 17, serve as governors.

Having thus fully described my invention, what I claim as new, and wish to secure by Letters Patent of the United States, is—

1. In a frog to dispense with guard-rails, the combination of the stationary frog-point, the main-track rail and siding-track rail oblique to each other, a tapering bar pivoted between said oblique rails, and wing-rails rigidly connected with each other and with the pivoted bar, said tapering bar extending



up into contact with the flanges of the car-wheels whereby the attached wing-rails are moved.

2. In a frog to dispense with guard-rails, a bar pivoted at one of its ends between the main-track and siding-track rails and having wing-rails connected rigidly with its free end so as to move therewith, said bar extending up into contact with the flanges of the car-wheels.

3. In a frog to dispense with guard-rails, a base-plate, a stationary frog-point, inside main and siding track rails oblique to each other, a tapering bar pivoted between said oblique rails and having wing-rails extending from the point thereof, said bar extending up into contact with the car-wheel flanges, all of said parts being mounted upon said base-plate.

4. In a frog to dispense with guard-rails, a base-plate having lugs projecting upwardly therefrom, a stationary frog-point, inside main and siding track rails oblique to each other, a tapering bar pivoted between said oblique rails and having wing-rails extending from the point thereof and placed between the lugs projecting upwardly from the base and with the frog-point between them.

5. In a frog to dispense with guard-rails, a base-plate having a double series of lugs projecting upwardly therefrom, a stationary frog-point, inside main and siding track rails oblique to each other, a tapering bar pivoted between said oblique rails and having wing-rails carried by the point thereof, one on either side of the stationary frog-point and between the frog-point and the double series of lugs, and pins in the wing-rails passing into holes in the outside lugs to hold down the ends of said wing-rails.

6. In a frog to dispense with guard-rails, a base-plate, a stationary frog-point, inside main and siding track rails oblique to each other, a tapering bar pivoted between said oblique rails and having wing-rails extending from the point thereof, and a spring to hold the wing-rails normally away from one side of the frog-point.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 24th day of February, A. D. 1902.

ELIAS B. DOUGLASS. [L. S.]

Witnesses:

S. MAHLON UNGER,  
J. A. MINTURN.