

No. 702,113.

Patented June 10, 1902.

L. PALMER.
RAILWAY SWITCH.

(Application filed May 9, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

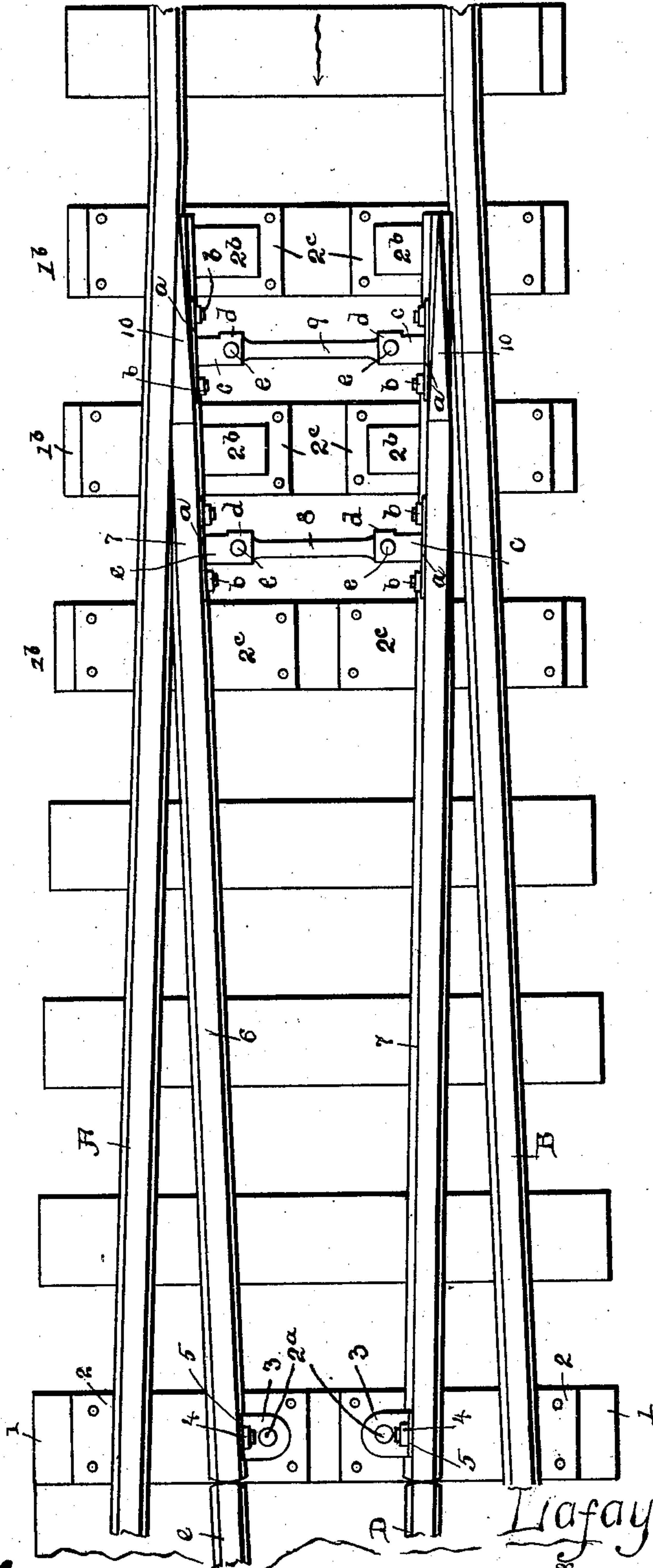


Fig. 4.

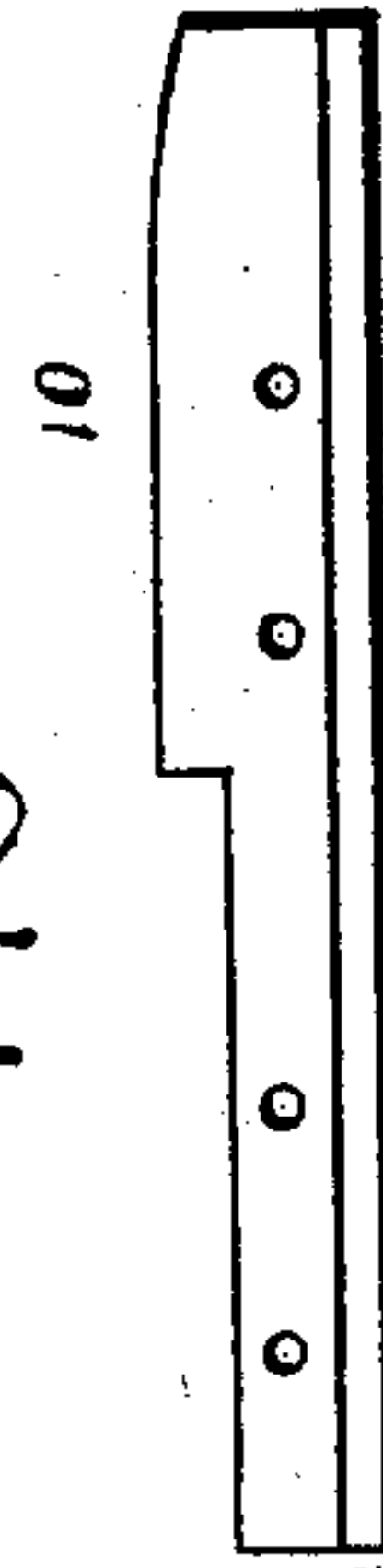


Fig. 3.



Inventor

Witnesses

J. W. Riley,

Geo. Ackman

Lafayette Palmer,

Victor Evans

Attorney.

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2 Sheets—Sheet 2.

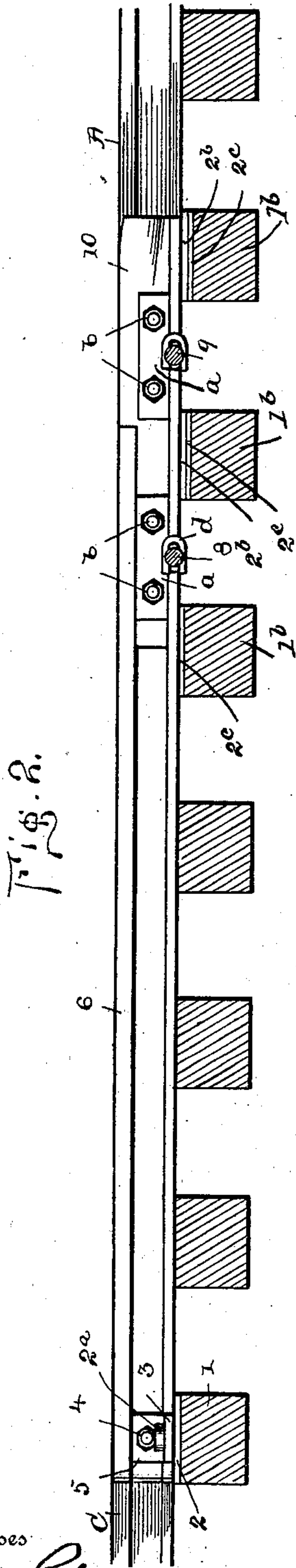


Fig. 2.

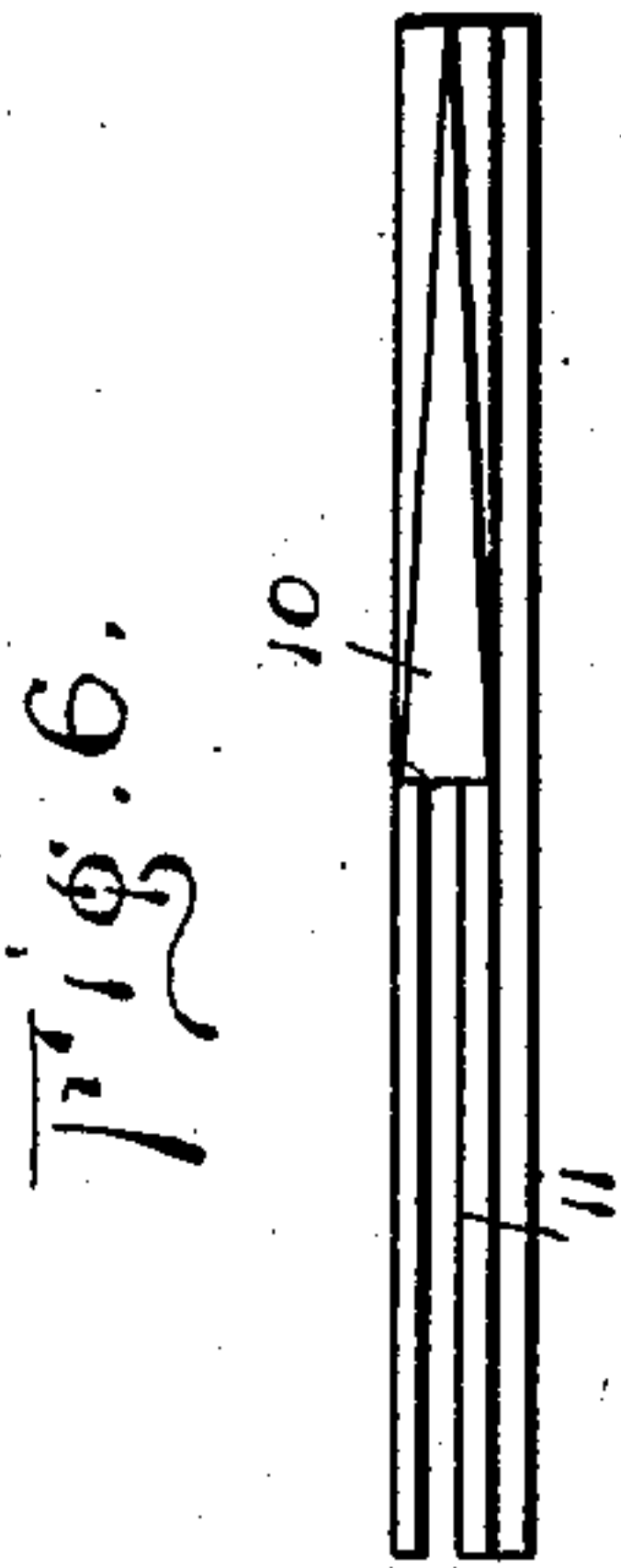


Fig. 6.

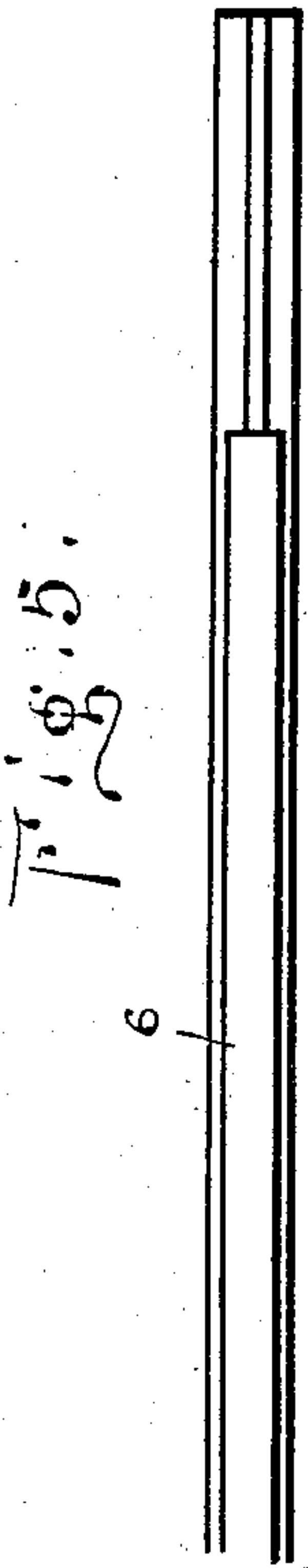


Fig. 5.

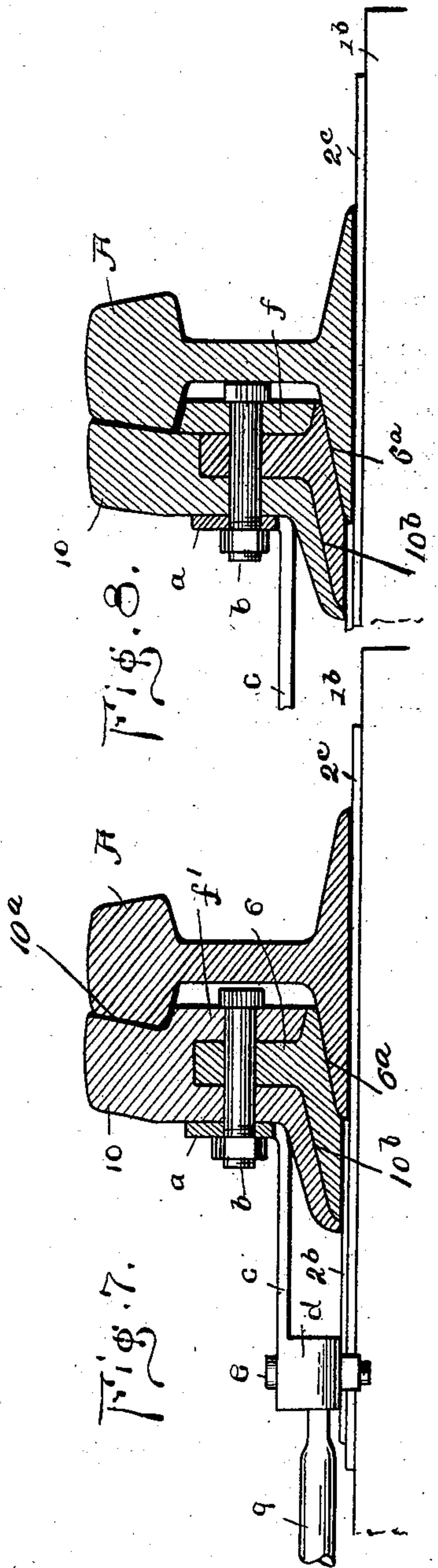


Fig. 8.

Fig. 7.

Inventor

Lafayette Palmer,

By

Victor J. Evans

Attorney

Witnesses

J. W. Riley,

Geo. Ackman

UNITED STATES PATENT OFFICE.

LAFAYETTE PALMER, OF HARRISBURG, PENNSYLVANIA.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 702,113, dated June 10, 1902.

Application filed May 9, 1901. Serial No. 59,479. (No model.)

To all whom it may concern:

Be it known that I, LAFAYETTE PALMER, a citizen of the United States, residing at Harrisburg, in the county of Dauphin and State of Pennsylvania, have invented new and useful Improvements in Railway-Switches, of which the following is a specification.

My invention has relation to improvements in railway-switches; and the object is to simplify and improve the existing art. The switch-points are of particular construction and detachably connected to the switch-rails, the switch-points being preferably made of a harder material than the switch-rails to which they are connected.

The invention consists in the novel construction, aggroupment, and combination of parts, as will be hereinafter fully specified and particularly pointed out and distinctly claimed.

I have fully and clearly illustrated my invention in the accompanying drawings, wherein—

Figure 1 is a plan view of a section of a railway-track, showing my invention as applied thereto. Fig. 2 is a side elevation of one of the switch rails and point. Fig. 3 is a detail view of the front portion of one of the switch-rails with the point detached. Fig. 4 is a side elevation of one of the switch-points. Fig. 5 is a top plan view of the front portion of one of the switch-rails. Fig. 6 is a top plan view of the switch-point. Fig. 7 is a vertical cross-section through the switch-point at the point of attachment of the tie-rod therewith; and Fig. 8 is a vertical cross-section, showing a detachable fish-plate on the inner side of the connected switch rail and point.

Referring to the drawings, A B designate rails of diverging railing tracks. C designates a rail parallel to B, and D designates a rail laid parallel to A, the rails A and D constituting one track and B and C constituting the rails of the other track.

On the selected cross-tie, as at 1, are secured plates 2, formed or provided with vertical studs 2^a, constituting pivots, over which ears 3, formed with perforations, engage. These ears 3 are secured to the switch-rails by any proper fastening means, as bolts 4, projecting through vertical flanges 5 and the webs of the switch-rails, as indicated in Figs.

1 and 2 of the drawings. The ends of the switch-rails are so pivoted that they aline with the respective inner rails of the tracks that they make connection with.

6 and 7 designate switch-rails of such length as may be desired to make the proper connection with the tracks or rails to which they relate. The lower side of the switch-rails base is upwardly inclined, as at 6^a, to conform to the inclined upper surface of the base of the main rails, as is clearly shown in Figs. 7 and 8. The switch and rails are made up of two parts or sections, the rails of which are connected by a tie-rod 8, and the points being connected by a tie-rod 9, as shown in the drawings in Fig. 1. These tie-rods 8 and 9 comprise plates *a*, secured to the web or wall of the switch-point and held firmly by means of bolts *b*, passing through the parts, as indicated in Fig. 7. From the bottom of the plates *a* project horizontal arms *c*, terminating in sleeves *d*. These sleeves are connected by the tie-rods, having their ends inserted in the said sleeves, and bolts *e*, projected through the sleeves and end of the rod, as indicated in Fig. 7 of the drawings.

In Fig. 8 of the drawings is shown a modified construction wherein a detachable fish-plate *f* is utilized instead of an integral flange *f'*, as shown in Fig. 7. The switch-rails at their front ends have the treads of the rails cut away or removed on a line parallel with the top of the webs, as shown in Fig. 3, and the points 10 of the switch are slotted, as at 11, to slide over the web of the switch-rails, so that the end of the points will abut against the end of the tread of the switch-rails, as indicated in Fig. 1 of the drawings. The outer edge of the tread of the points 10 are cut out, as at 10^a, to conform to the contour of the tread of the main rails, which in combination with the inclined base of the switch-rails permits of the switch rails and points being securely locked together. The lower side of the base of the point is upwardly inclined at 10^b to correspond to the inclined upper surface of the switch-rail base. The outer ends of the switch-rails are supported on bearing-plates 2^b on the tie-plates 2^c, secured to the cross-ties 1^b.

It will now be perceived from the foregoing description that when the switch-points are

arranged and disposed in connection with the switch-rails they can be secured together by means of the bolts *b*, projected through flanges setting against the webs or walls of the points 5 and switch-rails, as shown in Figs. 1 and 2 of the drawings. It will also be perceived that the relative position of the switch rails and points are such that when they are moved to the position shown in Fig. 1 a train moving 10 in the direction of the arrow will be carried over the track C B and that if the switch is carried or moved to opposite direction a train coming from the direction indicated by the arrow will be carried over the track A D.

15 It has not been deemed essential to illustrate means for throwing the switch, since any of the usual appliances or mechanisms for accomplishing the purpose may be connected and utilized.

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

The combination, with cross-ties and main rails; of the switch-sections having their bases supported on the cross-ties and provided with 25 upwardly-inclined lower sides conforming to the bases of the main rail, and formed with extensions beyond the treads thereof, the points having upwardly-inclined lower sides conforming to the bases of the switch-sections 30 and supported thereon, and slots receiving the extensions of the webs of the switch-sections and providing extensions located beneath the tread of the switch-sections, the horizontal arms having vertical plates, bolts 35 securing the extensions and the vertical plates together and tie-rods connecting the horizontal arm.

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

LAFAYETTE PALMER.

Witnesses:

JOS. P. THOMPSON,
CURTIS J. MAHANEY.