

No. 671,254.

Patented Apr. 2, 1901.

W. WHARTON, JR.  
RAILROAD SWITCH.

(Application filed Dec. 27, 1900.)

3 Sheets—Sheet 1.

(No Model.)

Fig. 1.

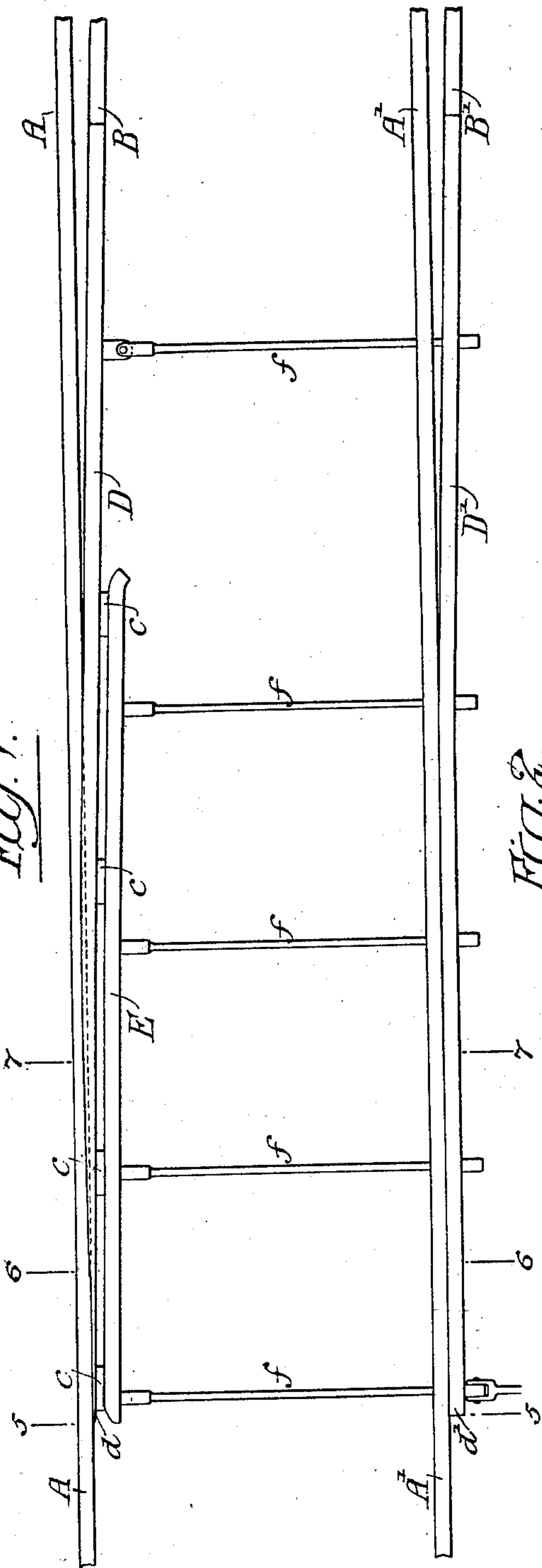
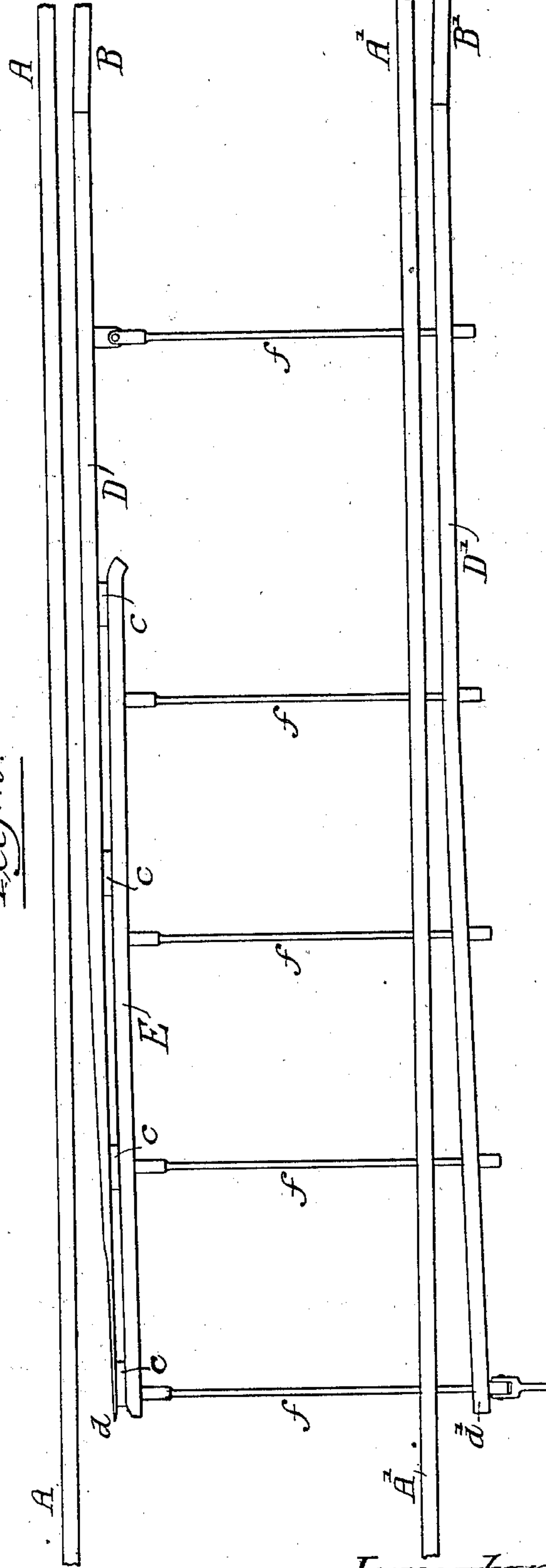


Fig. 2.



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3 Sheets—Sheet 2

Fig. 3.

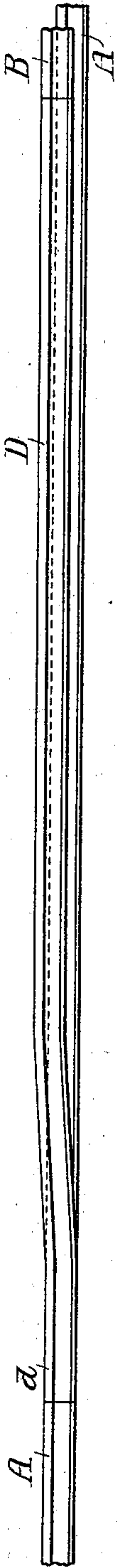


Fig. 4.

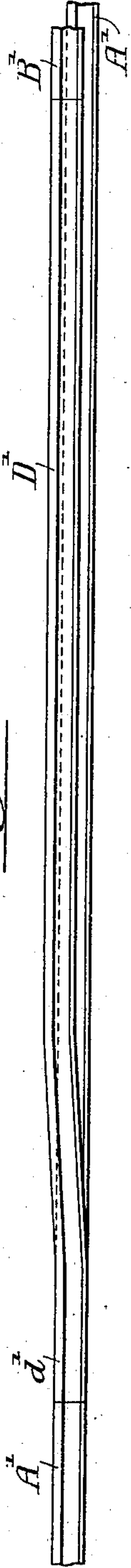


Fig. 5.

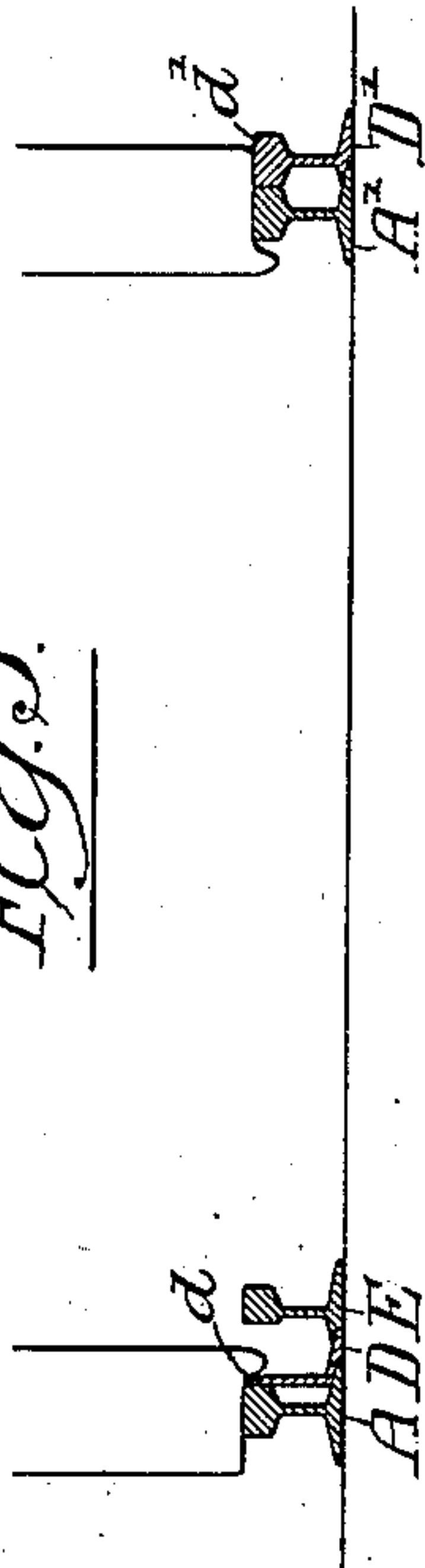


Fig. 6.

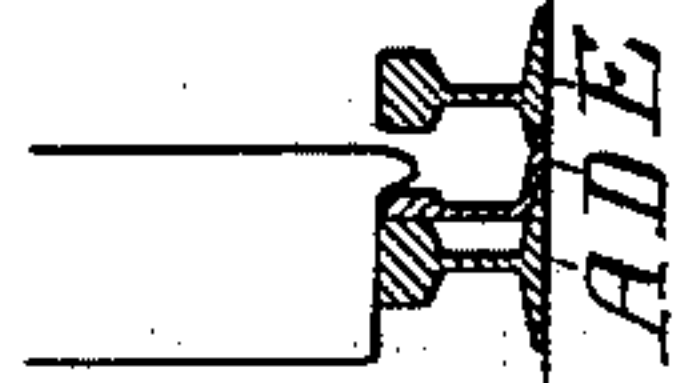
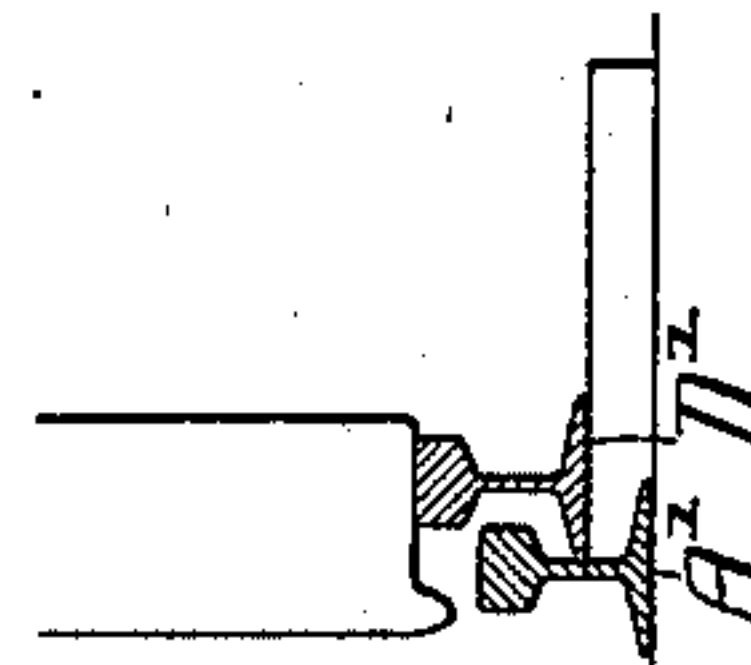
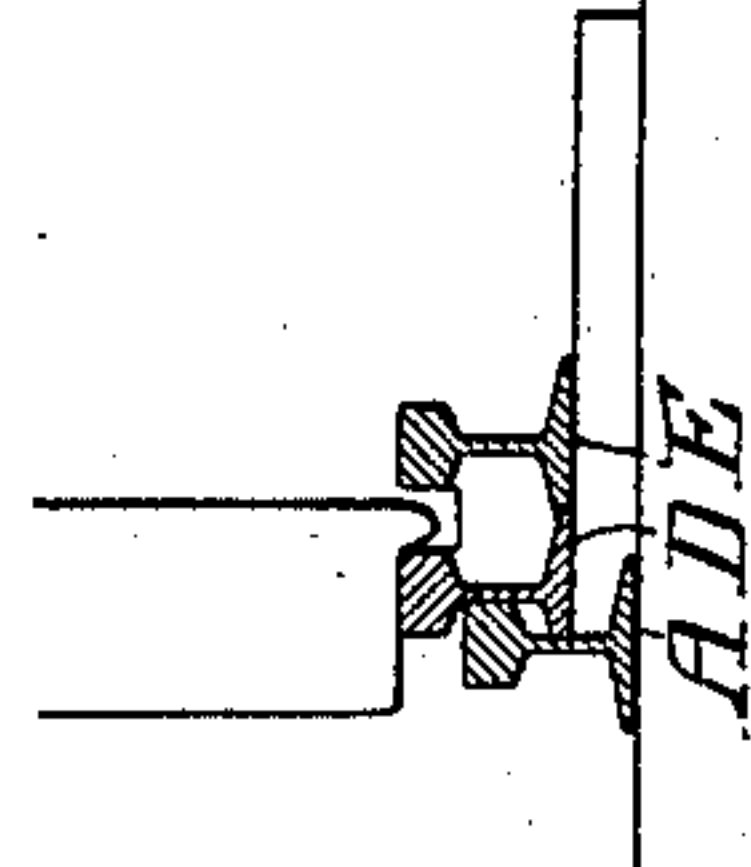


Fig. 7.



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3 Sheets- Sheet 3.

Fig. 8.

D

A

Fig. 9.

D

A

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# UNITED STATES PATENT OFFICE.

WILLIAM WHARTON, JR., OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF SAME PLACE.

## RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 671,254, dated April 2, 1901.

Application filed December 27, 1900. Serial No. 41,298. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM WHARTON, Jr., a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Railroad-Switches, of which the following is a specification.

My invention relates to certain improvements in the switches with unbroken main-track rails shown and described in the patents granted to me October 8, 1867, No. 69,599, and February 8, 1887, No. 357,438, in which is shown and described a guard-rail attached to and movable with the pointed switch-rail, also an outside elevating-rail movable there-  
15 with.

The object of my invention is to more smoothly and certainly transfer a car from the main track to the siding, and vice versa.

In the accompanying drawings, Figure 1 is a diagram plan illustrating my improved railroad-switch, showing the switch thrown over in contact with the rails of the main track. Fig. 2 is a view similar to Fig. 1, excepting that the switch-rails are moved away from the main-line rails, leaving the main track clear. Fig. 3 is a side view of the pointed rail. Fig. 4 is a side view of the outside elevating-rail. Fig. 5 is a sectional view on the line 5 5, Fig. 1. Fig. 6 is a sectional view on the line 6 6, Fig. 1. Fig. 7 is a sectional view on the line 7 7, Fig. 1. Fig. 8 is an enlarged view of part of Fig. 3, and Fig. 9 is an enlarged view of part of Fig. 4.

A A' are the permanent rails of the main track.

B B' are the rails of the siding or turnout.

D D' are the switch-rails.

E is a guard-rail attached to and movable with the pointed switch-rail D.

The tie-rods *f f* connect the rails of the switch together.

The upper surface of the pointed rail D at its outer end *d* is level with the upper surface of the main rail A, and the upper surface of the outside elevating-rail D' is likewise at its outer end *d'* level with the upper surface of the main rail A', as shown in the sectional view, Fig. 5. If desired, the extreme outer end of these rails may be some-

what rounded off vertically, so as to be slightly below the level of the main rails.

The upper surface of the pointed switch-rail D from its end *d* to the line 6 6, Fig. 1, is level, or practically so, with the upper surface of the main rail A; but from the line 6 6 to the line 7 7 it is upwardly inclined, so as to carry the wheels on that side of the car up to the elevated portion of the rail, and for a part of its length the rail D has its head overlapping the main rail A, as clearly shown in Fig. 1 and in the cross-section, Fig. 7. This overlapping of the main rail by the pointed rail has for many years been common in switch structures of this type. Adjacent to the pointed rail D is the guard-rail E, and between this guard-rail and the pointed rail are spacing-blocks *c c*, the two rails D and E being secured together by bolts or other suitable fastenings.

The upper surface of the guard-rail is preferably made to conform with the varying heights of the upper surface of the pointed rail D.

The upper surface of the outside elevating-rail D' from its end *d'* to the line 6 6 is level, or practically so, with the upper surface of the main rail A'; but from the line 6 6 to the line 7 7 it is upwardly inclined, so as to carry the wheels on that side of the car up to the elevated portion of the rail.

The gage of a track is always slightly wider than the gage of the car-wheels, so that they may run freely along the track without any binding or undue friction, and in switches of this type it is extremely desirable to have as much as possible of the tread portion of the car-wheels to project beyond the outside of the main rail A', so that they will have a good and substantial bearing upon the outside elevating-rail D' as soon as it begins to raise the car-wheels.

The wheels of a car passing from the rail A of the main track to the siding will be gradually guided laterally by the finely-pointed rail D from its end *d* to the line 6 6, thus causing the flanges of the wheels on the opposite side of the car to press closely against the inside of the main rail A', so that as much as possi-



ble of their tread-surface will project or extend beyond the outside of that rail and be available for bearing upon the outside elevating-rail D' before any actual elevation of the wheels takes place.

Both the pointed rail D and the outside elevating-rail D' being at their free or outer end level with the main-track rails A and A' and continuing for some distance level with them—that is to say, from the line 5 5 to the line 6 6, at which latter place they both commence to incline upward—it is evident that the passage of car-wheels from the main track to the siding and from the siding to the main track will be accomplished more smoothly and satisfactorily than if the switch-rails terminated at the line 6 6. By means of this level prolongation of the switch-rails D and D' the wheels on both sides, respectively, of the car will bear vertically upon the switch-rail and also upon the main rail from the line 5 5 to the line 6 6. This takes place whether the car is entering or leaving the switch, and the transition of the vertical bearing of the car-wheels from the switch-rails to the main-track rails, and vice versa, is thereby made in a most excellent manner. This vertical bearing of the car-wheels on both sets of rails at the line 5 5 and at the line 6 6 and between these lines is shown in Figs. 5 and 6.

Instead of making a vertical angle in the switch-rails at the line 6 6, where they begin to incline upward, it is preferable to use there an easy vertical curve, as shown in Figs. 8 and 9, so that when the car-wheels enter upon or leave the inclined portion of the switch-rails the change in their movement will be very gradually made.

I claim as my invention—

1. The combination in a railroad-switch, of the unbroken main-track rails, the rails of the siding or turnout and a movable switch

structure consisting of an outside inclined elevating-rail and an inclined pointed rail with a guard-rail attached to it and movable with it, the upper surface of the pointed rail, for a portion of its length adjoining its free end, being level with the upper surface of the main-track rails, and the free end of the pointed rail extending beyond the inclined portion of the outside elevating-rail, whereby the said pointed rail will direct the wheels of a car laterally so that the wheels on the side opposite the pointed rail will be forced to more fully overlap the outside elevating-rail, before any actual elevation of the said wheels takes place, substantially as described.

2. The combination in a railroad-switch, of the unbroken main-track rails, the rails of the siding or turnout and a movable switch structure consisting of an outside inclined elevating-rail and an inclined pointed rail with a guard-rail attached to it and movable with it, the upper surface of each of the two switch-rails, for a portion of its length adjoining its free end, being level with the upper surface of the main-track rails, and the free end of the pointed rail extending beyond the inclined portion of the outside elevating-rail, whereby the said pointed rail will direct the wheels of a car laterally so that the wheels on the side opposite the pointed rail will be forced to more fully overlap the outside elevating-rail, before any actual elevation of the said wheels takes place, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM WHARTON, JR.

Witnesses:

WILL. A. BARR,  
JOS. H. KLEIN.