No. 814,504. PATENTED MAR. 6, 1906.

V. ANGERER.

RAILWAY SWITCH.

APPLICATION FILED JUNE 8, 1905.

Fig. 1.

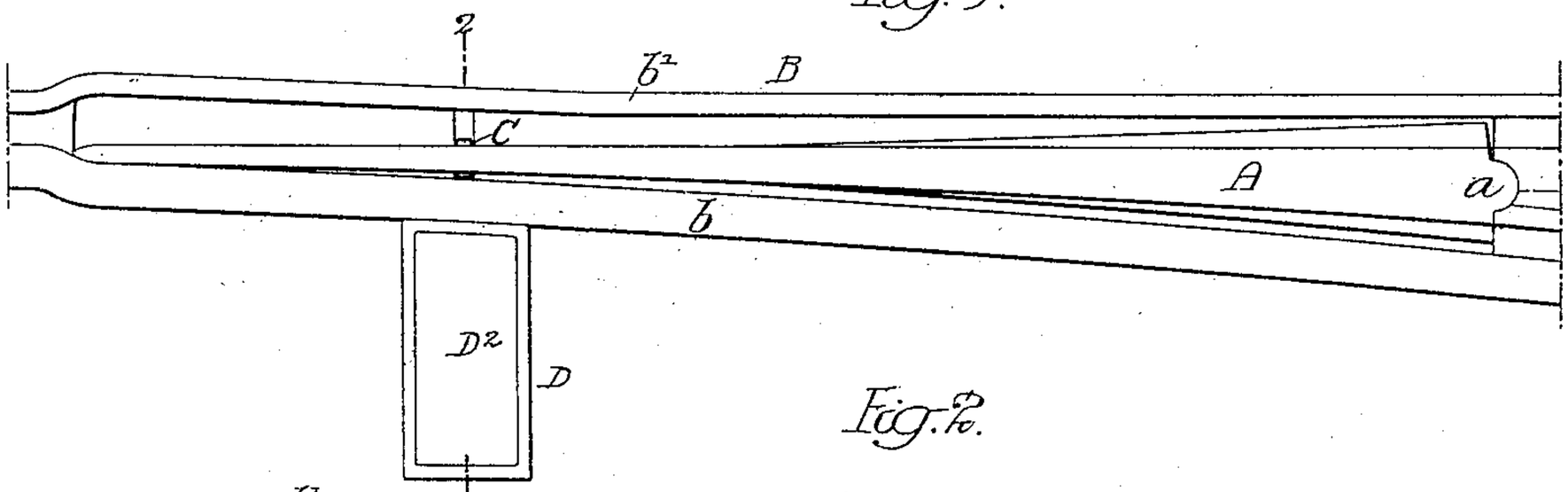


Fig. 2.

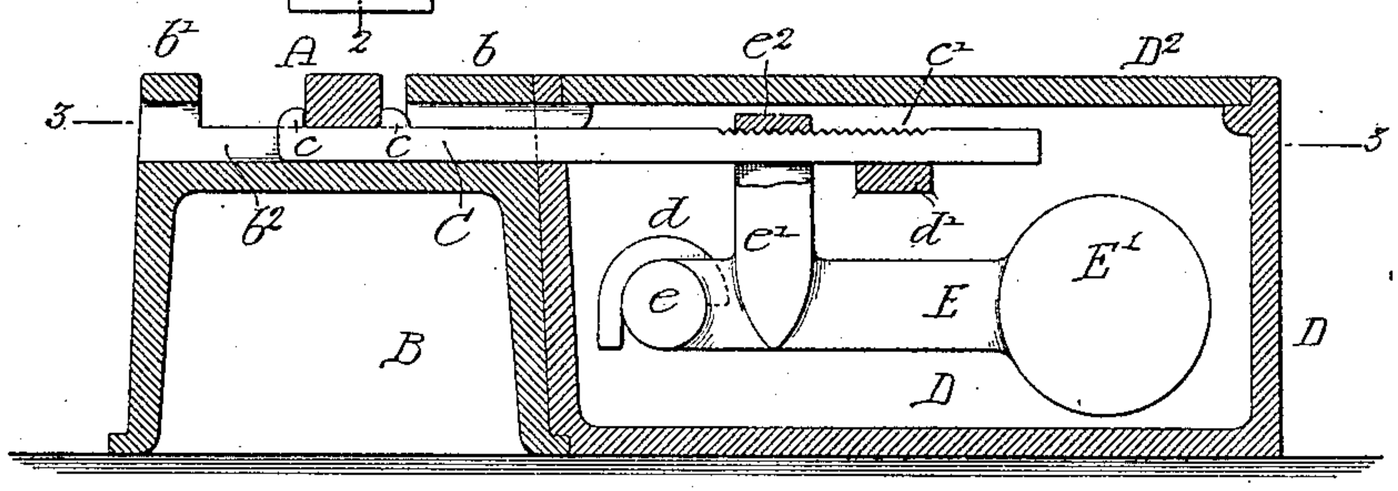


Fig. 3.

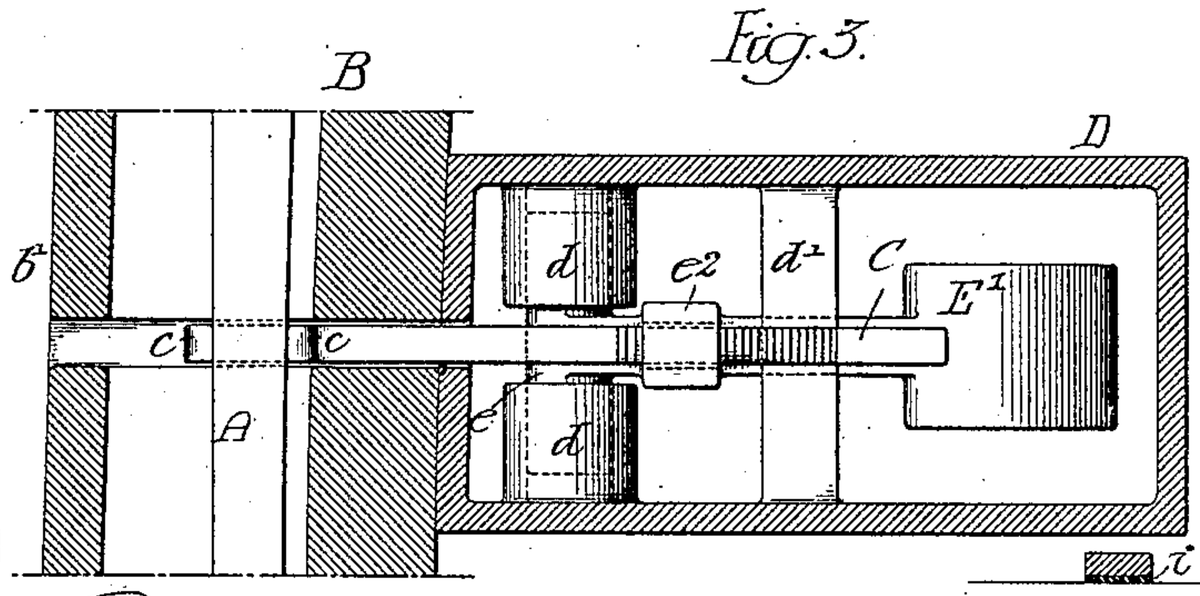


Fig. 7.

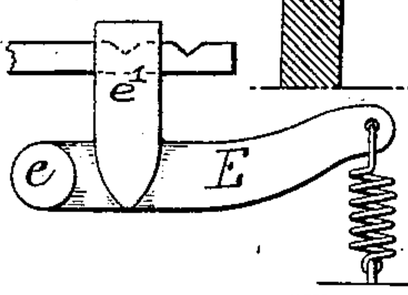


Fig. 6.

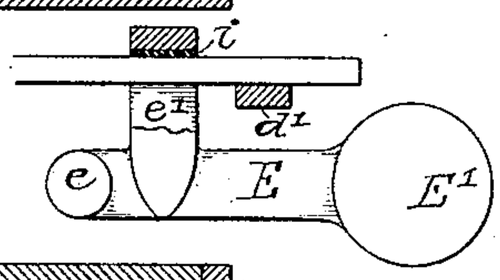
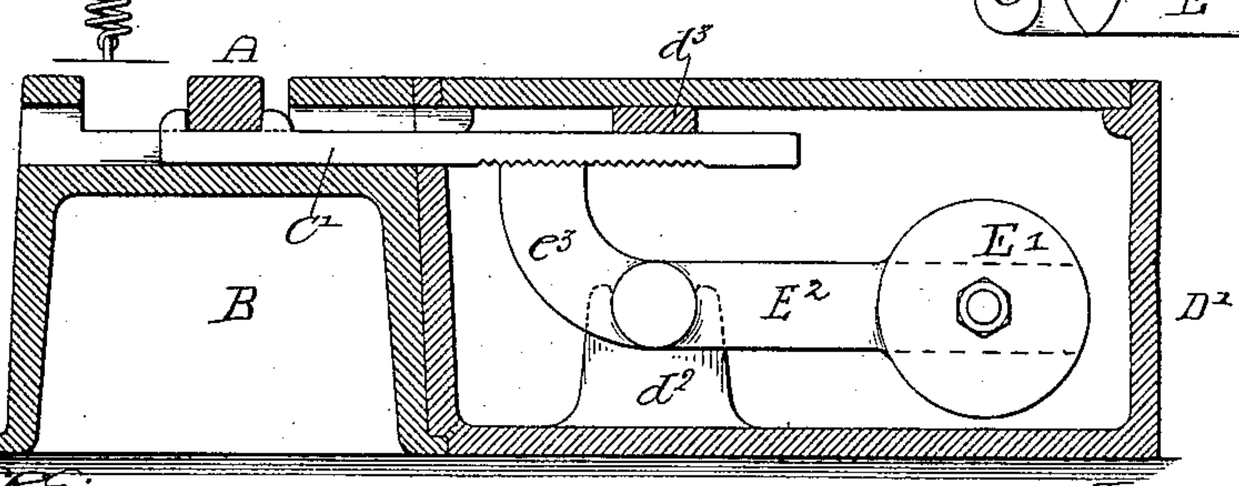


Fig. 4.



Witnesses:
Hamilton D. Summer
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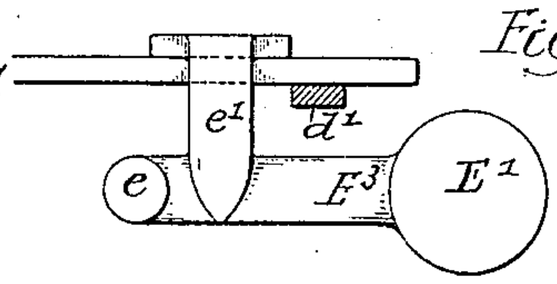

Fig. 5.

Inventor:
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by his Attorneys
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UNITED STATES PATENT OFFICE.

VICTOR ANGERER, OF RIDLEY PARK, PENNSYLVANIA, ASSIGNOR TO WILLIAM WHARTON, JR., & COMPANY, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

RAILWAY-SWITCH.

No. 814,504. Specification of Letters Patent. Patented March 6, 1906.

Application filed June 8, 1905. Serial No. 264,307.

To all whom it may concern:

Be it known that I, VICTOR ANGERER, a citizen of the United States, residing at Ridley Park, Pennsylvania, have invented certain Improvements in Railway-Switches, of which the following is a specification.

My invention relates to certain improvements in switch structures used particularly on city and suburban trolley-roads, the switch-tongue being shifted by the motorman or other operator of the car.

The object of my invention is to prevent the accidental displacement of the switch by the action of the car passing over the switch. This object I attain by providing means for placing sufficient friction on the switch-tongue that while it can be readily moved by a shifting-bar in the hands of the operator it cannot be accidentally displaced by the wheels passing over the switch.

In the accompanying drawings, Figure 1 is a plan view of my improved switch structure. Fig. 2 is an enlarged transverse sectional view on the line 2 2, Fig. 1. Fig. 3 is a sectional plan view on the line 3 3, Fig. 2. Fig. 4 is a view of a modification of my invention. Figs. 5, 6, and 7 are views of other modifications of my invention.

B is the body of the switch, having a tongue A pivoted at *a* in any suitable manner.

b is the tread-surface of the body portion, and *b'* the guard.

At one side of the body portion is a box D, secured to the body portion in any suitable manner, and projecting from each side of the box in the present instance are bearings *d d* for the trunnions *e* of a lever E, which has a weight E' at its outer end. This weight may be made an integral part of the lever, as shown in Figs. 2 and 3, or may be made adjustable, as shown in Fig. 4, so that the lever can be weighted as desired.

b^2 is a transverse way formed in the body portion B, and mounted on this way is a bar C, having in the present instance lugs *c*, which engage the tongue A. This bar extends into the box D and is supported by a cross-piece *d'* on the box either formed integral or made separate from the box. The bar C may be attached to the tongue in any manner or made integral therewith, if desired, and may project on either side of the switch structure.

As shown in Fig. 2, the upper surface of the bar C is serrated or notched at *c'*, and extending from the lever E is an arm *e'*, perforated for the passage of the bar C, and this arm is serrated or toothed at e^2 to engage the serrations on the bar C. The serrations in the bar C are not deep enough or at such an angle as to prevent the movement of the switch-tongue by the operator introducing a shifting-bar between the tongue and the body of the switch, but are of sufficient depth to create enough friction to prevent the accidental displacement of the tongue by the action of the car-wheels passing over the switch. In Fig. 7 I have shown the bar provided with two notches to be engaged by the weighted lever in place of the series of notches shown in Fig. 2.

In Fig. 4 I have shown a modification in which bearings d^2 are mounted in the bottom of the box D' instead of the sides, and the lever E^2 has an arm e^3, with a serrated surface which presses against the under side of the bar C', which is coupled to the switch-tongue, forcing the bar up against a cross-piece d^3 on the box, so that the friction is maintained by an upward pressure against the bar instead of a downward pressure, as shown in Fig. 2.

In Fig. 5 I have shown a construction in which the serrated surface is dispensed with, relying upon the friction between the surface of the arm of the lever E^3 and the plain surface of the bar C.

In some instances a friction-pad *i* may be carried by either the lever, as shown in Fig. 6, or carried by the bar, or a pad may be carried by each, so that instead of a serrated surface a friction-surface may be provided, and in place of the weight a spring may be used as its equivalent, as shown in Fig. 7.

The box D is provided with a suitable cover D^2, which is preferably flush with the surface of the road-bed.

It will be seen in operating the switch that when the tongue is shifted from one position to the other the bar will be drawn past the arm of the weighted lever and sufficient pressure exerted to cause the lever to be raised to allow the teeth to pass the lever. When the tongue is thrown to its extreme position, the teeth of the lever will engage the teeth of the bar and hold the tongue against accidental displacement.

I claim as my invention—

1. The combination of a body portion of a switch, a pivoted tongue, a bar extending laterally from said tongue, a pivoted lever having a constant weight and having a portion pressing upon said bar, so as to hold the bar against accidental displacement.

2. The combination of a body portion of a switch, a pivoted tongue, a bar extending laterally from said tongue, said bar having a notched surface, a pivoted lever having a constant weight and having a toothed portion arranged to engage the notched surface of the bar and hold it against accidental displacement but which will allow the bar to slide past the lever when it is desired to shift the tongue.

3. The combination of a body portion, a switch-tongue, a box at one side of the body portion, a bar attached to the switch-tongue and extending into the box, said bar having a serrated surface, a lever pivoted to the box and having an arm, with a serrated surface engaging the serrations of the bar, substantially as described.

4. The combination of a body portion, a switch-tongue, a box at one side of the body portion, bearings in the box, a lever pivoted to the bearings, a weight on said lever, an arm on the lever having an opening, a transverse bar attached to the switch-tongue and extending into the box and through the opening in the arm of the lever, the said arm and the bar being serrated, substantially as described.

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

VICTOR ANGERER.

Witnesses:

WILL. A. BARR,

JOS. H. KLEIN.