(No Model.)

R. B. YERBY.

SWITCH.

No. 524,036. Patented Aug. 7, 1894.

Fig. 1.

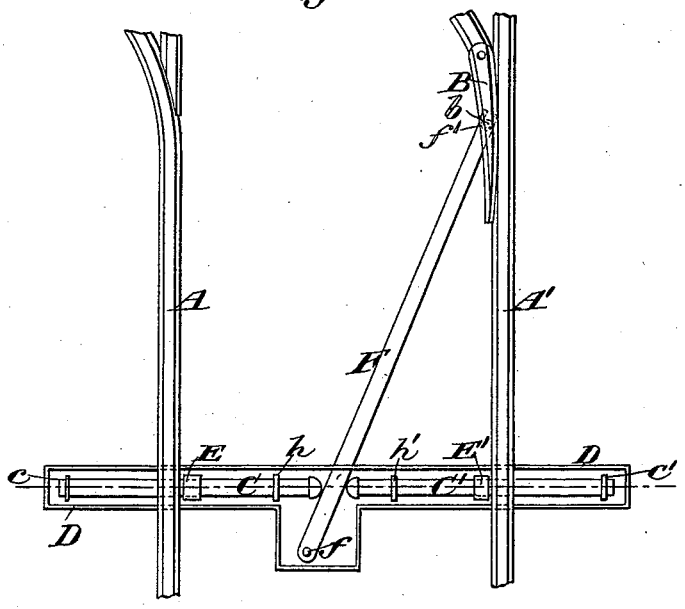


Fig. 2.

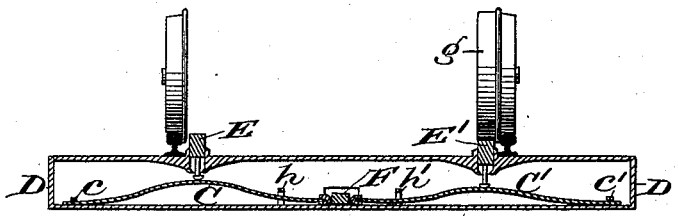
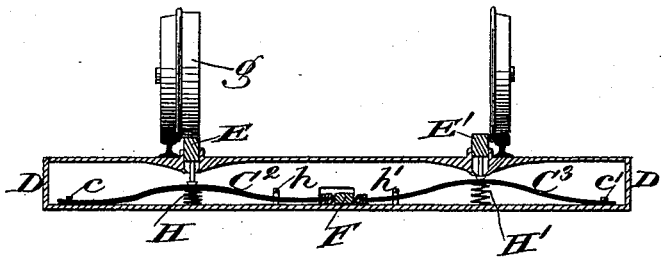


Fig. 3



Witnesses:-
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UNITED STATES PATENT OFFICE.

ROSS B. YERBY, OF BROOKLYN, ASSIGNOR OF ONE-HALF TO LOUIS T. DURYEA, OF GLEN COVE, NEW YORK.

SWITCH.

SPECIFICATION forming part of Letters Patent No. 524,036, dated August 7, 1894.

Application filed March 19, 1894. Serial No. 504,144. (No model.)

To all whom it may concern:

Be it known that I, ROSS B. YERBY, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Switches, of which the following is a specification.

My invention relates to an improvement in switches with the object in view of providing a simple and effective means for throwing a movable switch tongue to open or close a switch by means of the depression of the operating plunger.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a top plan view of the switch and its operating mechanism, the parts—which in use are located commonly underneath the surface of the ground—being exposed, showing their position at the moment the switch is thrust open. Fig. 2 is a transverse vertical section through the track at the point where the box containing the switch operating springs is located and showing, in connection therewith, a car wheel provided with a switch operating flange thereon, and Fig. 3 is a similar view, showing the switch operating springs reinforced by auxiliary springs.

The rails of the main track are denoted by A, A′ and the movable switch tongue for guiding the train from the main track onto the switch track is denoted by B. In the present instance I have shown the switch operating springs and treadles located on the main track at some distance from the switch operating tongue, one advantage of such an arrangement being that the gripman or motorman may be able to observe the movement of the switch tongue after it has been operated and before it becomes concealed beneath the car platform.

The switch operating springs are denoted by C, C′ and are made in curved or bow shaped form, as shown, with the curve extending upwardly from the horizontal plane. They are conveniently located within a box D, which may be of cast iron or other suitable material, and at one end as at *c*, *c′*, they are fixed to the box D, while their opposite ends are free to slide in a direction transverse across the track as the spring is straightened. These springs are straightened by means of vertically reciprocating treadles E, E′, mounted in suitable sockets in the top of the box D and shown in the present instance as extending upwardly in proximity to the inner edge of the flanges of the rails A, A′, leaving sufficient room between them and the inner sides of the heads of the rails for the passage of the ordinary guide flange on the car wheel.

The free ends of the springs C, C′ are located a sufficient distance apart to admit of the short vibratory movement between them of a lever F which transmits the motion of the one or the other of the springs to the movable switch tongue B. In the present instance I have shown the lever F as a lever of the third class in which the springs push against it at a point intermediate of its fulcrum *f* and its end *f′* engaged with the switch tongue. The connection between the lever and the switch tongue is conveniently made by bifurcating the end of the lever F and providing the switch tongue with a depending pin *b* adapted to work between the branches of the said bifurcated end.

The particular means which I have shown for operating the springs consist of rims *g* projecting inwardly from the flange of one of the car wheels in position to bear upon the one or the other of the treadles, according as the car is intended to run on the main or on the switch track.

In operation, the downward pressure upon one of the flanges or treadles will tend to straighten the spring underneath it and the free end of said spring will press against the lever F and swing it in a direction to open or close the movable switch tongue B, as may be required. As soon as the operating weight is released from the plunger, the spring will resume its normal curved form and the lever F will be in a position to be operated in a direction by the depression of the other treadle.

In the form shown in Figs. 1 and 2, I have shown the springs C and C′ of sufficient natural resiliency and strength to operate the lever F without any additional assistance. In Fig. 3, however, I have shown the operating springs C^3 and C^3 of lighter resilient material and have introduced auxiliary cushion springs H, H′ underneath the said operating

springs to return them to their normal position after they are depressed. In this latter instance the springs C^2 and C^3 may be simply thin, straight, resilient strips made to assume the curved form by means of the auxiliary springs H, H′ and the guides h, h' under which their free ends are forced to slide.

It is obvious that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, hence I do not wish to limit myself strictly to the structure herein set forth, but

What I claim is—

1. The combination with a movable switch tongue and springs held normally in a curved form and fixed at one end to a suitable support with their free ends in position to move toward and away from each other, of a vibrating lever engaged with the movable switch tongue and extended between the free ends of the springs in position to be engaged by them and vertically reciprocating treadles for straightening the springs, substantially as set forth.

2. The combination with a movable switch tongue and curved springs fixed at one end to a suitable support with their free ends in position to move toward one another, of auxiliary springs forming supports for said curved springs, a vibrating lever engaged with the movable switch tongue and under the control of the free ends of said curved springs and reciprocating plungers for straightening the curved springs, substantially as set forth.

ROSS B. YERBY.

Witnesses:
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