

No. 747,956.

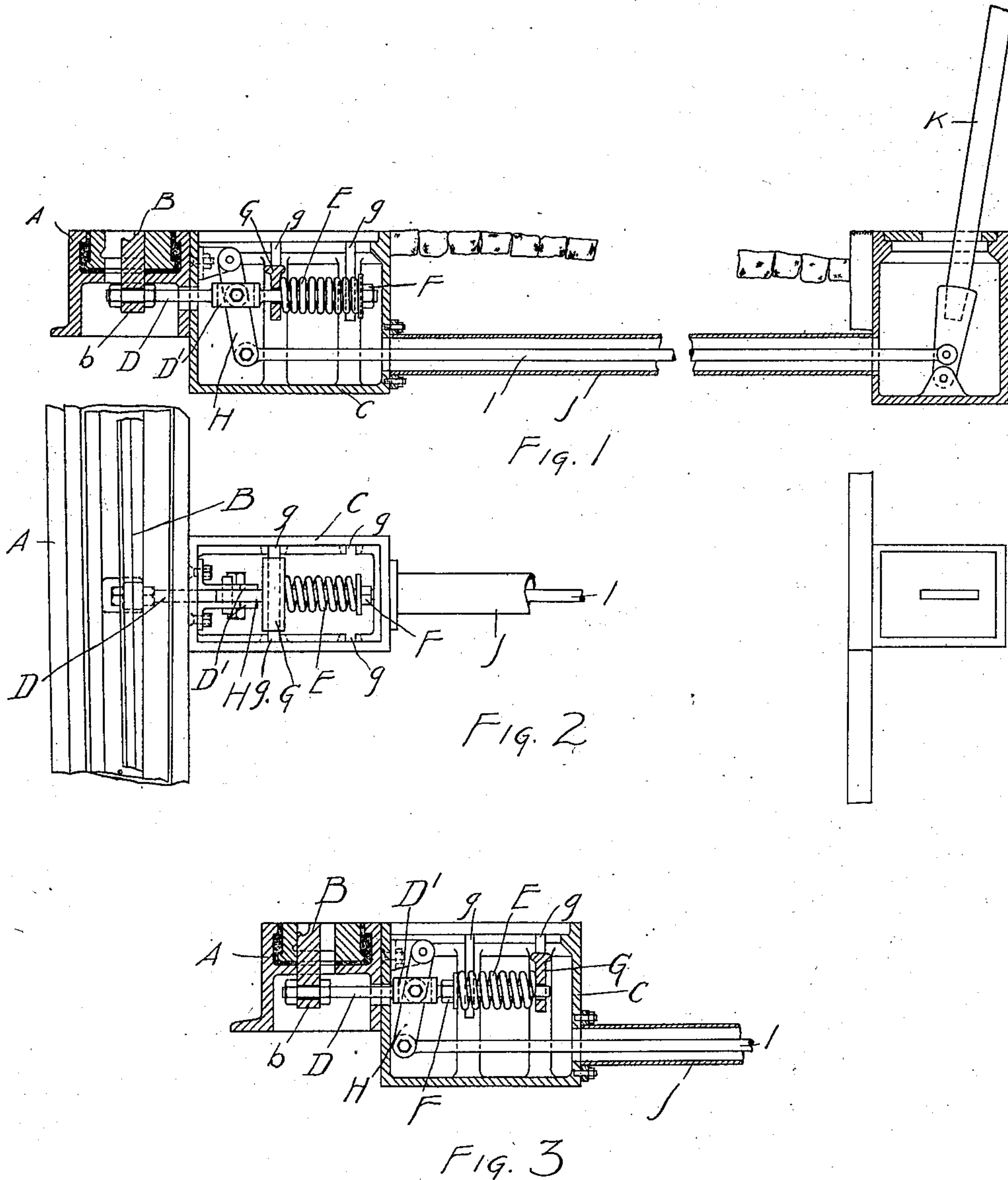
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E. B. ENTWISLE & F. G. WERTZ.

SPRING SWITCH.

APPLICATION FILED DEC. 22, 1902.

NO MODEL.



WITNESSES:  
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## UNITED STATES PATENT OFFICE.

EDWARD B. ENTWISLE AND FRANK G. WERTZ, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNORS TO THE LORAIN STEEL COMPANY, A CORPORATION OF PENNSYLVANIA.

## SPRING-SWITCH.

SPECIFICATION forming part of Letters Patent No. 747,956, dated December 29, 1903.

Application filed December 22, 1902. Serial No. 136,135. (No model.)

*To all whom it may concern:*

Be it known that we, EDWARD B. ENTWISLE and FRANK G. WERTZ, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a new and useful Improvement in Spring-Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

Our invention has relation to certain new and useful improvements in spring-switches and in operating means therefor, and is designed to provide means of improved character whereby the action of the spring may be reversed and made to act in either one of two directions to thereby hold the switch tongue or point in either one of two positions, also to provide simple and convenient means for moving the tongue against the action of said spring when a car is to take the track other than that for which the tongue is normally set.

With these objects in view the invention consists in the novel construction and combination of parts, all substantially as herein-after described, and pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section illustrating the invention and its application; Fig. 2, a plan view of the same; and Fig. 3 a view similar to Fig. 1, showing the spring set to hold the tongue in the opposite position.

The letter A designates a tongue-switch structure, having a movable tongue or point B.

C is a spring-box having a removable cover. (Not shown.)

D is a rod which is securely fastened to a depending lug *b* of the switch-tongue B and which extends through the switch structure into the spring-box C. E is a stiff coiled spring, which is seated around the end portion of said rod between a washer F on the rod and a fixed transverse bearing-piece G. As shown in Figs. 1 and 2, the washer F is seated on the end portion of the rod, while the bearing-piece G is seated across the central portion of the box. The action of the spring is therefore such as to hold the switch-

tongue B over to its extreme right-hand position. In Fig. 3 the washer F is seated against a shoulder on the central portion of the rod, while the bearing-piece G is moved to form a bearing for the opposite end of the spring, which now acts to hold the tongue in the opposite or left-hand position. To provide for this change in the position of the bearing-piece G, seats *g* are formed at two different points in the side walls of the box, and the end portions *g'* of the said piece are made to fit loosely in said seats, so that it may be readily lifted and changed from one position to the other.

The rod D is formed inside the spring-box with a slotted or yoke portion D', through which extends a short lever H. This lever H is horizontally pivoted at one end portion in the upper inner end portion of the spring-box, and to its opposite end portion is connected a rod I, which may extend through a suitable conduit J to an operating-lever K, located at the curb or other desired point. By operating this lever the switch-tongue may be thrown from the normal position in which it is held by the spring to its opposite position. Suppose, for illustration, that the tongue B controls the direction of car travel at the intersection of a main and a branching track, the latter being infrequently used as compared with the former. The spring in such a case is set to normally hold the tongue in position to open the main track, but can at any time be thrown by operating the lever K to pass a car onto the branch track.

We do not wish to limit ourselves to the precise details of construction and arrangement as herein shown and described, as various changes may be made therein without departing from the spirit and scope of our invention. It will also be understood that so much of the invention as relates to the reversible spring may be applied to any spring-switch with or without operating mechanism.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination with a switch tongue or point, and a laterally-extending rod connected thereto, of a spring-box into which said rod



extends, a spring surrounding said rod, and bearings for the ends of said spring, one of which is carried by the rod and the other by the box, said bearings being mutually interchangeable, so that the spring may be made to act upon said rod in either one of two directions.

2. In a spring-switch, the combination with the switch tongue or point, a rod connected thereto, and a spring-box into which said rod extends, a spring seated on said rod, a spring-bearing seated by said box and movable from one end of the spring to the other, and a spring-bearing carried by said rod and also movable from one end of the spring to the other.

3. In a spring-switch, the combination with a switch point or tongue, a rod connected thereto, and a spring acting on said rod, of a bearing for one end of said spring supported independently of the rod and movable from one end of the spring to the other, and a second spring-bearing carried by the rod and movable thereon from one end of the spring to the other.

4. In a spring-switch, a spring-box having a movable spring-bearing, and seats for said bearing at two different points.

5. The combination with a switch tongue or point, of a rod connected thereto, a reversibly-acting spring on said rod, and actuating means connected to said rod.

6. The combination with a movable switch tongue or point, of a rod connected thereto, a spring acting upon said rod, a horizontally-pivoted lever engaging the said rod between the point or tongue and the said spring, a connecting-rod attached to the said lever and extending to an operating-box, and an actuating-lever connected to said rod within the said box.

7. The combination with a switch tongue or point, of the slotted rod connected thereto, the spring, the interchangeable bearings for said spring whereby its action may be reversed, the short lever engaging the said rod, and actuating means connected to said lever substantially as described.

In testimony whereof we have affixed our signatures in presence of two witnesses.

EDWARD B. ENTWISLE.  
FRANK G. WERTZ.

Witnesses:

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