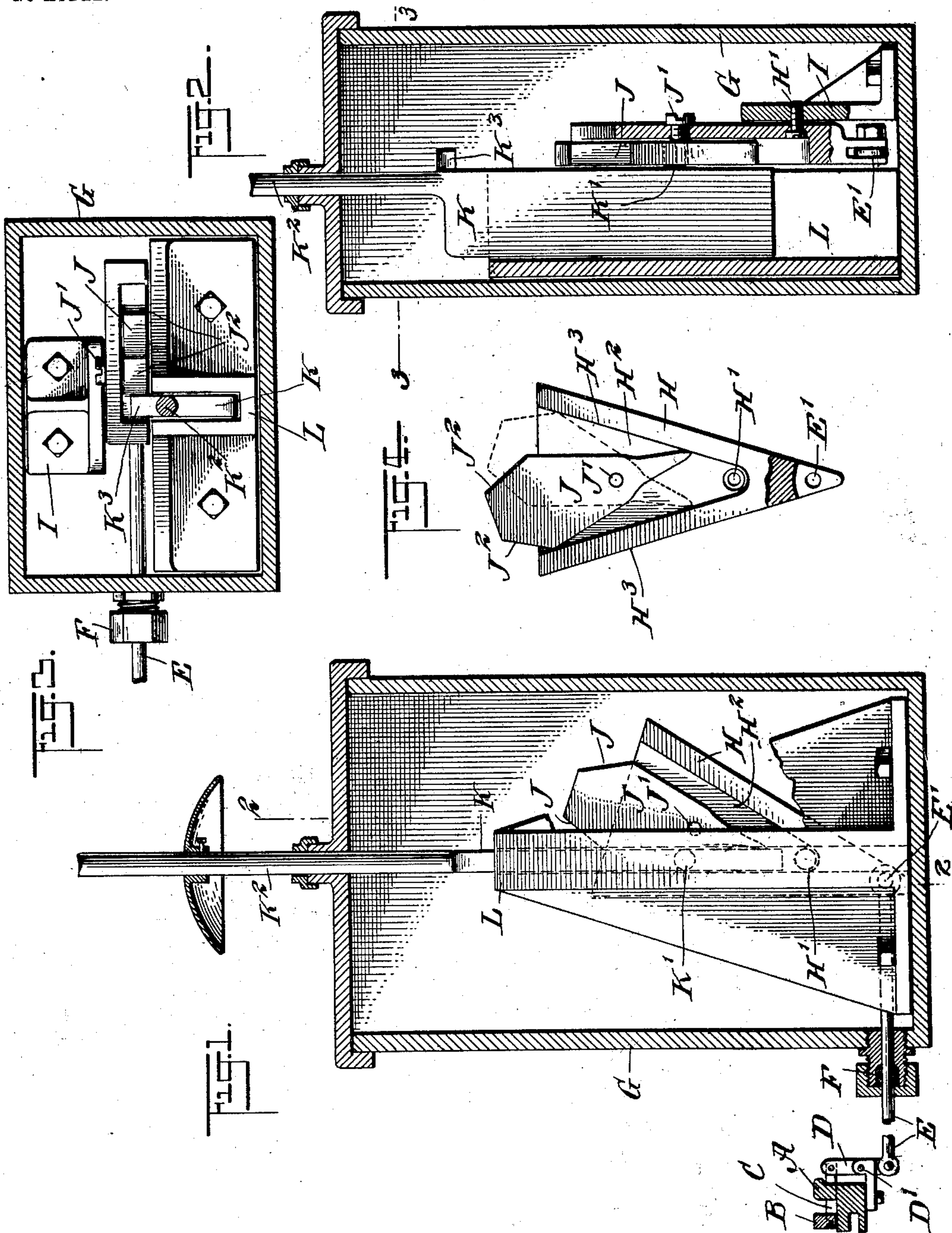


No. 737,885.

PATENTED SEPT. 1, 1903.

A. A. TRIPOLD.
SWITCH OPERATING MECHANISM.
APPLICATION FILED JUNE 9, 1903.

NO MODEL.



WITNESSES:

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AMBROSE A. TRIPOLD, OF NEW YORK, N. Y.

SWITCH-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 737,885, dated September 1, 1903.

Application filed June 9, 1903. Serial No. 160,702. (No model.)

To all whom it may concern:

Be it known that I, AMBROSE A. TRIPOLD, a citizen of the United States, and a resident of the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Switch-Operating Mechanism, of which the following is a specification.

My invention relates to mechanism for operating the switches of electric railways and the like. In railways of this class it has been proposed to utilize the momentary interruption of the electric circuit which takes place when the car approaches a switch for changing the position of the switch.

My invention relates to devices of this character, and has for its object to provide positively-acting mechanism for accomplishing this result in a reliable manner.

The preferred form of my invention will now be described with reference to the accompanying drawings and the features of novelty will then be pointed out in the appended claims.

Figure 1 is an elevation with parts in section and other parts broken away, showing the parts constituting my invention. Fig. 2 is a cross-section on line 2 2 of Fig. 1. Fig. 3 is a sectional plan on line 3 3 of Fig. 2, and Fig. 4 is a detail of the switch-throwing member.

In Fig. 1, A indicates a track-rail, and B the movable switch-point, which is connected with any suitable mechanism for shifting it—as, for instance, a link C, a lever D, fulcrumed at D', and a bar E, attached to said lever pivotally. This bar extends through the stuffing-box F in a case G containing the parts constituting my invention. The inner end of the rod E is pivotally connected at E' with the lower end of a switch-throwing member H, which is fulcrumed at H' upon a bracket I, secured to the casing G. This switch-throwing member is of triangular shape and is provided in one of its faces with a triangular recess H², so as to form guide-walls H³ at the sides of said recess. These guide-walls converge toward the pivot or fulcrum H'. Within the recess H², at the upper portion thereof, is fulcrumed at J' a guide member J, also approximately triangular in shape and having converging side walls, which in a certain position will be approximately parallel with the

guiding-walls H³, as shown in Fig. 1. In this position the said guide-walls, in connection with the guidemember J, will form two grooves converging toward the fulcrum H', or, in other words, a V-groove. The side surfaces of the guide member J may be perfectly straight, but I prefer to make them concave toward the point. It will be seen that the center of gravity of the switch-throwing member H lies above its fulcrum H', and similarly the guide member J is fulcrumed below its center of gravity. Thus each of said members will have a tendency to fall sidewise by gravity as soon as it passes its central position.

In the grooves formed between the guide-walls H³ and the guide member J is adapted to travel a pin K', projected from an operating member K, which is mounted to slide vertically in suitable guideways L. This operating member has a stem K² extending to the outside of the casing G and connected with any suitable mechanism for imparting a longitudinal motion thereto. Thus, for instance, I may employ the well-known arrangement in which the upper end of the stem K² is drawn upward by the influence of the magnet and allowed to fall as soon as the magnet ceases to be energized. The drawings show the operating member K about half way between its upper and lower positions and on its downward travel. The downward movement of the operating member is arrested by the engagement of the pin K' with the bottom of the recess H², so that in said position the pin K' will aline with the fulcrum H'. As soon as the pin K' passes the lower end of the guide member J the latter will by gravity fall over toward the right from the position shown in Fig. 1, and thus the pin at the lower end of the guide member will lie above the pin K' and in the path thereof. Now when the operating member K moves upward the pin K' will engage the right-hand edge of the guide member J and will thus swing the switch-throwing member H toward the left at its upper portion, causing the switch-tongue B to be moved toward the right. The switch-throwing member will come to rest in a position in which the right-hand guide-wall will be vertical and the guide member J will fall over toward the left, substantially as shown in Fig. 4. It might happen that the guide

member would stick and fail to assume the desired position. In order to insure a correct operation of the device in such a case, I have provided upwardly-converging guide-sur-
 5 faces J^2 on the upper portion of the guide member and an additional pin K^3 on the operating member K. This pin K^3 will engage one of the guide-surfaces J^2 and thus swing the guide member J into the desired position
 10 if it should fail to be brought to such position by gravity. It will be understood that each upward movement of the operating member K will cause the switch-throwing member H to swing from left to right, or vice versa, and
 15 that these movements will alternate regularly.

Various modifications may be made without departing from the nature of my invention.

20 I claim as my invention and desire to secure by Letters Patent—

1. In a switch-operating mechanism, the combination of an oscillating switch-throwing member, mechanism connected with said
 25 member for shifting a switch, a guide member pivoted to said switch-throwing member at a distance from its fulcrum and forming therewith a V-shaped guideway, and a reciprocating operating member having a projection arranged to move in said guideway.
 30

2. In a switch-operating mechanism, the combination of a switch-throwing member fulcrumed below its center of gravity, mechanism connected with said switch-throwing
 35 member for shifting a switch, a guide member pivoted to said switch-throwing member below its own center of gravity and above the fulcrum of said switch-throwing member, the guide member and the switch-throwing
 40 member forming together a V-shaped guideway, the point of which is located adjacent to the fulcrum of the switch-throwing member, and an operating member arranged to reciprocate and provided with a projection
 45 adapted to travel in said V-shaped guideway.

3. In a switch-operating mechanism, the combination with a triangular switch-throwing member fulcrumed below its center of gravity and provided with a triangular recess in one of its faces, switch-throwing mechanism connected with said member, a substantially triangular guide member within the recess thereof and adapted to form a V-shaped groove therewith, and a reciprocating operating member having a projection arranged to
 50 travel in said groove.
 55

4. The combination with an oscillating switch-throwing member, means connected therewith for shifting a switch, the guide member pivoted to the switch-throwing member above the fulcrum thereof, and provided with a point directed toward the fulcrum of the switch-throwing member, the sides of said point being concave, said guide member and switch-throwing member forming together a
 60 V-shaped guideway, and an operating member arranged to reciprocate and provided with a projection adapted to travel in said guideway.
 65

5. In a switch-operating mechanism, an oscillating switch-throwing member, means
 70 connected therewith for shifting a switch, a guide member pivoted to said switch-throwing member and adapted at its lower portion to form a V-shaped guideway with said
 75 switch-throwing member, the upper portion of the guide member having upwardly-converging guide-surfaces, and a reciprocating operating member having a projection arranged to travel in said guideway and also
 80 having a projection arranged to engage the upper guide-surface of the guide member to swing the latter on its pivot.

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

AMBROSE A. TRIPOLD.

Witnesses:

JOHN LOTKA,
 EUGENE EBLE.