

E. E. KESSLER.
 SWITCH MECHANISM.
 APPLICATION FILED AUG. 29, 1911.

1,025,276.

Patented May 7, 1912.

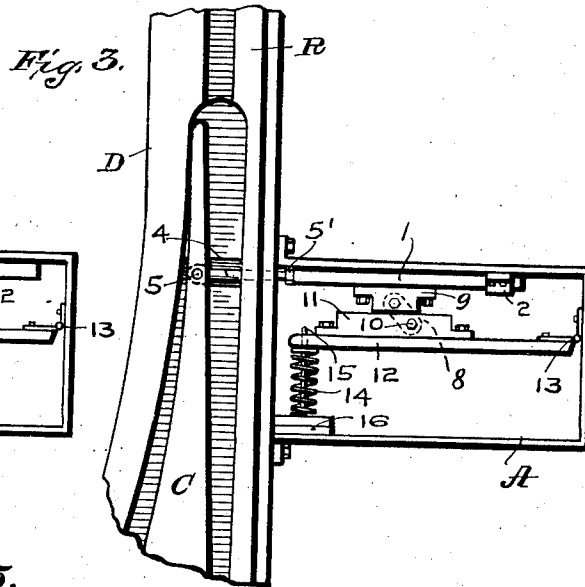
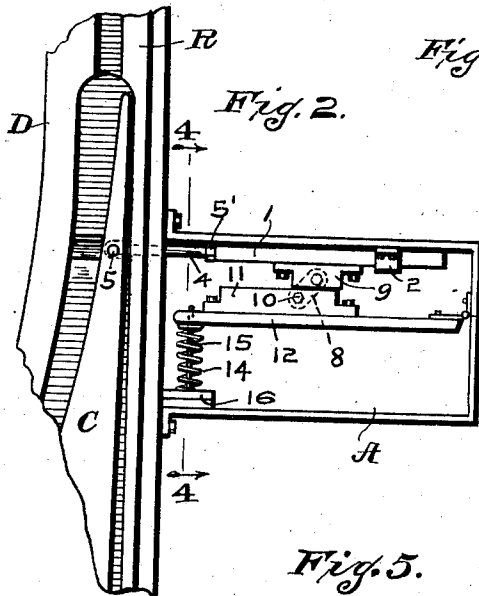
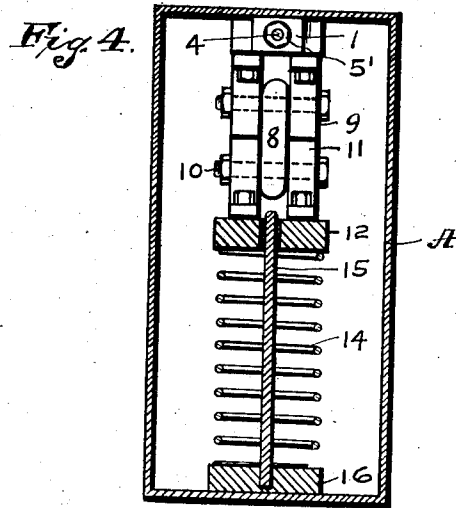
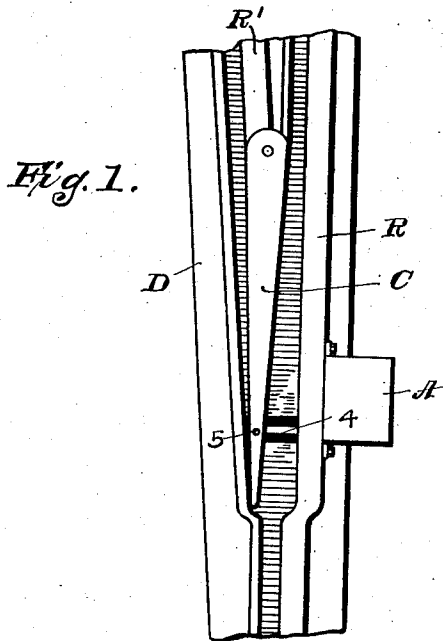
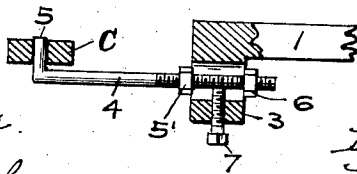


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDWARD E. KESSLER, OF ANDERSON, INDIANA, ASSIGNOR OF ONE-HALF TO JAMES M. RINKER, OF ANDERSON, INDIANA.

SWITCH MECHANISM.

1,025,276.

Specification of Letters Patent.

Patented May 7, 1912.

Application filed August 29, 1911. Serial No. 646,707.

To all whom it may concern:

Be it known that I, EDWARD E. KESSLER, a citizen of the United States, residing at Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Switch Mechanism, of which the following is a specification.

This invention relates to switch mechanism for street railways.

The object of the invention is to provide a simple and effective lock for a railway switch in which the oscillating tongue which guides the car from one track to the other may be firmly held in position, the locking mechanism being such as to effectively retain said tongue against accidental displacement during the passage of the car over the switch, although the tongue can yield to permit the passage of trains in one direction.

Referring to the drawing, Figure 1 is a top plan view of the switch; Fig. 2 an enlarged top plan view with the cover of the box removed; Fig. 3 a view similar to Fig. 2 showing the switch tongue in the extreme opposite position; Fig. 4 a vertical transverse section on the line 4-4 of Fig. 2, and Fig. 5 a detail in vertical section showing the manner in which the switch-rod is adjustably connected with the switch-tongue.

The advantage of the present construction will be more apparent from a detailed description of the invention, which is as follows:

In the drawing R represents one rail of a track; R' the rail of the curve meeting the rail R in said track; C the oscillating tongue adapted to cooperate with the two rails R and R' in a manner which is well understood, and D the usual guard-rail. Suitably secured in position, as by being bolted at the side of the rail R, is the box or casing A which contains the locking mechanism.

Located within the box A is a switch-bar 1 which is guided by the bearing 2 and terminates with a vertically slotted head 3 to receive the threaded end of an extension bar 4. The bar 4 extends through rail R and terminates with an upward hook 5 which engages a suitable hole in the switch tongue C, whereby, by a longitudinal movement of the bar the switch-tongue will be

correspondingly oscillated. The bar 4 is adjustable vertically in the slot in head 3 to suit the varying heights of the different oscillating tongues to which my lock may be applied, and a given adjustment of the bar 4 is retained by the two nuts 5' and 6, between which the head 3 is clamped by tightening the nuts against it. The bar 4 is additionally held by the set screw 7.

A short lever 8 is pivoted at one end upon the blocks 9 which are attached to the rod 1. The other end of said lever is mounted by means of the bolt 10 upon the blocks 11, which are in turn secured to the lever 12. The lever 12 is mounted to oscillate horizontally about the hinge 13, secured by screws or bolts to the side of the box or casing farthest from the rail R. Bearing against the opposite or free end of said lever is a spring 14 which is coiled about the stem 15, and the opposite end of the spring bears against the collar or abutment 16.

With the switch-tongue in the position as shown in Fig. 2, the lever 8 takes that position shown in dotted lines, inclined away from the rail R. If the switch-tongue be moved to the position illustrated in Fig. 3, the switch-rod 1 moves from the position as shown in Fig. 2 to the new position as in Fig. 3, and the lever 8 assumes the position as indicated in dotted lines, inclined toward the rail R. When the switch-tongue has reached approximately the middle of the arc through which it oscillates, the switch-rod 1 has brought the lever 8 into a line virtually at right angles or to a dead center with said switch-rod, and the spring 14 has reached the point of maximum compression. The moment, however, that the switch-tongue passes the center of its arc of oscillation the lever 8 passes its point of dead center and the resilient action of the spring automatically forces the switch-tongue against the rail, toward which it was initially moved by the motorman or engineer.

In either the position of the switch-tongue in Fig. 2 or in Fig. 3, the said tongue is firmly held in position by the pressure, exerted by the spring 14, transmitted through lever 8, lever 12, and the switch-rod 1, said pressure being regulated by the collar or abutment 16. In case of a car coming from curved rail R' onto the

straight rail R as shown in Fig. 1, the flange of the car-wheel exerts enough pressure to force the switch-tongue over to a point where the spring 14 will automatically force the switch-tongue against the rail R.

The switch-tongue may be oscillated as in common practice by the use by the motor-man of a switch-bar, to throw the tongue. To permit the hinged end of the lever 12 to move away from lever 1, thereby maintaining closer parallelism between levers 1 and 12 at all positions of same, the leaf of hinge 13 resting against lever 12 may be of resilient material and fastened at its outer end, which will allow a lateral adjustment of the hinged end of lever 12.

Having thus fully described my invention what I claim as new and wish to secure by Letters Patent of the United States, is—

1. In combination with a rail, a tongue oscillating toward and away from the rail, a longitudinally adjustable bar connected with the tongue, a lever adjustable toward and from the side of the bar, resilient means for pressing it normally toward the bar, and a second lever having its ends pivoted to said bar and first lever to both of which it is oblique when their blocks are in contact with each other.

2. In combination with a rail, a tongue oscillating toward and from the rail, a bar connected with the tongue and adapted to slide endwise, a lever located at one side of the bar and adjustable toward and from the bar, a spring pressing the lever normally toward the bar, and another lever pivotally secured at one end to the bar and at the other end to said first lever to both of which

it is oblique when their blocks are in contact with each other.

3. In combination with a rail, a tongue oscillating toward and away from the rail, a box, a bar slidably mounted within the box, an extension from said bar connected with the tongue, said extension being vertically adjustable, a lever located within the box at one side of the bar and hinged at one end to the box, a spring to press the other end of the lever normally toward the bar, and another lever pivotally secured at one end to the bar and at the other end to said first lever to both of which it is oblique when their blocks are in contact with each other.

4. In combination with a rail, a tongue oscillating to and from the rail, a box, a bar slidably mounted within the box having a vertically slotted head, a bar-extension bolted to said slotted head and connected with said oscillating tongue, a lever located within the box at one side of the bar and hinged at one end to the box, a spring to press the other end of the lever normally toward the bar, and another lever pivotally secured at one end to the bar and at the other end to said first lever to both of which it is oblique when their blocks are in contact with each other.

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Indiana, this 18th day of August, A. D. one thousand nine hundred and eleven.

EDWARD E. KESSLER. [L. S.]

Witnesses:

F. W. WOERNER,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."