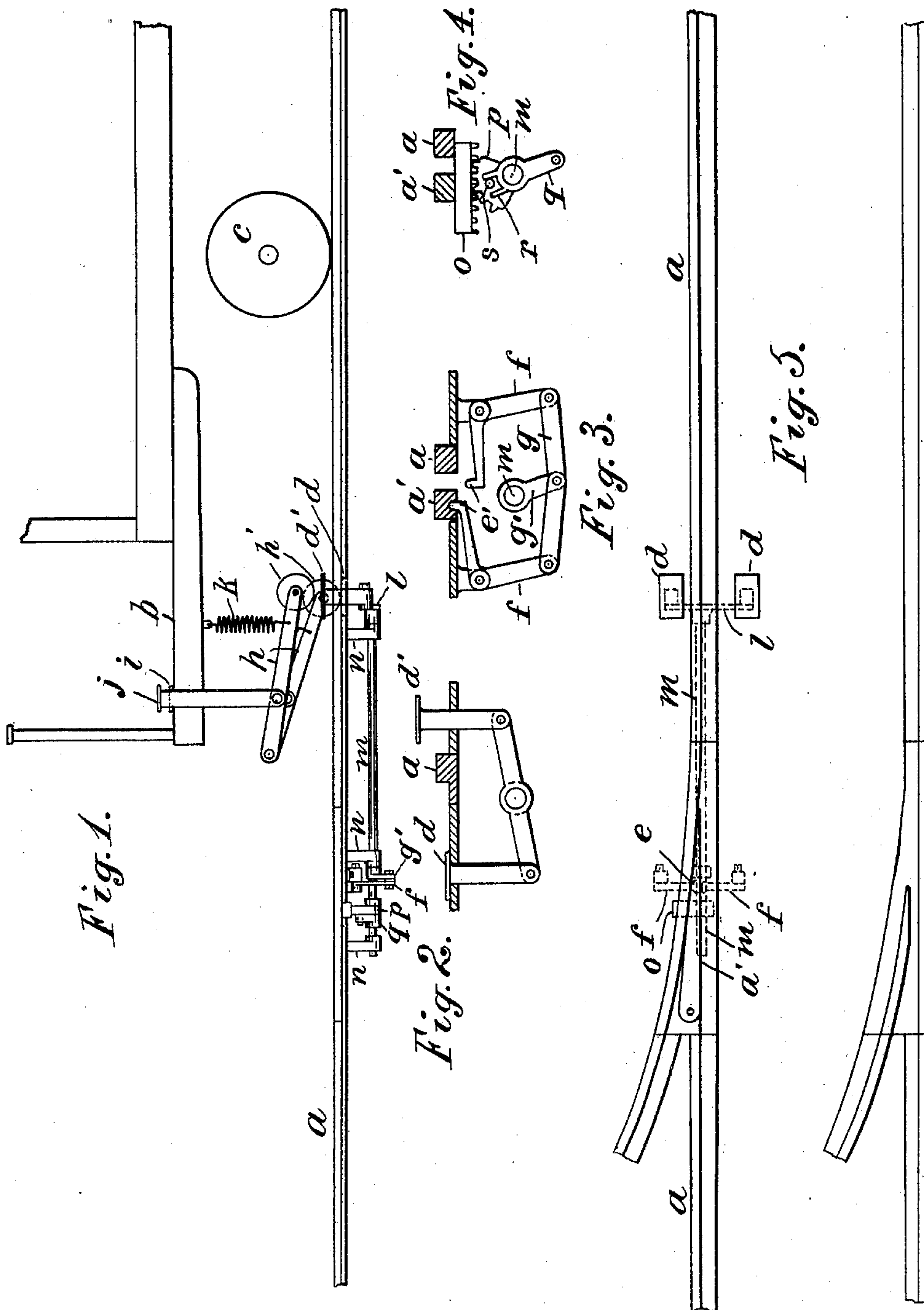


No. 756,820.

PATENTED APR. 12, 1904.

L. BLOWER.
AUTOMATIC SWITCH SHIFTER.
APPLICATION FILED AUG. 7, 1903.

NO MODEL.



Attest:
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UNITED STATES PATENT OFFICE.

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AUTOMATIC SWITCH-SHIFTER.

SPECIFICATION forming part of Letters Patent No. 756,820, dated April 12, 1904.

Application filed August 7, 1903. Serial No. 168,578. (No model.)

To all whom it may concern:

Be it known that I, LEON BLOWER, a citizen of the United States, residing at 333 East Sixteenth street, New York, county of New York, State of New York, have invented certain new and useful Improvements in Automatic Switch-Shifters, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The present invention relates to means for shifting the switch-point in a street-car track; and the invention consists in means for locking the switch-point when shifted, combined with means for shifting the switch from the platform of a car upon the track.

In this invention the switch is shifted by connection to tread-plates arranged near the rail of the track and operated by pressure-rolls sustained upon the car-platform and depressed to engage the tread-plates at the pleasure of the car-driver.

The invention will be understood by reference to the annexed drawings, in which—

Figure 1 is a diagram showing part of a car upon the track with the switch shifting and locking mechanism in elevation. Fig. 2 is a cross-section adjacent to the tread-plates. Fig. 3 is a cross-section of the main rail and the switch-point adjacent to the locking mechanism, the switch-point being shown opened. Fig. 4 is a section of the main rail and switch-point adjacent to the shifting device, the switch-point being open; and Fig. 5 is a plan of the track with the switch shifting and locking mechanism shown in dotted lines beneath the same.

a designates the track-rails to which the switch-point a' is applied; b , the platform of a car, only one of the car-wheels c being shown. Tread-plates d d' are shown mounted to slide vertically at opposite sides of the rail upon which the switch-point is pivoted, and two levers h , provided with rolls h' , are pivoted upon the platform b and provided with treadles i and j to force down either of the rolls at the pleasure of the driver to depress the corresponding tread-plate. The rolls are both held normally raised by spring k . The tread-plates are connected by their vertical

guide-bars with the opposite ends of an arm l upon the rock-shaft m , which is mounted in bearings n beneath the rail a . The movement of the tread-plates oscillates the rock-shaft m .

The switch-point a' is provided upon the under side with a transverse rack o , and a segment q is fitted loosely upon the rock-shaft and provided with dogs r , which contact when the rock-shaft moves in opposite directions with a stud s upon the segment p . The switch-point is shown provided upon the under side with a notch or socket e , and bell-cranks f are pivoted in bearings at opposite sides of the rock-shaft and provided upon the ends with lugs e' , adapted to engage the socket e , and thus form bolts to lock the switch-point in place. The bolts are so situated that one of them will engage the socket in either the open or closed position of the switch-point. The bell-cranks are connected by links g to an arm g' upon the rock-shaft so that they are moved alternately in opposite directions by the oscillation of the shaft. To permit the bolts to be withdrawn from the socket in the switch-point before the latter is shifted by the segment p , a space for clearance or lost motion is provided between the dogs r , so that the rock-shaft may move sufficiently to retract the bolt before the dog contacts with the stud s and oscillates the segment to shift the switch-point. The switch-point is thus locked when brought to its final position and is unlocked before it is shifted again. The invention thus provides means for shifting the switch-point and locking the same by the mere operation of the ordinary treadle upon the car-platform.

Having thus set forth the nature of the invention, what is claimed herein is—

1. In a switch-shifter, the combination, with two tread-plates and a rock-shaft actuated thereby with connections to the switch-point for shifting the same, of a socket in the switch-point to receive a bolt, and two bolts actuated alternately by the rock-shaft to lock the switch-point in its open and closed positions.

2. In a switch-shifter, the combination, with two tread-plates and a rock-shaft actuated thereby with connections to the switch-point for shifting the same, of two bell-cranks piv-

oted at opposite sides of the rock-shaft and provided with bolts to engage the switch-point in its open and closed positions, and an arm upon the rock-shaft connected with the
5 said bell-cranks to operate them alternately.

3. In a switch-shifter, the combination, with two tread-plates and a rock-shaft actuated thereby, of a rack upon the switch-point, a toothed segment fitted loosely to the rock-
10 shaft and engaging such rack, dogs secured upon the rock-shaft to oscillate the segment, two bell-cranks pivoted at opposite sides of the rock-shaft and provided with bolts to engage the switch-point in its open and closed

positions, connections from the rock-shaft to 15 such bell-cranks to actuate them alternately, and the dogs having play or lost motion in their connection with the toothed segment to permit the retraction of the bolts before the switch-point is shifted.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses. 20

LEON BLOWER.

Witnesses:

L. LEE,
THOMAS S. CRANE.