

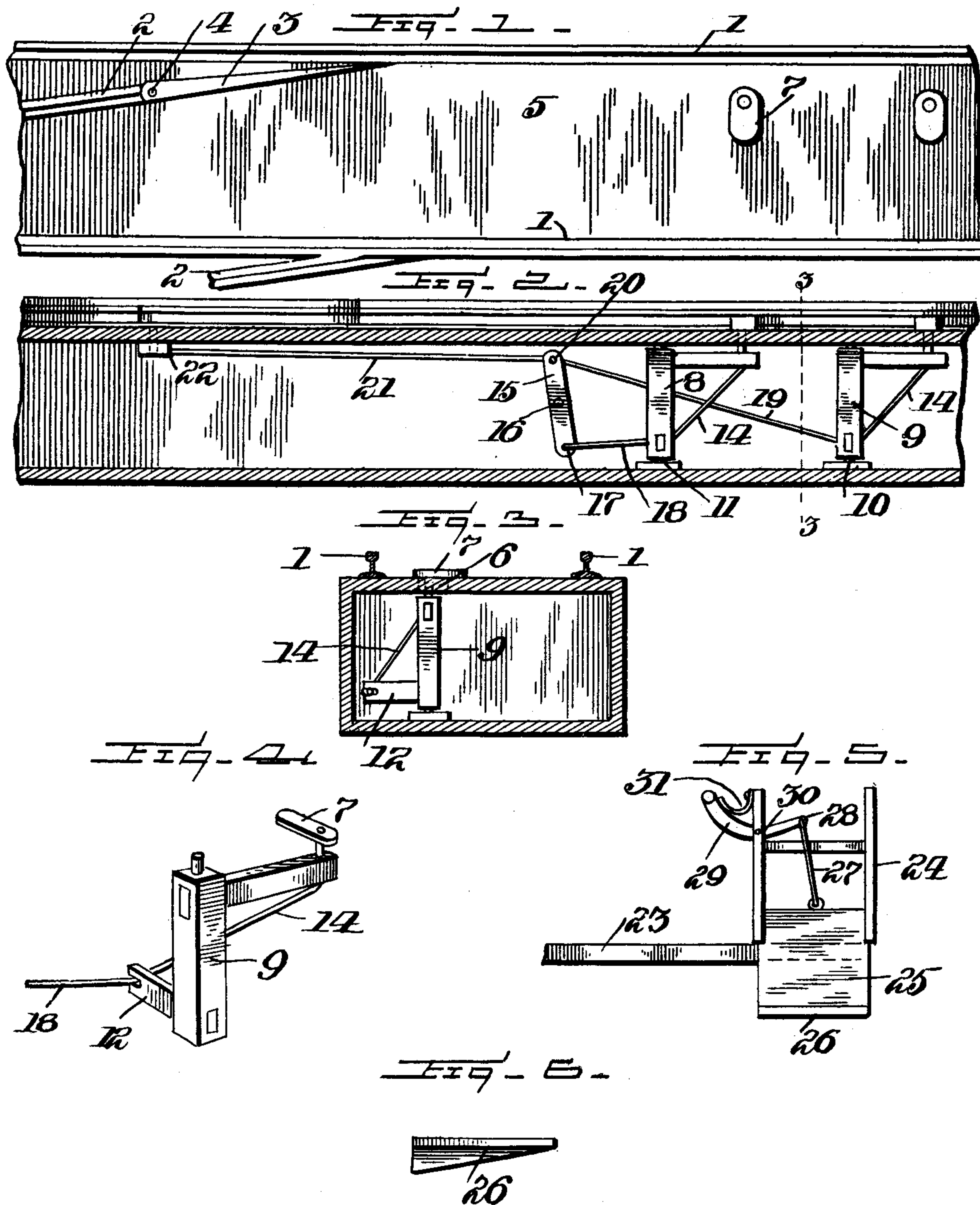
No. 713,905.

Patented Nov. 18, 1902.

J. O. McCAN.
SWITCH THROWING DEVICE.

(Application filed Mar. 22, 1902.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JAMES O. McCAN, OF ESPLEN, PENNSYLVANIA.

SWITCH-THROWING DEVICE.

SPECIFICATION forming part of Letters Patent No. 713,905, dated November 18, 1902.

Application filed March 22, 1902. Serial No. 99,544. (No model.)

To all whom it may concern:

Be it known that I, JAMES O. McCAN, a citizen of the United States of America, residing at Esplen, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Switch-Throwing Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in switches for street-railways and the like, and has for its object the provision of novel means whereby the switch-tongue may be operated in either direction from the platform of the car.

15 The present invention further aims to provide a novel form of mechanism carried by the car that may be easily lowered to actuate the switch-throwing apparatus and one which when released will return to its normal position automatically.

My present invention further contemplates to construct a switch-throwing mechanism that will be extremely simple in its construction, strong, durable, comparatively inexpensive to manufacture, and highly efficient in its operation.

25 With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claims.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference indicate like parts throughout the several views, in which—

40 Figure 1 is a plan view of the casing, showing the switch-tongue and projections for operating the tongue. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a transverse vertical sectional view taken on the line 3 3 of Fig. 2. Fig. 4 is a perspective view of one of the crank-arms to operate the switch-tongue in one direction. Fig. 5 is a side elevation of the mechanism secured and carried by the car to engage the lugs or projections extending through the casing.

50 Fig. 6 is an under plan view of the shoe carried by the mechanism attached to the car.

The main track is indicated by reference-

numeral 1, and 2 indicates the siding. The switch-tongue 3 carries a pin 4 and is mounted upon a casing 5, containing the switch-operating mechanism. Through said casing are 55 formed slots 6, through which extend lugs or projections 7, these lugs or projections being secured to the crank-arms 8 and 9, carrying pins 10 at their upper and lower ends, which are suitably journaled in plates 11, secured to the casing. These crank-arms 8 and 9 carry extending arms 12 12. Braces 14 serve to strengthen the crank-arms and extend from the under face thereof to the end of the extension 12. A lever 15 is pivotally secured at 16 to the wall of the casing. Said lever at its lower end is connected at 17 to a connecting-rod 18, secured to the end of the extensions 12 of the crank-arm 8, and a connecting-rod 19 is likewise secured to the end of the extension 12 of the crank-arm 9, this rod 19 being connected at 20 to the upper end of the lever 15, to which is also attached an operating-rod 21, secured to an arm 22, carried 75 on the lower end of the pin 4.

The platform of the car is indicated by the reference-numeral 23, to which is secured a frame 24, forming guides to receive the slide 25, the latter carrying on its under face a 80 wedge-shaped shoe 26. The upper end of this slide is connected to a rod 27, which is pivotally attached at 28 to the end of the operating-lever 29, which is fulcrumed at 30 in one of the guides, and a spring 31 is rigidly secured at one end to one of the guides and is also secured to the lever 29, which serves to retain the slide in an elevated position.

The operation of my improved switch-throwing apparatus is as follows: When the 90 lever 29 is operated, thereby lowering the guide 25, the shoe 26 will engage one of the lugs 7, which will ride in the slot formed in the casing and communicate a partial rotary movement to one of the crank-arms, thereby operating the lever 15 in one direction or the other, which will communicate a movement to the switch-tongue in the desired direction. It will be seen that when the lugs 7 of the crank-arm 9 is operated the switch-tongue 100 will be turned in one direction, and when the lug 7 of the crank-arm 8 is operated the switch-tongue will be turned in the opposite direction.

The many advantages obtained by the use of my improved switch will be readily apparent from the foregoing description, taken in connection with the accompanying drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a switch-throwing device, the combination of a casing having slots formed in its upper face, crank-arms located within the casing and pivoted at their upper and lower ends thereto, outwardly-extending arms carried by the crank-arms near their lower ends, and at right angles to the horizontal member thereof, the horizontal member of the cranks carrying lugs extending through said slots, a lever pivoted to the side of the casing, the lower end of said lever carrying a rod connected to the end of said outwardly-extending arms of one of the crank-arms, a second connecting-rod secured to the said outwardly-extending arm of the other of the said crank-arms, and being extended upwardly and se-

cured to the upper end of the said lever, said connecting-rod being further extended and connected to the switch-tongue, substantially as described.

2. In a switch-throwing device, the combination with a casing having slots on its upper face, and supporting the movable switch-tongue, of a pair of crank-arms pivoted at their ends in said casing, and carrying means on their horizontal members protruding through said slots for actuation by suitable operating means, outwardly-extending arms carried by the cranks in a transverse direction to the horizontal member of the cranks, a lever pivoted to the side of the casing, a connection between the lower end of the lever and said outward arm of one of the cranks, a connection between the outward arm of the other of said cranks and the switch-tongue, with said connection secured to the upper end of the lever, substantially as described.

In testimony whereof I affix my signature in the presence of two witnesses.

JAMES O. McCAN.

Witnesses:

JOHN NOLAND,
E. E. POTTER.