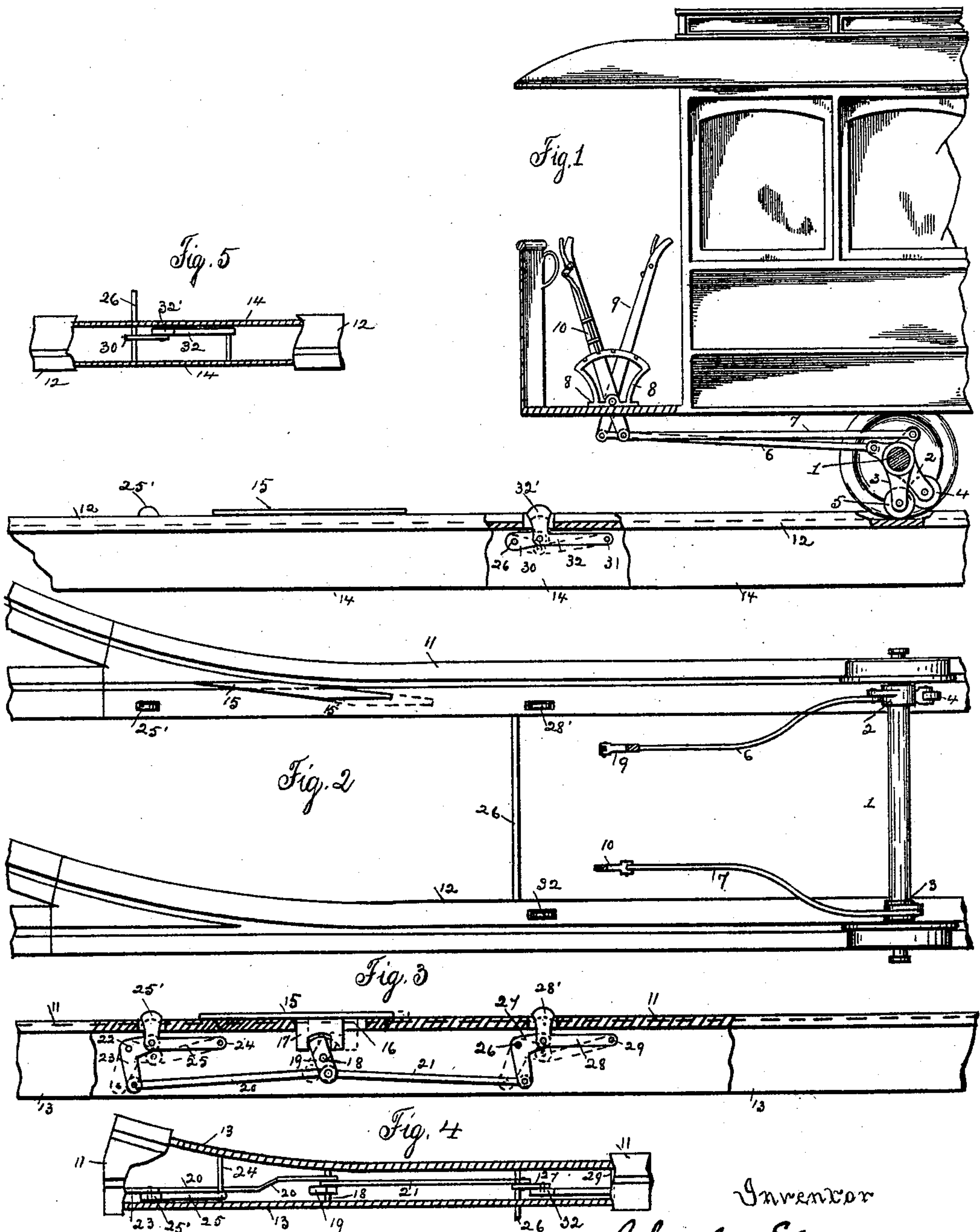


(No Model.)

C. ELWEE.
SWITCH OPERATING MECHANISM.

No. 594,198.

Patented Nov. 23, 1897.



R. S. Harrison.
J. A. Carline

Witnesses:

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UNITED STATES PATENT OFFICE.

CHARLES ELWEE, OF ALLEGHENY, PENNSYLVANIA.

SWITCH-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 594,198, dated November 23, 1897.

Application filed May 19, 1897. Serial No. 637,273. (No model.)

To all whom it may concern:

Be it known that I, CHARLES ELWEE, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Switch-Operating Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in a switch-operating mechanism.

The invention has for its object the provision of a mechanism partly attached to the car and whereby the switch may be opened or closed from the car.

With the above object in view the invention finally consists in the novel construction, combination, and arrangements of parts, as will be hereinafter more specifically described in detail.

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

Figure 1 is a side view of a car and track which are provided with my improved mechanism and which are partly shown in section. Fig. 2 is a plan view of the same without the car-body. Fig. 3 is a side view of one of the switch-rails partly broken away in section to show the mechanism connected therewith for operating the switch. Fig. 4 is a plan view of the same, also partly broken away. Fig. 5 is a plan view of the opposite switch-rail, also partly broken away to show the mechanism.

Referring to the drawings, the numeral 1 designates the car-axle. 2 and 3 are the pair of levers loosely fitted upon the said axle and have the wheels 4 and 5 loosely attached to their lower ends and the rods 6 and 7 connected to their upper ends.

8 is a rack attached to the car-platform and has the levers 9 and 10 pivoted thereto, the

said lever 9 being attached to the said connecting-rod 6 at the under side of the car, and the lever 10 is connected in like manner to the rod 7.

The switch-rails are designated as 11 and 12 and have downwardly-extended flanges 13 and 14.

15 is the switch-point, which lies flat upon the rail 11 and at an angle, as shown at Fig. 2. An opening or slot 16 is formed beneath the said switch-point and at the same angle, and the lug 17, which is found upon the under side of the said switch-point, extends down through the said slot. A short rod or shaft 18 is loosely fitted at its ends into the flanges 13 of the rail 11 and has secured thereon the shifting lever 19, to the lower end of which is attached the rods 20 and 21.

Secured upon the rod or axle 22, which is loosely fitted into the flanged sides of the said rail 11, is the crank 23, which is connected to the said rod 20 at its lower end. Pivoted upon the rod 24, which is connected to the said rail-flanges, is the arm 25, which is pivotally connected at its opposite end to the said crank 23 and has the upwardly-projecting portion 25' formed thereon and which extends up through an opening within the rail.

Loosely fitted to the flange portions of both rails 11 and 12 is the rod 26, upon which is secured the crank 27, which is connected at its lever end to the rod 21. Secured upon the shaft 29, which is loosely secured between the flanged portions of the said rail, is the arm 28, which is loosely connected to the said crank 27 and has the upwardly-extended portion 28' formed thereon and which projects up through an opening within the rail. To the opposite end of the said rod 26 and between the flanges of the opposite rail 12 is secured the crank 30. The small rod or shaft 31 is loosely connected between the flanges of the said rail and has the arm 32 secured thereto, which is pivotally connected to the said crank 30 and has the upwardly-extended portion 32' formed thereon and which projects up through an opening within the rail.

Assuming that the mechanism of the rail 11 is in the position as shown at Fig. 3 by the dotted lines and the projecting portion 32' of the mechanism within the rail 12 is

in the position as indicated by the full lines, the lever 10 upon the car is moved forward, as shown, so as to bring the wheel 5 down flush with the rail. When the car moves toward the switch for the purpose of turning off the main track onto the switch, the said wheel 5 comes in contact with the projecting piece 32', forcing it down, as shown by dotted lines, and causing the mechanism of the opposite rail to move in the position as shown by the full lines, with the projecting pieces 25' and 28' extending up above the track and the switch-point 15 over, as indicated by full lines, so that the car-wheel of that side will be caused to turn off onto the switch. Should a car come along either way and desire to continue upon the main track, the lever 9 is operated to bring the wheel 4 down in position to engage with either of the projecting parts 25' or 28', so as to operate the mechanism and switch-point back to their former position.

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

1. In a switch-rail, the two projections extending above the level of the track, and placed in a longitudinal line with each other, and an operating mechanism connecting the two, combined with the pivoted shifting lever 19, the angular endwise-moving switch-point, provided with lugs on its under side and which project through a slot in the rail, and with which lugs the shifting lever engages, whereby a downward pressure upon either one of the projections will cause an

endwise movement of the switch-point, substantially as shown.

2. The track-rails provided with suitable slots, the angular levers 23 and 24, pivoted connecting-rods 25 and 28, provided with the projections 25' and 28', and which project through a slot in the rail, combined with the connecting-rods 20 and 21, the shifting lever 19 connected to and operated by the rods, and the switch-point provided with lugs on its under side, and which lugs project through a slot in the switch-point, said rail having an endwise movement, substantially as described.

3. In a switch-rail, the three projections 25', 28' and 32, which project through slots in the rail an operating mechanism connected with each of the projections, and the rod 26 for connecting the operating mechanism, and the projections 28' and 32, combined with the connecting-rods 20 and 21 and which are connected at their inner ends, a shifting lever connected to and operated by the rods, and the angular endwise-moving switch-point, provided with lugs which make connection with the shifting lever, whereby when one of the projections which extend above the level of the track, is operated, the switch-point is given an endwise movement, substantially as set forth.

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

CHARLES ELWEE.

Witnesses:

W. H. MAXWELL,
JOHN GROETZINGER.