

(No Model.)

C. C. LOTT.
SWITCH OPERATING MECHANISM.

No. 514,759.

Patented Feb. 13, 1894.

Fig. 1.

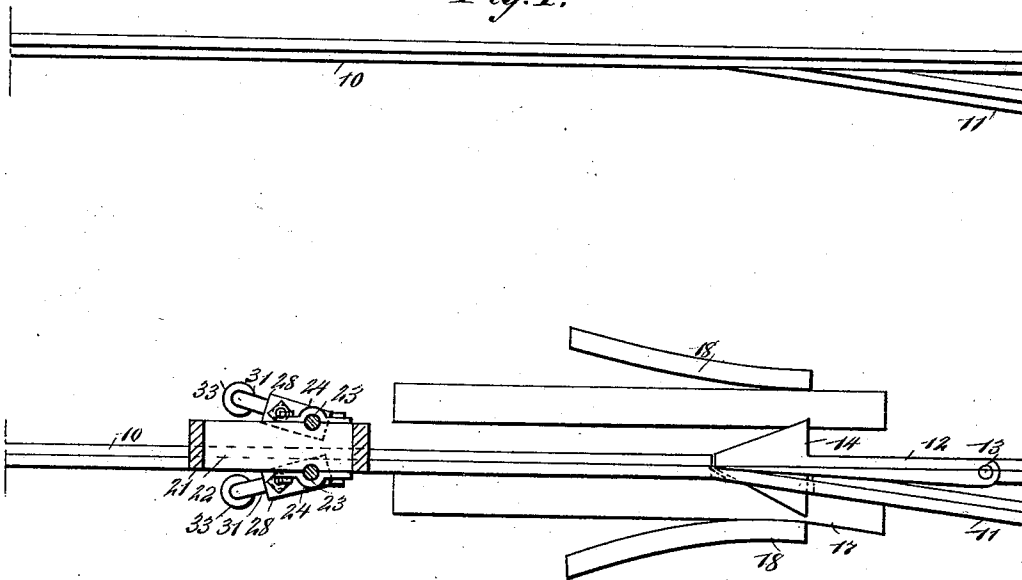


Fig. 2.

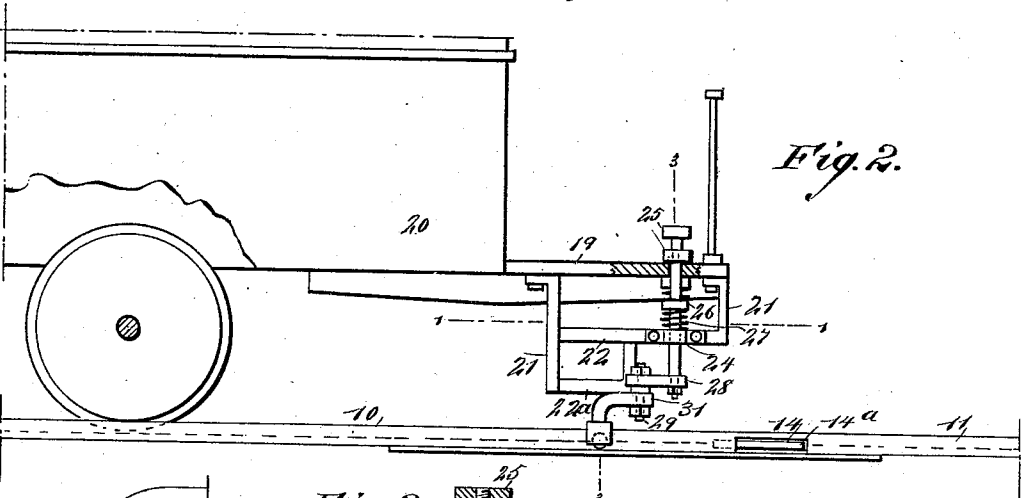


Fig. 3.

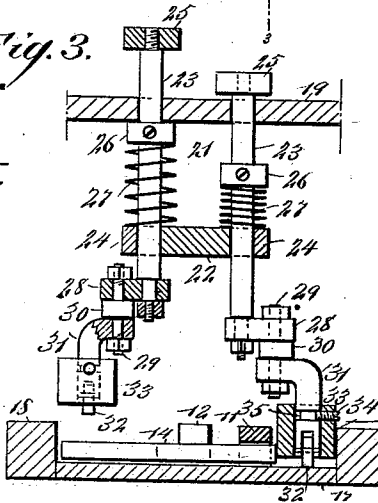


Fig. 4.

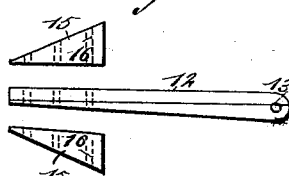
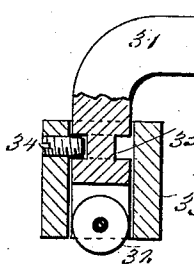


Fig. 5.



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CHARLES C. LOTT, OF HOUSTON, TEXAS.

SWITCH-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 514,759, dated February 13, 1894.

Application filed January 12, 1893. Serial No. 458,159. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. LOTT, of Houston, in the county of Harris and State of Texas, have invented a new and Improved Switch Mechanism, of which the following is a full, clear, and exact description.

My invention relates to improvements in switch operating mechanism the improvements being specially intended for street railways, although they may be used upon any railways and in connection with any kind of rolling stock.

The object of my invention is to produce a simple switch mechanism by which a switch may be changed quickly and positively from a moving car.

To this end, my invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a sectional plan of the switch and operating mechanism, on the line 1—1 in Fig. 2. Fig. 2 is a broken side elevation of the switch and its operating mechanism, the latter being shown applied to a car. Fig. 3 is an enlarged cross section, on the line 3—3 in Fig. 2. Fig. 4 is a detail plan view of a modified form of the switch rail showing the head members of the plates separated from the shank of the rail; and Fig. 5 is an enlarged detail sectional view of the lower end of the shifting arm and its guide wheel and contact sleeve.

The main track rails 10, which are of the usual kind, connect in substantially the usual way with the branch or siding rails 11, and near the junction of one of the rails 10 and one of the rails 11, is pivoted a swinging switch rail 12, the rail being pivoted to one end of one of the track rails 10, as shown at 13, and its free end terminates in a head 14, shaped like an arrow-head, so as to engage the shifting arm sleeve when necessary, as hereinafter described. This triangular or arrow-shaped head may be made solid, as shown in Figs. 1 and 3, or separable, as shown in Fig. 4, in which case the two sides 15 of the head are of triangular shape and both plates and

rail are perforated, as shown in dotted lines at 16, to receive fastening bolts by which the said parts may be held together. The head may be made up in any other convenient way without departing from the principle of my invention. The head is adapted to slide on a wear plate 17, and between converging guide rails 18, the rails being placed so that they converge as they approach the arrow-head, as shown in Fig. 1 and the flanges of the head are near the bottom of the switch rail so that the flanges of the car wheels may pass over without touching them.

The shifting apparatus is carried on the platform 19 of a car 20, or may be arranged in any convenient place upon a car. To support this mechanism a bracket 21 is arranged beneath the car, which may be of any suitable shape, but which is preferably provided with parallel bars 22 and 22^a arranged one above the other, the upper bar 22 being longer than the lower one 22^a, as shown in Fig. 2.

Journaled in opposite sides of the bar 22, near its front end, and extending upward through holes in the platform, are shafts 23, which are held to the bar 22 by a journal box 24, and these shafts or rods are adapted to slide up and down in the platform and bracket. They have treadles 25 at their upper ends, upon which the operator may step, and each shaft or rod is provided at a point beneath the platform with a collar 26, beneath which is a spiral spring 27 which encircles the bar and which by its upward pressure is adapted to hold the shaft in an elevated position.

Each shaft 23 is reduced at its lower end, and to this lower end is attached a horizontally-extending plate 28, and at the free end of the plate is a depending bolt 29, having a shoulder or collar 30 to fit against the under side of the plate to which the bolt is held by suitable nuts. The bolt should be shouldered to receive the nuts so that the latter will not bind but will permit the free movement of the bolt and the arm 31 on the bolt. To the lower end of the bolt is fastened a downwardly-curved arm 31, which extends rearwardly from the plate 28, as shown in Fig. 2, and this arm has at its lower end a wheel 32, adapted to run upon the plate 17 and upon the ground adjacent to the plate. The wheel 32 serves as a guide wheel, and its upper portion and the

lower portion of the arm 31 are inclosed by a contact sleeve 33, which is held to the arm by a set screw 34, which projects into an annular recess 35, extending horizontally around the vertical portion of the arm 31, and by this means the sleeve is held in place and is also permitted to turn freely on the arm.

The shafts 23 and their connected mechanism are arranged in pairs so that one sleeve 33 is adapted to engage one of the guide rails 18 and the adjacent side of the head 14 of the switch rail, while the opposite sleeve is adapted to engage the other guide rail and the other side of the switch rail head. It will be seen then, that as a car approaches a switch, it is only necessary to depress one of the rods or shafts 23 in order to shift the switch. If a car is to run upon the main track the inner shaft 23 is depressed, and the sleeve 33 strikes the guide rail 18 and runs inward against the head 14, thus forcing the head outward through a slot 14^a in the rail 11, which slot is made to receive it, and the car will thus run smoothly along the main line.

By reference to Fig. 3, it will be noticed that the switch rail 12 projects above the plate or head 14, so that the flange of the car wheel may run smoothly over the head and upon the switch rail. If the car is to take the siding, the opposite shaft is depressed and the other contact sleeve 33, striking the opposite guide rail 18, brings in the switch rail head 14, thus opening the switch to the siding.

It will be understood that upon cars other than street cars, a suitable lever or other mechanism will be provided for depressing the shafts 23.

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

1. The combination with the switch rail and track devices, of the vertically movable spring cushioned rods for attachment to the car and having horizontally swinging angle

arms on their lower ends, each provided with an independently movable contact device to contact with the head of the switch rail, substantially as set forth.

2. A switch operating device comprising a vertically movable spring seated rod to depend from a car and provided on its lower end with a horizontally swinging angle arm carrying a turning contact device, substantially as set forth.

3. A switch operating device comprising a vertically movable spring seated rod to depend from a car and provided on its lower end with a horizontally swinging angle arm, the vertical member of which at its lower end is provided with a freely turning contact sleeve, substantially as set forth.

4. A switch operating device comprising a vertically movable spring seated rod to depend from a car and provided on its lower end with a horizontally swinging angle arm, a contact wheel journaled on the lower end of the angle arm and a freely turning contact sleeve also on the arm, substantially as set forth.

5. A switch operating device comprising the spring seated rod, the horizontally extending plate 28 on the lower end of the rod, the vertical bolt 29, the angle arm 31 turning freely on said bolt, the contact sleeve 33 and the contact wheel 32 on the vertical member of the said angle arm, substantially as set forth.

6. The combination with a switch rail, of a car mechanism comprising the parallel vertical rods 23 having heads at their upper ends, supporting bracket 21, springs 27, and horizontally swinging angle arms 31 connected with the lower ends of said rods and provided with wheels and freely turning contact sleeves, substantially as set forth.

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Witnesses:

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