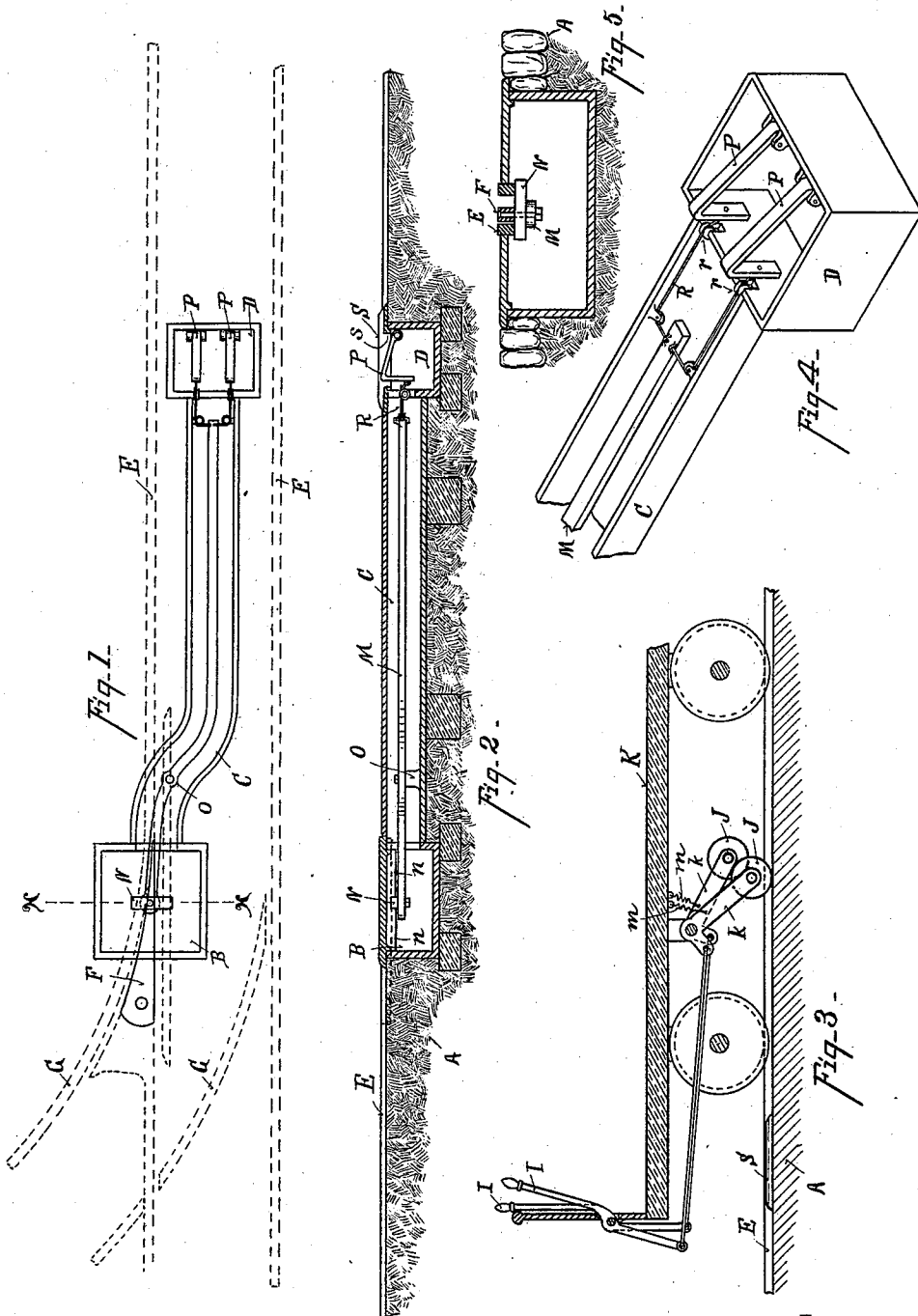


(No Model.)

C. COUGHLIN.  
STREET RAILWAY SWITCH.

No. 529.646.

Patented Nov. 20, 1894.



Attest—

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# UNITED STATES PATENT OFFICE.

CORNELIUS COUGHLIN, OF CINCINNATI, OHIO.

## STREET-RAILWAY SWITCH.

SPECIFICATION forming part of Letters Patent No. 529,646, dated November 20, 1894.

Application filed February 15, 1894. Serial No. 500,291. (No model.)

*To all whom it may concern:*

Be it known that I, CORNELIUS COUGHLIN, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Street-Railway Switches, of which the following is a specification.

The object of my invention is to provide a switch throwing device which may be operated by the attendant riding on the car, the various features of which are fully set forth in the description of the accompanying drawings making a part of this specification, in which—

Figure 1 is a top plan view of my improvement with the covers removed. Fig. 2 is a central vertical longitudinal section of Fig. 1. Fig. 3 is a side elevation of the car on the track with switch moving attachments. Fig. 4 is a perspective view of the switch levers. Fig. 5 is a section on line *x, x*, Fig. 1.

A represents the bed of the street; B, a box under the switch tongue; C, a box or trench in which is placed the switch throwing lever; D, a box in which is placed the tripping lever.

E, E, represent the street rails; F, a tongue switch; G, G, the turn out rails; I, I, levers for depressing the friction rollers J, J, attached by bell crank levers *k* to the car K; *m, m*, retractile springs; M, a lever pivoted at the forward end to the slide N.

*n* represents guides between which the slide N works.

O represents a fulcrum on which the lever M is pivoted.

P, P, represent tripping levers attached to the lever M by a cord R; *r, r*, friction rollers supporting the cord.

S represents a guard plate provided with slots *s* into which tripping levers P project, and which protects the tripping levers from injury from wagons passing over the street. The tripping levers may be narrow, three-eighths of an inch in diameter, and the slots so narrow that the wheels cannot pass into them. I have shown the lever M connected to cord R as a part of the connecting member from the said cord R to the slide N; as it is

better than either metallic or fibrous cords, there being less contraction and expansion, and this is the preferred form of construction.

Mode of operation: One of the tripping levers is normally down, and the other up. The car passes over the street, the attendant pulls one of the levers and brings the friction roller J in engagement with one of the tripping levers P, which depresses the same and throws the tongue switch F in one direction. The depression of the opposite friction roller will depress the opposite tripping lever and throw the tongue switch in the reverse direction; so that the operator riding on the car may readily move the tongue switch so as to guide the car on the turn-out rail G, G, or if it be thrown in that position and he wish to continue on the main rails E, E, he may depress the opposite lever and throw the switch in the proper position, without stopping the car; the tripping levers P, P, being located sufficiently far from the switch so that the operator can move it to the proper position and see that it is in its proper place before the car wheels arrive at the switch. It will be readily seen that the switch tongue can be thrown by hand as well as by means of the tripping levers.

Having described my invention, what I claim is—

1. A switch-throwing device, consisting substantially of a tongue switch F, a slide N, a pivoted switching lever M, tripping levers P, P, and cord R connecting the tripping-levers with the switching-lever, substantially as described.

2. The switch-throwing mechanism located in boxes beneath the surface of the street and composed substantially of the tripping levers P, P, the cord R, the switching-lever M, the slide N, and the tongue-switch F connected with the slide and pivoted to the switching-lever, substantially as described.

In testimony whereof I have hereunto set my hand.

CORNELIUS COUGHLIN.

Witnesses:

T. SIMMONS,  
WILL R. WOOD.