(No Model.)

C. FEARON.

ELECTRIC SWITCH REGISTER.

No. 359,067. Patented Mar. 8, 1887.

Fig. 1.

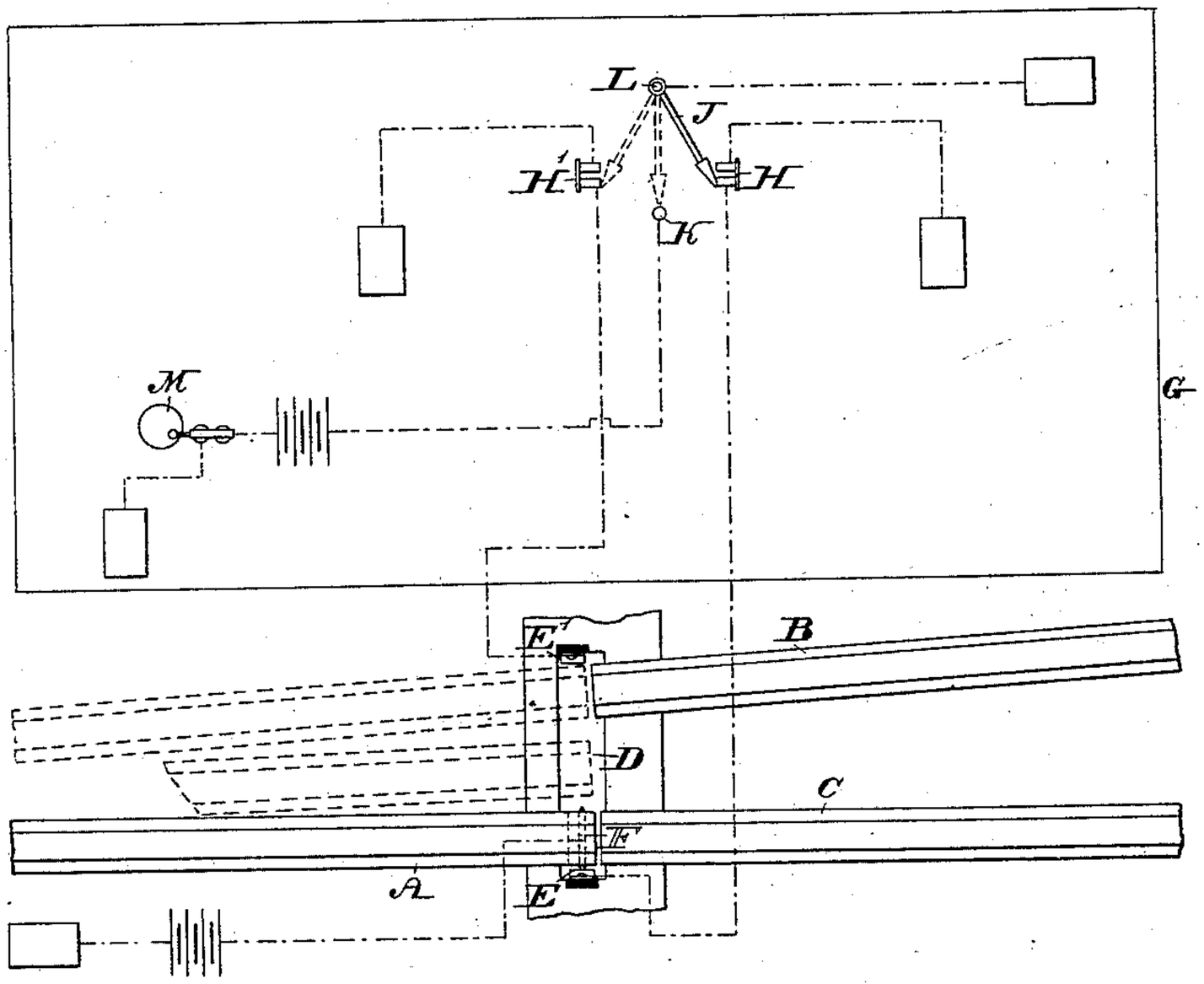
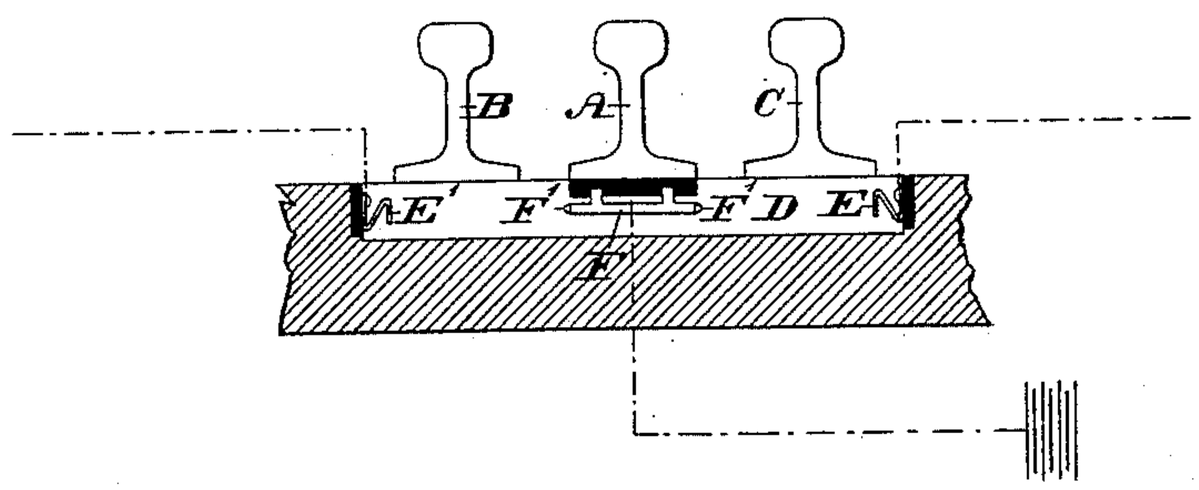


Fig. 2.



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ELECTRIC SWITCH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 359,067, dated March 8, 1887.

Application filed October 25, 1886. Serial No. 217,125. (No model.)

To all whom it may concern:

Be it known that I, CHARLES FEARON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Electric Switch-Registers, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents a top or plan view of an electric switch-register embodying my invention. Fig. 2 represents a transverse section.

Similar letters of reference indicate corresponding parts in the two figures.

My invention consists of a device adapted for indicating or registering in an office, signal-station, depot, or other building the condition or position of a railroad-switch.

Referring to the drawings, A represents the movable rail of a railroad-switch, and B C the adjacent rails of the main and side tracks, with either of which said rail A may be placed in communication.

D represents a channel or casing, which is located on the bed of the road beneath the path of the butt-end of the rail A, and has secured to opposite sides contact-points E E′, which are properly insulated from said bed and the ground.

Connected with the under side of the butt-end of the rail A, and entering the casing D, is a contact-piece, F, whose points F′ project in opposite directions, so that said piece F may be placed in contact with either of the points E or E′ at the sides of the casing D.

Within an office, signal-station, depot, or other building (represented at G, Fig. 1) are located magnets H H′, a gravitating index-finger, J, and a contact-point, K, said finger J extending vertically and being secured to or mounted on a horizontal axis, L, and so located that it may be attracted by either of the magnets H H′ or engage with the point K.

Suitable batteries are connected with the contact-piece F and the contact-point K of the finger J. Wires extend from the contact-points E E′ to the magnets H H′, and are properly grounded. A ground-wire also extends from the axis L of the finger J.

M represents a bell, which is connected with the battery of the contact-point K, so as to be electrically operated.

The operation is as follows: When the switch-rail is moved, say, in the present case, to the right, the piece F carried by the same comes in contact with the point E, whereby the relative circuit is closed, and the finger J is attracted by the magnet H, thus indicating the position of the switch. Should the switch-rail be moved to the left, the piece F comes in contact with the point E′, whereby the finger J is attracted by the magnet H′, thus indicating the relative position of the switch. Should the switch-rail be displaced, in which case it occupies a position intermediate of the rails B C, both circuits in which the magnets H H′ are placed are broken, and the index is accordingly released from either magnet by which it was held, and so drops, reaching and touching the contact-point K, whereby the bell M is operated and an alarm sounded. By these means the condition of a switch, whether set for a main track or siding or other track or displaced between said tracks, may be perceived in the office, station, &c., and in the event of an improper position of the switch timely notice of the same is given, the advantages whereof are evident.

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

1. A switch-rail having a contact-piece, in combination with a casing having contact-pieces in separate electric circuits, said circuits having magnets, and a gravity-index adapted to be operated by either of said magnets, all substantially as described.

2. The switch-rail A, having contact-piece F, in combination with casing D, having insulated contact-pieces E E′, said contact-pieces being in electric circuits closed by said switch-rail A, said circuits having magnets, a third electric circuit having therein the axis of a gravity-index which normally closes said circuit, thereby actuating an alarm connected therewith, the said gravity-index being also adapted to be operated by either of said magnets of the electric circuits, all substantially as and for the purpose set forth.

3. The movable rail of a switch having insulated contact-points carried thereby, the bed of a railroad provided with insulated contact-points, a station or room having magnets and an index movable between the same, and elec-

tric circuits, combined substantially as described, whereby the condition or position of the switch may be indicated or registered in said room, substantially as described.

4. An electric circuit having an alarm connected therewith and adapted to operate, when said circuit is closed, in combination with two electric circuits with magnets and having separate electrical connection with a ground-bed, a switch adapted to open both or close either one of said circuits having magnets, and an index whose axis is in the circuit having an alarm, all substantially as described.

5. A switch-rail, in combination with magnets, an index movable between said magnets, a contact-point intermediate of said magnets, an alarm, electrical connections of the rail with said magnet and index, and an electrical connection of the index and alarm, substantially as described.

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