

L. B. DENNIS.

Circuit-Closer for Railroad-Signals.

No. 168,379.

Patented Oct. 5, 1875.

Fig: 1.

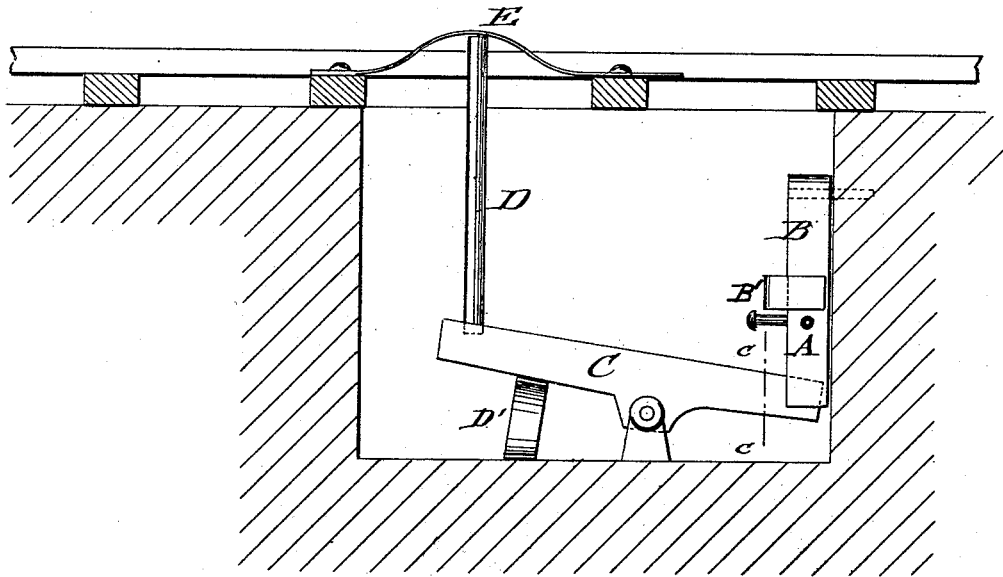
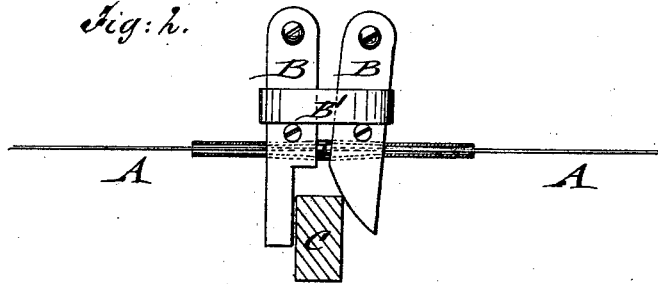


Fig: 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

LLOYD B. DENNIS, OF SANDUSKY, OHIO.

## IMPROVEMENT IN CIRCUIT-CLOSERS FOR RAILROAD-SIGNALS.

Specification forming part of Letters Patent No. **168,379**, dated October 5, 1875; application filed June 26, 1875.

*To all whom it may concern:*

Be it known that I, LLOYD B. DENNIS, of Sandusky, in the county of Erie and State of Ohio, have invented a new and Improved Circuit-Breaker for Signaling Trains, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of my improved circuit-breaking device, as placed below the track for indicating position of railway-trains at different points of the railway; and Fig. 2 a vertical transverse section of the same on line *cc*, Fig. 1, showing wire carrying spring-clamps.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish, for the purpose of indicating and signaling the speed and position of railway-trains on the track, an improved circuit-breaking device that produces, by the passage of the train, the registering of the position of the same at any desired station, so that the track is within full control, and the danger of railway-accidents reduced. The invention consists of two pivoted wire-carrying spring-clamps, which are separated so as to break the current by a fulcrumed and spring acted lever, operated by the passing train.

In the drawing, A represents the station-connecting circuit-wires, which are secured to pivoted spring-clamps B, in such a manner that the contact of the wire ends is secured and firmly-retained by the action of a spring, B', connecting the same. The lower ends of the spring-clamps B are curved or tapering, one being preferably recessed and the other curved, so that the circuit-breaking lever C may readily separate the clamps, while passing up only as far as the recess will permit. The lever C is fulcrumed and acted upon its opposite end by a post, D, that passes verti-

cally upward to a point between and at suitable height above the track, and in opposite direction, by a suitable spring, D', placed below the lever end. The upper end of the post D is mounted by a sliding band-spring, E, that extends from one tie to the other, so as to be gradually depressed by the train passing over the same in either direction. The downward motion of post D raises the opposite end of the fulcrumed lever, which separates the spring-clamps and breaks the contact of the wires. The current is thereby interrupted, and the "sounder" at the stations worked.

A clock-train of the sounder registers the passage of the train over the different circuit-breakers along the line of track, which gives full control over the position of the train or trains on the same.

The contact ends of the wires may be insulated by a rubber tube extending to some distance on each side, to protect them against dampness.

The circuit-breaking devices may be arranged below, sidewise, or in any suitable position, to the track-rails, provided that they are acted upon in reliable manner by the passage of the train for interrupting the circuit and giving the signal at the stations.

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

The combination, with spring-clamp B B', holding together the ends of circuit-wires A A, of the lever C, subjacent spring D', rod D, and superposed spring E, all arranged substantially as and for the purpose specified.

• LLOYD B. DENNIS.

Witnesses:

THOMAS WILLIAMS,  
L. F. HUDSON.