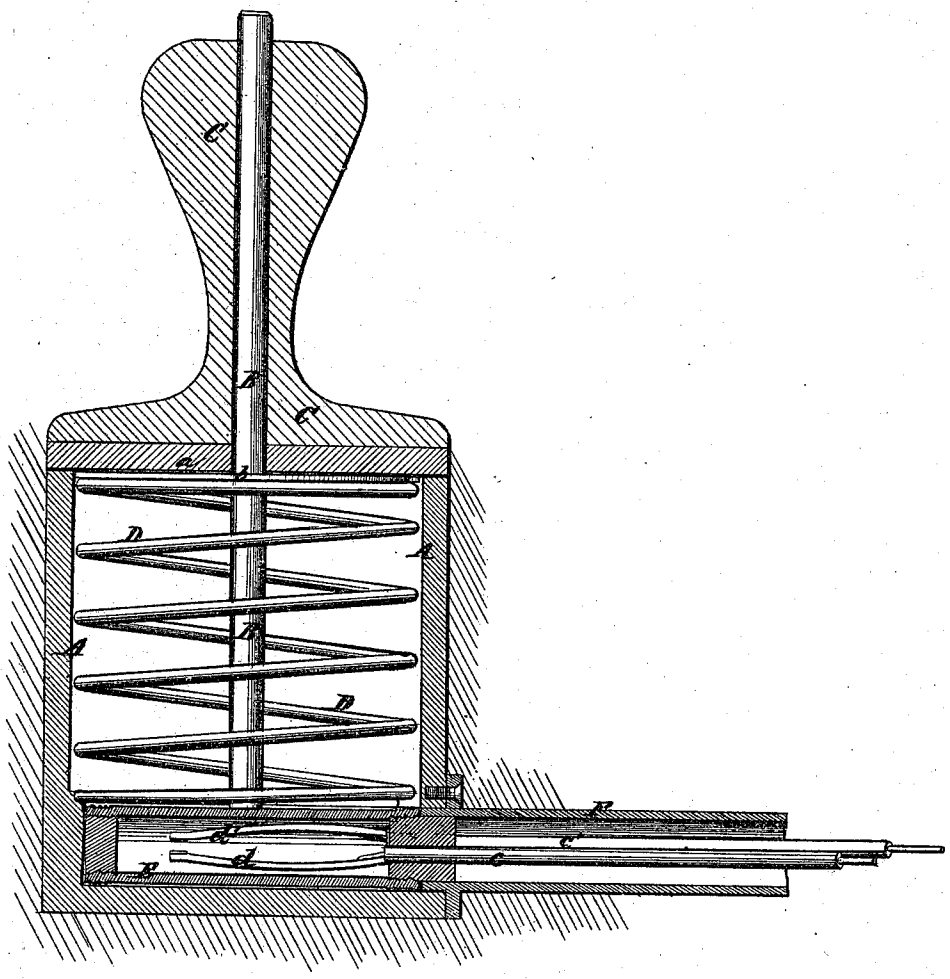
A. W. PLATT.

CIRCUIT CLOSER FOR ELECTROMAGNETIC RAILROAD SIGNALS.

No. 100,442. Patented Mar. 1, 1870.



Witnesses:
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Letters Patent No. 100,442, *dated March* 1, 1870.

IMPROVED CIRCUIT-CLOSER FOR ELECTRO-MAGNETIC RAILROAD SIGNALS.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, A. WARNER PLATT, of the city, county, and State of New York, have invented a new and useful Improvement in Circuit-Closers for Electro-Magnetic Railway Alarms and Signals; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and which represents a vertical section of a circuit-closer, constructed in accordance with my invention, and attached to a railroad track.

The object of my invention is to operate or set in operation electro-magnetic railway alarms and signals from a proper distance off, by the action of the locomotive or train, especially for the purpose of giving alarms at crossings of the approach of trains a sufficient time in advance of their passing. To this end

It consists of a circuit-closer, composed of a pin which works vertically through the rail, and is projected above the upper surface or tread thereof by a spring, arranged in a box below the rail, such box also containing the ends of wires which form an opening in the circuit of the electro-magnet, by which the alarm or signal is to be operated or set in operation.

The locomotive or train, or both, passing over the pin, depress it, and so cause it to close the circuit and produce the operation of the alarm or signal.

To enable others skilled in the art to construct a circuit-closer according to my invention, I will proceed to describe the same with reference to the drawing.

A is a box of any suitable size and form, made to be perfectly water-tight, and imbedded in the ground close to the under side of a rail.

B is a pin of a proper size, which is provided with a collar, *b*, near the middle of the same.

This pin extends from the inside of the box through the cover *a* of the same, and passes also through the rail C.

A spiral spring, D, arranged in the box A around the lower part of the pin B, acts against the collar *b* of the same, thereby projecting it a desirable distance above the tread of the rail C, the collar *b* coming in contact with the cover *a* of the box A, acting as a

E is a short tube, made of India rubber, or other flexible and non-conducting material.

This tube is arranged close to the bottom of the box A and within the same, and is connected at one end with a metallic tube, F, of any length, which is connected with the outside of the box A, for the purpose of receiving such portions of the wires of the electro-magnetic circuit as may be desired to pass under ground.

The wires *c c'* of the electro-magnet are insulated, and their ends pass through a piece, *e*, which serves to stiffen them, and also forms the connection between the tube E and F.

Elastic strips *d d'* within the tube E are secured to the ends of wires *c c'*. These strips are provided at their ends with platinum points, and serve to close the circuit if acted upon.

The operation is as follows:

The alarms or signals being connected with any suitable mechanism, are operated by an electro-magnet and battery, which are arranged conveniently near the A, while the wires *c c'*, which are to establish the circuit, are passed to the circuit-closer, which is placed far enough away to allow timely warning.

As soon as the wheels of the locomotive pass over the rail C, the pin B, projecting above the tread of the rail by the action of the spring D, will be forced down, whereby its opposite end, pressing against the flexible tube E, which is directly under the same, and has the metallic strips *d d'* contained within, brings the points of the latter together, and thus closes the circuit, which enables the electro-magnet to operate on the alarms or signals.

What I claim as my invention, and desire to secure by Letters Patent, is—

The pin B, vertically, or nearly so, through the rail C, and projected above the tread thereof by a spring, D, within the box A, in combination with the circuit-closer *d d'*, all arranged substantially as shown and described.

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Witnesses:

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