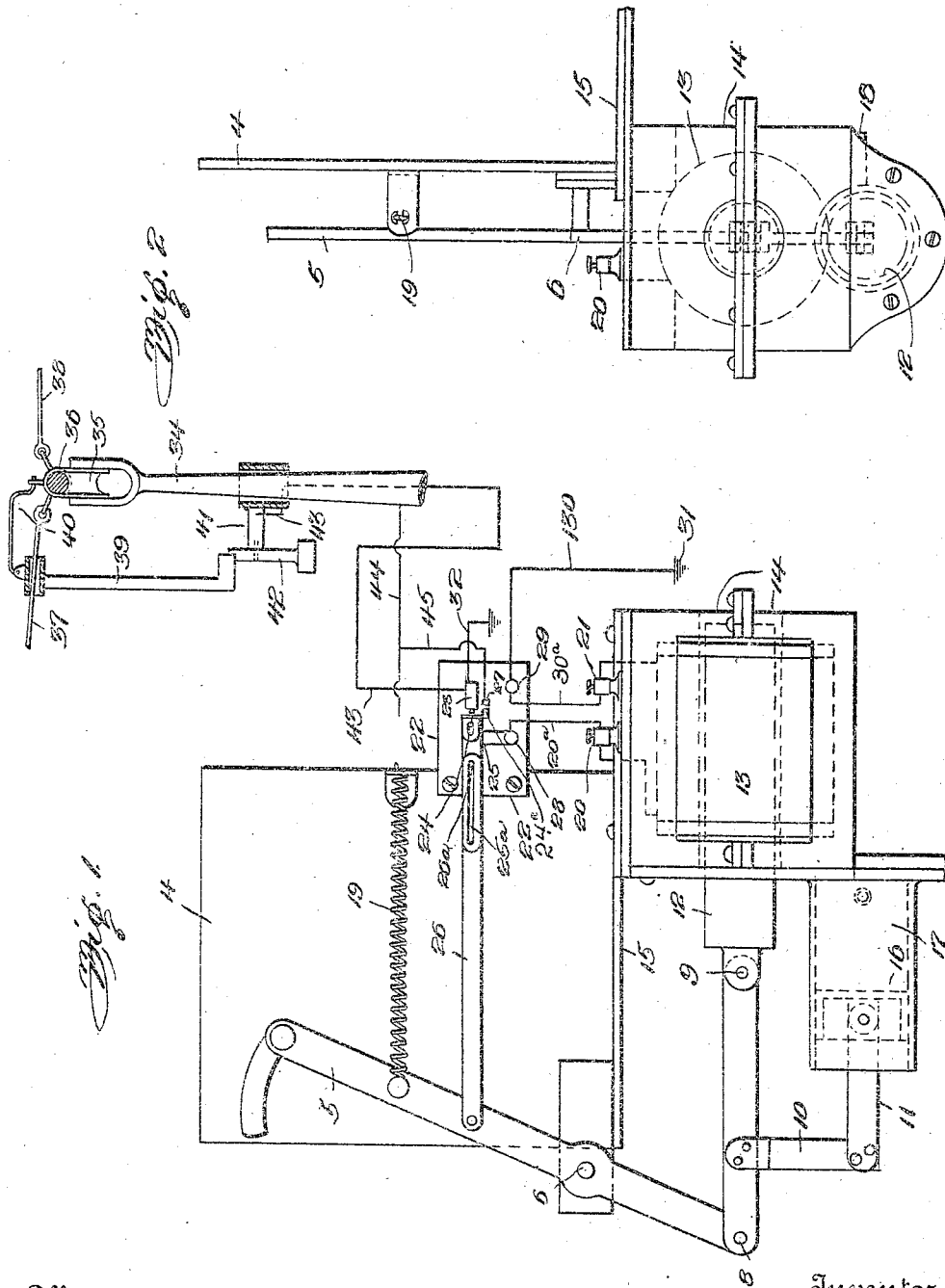


P. T. SPINDLER.
 OPERATING DEVICE FOR STREET AND STATION INDICATORS.
 APPLICATION FILED JUNE 2, 1910.

992,455.

Patented May 16, 1911.



Witnesses
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UNITED STATES PATENT OFFICE.

PERRY T. SPINDLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO AMERICAN STREET AND STATION INDICATOR COMPANY, OF CHICAGO, ILLINOIS, A PARTNERSHIP.

OPERATING DEVICE FOR STREET AND STATION INDICATORS.

992,455.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed June 2, 1910. Serial No. 564,572.

To all whom it may concern:

Be it known that I, PERRY T. SPINDLER, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Operating Devices for Street and Station Indicators, of which the following is a specification.

This invention relates to improvements in operating devices for street and station indicators, such for instance as those used on electric cars.

It has for its object to provide an improved device for the automatic operation of a street indicator by means of strikers or obstacles supported adjacent to the trolley wire, the operation being effected electrically.

The device is particularly adapted for use in the operation of the street and station indicator forming the subject of my pending application Serial No. 543,674, filed Feb. 14, 1910, but it may be used with other machines as well.

The devices forming the subject of the present invention are illustrated in the accompanying drawings in which—

Figure 1 is an elevation of the electrically operated device. Fig. 2 is a detail in end elevation of the same.

Referring specifically to the drawings, 4 indicates one end of a street or station indicator operated by lever 5, which is pivoted at 6. The lower end of this is connected by a link 7 to the armature 12 of solenoid 13, pivotal connections being made at 8 and 9, at opposite ends of the link. The solenoid is inclosed in a casing 14 secured to the base 15 of the street indicator. The link 7 has a projecting arm 10 connected by a link 11, to the plunger 16 which works in a cylinder 17, provided with a restricted opening 18, forming a dash-pot to cushion the action of the solenoid. The cylinder is attached to the casing 14.

A spring 19 is connected to the lever 5 to return the same after operation by the solenoid. 20 and 21 are binding posts for the circuit connections to the solenoid.

A switch board or plate 22 is fastened to the indicator casing, and an angular switch piece 25 is pivoted thereto at 28. This switch carries the armature 24 of a magnet 23. A link 26 connects the lever 5 to the switch piece 25, said link having a pin 26^a

which works in a slot 25^a in the projecting arm of the switch piece. The pivot 28 is connected by a wire 20^a to the binding post 20, and a post 29 is connected to the post 21 by a wire 30^a, and to the ground by a wire 130. 32 is a wire from one terminal of the magnet 23 to the ground.

The trolley pole is indicated at 34, carrying a wheel 35 which runs in contact with the trolley wire 36, which is supported by guy wires 37 and 38 in the usual manner. 39 is an arm suspended from the wire 37, and insulated therefrom, and connected by a wire 40 to the trolley wire. The trolley pole has an insulated bracket 41 from which a weighted member 42 is pivotally suspended, in position to strike the depending arm 39. The insulated wire 43 is connected to the bracket 41 and extends down through the trolley pole and is connected to the other terminal of the magnet 23. 44 is a current-bearing wire found in the construction of electric cars, and it is connected by a wire 45 to the switch blade or member 27 which coöperates with the blade or member 24^a projecting from the armature 24.

The operation is as follows: The arm 39 will be attached to the guy wire at a suitable distance, say about a hundred feet, from the street to be indicated. When the member 42 strikes the arm 39 current will flow from the trolley wire to the magnet 23 and thence to ground through the wire 32. The magnet will attract the armature 24 and close the circuit at 27 and 27^a, whereby current will flow from the wire 44 through the connection 45, the switch 25, wire 20^a to the solenoid coil 13 and thence to the ground through the wire 130. The contact between the parts 39 and 42 is only long enough to cause the magnet 23 to attract the armature 24, the member 42 swinging to pass the arm 39. The solenoid 13 by means of its core 12 and connections swings the lever 5, and when said lever completes its stroke the link 26 pulls the switch piece 25 and breaks the connections at the contact 27, thereby opening the solenoid circuit, after which the lever is returned by the spring 19. The dash-pot 17 cushions the return stroke and prevents shock.

What I claim as new is:—

In an operating mechanism for indicators the combination of an operating lever, an electrical operating device connected thereto

and provided with a switch in its circuit, said switch including a pivoted member with a slotted arm, a link connecting the operating lever and the said pivoted member
5 and having a pin working in said slot, to open the switch after each stroke of the lever, an electro-magnet arranged to close the switch when energized, and a trip-

operated circuit closer in the circuit of the electro-magnet. 10

In testimony whereof, I affix my signature in presence of two witnesses.

PERRY T. SPINDLER.

Witnesses:

NELLIE FELTSKOG,
H. G. BATCHELOR.