

(No Model.)

L. G. ROWAND.
ANNUNCIATOR.

No. 477,071.

Patented June 14, 1892.

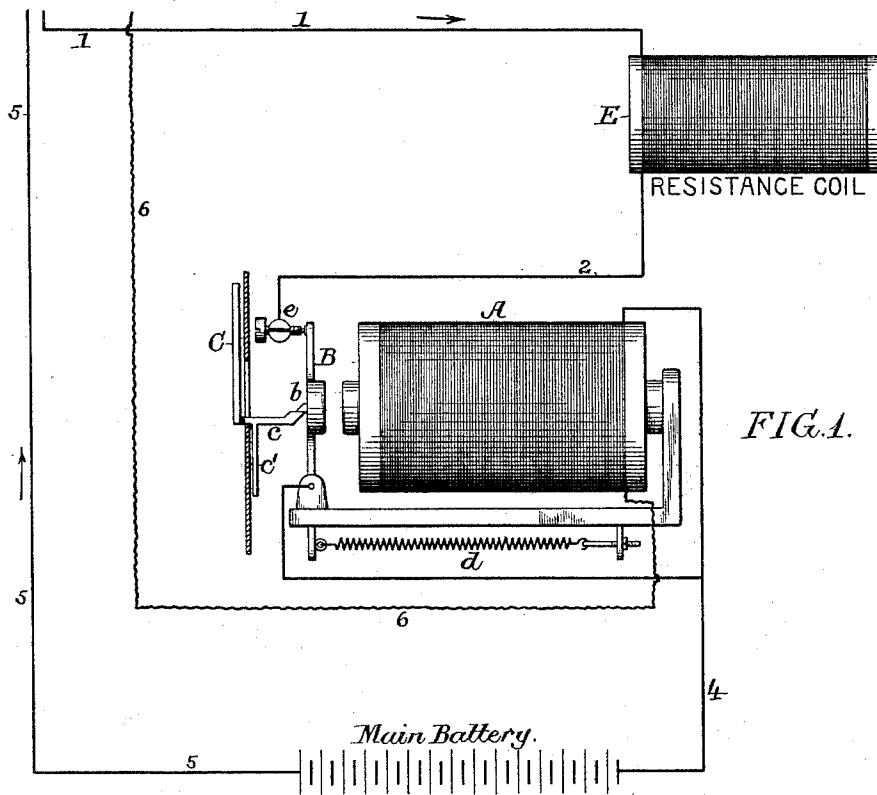
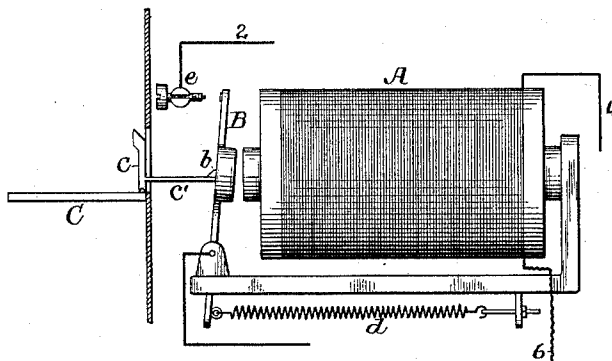


FIG. 1.

FIG. 2.



Witnesses:

R. Schleicher.
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Inventor:

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by his Attorneys
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UNITED STATES PATENT OFFICE.

LEWIS G. ROWAND, OF CAMDEN, NEW JERSEY, ASSIGNOR TO HENRY C. TERRY, OF PHILADELPHIA, PENNSYLVANIA.

ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 477,071, dated June 14, 1892.

Application filed December 14, 1891. Serial No. 415,056. (No model.)

To all whom it may concern:

Be it known that I, LEWIS G. ROWAND, a citizen of the United States, and a resident of Camden, Camden county, New Jersey, have invented certain Improvements in Annunciators, of which the following is a specification.

My invention relates to certain improvements in annunciators for fire-alarm systems for use at a central station to designate the particular circuit on which an alarm is sounded or to show the grounding of one of the wires.

The accompanying drawings represent, in Figure 1, a side view, partly in section, of an annunciator constructed in accordance with my invention; and Fig. 2 is a similar view showing the shutter open.

A indicates the electro-magnet; B, an armature-lever; *b*, a toe thereon engaging with a projecting arm *c* on the shutter C, these parts being normally held in contact with each other (and the shutter held up in position) by means of a spring *d*, adapted to one end of the armature-lever B.

1 indicates the ingoing line of the main circuit to the central station; E, a resistance-magnet through which it passes; 2, a line leading from the resistance-magnet to a contact-point *e* and from thence through the armature-lever B and a wire 3 to a wire 4, leading to the main battery. From the main battery the current passes up through the ordinary relay and ammeter and from thence out through the main line 5.

In the event of fire the alarm causes the grounding of the current at the sub-station where the alarm is struck and the circuit is closed at the central station through the ground-wire 6, causing the electro-magnet A to be energized and attracting the armature-lever B. The toe *b* is moved from contact with the arm *c* and the shutter C drops, showing the number of the circuit on which the fire alarm has been struck. The fall of the shutter causes a projecting arm *c'* thereon to engage with the armature-lever B and pre-

vent its return to the contact-point *e*, the portion of the current coming in through the wire 1 and through the resistance-coil being thus cut off, and the entire current traversing over the ground-wire through the electro-magnet A. When the alarm has been sounded and the circuit is finally closed, the shutter may be turned up and the current then passes in through the resistance-coil and the contact-point *e* through the armature-lever B and thence through the wire 4, as before. If, however, the line is grounded and the current through the ground is constant, the current passes through the electro-magnet A and then through the wire 4 to the main battery, the armature-lever B being then constantly attracted and at all times moving the toe *b* out of contact with the toe *c* and preventing the shutter from being held up in place, so that the shutter will continue down, indicating that the line is grounded until the line is fixed.

The invention, however, consists particularly in the employment of the arm *c'*, which rests against the armature B and prevents its contact with the contact *e* during the sounding of the alarm, and thus cutting out the resistance-coil E during the interval between the sounding of the numbers by which the alarm-box is known.

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

The combination of the main-circuit wires, an armature-lever B and a contact *e*, forming terminals for said circuit, an electro-magnet, a circuit comprising a ground-wire 6 and a shunt of the main line in which said electro-magnet is placed, a projecting toe *b* on said armature-lever, a hinged shutter C, and arms *c c'* on said shutter C, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LEWIS G. ROWAND.

Witnesses:

JNO. E. PARKER,
HARRY SMITH.