

A. STORER & J. LENNOX.
Electric-Annunciators.

No. 154,928.

Patented Sept. 8, 1874.

Fig 1.

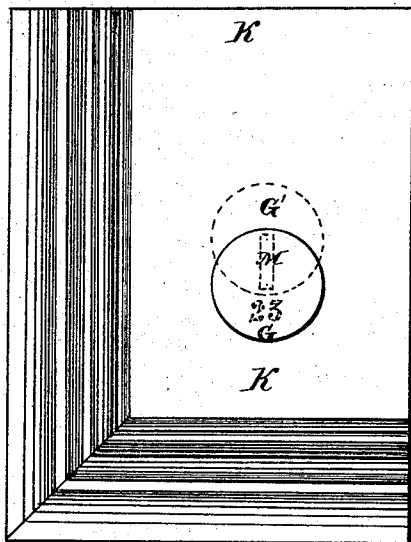
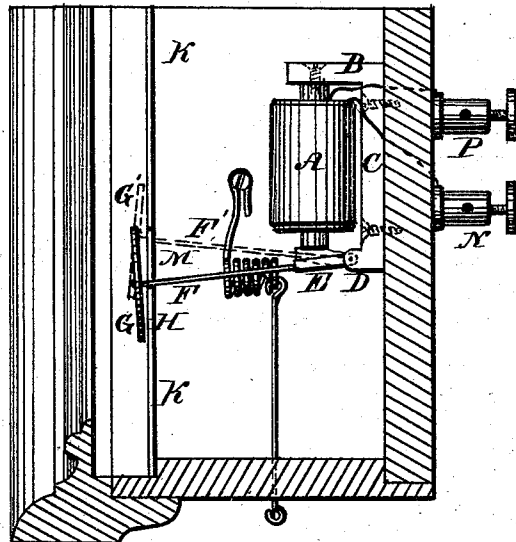


Fig 2.



Witnesses
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UNITED STATES PATENT OFFICE.

ALBERT STORER AND JOHN LENNOX, OF CLEVELAND, OHIO.

IMPROVEMENT IN ELECTRIC ANNUNCIATORS.

Specification forming part of Letters Patent No. **154,928**, dated September 8, 1874; application filed February 19, 1874.

To all whom it may concern:

Be it known that we, ALBERT STORER and JOHN LENNOX, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a new and Improved Electro-Magnetic Annunciator; and we hereby declare that the following is a clear, full, and complete description thereof, reference being had to the accompanying drawings, making part of the same.

Figure 1 is a side view, and Fig. 2 a front view, of a section of the annunciator and case.

Similar letters refer to similar parts in both views.

This invention relates to an improved electro-magnetic annunciator; and the object thereof is to make use of the residual or permanent magnetism imparted to hard iron by a current of electricity passing through a helix, and thus do away with springs, drops, and adjustments of all kinds; and our invention consists in the combination, in an electric annunciator, of a name or number plate and an electro-magnet and armature, said armature or the core of the magnet being made of hardened iron, to hold the name or number plate in view by the force of residual magnetism.

A more detailed description of this improvement is as follows:

In Figure 1, A represents a helix or electro-magnet, attached, by an iron screw at B, to an iron angle-piece, C. At D an iron armature, E, is pivoted to the angle-piece C by a steel or iron pin. To this armature a wire, F, is attached, and this wire passes through a slit, M, in the metal face K, and carries at its extremity a shield, G. When in its normal position the shield G conceals from view the number 23, which is on the metal face K at H. The angle-piece C is fastened to the back of the case by screws, as shown. P and N are binding-screws for battery-connections, and the wires from the helix run to them, and from thence to the usual battery-bell and circuit-closer or push-button, as in other annunciators. These parts are not shown in the drawings. The core of the helix A is made of common bar-iron, the angle-piece C and armature E of hard iron, preferably cast-iron, although, as is evident, these peculiarities of construction may be reversed, the lever F of brass wire, and the shield G of polished hard rubber, or other suitable material. The face

K may be made of either metal or wood, or other suitable material.

The operation of the instrument is as follows: The annunciator is placed in a circuit with a battery, an electrical bell, and a circuit-closer or push-button, in the usual manner. The shield G is in its normal position, and conceals from view the number 23 on the face. When the circuit is closed in the ordinary manner, the current of electricity flows through the helix A, making its core magnetic, and this being attached to the angle-piece C, and that to the armature E, both angle-piece and armature become magnetic, and the armature is thus instantly attracted to the face of the core. The shield G is thus raised up, disclosing the number 23, and is prevented from dropping back into its normal position as soon as the circuit is broken by the residual or permanent magnetism of the core, angle-piece, and armature. This residual magnetism is always present in hard iron and steel after it has once been magnetized. A suitable device (not shown in the drawing) releases the armature, and returns the shield to its normal position, when desired. The weight of the shield G is so adjusted that the residual or permanent magnetism will not, unassisted by the battery, raise the shield from its normal position, but will hold it there after it is raised.

The advantages of this arrangement are, that no springs, catches, or adjustments of any kind are needed; and also from the peculiar arrangement of the helix, angle-piece, and armature a less amount of battery is required than by any other arrangement.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination, in an electric annunciator, of a name or number plate, an electro-magnet, and an armature, said armature or the core of the magnet being made of hardened iron, to hold the plate in view by the force of residual magnetism, substantially as and for the purpose described.

Cleveland, February 7, 1874.

ALBERT STORER.
JOHN LENNOX.

Witnesses:

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