

No. 750,309.

PATENTED JAN. 26, 1904.

L. SCHMIDT.  
ANNUNCIATOR.

APPLICATION FILED AUG. 28, 1901.

NO MODEL.

Fig. 1.

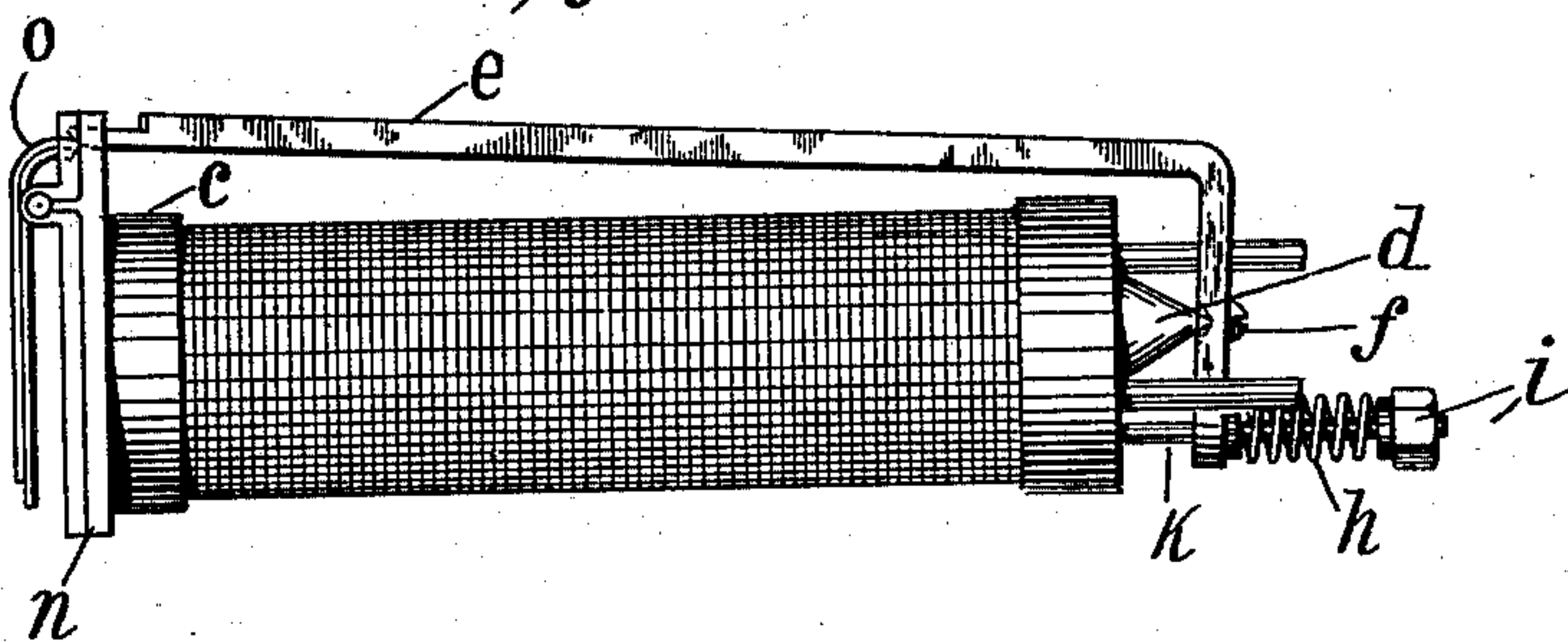


Fig. 2.

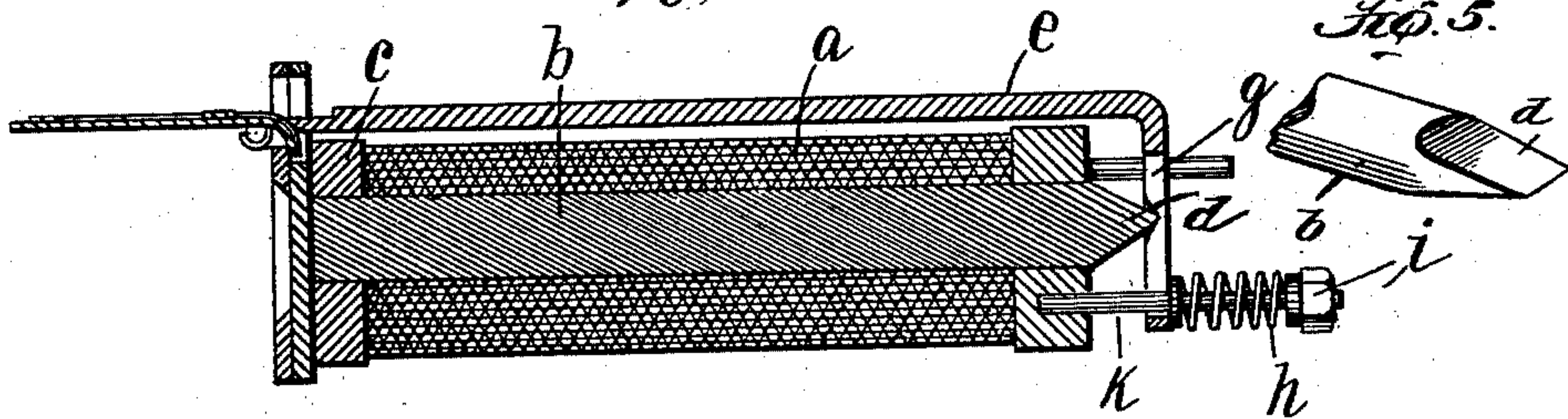


Fig. 5.

Fig. 3.

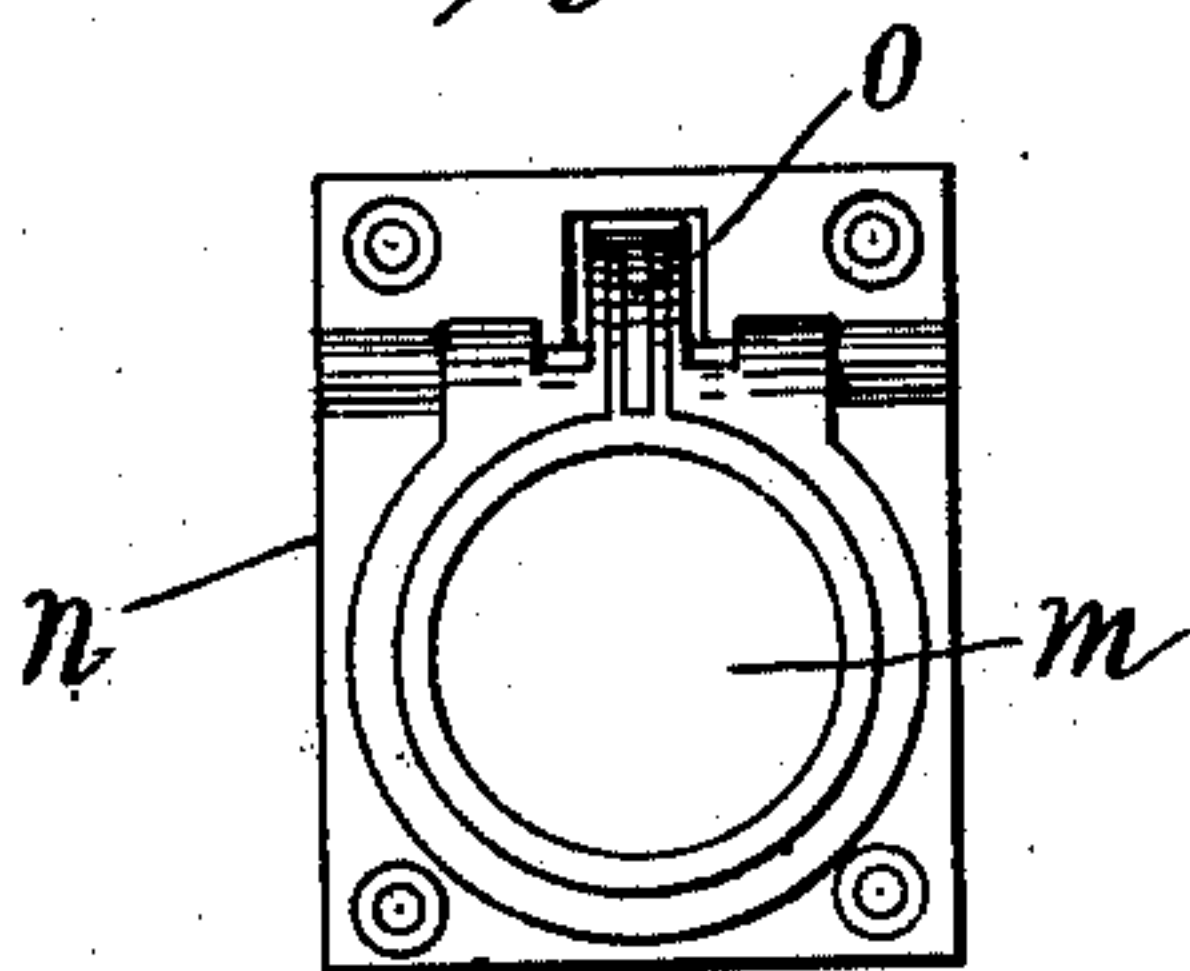
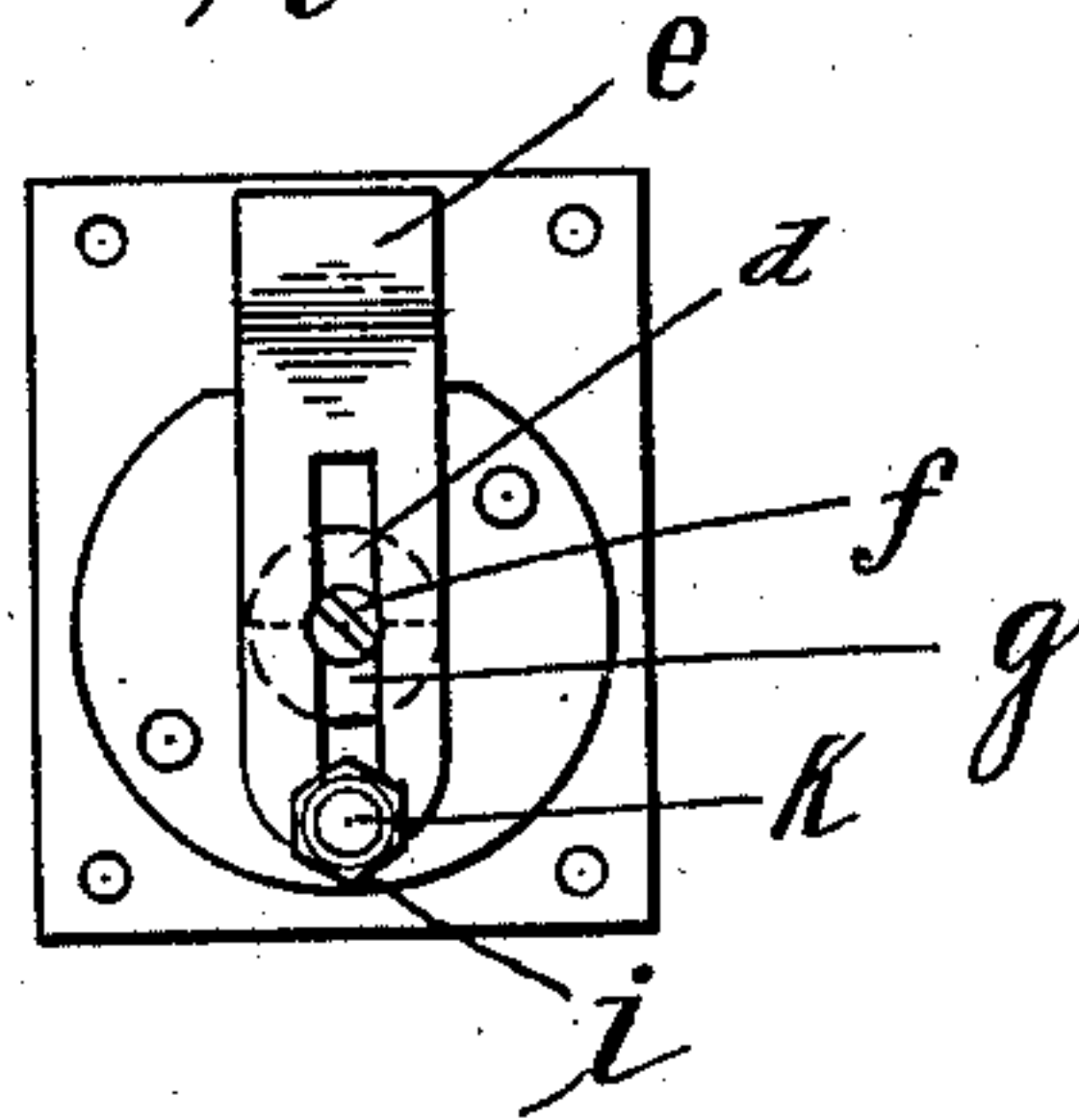


Fig. 4.



Witnesses  
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# UNITED STATES PATENT OFFICE.

LAMBERT SCHMIDT, OF WEEHAWKEN, NEW JERSEY.

## ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 750,309, dated January 26, 1904.

Application filed August 28, 1901. Serial No. 73,552. (No model.)

*To all whom it may concern:*

Be it known that I, LAMBERT SCHMIDT, a citizen of the United States, whose residence and post-office address is Weehawken, State of New Jersey, have invented certain new and useful Improvements in Annunciators, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to the general class of electric annunciators or signaling devices, such as are commonly used for telephone-work and other like purposes.

The object of the invention is to improve generally the construction of such devices in the way of simplicity and cheapness of construction and reliability in use, to produce a signaling device of this character which shall require very little battery-power for its operation, and, further, to produce such a device which in addition to the qualities already mentioned shall be self-restoring. In accordance with the invention the magnet and its armature are so arranged as to form a magnetic circuit which is closed except for a very small air-gap, thereby requiring very little battery-power for the operation of the device, the armature is so supported as to offer very little resistance to its movement by the magnet, and the drop or signal and the armature are so related that the drop is moved very easily and returns by its own weight to its normal position when the circuit through the magnet is opened.

The invention will be more fully described hereinafter, with reference to the accompanying drawings, in which a convenient and practical embodiment of the invention is illustrated for purposes of explanation.

In said drawings, Figure 1 is a view in side elevation of a self-restoring telephone-drop constructed and arranged in accordance with the invention. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a view in elevation of the front end, and Fig. 4 is a similar view of the rear end of the same. Fig. 5 is a detail perspective view of the rear end of the magnet-core, which is shaped at this end to form a knife-edge for purposes to be referred to hereinafter.

The coil *a* is wound upon the core *b* in the

usual manner, and upon the front end of the latter is secured a pole-piece *c*, which is relatively flat and is disposed in the plane of said end. The rear end of the core *b* is tapered or beveled to a knife-edge *d*, upon which the armature *e* is mounted, having a V-shaped notch to receive the knife-edge. The armature is L-shaped and its forward end overlies the pole-piece *c*, this member of the armature being substantially parallel with the core. The other and shorter member or arm of the armature rests against the knife-edge *d* and may be held from accidental dislodgment by a small screw *f*, which passes loosely through a slot *g* in the armature into the end of the core *b*, the head of the screw having a diameter greater than the width of the slot. For the purpose of balancing the weight of the longer member of the armature and for effecting any desired adjustment a spring *h* may be arranged to bear against the extremity of the shorter arm of the armature, the necessary adjustment being effected by a nut *i*, threaded on the end of a pin *k*, which is fixed in the rear head of the magnet. A shutter *m* is hung in a suitable frame or support *n* and is normally held in a vertical position, a finger or projection *o* of the shutter resting under the free end of the armature *e*.

It will be readily understood that the mounting of the armature upon the knife-edge *d* insures very free movement of the armature with a minimum of resistance and a minimum liability to derangement. Furthermore, by mounting the armature directly upon and in contact with the core of the magnet a magnetic circuit is formed, and the armature will therefore be moved with very little battery-power through the circuit of the magnet. As the free end of the armature rests upon the finger or projection of the shutter, it will be seen that when the magnet is energized and the armature attracted the shutter will be immediately swung from its normal position, to which it will return of its own weight when the circuit of the magnet is opened and the free end of the armature is raised by the action of the spring *h*. Any necessary adjustment of the armature is readily effected by adjustment of the nut *i* on the pin *k*.



I claim as my invention—

1. In an annunciator, the combination of a magnet-core having a relatively flat pole-piece disposed in the plane of one end and having its other end extended, an armature mounted upon the extended end of the core and having its free end overlying the pole-piece, a spring to coöperate with said armature, and a shutter normally held in a vertical position and in operative relation with said armature, substantially as shown and described.

2. In an annunciator, the combination of a magnet-core having a pole-piece at one end and having its other end beveled to form a knife-edge, an armature mounted upon said knife-edge and having its free end overlying the pole-piece, a spring to coöperate with said armature, and a shutter in operative relation with said armature, substantially as shown and described.

3. In an annunciator, the combination of a magnet-core having a pole-piece at one end and having its other end beveled to form a knife-edge, an armature mounted upon said knife-edge, and a screw passing loosely through said armature into said core to prevent accidental dislodgment of the armature

from the knife-edge, substantially as shown and described.

4. In an annunciator, the combination of a magnet-core having a pole-piece at one end, an L-shaped armature, mounted upon the other end of said core, and having its free end overlying the pole-piece, a pin passed through the armature into the head of the magnet and having an adjusting-nut, and a spring interposed between said nut and the armature, substantially as shown and described.

5. In an annunciator, the combination of a magnet-core having a relatively flat pole-piece disposed in the plane of one end, an armature mounted at the other end of the magnet and overlying the pole-piece, and a shutter hung in a suitable support and held normally in a vertical position, said shutter having a finger or projection underlying the free end of the armature, substantially as shown and described.

This specification signed and witnessed this 22d day of August, A. D. 1901.

LAMBERT SCHMIDT.

In presence of—

DANL. A. SLATTERY,  
ROBERT B. TAYLOR.