

**L. FINGER.**  
**Electro-Magnetic Hotel Registers.**  
 No. 150,553. Patented May 5, 1874.

Fig. 1.

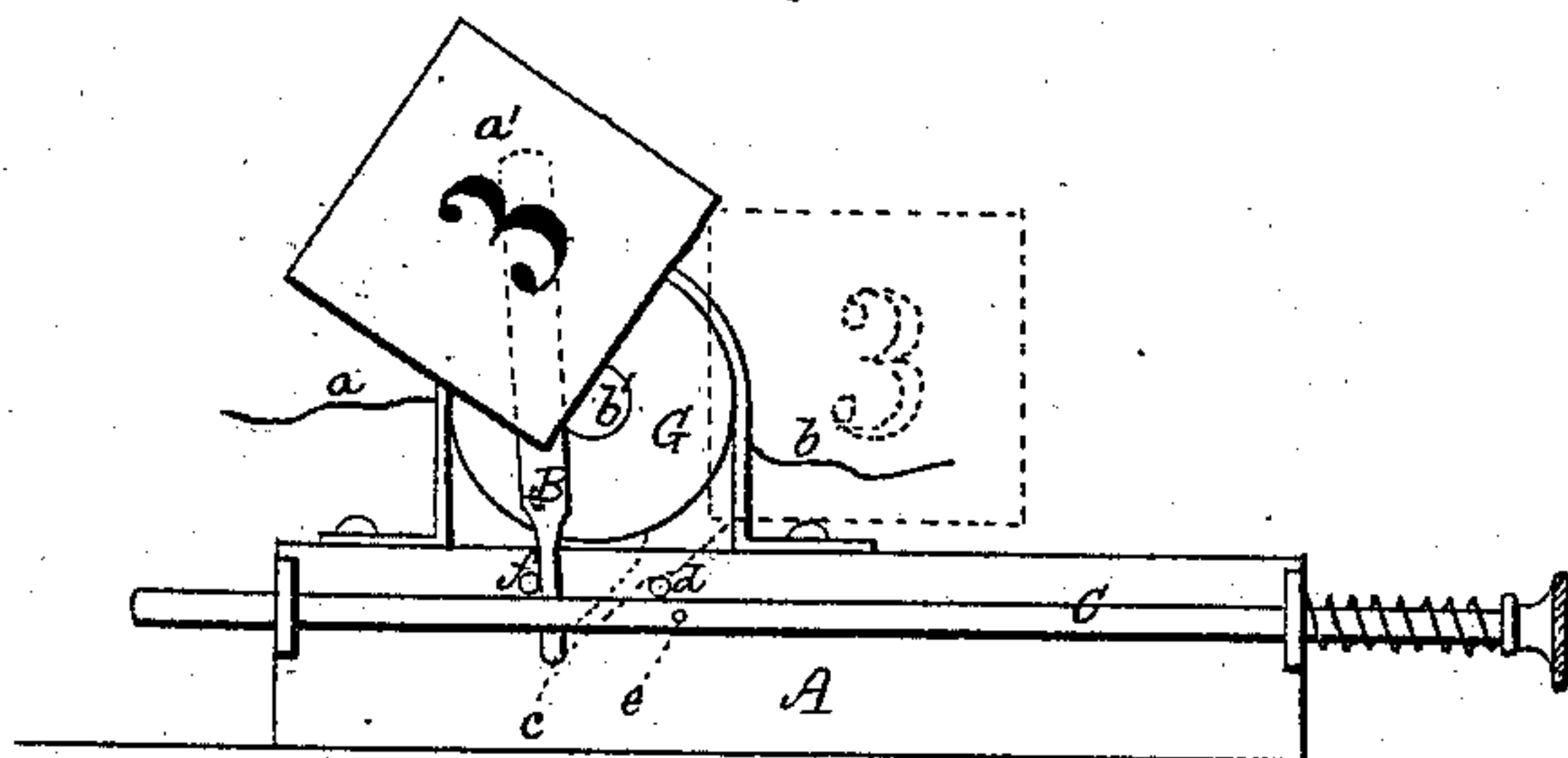


Fig. 2.

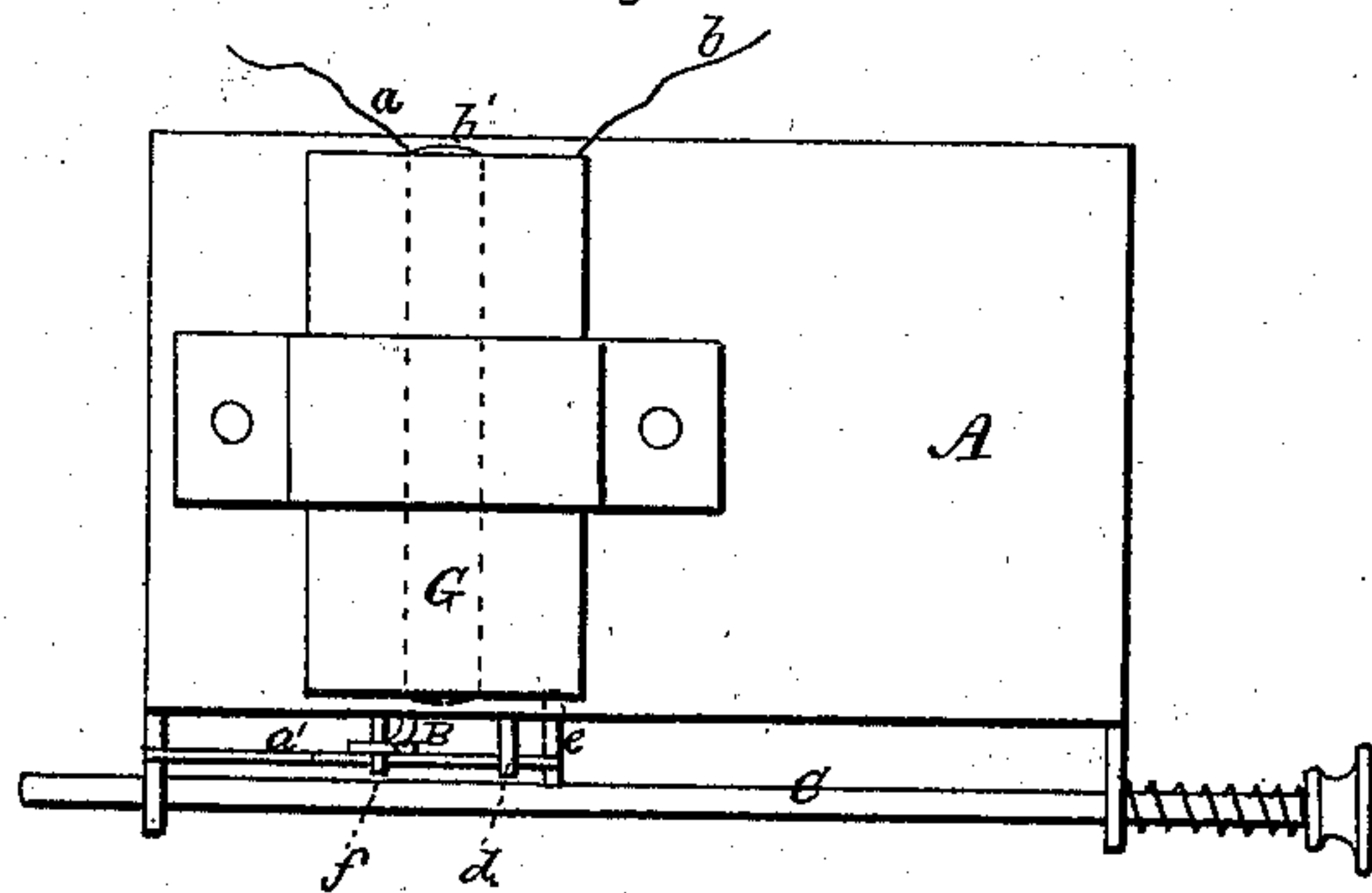
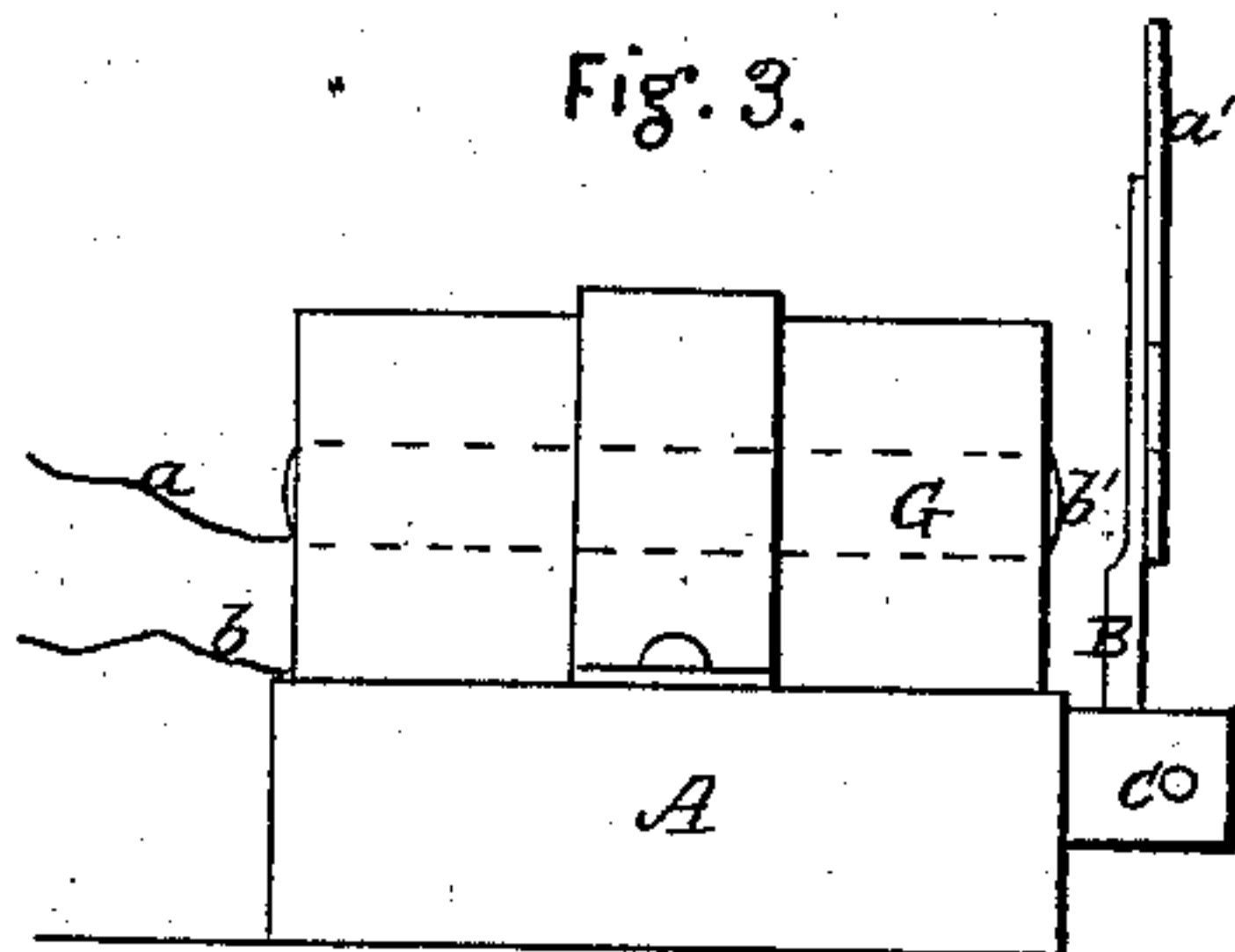


Fig. 3.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

LOUIS FINGER, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN ELECTRO-MAGNETIC HOTEL-REGISTERS.

Specification forming part of Letters Patent No. **150,553**, dated May 5, 1874; application filed April 3, 1874.

*To all whom it may concern:*

Be it known that I, LOUIS FINGER, of Boston, Suffolk county, Massachusetts, have invented certain Improvements in Electro-Magnetic Annunciators, of which the following is a specification:

The drawings accompanying this specification represent, in Figure 1, a side elevation, in Fig. 2 a plan, in Fig. 3 an end elevation, of my invention.

My main purpose in originating this device has been to avoid, as much as possible, complexity of parts and ensuing friction, and to provide an annunciator, for hotels and other buildings, which may be operated with little expense for batteries, and which, owing to its extreme simplicity, does not require skilled or experienced labor in producing it, and may be, to a great extent, manufactured by machinery. The construction of my present device consists in the employment of a tilting rod or arm, bearing upon its upper end a card or plate having engrossed upon its face a number or character indicative of the room or apartment with which the device may be connected, such rod swinging upon its lower part as a center, and being disposed near and to one side of the core of an electro-magnet, in order that, when the circuit is closed, the pole shall attract the rod, and the latter obtain such momentum as to pass beyond the attractive power of the magnet and bring up against a stop suitably placed to receive it, the arm being returned to its normal position by a rod or latch, as hereinafter explained.

The drawings accompanying this specification represent, at A, a block of wood, upon the upper part of which is fixed in a suitable manner an electro-magnet, G, one pole or wire, *a*, of which leads to the battery, and the other—viz., *b*—to the apartment with which the annunciator is connected, the block A and magnet being one of a large number disposed within the office of the hotel or other structure in which the invention is to be used. B represents an upright rod or armature carrying at top a flat plate or card, *a'*, placed in front of the magnet G, and with its lower end piv-

oted to the block A, the pivot or turning-point *c* of this rod being slightly to the left of the center of the core *b'* of the magnet in order that, instantly after passing by the center of the core, it shall obtain sufficient momentum to carry it beyond the influence of the magnet and against a stop, *d*, secured to the block A, as shown, where it will remain until returned by a horizontal rod or shipper, C, which is supported in suitable bearings attached to the block, and carrying a pin or stud, *e*, to intercept and return the rod or armature B to its normal position against an initial stop, *f*, affixed to the block A to one side of the center of the core *a*.

A number or character of any suitable nature, whether the number of a room or otherwise, is to be engrossed or placed upon the card *a'*, and when the armature B tilts into a position (shown in dotted lines in Fig. 1) the card coincides with the window of the apparatus which is to display it.

When the electric circuit is open the armature B rests idle against the pin or stop, and to one side of the iron core of the magnet, for the reason that such stop is to one side of a vertical line struck from the turning-point of the rod. When, by a pressure upon a knob or otherwise, a call is made from the apartment with which the device is connected, and the electric current thereby closed, the core *b'* becomes a magnet and attracts the armature B toward it until the center of gravity of such armature preponderates toward the magnet; but, as such magnet does not possess sufficient power to arrest the downward tendency and momentum of the armature, the latter passes by the magnet and brings up against the second stop *d* at such a distance from said magnet as to be unattracted by it.

The device, as above explained, is to be disposed within a case having a series of small windows, one to each device, and each window is so disposed with respect to the apparatus that when the card is in the last-named position its number or character is visible, but when returned to its normal position, by pressure upon the rod C, it retreats from sight. The



rod C has a coiled spring combined with it, as shown in the drawings, to return it to its legitimate position after it has set back the rod or armature B.

I claim as my invention, and desire to secure by Letters Patent of the United States, the following:

1. The tilting or swinging arms or armature B, with its sign *a'*, in combination with the electro-magnet G and the stops *d* and *f*, or their equivalents, substantially as and for purposes stated.

2. The rod or shipper C, or its equivalent, in combination with the tilting arm or armature B and sign *a'* and stops *d* and *f*, substantially as and for purposes stated.

3. In combination, the magnet G, armature

B, stops *d* *f*, and shipper C, substantially as and for the purposes stated.

4. A soft-iron lever or armature pivoted in front of an electro-magnet, and so adjusted with relation thereto that when the circuit is closed the said lever will first, by attraction of the magnet, be tilted on its axis or pivot to one side of the perpendicular to such an extent that it will then, by its own weight and momentum, be caused to continue said movement and fall beyond the attracting power of the magnet, substantially as shown and set forth.

LOUIS FINGER.

Witnesses:

F. CURTIS,

W. E. BOARDMAN.