

(No Model.)

A. F. PARKS.  
ELECTRICAL ANNUNCIATOR.

No. 421,508.

Patented Feb. 18, 1890.

Fig. 1

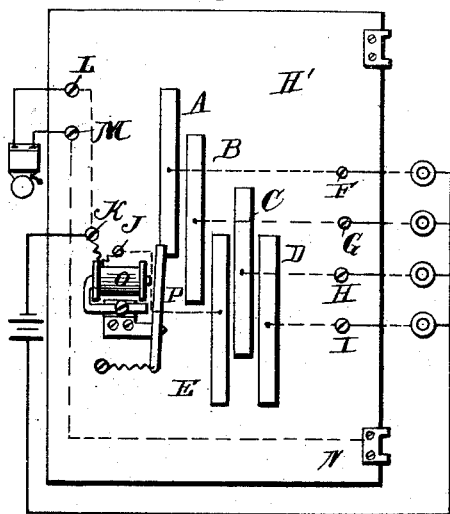
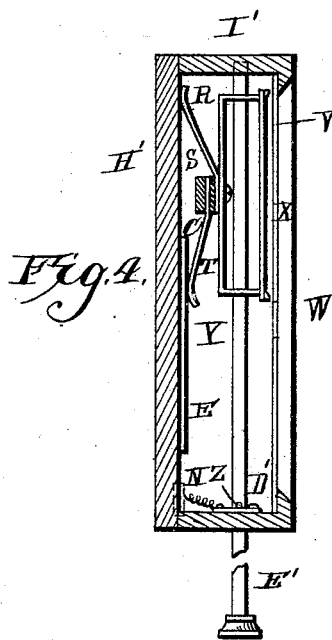
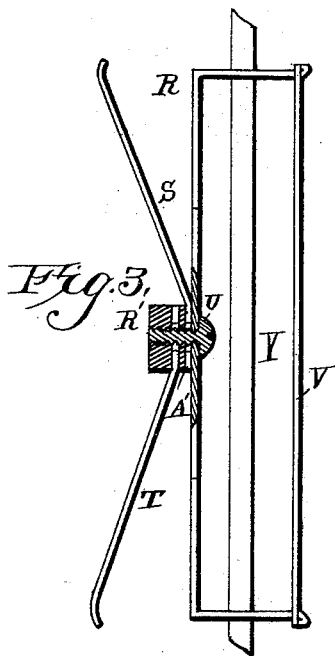
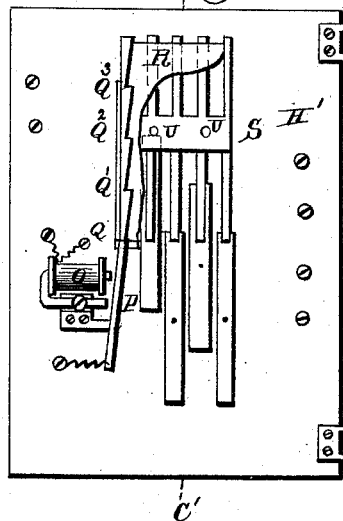


Fig. 2.



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# UNITED STATES PATENT OFFICE.

ALBERT F. PARKS, OF TROY, ASSIGNOR TO CHARLES E. LEE, OF ROCHESTER,  
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## ELECTRICAL ANNUNCIATOR.

SPECIFICATION forming part of Letters Patent No. 421,508, dated February 18, 1890.

Application filed August 27, 1887. Serial No. 248,092. (No model.)

*To all whom it may concern:*

Be it known that I, ALBERT F. PARKS, a citizen of the United States, residing at Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Electrical Annunciators, of which the following is a specification.

The object of my invention is to make an instrument which, being placed in electrical connection with various rooms or want or similar calls, will indicate by characters exposed the location of the person calling or want desired, and all purposes for which annunciators are commonly used. The object is attained by means of the mechanism illustrated in the annexed drawings.

Figure 1 is a view in elevation of the instrument with front and drop removed. Fig. 2 shows the mechanism with the case and card on which indications are marked removed. Fig. 3 shows the drop for the four-drop annunciator in an enlarged view. Fig. 4 shows a section through the instrument on the line C' C' in Fig. 2.

Similar letters refer to similar parts throughout the several views.

A, B, C, and D are fixed brass strips, of which there is one for each section or call.

E is a fixed strip in electrical connection with the magnet O, which works the armature P, which engages the notches Q Q' Q<sup>2</sup> Q<sup>3</sup> in the plate R, which is movable on the rod Y, which is attached to a frame either on the back or cover of the box. The latter is better, as it allows better inspection of the details by merely opening the cover.

Z is a pin in the rod Y, which prevents said rod from dropping out of its bearings, and is also used to raise the drop R, for when the rod Y is pushed up the pin strikes the under side of the plate R and pushes it up also.

F, G, H, and I are screws to which the sectional wires are attached, and which are in electrical connection with the strips A B C D by the wires represented by dotted lines.

J is screw for connecting the strip E with magnet O. K is screw to connect magnet O and a battery. L and M are screws to attach bell.

N is a hinge in electrical connection with M, and also with the rod Y when rod Y is placed in the cover.

S is a metallic comb in connection with the plate R, and is used to ring the bell.

T is a metallic comb electrically insulated from R and S by the block of ebonite or similar insulating material A' and B', and is used to connect the circuit through the battery and magnet O.

U are the screws, which secure the plate R, the combs S and T, and the insulating material A' and B' in a solid body.

V is the card on which the indications are marked, and which makes the want or call known by falling until the proper indication is directly behind the orifice W in the cover-front X.

The plate R is preferably of thin metal, with its ends bent toward the front, the horizontal portions having the perforations through which passes the rod Y, and having projections on the ends adapted to be passed through the card V, and when bent down to clasp and hold said card firmly, this forming a cheap and simple slide and indicating-plate. B' furnishes stock to hold the threads of U.

D' is a metallic plate through which the electrical connection between Y and N is made.

H' is the base.

I' is the cover.

E' is the knob on rod Y.

By forming all the contact-strips A B C D E on the back of the case and providing a movable plate with the contact-fingers thereon I am enabled to construct the annunciator very cheap and simple, in putting the parts together it being only necessary to place the traveling indicating-plate R V upon the rod Y and secure the latter in the case in the manner described. This construction also provides good rubbing-surfaces, that will keep themselves bright and make good electrical contact at all times. The rod on which the plate slides is comparatively small; but the bearing afforded at the back of the plate R by the fingers of plates S and T will be suffi-

ciently broad to prevent all possibility of said plates turning, and will therefore hold the indicator-card in proper position.

In the normal condition the drop has the position shown in Fig. 2—that is, with the lower projection Q resting on armature P. The action is as follows, whatever be the number of indications, supposing, as in this case, there be four indications, with, for instance, "Dining Room" marked at the bottom, then "Front Door," then "Alley Door," then "Parlor" at the top: When by suitable means an electrical connection is made at the front door, the current will pass through G B T E J (magnet) K, or vice versa, thus exciting the magnet O, which attracts the armature P, which releases the drop R and the drop falls and the combs rub over the surfaces in H'. When the second notch Q reaches the end of the armature P, the comb T will have passed off the end of strip C, thus breaking the circuit through O, which releases P and allows it to be in position to catch the plate on the second tooth Q<sup>2</sup>, which exposes front door at the opening W. In this position the comb S connects the bell in circuit, as G B S R Y D' N M (bell) L K, or vice versa. In this case battery and the circuit-closer are in the external circuit between G and K. Any other call would have similar connections, due account being taken of the strips.

What I claim as my invention is—

1. The combination of an indication-plate or other suitable surface, one or more rods for same to slide upon, teeth on the indication plate or surface, or other plate fastened to the same and moving with it, an electromagnet with armature arranged to engage said teeth or their equivalent, metallic section-strips, one or more combs to move over said strips, and suitable connections, all as shown and set forth in the specification, as and for the purpose described.

2. The combination of conducting-strips, one for each indication, insulated from each other and attached to a board or other suitable frame, so placed that the ends form lines diagonal to the horizon, two metallic combs with teeth corresponding in number with the conductor-strips, the combs suitably connected electrically, one with the bell, the other with the drop-magnet, all as shown and set forth in the specification, as and for the purpose described.

3. In an annunciator, the combination of a gravity-drop attached to metallic combs, one or both insulated from the drop, arranged to slide over strips placed in the paths of the teeth of the combs, said metallic strips to be parallel and of equal length, substantially as shown and set forth, as and for the purpose shown.

4. In an annunciator, the combination, with the magnet and the detent operated thereby, of the gravitating plate having the series of stops on its edge with which the detent en-

gages corresponding to the several circuits, an indicator connected to and carried by said plate, a series of contacts connected to the several circuits extending parallel with the plate, a contact-plate located upon the movable plate, with which the several circuit-contacts break contact in succession when the plate is moved, and a main circuit including the contact-plate, substantially as described.

5. In an annunciator, the combination, with the magnet, its armature and the detent operated thereby, of the automatically-movable plate having a series of stops with which the detent engages corresponding to the several circuits, an indicator connected to and movable therewith, a series of contacts connected to the several circuits, a contact-plate located on the movable plate, having portions with which the circuit-contacts co-operate, a second contact-plate, also on the main plate, with which the circuit-contacts engage after leaving the first-mentioned plate, a circuit containing an alarm with which the second plate is electrically connected, and a main circuit in which the first-mentioned contact plate or plates and the magnet are connected, substantially as described.

6. The combination, with the base having the series of contact-strips connected with the several circuits and the strip connected to the magnet thereon, of the traveling plate carrying the indicator and having the series of stops and the two contact-plates insulated from each other thereon, a magnet connected to one of the contact-plates, an armature co-operating with the notches on the plate, and an alarm connected to the other contact-plate, substantially as described.

7. The combination, with the series of stationary contact-strips, of the vertical rod, the plate movable on the rod having the indicator and the series of stops thereon, the contact-plate also on the movable plate co-operating with the series of stationary strips, the magnet and its armature co-operating with the stops on the plate, substantially as described.

8. The combination, with the series of contact-strips, of the movable plate having the contact-plate arranged to break contact with the strips in succession, the vertical rod on which the movable plate is mounted, the series of stops and the series of indications corresponding thereto on the plate, the armature co-operating with the stop and the magnet for operating it, and circuits embodying the magnet and several contact-strips, substantially as described.

9. The combination, with the vertically-movable rod having the projection, the plate sliding thereon having a series of indications and a series of stops, of the armature co-operating with the stops, the magnet for operating it, and switching devices operated by the movement of the plate for causing the arrest of the plate by the armature, whereby any of the series of indications can be desig-

nated and the plate be reset from any position by the operation of the supporting-rod, substantially as described.

5 10. In an annunciator, the combination, with the vertical rod, of the plate having the bent perforated ends and the projections thereon, and the indicator-card through which the projections are passed to secure it to the plate, substantially as described.

10 11. In an annunciator, the combination, with the vertical rod, of the plate having the bent perforated ends, the projections thereon and the stops formed in its edges, an indicator-card fastened to said projections, a  
15 magnet, and an armature co-operating with the stops on the plate, substantially as described.

12. In an annunciator, the combination, with the movable plate having a series of

stops on its edge with which a detent en- 20  
gages corresponding to the several circuits, an indicator connected to and carried by said plate, a series of contacts connected to the several circuits extending parallel with the plate, and a contact-plate located upon the mov- 25  
able plate, with which the several circuit-contacts engage to break contact in succession as the plate is moved, of the magnet and its armature pivoted on a center substantially at right angles to the plate, arranged to engage 30  
the stops thereon, and a main circuit including the contact-plate and magnet, substantially as described.

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Witnesses:

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