

ELECTROMAGNETIC ANNUNCIATOR FOR HOTELS, &c.

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# UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN ELECTRO-MAGNETIC ANNUNCIATORS FOR SIGNALS IN HOTELS, &c.

Specification forming part of Letters Patent No. 7,739, dated October 29, 1850.

*To all whom it may concern:*

Be it known that I, CHARLES S. BULKLEY, of Macon, in the county of Bibb and State of Georgia, have invented a new and Improved Electro-Magnetic Annunciator for Hotels, &c; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view, showing the manner of constructing my electro-magnetic annunciator and the manner in which it serves to bring a room in a hotel into communication with the office of the same. Fig. 2 is a front elevation of the annunciator, and Fig. 3 a vertical section through the same.

Similar letters indicate like parts in all the figures.

U is a box to be located in the office of a hotel, in which are placed the slides or signal-plates B B, that are in communication with each room in the building and are numbered to correspond with the same. A glass plate is placed in the front of the case U, and immediately in the rear of this glass plate there is a thin casing having a series of openings formed in it in a vertical line with each other. The width of the signal-plates B B corresponds with the width of the openings in the face of the annunciator and work up and down in vertical grooves or ways. Flanges *c c* project rearward from the upper and lower ends of the signal-plates B, which flanges have holes formed in them near their centers. A vertical rod, *i*, passes down through the holes in the flanges of each vertical series of sliding plates, which rod rises above the top of the annunciator-case and is connected to a bell-crank, E. Stops *t t* are placed upon the rods *i i*, below each of the signal-plates B, by means of which, when a rod is elevated, any one (or all the plates) connected with it will be elevated in its guides until it is caught by a catch on the spring-plate *f*, and retained in an elevated position while the rod is caused to descend by the action of the spring H on the series of bell-cranks which are connected together by the bars F F. When a signal-plate, B, is detached from the catch on the spring-plate *f* it drops down by force of its gravity until it is caught by a stop, *t*, on its rod *i*, in which position the number upon the plate will be presented to view at the opening in the front of the annunciator-case.

A series of shelves, *h h*, are placed in the annunciator-case in the rear of the signal-plates B B, which shelves correspond in number with the number of signal-plates in one of the series placed upon one of the rods *i*. On each of these shelves *h h* an electro-magnet, *g*, is placed immediately in the rear of each signal-plate B. Under each electro-magnet *g* one end of a curved spring-plate, *f*, is secured, which plate rises in front of the electro-magnet, and has an armature, *e*, secured to its rear side opposite the poles of the magnet. On the front side of each spring-plate *f* a catch is secured, which is beveled on its under side, so that when a signal-plate, B, is elevated the flange *c* at its upper end will glide over the beveled side of the catch and be caught and retained by the abrupt shoulder on its upper side. When a current of electricity is passed through the coils of one of the electro-magnets *g* it becomes a magnet and will attract the armature *e* in front of it, which attraction will draw back the plate *f* and detach its catch from the signal-plate B, causing it to descend and show its number at the opening in the face of the annunciator.

A is a large electro-magnet placed upon the top of the annunciator-case, and S is a signal-bell placed immediately over it. The armature *w* of this electro-magnet is placed upon the spring-plate D, secured to one side of the annunciator-case, and just above the armature *w* there is secured to the spring-plate D a hammer, *t*, which is made to strike against the bell S whenever the electro-magnet A is charged. A wire, *k*, is connected with one of the poles of the large electro-magnet A, and after being brought into communication with a galvanic battery, O, is conducted throughout a building and connected with insulated points *q*, located within the walls of every room that is desired to communicate with by means of the annunciator. The wire of each electro-magnet *g* is connected with the wire *l*, leading to the large electro-magnet A, that is connected with the wire *k*, which passes to the insulated point *q*, located in the wall of one of the rooms of the building. A wire, *n*, passes from the shank of the knob *p* to the opposite side of its respective magnet *g* in the annunciator. By pressing the knob inward the inner end of its shank will strike against the point *q*, thereby closing an electric circuit through one of the magnets *g* and large magnet A. The shank of the knob *v*

is retained in its place within the wall by the nut *r* working upon a screw cut on its periphery. A helical spring incloses the shank of the knob, and forces it outward the instant that pressure is removed therefrom. The wire from the opposite side of the large electro-magnet *A* from that which is in connection with the wire *k* is connected with each of the small electro-magnets *g g* by means of the wire *l*, as shown in Fig. 1. It will therefore be perceived that when the knob *p* in any one of the rooms of a hotel is pressed inward, so as to bring its shank in contact with one of the insulated points *q*, and thereby in connection with the wire *k*, that an electric circuit can be formed embracing the large electro-magnet *A* and the small electro-magnet *g*, that is connected to the particular knob *p* operated upon, which will charge the said two electro-magnets, and thereby cause the poles of the larger one, *A*, to attract the armature *w* and cause the hammer *t* to strike the bell *S* and cause the poles of the smaller electro-magnet *g* to attract the armature *e* in the rear of the signal-plate *B* that bears a number corresponding to the number of the room in which the knob acted upon is located, and thereby withdraw the catch on the spring-plate *f* from its hold on the signal-plate *B* and permit it to descend and bring the number upon its face opposite the opening in the face of the annunciator-case.

The handle *G* is connected with all the bell-

cranks *E E* and the rods *i i*, so that by drawing upon it any one or all the signal-plates *B B* can be elevated out of sight, where they are caught and retained by the catches on the spring-plates *f f*, as above described.

It will readily be perceived that the breakage of wires and liability to derangement that causes very great expense and trouble in other hotel-annunciators will be almost entirely avoided in mine.

What I claim as my invention, and desire to secure by Letters Patent, is—

In my improved electro-magnetic annunciator for hotels, &c., the manner in which the signal-bell and any one of the signal-plates can be simultaneously acted upon at a distance from the annunciator through the medium of the galvanic battery *O*, the series of electro-magnets *A* and *g g*, and the wires *k l n n*, connected with each other and with the insulated point *q* and the shank of the knob *p*, located within the walls of the different rooms, and with the bell *S*, and signal-plates *B B* of the insulator, substantially in the manner herein set forth.

The above specification of my improved electro-magnetic annunciator signed and witnessed this 11th day of July, 1850.

CHAS. S. BULKLEY.

Witnesses:

Z. C. ROBBINS,  
H. H. YOUNG.