(No Model.) 2 Sheets—Sheet 1.

J. McMURROW, Jr.

ELECTRIC ALARM FOR HOTELS.

No. 492,694. Patented Feb. 28, 1893.

Fig. 1.

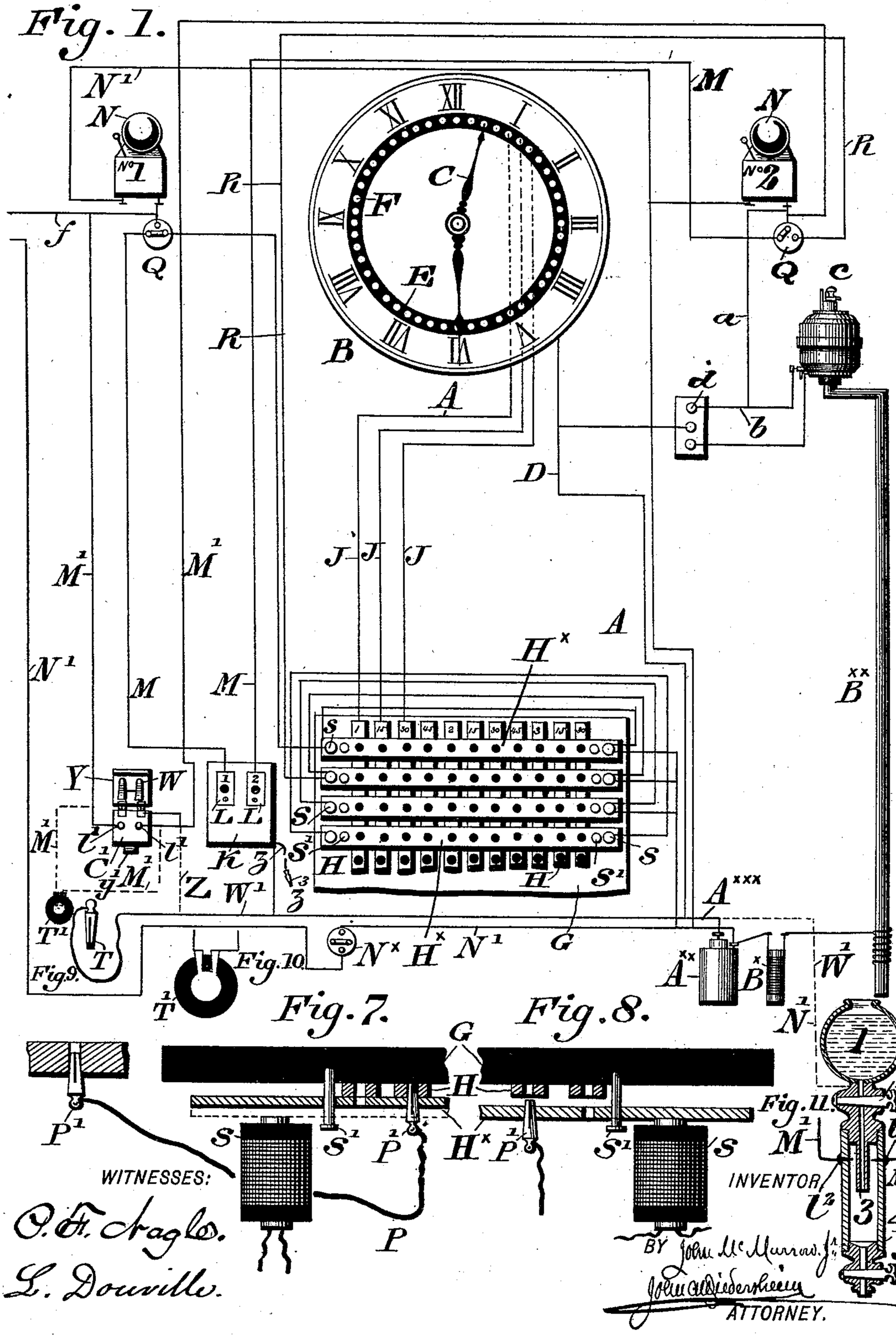

Fig. 7. Fig. 8.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

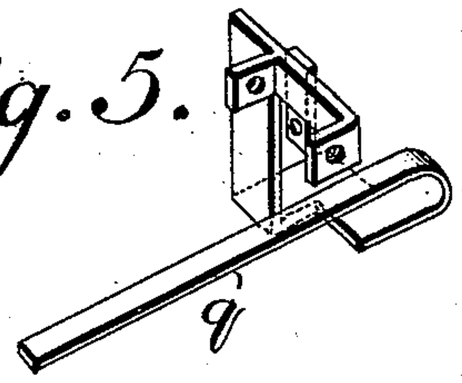


Fig. 4.

Fig. 2.

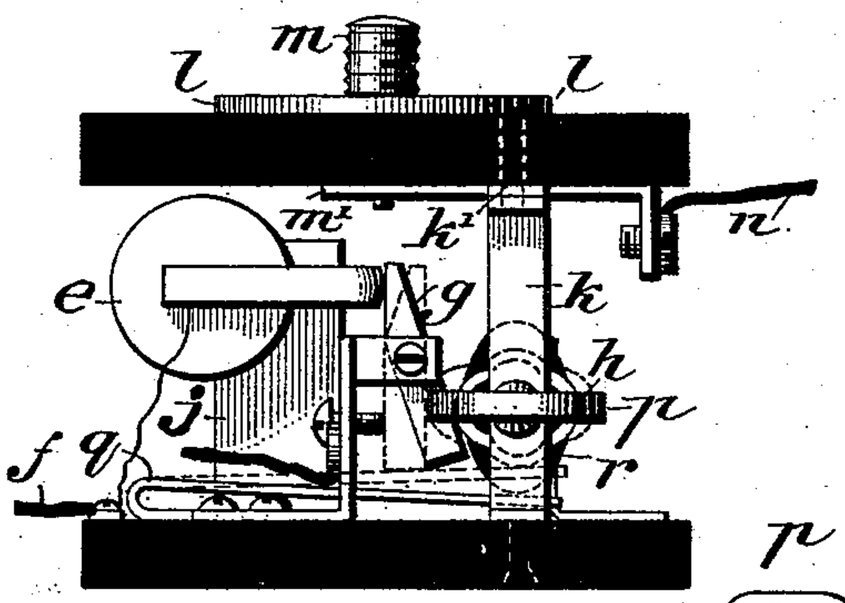


Fig. 3.

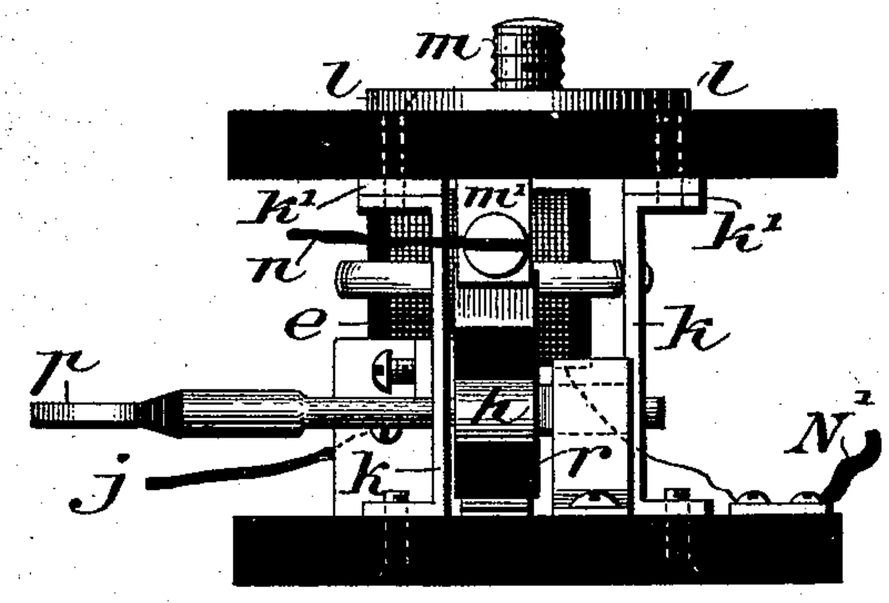
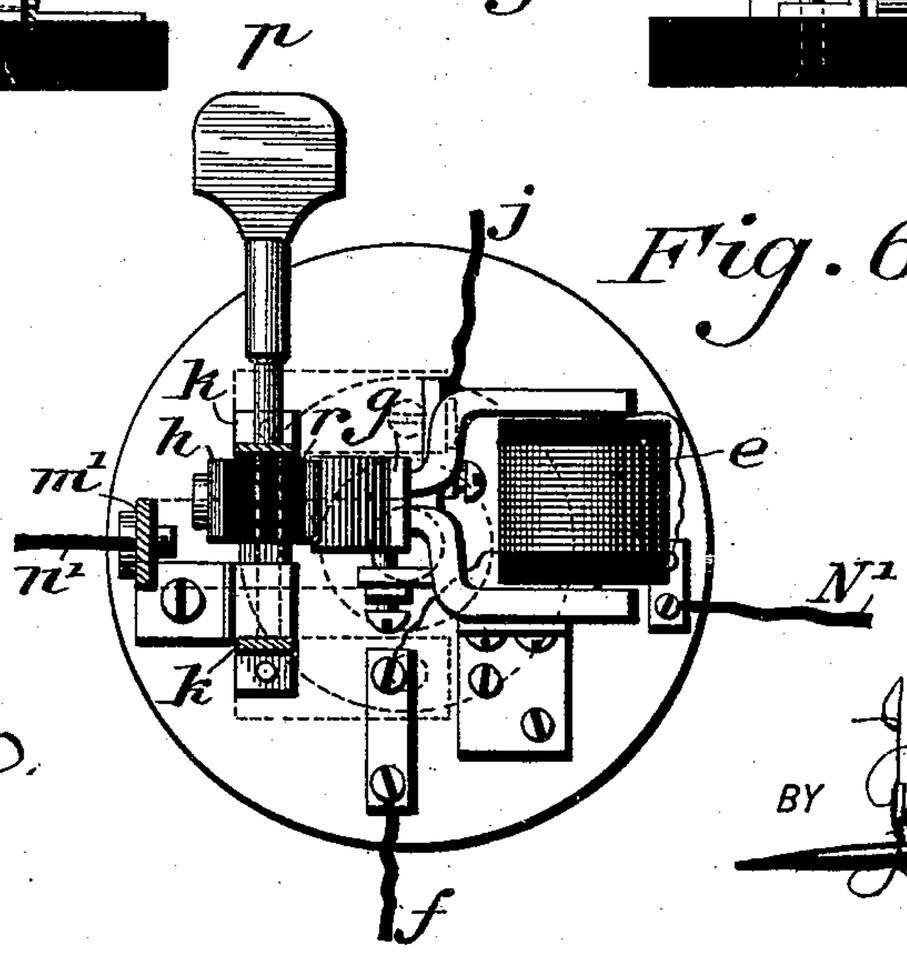


Fig. 6.



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ELECTRIC ALARM FOR HOTELS.

SPECIFICATION forming part of Letters Patent No. 492,694, dated February 28, 1893.

Application filed July 21, 1892. Serial No. 440,726. (No model.)

To all whom it may concern:

Be it known that I, JOHN MCMURROW, Jr., a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Electric Alarms for Hotels, &c., which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists in improvements in electric alarms for hotels, whereby at any desired time, an alarm may be automatically sounded in one or more apartments or places, and at the same time, an electric lamp or gas lighted.

It also consists of means, whereby a general alarm may be sounded, either automatically or by hand.

It further consists of the combination of parts as hereinafter set forth.

Figure 1 represents a plan view of a device embodying my invention. Figs. 2, 3 and 4 represent side elevations of an electric socket on an enlarged scale. Fig. 5 represents a detail portion on an enlarged scale. Fig. 6 represents a section on line *x*, *x*, Fig. 4. Figs. 7 and 8 represent views showing the cross bars out of, and in contact with the magnet. Fig. 9 represents a ring on an enlarged scale. Fig. 10 represents a view of a portion of Fig. 9, on an enlarged scale. Fig. 11 represents a section of another part of my invention.

Similar letters and figures of reference indicate corresponding parts in the several figures.

Referring to the drawings:—A designates an electric circuit having therein a clock B, with the hour hand C, which is adapted to close the circuit, the wire D thereof being connected with the works of the clock. Fastened to the face of the clock is an insulating ring E, of non-conducting material, having secured thereto a number of metallic pins F, which are so situated that the hour hand C will contact therewith at the hour determined upon, in the drawings every fifteen minutes.

G designates an insulating board having a series of strips H with openings, insulated from each other and arranged parallel. Each of the pins F is connected to a strip H by a wire J.

K designates an insulating board with metallic plates L thereon, the latter being connected with the wires M, M, which lead to the various apartments or places.

To connect the strips H with the plates L, I employ a wire P, the same having pins P′, P′, secured to its ends, the latter being adapted to fit into the openings in said strips and plates, so that when the hour hand comes in contact with a pin F, the circuit is closed, and the bell is rung and the lamp or gas lighted. The latter is accomplished by the current passing from the bell No. 2 through the wire *a* to wire *b*, and thus to the burner *c*, with the same effect as if the button *d* had been pressed by hand.

The incandescent lamp $A^{\times}$, which is of ordinary construction, see Fig. 4, is automatically lighted at the ringing of the bell, by the current passing from the wire N′ through the magnet *e*, shown in Figs. 2, 3, 4 and 6, then through the wire *f*, thence through the bell, said magnet having its poles returned to a common location, as shown in Fig. 6, that it may act with all its power upon its armature *g*, said poles being slightly permanently magnetized, so that they will hold their armature in contact with the break piece *h*, after the current has ceased flowing through the magnet. The armature completes the current as follows: It receives positive electricity from the wire *j*, and when in contact with the break piece *h* by the action of the magnet *e* it communicates electricity thereto, from thence, it passes through the uprights *k*, the screws *k′* and the ring *l*, and thence to the carbon of the lamp, the circuit being completed by means of the screw *m*, plate *m′* and the wire *n*, and thus the lamp is lighted. To break the circuit, the key *p* is turned twice either way, the first breaking the contact of the armature *g* with the break piece *h*, by pushing the former away, and the second breaking the contact of a spring *q* with the break piece *h*. The first breaking is accomplished because the insulating pieces *r* are secured to the break piece *h*, and as it is longer than the distance of the break piece *h* when the armature is moved, it will be farther away than the break piece can reach when it is turned. The second turn is necessary because the spring *q* will come in contact with the break

piece *h* when it is in the position of the first turn, the insulating piece *r* however, will break the same on the second turn.

When a bell is rung, the occupant of the room where the alarm is sounded, turns a switch Q, by so doing the bell is thrown out of the circuit, and the current passes from the wire M to the wire R connecting with the magnets S which are over the strips $H^{\times}$, where the connecting pin had been placed to ring the said bell. As said strips are supported and move on studs S′, and as the magnets are connected in series, they simultaneously attract the said strips, and by so doing, the connecting pin P′ is pulled out and the circuit broken. When a general alarm is to be rung at any time, independent of the switches Q, I employ a swinging lid Y, the same carrying spring fingers W, which are charged with positive electricity by the wire Z, and adapted to contact with pins *l′* on the board C′. The lid or door Y is closed and held by a spring-catch *y′*, whereby the spring fingers W which are charged with positive electricity by wire Z, are electrically connected with the pins, posts, &c., *l′*, thereby causing all the bells to ring independent of the switches Q. A general alarm independent of the switches Q may also be sounded by placing the split pin T in the insulating ring T′, which has metal points insulated from each other attached to one of the wires M′.

To ring any bell in the circuit by hand at any time, the pin z^3, which is attached to the wire *z* is brought in contact with either of the plates L, representing the bell which is desired to be rung.

The wire N′ is connected with the switch $N^{\times}$, and the battery $A^{\times\times}$, the latter being connected with the spark coil $B^{\times}$. Passing from said coil is a wire W′, which is connected with the standard $B^{\times\times}$ of the lamp C.

Referring to Fig. 11, I show a mercury cup or holder 1, which is connected with the insulating pipe 3, the latter being provided with a cock 2. In the casing or cylinder 4 with which the pipe 3 is in communication, are contact points l^2, to which are attached the wires M′. When a general alarm is to be sounded, the cock 2 is turned, whereby the mercury flows into and through the insulating pipe 3. As said mercury is connected by the wire N′, as it comes in contact with the points l^2, a circuit is formed, and a general alarm sounded. The cock 5 at the bottom of the casing is employed for drawing off the mercury when it is desired to cause the general alarm to cease.

Secured to the frame which supports the break piece *h*, is a spring *r′*, which bears against a squared or angular piece r^2 on the shaft of the break piece, the same causing free contact of said parts and a snapping action, as is evident.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An electric time alarm consisting of movable insulated strips with openings therein and magnets at the ends thereof, and a time piece having pins with which the hands are adapted to contact, wires connecting the time piece and strips, and pegs connected with wires, substantially as described.

2. In an electric alarm, an electric circuit with a time piece therein, an insulating ring with metallic pins adapted to be contacted with by a hand of said time piece, insulated strips with wires connecting them with said metallic pins, strips movable over said first mentioned strips, magnets for operating said movable strips, plates with wires leading to alarms, and wires with pins for connecting said strips and plates, said parts being combined substantially as described.

3. In an electric alarm, an electric circuit with a time piece therein, an insulating ring with contact pins thereon, insulated strips with wires connecting them with said contact pins, metallic plates, wires with pins for connecting said strips and plates, a wire leading to a switch and an alarm from each of said plates, and a lamp or burner electrically connected with said bell, said parts being combined substantially as described.

4. In an electric alarm, an electric circuit with a time piece therein, an insulating ring with metallic pins adapted to be contacted with by the hour hand of said time piece, insulated strips with wires connecting them with said pins, a board having pins in electrical communication with alarms, a swinging lid having spring fingers adapted to contact with said last mentioned pins, and wires connecting said spring fingers with said electric circuit, said parts being combined substantially as described.

5. An electric time alarm consisting of a series of insulated strips having one or more openings therein, a time piece having insulated pins with which one of its hands is adapted to contact at intervals of time, wires connecting said strips and said pins, an electric battery, a wire connecting said battery and time piece, insulated metallic plates, wires with means adapted to connect said strips and plates, alarms with wires connected to said plates, wires with magnets, means to connect said magnet wires and the said alarm wires, and movable strips with openings and extending across said insulated strips, said parts being combined substantially as described.

6. An electric alarm consisting of an electric battery, a time piece with wire connected to said battery, insulated pins F adapted to be in contact at intervals with one of the hands of said time piece, insulated strips H connected by wires with said pins, insulated plates L, wires P, P, with means to connect each of them to said insulated plates L and strips H, alarms N with wires connected to said plates L, means substantially as described for electrically connecting said insu-

lated plates, and a wire with a switch $N^{\times}$ connecting said means with the wire connecting the battery and the time piece, said parts combined substantially as and for the purpose set forth.

7. An electric alarm consisting of an electric battery, a time piece with wire connected to said battery, insulated pins adapted to be in contact at intervals of time with one of the hands of said time piece, insulated strips H with wire connection with said pins, insulated plates L, alarms with wires connected to said plates, means for electrically connecting said insulated plates, a wire with means P′, P′, for connecting said plates to any one of said strips, and a wire connected with said plates and adapted to be connected with the wire which connects the battery and the time piece, said parts being combined substantially as described.

8. In an electric alarm, insulated strips, a strip movable to and from said strips and adapted to carry a pin forming an electric connection with said strip, an electric circuit with a magnet adjacent to said movable strip, a switch and a wire leading to said magnet and connected by the operation of said switch with said circuit, said parts being combined substantially as described.

9. An electric alarm consisting of an electric circuit, a time piece having its hand in said circuit, contact points for one of said hands, a series of strips connected with said points, insulated plates with wires leading to alarms, wires from said alarms to magnets, strips movable on pins and operated by said magnets, and means substantially as described for connecting said plates and movable strips, said parts being combined substantially as described.

10. An electric alarm consisting of an electric circuit with a time piece having its hands therein, an insulated ring with contact points with which one of the hands is adapted to engage at intervals, a series of strips with connected wires leading from said contact points, magnets for attaching one set of said strips, insulated plates with wires leading to alarms and means for detachably connecting said strips and plates, said parts being combined substantially as described.

11. In an electric alarm, a wire with a magnet, a wire from said magnet to the alarm, the armature *g*, the break piece *h*, the wire *j*, the uprights K, the screw K′, and the ring *l*, the carbon of an incandescent lamp, the screw *m*, plate *m′*, and the wire *n*, the key *p* and the spring *q*, said parts being combined substantially as described.

12. In an electric alarm, a magnet having its poles returned to a common location, electric wires leading to and from the magnet, said poles being slightly permanently magnetized, armature break pieces in contact with the armature after the current has ceased flowing through the magnet, the wire *j*, the uprights *k*, the screw *k′*, the ring *l*, a lamp with a carbon, the screw *m*, the plate *m′*, and the wire *n* said parts being combined substantially as described.

JOHN McMURROW, JR.

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WM. C. WEIDERSHEIM.