

-R. H. OLLEY.
ELECTRIC ALARM SYSTEM.
APPLICATION FILED FEB. 20, 1911.

1,050,228.

Patented Jan. 14, 1913.

Fig-1-

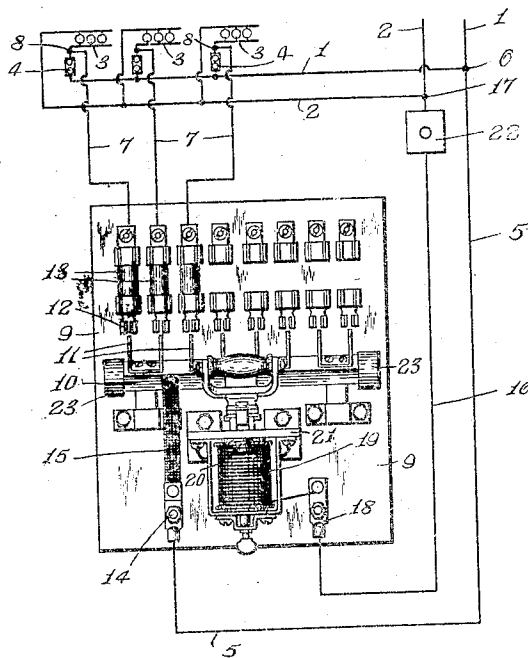


Fig-2-

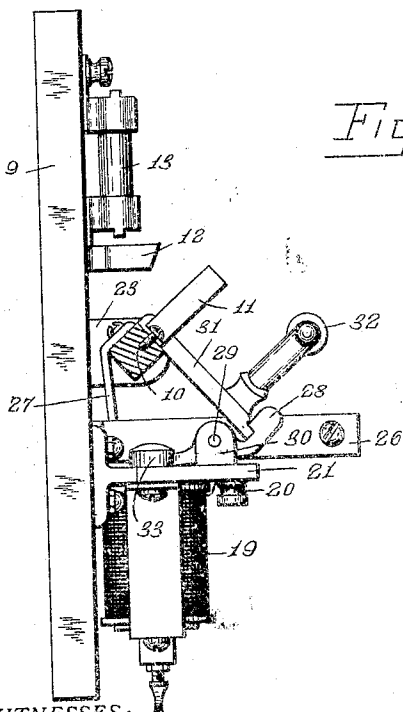
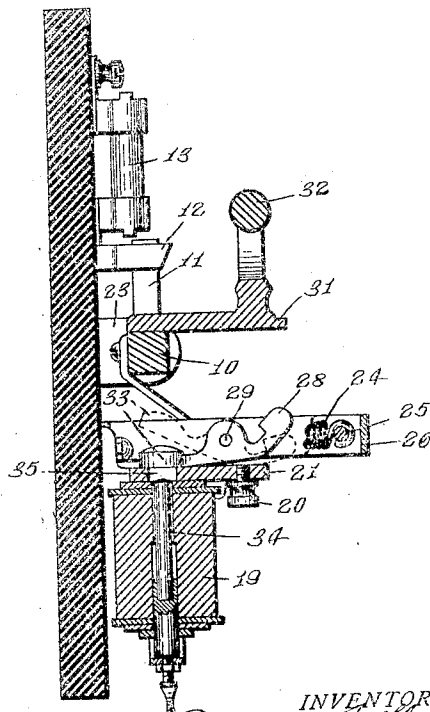


Fig-3-



WITNESSES:

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UNITED STATES PATENT OFFICE.

RAYMOND H. OLLEY, OF SYRACUSE, NEW YORK, ASSIGNOR TO CROUSE-HINDS COMPANY, OF SYRACUSE, NEW YORK, A CORPORATION OF NEW YORK.

ELECTRIC ALARM SYSTEM.

1,050,228.

Specification of Letters Patent.

Patented Jan. 14, 1913.

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To all whom it may concern:

Be it known that I, RAYMOND H. OLLEY, of Syracuse, in the county of Onondaga and State of New York, have invented a new and useful Electric Alarm System, of which the following is a specification.

This invention has for its object the production of a particularly simple and efficient alarm system, especially adapted to be used in connection with the lighting circuits of residences or other buildings, and it consists in the combinations and constructions hereinafter set forth and claimed.

In describing this invention reference is had to the accompanying drawing in which like characters designate corresponding parts in all the views.

Figure 1 is a diagrammatic view of this alarm system. Figs. 2 and 3 are elevations partly in section of the switch board of my alarm system, the switch being shown as open in Fig. 2 and as closed in Fig. 3.

This alarm system comprises, generally, a main circuit including lighting circuits across the mains or branches thereof, a shunt circuit connected in the main circuit and having branches connected to the lighting circuits, the shunt circuit including a normally open switch, means for holding the switch open, means tending to close the switch, a controlling circuit connected in the main circuit and in the shunt circuit on one side of said switch, electromagnetic means connected in the controlling circuit and operating to move the holding means to release the switch in the shunt circuit, and a hand operated switch in the controlling circuit.

1 and 2 designate, respectively, the branches of the main circuit, the main circuit including lighting circuits 3 connected across the mains 1 and 2, and the lighting circuits including hand operated switches as push buttons 4.

5 is a conductor in the shunt circuit connected at 6 with the branch 1 of the main circuit, the shunt circuit having branches 7 corresponding to the lighting circuits 3 and connected thereto respectively at 8.

9 is a switch board including a base, a normally open switch 10 mounted on the base and having arms or knives 11 for engaging contacts 12 connected in circuit with the conductors 7 through fuses 13.

The conductor 5 is connected to a terminal 14 on the switch board 9, the terminal 14 being connected to the switch 10 through a conductor 15. Such conductors 5, 7 and 15 and switch 10 and parts connected thereto constitute a circuit connected in shunt with the main circuit.

16 is a conductor in the controlling circuit, the same being connected at 17 to the branch 2 of the main circuit and to a terminal 18 on the switch board 9, and 19 are windings of an electromagnet connected to the terminal 18 and to the switch 10, the windings 19 being connected to a binding screw 20 on the metallic frame element 21 which is electrically connected to the switch 10 through the holding means to be presently described.

22 is a hand operated switch or push button located in the conductor 16 of the controlling circuit.

The switch 10 is here shown as a bar journaled in lugs 23 supported by the base of the panel board 9, the bar supporting the knives 11. The switch is normally held open, as seen in Fig. 2, and is moved to its closed position by a spring 24 connected at 25 to a frame or yoke 26 supported on the base of the switch board 9, the spring being connected at its opposite end to a rock arm 27 on the rocking bar 10.

The switch 10 is normally held in its open position against the action of the spring 24 by a latch 28 pivoted at 29 between its ends to lugs 30 on the frame element 21, the latch having a hook at one end which normally engages the end of the rock arm 31 provided on the bar 10, this rock arm 31 also having an insulated handle 32 by means of which the switch 10 is moved to its open position against the action of the spring 24. The latch 28 and arm 31 serve as a conductor in the controlling circuit to electrically connect the frame element 21 carrying the binding screw 20 and the bar of the switch 10.

The latch 28 is operated to release the switch by the magnetic action of the windings 19 when energized, and as here shown the tail 33 of the latch is arranged in the path of the movable core or armature 34 of the magnet, such core or armature 34 moving through an opening 35 formed in the frame element 21 and alined with the core opening of the windings 19, into engagement with the tail 33 of the latch 28 which normally covers such opening.

In use the push button 22 is located in any convenient point to be operated in case of emergency, as near the head of the bed in a sleeping room, and when it is necessary to give an alarm, such push button is pressed, momentarily connecting the windings 19 in a closed circuit so that the current flows through the main conductor 1 to the point 6, conductor 5, terminal 14 of the switch board, through the rocking bar 10 of the switch, latch 28, windings 19 of the magnet, terminal 18, conductor 16, push button 22, point 17 and conductor 2.

The momentary energizing of the windings 19 draws the armature or core 34 upwardly so that it strikes the tail 33 of the latch 28 moving the latch on its pivot 29 and releasing the rock arm 31 of the switch so that the switch is closed by the spring 24. Thereupon the current will flow through the conductor 1 to the point 6, conductor 5 to the terminal 14, switch 10 and knives 11 thereof to the contacts 12 through fuses 13, branches 7, lighting circuits 3 and leg or branch 2 of the main circuit, the conductors 7 carrying the current around the switches or push buttons 4 in the lighting circuits.

Ordinarily the switch 10 is open and when it is desired to light any of the lamps in the main circuit, one or more of the push buttons 4 are operated so that the current will flow through the main branch 1, push buttons 4, lighting circuits 3 to the branch 2 of the main circuit in the usual manner. The movement of the latch 28 by the core 34 also breaks the controlling circuit.

What I claim is:

1. An alarm system comprising a main electric circuit including a lighting circuit connected across the branches thereof, a switch in the lighting circuit, a circuit connected in shunt with one of the branches of the main circuit and in the lighting circuit between the switch therein and the lamps, thereby cutting out the switch, the shunt circuit including a normally open switch, and means for controlling the closing of the last-mentioned switch, comprising an electric circuit connected to a branch of the main circuit and to the shunt circuit at one side of the switch in such shunt circuit, and electromagnetic means and a hand operated

switch in said controlling circuit, substantially as and for the purpose described.

2. An alarm system comprising a main electric circuit including lighting circuits connected across the branches thereof, a switch in each lighting circuit, a circuit connected in shunt with one of the branches of the main circuit and in the lighting circuits between the switches and the lamps therein and thereby cutting out the switches, the shunt circuit including a normally open switch having arms corresponding to the lighting circuits, and means for controlling the closing of the last-mentioned switch comprising a circuit connected to a branch of the main circuit and to the shunt circuit at one side of the switch therein, electromagnetic means having windings connected in the controlling circuit, and a hand operated switch in the controlling circuit, substantially as and for the purpose specified.

3. An alarm system comprising a main electric circuit including lighting circuits connected across the branches thereof, a switch in each lighting circuit, a circuit connected in shunt with one of the branches of the main circuit and in the lighting circuits between the switches and the lamps therein and thereby cutting out the switches, the shunt circuit including a normally open switch having arms corresponding to the lighting circuits, a spring tending to close the last-mentioned switch, means for normally holding the switch open, a controlling circuit connected in a branch of the first-mentioned circuit and to the shunt circuit on one side of the last-mentioned switch, electromagnetic means having windings connected in the controlling circuit, and operating to move the holding means to release the switch in the shunt circuit, and a hand operated switch in the controlling circuit, substantially as and for the purpose set forth.

4. An alarm system comprising a main electric circuit including lighting circuits connected across the branches of the main circuit, a switch in each lighting circuit, a circuit connected in shunt with one of the branches of the main circuit and in the lighting circuits between the switches and lamps therein and thereby cutting out said switches, the shunt circuit including a normally open switch having arms corresponding to the lighting circuits, a spring tending to close the last-mentioned switch, a latch for normally holding the switch open against the action of the spring, a controlling circuit connected in a branch of the main circuit and in the shunt circuit, electromagnetic means including windings connected in the controlling circuit and to the latch, and operating to move the latch to release the switch in the shunt circuit and to

break the controlling circuit, the latch serving as a conductor in the controlling circuit, and a hand operated switch in the controlling circuit, substantially as and for the purpose set forth.

5 In testimony whereof, I have hereunto signed my name in the presence of two at-

testing witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 24th day of January, 1911.

RAYMOND H. OLLEY.

Witnesses:

S. DAVIS,

Y. B. SMITH.