Feb. 5, 1924. 1,482,911

H. CATLIN

ELECTRIC SWITCH

Filed July 7, 1922

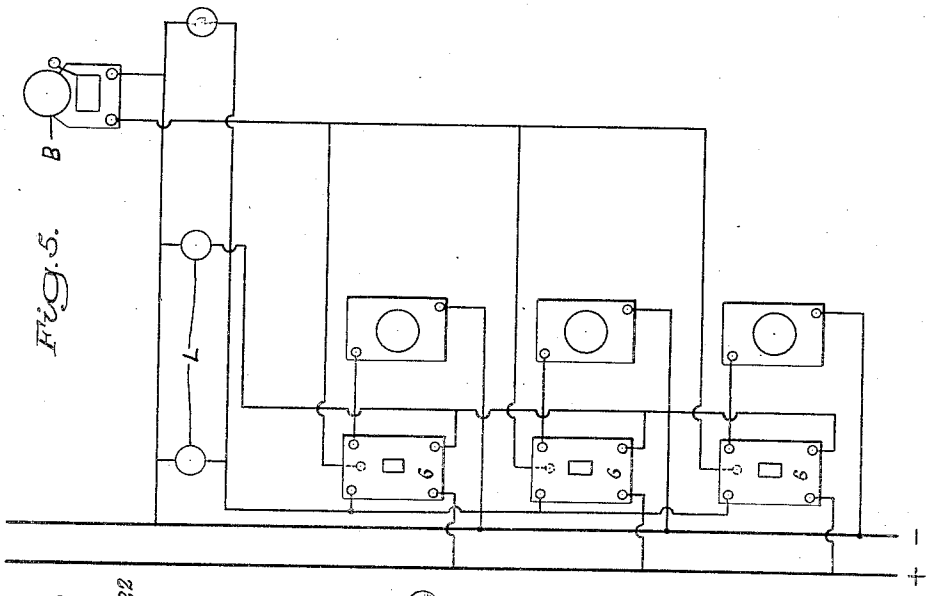



Fig. 5.

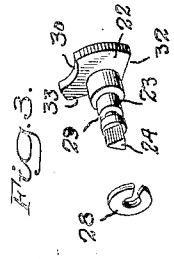



Fig. 3.

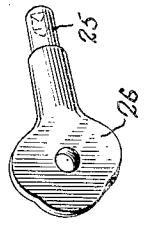



Fig. 4.

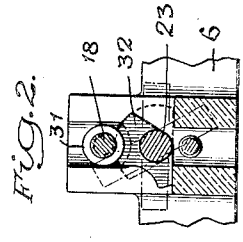



Fig. 2.

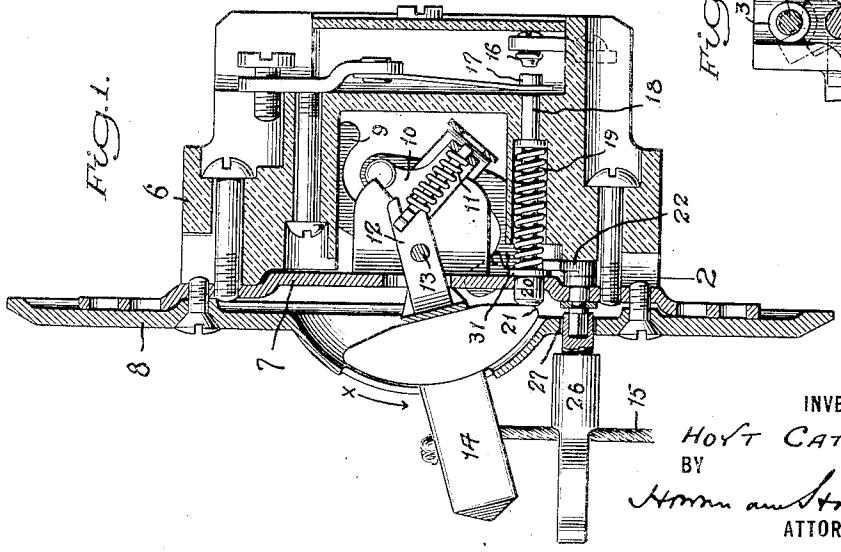



Fig. 1.

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Patented Feb. 5, 1924. 1,482,911

# UNITED STATES PATENT OFFICE.

HOYT CATLIN, OF FAIRFIELD, CONNECTICUT, ASSIGNOR TO THE BRYANT ELECTRIC COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

## ELECTRIC SWITCH.

Application filed July 7, 1922. Serial No. 573,423.

*To all whom it may concern:*

Be it known that I, HOYT CATLIN, a citizen of the United States of America, residing at Fairfield, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

My invention relates to electric switches, and particularly to a switch installation comprising a pair of switches controlled by a single operating device. The invention may be embodied specifically in a switch of the type shown in the copending application of George B. Thomas, filed November 23, 1921, Ser. No. 517,240, and my object is to provide means for preventing the operation of one of the related switches when desired.

In the accompanying drawings—

Fig. 1 is a vertical section through a switch in which my invention is embodied in one form;

Fig. 2 is a section on the line 2—2, Fig. 1;

Fig. 3 is a perspective of the locking device;

Fig. 4 is a perspective of the key for operating the lock; and

Fig. 5 is a diagram illustrating an installation in which a switch of the present character may be used to advantage.

While the present invention has diversified utility, it is particularly applicable to switches used in hospital signal systems, in which adjacent each bed is arranged a main signal switch having associated therewith an auxiliary call switch, both of which may be operated from the bed. The main switch ordinarily controls a silent signal circuit, as for example a signal light L, while the auxiliary switch controls an audible signal, such as a bell B. It is possible to repeatedly call an attendant by repeatedly closing the bell circuit, when there is a failure of response to the signal light set by the closing of the main switch. Experience has proven that on occasion it is desirable to prevent the operation of the audible signal, since with patients of a certain type the bell signal is rung with distracting insistence. The present invention is designed to provide means for preventing the operation of the switch which controls the audible signal, while maintaining the silent call switch free for operation. The invention may be embodied in switches of various types, and is shown merely by way of example in the particular type illustrated.

In its main features the present construction corresponds to that illustrated in the Thomas application above mentioned, and comprises a cup-shaped insulating body 6 of the flush type carried by a supporting yoke 7, by means of which it may be mounted in an outlet box (not shown) of common type, and over which is arranged a cover plate 8. The switch chamber houses a main switch mechanism which may be of any suitable character, that indicated being of the toggle type, and comprising switch blades 9 carried by a yoke 10 which is biased by the toggle spring 11 through the manipulation of the operating lever 12. The latter is pivoted at 13 on the frame and has an outwardly projecting thumb piece 14, to which is connected a pull cord 15 by which the switch may be operated by the patient in a direction to throw the switch blades 9 into circuit closing position, and thus to operate the silent signal circuit.

Also mounted on the insulating body is a supplemental switch comprising a fixed contact 16 and a cooperating spring contact 17 which control the audible signal circuit. The contacts 16 and 17 are normally spaced apart to maintain this circuit open, but the contact 17 may be depressed into circuit closing position by a plunger 18 normally held by the spring 19 in inactive position, but provided with a head 20 which underlies the wing 21 on the operating lever 12 when the latter is swung in the direction of the arrow X to the position in which the silent signal circuit is closed. The lever 12 is susceptible of further displacement in the same direction by a further pull on the cord 15. Upon such further movement, the wing 21 depresses the plunger 18 and thus forces the contact 17 of the auxiliary switch into engagement with its cooperating contact 17, thus closing the audible signal circuit.

To accomplish the object which I have above set forth, I mount in the yoke 7 adjacent the plunger a movable lock plate 22 carried at the lower end of a spindle 23, the outer end 24 of which is provided with facets to afford a non-circular contour adapted to be engaged by the correspondingly shaped recess in the stem 25 of the

lock key 26. In order to permit access to the operating end of the spindle an aperture 27 is formed in the face plate 8, and if desired the stem 23 may be extended up into this aperture. The spindle is held in position in the yoke 7 by any suitable means, such as a spring washer 28 engaging the reduced neck 29 above the yoke.

The lock plate 22 is shaped with respect to the adjacent portion of the porcelain body of the switch, which limits the throw of the plate. The latter is cut away at 30 to clear the plunger head 20, and its associated spring abutment washer 31, when the lock plate is moved to the position in which it is halted by the impingement of its margin 32 against the adjacent portion of the switch body. On the contrary, when the lock plate is turned to the position in which it is halted by the impingement of its margin 33 against the switch body, the plate lies beneath the head 20 and washer 31 of the plunger 18. In this position it blocks the downward movement of the plunger, and the auxiliary switch therefore cannot be closed. While it is always possible for the patient to operate the silent signal switch, it is thus within the attendant's control to prevent the operation of the audible signal.

The value of the arrangement becomes more apparent in a system such as that illustrated in Fig. 5, which indicates the usual type of installation. As will be noted, the call bell B is connected in the circuit of a group of signal switches, such for instance as may be used in a hospital ward. It is thus apparent that the audible signal switch may be locked against actuation by the attendant at any particular bed without preventing the operation of this signal at any of the switches for other beds in the ward. The full advantage of the system is thus maintained.

As above stated, the invention is applicable to other types of switches than that shown, and my claim of invention is therefore not limited to this particular type of fitting.

I claim—

1. An electric switch comprising a main control switch, an operating member therefor, an auxiliary switch having a circuit closer actuated by movement of said operating member while in the circuit closing position of the main switch, and means for preventing the actuation of said auxiliary switch without affecting the operation of the main control switch.

2. An electric switch comprising a main control switch, an operating member therefor, an auxiliary switch having a circuit closer actuated by movement of said operating member while in the circuit closing position of the main switch, and stop means for preventing the actuation of said auxiliary switch without affecting the operation of the main control switch.

3. An electric switch comprising a main control switch, an operating member therefor, an auxiliary switch having a circuit closer actuated by movement of said operating member while in the circuit closing position of the main switch, and manually controlled stop means for preventing the actuation of said auxiliary switch without affecting the operation of the main control switch.

4. An electric switch comprising a main control switch, an operating member therefor, an auxiliary switch having a circuit closer actuated by movement of said operating member while in the circuit closing position of the main switch, and key actuated stop means for preventing the actuation of said auxiliary switch without affecting the operation of the main control switch.

5. In a signalling system having a plurality of signal devices, a switch fitting for controlling said devices, said switch fitting comprising a switch member for closing the circuit through certain of said signal devices, and an auxiliary switch member for closing the circuit through certain other of said signal devices, and means for preventing the operation of said auxiliary switch member without affecting the operation of the first mentioned switch member.

6. In a signalling system having a plurality of signal devices, a switch fitting for controlling said devices, said switch fitting comprising a switch member for closing the circuit through certain of said signal devices, and an auxiliary switch member for closing the circuit through certain other of said signal devices, a common operating member for said switch member, and means for preventing the movement of said operating member to close the auxiliary switch while permitting its movement to actuate the first mentioned switch.

7. In a signal system having independent signal devices, control means therefor comprising a series of pairs of switch devices, each pair adapted to control said independent signal devices, and means for rendering impotent, in any pair, the switch controlling one of the signal devices without affecting the operation of the other switch of said pair, or the operation of any of the switches of the remaining pairs.

8. An electric switch device comprising a snap switch having only one "on" and one "off" position, an operating member therefor, a normally open auxiliary switch having a circuit closer actuated by the movement of said operating member while in the circuit-closing position of the main switch, and means for preventing the actuation of said

auxiliary switch without affecting the operation of the main control switch.

9. An electric switch device, comprising a snap switch, an oscillating operating member for shifting the snap switch mechanism to "on" or "off" position, an auxiliary switch having a circuit closer actuated by further movement of the oscillating operating member in the same direction after oscillation to circuit-closing position of the main switch, and means for preventing the actuation of the auxiliary switch without affecting the operation of the main switch.

10. An electric switch device, comprising a main switch having a toggle mechanism, an oscillating lever for operating the toggle mechanism, an auxiliary switch having an operating member shifted to circuit closing position by movement of the toggle operating lever while in the circuit-closing position of the main switch, and means for preventing displacement of the operating member of the auxiliary switch without affecting the operation of the main control switch.

11. An electric switch device, comprising a main control switch, an operating member therefor, an auxiliary switch having a spring-stressed circuit closer controlled by said operating member when the latter is in closed circuit position of the main switch, said spring-stressed circuit closer automatically moving to predetermined position when disengaged by said operating member, together with means for preventing the actuation of said auxiliary switch.

12. An electric switch device, comprising a main control switch, a pivoted lever for operating the same, an auxiliary switch having a plunger operatively engageable by said lever in closed-circuit position of the main switch, spring means normally maintaining said plunger in open-circuit position, and means for preventing circuit closing displacement of the plunger by the lever.

In testimony whereof I have signed my name to this specification.

HOYT CATLIN.