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J. G. LUSBY

ELECTRIC SWITCH

Filed March 16, 1927

Fig. 1.

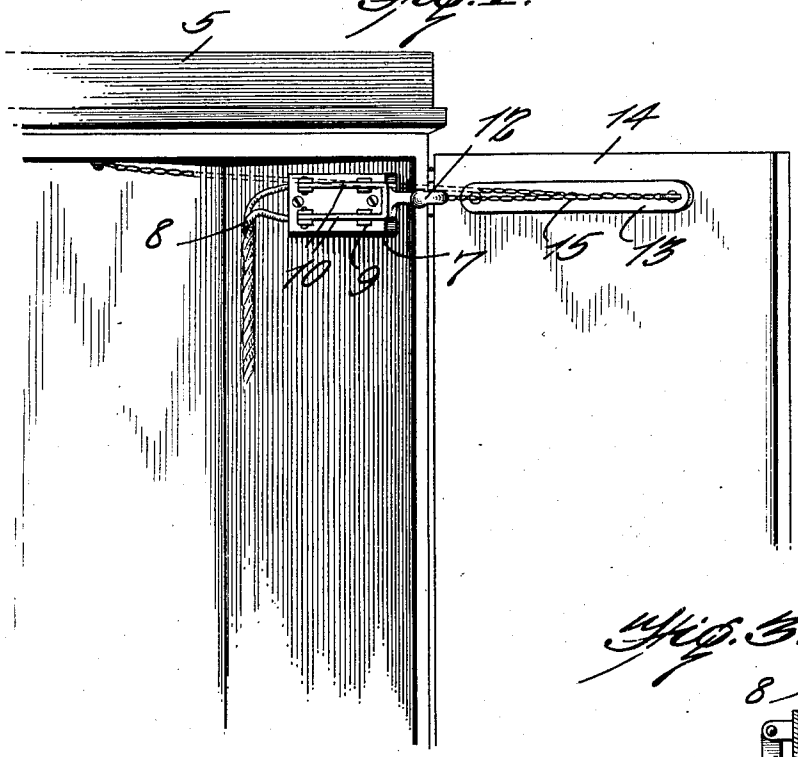


Fig. 3.

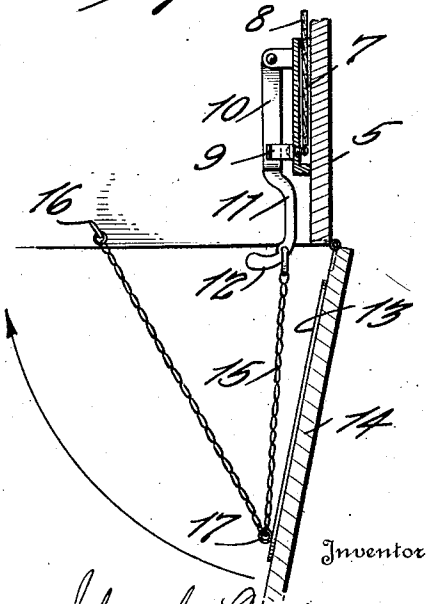
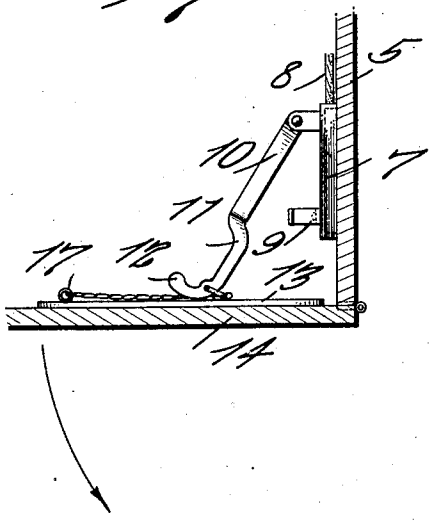


Fig. 2.



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ELECTRIC SWITCH.

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This invention has for an object the provision of novel means for cutting out apparatus operated by an electric current, such as lights or telephones from the line wires of an electric system when a door of a cabinet or room containing the apparatus is closed, in order to interrupt the circuit and prevent damage to the apparatus from lightning which might reach the apparatus and burn it out.

It is an object of this invention to provide novel switch operating means effective to establish a circuit when a door of a room or cabinet containing apparatus, as aforesaid, is open, thereby making the apparatus accessible to users, the invention including novel means for operating a switch not only when the door is opened, but for breaking or interrupting the circuit when the door is closed, as stated.

It is a further object of this invention to produce a switch and operating mechanism associated with the door of a room or cabinet in which the switch is located, the same including novel means for moving the switch in two directions when the door is manipulated, that is to say, for opening the switch when the door is closed, and for closing the switch when the door is open.

A still further object of this invention is to produce means of simple character which will withstand manipulation incident to the use of the room or cabinet containing the electric apparatus and the mechanism associated with it, the said device having the further function of limiting the outward swinging movement of the door of the room or cabinet in order that straining of its hinges will be obviated.

With the foregoing and other objects in view, the invention consists in the details of construction, and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the inveniton in detail, reference will be had to the accompanying drawings forming part of this application wherein like characters denote corresponding parts in the several views, and in which—

Figure 1 illustrates a view in elevation of a fragment of a cabinet with a device embodying the invention applied thereto;

Figure 2 illustrates a sectional view thereof; and

Figure 3 illustrates a sectional view looking upwardly when the door is open.

In these drawings, 5 denotes a cabinet or box intended to contain a telephone, 6 a door hingedly connected to the cabinet and adapted to close when the apparatus is not in use. As the apparatus such as a telephone or signalling device may be of any conventional type, no attempt will be made to illustrate or describe same, but it is to be understood that the apparatus is to be electrically connected to conductors over which electricity shall travel.

A switch 7 of the knife type, in the present embodiment of the invention, is installed in the cabinet and wires 8 will be connected to the poles of the switch, whereas other wires (not shown) will be connected to the terminals 9 of the switch. While the invention will be described in connection with a switch having plural contacts, the inventor does not wish to be limited with respect to this phase of the invention. The blades 10 of the switch are connected to an arm 11 and the said arm has a curved portion 12 constituting a camming surface which is intended to ride on a wear plate 13 on the door 14 when the door is closed, as the switch is to be moved to interrupt the circuit.

It will be apparent from an inspection of Figs. 2 and 3 that if the door is forced to a closed position in the direction of the arrow shown in Fig. 3, the wear plate will engage the camming surface of the arm and further movement of the door toward closing it will result in imparting motion to the switch blades and they will be carried to the position shown in Fig. 2 when the switch will be open.

As a means for reestablishing circuit through the switch when the door is open, a flexible element 15, such as a chain, cable, or the like, has one of its ends connected to the arm and its opposite end to an anchor 17 on the door. Another chain, cable, or the like, is connected to said anchor 17 and to an anchor 16 on the casing, which latter serves to limit the outward swinging movement of the door. The flexible member 15 exerts a pull on the switch when the door is open and serves to close the switch as the parts are shown in the present embodiment of the invention. It is apparent, therefore, that the manipulation of the door in opening

and closing it will control the position of the switch and that when the door is closed and the apparatus is inaccessible for use, the circuit may be broken and this constitutes a lightning arresting gap in the conducting system of the apparatus that may be installed in the cabinet.

I claim:

1. In a signalling cabinet adapted for containing electrically operated apparatus, a switch located in the cabinet, said switch having conductor posts, a switch blade operating in conjunction with the said posts for opening and closing a circuit therethrough, an arm for the said blade, said arm having a curved edge, a door for the cabinet, a wear plate on the door adapted to engage the curved surface of the arm of the switch and operative to open the switch, and a flexible element connected to the arm and having one end anchored to the door.

2. In a cabinet, a switch therein having connections for electrical conductors, an arm forming a part of a switch element projecting from the cabinet in the path of travel of a door, a door forming a part of the cabinet and hingedly mounted for opening and closing the cabinet, a wear plate on the door engaging the arm when the door is closing and operative to interrupt current through the switch, and a flexible element connected to the arm and having one end anchored to the door.

3. In a cabinet, a switch therein comprising elements adapted to close and open a circuit, an arm forming a part of the movable portion of the switch, said arm projecting beyond the cabinet, a door for the cabinet, the said arm being in the path of travel of the door whereby a switch element is moved in one direction, a flexible element connecting the door to the arm, and a flexible element connected to the door and to an anchor of the cabinet.

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