Dec. 23, 1924. 1,520,193

W. B. MANSON

SWITCHING DEVICE

Filed April 25, 1921

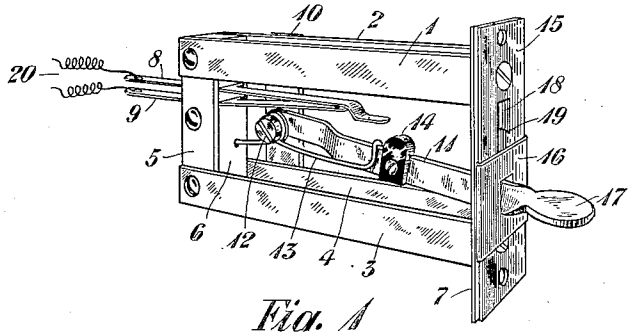


Fig. 1

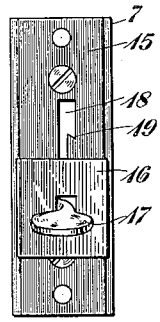


Fig. 3

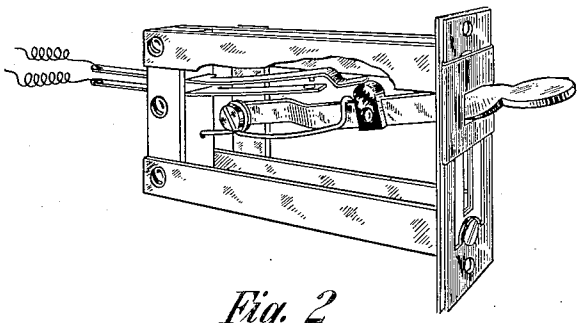


Fig. 2

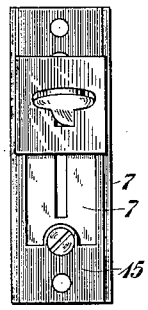


Fig. 4

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UNITED STATES PATENT OFFICE.

WALTER B. MANSON, OF EAST ORANGE, NEW JERSEY, ASSIGNOR TO HOLMES ELECTRIC PROTECTIVE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SWITCHING DEVICE.

Application filed April 25, 1921. Serial No. 464,225.

To all whom it may concern:

Be it known that I, WALTER B. MANSON, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain Improvements in Switching Devices, of which the following is a specification.

This invention relates to an improved type of switching mechanism. It is particularly adaptable for use with electrical circuits which it may be desirable to leave in open or inoperative condition for certain intervals of time. During such intervals when the switch is left open to render the circuit inoperative, a visual signaling device associated with the switch is also operated whereby the condition of the circuit may be readily indicated. This arrangement would be particularly desirable at a switching panel, wherein might terminate a plurality of circuits, which might all be intended for use at the same intervals of time, such as a plurality of power circuits or a number of alarm circuits which might all be controlled from a central station. Other features and purposes of the invention will appear more fully from the detailed description thereof hereinafter given.

The invention may be more fully understood from the following description, when read in connection with the accompanying drawing, in the Figures 1, 2, 3 and 4 of which is illustrated a preferred embodiment thereof. Figures 1 and 2 are side views of the switching mechanism in inoperative or closed position and in operative or open position respectively. Figs. 3 and 4 are front views of the arrangements of Figs. 1 and 2 respectively. Similar reference characters have been used to denote like parts in all of the figures.

In the switching mechanism of Fig. 1 are shown the framework members 1, 2, 3 and 4. These members are secured at the front to a plate 7 and are secured at the rear by the lateral members, such as 5, to an insulating block 6, which may be of wood or any suitable material. Mounted in this insulating block are the contact members 8 and 9, which are connected to the electrical circuit 20. These contact members are shown in their normal position, which is the closed position, so that the continuity of the electrical circuit is not broken. Attached on the framework at one side of the device is a supporting plate, such as 10, shown attached to the members 2 and 4. Loosely attached to this plate by means of the bolt 12 is the arm 11 of the switch. On the arm of the switch is a cam 14. When the switch arm 11 is moved upward, the cam 14 will bear against the upper contact arm 8 thereby moving it away from the contact arm 9 and opening the electrical circuit. The switch in such position is illustrated in Fig. 2. Mounted on the bolt 12 and fastened to the insulating block 6 is the spring member 13, the other end of which is fastened to the arm 11 of the switch and is adapted to pull down thereon so as to normally hold the switch arm in its closed position. The spring 13 also exerts a side tension on the switch arm 11 for purposes which will be pointed out later.

Attached to the member 7 is a face-plate 15. The handle 17 of the switch arm 11 is shown extended through an aperture 18 in both the member 7 and the face-plate 15. Slidably mounted between the member 7 and the face-plate 15 is a shutter 16, the upward and downward movement of which is controlled by the upward and downward movement of the switch arm 11. At the upper portion of the aperture 18 in both the member 7 and the face-plate 15 is a notch 19. When the switch arm 11 is moved upward to the open position, it will be held in this position due to the side tension exerted by spring 13 which will give it a slight movement to one side and will fit it into the notch 19. When the switch arm is moved to the open position and held therein by the notch, as shown in Fig. 4, a visual signal is given to readily indicate the condition of the switch. This is accomplished in the following manner: the aperture in the face-plate 15 at the lower portion thereof is considerably larger than the aperture in the member 7. The lower portion of member 7 which is uncovered by the aperture in the face-plate may be painted white, while the face-plate and the shutter may be painted black. When the switch is in its closed position, the shutter normally covers this whitened portion of the member 7, and the whole front view of the switching mechanism will appear black. However, when the switch arm is raised so that the switch is in its open position, the shutter will be moved upward and will uncover this whit-

ened portion of the member 7 thereby presenting a white square which will be easily apparent against the black background of the switching panel.

Accordingly when the switching panel includes a large number of switches, it will be comparatively easy, by means of the visual signaling devices associated with the switches, to determine at a glance which of the switches are operative and which are not. While the invention has been disclosed in certain specific arrangements which have been deemed desirable, it is understood that it is capable of embodiment in many and widely varied forms without departing from the spirit of the invention as defined in the appended claims.

What is claimed is:

1. A switching mechanism comprising a framework, contacts of an electrical circuit attached to said framework, a movable switch arm attached to said framework and adapted when moved to control said contacts, a face-plate attached to said framework having an opening therein through which said switch arm extends, said opening being notched at the upper portion thereof, and a spring mechanism attached to said framework and said switch arm for exerting downward and side tension on said arm whereby when said arm is raised it will automatically be held in such position by the notch of said opening.

2. A switching mechanism comprising a framework, contacts of an electrical circuit attached to said framework, a movable switch arm attached to said framework and adapted when moved to control said contacts, a face-plate attached to said framework having an opening therein through which said switch arm extends, said opening being notched at the upper portion thereof, a shutter device associated with said face-plate and controlled by said switch arm for giving a visual indication of the position of said switch arm, and a spring mechanism attached to said framework and said switch arm for exerting downward and side tension on said arm whereby when said arm is raised it will automatically be held in said position by the notch of said opening.

In testimony whereof, I have signed my name to this specification this 23rd day of April, 1921.

WALTER B. MANSON.