July 22, 1947. L. C. WIMMER 2,424,529

SWITCHING ARRANGEMENT FOR ELECTRICAL APPARATUS

Filed Jan. 23, 1945

Fig. 2

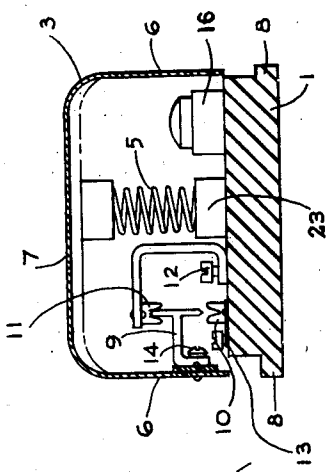



Fig. 3

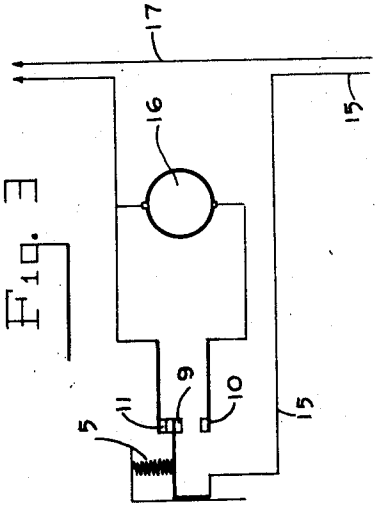
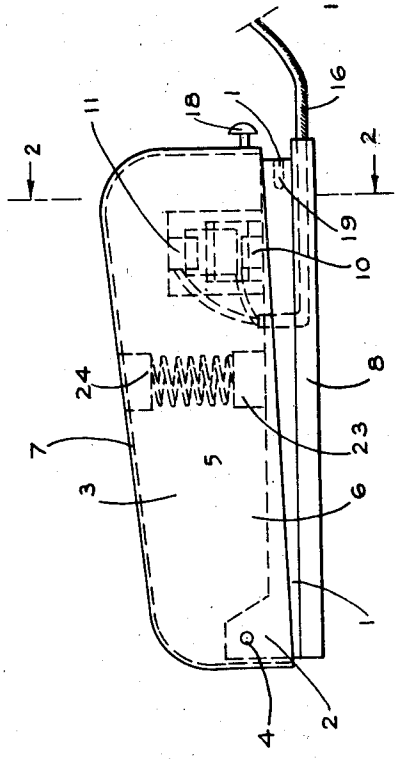



Fig. 1




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## SWITCHING ARRANGEMENT FOR ELECTRICAL APPARATUS

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3 Claims. (Cl. 201—48)

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This invention relates to switching arrangements for the current supply of electrical apparatus and it has for its principal object to provide switching means which, when operated, permit to include temporarily a flashing arrangement, a circuit breaker producing intermittent impulses or an arrangement producing an artificial reduction or fading of the current supply flowing to said electrical apparatus, and when returned to their position of rest will restore the normal current supply.

A further object of the invention consists in a switching arrangement of the type indicated which may be operated temporarily by applying pressure either by the foot or the hand of an operator and which will return to its position of rest when the pressure relates or ceases.

A still further object of the invention consists in enclosing the switching arrangement in a completely closed box, provided with a spring pressed lid and in so arranging the operating parts of the switching arrangement that pressure exercised on the spring pressed lid will operate the switch while relaxation of pressure restores the normal flow of current.

A switching arrangement of this type may be used in many different ways. For instance, it may be used to substitute temporarily flashing signals for a steady signal on a motor car or in connection with other conveyances or with fixed installations in order to attract attention or in order to convert an electric light used for illuminating purposes temporarily into a signalling device. It may moreover be used in connection with a radio receiver, to make a reception temporarily inaudible while leaving sufficient volume to discern the general character of the reception. Such an arrangement will be most useful in helping to cut out undesirable parts of a program without losing contact with the performance so completely that it becomes difficult or impossible to restore full reception at the right moment when the desired parts of the radio performance are received.

The following specification describes and illustrates one modification of the invention only; it is, however, to be understood that this modification is intended to illustrate one embodiment of the invention by way of example supplying to the expert skilled in the art sufficient information as regards the general principles to be followed to construct or design other embodiments, and further modifications. Such changes and modifications as far as foreshadowed in the following specification do not constitute a departure from the essence or spirit of the invention.

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In the accompanying drawings:

Figure 1 is an elevational view of the box or container housing the switching arrangement and serving to operate it.

Figure 2 is an elevational sectional view of the switching apparatus, and

Figure 3 is a diagram illustrating the connection of the parts.

The switching arrangement according to the invention consists of a base 1 provided with a lug or projection 2 to which a cover or lid 3 having the shape of an inverted tray is hinged (at 4) which preferably covers the entire arrangement and encloses it between its downwardly projecting side walls 6. This cover 3 is provided with a push block 24 against which a spring 5 is applied. This spring rests on a support 23 which is mounted on the base 1 and is so adjusted that it keeps the cover or lid in its raised position and that it opposes a downward movement of the lid or cover 3.

Preferably the cover or lid has an inclined upper surface 7 sloping downwardly towards the hinged portion to which the foot may be applied, if the device is to be used as a foot switch. When the foot or hand presses the lid downwardly, the spring 5 is compressed and the lid may be moved down until the lower edges of the side walls 6 reach the protruding ledges 8 provided on the switch base.

The switch covered by the lid comprises two fixed and one movable contact. The movable contact 9 is attached to the lid 3 and moves with it. It cooperates with the two fixed contacts 10 and 11, which may be so-called blade or spring contacts provided with two leaf springs between which the blade of the movable contact 9 which is a knife contact may enter. Each contact 9, 10, 11 is provided with a binding post 14, 13, 12, respectively. The movable contact 9 is connected with the conductor 15 leading to the source of power while the upper contact 11 is connected with the apparatus to be supplied with current. Thus, in the normal or uncompressed state of the switch, the apparatus (signal, radio) is simply connected with the source of power supply.

The lower contact 10 is connected with a circuit breaker, flash button or high ohmic resistance 16, which is either carried by the base 1, or may be located elsewhere outside of the hand or foot operated switch, if necessary. The circuit breaker or flash button may be of any con-

ventional design, either the usual automatic breaker or the flash button or flash mechanism used on motor cars to produce pulsating or flashing signals being used.

In connection with the reception of radio signals either the flashing means or a high ohmic resistance or both may be used, the two above-named means producing a decrease of the electric energy supply which will result in a fading out of the radio signal. The application of these means, therefore, permits the listener to keep in touch with the progress of the performance to such an extent as to identify its character.

As seen, the manipulation of the switching arrangement is very simple and entails merely a small singular movement of the foot or hand for applying a temporary pressure on the lid. This movement shifts the connection of the conductor 15 from contact 11 to contact 10 whereby the auxiliary device cutting the supply of power is temporarily or intermittently switched in.

As soon as the pressure of the foot or hand relaxes, the spring lifts the lid and the normal power supply is restored.

When applied to a radio set the switching arrangement may be used near or in connection with a telephone to cut out or cut down the output of the radio set during a telephone conversation. It may similarly be used in other cases for a temporary cutting down or interruption of the volume or output of the radio set, which leaves the radio tubes in an operative position and moreover either keeps the user himself in sufficient contact with the performance to be able to switch in at the right moment or which allows others to listen in on a reduced volume, which does not interfere with certain other activities.

A push button 18 on the lid cooperating with a recess 19 on the base may be used to fix the lid in its downward position, if desired, without pressure from without.

I claim:

1. A switching arrangement for controlling the current supply of an electrical apparatus consisting of two fixed contacts, acting as stops and arranged one above the other in vertically superposed relationship, a fixed base carrying the said contacts, a movable box-like pedal member enclosing the switch structure and hinged to the base member, a spring acting on said movable member and imparting to it a tendency to move away from the base, a movable contact cooperating with the aforementioned fixed contacts, mounted on said movable member and acting as a counter stop projecting into the interior of the box-like pedal member to the vertical line joining the fixed contacts, a supply lead for the aforementioned apparatus connected with the



contact towards which the movable contact is urged by the spring, a device for interrupting the current intermittently, connected with the conductor leading from the other fixed contact and a current supply conductor connected with the movable contact.

2. A current reducing unit for the power supply line of a radio receiver, comprising a base plate, a current reducing means mounted on the same, fixed contacts, connected with said current reducing means, disposed in a vertical line one above the other, and mounted on said base plate, a movable pedal forming substantially a closed box with one open side, hinged to and encircling said base plate and covering the elements mounted on the same, a spring inserted between said pedal and said base plate and a movable switch contact, vertically disposed within the vertical line joining the fixed contacts, insulated from and attached to a vertically disposed portion of the pedal for vertical movement, said contact being connected with the aforesaid power supply line.

3. A current reducing unit for the power supply line of a radio receiver comprising a base plate, a current reducing means mounted on the same, fixed contacts, connected with said current reducing means disposed in a vertical line one above the other, and mounted on said base plate, a movable pedal forming substantially a closed box with one open side, hinged to and encircling said base plate and covering the elements mounted on the same having an upper outwardly turned face inclined towards the base plate and sloping downwardly towards the hinged portion, a spring inserted between said pedal and said base plate and a movable switch contact, vertically disposed within the vertical line joining the fixed contacts, insulated from and attached to a vertically disposed portion of the pedal for vertical movement, said contact being connected with the aforesaid power supply line.

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