Jan. 7, 1930. W. CARLSON 1,742,754

DEMOUNTABLE SUPPORTING MEANS FOR SIGNAL SWITCH MECHANISM

Filed May 26, 1928 3 Sheets-Sheet 1

Fig. 1

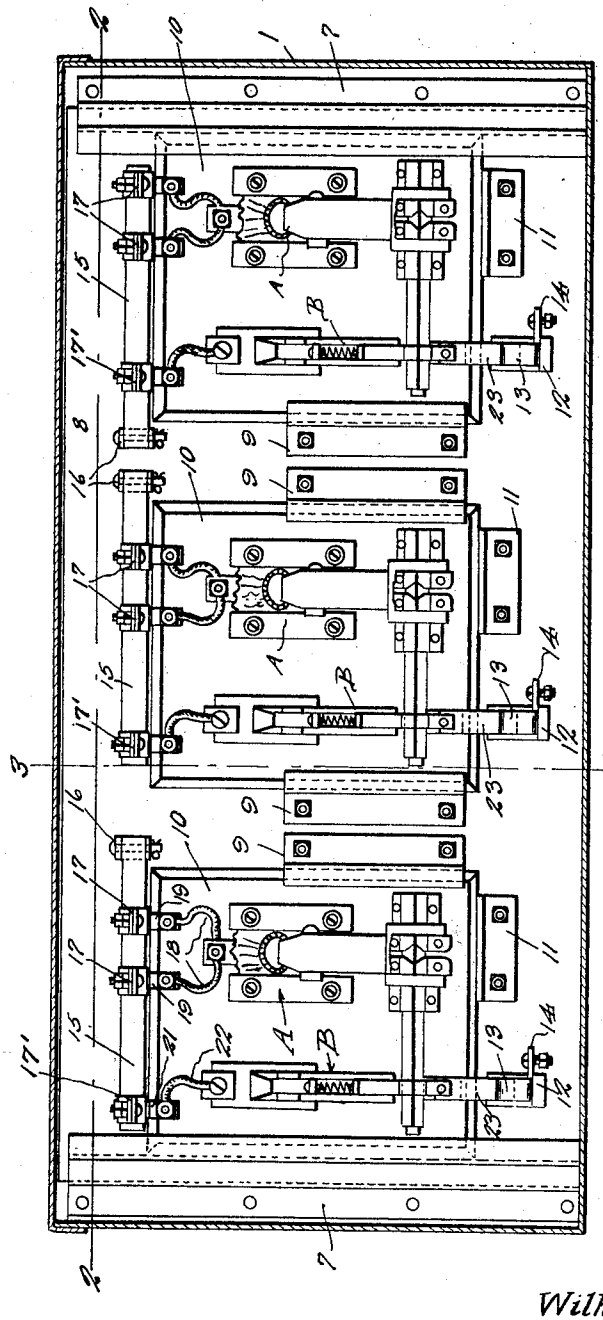
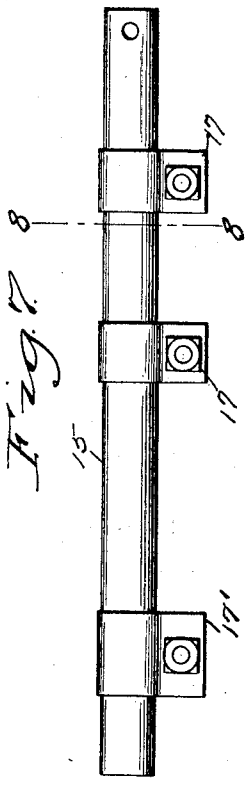


Fig. 8



Fig. 7



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DEMOUNTABLE SUPPORTING MEANS FOR SIGNAL SWITCH MECHANISM

Filed May 26, 1928 3 Sheets-Sheet 2

Fig. 1.

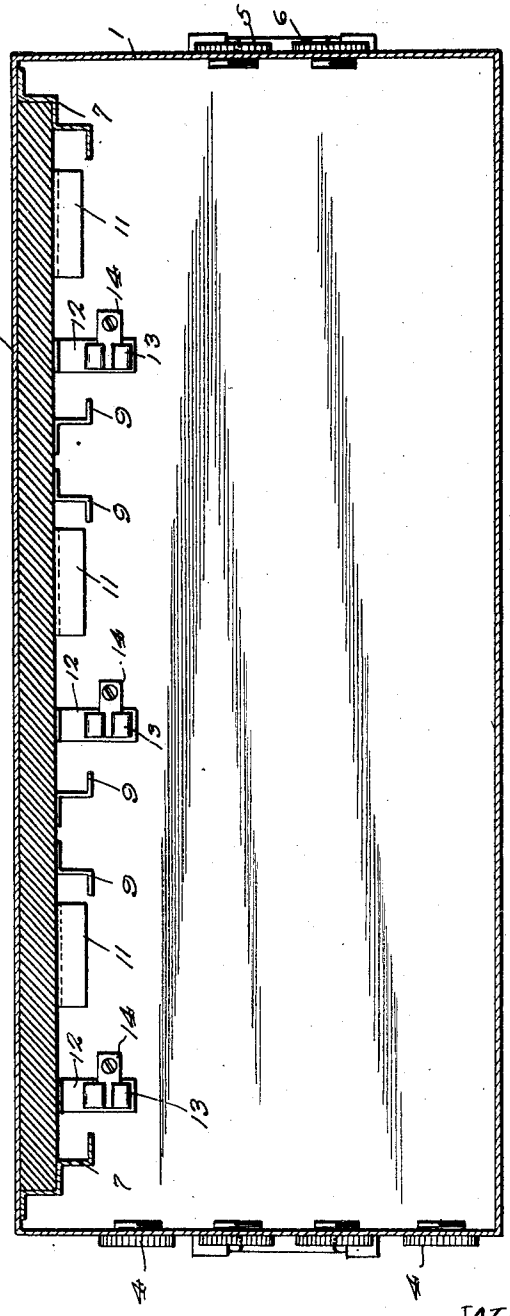


Fig. 10.

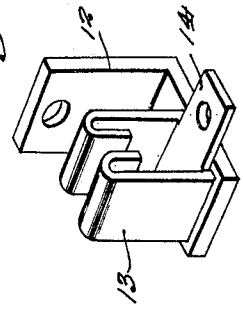
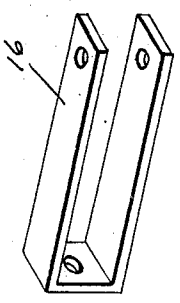


Fig. 9.



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DEMOUNTABLE SUPPORTING MEANS FOR SIGNAL SWITCH MECHANISM

Filed May 26, 1928 3 Sheets-Sheet 3

Fig. 4.

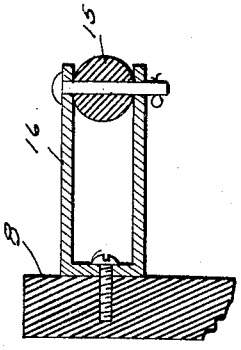


Fig. 6.

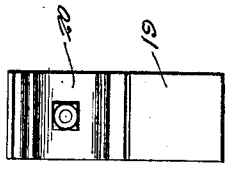


Fig. 5.

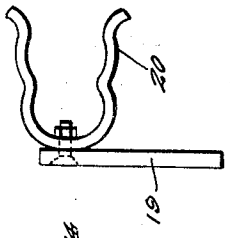
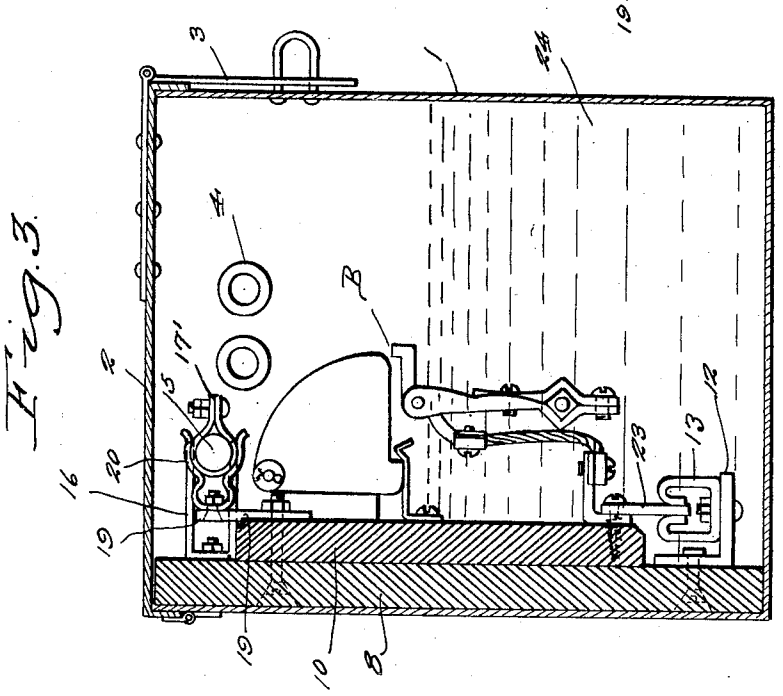


Fig. 3.



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UNITED STATES PATENT OFFICE

WILHELM CARLSON, OF SAN ANTONIO, TEXAS

DEMOUNTABLE SUPPORTING MEANS FOR SIGNAL-SWITCH MECHANISM

Application filed May 26, 1928. Serial No. 280,914.

The present invention pertains to a novel supporting means for mounting conventional switch mechanisms, and has for its prime object the provision of means in the form of panels, to which individual circuit closing means are connected, in separated units, whereby each panel unit may be demounted for repair without impairing the signals service.

The present invention relates more particularly to supporting means of the above character especially adapted in use with the switching mechanisms, for controlling the usual well-known three signal light devices, and street intersections. In these conventional mechanisms, there are employed three separate circuit controlling groups, each group being adapted for making and breaking the current to the particular signal light with which the same is associated.

At present, these control groups are arranged usually on a panel in permanently secured position, so that in order to permit repairs, adjustments, or replacements, it is necessary that the entire mechanism be made inoperative, thus breaking the control to the signal light which frequently results in serious traffic congestion.

To remedy this situation, the present invention contemplates, the provision of individual panels for the individual circuit controlling groups, aforementioned, these panels being mounted spacedly on a suitable back board within a sound-proof receptacle, preferably containing sufficient oil of proper viscosity to assist in deadening the sound of contacting parts, to reduce arcing, as well as to thoroughly lubricate the various movable parts of the mechanism.

Another object is to provide means within the receptacle for removably supporting the back board, and to provide additional means on the said back board for supporting the panels carrying the individual controlling groups.

A further object resides in the provision of other switch structures, complementary between the individual panels, and the back board whereby circuit connections to each panel may be broken temporarily, while the panel carrying the switch parts, is removed for repair, and another mounted immediately in lieu thereof.

After reading the following specification and claims, other objects and advantages of this invention, will be apparent.

In the drawings:—

Figure 1 represents a longitudinal vertical sectional view through the sound-proof receptacle, inclosing the structure comprising the present invention, and showing the individual panels, arranged on the removable back board.

Fig. 2 is a longitudinal horizontal sectional view through the receptacle, showing the back board in mounted position, but disclosing the individual panels removed therefrom.

Fig. 3 is a cross sectional view through the receptacle, taken substantially on the line 3—3 of Fig. 1, and showing the switch connections between the panels, and the back board.

Fig. 4 is a fragmentary sectional view disclosing the means for pivotally supporting the circuit controlling and panel fastening bar associated with each panel.

Fig. 5 is a side elevation of one of the spring clips carried by the panels for circuit closing relation, with the pivotal bars.

Fig. 6 is a rear elevation of the clip.

Fig. 7 is a plan view of the circuit controlling and panel fastening bar associated with each panel.

Fig. 8 is a cross sectional view of this bar and is taken substantially on the line 8—8 of Fig. 7.

Fig. 9 is a perspective view of the U-shaped bracket employed for pivotally supporting the aforementioned bar, and

Fig. 10 is a perspective view of the switch member associated with each panel, and secured to the back board for maintaining a current feed line to the mechanism on the respective panels.

Now for a more detailed description of this invention, reference is now directed to the drawings wherein like numerals designate like parts. The present invention comprises an elongated or substantially rectangular shaped receptacle 1, provided with a hinged lid 2, at its open top side, and being

provided further, with suitable means 3, whereby the cover or lid, may be locked in closed position, when the operative parts contained within the receptacle are in proper order.

Each end of the receptacle is provided with a plurality of bushings, 4, of insulating material, and thru which the various conductors to the mechanism within the receptacle, may extend. Also, suitable fuses 6, may obviously be interposed in the circuit in accordance to these needs.

Secured vertically and at each end of the back wall of the receptacle, is a guide 7, each of these guides being provided with a pair of guideways. A back board 8 is mounted for vertical movability within the receptacle by having its ends disposed within the innermost guideways of the guides 7. This backboard is adapted to rest upon its lower longitudinal edge in the manner shown in Fig. 3, and is of a width sufficient to substantially abut the lid 2 at its upper edge to prevent any vertical movement thereof.

Two spaced pairs of guide plates 9—9, are secured in vertical position on the back board, in the manner clearly shown in Fig. 1. Each of pair of guide plates are disposed with their single guideways facing in opposite direction, so that the outermost guide plates of each pair will have its guideway in opposed spaced relation to the guide 7, while the innermost guide plates will have their guideways also in spaced opposed relation.

A slide panel 10 is mounted vertically slidable between the guideways in the manner shown in Fig. 1. An angle bar 11 is secured to the back board below each panel to support the same, spacedly above the bottom of the receptacle.

As is perspectively shown in Fig. 10 of the drawing, an L-shaped member 12 is secured below each panel 10 and to the back board. Upon the horizontally disposed portion of each member 12, is a U-shaped member 13, secured at its bight portion. The bight portion of these U-shaped members are provided with a laterally disposed lug 14 to which the main feed line is connected.

A bar 15 is horizontally disposed and connected to the back board 8 above the upper end of each panel. This bar is preferably of an insulating material, while one end thereof is pivotally secured between the free ends of an U-shaped support 16, which is secured at its bight, to the back board above the space between the panels.

Each of these bars 15, is provided with a pair of clamped bands 17—17, to which the usual timing wires are connected. Each bar is further provided with an additional clamped band 17′, having connection with the usual load wire of the signal system.

Each panel is provided with a pair of plates 19—19, which project above the top edge of the panel and to which is secured a spring clip 20, adapted to contact with the bands 19 of the bar 15, to maintain a circuit to the conventional electromagnetic device A, from the timing mechanism, through the conductors 18.

An additional upstanding plate 21 is likewise provided with a similar clip for contact with the band 17′, of the bar 15, for maintaining a surface connection of the usual load wire through the conductor 22, to the conventional circuit maker and breaker B. The feed side of the circuit maker and breaker has connection to a depending conductor plate 23, which engages between the upstanding spring legs of the U-shaped stationary contact 13.

In the operation of the conventional mechanism, designated by A and B respectively, the working parts are mounted in the manner disclosed in Fig. 1, and during the operation of this type of mechanism, frequently repairs or replacements are necessary. Heretofore in order to perform the same, it was necessary to disconnect the particular lamp circuit control impaired.

By mounting the circuit controlling mechanism to each signal light, on a separate panel, and supporting this panel removably on the removable back board, of this invention, when the pivotal bar 15 is swung outwardly from the back board, so as to disconnect the clamped band from the clips carried by the back board, or panels, the panel with which the said moved bar is associated, may be lifted vertically from the receptacle.

As this panel may need repair, requiring considerable time, another panel carrying the same mechanism may be slid within the guideways, for operative disposition in lieu of the impaired panel. It will be seen that when the panel needing repair is lifted vertically, the conductor plate 23, breaks the contact with the current feed contact 13, whereas the timing connections have been primarily broken by the movement of the bar 15.

Furthermore, the receptacle is preferably filled to a level above the contact points of the conventional circuit maker and breaker B, with oil, designated by numeral 24. By this provision, the various movable parts of the mechanism will be thoroughly lubricated, thus requiring little attention, and also serving materially to lessen the noise resulting from the operation thereof.

Having thus described my invention, what I claim as new is:—

1. In demountable supporting means for multiple circuit controllers, wherein each circuit is controlled by an independent circuit making and breaking mechanism, a plurality of demountable panels each supporting an independent circuit actuating mechanism, switch means carried by the said panels for connecting the mechanisms thereon to the as-

sociated conductors, means for securing said panels against displacement, said means consisting of a base board upon which are arranged pairs of spaced guides in which the panels are slidable, and elements carried by said base board for fixing the positon of the said panels.

2. In demountable supporting means for multiple circuit controllers, wherein each circuit is controlled by an independent circuit making and breaking mechanism, a plurality of demountable panels, each supporting an independent circuit actuating mechanism, a base board upon which the panels are mounted, and switch means between said panels and the base board for connecting the independent circuit actuating mechanisms to conductors associated therewith.

3. In demountable supporting means for multiple circuit controllers, wherein each circuit is controlled by an independent circuit making and breaking mechanism, a plurality of demountable panels, each supporting an independent circuit actuating mechanism, a base board upon which the panels are mounted, and switch means between said panels and the base board for connecting the independent circuit actuating mechanisms to conductors associated therewith, said switch means including a bar of conductive material pivotally connected at one end to the base board adjacent each panel, and complementary contact means between the bars and the circuit actuating mechanism thereon.

In testimony whereof I affix my signature.

WILHELM CARLSON.