R. A. GALLY.

ELECTRIC SWITCH.

APPLICATION FILED SEPT. 7, 1917.

1,285,675. Patented Nov. 26, 1918.

Fig. 3

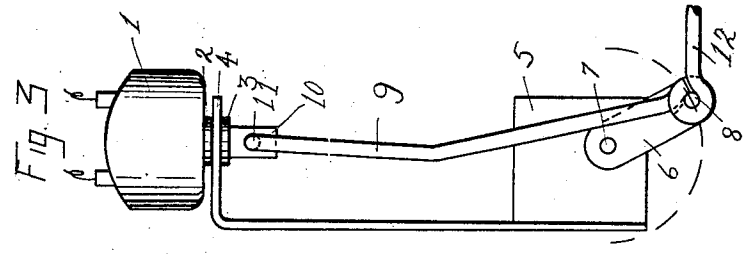


Fig. 2

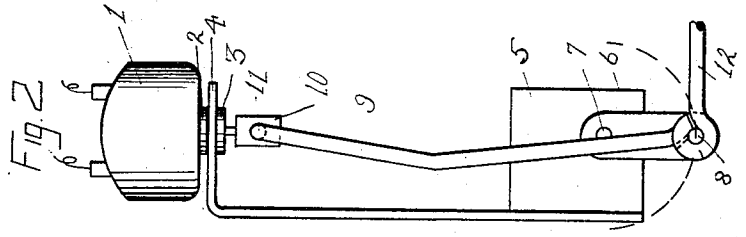
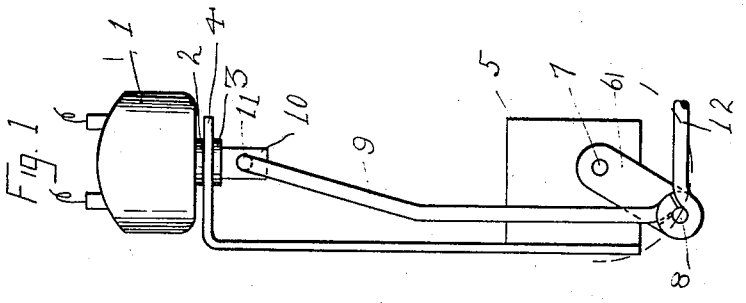


Fig. 1



WITNESSES

Stanley M. Kemp.

Kenschel E. Power.

INVENTOR

Robt. A. Gally.

UNITED STATES PATENT OFFICE.

ROBERT A. GALLY, OF CINCINNATI, OHIO, ASSIGNOR TO THE BALDWIN COMPANY, OF CINCINNATI, OHIO.

ELECTRIC SWITCH.

1,285,675. Specification of Letters Patent. Patented Nov. 26, 1918.

Application filed September 7, 1917. Serial No. 190,250.

To all whom it may concern:

Be it known that I, ROBERT A. GALLY, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

In this applicant's separate application #190,674, filed Sept. 10, 1917, is broadly claimed a three position switch control of one electric line, the intermediate position being open circuit, and the two other positions closed circuit condition of the line, and this whether the structure have the three positions by its switch breaking elements, or only two positions of such an element controlled to the three positions of a three position controller, one form of the latter type being therein shown, and particular claims made to such means, besides the broader claims above-mentioned. In the present application is shown another form of a three position controller of a two position switch.

In the drawings Figure 1 is a front view of a switch in closed circuit, and the controller at its first position; Fig. 2 is the same switch in open circuit and the controller at its second or intermediate position; and Fig. 3 is of the same switch in closed circuit and the controller at its third position.

An ordinary Cutler-Hammer push and pull switch as 1 is convenient and economical to use for the constructing of the present invention, the said switch being held in position by its usual clamp means 2, 3, to a bracket 4 of thin sheet metal, and at a lower part of this bracket 4 is provided a support 5 on which a swing lever 6 is mounted by a pivot 7 at its upper end. At the lower end of the swing lever 6 is a pivot means 8 with which the lower end of a connecting rod 9 is connected, the upper end of the rod 9 being connected to the movable member 10 of the switch 1 by any suitable pivot means as 11. The lower pivot means 8 of the swing lever 6 has a suitable connection or rod 12 adapted to impart a swinging motion to the swing lever 6, and when the swing lever 6 stands at its median position, as in Fig. 2, its two pivots 7, 8, are in a common straight line with the pivot 11 of the movable member 10 of the switch 1, and the pivot 8 is at its greatest distance from the switch 1, causing the movable member 10 to be drawn down by the connecting rod 9 pulled by the pivot 8 of the swing lever 6.

Whenever the swing lever 6 is swung to the left or right of its median position of Fig. 2, as shown in Fig. 1 and Fig. 3 respectively, the pivot 8 describes an arc of small radius from pivot 7, compared to the arc of large radius of the motion of rod 9 on its two pivots 8 and 11, the difference of these two arcs producing an upward movement of the movable member 10 of the switch 1. The resultant action of the swing lever 6 and the rod 9 on the pivots 7, 8 and 11, is that of a toggle, which could be transposed to a condition with the swing lever 6 having its pivot 7 below the pivot 8, when the two elements 6 and 9 would act as a toggle wherein these two elements would assist each other, the arc of the movement of one being added to that of the other, and in the broadest sense, the present invention is to be considered as the use of a compound lever or toggle structure enabling the control of a movable member of a switch to two positions, from a controlling member movable to three positions.

What I claim as my invention is:—

1. An electrical switch having a member movable in a certain path and adapted to close a circuit at one position in its said path of movement and to open the same circuit at another position in its said path of movement; and a controller means connected to the said movable member and including a toggle means adapted to be placed in three positions of the said toggle action, the intermediate position of the three said positions of the toggle means causing the said movable member of the said switch to be positioned at its open circuit position, and the two other positions of the said toggle means causing the said movable member to be positioned at its closed circuit position.

2. An electrical switch having a member movable in a certain path and adapted to close a circuit at one position in its said path of movement and to open the same circuit at another position in its said path of movement; and a controller means connected to the said movable member and including a compound lever device adapted to be placed in three positions of the said device, the in-

termediate position of the three said positions of the said compound lever device causing the said movable member of the said switch to be positioned at its open circuit position, and the two other positions of the said compound lever device causing the said movable member to be positioned at its closed circuit position.

ROBT. A. GALLY.

Witnesses:
CHAS. H. SISSON,
N. KEISER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."