

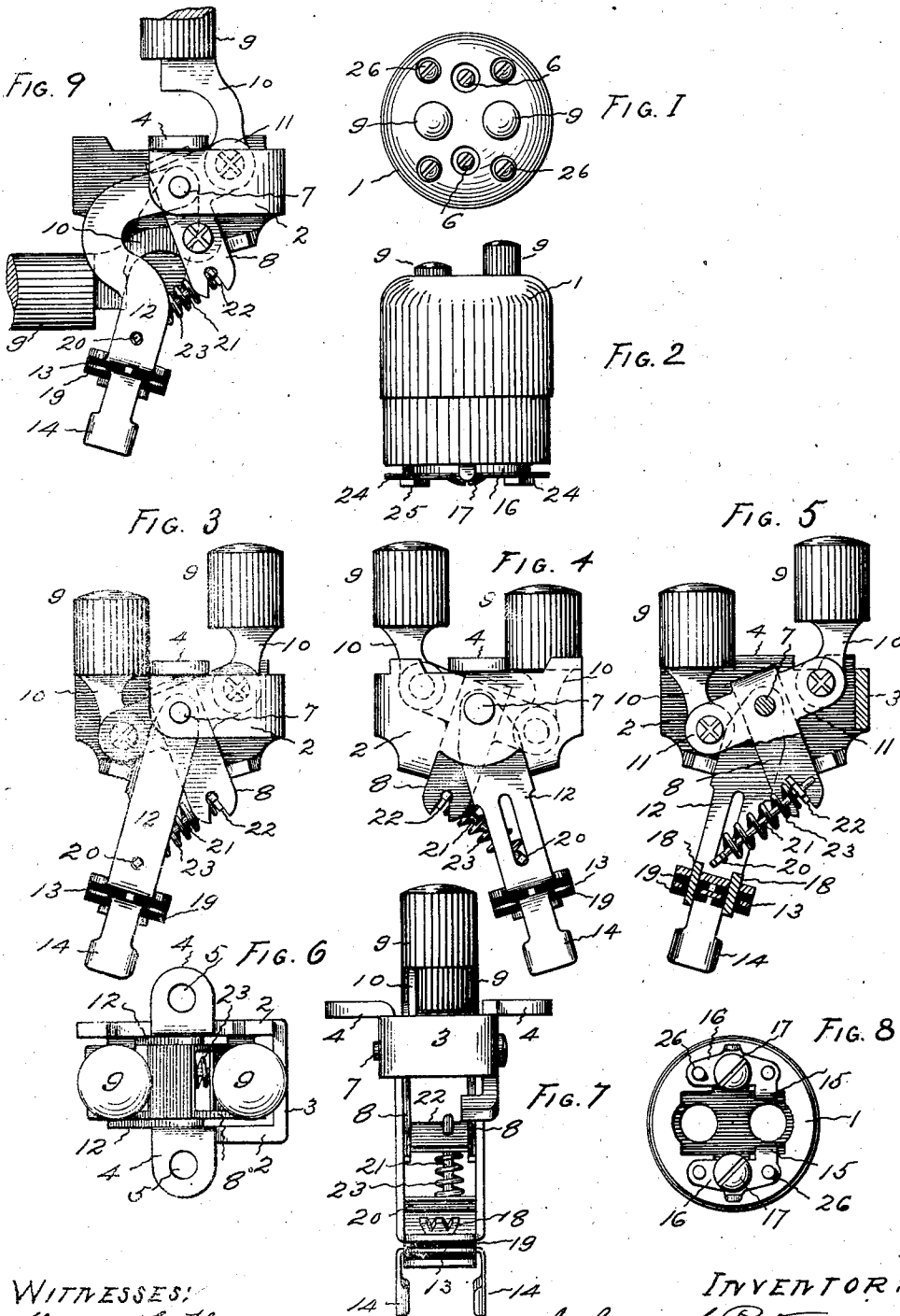
J. G. PETERSON.

PENDANT SWITCH.

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937,857.



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UNITED STATES PATENT OFFICE.

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PENDANT SWITCH.

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To all whom it may concern:

Be it known that I, JOHANN GODFREY PETERSON, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a new and useful Pendant Switch, of which the following is a specification.

This invention relates to oscillating snap push button electric switches and more particularly to that class of such switches which are known as pendant switches, that is, switches which are attached to flexible and swinging electric circuit wires for the purpose of turning on and off current for one or more electric lamps or fans that are out of reach.

The object of the invention is to provide a mechanism for such switches which will operate easily, quickly and safely for opening and closing an electric circuit; which mechanism has few parts, all of which are exceedingly cheap to manufacture and simple to assemble.

The invention is illustrated in the accompanying drawings as embodied in two forms of a pendant switch, one having two push buttons in the end and the other having one push button in the end and the other in the side.

Figure 1 of the drawings shows on natural scale an end view of the first form of pendant switch mentioned, without the exterior shell. Fig. 2 shows on like scale a side elevation of the same form of switch, with the shell omitted. Fig. 3 shows on enlarged scale, a view looking at one side of the switch mechanism of the first form of switch above mentioned. Fig. 4 shows a view on the same scale of the other side of the said switch mechanism. Fig. 5 shows a sectional view of the switch mechanism. Fig. 6 shows a plan of the switch mechanism. Fig. 7 shows an edge view. Fig. 8 shows on natural scale a view of the underside of the receptacle for this switch mechanism; and Fig. 9 shows on enlarged scale, a side elevation of the switch mechanism arranged for the second mentioned form of pendant switch, that is, the form which has one button extending through the end and the other through the side.

The cylindrical pendent receptacle 1, which is illustrated, may be made of porcelain or other suitable insulating material. This receptacle is designed to be inclosed in

a metallic shell of usual shape, which is not shown, as it forms no part of the present invention.

In both forms of switch illustrated the mechanism supporting frame is stamped from a single piece of metal with sides 2 joined by an end 3. Lugs 4 project outwardly from the upper edges of the sides of the frame. These lugs have threaded perforations 5 for receiving the screws 6 which pass through the end of the receptacle and secure the frame in the interior.

An arbor 7 is mounted in the sides of the frame, and pivotally mounted on this arbor are a pair of arms 8 to which the push buttons 9 are connected by fingers 10. In the form of switch having two buttons projecting through the end of the receptacle, the fingers are attached to two lugs 11, which project edgewise from one of the arms, as shown in Fig. 5, while in the form which has one button projecting through the side of the receptacle, the finger connected with the side button is attached directly to one of the arms, as shown in Fig. 9.

Pivoted on the arbor is a yoke 12. Attached to the outer end of the yoke is a contact plate 13 provided with the brush contacts 14 that are adapted to make and break connection with the contacts 15 projecting from the plates 16 which are secured to the end of the receptacle and are provided with screws 17 for the attachment of the circuit wires. The contact plate is insulated from the end of the yoke and the studs 18 which secure it thereto, by insulating washers 19.

Pivotally supported by the yoke near its swinging end is a bar 20 from which extends a rod 21 that passes freely through a plate 22 that is pivotally supported by the forked ends of the arms. A spiral spring 23 thrusts between the bar carried by the yoke and the plate carried by the arms.

A sheet of insulating material 24 is placed over the open end of the receptacle. This insulating sheet is preferably held in place by nuts 25 turned upon the screws 26, which are employed to hold the fixed contact plates in position.

When one of the buttons is pushed inward, the arms are rocked in such manner that they cause the spring to be compressed until the ends of the arms pass the longitudinal axis of the yoke, at which time the

tension of the spring throws the yoke and changes the position of the contact brushes. The action is exactly the same in both cases, that is, whether both of the buttons project
 5 through the end of the receptacle, or one button projects through the end of the receptacle and the other through the side.

The invention claimed is:

1. An electric switch having an insulating receptacle, a frame secured in the receptacle, an arbor supported by the frame, a pair of arms pivotally mounted parallel with each other on the arbor, push buttons that extend through the wall of the receptacle
 15 connected with and adapted to oscillate said arms, a yoke having its two arms pivoted on the said arbor, contact brushes connected with but insulated from the swinging neck of the yoke, a spiral spring having one end
 20 connected with the arms relatively near the arbor, and the other end connected with the yoke relatively distant from the arbor, whereby the movement of the arms first compresses the spring and then allows the
 25 spring to expand and throw the yoke and brushes, and contacts fixed to the receptacle and adapted to be connected by the brushes.

2. An electric switch having an insulating receptacle, a frame secured in the receptacle, an arbor supported by the frame, a pair of arms pivotally mounted parallel with each other on the arbor, push buttons that extend through the wall of the receptacle connected with and adapted to oscillate said arms, a yoke having its two arms

pivoted on the said arbor, a contact connected with but insulated from the swinging neck of the yoke, a spiral spring having one end connected with the arms relatively near the arbor, and the other end connected with
 40 the yoke relatively distant from the arbor, whereby the movement of the arms first compresses the spring and then allows the spring to expand and throw the yoke and contact and a contact fixed to the receptacle. 45

3. An electric switch having an insulating receptacle, a frame in the receptacle, an arbor supported by the frame, a rocker pivotally mounted on the arbor, push buttons connected with and adapted to oscillate the
 50 rocker arms projecting parallel with each other from the rocker, a yoke having its two arms pivoted on the said arbor, a contact connected with, but insulated from the swinging neck of the yoke, a spiral spring 55 having one end connected with the arms relatively near the arbor, and the other end connected with the yoke relatively distant from the arbor, whereby the movement of the arms first compresses the spring, and 60 then, as the spring is carried between the arms of the yoke, allows the spring to throw the yoke and contact, and a contact fixed to the receptacle and adapted to be engaged by the contact carried by the yoke.

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