

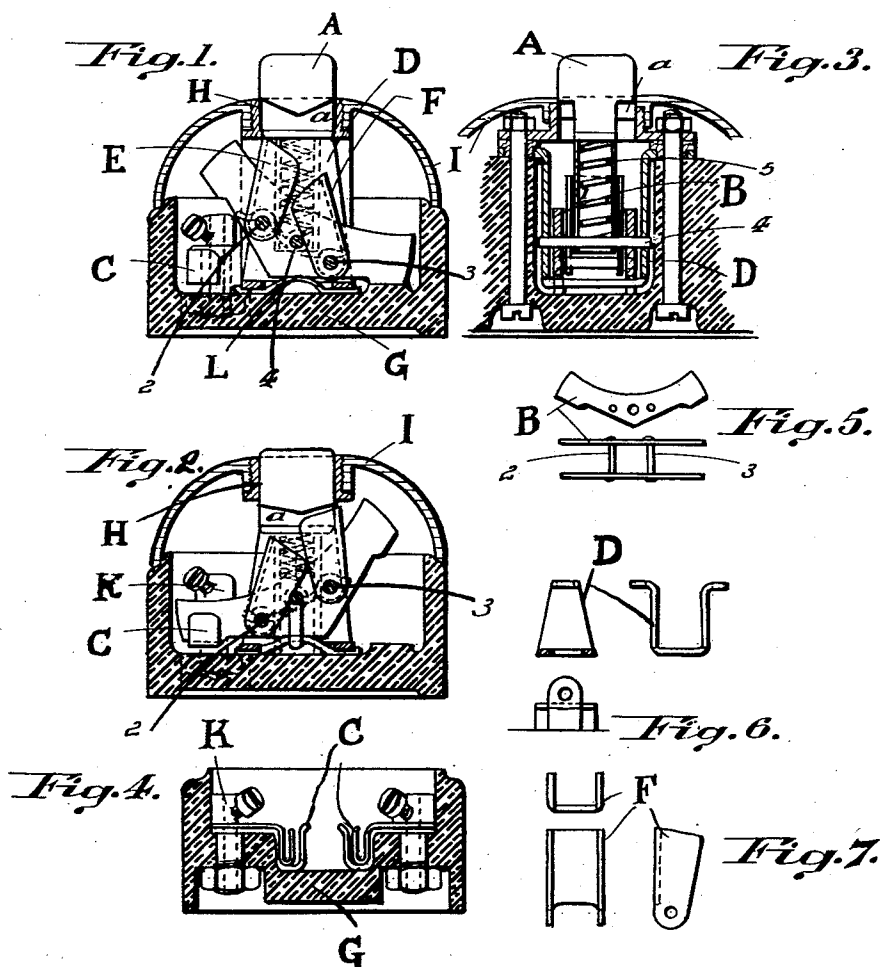
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PUSH BUTTON ELECTRIC SWITCH

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PUSH BUTTON ELECTRIC SWITCH.

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The object of my present invention is to provide an electric switch, involving the principle which consists in transforming straight or rectilinear movement into oscillatory movement.

My improved switch which is simple in construction and excellent in efficiency has all qualities which may be required from such an apparatus: it is neat in appearance, requires little room and is most practical in use.

The improved switch is characterized by a suitably shaped rocker, rocking to the right or the left; said rocker will be operated by means of tongues which are alternately pushed by a button on which pressure is produced.

The invention is illustrated by way of example only in the accompanying drawings, wherein:

Fig. 1 is a sectional view of the apparatus in its inoperative position: the button A made of insulating material is disengaged from the apparatus; the rocker B being apart from the clamps C, the circuit will be open, the electric current being supplied by means of conducting wires to said clamps.

Fig. 2 is a sectional view of the apparatus with the button A fully pushed inwardly; the rocker B being engaged into the clamps C, the circuit of the current will be closed.

Fig. 3 is a section taken on a plane at right angles to Figs. 1 and 2.

Fig. 4 shows details of the clamps C.

Fig. 5 shows the rocker B.

Fig. 6 shows the supporting bracket D.

Fig. 7 shows the tongues E and F.

Referring to Fig. 1, the tongues E and F provided with bosses as shown in Fig. 7, are pressed against the central shank 1 of the button A by means of springs arranged on the axles 2 and 3 respectively of said tongues, said axles at the same time forming braces for the rocker B (Fig. 5).

The hollow central shank 1 is crossed by the axle 4 of the rocker B; said axle extends through longitudinal openings in said shank, whereby the latter may be moved vertically.

The axle 4 secured in the supporting bracket D forms a supporting point for the spring 5 (Fig. 3) which is housed within the hollow central shank 1; said spring, which is compressed if the button A is fully pushed inwardly, will bring the latter back to its inoperative position after the use of

the apparatus. Such backward or return movement is limited by the lower ends of the longitudinal openings which will engage the underside of the axle 4. The whole formed of the button A and the central shank 1 is guided at the top by the part H through which the button A passes, and extending from its bottom part is the axle 4 which extends through said central shank. Said part H onto which the cover I is screwed, is secured on the base G made of insulating material by means of two screws which at the same time fasten the bracket D insulated from the part H by means of nonconducting or insulating washers.

The clamps C are held on the base G by terminals K into which conducting wires are inserted and clamped by means of screws (Fig. 4).

Operation: The apparatus being in its inoperative position (Fig. 1), the button A will project outwardly under the action of the spring 5: the tongue E bears against the central shank 1 just below the button A; pressure produced on the button A will cause the rocker B to rock through the agency of said tongue E; the movement of the rocker B, similar to the movement of a balance beam, causes the tongue F to be raised according as the tongue E will be lowered.

The tongue E submitted to the pressure of the button A cannot be moved apart from the central shank 1. It is not the same for the tongue F which being free at its top, will be moved apart from said shank 1 by the pressure of the bosses on tongue E against the bosses on tongue F. Such movement of tongue F will be at a maximum if the button A is about half-way, whereby said button may be further depressed without engaging the tongue F, the bosses of which will be temporarily located in the apertures *a* in the button A whilst the latter will complete its stroke.

At this moment as the pressure on the button A is fully exerted (Fig. 2) the arms of the rocker B will be engaged in the clamps C, whereby the passage of the electric current will be secured.

The spring L will hold the rocker B in this position after having accelerated the movement.

Pressure being released from the button A the latter will return to its initial position under the action of the spring 5, and the

tongue F, owing to the spring arranged on its axle 3, will be moved below the button A, whereby the apparatus will be ready for producing a reversed effect.

- 5 As the apparatus above described only uses the left hand arms of the rocker, it constitutes a single direction switch. The same may be transformed to a two direction or reciprocating switch by placing clamps similar to clamps C in front of the right hand
10 arms of the rocker B.

Having now fully described my said invention, what I claim and desire to secure by Letters Patent, is:

- 15 1. A push-button switch including a casing, a push-button operable in the casing and formed at its lower end with a slot, a shaft mounted in the casing and extending through the slot to limit the movement of
20 the push button, a switch blade pivoted on the shaft and tongues pivotally mounted on the blade on opposite sides of the shaft, said

tongues bearing against, but being free of connection with the push button, the push button being formed with shoulders to en- 25 gage the uppermost tongue on the depression of the button to thereby operate the blade.

2. A push-button switch including a casing, a push button operable therein and having a 30 reduced lower shank, a blade mounted for pivotal movement in the casing, tongues pivotally connected to the blade on opposite sides of the pivot thereof, said tongues being of U-form to impress the shank of 35 the button, and springs for holding the tongues in substantial contact with said shank, the shank formation of the button forming shoulders to engage the uppermost button and depress the same to correspond- 40 ingly operate the blade on its pivot.

In testimony whereof I have hereunto set my hand.

FELIX DECRAENE.