Nov. 2, 1948. C. F. GOMEZ 2,452,747

MULTIPLE SWITCH

Filed Oct. 20, 1947

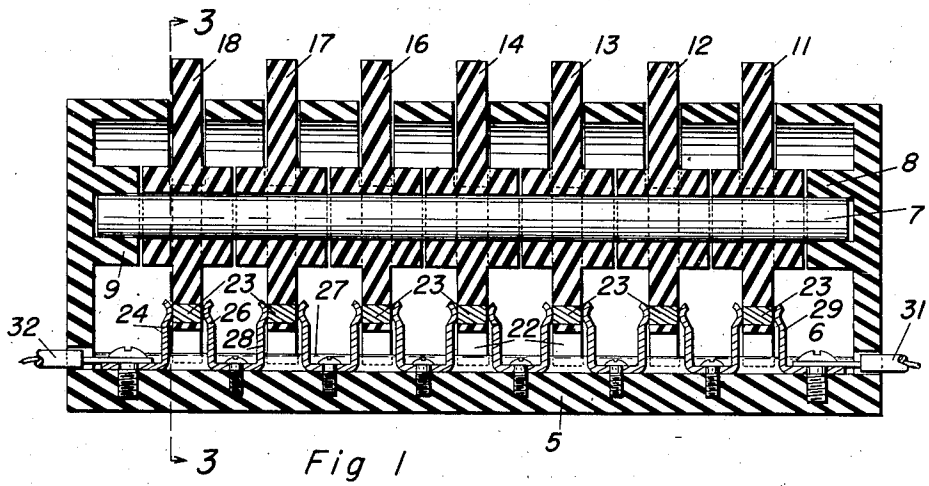


Fig 1

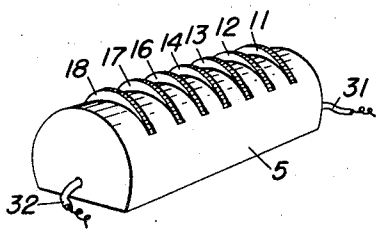


Fig 2

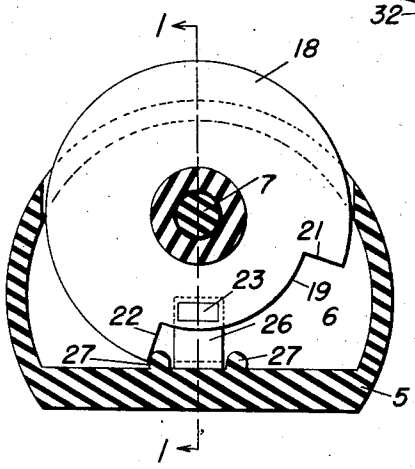


Fig 3

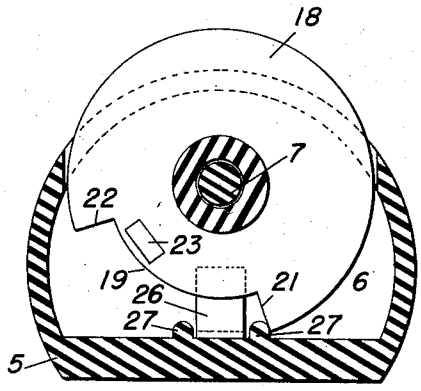


Fig 4

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MULTIPLE SWITCH

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1 Claim. (Cl. 200—43)

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This invention relates to improvements in switches and has particular reference to a multiple unit switch.

The principal object of this invention is to produce a switch wherein several switch contacts must be moved to a predetermined position before a circuit can be completed.

A further object is to produce a device which is simple in construction, economical to manufacture, and one which may be readily inserted in any electrical circuit.

A further object is to produce a switch which will comply with all of the standards relative to electrical wiring, and one wherein it is impossible for the user to receive an electrical shock.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification and in which like numerals are employed to designate like parts throughout the same;

Fig. 1 is a vertical cross-sectional view taken on the line 1—1 of Fig. 3;

Fig. 2 is a perspective view of my complete switch on a reduced scale;

Fig. 3 is a cross-sectional view taken on a line 3—3 of Fig. 1;

Fig. 4 is a similar view showing one of the contacts in off position.

The ordinary electrical switch merely consists of a pair of contacts between which an electrical circuit is completed through the insertion of a metal bridging part between the contacts. Therefore, the simple act of placing a piece of metal between the contacts or of removing the same, completes or breaks the electrical circuit. Due to the simplicity of this act, any person, authorized or unauthorized, can quickly manipulate the switch. Applicant proposes to construct a switch wherein a large number of contacts must be joined in order to complete the circuit, and by positioning the metal bridging pieces in a different manner, only a person cognizant with the correct positioning of the bridging pieces could bring them to rest in the bridging position, so that an electric circuit will be completed from one set of contacts to the next through the entire switch mechanism.

Applicant has also devised a structure wherein it is impossible to observe the position of the bridging contacts and, further, applicant has provided a mechanism wherein the electrical circuit may be established entirely through the sense of touch.

Referring to the drawings in detail, the numeral 5 designates a casing, preferably made of an insulating material, and having a chamber 6 in which is positioned a shaft 7, which is mounted in bosses 8 and 9. This shaft 7 serves to support a plurality of disks 11, 12, 13, 14, 16, 17, and 18, which are also made of an insulating material and each having a segment cut out of its periphery, so as to form notches 19 which terminate in shoulders 21 and 22.

Extending through each of the disks is a metallic bridging piece 23. This bridging piece may be positioned anywhere in the disks in a radial alignment and between the shoulders 21 and 22 so as to engage contacts 24 and 26 mounted on the bottom of the casing 5 and between parallel stops 27.

The contact 26 is formed integral with the contact engaging the next adjacent disk, as, for instance, the contact 28 engaging the disk 17.

The final contact 29 is connected to one side of the line 31 while the contact 24 is connected to the opposite side of the line.

The result of this construction is that, when this switch is inserted in a circuit, the user may simply move any one or all of the disks by rubbing his hand over the top thereof, which will rotate the disks a sufficient amount to move some of the bridging pieces out of engagement with their respective contacts.

Assuming, now, that it is desired to establish a circuit, the user must know the particular disks that must be moved toward the right or the left, as the case may be, as, for instance, assuming that the disk 18 has its bridging piece 23 mounted adjacent the shoulder 22. Then this disk must be rotated in a counter-clockwise direction. Assuming that the disk 17 has its bridging piece 23 adjacent the shoulder 21. Then this disk must be turned in a clockwise direction, in order for the bridging piece to be positioned between its two contacts. Thus, by arranging the bridging pieces adjacent the different shoulders, a combination may be set up which will be very difficult for a person to find by merely rotating the various parts, due to the large possible combination which exists. Also, it is obvious that the fact that, as the disks stop at certain points when the shoulders engage parallel stops 37 that a person can equally well operate the switch through feel, as in the dark.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted

to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

A multiple switch, including a casing, a shaft positioned in said casing, a plurality of spaced contacts mounted in said casing and in parallel alignment with said shaft, parallel stops formed in said casing and on opposite sides of said aligned contacts, a plurality of disks mounted on said shaft, each of said disks having a bridging piece formed therein, and capable of being moved through the rotation of said disks into and out of engagement with adjacent contacts, each of said disks having a shoulder formed thereon for abutment against said stops.

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REFERENCES CITED

The following references are of record in the file of this patent:

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