

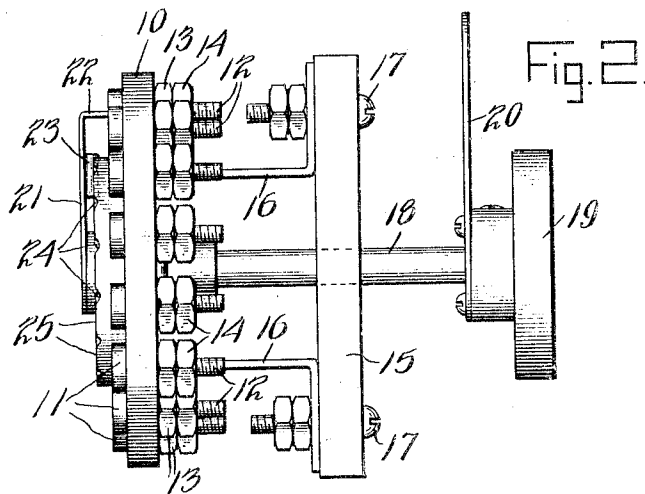
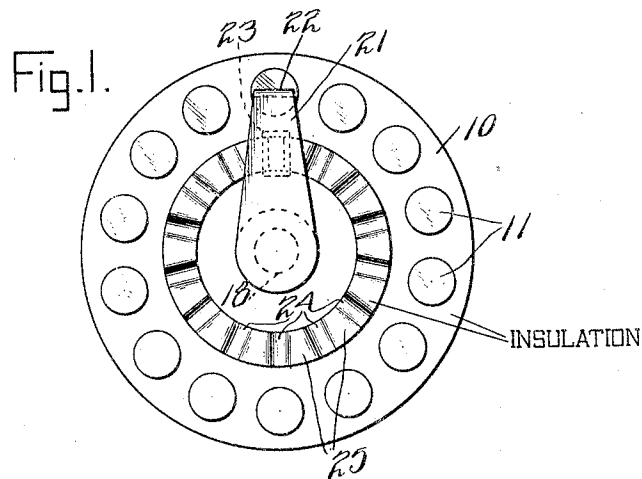
April 26, 1927.

1,626,463

J. F. HARRINGTON

SWITCH

Filed Dec. 31, 1923



Inventor

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UNITED STATES PATENT OFFICE.

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SWITCH.

Application filed December 31, 1923. Serial No. 633,757.

My invention relates to an electric switch designed particularly for use in radio sets but adapted also for use in switches of numerous types. It is an object of my invention to provide a device of this character in which the contact point will be held securely in engagement with little or no wear due to adjustment of the switch.

A further object of the invention is to provide a switch in which the contacts will be held resiliently in engagement and in which the spring tension will not be diminished with use.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts,

Figure 1 is an end elevation of my device.

Figure 2, a side elevation.

In the drawings reference character 10 indicates a disk in which are supported a plurality of contacts 11 having stems 12 with threaded ends carrying nuts 13 and lock nuts 14, means being provided for attachment of a connector to each contact in any conventional or desirable manner. A plate or bar 15 is spaced from the disk 10 and secured thereto in ordinary manner by a bracket having arms fastened at their ends to the plate 15 by bolts 17.

A shaft 18 passes through the parts 15 and 10 and carries at one end a button or hand-wheel 19 with a pointer 20 attached thereto. At the other end the shaft has secured thereto a contact in the form of a leaf spring 21 bent down at its end as shown at 22 for edge contact with any one of the contacts 11. Conductors are connected to each of the contacts 11 and to the contact 21 in any conventional or desirable manner. At the under side the contact 21 has a longitudinal rib 23 bearing on an annular flange secured to the under face of the plate 10 or formed integral therewith. The plate has notches 24 at intervals said notches being separated by elevated parts 25.

Mounted on the shaft 18 adjacent the inner side of the disk 10 is a concavo-convex spring plate 26 preferably of circular form and provided with radial notches to permit the same to be more easily flexed. Said spring plate is confined between a collar 27 held by a set screw 28 on the shaft 18 and the body 10. I preferably provide a bearing washer of copper or the like material between the collar and the spring plate.

By this construction the collar 27 may be adjusted longitudinally of the shaft 18 to vary the tension on the contact arm 21 and to permit said arm to ride over the surfaces 25 without flexing or by flexing only a very small amount thus insuring a wear resisting device.

In the use of the device it will be evident that any rotation of the contact 18 will cause the rib 23 to travel over the flange whereupon the high parts of the flange will lift the end 22 of the contact 21 away from the contacts 11. The high places are so arranged as to fall between contacts 11 to lift the end 22 while the low places are arranged opposite the respective contacts 11 to permit the end 22 to engage therewith. In this way I prevent frictional engagement of the blade-like end 22 with the disks 11 during the rotary movement and thus do away with the major portion of the wear on said parts, which ordinarily causes grooves to be formed in the contacts 11. The spring contact 21 is also not liable to become weak as is commonly the case with the helical springs ordinarily in use. Both the weakening of the spring and the wearing of contacts 11 cause poor connections and inefficient operation.

It will be obvious to those skilled in the art that various changes may be made in my device without departing from the spirit of the invention and therefore I do not limit myself to the specific device shown in the drawings and described in the specification but only as indicated in the appended claims.

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

1. A switch comprising a disk of insulating material having an integrally formed annular extension at one side said extension being provided with a corrugated end surface, contacts located around the periphery of said disk outwardly of said corrugated extension, a shaft extending through said disk concentrically of said extension, an arm on said shaft extending across said extension and having its outer end intumed for engagement with said contacts, said arm having its under portion directly engaging the corrugations on the extension to cause the arm to ride up or down as the intumed end portion passes from one contact to another, substantially as set forth.

2. A switch comprising a disk of insulat-

ing material having a concentric extension
 formed integrally on its underside the ex-
 tremity of said extension being provided
 with a corrugated surface, contacts spaced
 5 around said disk adjacent the periphery
 thereof and outwardly of said extension
 said contacts being located opposite the de-
 pressions between the corrugations, a shaft
 extending through said disk concentrically
 10 of said extension, a sleeve fixed on said shaft
 on the side of the disk opposite said con-
 centric extension for limiting the endwise
 movement of the shaft, an arm on the end
 15 of the shaft extending across said extension
 and having its outer end inturned for en-
 gagement with said contacts said arm hav-
 ing a rib on its underside directly engaging
 the corrugations of the extension whereby
 the arm is caused to ride upwardly away
 from one contact against the action of said
 sleeve and downwardly onto the next con-
 tact and a pointer on the opposite end of
 said shaft from said arm, substantially as
 set forth.

In witness whereof, I have hereunto set
 my hand at Memphis, Tennessee this 22 day
 of December, A. D. nineteen hundred and
 twenty-three.

JESSE F. HARRINGTON.