Aug. 31, 1926. 1,598.008

P. D. PHILLIPS

SWITCH CONSTRUCTION

Filed June 5, 1924

Fig. 1

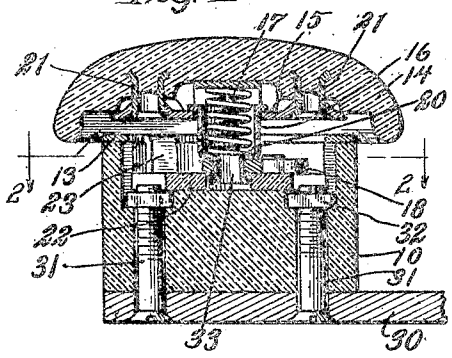


Fig. 4

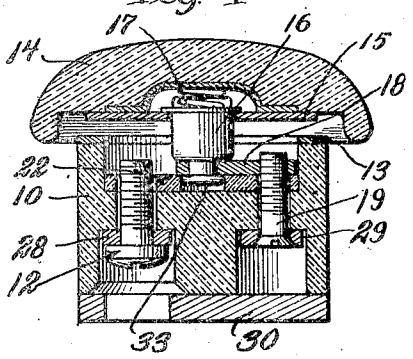


Fig. 2

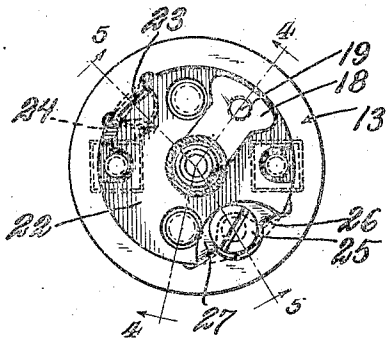


Fig. 5

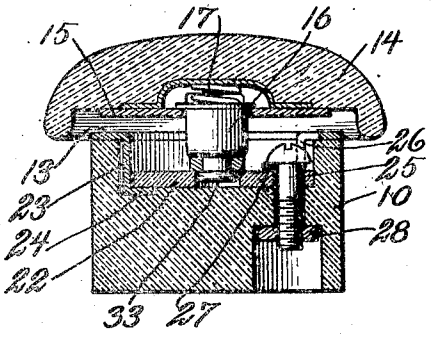


Fig. 3

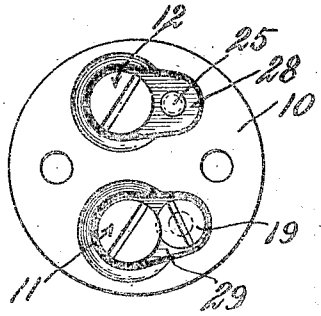
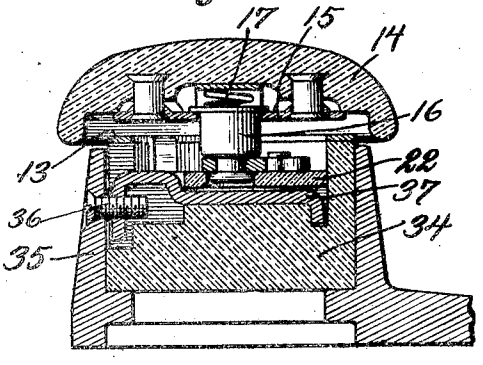


Fig. 6



Inventor:
Paul D. Phillips
By: Jones, Addington, Arnot & Siebold
Attys

Patented Aug. 31, 1926. 1,598,008

UNITED STATES PATENT OFFICE.

PAUL D. PHILLIPS, OF ELMHURST, ILLINOIS, ASSIGNOR TO BENJAMIN ELECTRIC MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SWITCH CONSTRUCTION.

Application filed June 5, 1924. Serial No. 718,031.

My invention relates to switch construction and more particularly to a tipping button switch construction of the type used for controlling automobile horns.

One of the objects of my invention is to provide an improved switch construction of this type which will be simple, durable, cheap and efficient.

Further objects will appear from the description and claims.

In the drawings, in which two embodiments of my invention are shown—

Figure 1 is an axial section;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a bottom view of the switch base;

Fig. 4 is a section on the line 4—4 of Fig. 2;

Fig. 5 is a section on the line 5—5 of Fig. 2; and

Fig. 6 is an axial section showing another form of switch mounting.

Referring first to Figures 1 to 5, inclusive, the construction shown therein comprises an insulating base 10, a pair of wiring terminals 11 and 12 mounted on said base, an annular switch contact 13 mounted on said base, an insulating tipping button 14, a switch contact plate 15 mounted on said tipping button and cooperating with the annular contact 13, and means for yieldingly supporting said tipping button on said insulating base and electrically connecting said binding terminals with said switch contacts, respectively.

The tipping button is supported in its tipping movement by a hollow post or eyelet 16 and a coil compression spring 17 mounted in said hollow post and pressing upwardly on the tipping button, tending to hold the contact plate 15 in engagement with the outwardly extending annular flange on the hollow post. The hollow post is riveted to a metal stamping 18, which stamping is secured on the insulating base by means of the screw 19. The lower end of the post is reduced as indicated at 20 where it extends through the stamping and this reduction forms a shoulder on which the lower end of the spring 17 is seated. The contact plate 15 is held in place on the tipping button by a pair of eyelet members 21 imbedded in the insulating button and riveted over the contact plate.

For holding the annular contact member 13 on the insulating base 10 and insulating and positioning the metal stamping 18 and the post 16, an insulating washer 22 of fiber or other suitable material is provided which is clamped underneath the metal stamping 18 and which in turn clamps the annular contact member 13 on the insulating base. This clamping of the annular contact member is effected by means of the downwardly and inwardly extending lug 23 formed integral with the annular contact member, the foot portion of which lug lies underneath the insulating washer as indicated at 24. For electrically connecting the annular contact member 13 with the wiring terminal 12 and aiding in holding the contact member in place, a screw 25 is provided which engages a loop or strap portion 26 extending downwardly and inwardly from the annular contact member, the foot portion 27 of which strap lies underneath the head of the screw. This screw 25 is threaded into the binding plate 28 of the wiring terminal 12. For electrically connecting the binding plate 29 of the wiring terminal 11 with the stamping 18 and for securing the binding plate and stamping on the insulating base 10 the screw 19 is provided which extends through the binding plate 29, insulating base 10, and fiber washer 22 and is threaded into the stamping, as shown in Figs. 3 and 4.

For holding the insulating base 10 in place on the support 30 (which may be the spark lever of the automobile) a pair of screws 31 are provided which extend through the support 30 and insulating base 10 and are provided with nuts 32 at their upper ends.

The circuit is from the binding plate 29 through the screw 19, stamping 18, hollow post 16, contact plate 15, annular contact 13, loop 26, and screw 25 to the binding plate 28.

The insulating washer 22 serves to position and center the metal stamping 18 and tubular post 16, an aperture being provided in the insulated washer for this purpose, which receives the lower end of the hollow post or eyelet as indicated at 33 in Figs. 1, 4 and 5.

The construction shown in Fig. 6 is substantially the same as that just described, except that here the insulating base 34 is seated in a cup-like housing portion 35 formed integral with the spark lever and

is held in place in this cup-like housing by means of a screw 36 extending through the side of the housing and threaded into a metal stamping 37 which is clamped underneath the insulating washer 22 and thereby held on the insulating base 34.

In operation, to sound the horn, the button 14 may be pressed at any point, causing some part of the contact plate 15 to engage the annular contact 13 to close the circuit.

While I have shown but two forms of my invention, it is obvious that it may be embodied in other forms covered and defined by the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. A tipping button switch construction comprising a base, a hollow central post on said base, an insulating button tiltably mounted on said post, a contact carried by said button, and a coil compression spring mounted in said hollow post for holding said button in operative tilting relation with respect to said post.

2. A tipping button switch construction comprising a base, a conductor plate mounted on said base, a central tubular metal post extending through and riveted to said plate, an insulating button tiltably mounted on said post, a contact carried by said button, a coil compression spring mounted in said hollow post for holding said button in operative tilting relation with respect to said post, said contact being electrically connected with said conductor plate through said post.

3. A tipping button switch construction comprising a base, a conductor plate mounted on said base, a central tubular metal post extending through and riveted to said plate, an insulating button tiltably mounted on said post, a coil compression spring mounted in said hollow post for holding said button in operative tilting relation with respect to said post, said contact being electrically connected with said conductor plate through said post, said tubular post having an internal annular shoulder affording a seat for the end of said coil spring.

4. A tipping button switch construction comprising an insulating base, an annular contact member thereon, a conductor plate, a metal post mounted on said plate, a tiltable button mounted on said post, a conductor carried by said button cooperating with said annular contact and electrically connected with said plate through said post, and means for securing said annular contact on said base and positioning said plate comprising an insulating washer held in place on said base by said plate, said annular contact member having a member extending underneath said insulating washer.

5. A tipping button switch construction comprising an insulating base, an annular contact mounted on said base, a conductor plate mounted on said base, a post mounted on said plate, a tiltable button mounted on said post, a contact carried by said button cooperating with said annular contact, and means for holding said annular contact on said base and centering said post comprising an insulating washer held in place by said plate.

In witness whereof, I have hereunto subscribed my name.

PAUL D. PHILLIPS.