

Nov. 13, 1945.

F. P. UPTON
HANDLE BAR SWITCH
Filed Jan. 20, 1944

2,389,013

FIG. 1

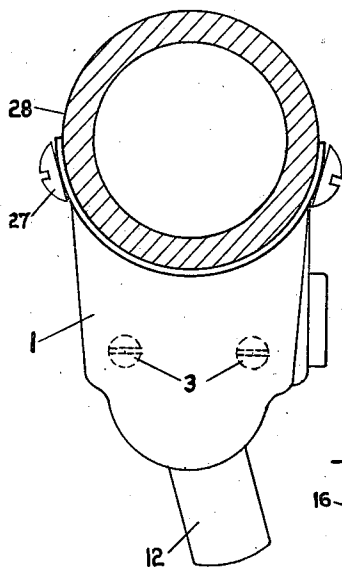


FIG. 2

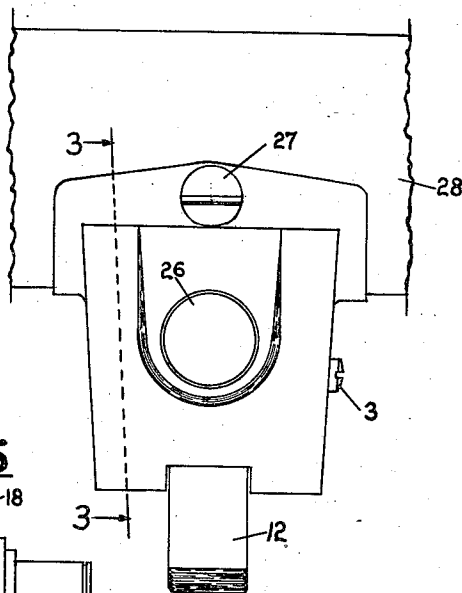


FIG. 5

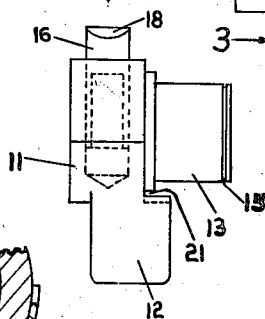


FIG. 3

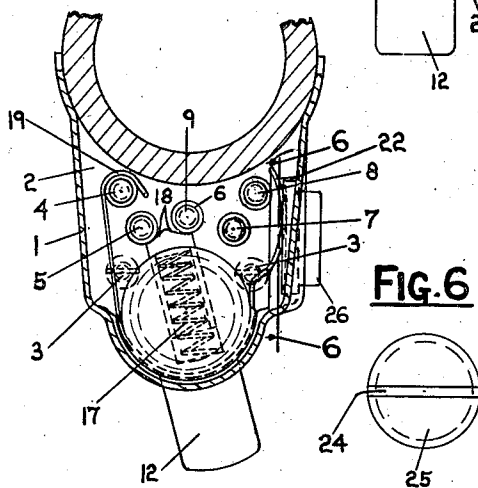
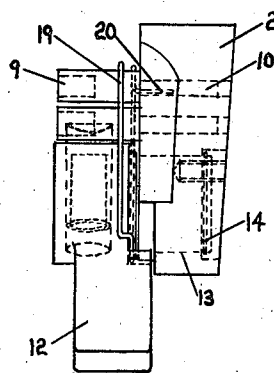


FIG. 6

FIG. 4



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2,389,013

HANDLE-BAR SWITCH

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Application January 20, 1944, Serial No. 518,936

5 Claims. (Cl. 200—157)

This invention relates to a switch which is especially adapted for use on motorcycles for controlling the high and low beams of the headlight and for blowing the horn.

Since these particular circuits are operated more or less frequently, the switch for controlling them should be rugged in its construction and positive in its action. At the same time, it should be small and compact so as to take up as little room as possible when mounted, and it must be within easy reach of the motorcycle operator, the handle bar being the most convenient place for mounting.

It is therefore the principal object of my invention to provide a switch having the characteristics and advantages heretofore set forth.

Other objects will be apparent to one familiar with devices of this character from a reading of the specification taken in connection with the annexed drawing, wherein:

Figure 1 is a rear end view of the switch shown in elevation mounted on a support member such as the handle bar of a motorcycle as shown in section.

Figure 2 is a side elevation of the switch looking from right to left of Figure 1.

Figure 3 is a section through the switch about on the line 3—3 of Figure 2.

Figure 4 is a side elevation of the insulator carrying the switch contacts as well as the switch lever, the spring for the switch plunger being omitted.

Figure 5 is a side elevation of the movable switch member without the spring which actuates the plunger.

Figure 6 is a view of the inner surface of the push button or horn switch on the line 6—6 of Figure 3.

All of the views are substantially twice the size of the actual switch.

In the various views, wherein like numbers refer to corresponding parts, 1 is a suitable casing preferably of metal, within which is mounted an insulator 2 by means of two screws 3. Carried by the insulator 2, are a plurality of contact studs 4, 5, 6, 7 and 8. While these studs are given separate designation numbers for a purpose which will later appear, they are all alike and each is provided with a recess 9 to receive the end of a conductor which is inserted into the recess and then soldered therein.

As shown in Figure 4, the parts 10 of the studs 4 to 8 inclusive are of reduced diameter and may be threaded for screwing into the insulator 2, or they may be molded therein in such a manner as

to prevent their coming loose or turning in the insulator. Also carried by the insulator 2 is a switch member 11 having a handle portion 12 which projects outwardly from the casing 1. The member 11 has a projection 13 which extends into a hole in the insulator 2 and is held in position therein by a snap ring 14 which is positioned in a groove 15 in the projection 13.

The switch member 11 has a recess carrying a metal contact plunger 16. The plunger 16 is hollow to receive a compression spring 17 which is positioned in the member 11 and acts to continually urge the plunger 16 outwardly into engagement with either a pair of the terminal studs 5 and 6 or 6 and 7. The end of the plunger is beveled at 18 to give a smooth action to the plunger as well as to make satisfactory contacts with the studs 5, 6 and 7. The stud 4 is engaged by a spring 19 having an end 20 bent to enter a hole in the insulator 2. The spring 19 passes downwardly and around the switch member 11 in the space 21 provided for it, and its free end 22 extends upwardly as shown in Figure 3 and rests in a slot 24 on the inner face 25 of a push button 26.

Assuming that one side of a supply circuit, such as a battery, is connected to the stud 4, then when the push button 26 is moved inwardly, the end 22 of the spring 19 is brought into engagement with the stud 8 that is connected to the horn, the other side of the horn being connected to the opposite terminal of the battery, thereby completing the horn circuit. Similarly, the stud 6 is connected to one side of the source of current, while the contact studs 5 and 7 are connected one to the high beam and the other to the low beam of the headlight, so that when the main battery switch is thrown to "on" position, one or the other of the beams is always in circuit, depending on the position of the switch handle 12.

It may be noted, in passing, that the casing 1 is provided with holes to receive screws 27 for fastening the switch to the handle bar 28.

What I claim is:

1. A handle-bar switch including a casing adapted to fit on and be fastened to a motorcycle handle-bar, an insulator mounted within the casing and supporting a switch member having a handle projecting through the casing, a spring-pressed plunger carried by said switch member, a plurality of contact pins carried by the insulator and extending rearwardly therefrom in spaced relationship, the center pin always being in engagement with the end of said plunger which will complete a circuit with either one of

the pins on either side of said center pin, a pair of pins spaced one on each side of the three pins just mentioned, means for electrically connecting the last two-mentioned pins, said means including a push-button carried by the casing and adapted to move a conductor into contact with one of said two pins, the said conductor being permanently connected to the other of said two pins.

2. A switch including a casing, an insulator carried within the casing, a plurality of pins having hollow portions extending from the insulator to receive conductors, a movable member positioned by the insulator and having a handle projecting through the casing, a spring-operated plunger carried by the movable member, the free end of the plunger being in continuous contact with one of said pins and adapted to connect it with a pin next adjacent and on opposite sides thereof, a push button carried by said casing, and means actuated by the push button for connecting other of said pins into a signal circuit.

3. A switch structure especially adapted for use on a motorcycle having electrical circuits thereon including a casing for attachment to the cycle handle bar, an insulator carried within the casing, a movable member positioned in the insulator and having a handle extending through the casing, a spring-pressed plunger carried by said movable member, contact pins carried by the insulator, three of which are adapted to be engaged by the plunger as described to control certain of said electrical circuits, a push button of insulating material carried by the casing, a con-

ducting spring member fastened to a contact pin and extending into engagement with the inner face of the push button and adapted to be moved into contact with another of said pins for completing an electrical circuit.

4. A switch structure including a casing, an insulator within the casing, a movable member also within the casing and having a handle extending through the casing, a spring-pressed plunger carried by said movable member, a plurality of pins extending from the insulator with means for attaching electrical conductors thereto, the free end of said plunger permanently engaging one of said pins and an adjacent one, depending on the position of said handle, a push button carried by the casing, and a spring contact member engaged by the button to complete a circuit in a pair of said pins to a signal device.

5. A handle-bar switch including a casing adapted to fit on and be fastened directly to a motorcycle handle-bar, an insulator mounted within the casing and having a hole therein, a switch member having a projection going into said hole and means for fastening it therein, said switch member also having a handle extending at right angles to said projection through the casing, the switch member also having a recess therein and a spring-pressed plunger carried by said switch member in said recess, three contact pins carried by said insulator in relatively close arcuately spaced relation and adapted to be engaged alternately in pairs by the end of said plunger for the purpose described.

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