W. W. DEAN.

SWITCH.

APPLICATION FILED MAY 11, 1914.

1,269,400. Patented June 11, 1918.

Fig. 1.

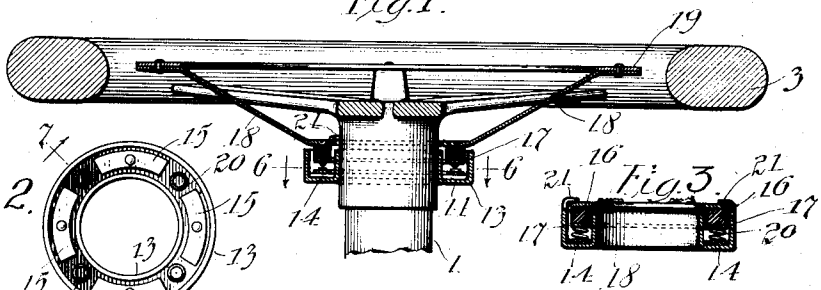


Fig. 2.

Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM W. DEAN, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO BENJAMIN ELECTRIC MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SWITCH.

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To all whom it may concern:

Be it known that I, WILLIAM W. DEAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Switches, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to improvements in switches and is particularly designed for use in connection with the steering mechanism of automobiles for controlling the circuit through an electric alarm or signal. One of the objects of my invention is to provide a switch-operating mechanism by which the switch may be manipulated irrespective of the position of the hands of the driver on the steering wheel.

For the purpose of disclosing my invention I have illustrated in the accompanying drawings certain embodiments thereof. In said drawings—

Figure 1 is a sectional view of a steering wheel showing one embodiment of my invention;

Fig. 2 is a view taken on the line 6—6 of Fig. 1;

Fig. 3 is a sectional view taken on the line 7—7 of Fig. 2.

In the embodiment of the invention illustrated I provide a casing 13 which is adapted to surround the steering post 1 and forms an annular channel in the bottom of which is arranged suitable insulating material 14 having mounted thereon a plurality of segmental contacts 15 connected by suitable conductors. Operating within the casing 14 and forming a cover therefor is a ring 16 of insulating material, carrying on its under face contacts 17 adapted to coöperate with the contacts 15 for closing the circuit. This ring is secured to the spiders 18 of a secondary ring 19, which ring lies in close proximity to the rim 3 of the steering wheel. The contacts 17 are held separated from the contacts 15 by suitable coiled spring 20 which are interposed between the ring 16 and the bottom of the casing 14. The outside of the casing is provided with an extension having an inturned flange 21 which fits over the top of the ring 16. By this arrangement—it being, of course, understood that the contacts 17 and the contact segments 15 are connected to separate sides of the circuit—when the ring 19 is depressed upon one side the opposite side of the ring 16 will be prevented from rising, due to the flange 21, and the ring 16 on the side where the ring is depressed will be correspondingly depressed and the circuit closed. The flange 21 thus forms a fulcrum, and the fulcrum point of the switch member 16, of course, varies in accordance with the point of depression of the ring 19. Likewise if the ring 19 is depressed simultaneously on opposite sides, instead of being tilted the ring 16 will be rectilinearly depressed.

It will be seen from the above structure that I provide an annular operating member for the switch contacts, which member is adapted to be struck at any point by the hand of the operator and cause the circuit to be closed by the switch contacts, thereby insuring the operation of the warning signal and being operable without removing the hands from the steering wheel or without changing the position of the hands on the steering wheel. It is immaterial, it will be noted, in what position the hands are on the steering wheel, so far as the operation of the switch is concerned, as the annular operating member can be struck from any point on the steering wheel.

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

1. A circuit closer for use with a steering wheel and its post, comprising an annular casing to surround said post and having a flange, circuit-closing contacts within said casing and a tiltable operating ring for said contacts to be carried in proximity to the wheel and having a member engaging beneath the flange on the casing.

2. A circuit closer for use with a steering wheel and its post, comprising an annular casing to be carried on said post and having a cover-retaining member, contacts in said casing, a cover for said casing held in position by said member, and an annular operating member to be carried in proximity to the wheel and connected to said cover.

3. A circuit closer for use with a steering wheel and its post, comprising an annular casing surrounding the post, circuit closing contacts within said casing and a supple-

mental rim in proximity to the rim of the steering wheel, having a tilting and rectilinear movement for operating said contacts.

4. A circuit closer for use with a steering wheel and its post, comprising an annular casing member surrounding said post, circuit closing contacts within said casing, an annular tiltable operating member for said contacts, one of said members having a flange engaging a portion of the other member for preventing separation thereof, and a supplemental rim in proximity to the steering wheel rim for moving said contact operating member.

5. A circuit closer for use with a steering wheel and its post, comprising a movable member surrounding said post, and having an annular catch, a stationary member surrounding said post and having an annular catch thereon, said catches being in engagement throughout their peripheries, and said movable member being tiltable with respect to the stationary member about any point of its periphery, spring means between the movable and stationary member permitting the movement thereof, a switch operated when the movable member is tilted, and a ring in proximity to the rim of the steering wheel for operating said movable member.

6. A circuit closer for use with a steering wheel and its post, comprising a casing surrounding said post, coöperating switch contacts, and a tiltable annular contact operating member in proximity to the steering wheel having a shiftable fulcrum point on said casing, said point being always diametrically opposite the point of pressure applied to said member for operating said contacts.

7. A circuit closer for use with a steering wheel and its post, comprising a casing surrounding said post, coöperating switch contacts above said casing, a movable closure member for said casing surrounding said post and peripherally connected to said casing and having a shiftable fulcrum point thereon and a ring in proximity to the rim of the steering wheel for moving said closure member to operate the switch.

8. A circuit-closer for use with a steering wheel, comprising, in combination, an annular member, switch contacts inclosed in said member, and means for operating said contacts by pressure applied to said member and exerted by the hands of the driver while grasping the wheel for steering purposes.

9. A circuit-closer for use with a steering wheel, comprising, in combination, switch contacts and a casing therefor, and operating means for said switch contacts located in proximity to the rim of the steering wheel and operable by the hands of the driver while grasping the rim of the wheel at substantially any point for steering purposes.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

WILLIAM W. DEAN.

Witnesses:
E. R. King,
W. Perry Hahn.