March 8, 1927. 1,620,456

J. M. GALLUS ET AL

TRAFFIC SIGNAL SWITCH

Filed Nov. 20, 1922

Fig. 1.

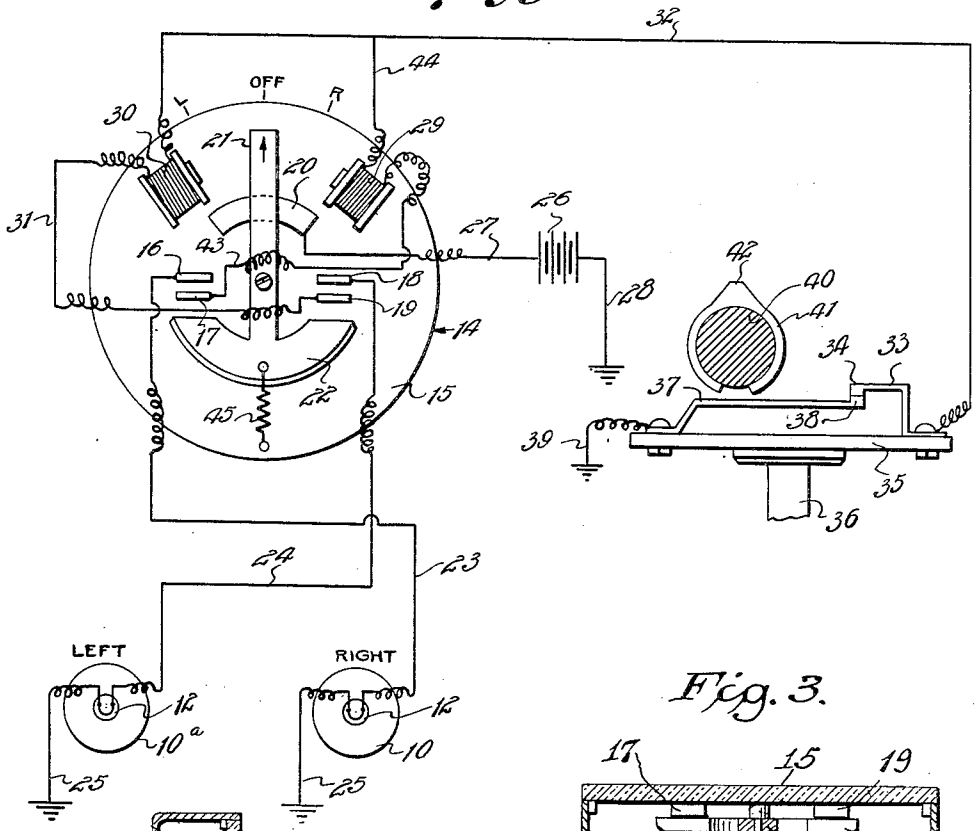


Fig. 3.

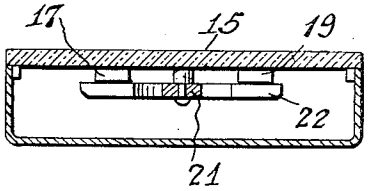
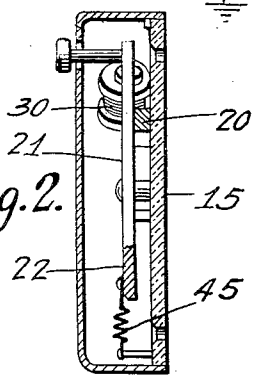


Fig. 2.



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UNITED STATES PATENT OFFICE.

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TRAFFIC-SIGNAL SWITCH.

Application filed November 20, 1922. Serial No. 602,131.

This invention relates to vehicle signals and has for an object the provision of a switch for a signal, whereby proposed changes in the direction of travel of a vehicle may be indicated.

To this end, the invention aims to provide a signal which may be set thereby in advance of a proposed change in the direction of travel to indicate such change and will remain in indicating position until the change is made, whereupon the switch will cause the signal to automatically return to its normal inactive position.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claim.

In the drawings:—

Figure 1 is a diagrammatic view of the switch and associated circuit connections.

Figure 2 is a vertical, sectional view of the switch.

Fig. 3 is a horizontal, sectional view of the switch.

Referring in detail to the drawings, wherein like characters of reference denote corresponding parts, the reference characters 10 and 10ª indicate signal casings, one of which is preferably mounted upon each side of a vehicle at the rear thereof and for this purpose the casing may be provided with a bracket of any suitable construction. The casings have positioned therein lamps 12 and are provided with the usual lenses, the lenses may be provided with suitable indicating indicia, such as "right turn" for the right hand lens and "left turn" for the left hand lens.

The lamps 12 are connected in circuit with a switch 14, which is mounted within suitable reach of the driver of the vehicle, the said switch including a base 15, upon which is mounted spaced stationary contacts 16, 17, 18 and 19 and an arcuate-shaped contact 20. The contacts are adapted to be engaged by a pivotally mounted switch arm 21 in the nature of a pendulum having at one end a transversely arranged curved portion 22. The arm 21 travels over and engages the contact 20, while the arm 22 is adapted to bridge the space between either the contacts 16 and 17, or the contacts 18 and 19. The contact 16 is connected to the lamp of the signal 10 by means of a conductor 23, while the contact 18 is connected to the lamp signal 10ª by a conductor 24, the said lamps being grounded as indicated at 25. The contact 20 is connected to one side of a battery or other source or current 26 by means of a conductor 27, while the battery is grounded as indicated at 28.

The switch is designed to be manually operated in advance of a proposed change in the direction of travel and in order to indicate a right turn, the switch arm 21 is moved to the right to the point indicated at R. The curved member 22 will then engage the contact 16 and current will flow from one side of the battery 26 through the conductor 27, the contact 20, the arm 21, the curved member 22, the contact 16, the conductor 23, the lamp 12 of the right signal 10 and through the grounds 25 and 28 back to the battery. The lamp signal 10 will thus be illuminated.

The invention further aims to provide means whereby this illumination will be continued and the lamp automatically extinguished when the turn is made and for this purpose there is mounted upon the base 15 of the switch, magnets 29 and 30. One terminal of the last mentioned magnet is connected to the contact 19 by a conductor 31, while the other terminal has connected thereto a conductor 32. This conductor connects with an arm 33 which carries a contact 34. The arm 33 is mounted upon an insulating base 35 which may be provided with a suitable support 36, while also mounted upon the base 35 is a spring arm 37 having a contact 38 which is adapted to engage the contact 34. The spring arm 37 is grounded as shown at 39.

The spring arm 37 is located immediately adjacent the steering post 40 of an automobile and secured upon this post is a split ring 41 which carries a projection 42, the parts being so arranged in proportion that the spring arm 37 will be in the path of movement of the projection 42 when the steering post is rotated and will move the spring arm to disengage the contacts 34 and 38.

When the switch arm 21 has been moved to the right at the position R, as above stated, the curved member 22 in addition to engaging the contact 16, will also engage the contact 17, so that current will also flow from this contact through a conductor 43, which connects to one terminal of the magnet 29, the other terminal of said magnet

being connected to the conductor 32 by a conductor 44. The magnet 29 will thus be energized, current flowing from the magnet through the conductor 44, the projection 42, the arm 33, the contacts 34 and 38, the grounds 39 and 28 to the battery 26. The arm 21 which functions as an armature will be attracted by the magnet 29 so that the switch will remain in this position until the steering post is rotated in making the turn, whereupon the projection 42 will engage the spring arm 39 to separate the contacts 34 and 38 and interrupt the circuit. The magnet 29 will then be de-energized and the switch arm 21 returned to its normal position under the action of a spring 45.

In making a left hand turn, the switch arm 21 is moved to the position L, whereupon the curved member 22 will engage the contacts 18 and 19 and current will flow from the battery 26 through these contacts, flowing from the contact 18 through the conductor 24, the lamp of the left hand signal 10^a, the grounds 25 and 28 back to the battery. It will also flow from the contact 19, through the conductor 31, the conductor 32, the arm 33, contacts 34 and 38, arm 37 and grounds 39 and 28 to the battery. The magnet 30 will thus be energized and the arm 21 held to the L position until the circuit is interrupted by rotation of the steering post in the manner previously described.

The invention is susceptible of various changes in its form, proportions and minor details of construction and the right is herein reserved to make such changes as properly fall within the scope of the appended claim.

Having described the invention what is claimed is:—

A switch of the character described comprising a dielectric base, a substantially pendulum switch arm of magnetic material pivotally secured midway its ends and centrally on said base, said switch arm being formed with a curved portion at one end, a coil spring having its respective ends secured to the base and the curved portion to hold said switch arm in a normal inactive position, an arcuate shaped contact member secured to said base and adapted to be engaged by said arm, the opposite ends of said curved portion providing contacts, spaced pairs of contact members arranged in the path of the opposite ends of the curved portion and in a manner whereby the ends of the curved portion engage each contact of one pair simultaneously, electromagnets arranged in the path of the end of said arm opposite the curved portion thereof, and means extending laterally from the last mentioned end of said arm for arranging the latter in contact with either pair of contacts and either electromagnet whereby the latter will hold said arm therewith.

In testimony whereof we affix our signatures.

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