Oct. 6, 1931. L. E. OBEE 1,825,917

CIRCUIT CLOSER FOR AUTOMOBILE REAR LIGHTS

Filed Nov. 4, 1929

Fig. 1

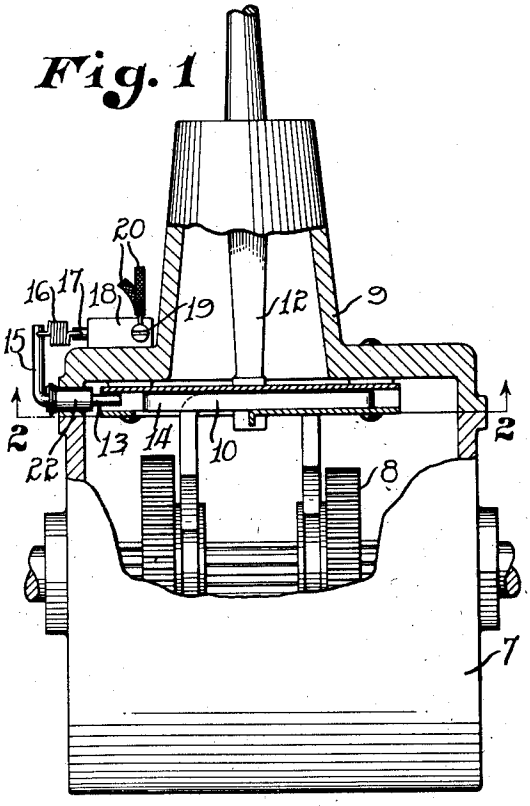


Fig. 2

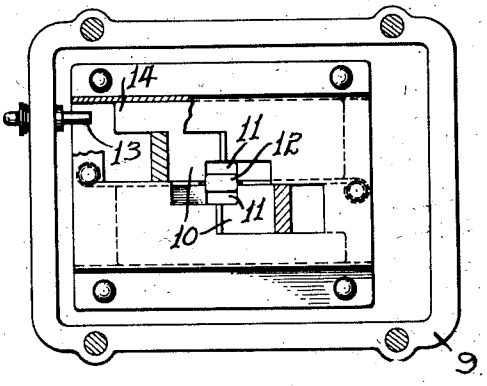


Fig. 3

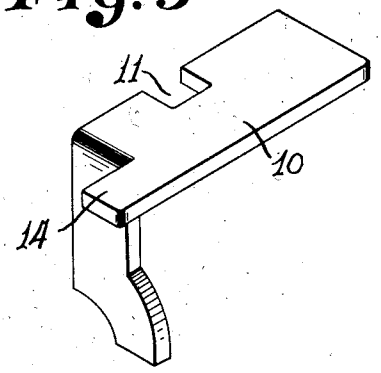


Fig. 4

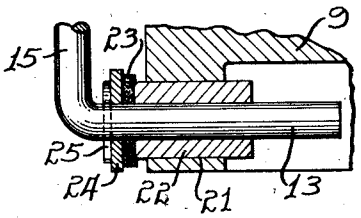
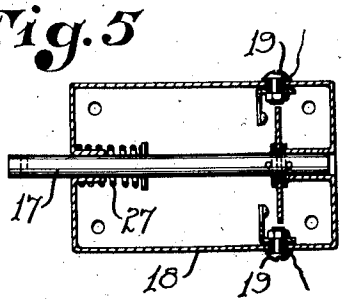


Fig. 5



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UNITED STATES PATENT OFFICE

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CIRCUIT CLOSER FOR AUTOMOBILE REAR LIGHTS

Application filed November 4, 1929. Serial No. 404,579.

This invention relates to a light adapted to be used at the rear end of automobiles, and particularly to means for automatically closing the circuit to said light, whenever the gears are shifted to reverse position, in order to illuminate the roadway to the rear or to provide a warning signal to drivers in the rear.

The object of the invention is to provide a device of the character stated, which is adapted to be mounted on a gear shift housing of the usual type in such position that the gear shifting slide, as it is moved to reverse gear position, will directly engage and actuate means for closing a circuit through the light. Thus an efficient and reliable automatic mechanism is provided for closing the circuit whenever the gears are to position for backing.

The preferred embodiment of the invention will be more particularly explained in connection with the accompanying drawings, in which

Figure 1 is a sectional view of a gear shift housing with the invention operatively associated therewith.

Figure 2 is a sectional view taken substantially on the line 2—2 of Figure 1.

Figure 3 is a perspective view of the gear shift slide which actuates the circuit closer.

Figure 4 is a detail sectional view showing the connection of the invention with the gear shift housing.

Figure 5 is a detail view of the switch element.

The invention is shown in connection with a gear housing 7 containing the transmission gears 8 and having a cover 9 which constitutes the shifter housing. The gears are shifted through the medium of slides 10, each having a notch 11 selectively engageable by a gear shift lever 12.

In carrying out my invention a spindle 13 is slidably mounted in the gear shift housing with its inner end in advance of the front end 14 of the shifter slide, which actuates the reverse gear and in alinement therewith. The front or outer end 15 of the spindle 13 is turned upwardly and is connected by a coil spring 16 with the stem of a switch 17. This switch is contained in a box 18 having terminals 19 to which are connected conductor wires 20. One of these wires may be connected through the ignition switch to the battery and the other connected to a light at the rear end of the automobile for lighting up the roadway at the rear or providing a rear warning signal when the gears are thrown into position for backing. As illustrated in Figure 5, the switch 17 is adapted to bridge the terminals 19 but is normally held open by a spring 27. The specific construction of this switch, however, is immaterial to the present invention.

In order to mount the spindle 13 in the gear shift housing, a hole 21 is provided in the latter for receiving a bushing 22, in which the spindle 13 is mounted for longitudinal sliding movement. The spindle 13 is surrounded by packing 23 at the outer end of the bushing. A washer 24 is mounted on the spindle in front of the packing and is held against the packing whenever the spindle is moved rearwardly, by a cotter pin 25 or other suitable means carried by the spindle.

In the operation of my invention, the switch 17 is held normally open by the spring 27 except when the gears are shifted to reverse position. The spindle 13 is normally held in its innermost position by the spring 16, with the packing 23 held against the bushing 22 by the washer 24 so as to prevent any escape of oil from the gear housing. As the slide 10 in the rear of the spindle 13 is shifted to reverse gear position, the spindle 13 is engaged by the front end 14 of the slide and advanced, while the spring 16 overcomes the resistance of the spring 27 and closes the switch 17, thereby closing the circuit through the light.

From the foregoing description it will be seen that my invention may be readily applied to any type of gear shift housing. The switch 17 will always be closed when the gears are in reverse position, but if the circuit is taken through the ignition switch, it will not be complete unless the ignition switch is closed. Various other types of switches of course may be used instead of the switch 17

without affecting the operation of the invention. Various other modifications may also be made without departing from the scope of the invention as claimed.

What I claim is:

1. The combination with a gear shift slide and a housing therefor, of a light controlling switch mounted on the upper face of the housing, spring means normally operable to open the switch, and a longitudinally slidable member extending through the housing in position to be advanced by the slide as the latter is shifted to operative position, said slidable member having an upturned end connected to the switch to close the latter when said member is advanced.

2. The combination with a gear shift slide and a housing therefor, of a light controlling switch mounted on the upper face of the housing, spring means normally operable to open the switch, a longitudinally slidable member extending through the housing in position to be advanced by the slide as the latter is advanced, said slidable member having an upturned end, and spring means connecting said upturned end to the switch and operable to close the latter in opposition to the first mentioned spring means when said slidable member is advanced.

In testimony whereof I have hereunto signed my name to this specification.

LEON E. OBEE.