

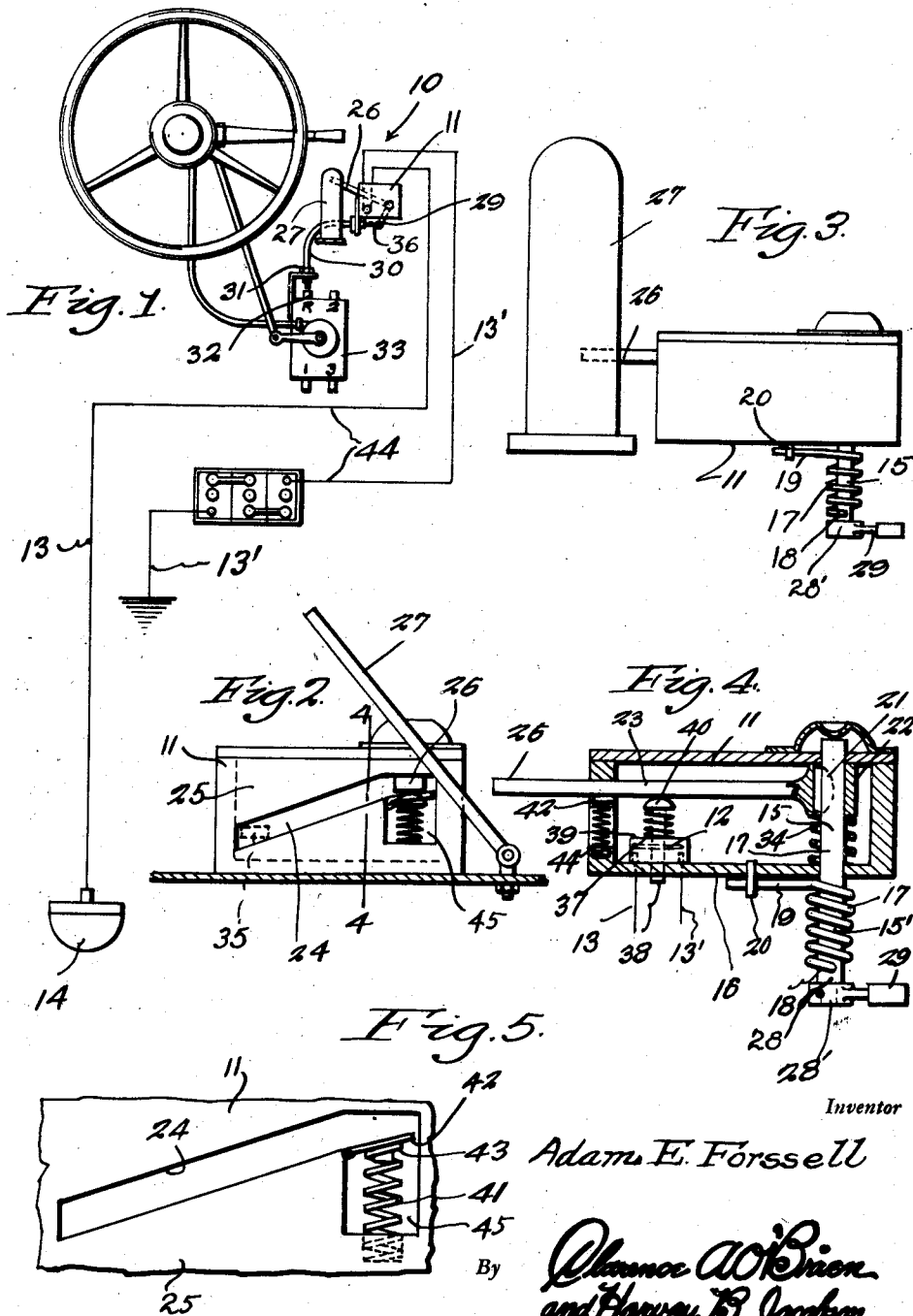
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AUTOMATIC BACK-UP LIGHT

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AUTOMATIC BACKUP LIGHT

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The invention as described herein, and illustrated in the accompanying drawings, consists of an accessory for vehicles, an object of which is to provide an automatic backup light by means of which a driver may see at night where he is backing.

Another object of the invention is to provide a backup light which will automatically cut off when the vehicle to which it is attached ceases backing.

A further object of this invention is to provide a light circuit, a lamp in the circuit and a switch box and means having connection with a gear shift mechanism whereby the switch is actuated and also having connection with an accelerator pedal whereby the switch will again be actuated to automatically open the circuit.

Other features and advantages will be more readily apparent from the following description and the accompanying illustrative drawings in which:

Figure 1 is a diagrammatic view illustrating the invention,

Figure 2 is an elevational view of a switch box,

Figure 3 is another elevational view thereof,

Figure 4 is a sectional view taken on line 4-4 of Figure 2, and

Figure 5 is a detail of a control device.

While one embodiment of my invention is illustrated in the above referred to drawings, it is to be understood that they are merely for the purpose of illustration and that various changes in construction may be resorted to in the course of manufacture in order that the invention may be utilized to the best advantage according to circumstances which may arise, without in any way departing from the spirit and intention of my device, which is to be limited only in accordance with the appended claims. And while I have stated the primary field of utility of my invention it remains obvious that it may be employed in any other capacity wherein it may be found applicable.

In the accompanying drawings, and in the following specification, the same reference characters are used to designate the same parts and elements throughout and in which 10 refers to the invention in its entirety and 11 indicates a casing within which is a switch box 12 to make or break a circuit of wiring 13 and 13' which leads to a back-up lamp 14 mounted upon the rear of a motor vehicle, boat or the like.

Pivotaly mounted in the case 11 is a vertically disposed shaft 15 the lower end 15', of which projects through the bottom wall 16 of the box.

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Coiled upon said end 15' is a spring 17, the lower terminal 18 of which is fixed to the shaft and its upper end 19 extends back of a pin 20 fixed to the wall 16 whereby the shaft is held in a normal position.

Keyed upon the upper end 21 of shaft 15 but vertically slidable thereon is the bearing end 22 of a switch control lever 23 which is of a length to project through an inclined slot 24 in the side wall 25 of the case 11. The terminal 26 of said lever is adapted to be moved under the accelerator pedal 27 under certain conditions which will presently be stated.

On the lower extremity 28 of shaft 15 and below the spring end 18 is fixed the end 28' of a crank 29, to which is attached a steel wire 36 enclosed in a flexible tube 30, the other end of which wire is fixed to the end 31 of a reverse gear shaft 32 projecting from a gear shift box 33. A spring 34 is coiled on the shaft 15 within the case 11 and seats under the member 22 in order to hold the lever 23 in a raised position except when forced down against the tension of the spring when shifted down the incline 24 as indicated in dotted lines at 35, where it is normally held through changing the gear shaft 32 to throw the reverse gear into neutral whereby the wire 36 will be drawn to rotate shaft 15 and move lever 23 down said incline to said position 35, whereupon the spring 37 mounted upon the switch pin 38 between the top wall 39 of box 12 and the head 40 of the pin will move the switch to its normally open position.

In operation when the reverse gear is thrown in, the wire 31 moves crank 29 rearwardly to rotate shaft 15, and bring lever 23 up the incline 24 and causes the same to slide just above head 40 of switch pin 38. A spring 41 aligning with pin 38 and the lever 23 when in its uppermost position bears upon a hinged plate 42 seating upon its upper end 43, is of sufficient tension to hold lever 23 just out of contact with the head 40 but the least pressure upon pedal 27 to start the car to back will press the lever down upon the pin 38, whereby the switch will close the circuit 44 to light lamp 14. The incline 24 at its upper end joins a vertical slot 45 into which lever 23 moves upon being pressed down. Upon releasing pressure from the accelerator pedal the lever 23 will be released to be raised by tension of spring 34, then when the reverse gear is changed into neutral the crank 29 will be again pulled forward rotating shaft 15 in reverse and causing lever 23 to slide down to its normal position until again actuated.

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From the foregoing it will be seen that I have provided a back-up lamp which will be automatically lighted when wanted and automatically shut off as soon as the car is stopped or started forward as the control switch for the lighting circuit is not manually actuated and therefore the light can not be accidentally left on.

It is thought that persons skilled in the art to which the invention relates will be able to obtain a clear understanding of the invention after considering the description in connection with the drawings. Therefore, a more lengthy description is regarded as unnecessary.

Changes in shape, size and rearrangement of details and parts such as come within the purview of the invention claimed may be resorted to, in actual practice, if desired.

Having now described the invention that which I claim as new and desire to procure by Letters Patent is:

1. The described device comprising an electric circuit, a lamp therein, a switch in the circuit and automatic means for throwing the switch to close and to open the circuit, said means including a reverse gear shaft, a vertically rotatable shaft and a flexible steel wire connecting the two shafts, a crank on the vertical shaft forming said connection, a slide lever actuated by the last shaft, a casing for the switch and a lever a wall of which is provided with an inclined slot through which the lever operates, the terminal of the lever being movable under an accelerator pedal and adapted to be moved down thereby, said switch having a vertical switch arm adapted to be actuated by the lever, and means whereby the lever may be held just out of operative engagement with the switch arm when in its operative position relative to the switch.

2. The described device comprising an electric circuit, a lamp therein, a switch in the circuit and automatic means for throwing the switch to close and to open the circuit, said means including a reverse gear shaft, a vertically rotatable shaft and a flexible steel wire connecting the two shafts, a crank on the vertical shaft forming said connection, a slide lever actuated by the last shaft, a casing for the switch and a lever a wall of which is provided with an inclined slot through which the lever operates, the terminal of the lever being movable under an accelerator pedal and adapted to be moved down thereby, said switch having a vertical switch arm adapted to be actuated by the lever.

3. A device of the character described comprising a backing light for vehicles and means for operating the same simultaneously with the backing movement of said vehicle, said operating means including a reverse gear shaft, an accelerator pedal and a switch receiving and control casing, a switch in said casing, a rotatable shaft in said casing, a laterally extending switch actuating arm on said rotatable shaft normally disposed to one side of said switch, and means connected between said reverse gear shaft and said switch actuating arm for automatically moving said arm to overlie said switch when said reverse gear shaft is moved to reverse position, whereby actuation of said accelerator will depress said switch actuating arm to engage and close said switch to energize said backing light.

4. A device of the character described comprising a backing light for vehicles and means for operating the same simultaneously with the backing movement of said vehicle, said operating means including a reverse gear shaft, an accel-

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erator pedal and a switch receiving and control casing, a switch in said casing, a rotatable shaft in said casing, a laterally extending switch actuating arm on said rotatable shaft normally disposed to one side of said switch, means connected between said reverse gear shaft and said switch actuating arm for automatically moving said arm to overlie said switch when said reverse gear shaft is moved to reverse position, whereby actuation of said accelerator will depress said switch actuating arm to engage and close said switch to energize said backing light, and means for disaligning said switch actuating arm when said reverse gear shaft is moved out of reverse gear position.

5. A device of the character described comprising a backing light for vehicles and means for operating the same simultaneously with the backing movement of said vehicle, said operating means including a reverse gear shaft, an accelerator pedal and a switch receiving and control casing, a switch in said casing, a laterally extending switch actuating arm on said rotatable shaft normally disposed to one side of said switch, means connected between said reverse gear shaft and said switch actuating arm for automatically moving said arm to overlie said switch when said reverse gear shaft is moved to reverse position, whereby actuation of said accelerator will depress said switch actuating arm to engage and close said switch to energize said backing light, and resilient means for disaligning said switch actuating arm when said reverse gear shaft is moved out of reverse gear position.

6. A device of the character described comprising a backing light for vehicles and means for operating the same simultaneously with the backing movement of said vehicle, said operating means including a reverse gear shaft, an accelerator pedal and a switch receiving and control casing, a switch in said casing, a rotatable shaft in said casing, a laterally extending switch actuating arm on said rotatable shaft normally disposed to one side of said switch, means connected between said reverse gear shaft and said switch actuating arm for automatically moving said arm to overlie said switch when said reverse gear shaft is moved to reverse position, whereby actuation of said accelerator will depress said switch actuating arm to engage and close said switch to energize said backing light, and guide means for said switch actuating arm for guiding the same to disaligned position when said reverse gear shaft is moved out of reverse gear position.

7. A device of the character described comprising a backing light for vehicles and means for operating the same simultaneously with the backward movement of said vehicle, said operating means including a reverse gear shaft, an accelerator pedal and a switch receiving and control casing, a switch in said casing, a rotatable shaft in said casing, a laterally extending switch actuating arm on said rotatable shaft normally disposed to one side of said switch, means connected between said reverse gear shaft and said switch actuating arm for resiliently and automatically moving said arm to overlie said switch when said reverse gear shaft is moved to reverse position, whereby actuation of said accelerator will depress said switch actuating arm to engage and close said switch to energize said backing light, guide means for said switch actuating arm for guiding the same to disaligned position when said reverse gear shaft is moved out of reverse gear position, and resilient means for supporting said switch actuating arm

in spaced relation above said switch when in aligned position therewith.

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