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HEADLIGHT BEAM SELECTOR SWITCH

Filed Nov. 4, 1957

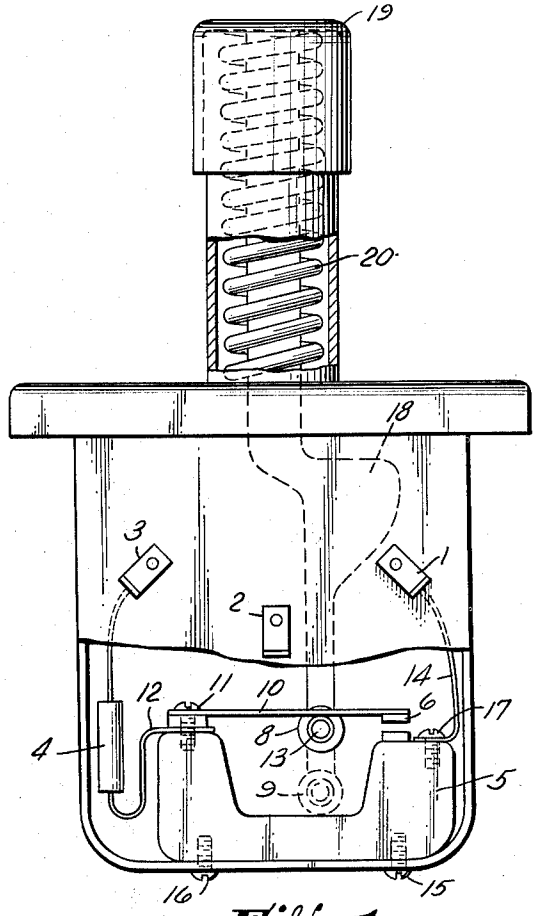


Fig. 1

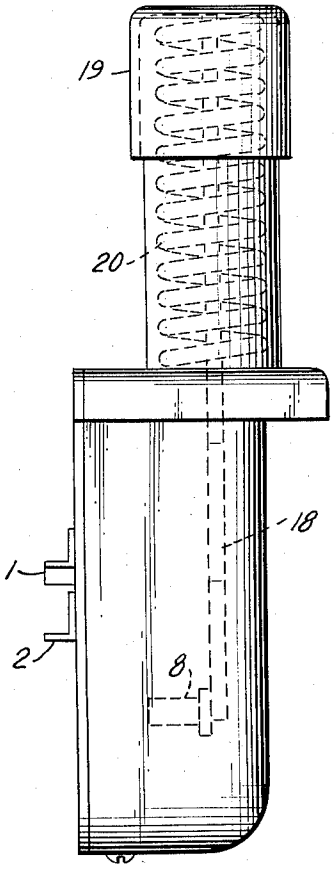


Fig. 2

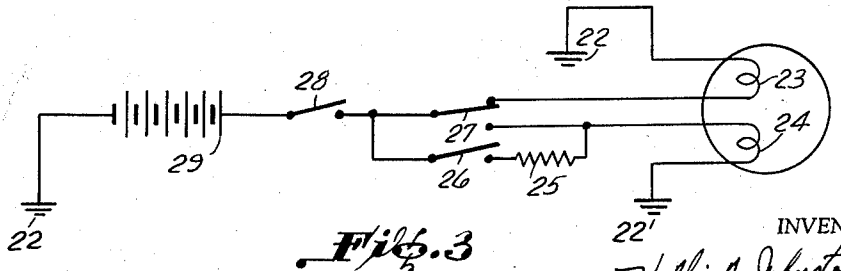


Fig. 3

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HEADLIGHT BEAM SELECTOR SWITCH

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7 Claims. (Cl. 315—82)

This invention relates generally to automotive electrical circuits and more particularly to headlight beam selector switches.

With the present headlight beam selector switch, especially one of the mechanical floor mounted type, it is quite dangerous to remind an oncoming driver to switch to his headlight low beam. A momentary flash of the headlight high beam can be blinding. It is also dangerous to endure the headlight high beam of an oncoming vehicle when the driver has forgotten to switch to his headlight low beam.

It is a primary object of this invention to provide a means of reminding an oncoming driver to switch to his headlight low beam without flashing the full intensity of the headlight high beam into his eyes.

It is also an object of this invention to provide a means of reminding an oncoming driver to switch to his headlight low beam without disturbing the present method of headlight beam selection.

A feature of this invention is that it would work equally well with vehicles equipped with separately sealed high and low beam headlights as well as those vehicles having them combined.

Another feature of this invention is that the signal can be given within the same travel and by the same member of the present headlight beam selector switch mechanism.

These and other objects of the invention will become apparent in light of the accompanying drawing and later description.

Figure 1 shows a front view of the headlight beam selector switch with a portion of the cover removed to show the parts added to the usual headlight beam selector switch mechanism.

Figure 2 shows a side view depicting the reciprocating arm that allows the points to make and break.

Figure 3 shows an electrical circuit of the headlights and the headlight beam selector switch.

Referring now to Figure 1, **21** is the body shell of the headlight beam selector switch mechanism. The driver's foot makes contact with surface **19** causing arm **18** to lower, compressing spring **20**. It should be understood that the full travel of arm **18** causes the usual headlight beam selector switching action to take place. This switching action allows current to flow from the positive terminal **1** to either the low beam terminal **2** or to the high beam terminal **3**. The full downward stroke of the reciprocal actuating arm shifts the usual rotating contact member from an initial position across terminals **1** and **2** to a position across terminals **1** and **3**, the spring **20** returning the reciprocal actuating arm upward as soon as the driver's foot is released. No switching action occurs from one headlight beam to the other on the returning upward stroke of the reciprocal actuating arm. A successive downward stroke of the reciprocal actuating arm shifts the usual rotating contact member from the position across terminals **1** and **3** to the initial position across terminals **1** and **2**, thus alternating high and low

beam contact with each full downward stroke of the reciprocal actuating arm. It should be understood that by depressing the reciprocal actuating arm a quarter of a stroke and releasing it to return upward does not cause a switching action from one headlight beam to the other to occur. However, depressing the reciprocal actuating arm a quarter of a stroke allows the flat spring **10** to close contacts **6** and **7**, and when the reciprocal actuating arm is released to return upward the contacts **6** and **7** are opened.

Figure 1 also shows the switch mechanism that closes contacts **6** and **7** during the first quarter of downward travel of the arm **18**. The arm **18** is bent at a right angle to form the stub shaft **13**. An insulating sleeve **8** is pressed on the stub shaft **13**. The depressed position of insulating sleeve **8** is shown at **9**. The contact **6** is attached to a flat spring **10** which is mounted on the insulating block **5** by screw **11**. Screw **11** also holds the terminal of wire **12** which is attached to resistor **4** and continues to the headlight high beam terminal **3**. Screws **15** and **16** hold the insulating block **5** in place. Wire **14** is attached to the positive terminal **1** and also to the contact **7** by screw **17**.

Figure 3 shows the electrical circuit in which **23** is the headlight low beam filament, and **24** is the headlight high beam filament. The switch **26** coupled with the resistor **25** allows the driver to signal with an intermittent weak glow of the high beam. The headlight beam selector switch is **27**. The usual components are the ground **22**, battery **29**, and the headlight dash switch **28**.

In operation, should a vehicle approach a driver at night with the headlights apparently on the high beam, the driver may signal by partially depressing the headlight beam selector switch. In addition to the usual low beam, this will allow a weak high beam to shine in the eyes of the oncoming vehicle's driver, courteously and safely reminding him to switch to his low beam.

From the foregoing drawings and description, it is believed that a clear understanding of the construction, operation, and advantages of the invention may be gained.

It is to be understood, however, that though there is shown and described a preferred embodiment of the invention, the same is susceptible to certain changes fully comprehended by the spirit of the invention as described and the scope of the appended claims.

What is claimed is:

1. An electric switch having a current source terminal, a plurality of terminals adapted for selective connection in series with the current source terminal, and a fixed contact connected in series to the current source terminal, a movable contact adjacent to the fixed contact and connected in series to a resistor, the resistor connected in series to one of the plurality of terminals, and means to open and close the contacts.

2. An electric switch having three terminals; a headlight high beam terminal, a headlight low beam terminal, and a battery terminal, means to selectively connect the battery terminal in series with each beam terminal, and a fixed contact connected in series to the battery terminal, a movable contact adjacent to the fixed contact and connected in series to a resistor, the resistor connected in series to the headlight high beam terminal, and means to open and close the contacts.

3. A lighting system for a vehicle, comprising; a headlight beam selector switch having a reciprocal arm, said arm having a surface for actuation on one end, said arm having provision for beam selection intermediate the ends, said arm having means on the other end to hold two contacts apart when the arm is at one end of travel, and means to close the two contacts when the arm is moved toward the opposite end of travel, the

closed contacts completing a circuit between the battery, a resistor, and the headlights.

4. A signalling device for a vehicle, comprising; a battery, headlights, and a headlight beam selector switch having a plurality of terminals, including a headlight high beam terminal, a headlight low beam terminal, and a battery terminal, means to selectively connect the battery terminal in series with each beam terminal, and a fixed contact connected in series with the battery terminal, a movable contact adjacent to the fixed contact and connected in series with a resistor, the resistor connected in series with the headlight high beam terminal, and means to open and close the contacts.

5. A signalling arrangement for a vehicle, including; an electric switch having a reciprocal arm, said arm having a surface for actuation on one end, said arm having provision for beam selection intermediate the ends, said arm having means on the other end to hold two contacts apart when the arm is at one end of travel, and means to close the two contacts when the arm is moved toward the opposite end of travel, the two contacts connected in series with a resistor, the headlights, and the battery.

6. A signalling arrangement for a vehicle, comprising; a headlight beam selector switch having a reciprocal arm, said arm having a surface for actuation on one end, said arm having provision for beam selection intermediate the ends, said arm having a stub shaft formed at a right angle to the direction of travel on the other end, an insulating sleeve positioned on said shaft to hold two contacts apart when the arm is at one end of travel, a spring attached to one of the contacts and adapted to close the contacts when the arm is moved toward the opposite end of travel, the contacts connected in series with a resistor, the battery, and the headlights.

7. A headlight beam selector switch having a reciprocal arm, said arm having a surface for actuation on one end, said arm having provision for beam selection intermediate the ends, said arm having a stub shaft formed at a right angle to the direction of travel on the other end, an insulating sleeve positioned on said shaft to hold two contacts apart when the arm is at one end of travel, a spring attached to one of the contacts and adapted to close the contacts when the arm is moved toward the opposite end of travel, the contacts connected in series with a resistor, the headlights, and the battery.

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