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CARBURETOR CONTROL SWITCH FOR VEHICLE SIGNAL LIGHTS

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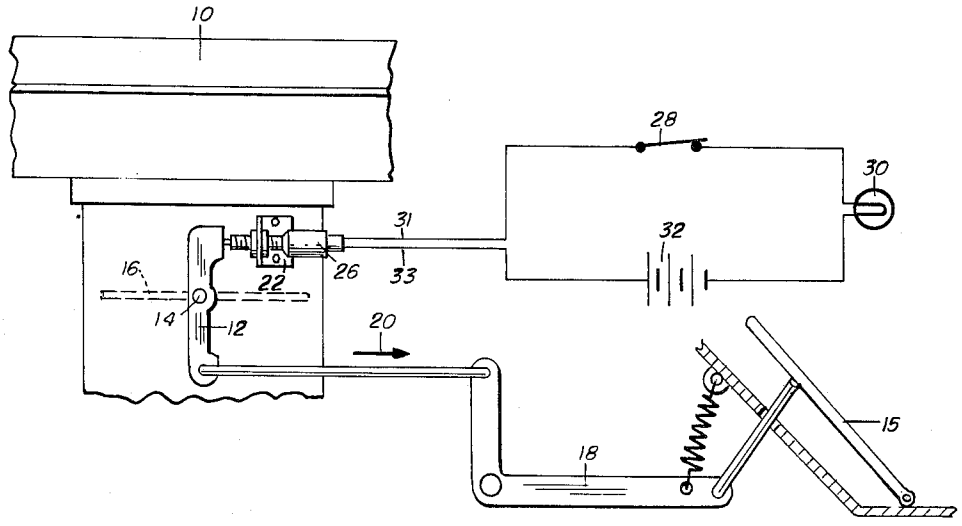


FIG. 1

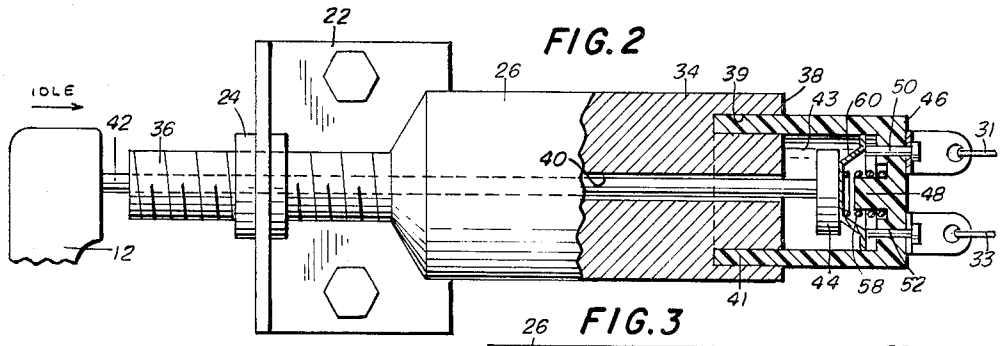


FIG. 2

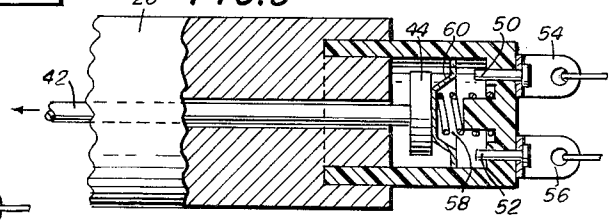


FIG. 3

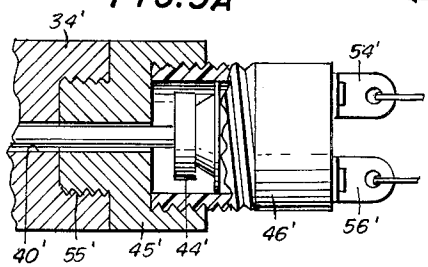


FIG. 3A

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CARBURETOR CONTROL SWITCH FOR VEHICLE SIGNAL LIGHTS

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1 Claim. (Cl. 200—61.89)

This invention relates to a device for electrically completing the circuitry to vehicle brake lights, and more specifically relates to a switch for association with conventional carburetor controls.

The principal objective of this invention is to provide a means to actuate vehicle brake lights when the vehicle carburetor is at idling position or near idling position regardless of the positions of the brake and accelerator pedals.

Another important objective of this invention is to provide a switch which is adjustably mounted near the carburetor control arm such that it is easily adjusted as to its capability of light turn-on without interfering with the carburetor idling adjustment mechanism.

A still further objective of this invention is to provide a rugged, simplified, and uncomplicated switching device for the above described objectives.

These and other important objectives and advantages of the invention will be more fully understood upon a reading of the following specifications, taken in view of the attached drawings, in which:

FIGURE 1 is a diagramatic-schematic view of the working elements of this invention;

FIGURE 2 is an enlarged elevation view of the switching device with portions of its interior broken away to disclose the idling or lights-on position of the switching elements;

FIGURE 3 is similar to FIGURE 2, showing the switch elements when the braking lights are off; and

FIGURE 3*a* is a partial showing of a further embodiment of the invention.

Referring now with more particularity to the drawings wherein like numerals indicate like parts, the numeral **10** indicates a conventional carburetor having a throttle control arm **12** pivotally mounted thereto about a pin **14**. As is well known in the art, a throttle baffle **16**, interiorally of the throttle, is secured to pin **14** for rotation therewith as determined by the angular disposition of the throttle control arm **12**. This angular disposition is determined by the vehicle accelerator pedal **15** which is connected to the arm via a conventional linkage **18**. As shown in FIGURE 1, a pedal normally maintains the accelerator pedal fully raised. When in this position the throttle control arm is generally vertical, and the baffle **14** is substantially blocking (idling position) the fuel path to the intake manifold. A linkage movement to the right in the direction indicated by arrow **20** causes arm **12** to pivot counterclockwise adjustably opening the manifold fuel path controlled by the baffle **16**. A series of stops and the like associated with the above, but not believed necessary to this description, limit the displacement of these members.

A bracket **22** is secured to the exterior of the carburetor in the vicinity of arm **1** and is formed with a threaded opening **24** having a central axis normal to arm **12** when the arm is in its idling position. Threadably received in bore **24** is a switch **26**, a cross section of which is shown in FIGURE 2. The switch is of an off-on type and is in series with an ignition **28**, warning lights **30** and the electric power supply **32**. The network is electrically connected by the lines **31** and **33**.

The switch is formed of a cylindrical housing **34** having a threaded extension **36** at one end thereof. The interior of the housing is formed with a passageway **40**

which slidably receives an operating shaft **42**. The operating shaft is flanged at **44** at that end remote from extension **36**. At its end **38**, the housing **34** is formed with an annular groove **39**. This end is closed by bottom member **46** which has a skirt section **41** press-fitted into groove **39**. The member **46** forms a chamber **43** with end **38** into which a pin **48** extends. On opposite sides of pin **48** are spaced contact points **50** and **52** which have conducting lead pins **54** and **56** extending to the exterior of the switch housing.

A spring biasing member **58** surrounding the pin **48** normally maintains a discus shaped concave bridging member **60** out of engagement with the contact points **50** and **52** and into engagement with shaft end **44**.

The operation of the inventive structure is not complicated. As the accelerator pedal is depressed arm **12** pivots in a counterclockwise direction away from engagement with the shaft **42**. As the operator permits the accelerator pedal to assume its idling position, arm **12** contacts shaft **42** which consequently depresses spring **60** so that bridging member **58** will complete the circuit to the warning lights **30**. In other words, the warning lights will always be operating when the ignition is "On" and the throttle assembly is at its "Idle" or "Near-Idle" position.

FIGURE 3*a* shows a further embodiment of the invention wherein the switch element is comprised of members **45'** and **36'** which are threadedly secured to the housing **34'** at **55'**. The pins **54'** and **56'** are supported in the non-conducting member **46'** which is secured to member **45'** by an adhesive or press-fit.

In a general manner, while there has been disclosed an effective and efficient embodiment of the invention, it should be well understood that the invention is not limited to such an embodiment, as there might be changes made in the arrangement, disposition and form of the parts without departing from the principle of the present invention as comprehended within the scope of the accompanying claim.

I claim:

A switching device for actuating the braking warning lights of a vehicle in response to carburetor valve arm positions, said valve arm being of a type movable in concert with the butterfly plate of said carburetor between an idling position and an accelerating position, comprising in combination, a bracket having an opening therethrough, means removably attaching said bracket to said carburetor, said opening having a central axis substantially perpendicular to said valve arm when said arm is in its idling position, a switch housing having an exterior receivable in said opening and a chamber defined therein having a closed end and a substantially disposed axial opening extending from said chamber toward said arm, said chamber being formed by a substantially cup-shaped closure member removably secured with respect to a section of the switch housing, said section having a cross-sectional area greater than said closure member and terminating in a substantially planar surfaced end wall, a groove in said planar surfaced end wall substantially of the same thickness as the walls of the closure for securely receiving the same, a pair of spaced contacts in said chamber at said closed end, a pair of conduction leads respectively connected to said contacts and extending to the exterior of said housing, a member for bridging said contacts, said contacts when bridged completing the electrical circuit to said lights, a spring normally biasing said member away from said contacts, said closed end being formed with an annular groove to position said spring, an elongated shaft slidably received by said chamber having an inner end in contact with said member and an outer end extending through said axial opening into engagement with said

arm as said arm approaches its idling position and said shaft having a length causing said member to bridge said contacts against the bias of said spring when said arm assumes said idling position, said member being formed with a concave depression facing said closed end and said depression being circumscribed by a non-interrupted peripheral flange having a diameter the same as the distance between said contacts, and wherein the chamber of said housing being formed with an inner ledge intermediate its ends and said shaft being formed with an enlarged head at its inner end and said head being disposed between said closed end and said ledge.

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