May 18, 1954 J. S. REYNOLDS 2,678,978

SIGNALING DEVICE

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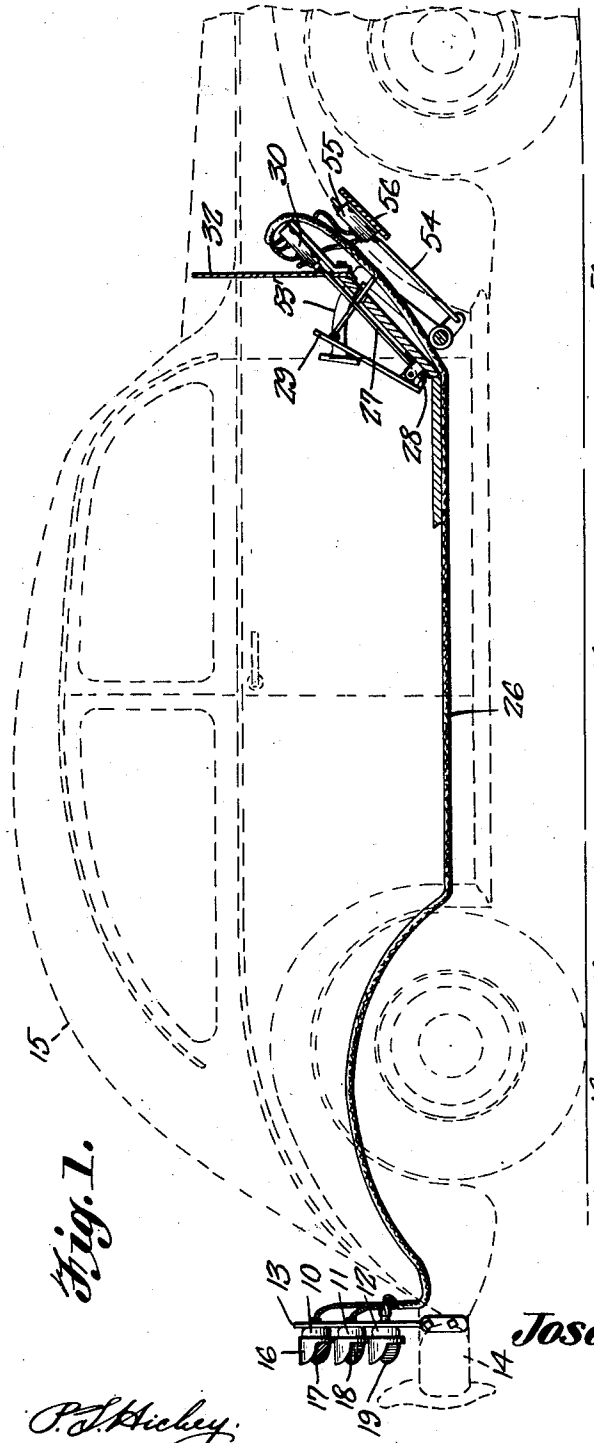


Fig. 1.

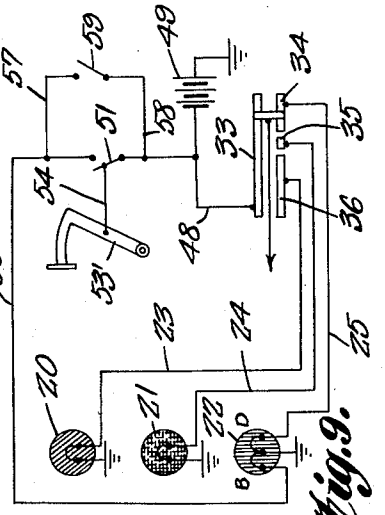


Fig. 9.

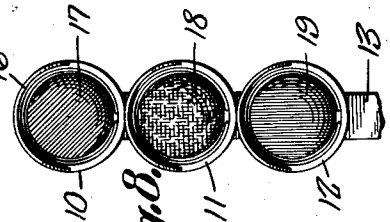


Fig. 8.

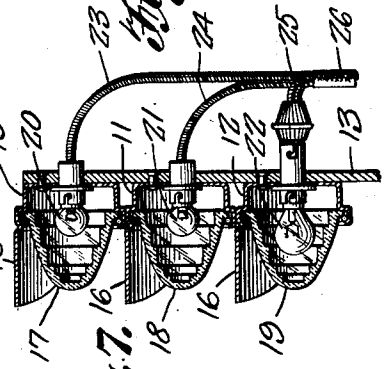


Fig. 7.

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Fig. 2.

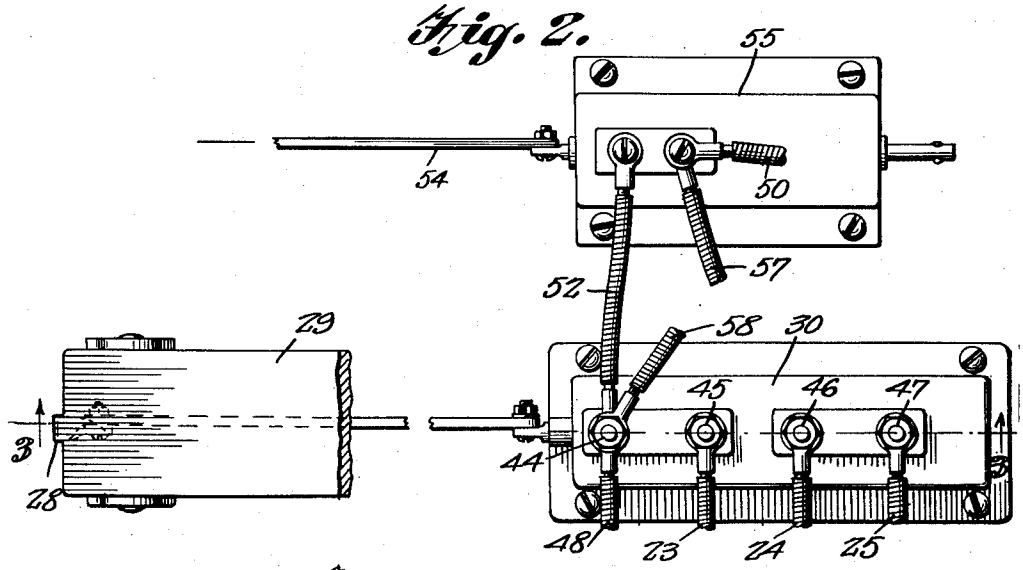


Fig. 3.

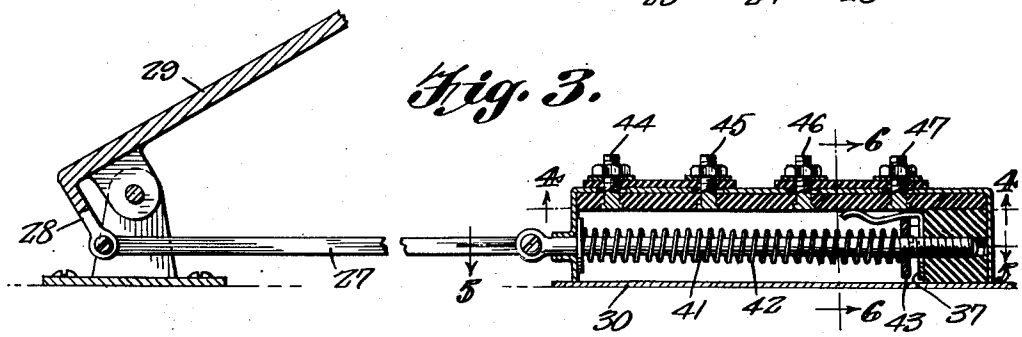


Fig. 6.

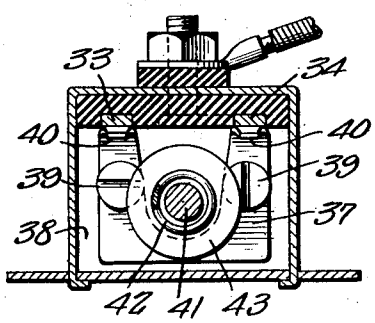


Fig. 4.

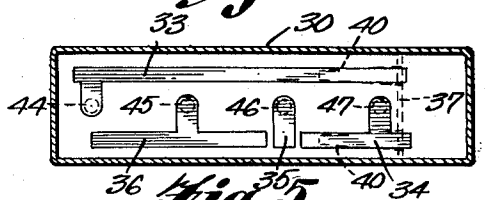
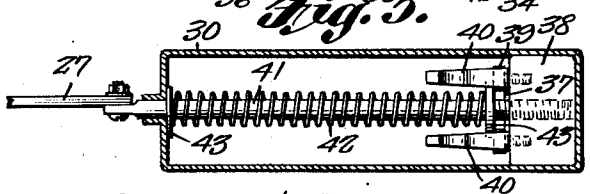


Fig. 5.



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UNITED STATES PATENT OFFICE

2,678,978

SIGNALING DEVICE

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Application December 21, 1951, Serial No. 262,781

1 Claim. (Cl. 200—61.89)

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This invention relates to speed signalling devices and has for an object to provide signal lamps controlled by a switch responsive to movement of the accelerator of a motor vehicle, the arrangement being such that a green signal light will be energized on the rear of the vehicle at a predetermined speed, for instance touring speed, an amber light will be energized at a change in speed as for instance when the vehicle reduces touring speed preparatory to making a stop, and a red light will be energized as the speed decreases in making a stop, so that following drivers will have available at all times an indication of the approximate speed of the vehicle equipped with a speed signalling device constructed in accordance with the invention.

With the above and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter fully described and claimed, it being understood that various modifications may be resorted to within the scope of the appended claim without departing from the spirit of the invention or sacrificing any of the advantages thereof.

In the accompanying drawing forming part of this specification:

Figure 1 is a side elevation of a speed signalling device constructed in accordance with the invention, and shown in applied position on a motor vehicle, the latter being shown in dotted lines.

Figure 2 is a plan view of the accelerator responsive switch and the brake pedal responsive switch for controlling the signal lamps.

Figure 3 is a longitudinal sectional view taken on the line 3—3 of Figure 2.

Figure 4 is a longitudinal sectional view taken on the line 4—4 of Figure 3 and showing the stationary switch contacts of the accelerator responsive switch.

Figure 5 is a longitudinal sectional view taken on the line 5—5 of Figure 3 and showing the movable switch contact in top plan.

Figure 6 is an enlarged cross sectional view taken on the line 6—6 of Figure 3 and showing the bridging movable switch contact in front elevation.

Figure 7 is a vertical sectional view of the signal lamps.

Figure 8 is a front elevation of the signal lamp shown in Figure 7.

Figure 9 is a diagrammatic view showing the electrical connections of the lamps and switches.

Referring now to the drawings in which like characters of reference designate similar parts

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in the various views, three signal lamps 10, 11 and 12 are mounted in a vertical row on a bracket 13 which may be secured to the rear bumper 14 of a motor car 15. The lamps are provided with arched visors 16 which prevent light rays of each lamp from illuminating the lens of the lamp next adjacent to it and thus eliminate confusion of signals.

The lenses 17, 18 and 19 of the respective lamps 10, 11 and 12 are of contrasting colors. Preferably the lens of the uppermost lamp is colored green, the lens of the intermediate lamp is colored amber, and the lens of the lowermost lamp is colored red, to designate predetermined speeds. For example, the green lens may denote touring speed, the amber lens a change of speed preliminary to an intended stop or turn, and the red lens may denote slowing to the speed of the turn or to a stop.

The signal lamps are equipped with respective signal bulbs 20, 21 and 22 and the conductor wires 23, 24 and 25 may be carried forwardly on the vehicle through a sheathing 26, best shown in Figure 1.

The accelerator responsive switch comprises a link 27 which is pivotally secured at the rear end to a lug 28 that depends from the accelerator 29 below the pivot of the accelerator so that when the accelerator is depressed the link 27 is pulled rearwardly to move the switch to circuit closing position and when the accelerator is released the link is moved forwardly to open the switch.

The switch housing 30 is disposed on a bracket 31 that is secured to the dash 32 of the vehicle in alignment with the link 27 and is preferably formed of insulating material. Mounted in the top of the housing is an elongated switch contact 33 and arranged parallel with this contact are three aligned stationary switch contacts 34, 35 and 36. A U-shaped bridging switch contact 37, best shown in Figure 6, is secured to a block 38 of insulating material by screws 39 and is provided with parallel rearwardly extending spring contact fingers 40 one of which rides on the elongated switch contact 33 and the other upon the aligned switch contacts 34, 35 and 36 when the accelerator is actuated.

The above mentioned link 27 is connected to the end of a rod 41 which projects through the end of the switch housing 30 and at the forward end is screw threadedly engaged with the insulating block 38. A helical spring 42 is sleeved on the rod and bears terminally against collars 43 on the rod. The spring constantly tends to hold the bridging contact in open circuit position.

There are four binding posts 44, 45, 46 and 47 arranged on top of a switch housing and connected respectively to the elongated contact 33, and to the aligned contacts 36, 35 and 34, as best shown in Figure 4. A conductor wire 48 connects the binding post 44 to the battery 49. The beforementioned conductor wires 23, 24 and 25 of the green, amber and red signal lamps are connected respectively to the binding posts 45, 46 and 47 of the aligned stationary switch contacts 36, 35 and 34.

In practice when the accelerator pedal is depressed to the position it assumes at touring speed, the bridging contact 37 will be in circuit closing position on the elongated switch contact 33 and rearmost switch contact 36 to close the green signal lamp circuit. When the driver intends to make a turn or stop within the immediate future, he will release foot pressure on the accelerator 29 so that the bridging switch contact will be moved back to circuit closing position on the elongated switch contact 33 and the switch contact 35 to energize the circuit of the amber signal lamp and thus designate to following drivers that a change in speed has taken place preparatory to making a turn or a stop. As the driver continues to release pressure on the accelerator the bridging contact will be moved back to circuit closing position on the elongated contact 33 and on the contact 34 to energize the red signal lamp and thus warn the following driver of a further decrease in speed and of the intention of an imminent stop or turn.

As a further warning of a change in speed the red signal lamp is preferably of the dual filament type one of the filaments being dim and the other one being bright. The bright filament for example may be connected by a conductor wire 50 to a switch 51 that is connected to the battery by a conductor and is responsive to movement of the brake pedal 53 by means of a link 54 which connects the brake pedal to the switch.

The brake pedal responsive switch housing 55 is secured to a stationary support 56, best shown in Figure 1, and is provided with stationary switch contacts and a bridging switch contact similar to the accelerator responsive switch so that a description thereof will not be repeated.

When the foot is lifted from the accelerator and pressure is applied to the brake pedal the dim filament of the red signal lamp 22 will not become extinguished and the bright filament of this lamp will be energized which intensifies the red lamp by the energizing of both filaments, to denote application of the brake to warn following drivers of the application of the brake.

In order to energize the red signal lamp independently of the foot accelerator circuit wires 57 and 58 are by-passed around the automatic switch 51, as best shown in Figure 9. A manual switch 59 is interposed in the by-pass circuit to permit manual closing of the circuit to the red signal lamp at any time.

As the description of the signal system has been described as the description of the parts progressed it is thought that the operation and construction of the invention will be fully understood without further explanation.

What is claimed is:

An accelerator responsive switch comprising a casing, an elongated switch contact in the casing, a plurality of aligned contacts in the casing positioned laterally of the elongated switch contact parallel to and in the same plane with the elongated switch contact, a spring pressed plunger mounted in the casing for reciprocal movement with relation to the longitudinal axis of the casing, a bridging contact carried by and insulated from the plunger and having parallel aligned spring contact fingers adapted to have wiping contact with the elongated switch contact and with the laterally disposed aligned contacts, and a link pivotally connected to the plunger and adapted to connect the plunger to an accelerator.

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