

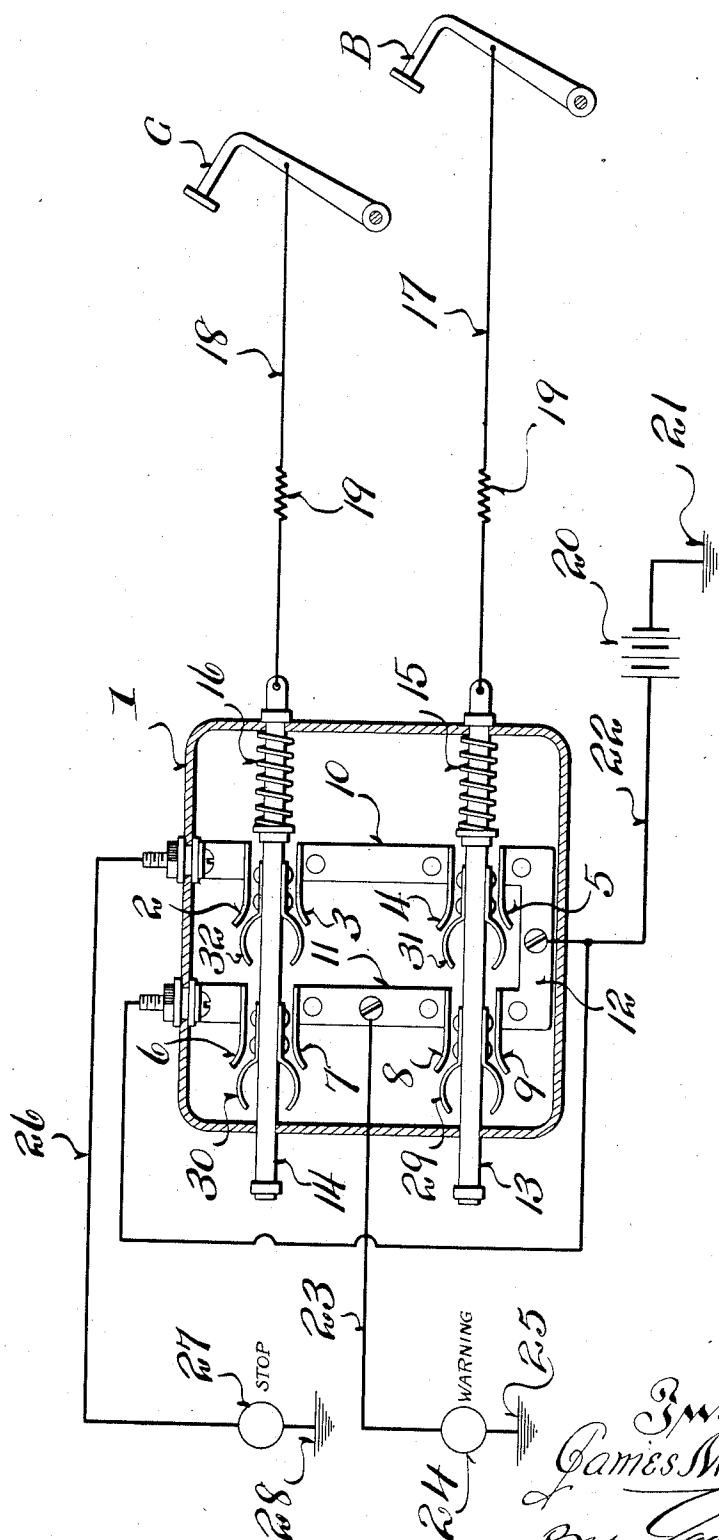
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SIGNAL SWITCH

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## UNITED STATES PATENT OFFICE

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## SIGNAL SWITCH

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This invention relates to signal switches, and is particularly directed to a signal switch for automobiles.

In automobile signalling systems as heretofore constructed, it is the usual practice to provide a switch for the brake pedal so that the following driver is apprised of the fact that the brake is being applied and, consequently, a stop is indicated. However, there is no intermediate signal for slowing down, prior to this "stop" signal. In addition to this, it frequently happens that drivers have different orders in which they press the brake and clutch pedals. Some drivers apply the brake before they open the clutch, while others open the clutch before they apply the brake and, consequently, the standard signal does not function to meet all conditions. This invention is designed to overcome the defects noted above and objects of this invention are to provide a novel form of signal switch for automobiles related to a signal system in which a "warning" signal and a "stop" signal are both provided, and in which the "warning" signal is operated from either the brake or the clutch pedal, so that the action of the system is the same, whichever order of operation of the pedals is followed, and to further provide the system with means for giving a "stop" signal after the "warning" signal has been given, when both pedals are depressed.

Further objects are to provide a very simple and easily applied type of switch which will accommodate itself to standard makes of automobiles with a minimum of work.

An embodiment of the invention is shown in the accompanying drawing in which:—

The single figure is a sectional view through the switch, showing diagrammatically the connections to the pedals and the electrical system.

Referring to the drawing, it will be seen that the switch comprises a casing 1 which is provided with two series of contacts. One series consists of the stationary contacts 2 and 3, and the stationary contacts 4 and 5. The contacts 3 and 4 are electrically connected. The other series comprises the stationary contacts 6 and 7, and the stationary contacts 8

and 9. The contacts 7 and 8 are electrically connected, and the contacts 5 and 9 are also electrically connected. These connections may be made by forming the contacts integral with a connecting strip, as shown in the drawing and indicated by the reference characters 10, 11, and 12. These strips may be secured to an insulating portion of the switch. It is to be noted that the contacts are arranged one behind the other in tandem, and that a pair of plungers 13 and 14 are slidably mounted within the casing 1, and are urged rearwardly in a yielding manner, as by means of the springs 15 and 16. The outer ends of these plungers are connected to the brake pedal "B" and the clutch pedal "C" by means of cables or similar members, indicated at 17 and 18. Preferably, a spring 19 is interposed in each of these members.

The electrical system utilizes the ordinary battery 20 of the automobile, one side of which is ground, as indicated at 21. From the other side of the battery, a conductor 22 extends to the contact strip 12 and also to the stationary contact 6. The strip 11 is connected by means of the conductor 23 to one side of the "warning" lamp 24, the other side of the lamp being grounded, as indicated at 25. The stationary contact 2 is connected by means of the conductor 26 to one side of the "stop" lamp 27, the other side of such lamp being grounded, as indicated at 28.

The lamps 24 and 27 may have the legends "Slow" or "Warning", and "Stop" formed thereon, if desired, or may be differently colored or differently positioned to indicate their respective significance.

In using the apparatus consider, for example, the case when the brake pedal is depressed. This closes the circuit from the battery 20 to the "warning" lamp 24 through the conductor 22, the stationary contacts 8 and 9, the movable contacts 29 carried by the plunger 13, and the conductor 23. On the other hand, if the clutch pedal had been depressed, the electrical circuit from the battery 20 would have been completed to the "warning" lamp through the conductor 22, the stationary contacts 6 and 7, the movable contacts 30 carried by the plunger 14, and the conductor 23.

Thus when either of the pedals is depressed the "warning" lamp is illuminated.

In addition to the movable contacts 29 and 30, the plungers 13 and 14 carry the movable contacts 31 and 32 respectively, which co-  
 5 operate with the first series of stationary contacts described above. Thus, when a full stop is to be made both pedals are depressed and, in addition to the illumination of the "warn-  
 10 ing" lamp, the "stop" lamp is also illuminated, as it is connected to the battery 20 by means of the conductor 22, the stationary contacts 4 and 5, the movable contact 31, the stationary contacts 2 and 3, the movable contact  
 15 32, and the conductor 26.

In other words, the "stop" lamp is illuminated only when both pedals are depressed and, consequently, the "stop" signal is given only when a stop is actually intended, or when  
 20 a very great change in speed is effected.

Under other conditions where a slight change in speed is made, the "warning" lamp alone is illuminated. It will be seen, therefore, that a novel form of signal has been  
 25 provided by this invention and that a very simple type of switch is contemplated, which may be easily connected to the brake and clutch pedals of a standard automobile with a minimum of effort. Further, it will be seen  
 30 that the action of the switch is independent of the peculiar manner in which the driver operates the clutch and brake pedals and will accommodate either of the two described modes of operation. Further, it will be seen  
 35 that first a "warning" signal is given, and thereafter a "stop" signal. It will be noted further that the "stop" signal is given only when a stop is actually intended, or else when a very pronounced change in speed is to be  
 40 made.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting as the invention may be variously embodied and  
 45 as the scope of such invention is to be determined as claimed.

I claim:

A switch including a casing, parallel plates arranged centrally of the casing, stationary  
 50 contacts on the ends of said plates, spaced stationary contacts carried by the casing at one side thereof and arranged in spaced opposed relation with the contacts on one end of  
 55 the parallel plates, a contact strip carried by the casing, stationary contacts carried by the ends of the strip and arranged in spaced opposed relation with the contacts on the other end of the parallel plates, said contact strip  
 60 being of a length equal to the combined width of the parallel plates and the space between the same, rods movable between the opposed contacts on opposite sides of the casing and yieldable opposed contacts carried by said  
 65 rods on opposite sides of said rods arranged

in spaced relation for engagement with the opposed stationary contacts.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee and State of Wis-  
 70 consin.

JAMES M. OSGIAN.

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