

W. R. McNARY.
SWITCH.

APPLICATION FILED OCT. 25, 1916.

Patented Oct. 23, 1917.

2 SHEETS—SHEET 1.

1,244,110.

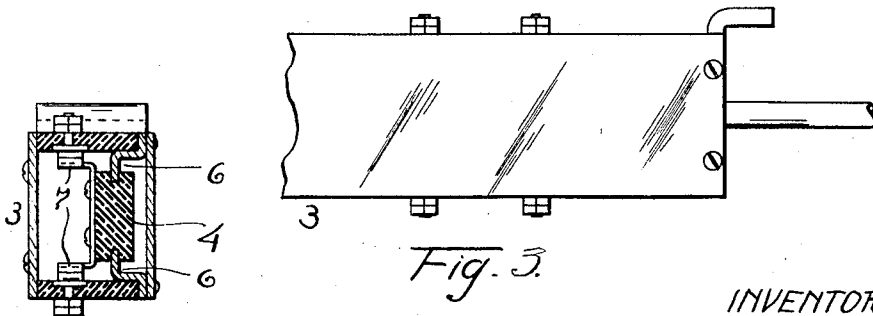
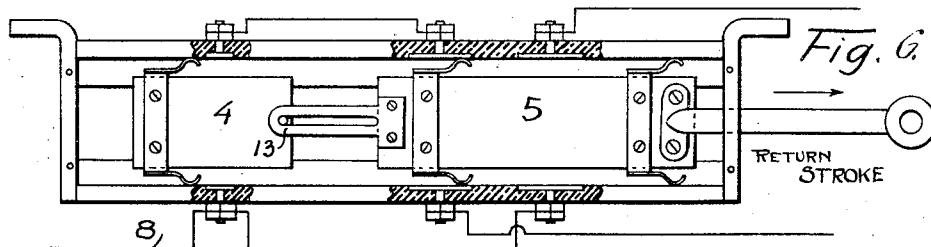
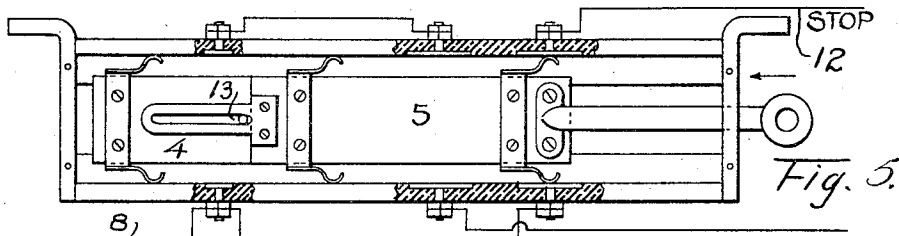
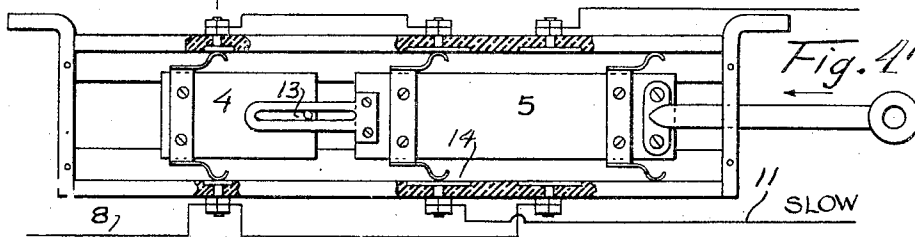
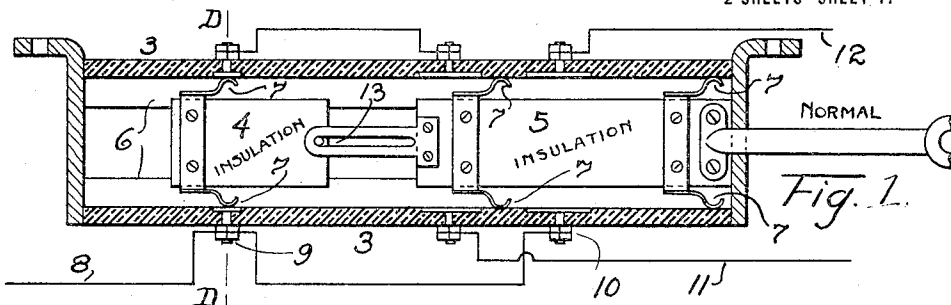


Fig. 2.

Fig. 3.

INVENTOR

William T. McNary

BY Raymond A. Parker ATTORNEY

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2 SHEETS—SHEET 2.

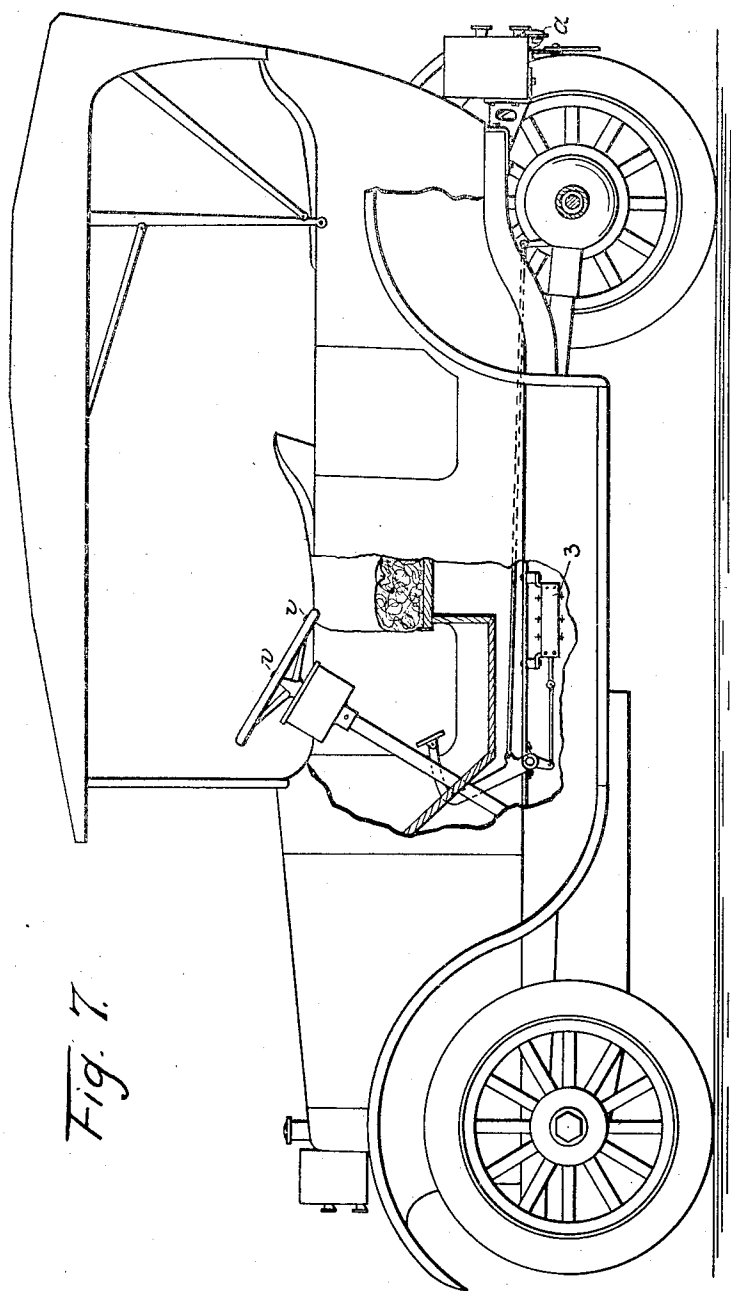


Fig. 7.

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WILLIAM R. McNARY, OF DETROIT, MICHIGAN.

SWITCH.

1,244,110.

Specification of Letters Patent.

Patented Oct. 23, 1917.

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To all whom it may concern:

Be it known that I, WILLIAM R. McNARY, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Switches, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to switches, especially switches for signaling apparatus for use in connection with motor cars. It has for its object a switch operating in connection with signaling apparatus capable of indicating automatically that a car is about to slow down and that the car is about to stop.

The automatic operation of the signals is effected by action of either the clutch or brake pedal. In stopping the car, it is desired that the first movement of the brake or clutch pedal give the signal "slow" and that further movement give the signal "stop." Upon the reverse motion of the pedals it is desired to omit or skip the "slow" signal and this is accomplished by means of the special switch which forms the subject of this invention and which will be more fully described hereinafter.

In the drawings,—

Figure 1 is a plan view of the switch; the position is the normal running position.

Fig. 2 is a cross section of the same on the line D—D of Fig. 1.

Fig. 3 is a fragmentary top elevation of this apparatus with the cover on.

Fig. 4 is a plan view of this switch showing the parts shifted to the position where they operate the "slow" signals.

Fig. 5 is a similar plan view showing the parts shifted to where they operate the "stop" signals.

Fig. 6 is a similar plan view showing the parts as they appear on the return stroke which is accomplished without the necessity of displaying the "slow" signal.

Fig. 7 is a side elevation of an automobile partly broken away showing in general the complete apparatus and how it is associated with the parts of the car.

The switch is shown in Figs. 1 to 6 inclusive. The switch elements are housed in a long narrow box 3. A pair of movable fiber blocks 4 and 5 are guided in a longitudinal

movement by the tracks 6. The block 4, which will be termed the idler block, has a pair of spring wiping contacts 7 while the active switch block 5 has two pairs of spring wiping contacts 7. On each of the long side walls of the housing are three electrodes adapted to be wiped by the contacts 7 of the blocks. 8 designates one of the wires which connects with the battery. It will be noted that it connects with both the binding posts 9 and 10. 11 is the leadaway wire which leads to the "slow" signaling apparatus. 12 is the leadaway wire which leads to the "stop" signaling apparatus.

In Fig. 1 the blocks are in the position they occupy when the brake or clutch pedal is in normal position. It will be seen that the circuit is not complete through either the pairs of electrodes that represent the "slow" or the "stop" apparatus. Now when the pedal is first depressed in slowing down it throws the block 5 to the left as shown in Fig. 4. The circuit is completed through the pair of "slow" or second electrodes and through the electrodes and contacts of the idler block 4.

When the pedal is thrown far enough to stop the machine or nearly stop it, the block 5 is thrown even farther to the left connecting the ("slow" or second) spring contacts from the "slow" or second electrodes and bringing the other ("stop" or first) pair of spring contacts of the active block 5 into electrical relation with the "stop" or first electrodes, thereby establishing a circuit through the feed wire 8 and directly through the "stop" or first electrodes and contacts of the active block 5. It is to be noted in Fig. 5 that the contacts of the idler block are out of connection with the idler electrodes. The active block 5 has a slot and pin connection 13 with the idler block 4. Hence in the forward stroke of the active block 5 not until the "stop" or first contacts and "stop" or first electrodes are practically ready to engage does the block 5 pick up the block 4, then moves it to the left, as shown in Fig. 5, and disengages the contacts from the idler electrodes. On the return stroke (Fig. 6) a considerable part of the stroke of the active block 5 can be had without picking up the block 4. The consequence is that when the "stop" or first contacts are disengaged from the "stop" or first electrodes, the "stop" signal ceases to appear and the "slow" signal does not re-

appear as would be expected for the reason that although the "slow" or second contacts are in engagement with the "slow" or second electrodes, as shown in Fig. 6, a complete circuit is not had because the "slow" circuit is always traced through the idler block and the contacts of the idler block have not engaged the idler contacts and will not engage the idler contacts until the "slow" or second contacts have disengaged from the "slow" or second electrodes.

From the above description it is evident that the "slow" signal is not operated upon the return stroke. The switch is of general application and that much of the signaling apparatus for an automobile shown and described is merely for the purpose of showing one of the uses for the switch.

What I claim is:

1. An automatic switch, comprising switching blocks, contacts thereon, a track with respect to which the blocks move provided with electrodes, one of the blocks being an active switching element and the other an idler which serves as an auxiliary switch and connections between the two blocks whereby movement of the blocks in one direction serves to successively completely close two circuits while the return movement by reason of the failure of the idler or auxiliary switch to close at the proper time does not result in completely closing a circuit.

2. In a vehicle signaling apparatus, an automatic switch comprising a pair of electrodes, a second pair of electrodes, a pair of idler electrodes, a pair of contacts, a second pair of contacts, a pair of idler contacts, the said contacts and electrodes being arranged so that on a forward movement of the contacts a circuit is established through the second contacts, then upon the disengaging of the second contacts a circuit is established through the first contacts, the said contacts and electrodes being arranged and operated so that upon the return stroke and upon the breaking of the circuit through the first contacts no further circuits are established on return to the initial position.

3. In a vehicle signaling apparatus, an automatic switch comprising a housing, first, second and idler electrodes located on the opposite sides of the housing, and a pair of blocks, one an active switch block and the

other an idler switch block guided in said housing, each having contacts for wiping the said electrodes and lost motion connections between said blocks, whereby in the forward stroke of the active block the circuit is first established through the second electrodes and the idler electrodes and contacts, said circuit is then broken and a circuit established directly through the first electrodes and contacts and upon the breaking of the circuit through the first contacts upon the return stroke and upon the wiping of the second electrodes and the contacts no circuit is established because the circuit through the idler contacts and electrodes is broken.

4. In a vehicle signaling apparatus, an automatic switch comprising a housing provided with three pairs of electrodes, first, second and idler electrodes, means for supplying current directly to the first electrodes, means for supplying current to the second electrodes only through the idler electrodes, and a pair of switch blocks for bridging the electrodes and guided in the housing, the active switch block being provided with two pairs of contacts, and the idler switch block being provided with one pair of contacts, and a lost motion connection between the blocks, the active block serving to bring one pair of contacts first into wiping relation with respect to the second electrodes, the contacts of the idler blocks being already in engagement with the idler electrodes, the movement of the active block serving to disconnect the contacts from the second electrodes and engage the second pair of contacts and the first electrodes and also serving to disengage the contacts of the idler with the idler electrodes, whereupon return movement of the active block serves first to disengage the contacts from the first electrodes, then brings the second contacts in engagement with the second electrodes but disengages them from the same before the idler contacts are brought back to the initial position of engagement with the idler electrodes.

In testimony whereof, I sign this specification.

WILLIAM R. McNARY.