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M. S. ALCORAN

2,185,071

ELECTRIC SWITCH

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Fig. 1.

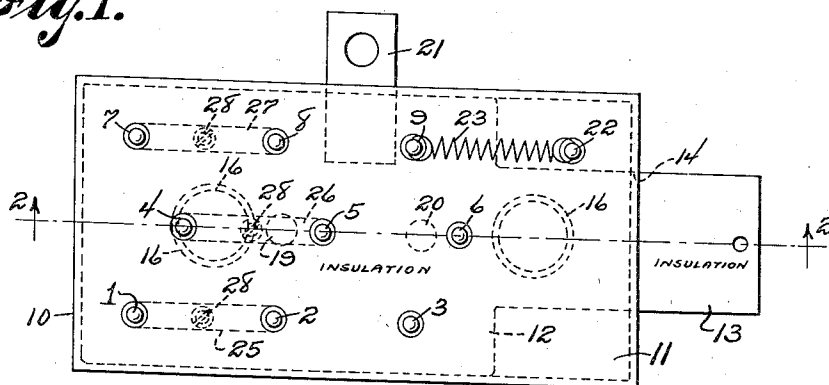


Fig. 2.

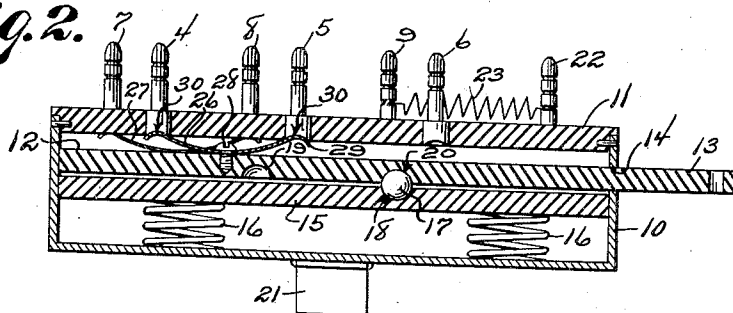
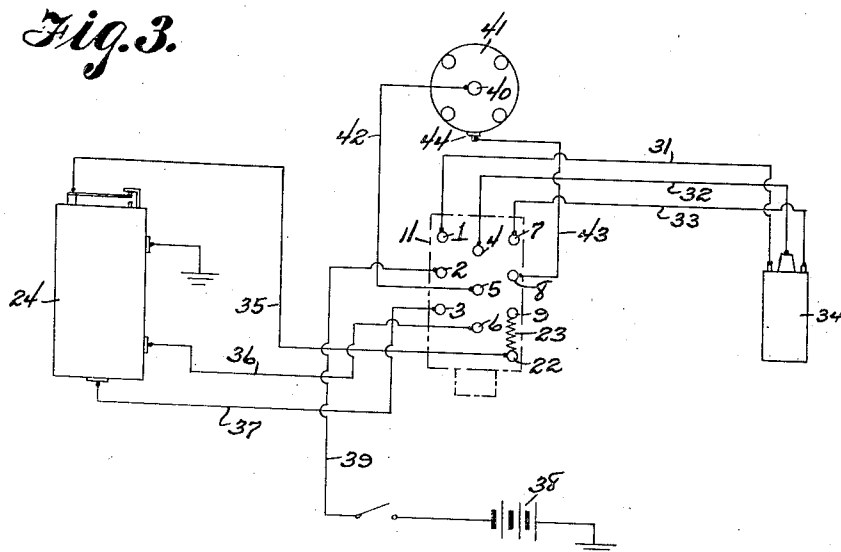


Fig. 3.



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ELECTRIC SWITCH

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1 Claim. (Cl. 200—16)

This invention relates to an auxiliary ignition system for motor vehicles and has for an object to provide an emergency ignition system and novel switch means for disconnecting the existent ignition system and connecting the emergency system when the existent system is incapable of starting the motor by reason of a defective coil, defective condensers, pitted ignition points and other causes.

A further object is to provide a novel switch means in which the sliding circuit closing member for disconnecting one ignition system and substituting the other system is releasably held in either of its two operative positions by a ball stop carried by a pressure plate which urges the ball into selected sockets in the member, pressure being applied to the pressure plate through the medium of two strong springs which carry no part of the current.

A further object is to provide a system and switch of this character which will be formed of a few strong simple and durable parts, which will be inexpensive to manufacture, and which will not easily get out of order.

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 or sacrificing any of the advantages of the invention.

In the accompanying drawing forming part of this specification,

Figure 1 is a plan view of a circuit selector switch constructed in accordance with the invention.

Figure 2 is a longitudinal sectional view of the switch taken on the line 2—2 of Figure 1.

Figure 3 is a diagrammatic view showing the electrical connections of the existent ignition system, and the auxiliary ignition system, and showing the system selector switch for changing from one system to the other.

Referring now to the drawing in which like characters of reference designate similar parts in the various views, a changeover switch is shown comprising a casing 10 having a panel 11 of di-electric material closing the top thereof. A circuit closing member 12 formed of a single sheet of di-electric material is mounted to slide longitudinally in the casing and is provided with a grip 13 which projects through an opening 14 in one end wall of the casing. A pressure plate 15, also preferably formed of di-electric material

is mounted in the casing to move toward and away from the circuit closer and is urged toward the circuit closer through the medium of a pair of strong helical springs 16 which are mounted in the casing below the pressure plate, and carry no part of the current.

A ball 17 is received in a socket 18 formed in the top face of the pressure plate and is interchangeably received in a pair of sockets 19 and 20 formed in the bottom face of the circuit closing member 12. The ball forms a stop to yieldably hold the member in either of its two circuit closing positions.

The casing 10 is provided with a bracket 21, through the medium of which the casing may be mounted upon the head of the vehicle motor, instrument board, or other desired location.

The panel is provided with nine terminals, arranged in rows transversely of the panel, designated from 1 to 9. The panel is also provided with an additional terminal 22 which is connected to the terminal 9 through the medium of a resistance coil of wire 23 adapted to permit current flow of about five to seven amperes when a Model T Ford coil 24 is used in the emergency ignition system.

Three bridging contacts 25, 26 and 27 are disposed longitudinally of the top face of the circuit closing member 12 and are secured thereto by respective screws 28. These contacts are preferably in the form of leaf springs which are bowed upwardly toward the panel 11 and are reversely bent at the tips as shown at 29 in Figure 2 to engage in concave seats 30 formed in the terminals.

These bridging contacts are of such length and are so spaced that when the circuit closing member 12 is disposed at its inner limit of movement in the casing, the contact 25 will bridge and connect the terminals 2 of the intermediate row and 1 of the first row, the contact 26 will bridge and connect the terminals 5 of the intermediate row and 4 of the first row, and the contact 27 will bridge and connect the terminals 8 of the intermediate row and 7 of the first row. When the circuit closing member 12 is disposed at its outer limit of movement in the casing the bridging contacts 25, 26 and 27 will be disconnected respectively from the terminals 1, 4 and 7 of the first row and will be connected to the terminals 3, 6 and 9 of the last row, and to the terminals 2, 5 and 8 of the intermediate row.

In wiring the device the three wires 31, 32 and 33 from the existent ignition coil 34 are connected respectively to the terminals 1, 4 and 7 of the first

row. The three wires 35, 36 and 37 from the model T Ford coil are connected respectively to the terminals 3, 6 and 9 of the last row of terminals. The battery 38 is connected by a wire 39 to the first terminal 2 of the intermediate row. The center contact 40 of the distributor 41 of the existent ignition system is connected by a wire 42 to the center terminal 5 of the intermediate row. The final terminal 8 of the intermediate row is connected by a wire 43 to the side terminal 44 of the distributor.

When the circuit closing member 12 of the changeover switch is at its inner limit of movement to connect the terminals of the first and second row as previously described, the existent ignition system will be operative. When the circuit closing member 12 is at its outer limit of movement in the casing to connect the final row of terminals with the intermediate row of terminals, as previously described, the emergency ignition system, including the model T Ford coil 24 will be operative. In either of the two circuit closing positions of the circuit closing member 12, the pressure plate, urged by the strong springs 16 behind it, frictionally hold the ball in the respective socket 19 or 20 in the circuit closing member and positively prevent dislodgment of the circuit closing member due to vibration or other causes.

In operation to change from the existent ignition system to the emergency ignition system it is simply necessary to grasp the grip 13 and pull

the circuit closing member 12 outwardly. Reverse movement of the circuit closing member re-establishes the existent ignition system.

From the above description it is thought that the construction and operation of the invention will be fully understood without further explanation.

What is claimed is:

A selector switch comprising a casing, a panel of di-electric material closing the top of the casing, a circuit closing member formed of a single sheet of di-electric material mounted to slide longitudinally in the casing, a grip on the member projecting from one end of the casing for sliding the member, a pressure plate mounted in the casing to move toward and away from the member, a pair of helical springs mounted in the casing and urging the pressure plate toward the member, there being a ball forming a stop received in a socket in the top face of the pressure plate, there being sockets in the bottom face of the member interchangeably receiving said ball to yieldably hold the member in either of two circuit closing positions, stationary switch contacts on said panel projecting through the bottom face of the panel and having concave seats in their bottom faces, and bridging switch contacts carried by said member having reversely bent terminals adapted to be interchangeably received in said concave seats.

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