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R. E. WALTAMATH

MOTOR VEHICLE BATTERY SWITCH

Filed Feb. 14. 1925

Fig. 1

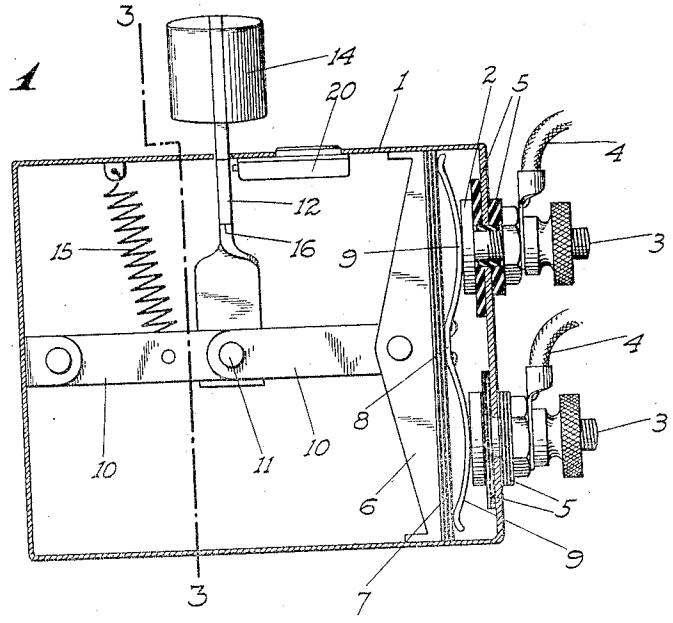


Fig. 2

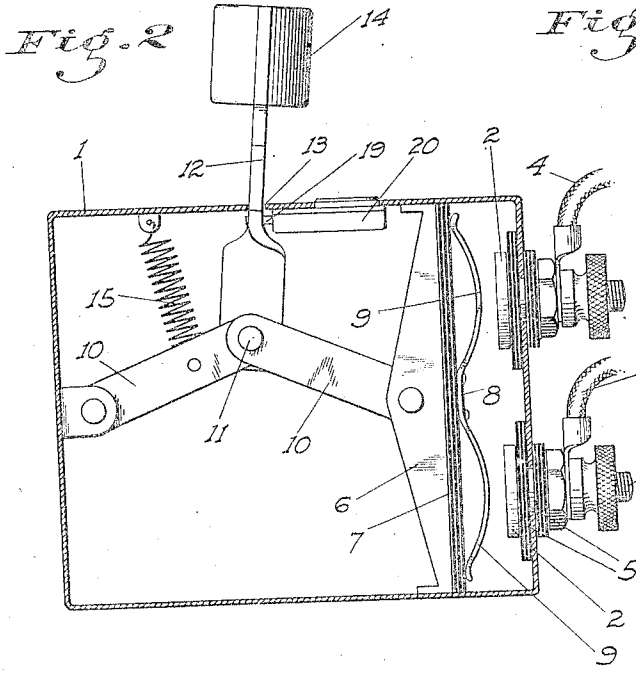
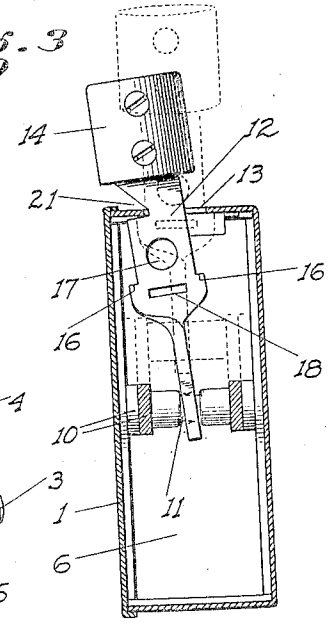


Fig. 3



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UNITED STATES PATENT OFFICE.

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MOTOR-VEHICLE BATTERY SWITCH.

Application filed February 14, 1925. Serial No. 9,121.

This invention relates to improvements in switches to be used in connection with the wiring systems of motor vehicles, my principal object being to provide a master switch, independent of the individual starting, lighting and ignition switches, so constructed that when properly located on the vehicle it will automatically throw or open itself when the vehicle to which it is attached is unduly or too suddenly halted in its travel. Such would occur for instance whenever the vehicle collides with another one or runs up against a sidewalk curb, a pole, or some other rigid obstruction is accidently encountered.

This functioning of the switch therefore causes the engine of the car to be immediately stopped, regardless of whether or not the driver retains presence of mind enough to throw out the clutch or otherwise acts to stop the forward driving of the car. Thus the danger of disaster when the above contingencies take place are at least lessened.

Another object of the invention is to arrange the switch so that it may be easily thrown off by a kick of either foot of the driver, should he desire to do so at any time, and it may also be again closed by foot pressure.

I have also provided a simple means for enabling the switch to be locked in its open position when desired.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a rear view of the switch showing the switch parts in closed position and with the adjacent face of the casing removed.

Fig. 2 is a similar view with the switch open.

Fig. 3 is a sectional elevation on the line 3—3 of Fig. 1.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes a rectangular casing forming a complete enclosure. Disposed in vertically spaced relation in one end of the casing is a pair of contact pads 2, having stems 3 which project through and outwardly of the casing to form binding or terminal posts for connection to the separated ends of a main battery cable 4. Suitable insulation pads 5 are placed between the contacts, their stems and the casing to prevent short circuiting therebetween.

Slidably mounted in the casing and guided between the sides and top and bottom thereof is a slide member 6 positioned near the pads 2 and having on the face thereof adjacent said pads a sheet of insulation material 7. Fixed on said sheet is a conductor element 8 in the form of a strip of spring metal secured at its middle to the sheet 7 and with the ends free. This strip has convex horizontal bows 9 on both sides of the central connection adapted to yieldably engage the contact pads 2 when the slide is moved theretoward. Extending between and connected to the slide 6 and the opposite end of the casing is a toggle joint lever structure 10 to whose central pivotal pin 11 is flexibly connected for limited universal movement the handle 12. This handle projects up through a slot 13 in the top of the casing, said slot being parallel to the pin 11. A heavy knob 14, made of lead or similar weighty material is secured on the uper end of the handle.

A tension spring 15 extends between the toggle structure 10 and the top of the casing, tending to double said structure up and thus move the slide and conductor 8 away from the contact pads 2.

The slot 13 is but slightly longer than the width of the handle and to limit the upward movement of the handle when the spring acts as above stated, said handle has projections 16 adapted to abut against the under face of the top of the casing at the ends of the slot when the handle is raised to a predetermined desired limit.

When the handle is in such position, an orifice 17 in the handle is then just above the casing to receive the shank of an ordinary padlock therethrough, while a slot 18 in said handle is at the same time just below the top of the casing to receive the tongue 19 of a lock mechanism 20 of suitable character which is mounted on the casing adjacent the handle.

Either one or the other of said locking means may be employed and when so locked, the handle cannot be depressed to move the

slide in a manner to engage the contacts and thus close the switch.

The handle in one edge near the top has a notch 21 of suitable form whose lower edge, when the handle is depressed, is adapted to pass under the top of the casing at one end of the slot 13 when said handle is given a lateral movement in that direction in addition to the vertical and switch closing movement.

To cause the switch to operate properly the casing is mounted on the floor of the car just against the forward end of the front seat within reach of the driver's feet and so that the notch 21 faces rearwardly, and with the slot 13 in fore and aft alinement.

It will therefore be seen that a sudden halt of the forward movement of the vehicle, as when conditions are encountered such as set forth in the preamble, will cause the natural momentum of the heavy knob 14 to continue to move forwardly, moving the notch 21 out of engagement with the casing.

The spring is therefore free to function and will instantly act on the toggle structure to draw the slide away from the contacts.

The slot 13 and notch 21 are preferably located in planes at right angles to the toggle joint structure as shown.

This is in order that the casing may be placed so as to take up but little fore and aft room on the floor of the car.

The knob 14 being within reach of the feet of the driver the latter may kick open the switch by a backward movement of either foot at any time he may desire.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

A switch including stationary and movable contact members, spring means tending to hold said members separated, a casing in which said members are mounted, a handle projecting from the casing and operatively connected to the movable member to enable the same to be engaged with the stationary member by a manual manipulation of the handle, disengageable catch means arranged to then hold the handle against retractive movement, and a weight on the outer end of the handle for causing the latter to become disengaged with the catch means when a shock is imparted to the casing from a certain direction.

In testimony whereof I affix my signature.

RAYMOND E. WALTAMATH.