To all whom it may concern:

Be it known that we, THEODORE A. HAMMOND and WILLIAM P. HAMMOND, both citizens of the United States, and residents of Passaic, Passaic county, State of New Jersey, have invented new and useful Improvements in Combined Switch and Lock Devices; and in order that those skilled in the art may understand, make, and use the same, we give the following specification thereof.

Our invention relates to switch devices for electrical circuits and means for locking the same, whereby the circuits controlled by the switch are prevented from being energized or employed by unauthorized persons or persons not possessing the key to the lock.

Our invention is particularly adapted for use in the ignition circuit or circuits of explosion engines as largely used in motor cars and boats, as a means of preventing unauthorized use of such cars or boats and protecting the same from theft.

The object of the invention is to provide a device of the character described simple in construction and operation and effective to prevent the circuits from being closed except by a person possessing the key to the lock.

The invention is illustrated in the accompanying drawings, of which—

Figure 1 is a view showing one form of the device, part of the box broken away to show the construction. Figs. 2 and 3 are detail views showing the casing in front and side view. Figs. 4 and 5 are modifications.

Our invention is applied to the box or other receptacle which contains the induction coil. These coil boxes form part of the regular equipment of motor vehicles and, as is well understood, contain the induction coil and its terminals.

In Fig. 1, A indicates the coil box, which in this view represents a coil box of the regular and usual construction, our invention being applied thereto by means of casing B secured to the outside of the box. The coil box is represented as containing two coils and their terminals, one coil being for energizing purposes in case of derangement or accident to the other. A partition C divides the box into compartments, one for each coil. The coils themselves being of well understood construction are not shown. The terminals 1 and 2, 3 and 4 are the primary terminals of the respective coils. The secondary terminals for each coil are indicated at 5 and 6. Battery or magneto terminals are indicated at 9 and 10, the batteries 7 and 8 and magneto 11 being shown connected therewith. Two sets of batteries are shown—one being for emergencies or to be connected in parallel if desired.

Box A has its cover A' hinged at 12. On the interior of its cover is a lug or catch 13, arranged to be engaged by latch or arm 14 which is formed to take over the catch 13 and hold the cover securely closed. Latch or arm 14 is secured to the inner end of the barrel 15 of a lock 16. This lock may be of any suitable kind. Preferably we employ a lock of the type known as a Yale lock. Such locks are provided with a rotatable barrel (19) which is free to be turned by the key when the latter is inserted in the lock (as at 17 which represents the key-hole) so that by insertion of the key and turning the same to the left the catch is released and the box may be opened; and by turning the key to the right the box may be locked.

Latch 14 is of conductive material, such as copper or brass and also forms the switch. Contacts 18 and 19 are arranged in the path of latch 14—contact 18 being electrically connected to primary terminal 1 of one coil, and contact 19 being electrically connected to primary terminal 3 of the other coil.

In the form of the invention illustrated in Fig. 1, a switch 20 is provided for controlling the several battery and magneto connections. This switch is operated by a button 21 on the outside of casing B. Switch 20 is electrically connected with the latch 14 by wire 14'. Contacts 22, 23, 24, 25 and 26 are arranged in the path of switch 20 and are (with the exception of 23 which is an open contact) connected to the magneto and battery as shown.

The circuits may be traced as follows: With switch 20 in the position shown—on contact 22, either battery 8 or magneto 11 is in circuit so that when the lock 16 is unlocked and latch 14 is moved to contact 18, the circuit is from the battery or magneto, through switch 20, latch 14, contact 18 to primary terminal 1, thence around the primary of the coil to primary terminal 2, thence to ground thus completing the circuit. If switch 20 be moved to contact 24, battery 7 is put in circuit and battery 8 and magneto 11 cut out. In the next position of switch 20 to the right both contacts 25 and 26 are simultaneously closed and both
batteries 7 and 8 in parallel are connected in circuit. By further turning latch 14 to the left, all the above connections are made with the coil connected to terminals 3 and 4. Fig. 4 shows a box provided with two coils separated by partition C. Latch 14 is wholly within the box A and locks into catch 13 on cover A'. When the key is inserted the barrel 15 may be turned and with it latch 14 which forms a switch blade making contact first with contacts 27, 28, in a circuit leading from battery 8 to primary terminal 1. In the second position latch 14 closes contacts 29 and 30, in a circuit leading from said battery to primary terminal 3 of the other coil. In the third position, latch 14 closes contacts 31, 32, in a circuit leading from magneto 11 to primary terminal 1. In the fourth position latch 14 closes contacts 33, 34, in a circuit leading from the magneto 11 to primary terminal 3 of the second coil. Thus either battery or magneto may be connected with either coil as desired. Magneto 11 may be replaced by a battery if desired so that two sets of batteries may be used instead of battery and magneto.

In Fig. 5 a single coil box is shown. In this form of the invention primary terminal 1 is connected to the barrel 15 or hub of latch 14. On turning to first position after insertion of key, latch 14 engages contact 35 in a circuit leading from battery 8. In the second position battery 7 is connected to the coil by latch 14 making contact with contact 36 connected to the battery. In the third position latch 14 engages contacts 37, 38, connected respectively to batteries 7 and 8.

By the foregoing invention the ignition circuit of an engine may be effectively and securely locked against unauthorized persons, thus preventing operation of the engine. In devices commonly employed for locking a switch controlling the ignition circuit the locking is ineffective for the reason that the coil box and terminals are not locked. By merely opening the box the switch may be bridged by a piece of wire or other conductor and the machine operated. Even when a lock is put on the box the coil terminals may be reached by forcing the lock and bridging the switch. With the present invention on the other hand, the forcing of the lock would break or derange the switch blade or latch 14 so that the coil circuit could not be closed or closed only with great trouble and difficulty. By providing two coils one may be used if the other should become deranged.

It is manifest that our invention may be applied to a receptacle other than a coil box as for instance a battery box which is designed to accommodate a battery of dry cells. We therefore wish it to be understood that we do not restrict ourselves in the manner in which our present invention may be put into practice.

Having thus described our invention what we claim as new and desire to secure by Letters Patent is:

1. A switch and switch locking device of the character described, including a receptacle, a cover for the receptacle, a key-operated lock including a rotary element, and means fixedly associated with the rotary element for selectively making and breaking the circuit and for locking the receptacle cover.

2. A device of the character described including a receptacle, a cover for the receptacle, a switch mechanism arranged within the receptacle and including a swinging switch arm, a key operated lock including a rotary member carrying the swinging switch arm, and a keeper adapted to be engaged by the swinging switch arm to lock the cover of the receptacle in a closed position when the switch mechanism is in predetermined position.

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