Among the principal objects which the present invention has in view are: To render the coils inoperative at will; to provide key-operated means for placing the coil in and out of commission; and to provide a key-operated lock for retaining the coil casing in service position.

Drawings.

10. Figure 1 is a side elevation of a fragment of an automobile body partly cut away in section to show the installation on the instrument body thereof of an ignition coil, constructed and arranged in accordance with the present invention.

15. Figure 2 is a longitudinal section of an ignition coil, constructed and arranged in accordance with the present invention, the section being on enlarged scale.

20. Figure 3 is a cross section of the same, the section being taken on the line 3-3 in Fig. 2.

25. Figure 4 is a cross section of the same, the section being taken on the line 4-4 in Fig. 2.

30. Figure 5 is a schematic view showing the relation of the lock control switch and elements of the ignition system employed in conjunction therewith.

Description.

As seen in the drawings, a coil having a core 10, a primary coil 11, and a secondary coil 12, all of usual construction, is held in a continuous walled metal case 13, which is seated at one end in a face plate 33. The terminals of the primary coil extend through the said case 13 and provide binding posts 14 thereof. A binding post 15 is provided for the high tension wire 16 which goes to the distributor of the ignition system. In Figure 5, the distributor is designated by the numeral 17 as a switch for making and breaking the circuit to distribute the current through the sparking points of ignition plugs 18 provided for the various cylinders of an internal combustion engine.

The secondary current is grounded by the screw 19 on the case 13 as shown in Fig. 2 of the drawings. The grounds for the primary coil 11 and the battery 20 as shown in Fig. 5 are formed in the usual manner. The interrupter for the primary current being indicated in Fig. 5 by the numeral 21.

Both the primary and secondary coils are broken when the coil is constructed and arranged in accordance with the present invention, the parted windings having terminals 22 and 23 for the primary coils and 24 and 25 for the secondary coil. The terminals are arranged subsequently as shown in Figures 2 and 3 in line, and adapted to be metallically electrically connected by metallic blades 26 and 27 whenever the insulating disk 28 in which the said blades are mounted is rotated to place the said blades in contact with the said terminals. To this end the terminals are mounted preferably on the fiber partition 29 through which the connecting bolts unifying the said terminals with the respective ends of the mentioned coils, are connected.

The disk 28 is constructed from any suitable insulating material, preferably as stated, fiber, and is mounted on the shaft 30 which is operatively connected with the key barrel 31 of a suitable combination or permutation lock. The lock shown in the drawings is operated by the usual combination key such as indicated in broken lines in Fig. 2 of the drawings and by the numeral 32.

It is obvious that when the key 32 is inserted in the lock and the key barrel 31 with the shaft 30 is turned thereby, the blades 26 and 27 may be brought in line with the terminals 22, 23, 24 and 25, respectively, with the result that the primary and secondary windings of the coil are completed. It is also obvious that when the lock is turned back to remove the key 32 as is usual with locks of this type, the blades 26 and 27 are disposed as shown in Fig. 3 of the drawings, removed from the said terminals with the result that the said windings are interrupted and the circuits in which they are incorporated are broken.

As shown in the drawings, the case 13 is locked to the face plate 33 of the lock by means of sliding plates 34, slots being provided in the case 13 to receive the said plates as shown best in Figures 2 and 4 of the drawings.

The plates 34 are guided in the operation by suitable slots 35 formed in the face plate 33. The plates 34 are normally retracted by springs 36 which are connected
to pins 37 and are anchored by pins 38 to the top plate 39 of the case 13. The said plates are moved outwardly to engage the slots in the case 13 by means of cam blades 40 which extend in opposite direction from and are rigidly secured to the shaft 30.

From the foregoing it is obvious that when a car is equipped with an ignition coil constructed and arranged as herein disclosed, the driver or attendant on removing his car, removes the key 32 from the lock to which it is applied. To do this he rotates the shaft 30 to a position similar to that shown in Fig. 3 of the drawings, removing the plates 26 and 27 from contact with the terminals 22 and 23, and 24 and 25, thereby interrupting the circuits of the windings of the coil.

At the same time the blades 40 move outward the plates 34 thereby locking the case 13 to the face plate 33 with the result that tampering with the coil is prevented. In this way a substantial and effective safety lock for the motor vehicle is provided.

Claim.

A device of the character described comprising an ignition coil receptacle having a top plate, an insulating partition disposed therein and spaced from said top plate, a rotatable shaft journalled between said top plate and partition and extending beyond said top plate, a face plate for said receptacle disposed over said top plate, key-operated means carried by said face plate in connection with said shaft for the rotation thereof, bolts slidable disposed on said top plate for locking engagement through the receptacle and the face plate, a cam on said shaft for actuating said bolts, and a circuit closer carried by said shaft between said insulating partition and the top plate.

THOMAS JAMES COWAN.