To all whom it may concern:

Be it known that we, ST. GEORGE EVANS and EDWARD B. BIRKENBEUEL, citizens of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Automobile-Theft Preventer, of which the following is a specification.

Our invention relates more particularly to that class of self-propelled vehicles whose movement under power depends upon an electric circuit, either for ignition or propelling purposes.

The objects of our invention are to provide a means for automatically signaling an attempt to move an automobile by unauthorized persons; and to provide a means for locking the electric circuit open, in case it will be impossible to move the car by its own power. Either object being attained at the will of the owner, as hereinafter described.

To accomplish these results we have constructed the mechanism as shown in the accompanying drawing, in which—

Figure 1 is a plan of a controlling switch board for setting an alarm upon leaving car, and releasing it upon returning to same, or for opening the ignition circuit to prevent operation of the car; Fig. 2 is a plan of the switch board with the cover plate removed; Fig. 3 is a partial section through the device showing switch board cover, switch board, and horn cover partly cut away; Fig. 4 is a diagram of wiring arrangement; Fig. 4 (dotted lines) shows a series wiring through the coil box instead of the horn for the purpose of breaking the circuit to disable the car.

Similar figures and numbers of reference refer to the same or similar parts throughout the several views.

A\(^1\) is the key of an ordinary two-way indicator snap switch which has the usual base A\(^2\) and the indicator window A\(^3\) for observing the position of numbers A\(^4\). The snap switches are mounted upon a switch board A\(^5\) which is secured to any suitable place, preferably inside the dash, but can be placed inside the tool box or in any convenient or concealed place.

The electric horn B\(^1\) may be the one already on the car, or one having a special horn guard B\(^2\). The perforations B\(^3\) in the guard B\(^2\) are used to allow the sound to escape. A pipe B\(^4\) is used to ground the circuits and conduct wires to generators, the object being, of course, to prevent tampering. The pipe B\(^4\) is secured to horn guard B\(^2\) by locked nuts B\(^5\) which are brazed in place to prevent removal. The switch board A\(^6\) is secured to horn guard B\(^2\) by screws B\(^7\) which pass through the support A\(^8\).

Covering the group of switches is cover C\(^1\) whose walls C\(^2\) completely surround switch board A\(^6\). Cover C\(^1\) may be held in place by a spring latch, friction, gravity, or by hinges and locks as seems most desirable. In the top of cover C\(^1\) there are holes C\(^3\) which are just large enough to admit the switch keys A\(^3\). Near each hole C\(^3\) is placed the key number C\(^4\). The current is supplied from the magneto C\(^5\), or if batteries are used to operate the car, that circuit may take the place of the magneto circuit. One pair of poles of each snap switch is wired in parallel through the alarm circuit C\(^6\), and the other pair of poles is wired in series to ignition circuit D\(^1\) in which D\(^2\) represents the coil box.

The operation of our device is as follows: Upon leaving his car and desiring to protect it against theft the driver will operate one or more of the switches A\(^1\), taking care to remember which number or numbers he operates. Let us assume that he operates numbers 5, 7 and 9, as shown in Fig. 1. To outward appearance the device shows no change; however, by inspecting Fig. 4 we will see that at keys 5, 7 and 9 contacts are made across the parallel circuit C\(^4\), which, if charged with electricity, will sound the alarm B\(^1\). This alarm will sound as long as the current passes through the circuit.

If the thief merely cranks a car equipped with this device the alarm is sounded provided the magneto switch is turned on. If he attempts to start on the batteries the result will be the same, except that the alarm will continue to sound as long as the battery switch is turned on. In other words, any current which is offered to the spark plug is
shunted through the alarm circuit unless every switch in our device is turned so as to permit the current from the batteries or the magneto to pass through its pair of poles which are in the series circuit. It will be readily seen that if every switch is turned toward the series circuit it will be impossible to shunt the current through the alarm, but when the driver of the car operates the switches 5, 7 and 9, as suggested, he not only sets the alarm, but, in addition, makes three breaks in the series wiring D by means of the same switches in which he made a contact in the parallel wiring C. It must be evident that unless the circuit is restored it will be impossible to get the slightest ignition or to apply electric power to the circuits without sounding the alarm.

We have assumed that the thief did not see the device because of its being concealed, but let us suppose that he discovered it and endeavored to re-set the keys. The difficulty of this undertaking does not require description. He has no way of trying the ignition system without exposing himself by the sounding of the alarm. Let us suppose that cover C is not locked and he removes same. Through the windows A appear the numbers A*. These can be set in any position when the device is installed, but when the device is set to operate the car without sounding the alarm they have a fixed value which is only altered when it is thought that someone has secured the combination.

Let us suppose that the driver returns and attempts to start his car. The first thing he should do is to operate the same switches he did before leaving his car. This should release the alarm and restore the ignition circuit. If, upon attempting to start his engine, he finds that the alarm has sounded and no power results he knows at once that either he has not operated the proper keys upon his return or someone has tampered with his car. He now removes the cover C and a glance at the numbers A* in the windows A* tells him what has happened, and all that it is necessary for him to do is to turn the keys back to the proper position.

He, of course, having a mental or written record of the correct combination of the numbers.

For example:—In Fig. 2 the combination would be 3, 3, 5; 6, 5, 7; and 2, 7, 3, and he would know that it would be impossible to start his car unless these numbers appeared in the windows.

If the engine then fails to start he will know at once that the fault lies elsewhere.

He will then turn one of the switches and if he sounds the alarm, the next time he attempts to start the car, he can rest assured that the fault is not in the electrical unit.

We will refer to the windows A* and the numbers A* as "a cover key position determining means."

It will be seen that none of the keys need be in both the ignition and the alarm circuits; that all may be in both; that some may not be in either of the circuits, the various combinations being arranged at the option of the owner without departing from the spirit of our invention.

What we claim as new and desire to protect by Letters Patent of the United States, is:

1. In an automobile theft preventer, the combination of a number of two-way switches, an ignition circuit wired through said switches in series, an electric generator, an alarm circuit wired through said switches in parallel, and an alarm means, substantially as described.

2. In an automobile theft preventer, the combination of a number of two-way indicator snap switches each consisting of a four pole switch having a rotatable blade member carried on a central key stem and arranged to bridge the gap between either of the pairs of poles, a covered key position determining means, an electric generator, an ignition circuit wired through said switches in series, an alarm circuit wired through said switches in parallel, and an alarm means, substantially as described.

3. In an automobile theft preventer, an ignition system comprising a generator and circuit wires in combination with a number of two-way indicator snap switches each consisting of a four pole switch having a rotatable blade member carried on a central key stem and arranged to bridge the gap between either of the pairs of poles, one pair of poles on each switch being wired in series in said ignition circuit. The other pair of poles being wired in parallel across said alarm circuit, an alarm circuit forming a shunt past said ignition circuit, and a key position determining means comprising a numbered dial mounted on each separate switch in a manner that only one number will show through an opening in said switch covering, a means for concealing said exposed numbers comprising a cover for enclosing entire group of switches but allowing openings for the operation of said switch keys, and an alarm member, for the purpose set forth substantially as described.

4. In an automobile theft preventer, the combination of an ignition circuit, two-way indicator snap switches each consisting of a four pole switch having a rotatable blade member carried on a central key stem and arranged to bridge the gap between either of the pairs of poles, one pair of poles being interpolated in series in said ignition circuit, an alarm circuit, a power supplying means for both of said circuits, an electric alarm
member wired in series in said alarm circuit, said alarm circuit passing in parallel through the other pair of poles of said two-way switches, a key position determining means constituting indicator numbers on said switches, and a position concealing member consisting of a cover for the entire group of switches except the key portion and having an identifying means for the various switches consisting of a character 10 set near each of the respective openings in said concealing member.

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Witnesses:
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