

C. A. PFANSTIEHL.  
ELECTRIC SWITCH.  
APPLICATION FILED APR. 18, 1910.

985,701.

Patented Feb. 28, 1911.

Fig. 1.

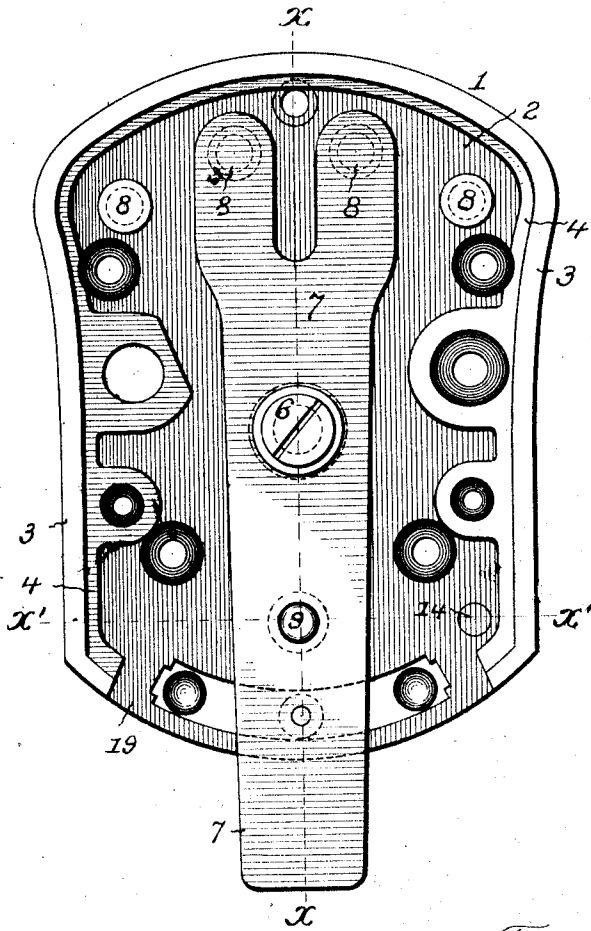


Fig. 2.

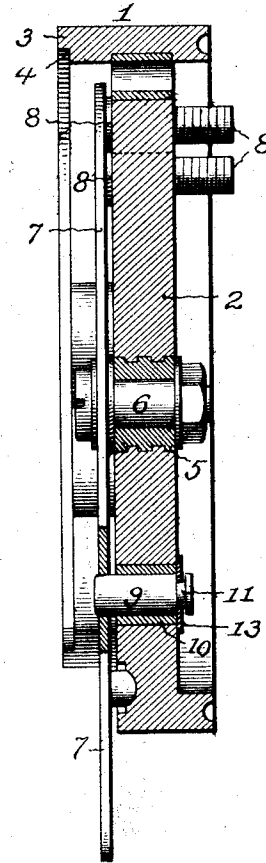
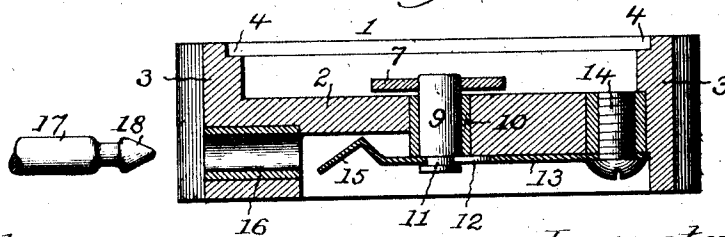


Fig. 3.



Attest:  
John Enders.  
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Carl A. Pfanstiehl,  
by Robert Burns  
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# UNITED STATES PATENT OFFICE.

CARL A. PFANSTIEHL, OF HIGHLAND PARK, ILLINOIS, ASSIGNOR TO PFANSTIEHL ELECTRICAL LABORATORY, OF NORTH CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

## ELECTRIC SWITCH.

985,701.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed April 19, 1910. Serial No. 556,250.

*To all whom it may concern:*

Be it known that I, CARL A. PFANSTIEHL, a citizen of the United States of America, and a resident of Highland Park, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Electric Switches, of which the following is a specification.

This invention relates to electric switches used on automobiles and the like for placing under control of the operator the line connections between the spark generating means and the sparking terminals of the internal combustion engines employed as a motive power. And the present improvement has for its object to provide a simple and efficient structural arrangement and combination of parts adapted to afford a secure and substantial locking of the switch operating lever in its dormant condition, and in which the electrical connections to the sparking terminals of the engines are broken and so that the same are incapable of operation, all as will hereinafter more fully appear.

In the accompanying drawings: Figure 1, is a front elevation with the face or cover plate removed. Fig. 2, is a vertical sectional elevation on line  $x-x$ , Fig. 1. Fig. 3 is a transverse sectional elevation on line  $x'-x'$ , Fig. 1.

Similar reference numerals indicate like parts in the different views.

Referring to the drawings, 1 represents the supporting base or casing of insulating material, and comprising a middle web portion 2 and a marginal frame or portion 3 providing recesses at front and rear of the web for containing the constituent members of the switch mechanism.

4 is an inner recess in the outer end of the frame 3 for the reception of a removable cover plate (not shown) to provide a closed chamber for the switch lever and contacts hereinafter described.

5 is a central pivot bushing fixedly secured in the web 2 and forming the bearing for a pivot bolt 6 which carries the switch lever 7 arranged in a vertical manner at the front of the web 2, with its lower portion extending below the bottom of the casing 1, so as to be capable of operation by the foot of the operator. The upper end of said lever is preferably of the forked form shown, and

is adapted to span two of the stationary contact points or plugs, now to be described.

8 are a segmental series of four contact plugs extending through the web 2, with their front ends in the path of the upper end of the switch lever 7 and adapted for electric contact therewith, while their rear ends are provided with screw extensions adapted to receive the binding nuts by which individual line connections of the system are made to said plugs.

The line connections above referred to will be that of any of the different systems of wiring generally used in automobile ignition systems. In all cases, the central pair of contact plugs will preferably have connections so arranged that with the switch lever 7 in contact with said pair of plugs, the system will be inoperative, and the present invention involves means for locking the switch lever in the described inactive position against unauthorized manipulation, and to such end comprises a construction as follows:—9 is a bolt sliding in a bushing 10 that extends through the web 2, aforesaid. The forward end of said bolt is adapted for engagement in an aligned orifice formed therefor in the switch lever 7 as shown, while its rear end has operative engagement, by means of a circumferential groove 11 and elongated slot 12, with a spring plate 13 attached at one end to the rear face of the web 2 of the supporting casing 1, by a screw and bushing 14. The normal tendency of said spring plate 13 is to force the bolt 9 outward into engagement with the switch lever when not restrained by means now to be described. 15 is an angular bend, preferably of the V form shown, in the free end of the spring plate 13, and 16 is a guide bushing secured in the marginal frame 3 in longitudinal alinement with said spring end and adapted to provide a longitudinal guideway for a removable key or plug 17, the end of which is formed with a taper head 18 adapted to engage the aforesaid V shaped free end of the spring plate 13 and retract the bolt 9 from its locking engagement with the switch lever 7 leaving the same free to be manipulated by the operator as required. With the switch lever returned to its dormant or inactive position, and the key or plug 17 removed, an

automatic locking of the switch lever takes place.

19 is a gap in the bottom portion of the marginal frame 3, in which the switch lever 5 7 plays and is limited in its throw.

Having thus fully described my said invention what I claim as new and desire to secure by Letters Patent, is:—

1. In a switch of the character herein described, the combination of a supporting base, a segmental series of stationary contact points arranged on said base, a movable switch lever pivoted on said base, and means for locking said lever in a dormant position, the same comprising a bolt sliding in said base and engaging an orifice in said lever, a spring plate engaging said bolt and yieldingly holding the same to its engagement with the switch lever, and a bushing secured to the base in longitudinal alinement with said spring plate and adapted to guide a plug longitudinally to engage the free end of the spring plate and move the bolt out of engagement with the switch lever, substantially as set forth.

2. In a switch of the character herein described, the combination of a supporting base, a segmental series of stationary contact points arranged on said base, a movable switch lever pivoted on said base, and means for locking said lever in a dormant position, the same comprising a bolt sliding in said base and engaging an orifice in said lever, a spring plate formed with an angular free end and having engagement with said bolt to yieldingly hold the same to its engagement with the switch lever, and a bushing secured to the base in longitudinal alinement with said spring plate and adapted to guide a plug longitudinally to engage the angular free end of the spring plate and release the switch lever, substantially as set forth.

Signed at Highland Park, Ill., this 5th day of April 1910.

CARL A. PFANSTIEHL.

Witnesses:

NELLIE FITZGERALD,  
HERBERT MOON.