

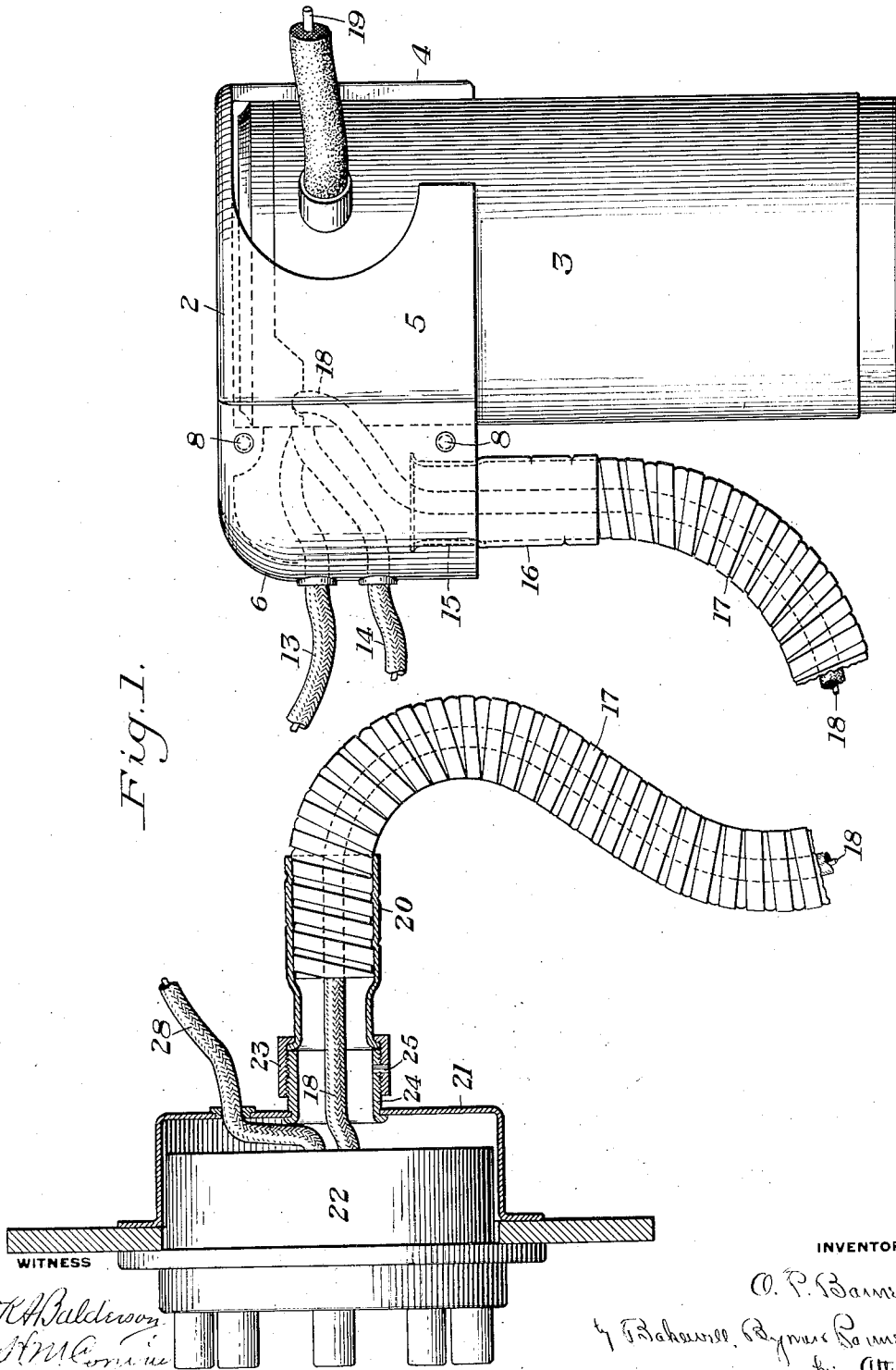
O. P. BARNES.
 ARMOR FOR IGNITION SYSTEMS.
 APPLICATION FILED JUNE 5, 1919.

1,375,549.

Patented Apr. 19, 1921.

2 SHEETS—SHEET 1.

Fig. 1.



INVENTOR.

O. P. Barnes

by F. A. Barnes, Attorney

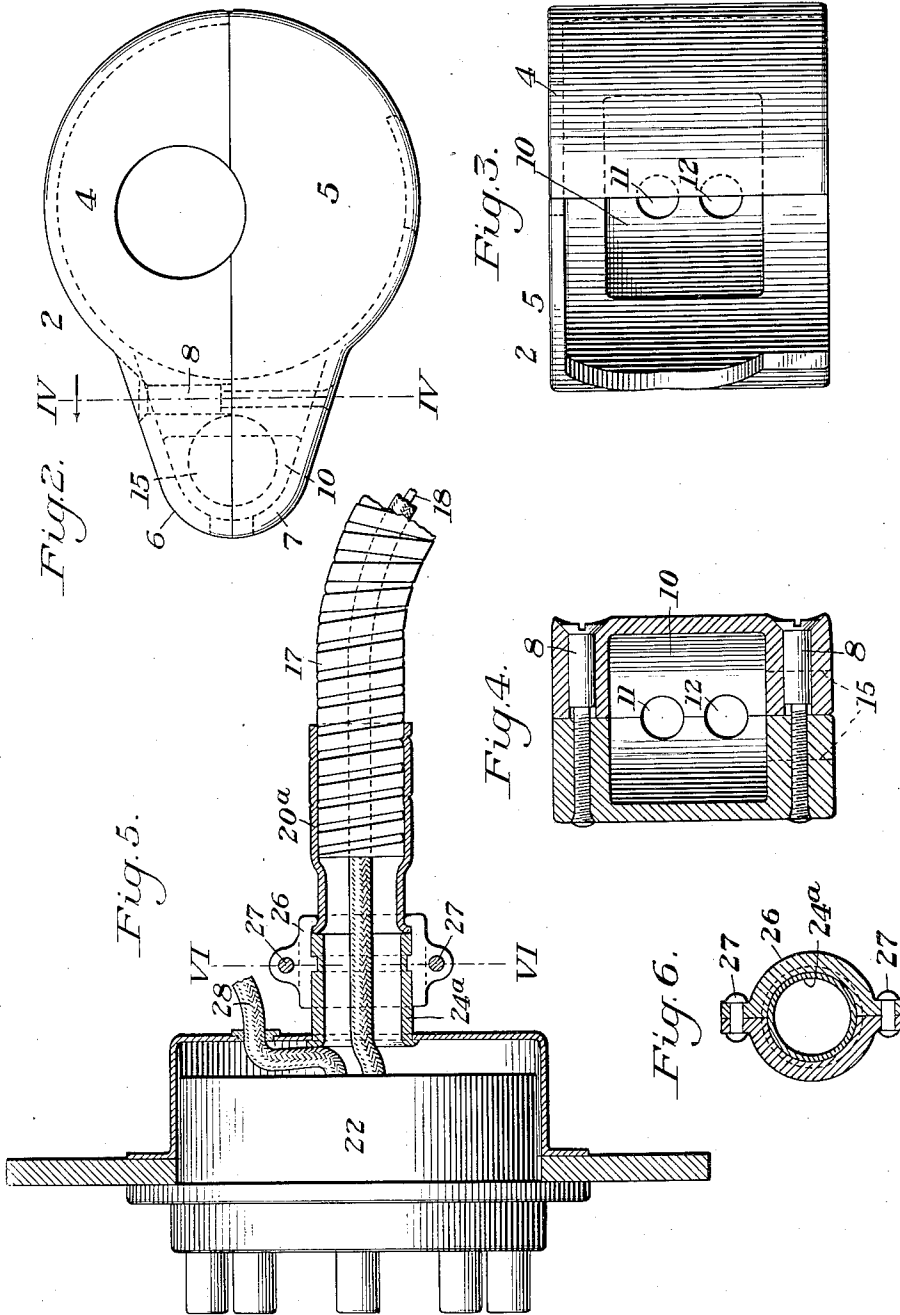
WITNESS
 H. A. Baldwin
 H. M. Corbin

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WITNESS

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INVENTOR.

O. P. Barnes
by *Baker, Dyer & Barnes*
his Attys

UNITED STATES PATENT OFFICE.

ORANGE P. BARNES, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
NATIONAL MOTOR CONTROL CO., A CORPORATION OF DELAWARE.

ARMOR FOR IGNITION SYSTEMS.

1,375,549.

Specification of Letters Patent.

Patented Apr. 19, 1921.

Application filed June 5, 1919. Serial No. 301,856.

To all whom it may concern:

Be it known that I, ORANGE P. BARNES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Armor for Ignition Systems, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation partially in section of one form of my improved device in connection with an electrical switch and a cover for a spark coil.

Fig. 2 is a plan view of the cover for the spark coil shown in Fig. 1.

Fig. 3 is a side elevation thereof.

Fig. 4 is a detail sectional view on the line IV—IV of Fig. 2.

Fig. 5 is a side elevation partially in section of a modified form of connection between the switch casing and the armor for the wire, and

Fig. 6 is a detail sectional view on the line VI—VI of Fig. 5.

This invention relates to an improvement in armors for ignition systems and more particularly to an armor for a portion of the wire from the source of energy to the spark coil, and for that portion of the wire extending from the controlling switch to the spark coil.

It is well known to those familiar with the art that a great many cars or automobiles are stolen even though the control switch for the circuit leading from the source of energy to the spark coil is locked in its open position. This is accomplished by cutting the wires leading into and out of the switch casing and connecting them to each other, or by shunting the switch by connecting the wires to each other outside of the switch casing.

The object of my invention is to provide an armor which will make it difficult to shunt the control switch between the source of energy and the spark coil.

In one form of my invention I accomplish this by protecting the terminals of the spark coil with a metallic casing which is secured to the top of the spark coil in such a manner that it will be difficult for a thief to remove the cover with tools such as can readily be carried on his person; and protecting the wire between the spark coil and

the controlling switch casing by means of a metallic conduit or armor which is connected to the spark coil cover and the casing for the switch. By this arrangement the entire length of that portion of the wire extending from one pole of the switch to one pole of the spark coil is entirely protected by means of an armor which will make it difficult for the thief to shunt the switch.

The precise nature of my invention will be best understood by reference to the accompanying drawings which will now be described, it being premised however, that various changes may be made in the details of construction of the device, without departing from the spirit and scope of my invention as defined in the appended claims.

Referring to the accompanying drawings, the reference character 2 designates a covering for a spark coil 3, which cover is made up of two parts 4 and 5. Each of these parts 4 and 5 is provided with laterally extending projections 6 and 7 respectively which are secured to each other by means of through bolts or screws 8. The projections 6 and 7 are each recessed on their inner adjacent faces to provide a cavity for some of the wires. Extending laterally through these projections are smaller recesses 11 and 12 which form openings through which the wires 13 and 14 extend from the spark coil to the timer. Extending vertically through the wall of each of these projections 6 and 7 and communicating with the recess 10 is an opening 15 somewhat larger than the openings 11 and 12, which form a mouth for engaging a throat member 16 of a flexible conduit 17 and through which conduit the wire 18 from the source of energy to the primary coil of the spark coil extends. 19 is a high tension wire extending from the spark coil 3, which passes out through an opening formed in the side wall of the shell of the part 5 which surrounds the spark coil. The projection of the part 4 is provided with a plurality of openings for the reception of the bodies of the screws 8 while the part 7 is provided with threaded openings for said screws. The outer ends of the opening in the part 7 for the screws 8 may be counter-sunk, and after the cover has been secured in position about the spark coil, the ends of the screws 8 may be peened over so that it will be

very difficult to remove the cover from the spark coil to gain access to the wire 18 or the pole of the spark coil to which said wire is connected.

5 The other end of the flexible conduit 17 is also provided with a throat member 20 which may be connected to the casing 21 of a control switch 22 by means of a coupling member 23 as shown in Fig. 1. This coupling member may be secured to the projec-
10 tion or nipple 24 of the casing by means of a through pin such as 25, which will make it difficult to disconnect the flexible armor 17 from the switch casing.

15 In Figs. 5 and 6 I have shown another form of connection between the flexible armor 17 and the switch casing which comprises clamping members 26 which are connected to each other about the nipple 24^a
20 and the throat member 20^a by means of rivets 27. 28 is a wire which extends from one pole of the source of energy to the switch 22, and which in this case has not been protected by means of an armor; but
25 in order to shunt the switch it will be necessary for the thief to break through some portion of the armor between the casing 21 for the switch 22 and the pole for the wire 18 on the spark coil in order to connect the
30 wire 28 to the wire 18 in order to close the circuit from the source of energy through the primary coil of the spark coil.

In the drawings I have shown a construction in which that portion of the wire
35 from the source of energy to the primary coil of the spark coil extending from the switch to the spark coil has been protected by means of an armor; but it will readily be understood by those familiar with the art
40 that other portions of this wire may be protected. For example, the pole at the source of energy to which the primary wire for the coil is connected may be protected by means of a cover, and the wire extending from this
45 pole of the source of energy to the switch casing 21 may be protected by means of an armor.

The advantages of my invention result from the provision of an armor for one of
50 the wires extending from the source of energy to the spark coil, which is protected by means of an armor which will prevent the shunting of the control switch and thereby prevent the passage of current from
55 the source of energy to the spark coil except through the control switch.

I claim:

1. The combination with an ignition system having a wire leading from one pole of
60 a source of energy to one pole of a spark

coil, of an incased switch connected to an intermediate portion of said wire, a cover for one of said poles, means for securing said cover in position about said pole, and an armor connected to said switch casing
65 and the cover inclosing that portion of the wire between the switch casing and the cover, substantially as described.

2. The combination with an ignition system having a wire leading from one pole of
70 a source of energy to one pole of a spark coil, of an incased switch connected to an intermediate portion of said wire, a cover for one of said poles, means for securing said cover in position about said pole, and a
75 flexible armor conduit connected to said switch casing and the cover inclosing that portion of the wire between the switch casing and the cover, substantially as described.
80

3. The combination with an ignition system having a wire leading from one pole of
a source of energy to one pole of a spark coil, of an incased switch connected to an
85 intermediate portion of said wire, a cover for the spark coil, means for securing said cover in position about the spark coil, and a flexible armor connected to said switch casing and the cover for the spark coil inclosing that portion of the wire between the
90 switch casing and the cover, substantially as described.

4. A cover for a spark coil made of two separable members arranged to incase the
top of the spark coil, there being a recess
95 at the side of said cover for some of the wires connected to the poles of the spark coil, openings extending through the wall of said casing communicating with said recess
100 through which some of said wires pass, means for fixedly securing said cover members to each other, said cover having means for connecting a tubular armor thereto for one of the wires leading from the spark
105 coil, substantially as described.

5. A cover for a spark coil formed of two members, means for rigidly securing said
members to each other, said members having downwardly extending flanges which
110 surround the wall of the spark coil and which form clamps for securing the spark coil in position, there being openings through the wall of the cover through which the wires extend to some of the poles
115 of the spark coil, and means for securing a flexible armor to said cover, substantially as described.

In testimony whereof, I have hereunto set my hand.

ORANGE P. BARNES.