No. 772,591. PATENTED OCT. 18, 1904.

R. VARLEY.

INDUCTION COIL.

APPLICATION FILED JULY 12, 1904.

NO MODEL.

Fig. 1.

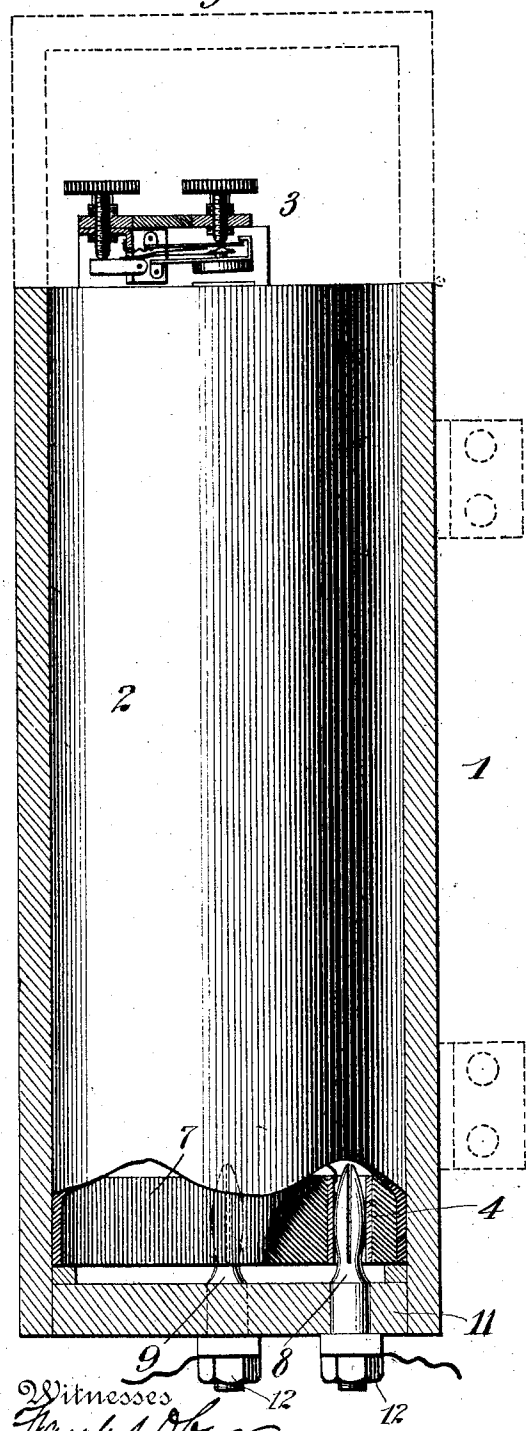


Fig. 2.

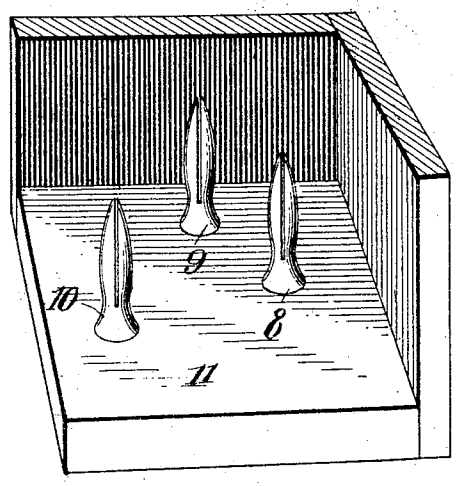
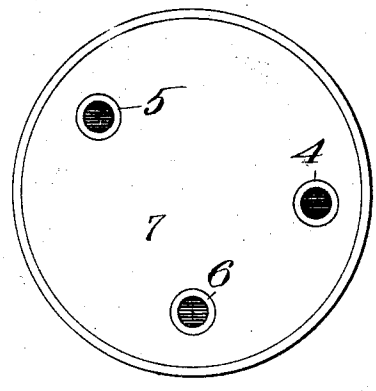


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

RICHARD VARLEY, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO VARLEY DUPLEX MAGNET COMPANY, A CORPORATION OF NEW JERSEY.

INDUCTION-COIL.

SPECIFICATION forming part of Letters Patent No. 772,591, dated October 18, 1904.

Application filed July 12, 1904. Serial No. 216,255. (No model.)

To all whom it may concern:

Be it known that I, RICHARD VARLEY, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Induction-Coils, of which the following is a full, clear, and exact description.

It is a well-known fact that it becomes necessary at somewhat frequent intervals to remove induction-coils from boxes or housings in which they are contained for purposes of inspection and repair. When this is done, the circuit-conductors to the induction-coil must be disconnected, and with the ordinary form of induction-coil this is very inconvenient and consumes considerable time.

The object of my invention is to obviate or overcome this objection by providing means whereby the circuit connections to the coil may be automatically closed by the act of introducing the coil into the box or housing therefor and automatically opened or broken by the act of removing the coil from its housing.

The invention consists of a box or housing having electrical contacts therein and an induction-coil adapted to fit within said box and provided with contacts or terminals which when the coil is in place are adapted to engage the contacts in said box.

It also consists in certain features and details of construction and combinations of parts, which will be hereinafter more fully described and claimed.

In the drawings forming part of this specification, Figure 1 is a sectional elevation of an induction-coil shown in place within a box or housing and illustrating my invention. Fig. 2 is a sectional perspective view of the lower end of the box or housing with two of the side walls thereof removed, and Fig. 3 is a bottom plan or end view of the induction-coil.

The box or casing 1 has been shown as rectangular in cross-section, the same being of such dimensions as to readily receive the induction-coil 2. This box is supposed to be permanently fixed in position at the point where the induction-coil is to be used and is preferably provided with a lid or cover at one end.

The induction-coil 2 may be of any suitable or preferred construction. That illustrated herein is of substantially the same form as that described in Letters Patent of the United States No. 748,442, granted to me December 29, 1903. The vibrator 3 is connected to one of its heads, and the contacts or terminals 4, 5, and 6 are connected to the opposite head 7 thereof. These terminals have been shown as consisting of metallic tubes or sockets, from which the wires to the primary and secondary windings of the coil lead. For a purpose which will presently appear the contacts 4, 5, and 6 are irregularly arranged in the head 7, as illustrated in Fig. 3 of the drawings.

The bottom or end wall of the box or housing 1 is provided with contacts 8, 9, and 10, which, as shown, project inwardly or upwardly therefrom and are in the form of plugs which are split longitudinally, so as to provide two compressible spring members. These contacts lead through the end wall 11 of the box 1 and are shown as provided on their outer ends with binding-nuts 12, through which the circuit-wires are connected thereto. The contacts 8, 9, and 10 are also irregularly arranged, as shown in Fig. 2. The particular arrangement, however, is the same as that of the terminals 4, 5, and 6, so that when the induction-coil is properly introduced into the box or housing 1 the plug 8 will fit within and form electrical connection with the socket-terminal 4, the plug 9 will fit within and form electrical connection with the socket-terminal 5, and the plug 10 will fit within and form electrical connection with the socket-terminal 6. By this means it is impossible for any except the proper circuit connections to be made with the different windings of the coil.

From the foregoing description it will be seen that if it is desired to remove the induction-coil 2 from its box or housing 1 the same may be readily done by merely opening the lid or cover of said box and withdrawing said coil therefrom. The circuit connections be-

tween the contacts 8, 9, and 10 and the terminals 4, 5, and 6 are thus automatically broken without the necessity of opening binding-posts and disconnecting wires, as is ordinarily required. To replace the induction-coil within its housing 1, it is merely necessary to insert the same therein and then turn it until the socket-terminals 4, 5, and 6 register with the contact-plugs 8, 9, and 10 and then force it down to its seat. The circuit connections are thus automatically reëstablished in the quickest possible time and in a most convenient manner.

Having now described my invention, what I claim is—

1. The combination of a box or housing, an induction-coil adapted to fit therein, a group of contact-plugs on one of said parts and a similar group of hollow contacts or terminals on the other of said parts, the hollow contacts being arranged to receive all of said plugs at the same time, as and for the purpose set forth.

2. The combination with a box or housing having a group of inwardly-projecting contact-plugs in one end thereof, of an induction-coil having hollow contacts or terminals in one of its heads adapted to receive all of said plugs at the same time.

3. The combination with a box or housing having a group of electrical contacts irregularly arranged in the bottom thereof, of an induction-coil adapted to fit within said box and provided with similarly-arranged contacts or terminals adapted respectively to engage the contacts in said box.

4. The combination with a box or housing having a group of inwardly-projecting irregularly-arranged contact-plugs in one end thereof, of an induction-coil having similarly-arranged socket-terminals in one of its heads adapted respectively to receive said plugs.

5. The combination with a box or housing having a group of inwardly-projecting contact-plugs extending through one end thereof, of means for connecting circuit-wires to the outer ends of said plugs, and an induction-coil having hollow contacts or terminals in one of its heads adapted to receive all of said plugs at the same time.

In witness whereof I subscribe my signature in the presence of two witnesses.

RICHARD VARLEY.

Witnesses:
WM. M. STOCKBRIDGE,
E. L. BOWERS.