

L. G. NILSON.
ELECTRIC INTERRUPTER.

(Application filed May 14, 1902.)

(No Model.)

Fig. 1.

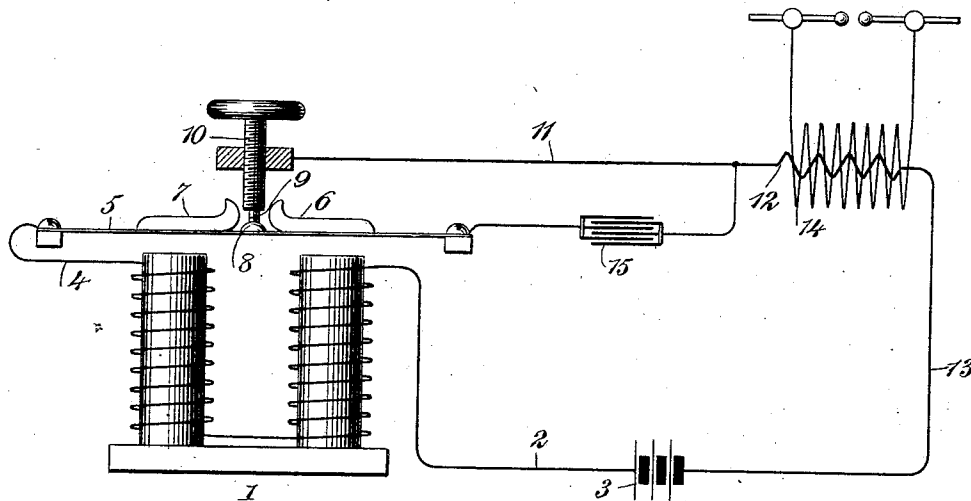
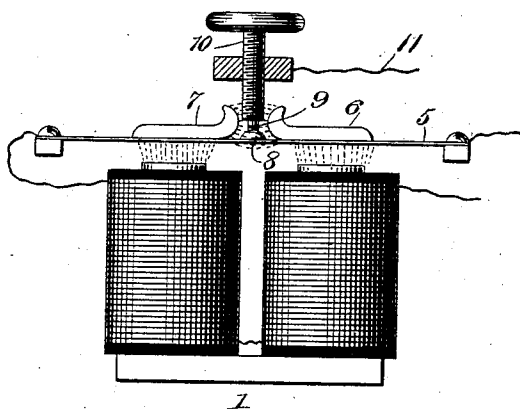


Fig. 2.



WITNESSES:

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LARS G. NILSON, OF NEW YORK, N. Y., ASSIGNOR TO SIEGFRIED M. FISCHER AND HARRY S. FISCHER, OF NEW YORK, N. Y., AND HULDAH ANDERSON, OF DES MOINES, IOWA.

ELECTRIC INTERRUPTER.

SPECIFICATION forming part of Letters Patent No. 714,020, dated November 18, 1902.

Application filed May 14, 1902. Serial No. 107,243. (No model.)

To all whom it may concern:

Be it known that I, LARS G. NILSON, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Electric Interrupter, of which the following is a full, clear, and exact description.

This invention relates particularly to interrupters for sparking induction-coils. In induction-coils operated by pulsatory electric current through the primary circuit the inductive effects in the secondary circuit are proportional to the rapidity of the changes in the primary circuit. The highest tension or the brightest spark in the secondary is shown not at the closing; but at the opening or breaking of the primary circuit, the cleaner or quicker the break the better the results.

It is well known that in ordinary induction-coils using platinum-tipped contacts in the vibrator even with proper condensers the contact-points will burn or corrode more or less. This burning or arcing not only destroys the points rapidly, but gives poor results in the secondary of the coil. It is also well known that if an electric connection is broken, producing a spark or an arc in the magnetic field, the magnetism will have a tendency to diminish or blow out the spark. In order to produce the best results in induction-coils and at the same time improve the action and prolong the life of the moving parts, I have provided an interrupter in which the magnetism of the interrupter itself is utilized for blowing out the destructive spark at the primary contact-points.

I will describe an electric interrupter embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in both the figures.

Figure 1 is an elevation of an interrupter embodying my invention, showing the same in circuit with an induction-coil or sparking coil; and Fig. 2 is an elevation showing the action in the magnetic field.

Referring to the drawings, 1 designates a

two-pole electromagnet connected at one end through a wire 2 with a battery 3, the other end of the electromagnet being connected through a wire 4 with a vibratory strip 5, of non-magnetic metal. This strip 5 is supported across the poles of the electromagnet, and arranged on the upper side of the strip are the double armatures 6 7. Secured to the strip 5 between the inner ends of the armatures is a platinum contact-point 8, designed to be engaged by a platinum point 9 on an adjusting-screw 10. It will be noted that the inner ends of the armatures are curved upward and that both contact-points 8 and 9 are wholly embraced in the enlarged field provided by so upwardly curving the ends. The point 9 through the screw 10 and its support is connected by a wire 11 with the primary 12 of the induction-coil, the said primary being also connected, by means of a wire 13, with the battery 3.

The secondary 14 of the induction-coil is connected in the usual manner with the sparking points.

A condenser 15 is in connection with the wire 11 and with one end of the strip 5.

The circuit may be traced from the battery through the wire 2, the electromagnet, the wire 4, the vibratory strip 5, the contacts 8 and 9, the screw 10, the wire 11, the primary of the induction-coil, and back to the battery.

In my device the general action is of course substantially the same as that in any other similar system of induction-coil; but my improvement consists, essentially, in placing the contacts of the interrupter in a powerful magnetic field, the magnetic action of which is shown in dotted lines in Fig. 2.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. An interrupter comprising an electromagnet arranged in an electric circuit, a vibratory strip extended across the poles of the electromagnet, and a divided or double armature arranged on the strip, substantially as specified.

2. An interrupter comprising an electromagnet arranged in an electric circuit, comprising an induction-coil, the vibratory strip

extended across the poles of the magnet, the two-part armature arranged on said strip, the contact-point attached to the strip between the inner ends of the two parts of the armature, and a contact-point having connection with the induction-coil and coacting with the first-named contact-point, substantially as specified.

3. In an interrupter, an electromagnet arranged in an electric circuit comprising an induction-coil, a vibratory strip of non-magnetic material extended over the poles of the electromagnet, an armature consisting of two separated parts, the inner ends of said parts being curved upward, a contact-point attached to the strip between the inner ends of the armature, and another contact-point in connection with the induction-coil and co-

acting with the first-named contact-point, substantially as specified.

4. In an interrupter, the combination of an electromagnet, a vibratory strip carrying a contact-point, and a two-part armature mounted on said strip at opposite sides of the contact-point, substantially as specified.

5. An interrupter having a contact-point arranged in a magnetic field and carried with a vibrating armature, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LARS G. NILSON.

Witnesses:

JNO. M. RITTER,
C. R. FERGUSON.