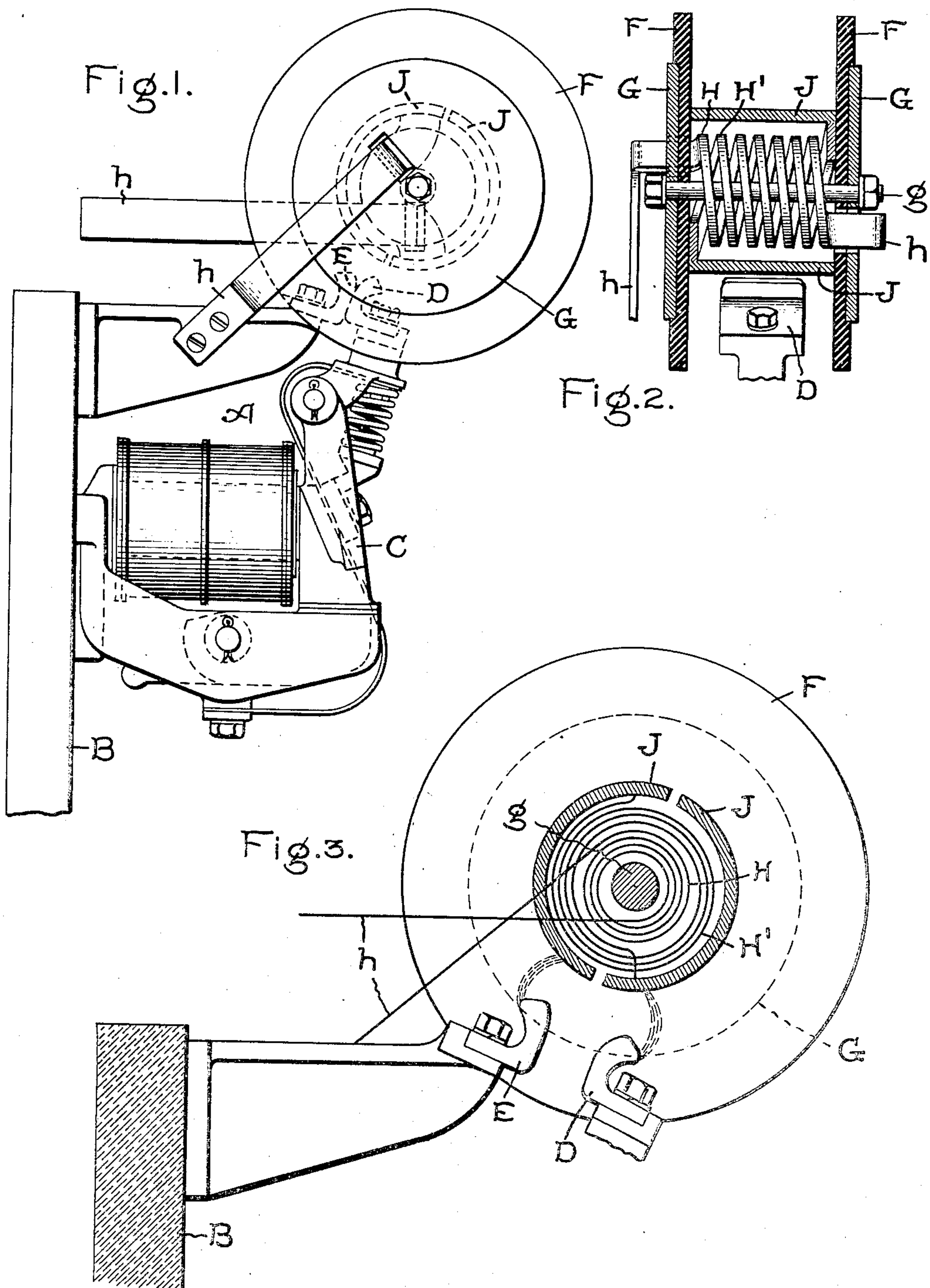


H. E. WHITE.
MAGNETIC BLOW-OUT.
APPLICATION FILED FEB. 4, 1910.

967,280.

Patented Aug. 16, 1910.



Witnesses:
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His Attorney.

UNITED STATES PATENT OFFICE.

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MAGNETIC BLOW-OUT.

967,280.

Specification of Letters Patent. Patented Aug. 16, 1910.

Application filed February 4, 1910. Serial No. 542,044.

To all whom it may concern:

Be it known that I, HAROLD E. WHITE, a citizen of the United States, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Magnetic Blow-Outs, of which the following is a specification.

My invention relates to magnetic blow-outs for switches and contactors, and its object is to provide a blow-out of novel construction, in which the strength of the blow-out field is greatest at the time when it is needed, that is, while the arc is being blown out.

My invention consists in providing a coil normally inactive, but in position to produce a field at the contacts, provided with conducting members, to which the coil terminals are connected, placed near the contacts, so that when an arc is formed between the contacts it springs to these members and thereby places the coil in series with the arc. Thus, the coil which is normally out of circuit is cut into circuit at the proper time to produce the blow-out field when it is needed.

My invention will best be understood by reference to the accompanying drawings, in which—

Figure 1 shows a side elevation of a contactor provided with a magnetic blow-out arranged in accordance with my invention; Fig. 2 shows a cross-sectional front elevation of the blow-out magnet, and Fig. 3 is a diagram of connections.

In the drawings I have shown my invention applied to the blow-out for a contactor of standard design, comprising a magnet A, carried on a suitable base B, actuating a pivoted armature C, at the end of which is carried a contact D which, when the magnet A is energized, engages a stationary contact E.

F F represent a pair of disks of insulating material which form an arc chute around the contacts.

G G represent the magnetic pole pieces of the blow-out which are joined by a bolt *g*. Surrounding this bolt between the pole pieces are two coils H and H', the turns of which are preferably interleaved, as shown in Fig. 2. The coil H has its terminals at *h h*, one of which is connected to the stationary contact E, so that this coil is in

series with the contacts and normally energized by the current flowing through them. The coil H produces a field tending to blow an arc formed between the contacts upward and away from the contactor coil A. Just above the contacts D and E are placed two curved, conductive members J, to which the terminals of coil H' are connected. The arc formed between the contacts D and E is blown by the coil H against these members J which have adjacent edges near the two contacts, respectively, as is best shown in Fig. 3. When the arc is blown against these members the coil H' is thereby placed in series with the arc and assists the coil H in producing the blow-out field. The field is thus strengthened at the time it is needed. The two portions of the arc are blown along the members J which curve away from the contacts D and E, so that the arc is rapidly elongated and broken.

I do not desire to limit myself to the particular construction and arrangement of parts shown and described, but aim in the appended claims to cover all modifications which are within the scope of my invention.

What I claim as new and desire to secure by Letters Patent of the United States, is:—

1. In a magnetic blow-out, in combination with separable contacts, a coil normally inactive, and terminal members for said coil adjacent to said contacts to which members the arc formed between said contacts, when separated, springs, whereby said coil is placed in series with said arc and produces a blow-out field acting on said arc.

2. In a magnetic blow-out, in combination with separable contacts, a coil normally inactive but in position to produce a magnetic field at said contacts, and a pair of members, to which the terminals of said coil are connected, located near said contacts, whereby an arc between said contacts springing to said members places said coil in series with the arc.

3. In a magnetic blow-out, in combination with separable contacts, a coil normally inactive but in position to produce a magnetic field at said contacts, and a pair of members, to which the terminals of said coil are connected, having adjacent edges near to the contacts respectively and curving away from said contacts in the direction in which an arc between said contacts is blown by the magnetic field of said coil when energized,

whereby the arc springing from said members places the coil in series with itself and is blown along said members by the magnetic field produced by the coil.

5 4. In combination with separable contacts, a blow-out magnet therefor having two coils, one normally in circuit and the other normally inactive but provided with terminal members against which an arc between said
10 contacts is blown by the field produced by the first coil, whereby the second coil is placed in series with the arc and assists the first coil in producing the blow-out field.

15 5. In combination with separable contacts, a blow-out magnet therefor having two coils, one normally in circuit and the other nor-

mally inactive but provided with terminal members against which an arc between said contacts is blown by the field produced by the first coil, said plates having adjacent 20 edges near said contacts and curving away in the direction in which the arc is blown, whereby an arc springing from said contacts to said members places the second coil in series with itself and is blown along the 25 plates by the combined fields of both coils.

In witness whereof, I have hereunto set my hand this 3rd day of February, 1910.

HAROLD E. WHITE.

Witnesses:

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HELEN ORFORD.