

No. 890,737.

PATENTED JUNE 16, 1908.

H. A. WALLACE.
VARIABLE RESISTANCE COIL.

APPLICATION FILED AUG. 9, 1907.

2 SHEETS—SHEET 1.

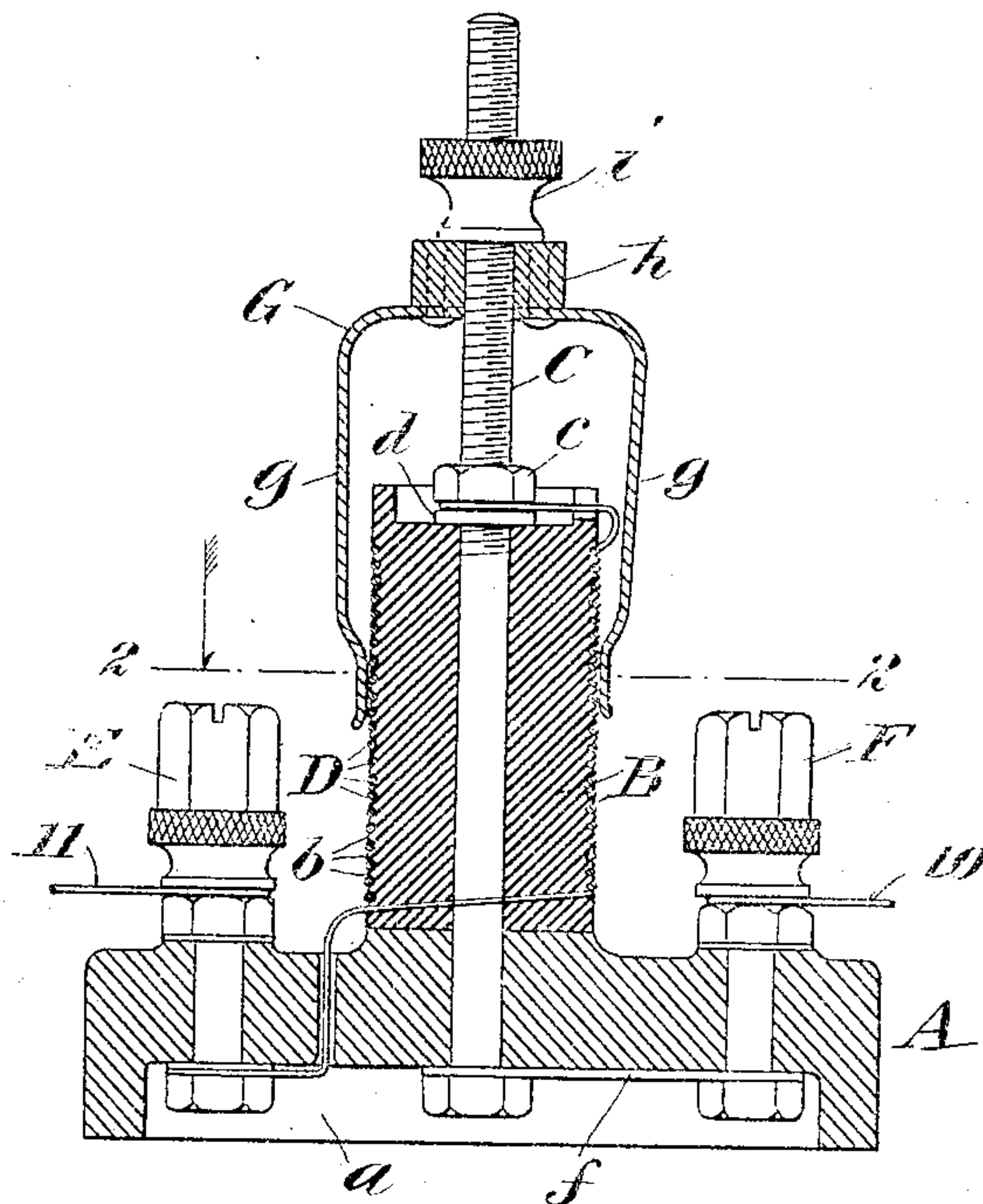


Fig. 1.

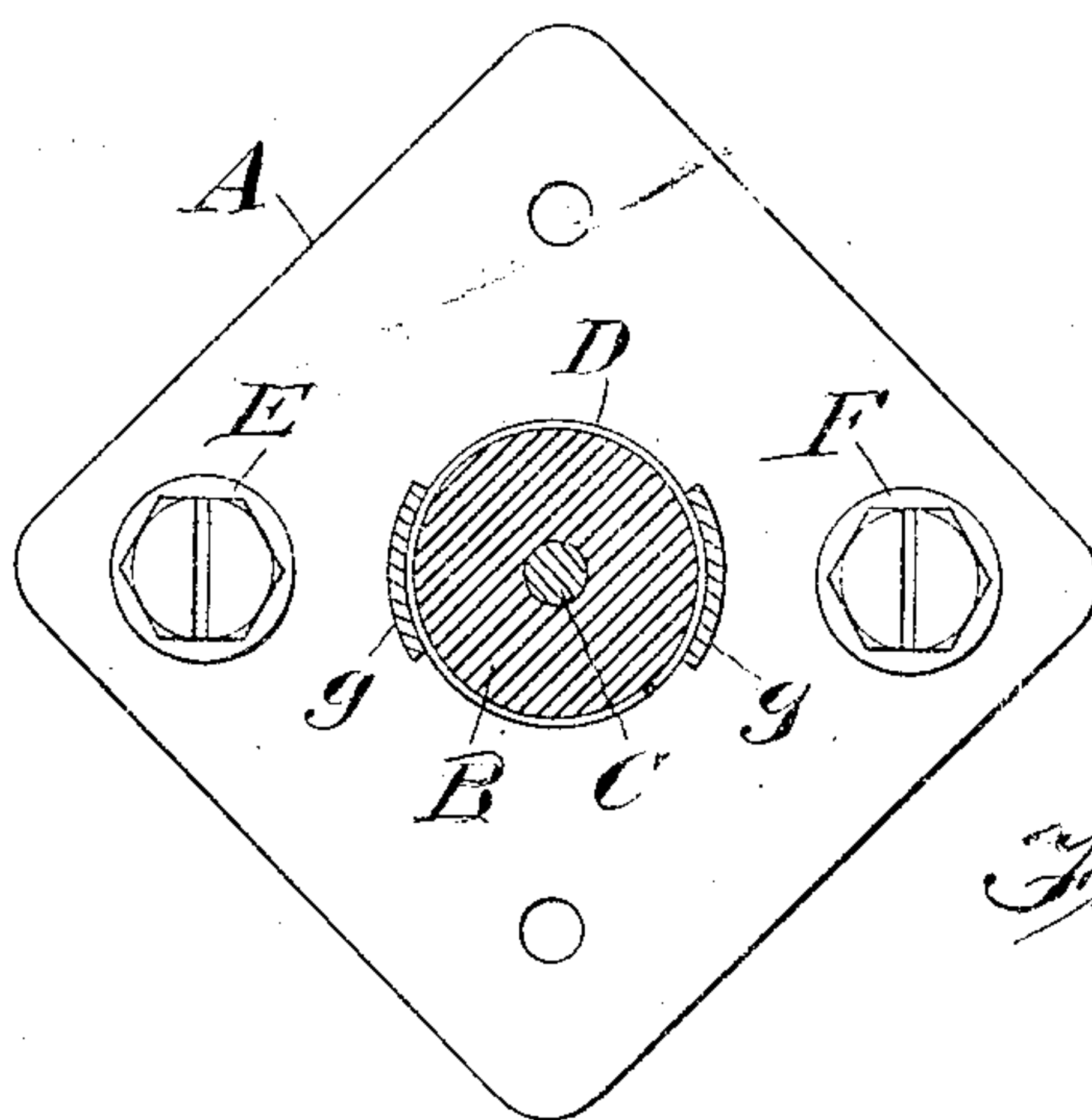


Fig. 2.

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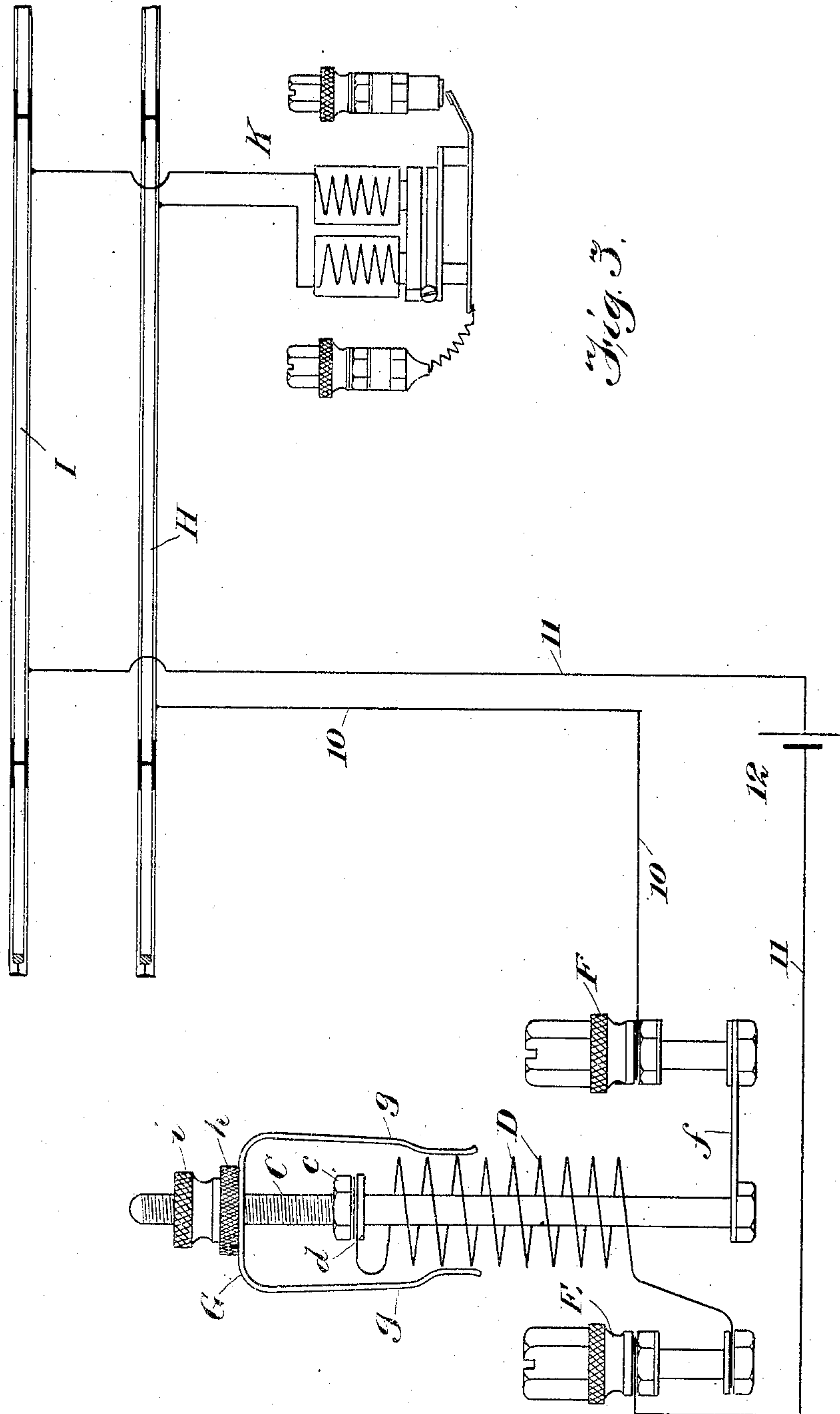
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

HERBERT A. WALLACE, OF NEW YORK, N. Y., ASSIGNOR TO THE UNION SWITCH & SIGNAL COMPANY, OF SWISSVALE, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

VARIABLE-RESISTANCE COIL.

No. 890,737.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed August 9, 1907. Serial No. 387,806.

To all whom it may concern:

Be it known that I, HERBERT A. WALLACE, a citizen of the United States, and resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Variable-Resistance Coils, of which the following is a specification.

This invention relates to variable resistance coils.

I will describe a preferred embodiment of my invention and then point out the novel features in claims.

Figure 1 is a vertical section of my improved variable resistance coil. Fig. 2 is a horizontal section. Fig. 3 is a diagrammatic view showing the resistance in a railway track circuit.

A indicates a base of porcelain or other suitable insulating material and preferably having a pocket or recess *a* in its lower side. A spool B of insulating material is supported on the base and surrounds a metal post C secured to the base. As shown the post consists of a rod or bolt which extends through the base and spool and is threaded at its upper end to receive a nut *c* which engages a washer *d* resting on the upper end of the spool and thereby clamps the spool to the base. The spool B is provided with spiral grooves *b* to receive the windings of the coil D. One end of the coil is connected to a binding post E on the base and the other to the post C by being clamped between the nut *c* and washer *d*. The post C is metallically connected to another binding post F by a metal strip *f*. A wire 10 leads from the binding post F to a track rail H and a wire 11 leads from the binding post E to the other track rail I and a battery 12 is included in the circuit.

G is the regulator and as shown consists of a U-shaped piece of spring metal, the arms *g* of which are adapted to straddle the resistance coil and engage it on opposite sides. Preferably the arms are curved transversely at their lower ends to increase the area of their contact with the resistance coil. The arms *g* are metallically connected to the post C and are movable on the coil. As shown

they are connected to a nut *h* which screws on the upper threaded portion of the post C and the latter will preferably be long enough to permit the arms *g* to connect with any portion of the coil. A jam-nut *i* may also be employed to engage the nut *h*. The regulator will preferably be made of a metal having a low resistance.

By adjusting the regulator up or down on the coil the resistance will be increased or diminished since the regulator will act as a low resistance shunt to the part of the resistance coil above the point of contact of the arms *g* therewith.

In Fig. 3 I have illustrated a block or section of a railway track in which the rails H and I are electrically connected to a relay K which may form a part of a signal operating mechanism. It is not necessary to illustrate this mechanism in detail as any of well known types may be employed. The variable resistance is also included in the track circuit between the battery 12 and the relay K.

While I have illustrated my invention applied in a railway track signaling circuit its application is not limited to such circuits.

I do not limit myself to the details of construction illustrated, as other means may be employed for adjusting the regulator on the coil and other means may be employed for metallically connecting the regulator with one of the circuit wires.

Having described the invention, I claim:

1. The combination with two wires forming part of an electric circuit, of a metal post connected to one of said wires and being threaded, a spool of insulating material surrounding the post, a resistance coil wound on the spool and having one terminal connected to the post and the other terminal to the other wire and a metallic regulator having a threaded opening to receive the threaded portion of post, and said regulator also engaging the resistance coil.

2. The combination with two track rails and a relay electrically connected therewith of two wires leading from the track rails, a metal post connected to one of said wires and being threaded, a spool of insulating material surrounding the post, a resistance coil wound

on the spool and having one terminal connected to said post and the other terminal to the other wire, a metallic regulator having a threaded opening to receive the threaded portion of the post, and said regulator also engaging the resistance coil, and a source of electric supply included in the circuit.

In witness whereof I have hereunto signed my name in the presence of two subscribed witnesses.

HERBERT A. WALLACE.

Witnesses:

GEO. E. CRUSE,

H. A. HAMILTON.