

No. 845,101.

PATENTED FEB. 26, 1907.

P. LEO.
POLARITY INDICATOR.
APPLICATION FILED MAR. 9, 1906.

Fig. 1,

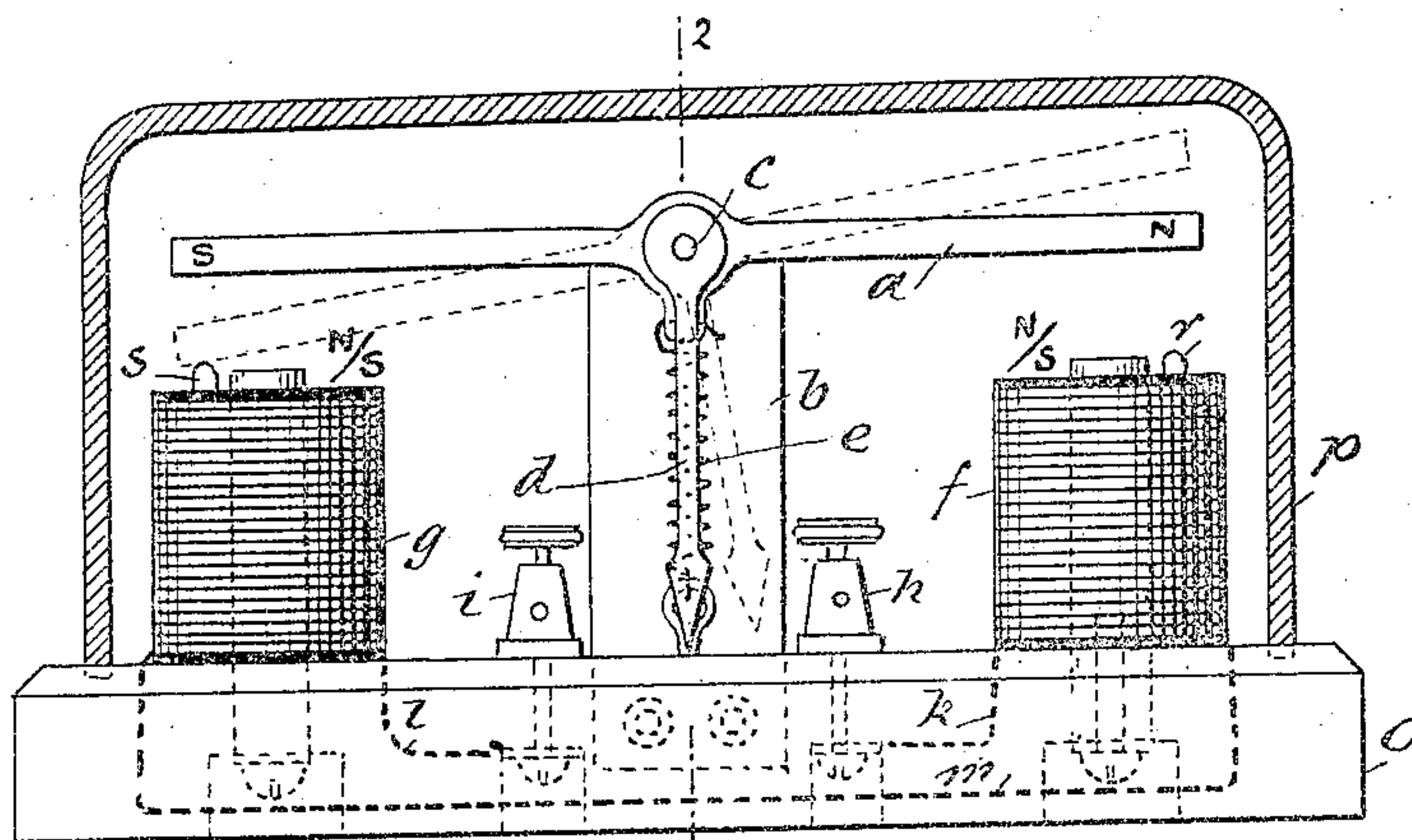
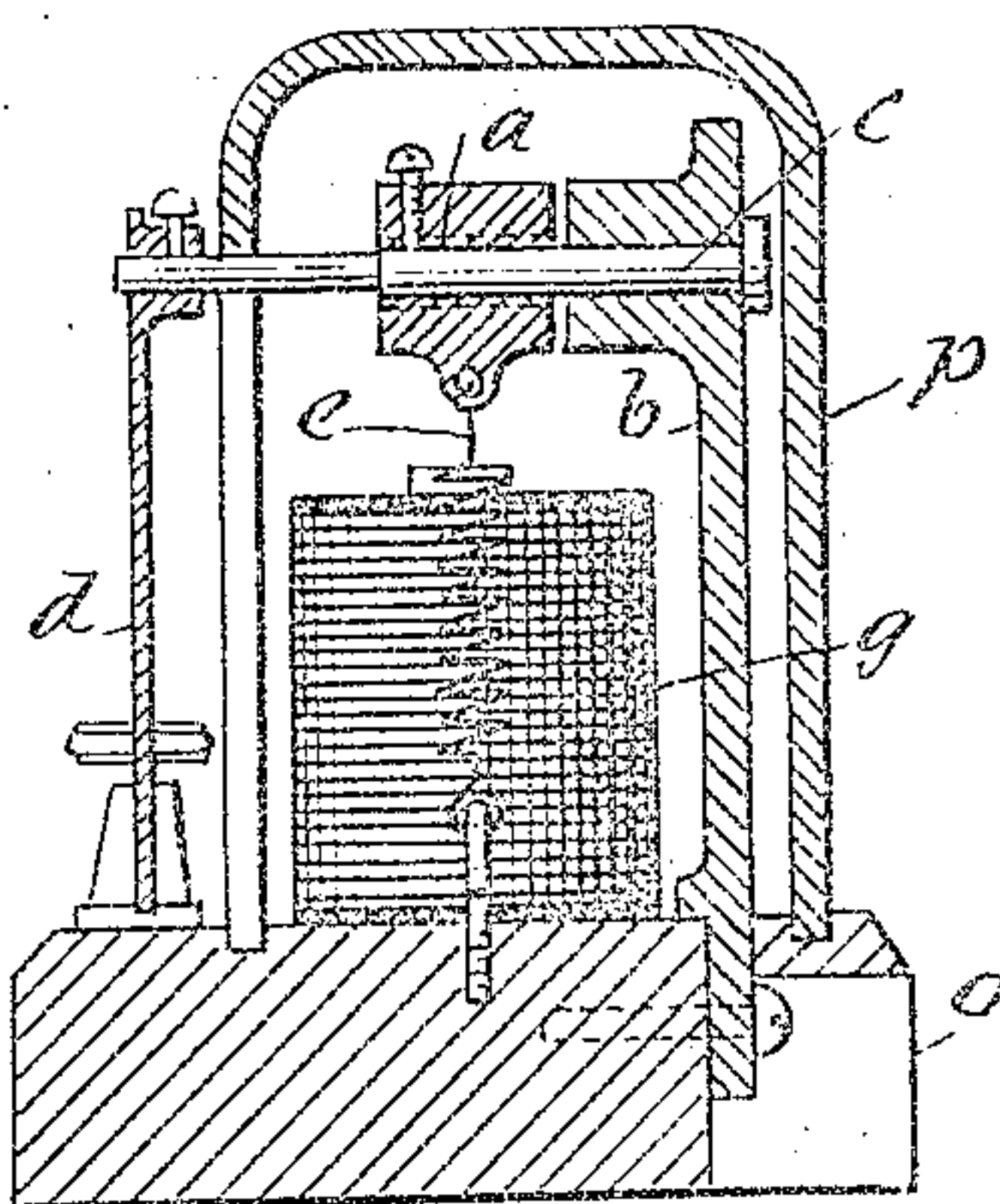


Fig. 2,



WITNESSES

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PAUL LEO, OF ELIZABETH, NEW JERSEY.

POLARITY-INDICATOR.

No. 845,101.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed March 9, 1906. Serial No. 305,022.

To all whom it may concern:

Be it known that I, PAUL LEO, a citizen of the United States, and residing at Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Polarity-Indicators, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to a device for indicating the polarity of current in circuits; and the object of my invention is to provide a simple and effective apparatus which indicates the direction of current in a circuit to which it is applied.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which—

Figure 1 is an elevation of my improved device partially in section, and Fig. 2 a vertical section on the line 2 2 of Fig. 1.

In the construction of my apparatus I provide a permanent magnet *a*, supported by a standard *b* and pivoted at *c* thereto. The pivotal shaft *c* carries on its outer extension a depending indicator *d*, which is adapted to swing to the right or to the left and corresponds to the tilting motion to which the permanent magnet *a* may be subjected to, said magnet *a* assuming normally a horizontal position, as is shown in full lines in Fig. 1, and is brought back to and held in such position by means of a tension-spring *e*, as is indicated in Figs. 1 and 2.

A pair of electromagnets *f* and *g* are provided, each one being placed with their cores beneath the outer swinging arms N and S of the permanent magnet *a*. Two binding-posts *h* and *i* are shown, which by means of the wires *k*, *l*, and *m* place the electromagnets *f* and *g* in connection therewith. These features are mounted on a wooden base *o* and are protected by a suitable casing *p*, which latter will leave the indicator *d* and the two binding-posts *h* and *i* exposed. The electromagnets are wound so as to present simultaneously the two north and south ends of their magnetic cores toward the permanent magnet *a*, according to the direction of the inflowing current, and thereby repel and attract one or the other of the poles of the permanent magnet.

In the operation of my device and in order to obtain a demonstration of the direction of a current to be tested I connect one terminal to each of the binding-posts. The electromagnets becoming polarized, the inflowing current if entering by means of the binding-post *h* will be shown by the indicator *d* swinging toward the binding-post *h*, as illustrated in dotted lines in Fig. 1, by reason of the magnetic north pole of the electromagnet *f* repelling the north pole of the magnet *a*, while the corresponding north pole of the electromagnet *g* will attract the south pole of the permanent magnet *a*. In case the direction of the current is entering by means of the binding-post *i* the action of the electromagnets becomes reversed. The permanent magnet *a* and the thereto-attached indicator *d* will tilt toward the binding-post *i*, and the stops *r* and *s* on the electromagnets *f* and *g* will limit the downward-tilting motion of the permanent magnet *a*. It will thus be seen that by means of my apparatus when placed in circuit the indicator will always point toward that binding-post to which the terminal of the entering current is attached.

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

A device for indicating the polarity of a main circuit and adapted to be located in said circuit or a branch thereof having the like polarity, said device comprising among its members two oppositely-wound electromagnets connected in series and mounted on a suitable base, binding-posts for connecting said magnets with said circuit, a polarized armature pivotally mounted in respect to said magnets and an arm or pointer secured to the pivot of said armature to move with the same, said arm extending toward said binding-posts, whereby the said arm or pointer will point toward one or the other of said binding-posts according to the polarity of the main circuit, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 8th day of March, 1906.

PAUL LEO.

Witnesses:

O. J. RYAN,
W. H. RYAN.