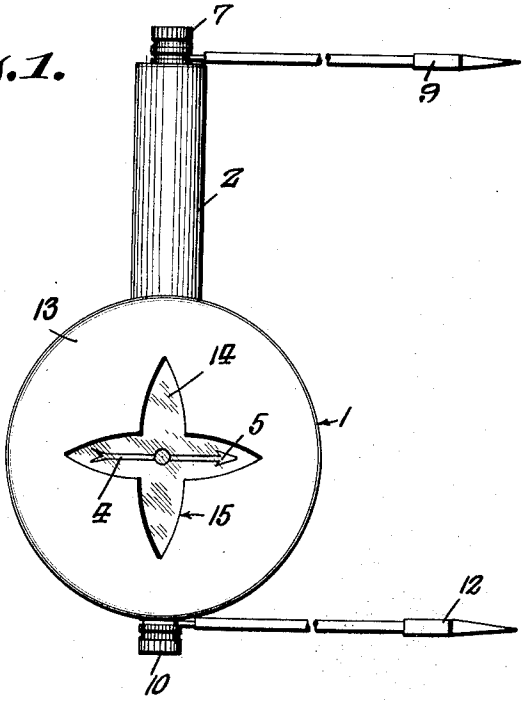
Dec. 19, 1933. F. B. ACOSTA 1,940,521

POLE FINDER

Filed May 9, 1930

Fig. 1.



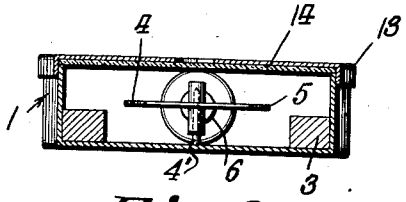


Fig. 3.

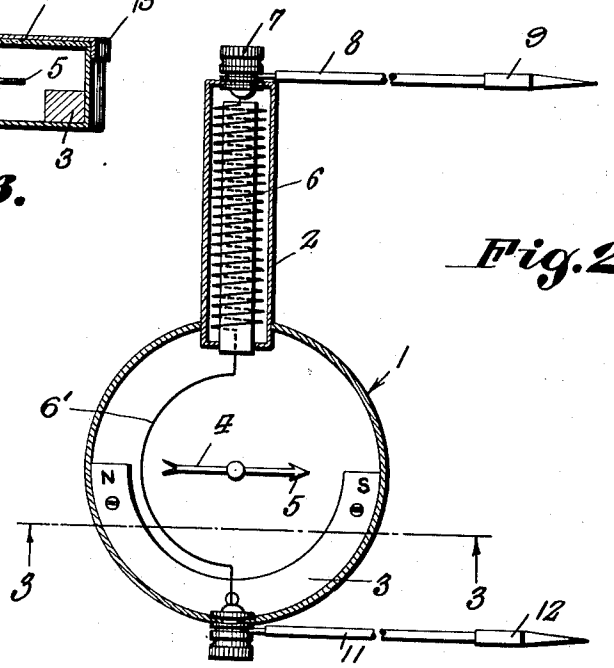


Fig. 2.

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POLE FINDER

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Application May 9, 1930. Serial No. 451,188

1 Claim. (Cl. 175—183)

My present invention has reference to a new and novel electric polarity indicator, and my object is the provision of a pocket size instrument for this purpose which will readily and positively indicate the direction of electric currents (D. C.), which will locate the positive and negative poles of any direct current source, which will determine whether the line circuit tested is alternating or direct current and which will locate "short circuits" and broken connections in radio sets, etc.

To the attainment of the foregoing the invention consists in the improvement hereinafter described and definitely claimed.

In the drawing:

Figure 1 is a plan view of an instrument in accordance with this invention.

Figure 2 is an approximately central longitudinal sectional view therethrough.

Figure 3 is a transverse sectional view approximately on the line 3—3 of Figure 2.

As disclosed by the drawing the improvement comprises a cylindrical casing which is small in size and has extending therefrom a sleeve 2 whose ends are closed. In the casing 1 there is fixed a horseshoe magnet 3 and pivoted centrally in the casing, in a line with the ends of the magnet 3, there is a needle pointer 4 whose arrow head is for distinction indicated by the numeral 5. The pivot of the needle 4 is indicated by the numeral 4'. The ends of the horseshoe magnet are arranged in horizontal alignment in the casing 1 and at opposite sides of the pivot 4' of the magnetized needle 4, thereby normally sustaining the needle in an immovable and stable position.

In the sleeve 2 there is arranged an electro-magnet 6 having the outer end of its winding connected to a binding post 7 secured on the upper closed end of the sleeve 2 and partly entering said sleeve, the core of the magnet also passing through the second end of the sleeve and being partly received in the casing 1. To the binding post 7 there is connected a cord 8 whose outer end is provided with a metal tip 9. The winding at the inner end of the electro-magnet 6 is provided with or has attached thereto a conductor wire 6'. The wire 6' is directed through the casing and is secured to a binding post 10 fixed on the casing in a line with but opposite the sleeve 2. The binding post has secured thereon a second cord 11 whose end is provided with a metal tip 12. The operation of the improvement may be briefly described as follows: When the current enters through the tip 9 and passes through the tip 12 the end of the electromagnet attached to the casing 1 becomes the "north" pole and attracts the "south" pole and repels the "north" pole of the magnetic needle 4. The head or pointer 5 of the needle points toward the direction of the current. Should the current be reversed so that it enters through the tip 12 to the tip 9, the inner end of the electromagnet becomes the "south" pole and attracts the "north" pole and repels the "south" pole of the magnetic needle. Again the needle points toward the direction of the current. An alternating current will not alter the normal position of the magnetic needle, thus showing the operator that the line tested carries alternating current.

The face of the casing 1 is closed by a flanged cap 13 that rests against a transparent plate 14. The cap or face of the casing is provided with longitudinal and lateral openings 15 which extend from the center thereof, and through these openings, and through the plate 14 the position of the magnetic needle 4 is observable.

Having described the invention, I claim:

An electric polarity indicator comprising a horseshoe magnet, a magnetized needle centrally pivoted between the poles of the magnet and the ends of the horseshoe magnet terminating at opposite sides of the pivot of the magnetized needle, an electro-magnet having its core arranged at right angles to the pivot of the needle and spaced therefrom and having its winding at its outer end removably connected to a conductor cord having a metal tip and a conductor wire connected to the winding at the inner end of the electro-magnet, and having removably secured thereto a conductor cord having a metal tip, and a casing for the electro-magnet and the horseshoe magnet, said casing having a substantially cross-shaped opening in the top thereof through which the magnetized needle is visible.

FELIPE B. ACOSTA.