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MAGNET POLE INDICATORS

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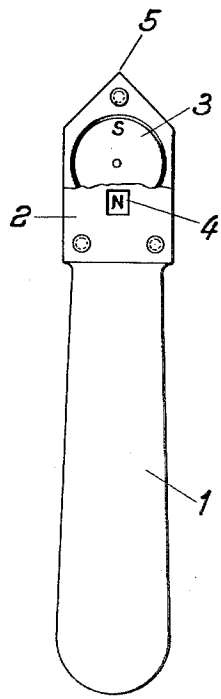


Fig. 2

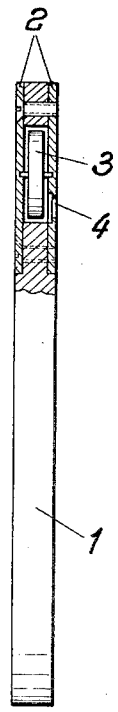


Fig. 1

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MAGNET POLE INDICATORS

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5 Claims. (Cl. 324—34)

The invention relates to a magnet pole indicator by means of which the north and south poles of permanent magnets, electromagnets and direct-current coils of all kinds can be reliably, rapidly and simply ascertained.

Hitherto, pole indicator instruments have been proposed which are like compass needles and have the disadvantage that the magnetism soon becomes weakened or disappears entirely during use. Moreover, some skill is required to apply the instrument to the article to be tested if a satisfactory indication is to be obtained.

The magnet pole indicator according to the invention obviates or lessens these disadvantages. A form of construction of the magnet pole indicator according to the invention is shown by way of example in the accompanying drawing, in which the indicator is shown in Figure 1 in side elevation with a part of the housing removed and in Figure 2, in end elevation, partly in section.

In one end of a handle 1 made of plastic, wood or any other suitable non-magnetic material is a housing comprising two brass plates 2 fixed to the handle and in which a circular disc 3 of permanent magnet material is disposed. The disc is magnetised in a diametral direction. The two poles thus set up are marked "N" and "S" respectively on one side of the disc. The disc itself is so mounted in the housing between the brass plates on a pivot pressed or cast in a bore in the magnet that it can readily turn about its own axis. As the point 5 of the instrument, which is formed by giving the aforesaid end an arrow head formation pointing in the direction of the longitudinal axis of the instrument, approaches the unknown pole of the magnet, the indication of the unknown pole appears in the window 4 in the brass housing.

The disc must be constructed of a permanent magnet material of high coercivity. Preferably, it is made of sintered iron oxide and other metallic oxides such as barium oxide, strontium oxide and lead oxide. These so-called ferritic permanent magnet materials of sintered poly-oxides are of high coercivity in the region of 1800–2000 Oersted and of low specific gravity. This property ensures high constancy of the induced magnetic field as compared with extraneous fields. Consequently, the induced magnetisation direction is maintained with extreme exactitude, regardless of the strength of the magnetic fields whose polarity is to be tested.

What I claim is:

1. A magnetic polarity indicator comprising a non-magnetic housing, a diametrically magnetised disc made of an oxidic permanent magnet material of high coercivity rotatably mounted in said housing, a window in said housing, and an arrow head pointer extension of said housing, the position of said window in relation to the disc being determined so that one of two polarity markings on the disc appear in said window when the poles of the disc align with the pointer.

2. A magnetic polarity indicator according to claim 1 comprising a handle formed as a longitudinal extension of the housing in the direction opposite to the pointer.

3. A magnetic polarity indicator according to claim 1, the pointer, the disc axis and the window being one behind the other longitudinally of the indicator.

4. A magnetic polarity indicator according to claim 1, said disc being made of oxidic permanent magnet material consisting of iron oxide and non-ferrous metal oxides.

5. A magnetic polarity indicator according to claim 4, said disc being made of iron oxide and at least one of the oxides selected from the group, barium oxide, strontium oxide and lead oxide.

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