April 23, 1957 G. E. MILEY 2,789,363

MAGNETIC LEVEL

Filed July 6, 1953

Fig. 1

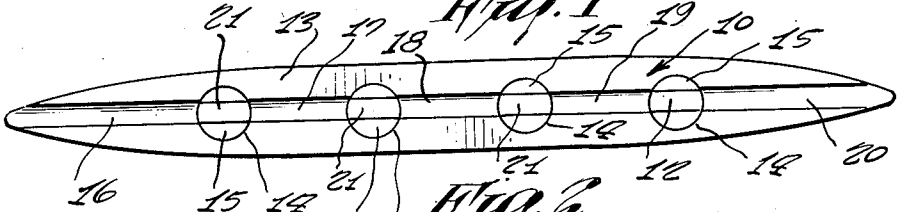


Fig. 2

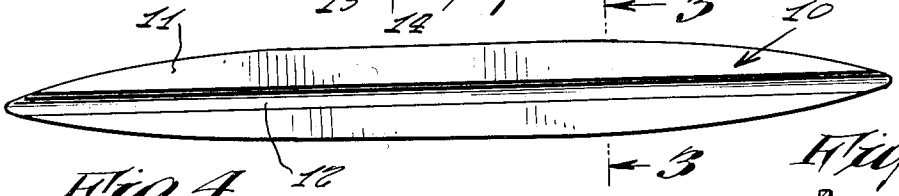


Fig. 4



Fig. 3

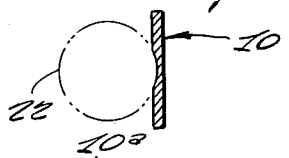


Fig. 5

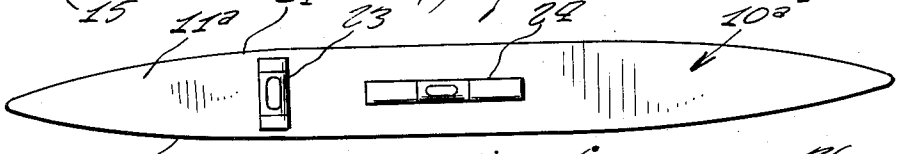


Fig. 6

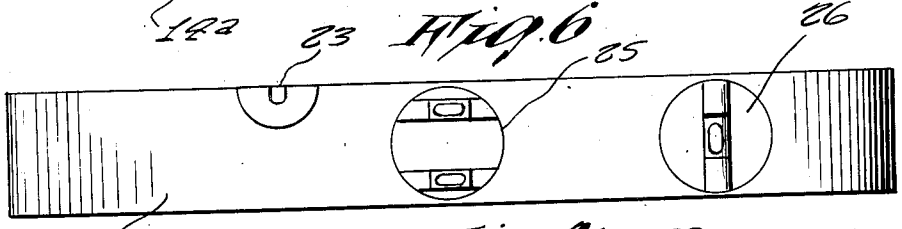


Fig. 7

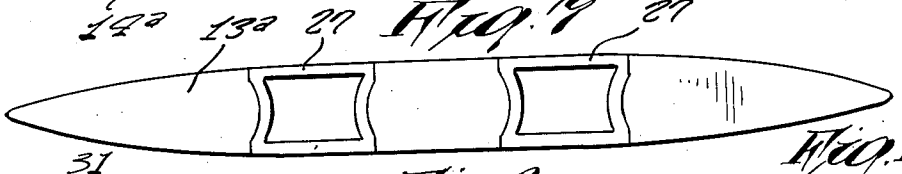


Fig. 9

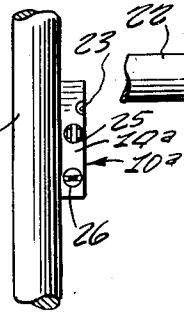


Fig. 10

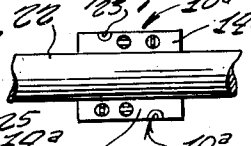


Fig. 11

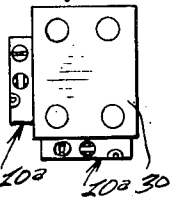
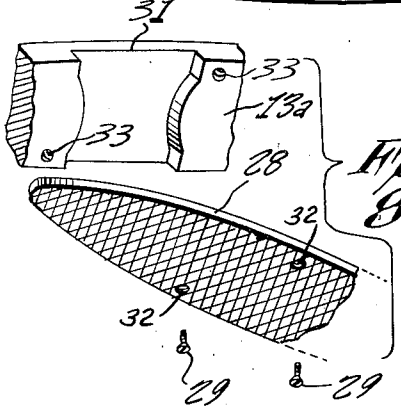


Fig. 8



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MAGNETIC LEVEL

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1 Claim. (Cl. 33—207)

This invention relates to levels and more particularly to magnetic levels.

It is an object of the present invention to provide a magnetic level adapted to be used in the electrical industry.

It is another object of the present invention to provide a magnetic level which may be used for plumbing up electrical conduits and which can be used on panel boxes and many other types of equipment in the electrical industry.

Other objects of the present invention are to provide a magnetic level bearing the above objects in mind which is of simple construction, inexpensive to manufacture, has a minimum number of parts, is easy to use and efficient in operation.

For other objects and a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a bottom plan view of a first form of magnetic level;

Fig. 2 is a top plan view thereof showing the grooved side;

Fig. 3 is a transverse sectional view taken along the line 3—3 of Fig. 2;

Fig. 4 is a top plan view of one of the magnets;

Fig. 5 is a top plan view of a level body of the present invention;

Fig. 6 is a side elevational view thereof;

Fig. 7 is a bottom plan view of the level body of Figs. 5 and 6.

Fig. 8 is an exploded fragmentary perspective view showing a part of the groove and the knurled bottom plate which fits therein;

Figs. 9 through 11 show application of the magnetic level of Figs. 5 through 8 to electrical conduits and a panel box.

Referring now to the figures, and more particularly Figs. 1 through 4, **10** represents a body portion of metal or preferably lightweight plastic having a flat top surface **11** provided along the length thereof with a groove **12** adapted to receive therewithin a conduit of electrical type, and a flat bottom **13** provided with four circular openings **14** within which are positioned circular magnets **15**, substantially as illustrated.

The bottom flat surface **13** is provided with elongated grooves **16**, **17**, **18**, **19** and **20** which are aligned with grooves **21** provided in each of the magnets **15**, the grooves **16** through **20** and **21** cooperating to receive therewithin an electrical conduit. Due to the grooves **12**, **16** through **20** and **21**, the body portion **10** will remain mounted upon the electrical conduits **22** (Fig. 3) under the action of the magnets **15**. Suitable bubbles, not shown, are mounted upon the top, bottom and side faces of the body **10** and permit the device to be used as a level without having to touch the same.

With reference now particularly to Figs. 5 through 11, there is shown a form of the present invention wherein a body portion **10***a* of lightweight plastic is provided with a flat top surface **11***a*, a flat bottom surface **13***a* and curved side walls **14***a*, substantially as illustrated. A level of the bubble type **23** is mounted across the top face **11***a* along with a second level of the bubble type **24**, the level **24** extending longitudinally at right angles to the transverse level **23**. The side wall **14***a* is provided with a double level **25** of the bubble type as well as a second vertical level of the bubble type **26**, the axes of the levels **25** and **26** being disposed at right angles to each other. The level **26** will be used as a plumb. Magnets **27** are mounted in the grooves **31** in the bottom face **13***a*, shown in Figure 8, for a purpose similar to the magnets **15** of the first form. A cover plate **28** may be provided for the bottom surface **13***a*, being secured thereto by screws **29** extending through holes **32**, **32** in plate **28** into threaded holes **33**, **33** in the bottom **13***a*. The plate **28** will be preferably made of a metal having a rough finish (such as a nail file), avoiding thereby slippage. The plate **28** will act as a keeper for mechanically retaining the magnets **27** in place. The magnets **27** can thus be renewed and are removable by removing the screws **29** and the bottom plate **28**.

As shown in Fig. 9, the device may be used to plumb an electrical conduit **22**, the conduit being lined up without the operator's having to touch the magnetic level itself. The magnets **27** will retain the level in the operative position shown. As shown in Fig. 10, the devices may be used to level the conduit (now horizontal) **22** from either the top or the bottom. The levels will stay on without holding, due to the magnets **27**. As shown in Fig. 11, the magnetic level may be used on a panel box **30**, as well as switch boxes, pull boxes and many other types of electrical equipment, not shown. The magnetic levels may be used to plumb the vertical sides of the panel box or to level the top and bottom portions.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claim.

Having thus set forth and disclosed the nature of my invention, what is claimed is:

A magnetic level including a level body having a top surface and a substantially flat bottom surface, the bottom surface of said level body having a pair of transverse grooves forming shallow slots, magnets individually mounted in the transverse grooves with the magnets substantially flush with said bottom surface, securing means for retaining the magnets in said grooves comprising a retaining plate adapted to cover the bottom surface, with screws for retaining the plate upon said bottom surface and said magnets, and a plurality of bubble type levels disposed across the top and sides of said level body with the axes of said bubble type levels being disposed at right angles to each other, and the outer surface of said retaining plate being knurled to prevent slippage.

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