Oct. 8, 1940. O. H. HENRY 2,217,514

DISH

Filed March 1, 1938

FIG. 1

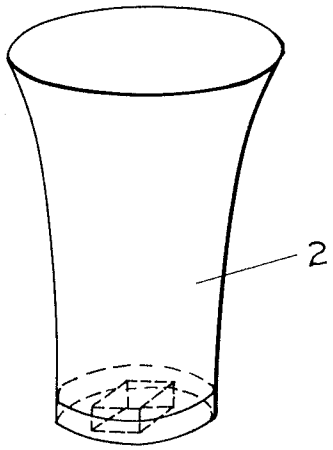


FIG. 4

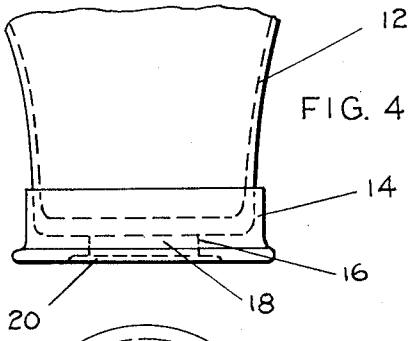


FIG. 5

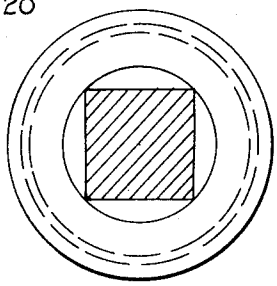


FIG. 2

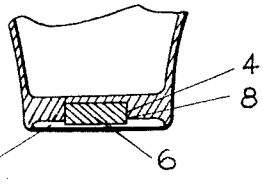


FIG. 6

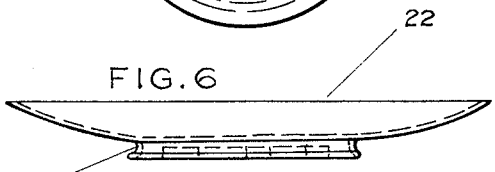


FIG. 3

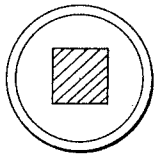


FIG. 7

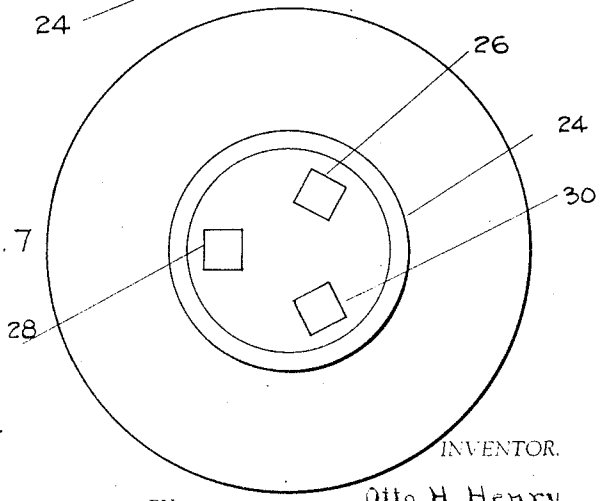
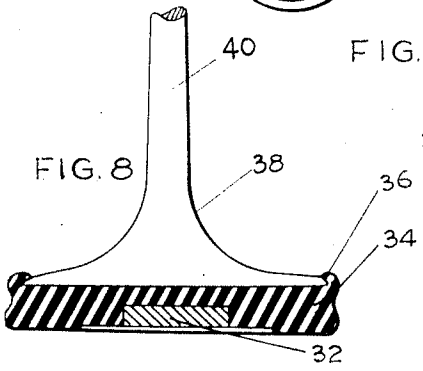


FIG. 8



INVENTOR.

Otto H. Henry

BY Cowell & Stevens and Safford

ATTORNEYS

Patented Oct. 8, 1940 2,217,514

UNITED STATES PATENT OFFICE

2,217,514

DISH

Otto H. Henry, Caldwell, N. J., assignor of fifteen per cent to H. Dorsey Spencer, New York, N. Y.

Application March 1, 1938, Serial No. 193,229

6 Claims. (Cl. 65—13)

This invention relates to improvements in dishes of various kinds such, for example, as beakers, plates, bowls, ink wells, bottles, etc., and a general object of the invention is to provide a dish, such as a plate or a beaker, with magnetic means for preventing its sliding or tipping when the surface on which it is supported is inclined or disturbed.

Certain of the newer magnetic alloys, such, for example, as the alloy containing aluminum, nickel and cobalt, can be so magnetized that the magnetic poles lie substantially in the plane of one face of a relatively short block or disc of the alloy and that magnetism of a very substantial amount can be induced in a block or disc of such an alloy of relatively small lateral dimensions and thickness. Advantage is taken of these characteristics of several of the highly magnetic alloys to provide a plate, beaker or other dish construction in which, without substantial change in the overall shape or design or capacity, provision is made for insuring the adherence of the plate, beaker or other dish in its upright position to any suitable support of magnetizable material.

In the accompanying drawing—

Figure 1 is a perspective view of a beaker having the invention embodied therein;

Figure 2 is a vertical section through the lower part of the beaker;

Figure 3 is a bottom plan view;

Figure 4 shows a modified application of the invention to a beaker;

Figure 5 is a bottom plan view of the construction shown in Fig. 4;

Figure 6 is a side elevation of a plate having the invention embodied therein;

Figure 7 is a bottom plan view of the embodiment of the invention illustrated in Fig. 6; and

Figure 8 shows still another embodiment of the invention applicable to stemware.

In the embodiment of the invention illustrated in Figures 1 to 3 inclusive, the beaker **2** may be formed of glass or porcelain or of any of the well known plastics of which beakers are now made. When formed of glass it is preferable to mold a recess **4** in the base or bottom of the glass, said recess **4** opening to the underside of the bottom of the beaker and being adapted to receive a small block or disc **6** of highly magnetic material, the magnetic material illustrated in Figures 1 to 3 being in the form of a rectangular block of comparatively small thickness.

When glass is used and a recess, opening outwardly, is molded therein, as just described, the base or bottom of the glass may also be provided with a further recess **8**, surrounding the recess **4** and adapted to receive a cementitious material **10** used in securing and sealing the magnet **6** in its seat in the beaker bottom. This construction is preferable for glassware because of the difference between the coefficients of expansion of the glass and the magnetic alloy.

When, however, the beaker is made of some of the well known plastics, such as the urea plastic sold under the trade name of "Beetleware," the difference in the coefficients of expansion is not so marked and the magnet **6** may be molded directly into the base or bottom of the beaker.

In the form of the invention shown in Figures 4 and 5, the beaker **12** may be separately molded and of ordinary shape and design and there may be used therewith, for the purposes of this invention, a coaster-like attachment **14** which may be formed of glass or other suitable material and fitted about and preferably permanently attached to the base or bottom end of the beaker **12**. This coaster-like attachment is likewise provided with a recess **16** which receives the magnet **18** secured in the recess by the cementitious material **20** or, if a suitable plastic be used for the construction of the coaster, the magnet **18** may be directly molded into the plastic.

In Figures 6 and 7 the invention is shown as embodied in a plate **22** having a base **24** in which, to provide for proper distribution of the magnetic attraction, three of the small magnets **26**, **28** and **30**, preferably of substantially equal attractive power, are embedded, preferably at equi-angular distances about and at equal radial distances from the center of the base **24**.

In Figure 8 is shown an embodiment of the invention, particularly adaptable for use with stemware, in which the magnet **32** is shown as carried in an attachment **34**, preferably of some resilient material such as rubber, which has an inturned sphincter-like flange **36** adapted to be stretched into overgripping relation to the margin of the base or bottom **38** of the stemware **40** so as to clamp the attachment **34** to the base or bottom **38** and thus provide means for causing the magnet **32** to cooperate with the base or bottom **38** and stem **40** in maintaining the stemware in upright position when carried on a support of suitable magnetizable material.

It is to be understood, of course, that the supports such as trays, tables, chair arms, etc. with which dishes of the character herein described are to be used will be of suitable magnetizable materials such as iron, steel, etc., so as to co-

operate with the magnets contained in the bases of the dishes. For most effective operation these magnets will preferably be so magnetized that their poles are in the planes of the magnets and preferably in the planes of the bottom faces of the magnets, thereby bringing the magnetic field as close as possible to the part of the dish that rests upon the magnetizable support. It is also desirable to have the magnet poles symmetrically located with respect to the center of the base or bottom in which they are located so that the holding action will not be one-sided.

It will be obvious that dishes of this character have many uses such, for example, as on ships, in airplanes, on the modern high speed trains and, with suitable trays, for eating in bed and for picnics and other informal gatherings.

It will be understood that the invention is not limited to the particular contours, numbers and locations of the magnets illustrated nor to dishes or the like having the particular forms and uses of those described and illustrated.

What is claimed as new is:

1. A dish having an integral base portion and having, in combination therewith, a permanent magnet completely embedded within said base and above the support contact portions thereof, said magnet having its magnetic material distributed substantially in the plane of said base and having its poles spaced in the plane of said base.

2. A dish having an integral base portion and having, in combination therewith, a permanent magnet completely embedded within said base and above the support contact portions thereof, said magnet having its magnetic material distributed substantially in the plane of said base and having its poles spaced in the plane of said base and at substantially equi-angular distances about and at substantially equal distances from the center of said base.

3. A dish comprising an integral base portion and a permanent magnet molded into said base with the magnetic material located substantially in the plane of the base and completely enclosed therewithin, the poles of said magnet being located substantially in opposite edges of the bottom face of said magnet.

4. A dish having a flat-bottomed base portion to maintain it in upright position, said base portion being provided with a recess to receive a magnet, a permanent magnet in said recess having its magnetic material distributed substantially in the plane of said base and above the support contact portions thereof and having its poles spaced in said plane, and means for sealing said magnet in said recess.

5. An attachment for a dish having a stem and a base, said attachment comprising a disc having confined therewithin a permanent magnet, with the magnetic material distributed substantially in the plane of said disc but above the bottom thereof and with its poles spaced in said plane, and means associated with said disc for clamping it to the base of the dish.

6. An attachment for a dish having a disc-like base, said attachment comprising a coaster of resilient material, a permanent magnet completely embedded within said coaster with its magnetic material distributed in the plane of the coaster but above the bottom thereof and its poles spaced in said plane, said coaster being provided with a sphincter-like flange for embracing the edge of the dish base.

OTTO H. HENRY.