United States Patent [19]

Hildreth

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[54] **HYDROMETER HOLDER**

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[52] **U.S. Cl.** **141/86,** 248/309, 73/441

[51] **Int. Cl.** **A47f 5/08,** H01m 31/04

[58] **Field of Search** ..... 141/86, 87, 88; 222/108; 73/425.2, 425.4 R, 425.4 P, 425.6, 441; 248/309, 311; 15/257 R, 142, 268; 4/291

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[57] **ABSTRACT**

A vertically disposed tubular holder adapted to receive and support a storage battery testing hydrometer in a readily manually accessible position, but at the same time well protected; the holder being arranged with a cup--containing a neutralizing material—to catch and neutralize any battery acid which may drip from the hydrometer after use and upon placement thereof in the holder.

2 Claims, 4 Drawing Figures

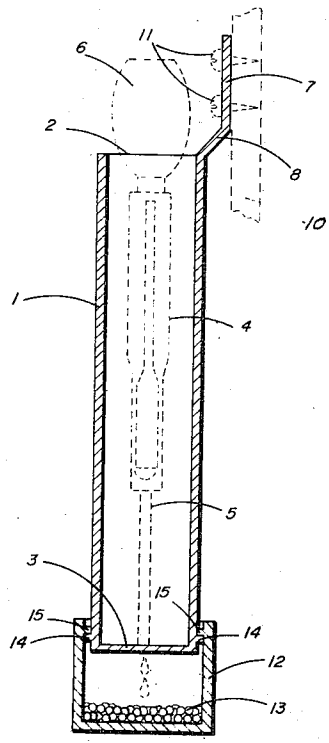


FIG. 1

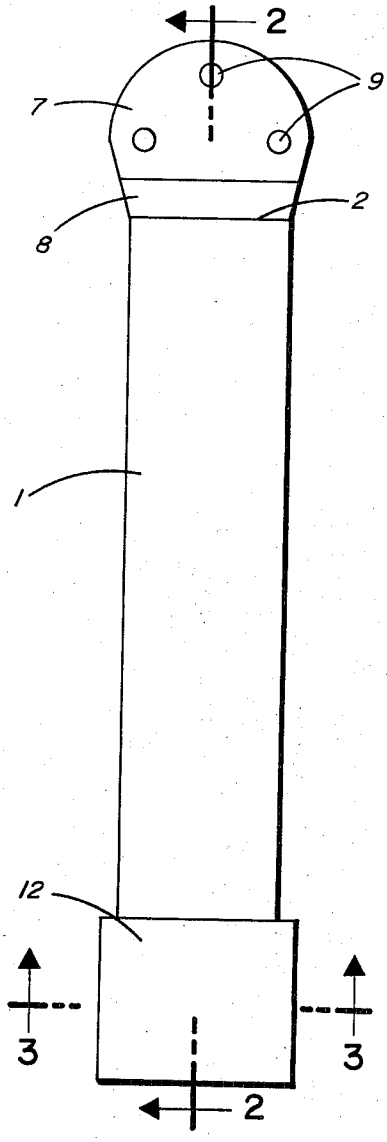
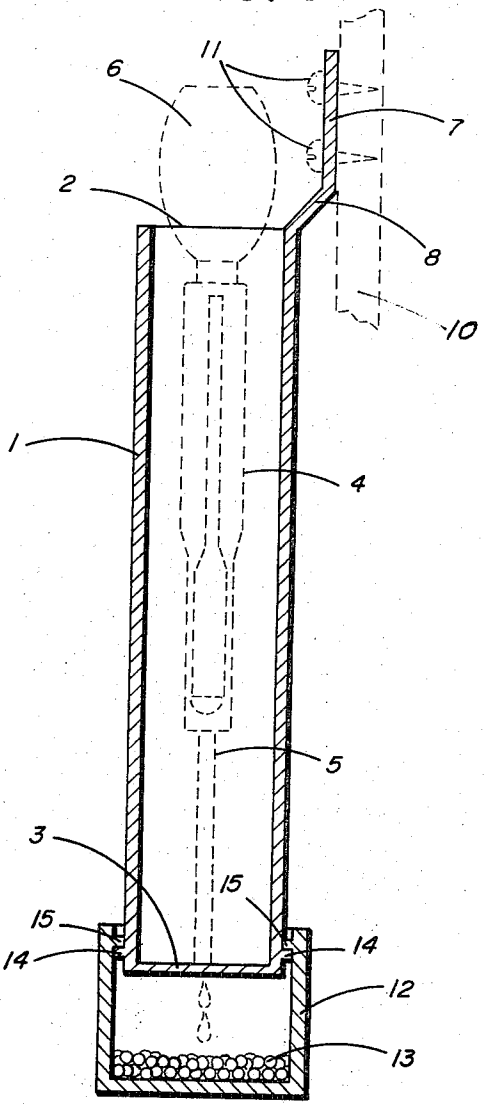


FIG. 2



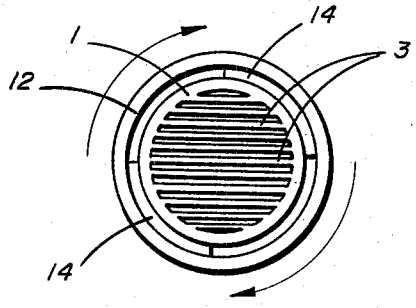


FIG. 3

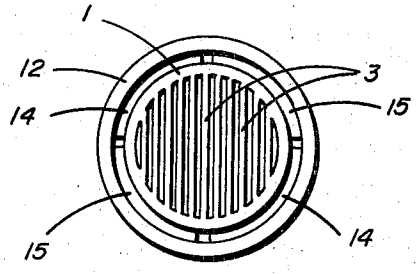


FIG. 4

HYDROMETER HOLDER

BACKGROUND OF THE INVENTION

Storage-battery testing hydrometers, as conventionally used in motor vehicle garages, service stations, or the like, are—because of the glass components—commonly subject to damage by reason of the fact that they are, after use, often set aside without due caution and in a position where accidental breakage can readily occur. Additionally, as so set aside, any battery acid which may then drip from the hydrometer frequently causes damage to a surface or object which the acid contacts. The present invention was conceived in a successful effort to meet such problems.

SUMMARY OF THE INVENTION

The present invention provides, as a major object, a holder adapted to receive and support a storage-battery testing hydrometer in a readily manually accessible position, but at the same time well protected; the holder including a cup—containing a neutralizing material—to catch and neutralize any battery acid which may drip from the hydrometer after use and upon placement thereof in the holder.

The present invention provides, as another important object, a holder, as above, which comprises an elongated tubular container which is vertically disposed, open at its upper end, and of a length to receive a hydrometer therein for a major portion of its length but with the bulb exposed for manual access; the lower end of the tubular container being closed by a grate on which the hydrometer stands; and the cup—which contains the battery acid-neutralizing material—being removably engaged on and encompassing the lower end of said tubular container to catch and neutralize any battery acid which may drip through the gate from the hydrometer.

The present invention provides, as a further object, a hydrometer holder which is designed for ease and economy of manufacture, and convenience of use.

The present invention provides, as a still further object, a practical, reliable, and durable hydrometer holder, and one which is exceedingly effective for the purpose for which it is designed.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevation of the hydrometer holder.

FIG. 2 is a vertical sectional elevation on line 2—2 of FIG. 1; a hydrometer being shown—in broken lines—in place in the holder.

FIG. 3 is a horizontal section—looking upwardly—on line 3—3 of FIG. 1; the view showing the cup-retention flanges in engaged position.

FIG. 4 is a similar view, but shows the cup-retention flanges as disengaged preparatory to removal of the cup.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now more particularly to the drawings, and to the characters of reference marked thereon, the hydrometer holder comprises an elongated, vertically disposed tubular container 1 open at its upper end 2, and closed at its lower end by a grate 3.

The tubular container 1 is of an inside diameter to freely receive a conventional, glass-body hydrometer 4

therein; the length of the tubular container 1 being such that when the hydrometer is disposed therein, its stiff, depending tube 5 stands on the grate 3, while the bulb 6 is disposed, in the main, above the upper end 2 and hence accessible for ready manual grasping when it is desired to remove the hydrometer from the holder for use.

At its upper end, and at the back, the tubular container 1 includes—in integral relation—an upstanding bracket 7 connected to said tubular container 1 by a rearwardly extending offset 8. The bracket 7 is provided with holes 9 whereby said bracket can be secured to a wall 10, or the like, by means of headed screws 11 projecting through such holes. With the bracket 7 so mounted, the tubular container 1 depends in clearance relation to the wall 10.

At its lower end, the tubular container 1 is provided with a removable cup 12 which encompasses said tubular container for a short distance; the cup 12 containing a granular material 13 (such as soda ash) whose purpose is to neutralize any battery acid which drips through the grate 3 from the depending tube 5 of the hydrometer 4 after use of the latter, and upon placement thereof in the tubular container 1.

The cup 12 is removably secured to the lower end portion of the tubular container 1 by means of normally-registering, part-circle arcuate flanges certain of which are on the exterior of the tubular container 1, and others of which are on the interior of the cup 12. The flanges on the container are indicated at 14, while the flanges in the cup are indicated at 15. The flanges 14 are of slightly less than 90° in arcuate extent, and are formed on opposite sides of the tubular container 1. The flanges 15 in the cup 12 are of slightly less than ninety degrees in arcuate extent, and are formed oppositely in the cup 12.

In the normal position of the cup 12 on the lower end of the tubular container 1, the flanges 15 in the cup engage with and substantially matchingly rest on the flanges 14 on the tubular container 1. However, upon manual rotation of the cup 12 approximately 90°, the flanges 15 in said cup move to out-of-register positions relative to and clear of the flanges 14 on the tubular container 1, whereupon said cup 12 can be removed from said container by downward sliding motion. Removal of the cup 12, while infrequently necessary, if for the purpose of replacement of the granular, acid-neutralizing material 13.

By reason of the offset 8 in the bracket 7, the tubular container 1 is disposed in sufficient clearance relation to the wall 10 to permit of ready manipulation of the cup 12 without interference from said wall.

With the holder constructed and mounted as described, the hydrometer 4 is normally maintained in a safe but readily manually accessible position, and, additionally, any battery acid which drips from the hydrometer after use and upon placement of said hydrometer in the tubular container 1 is effectively neutralized in the cup 12.

The components of the holder (i.e., the tubular container 1 together with the integral grate 3 and bracket 7, and the initially separate cup 12) are preferably produced of molded plastic, or other non-corrosive material.

From the foregoing description, it will be readily seen that there has been produced such a hydrometer holder

as substantially fulfills the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the hydrometer holder, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention as defined by the appended claims.

I claim:

1. A holder adapted to receive and support a storage-battery testing hydrometer in readily manually accessible but protected relation, comprising an elongated tubular container open at its upper end, the tubular container being dimensioned to receive a hydrometer therein for a major portion of the length of the latter, a grate in the lower end of the tubular container and on which grate the hydrometer stands when in said tubular container, a cup on the lower end of the tubular container to catch any battery acid dripping from the hydrometer and through the grate, and an attachment bracket extending upwardly from the tubular container at but clear of its open upper end.

2. A holder, as in claim 1, including an outward offset between the bracket and tubular container whereby to dispose the latter outwardly of a surface to which the bracket is attached; the cup being downwardly removable from the tubular container.

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