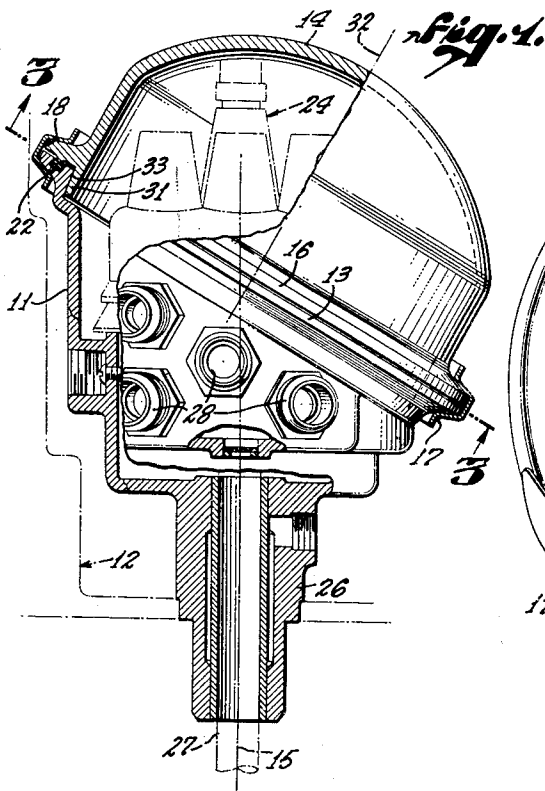
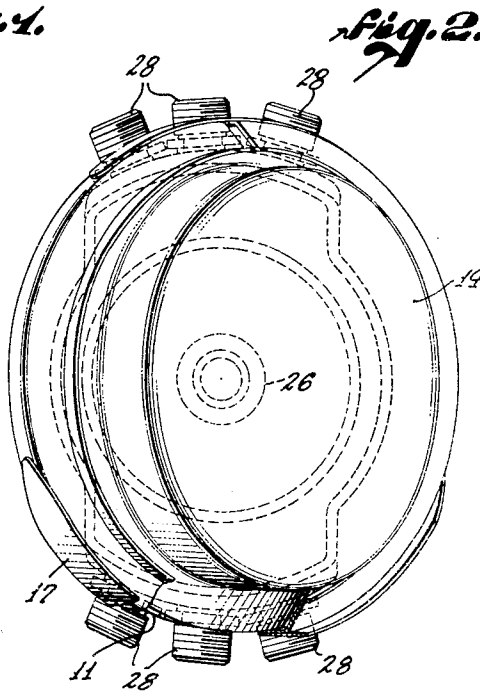
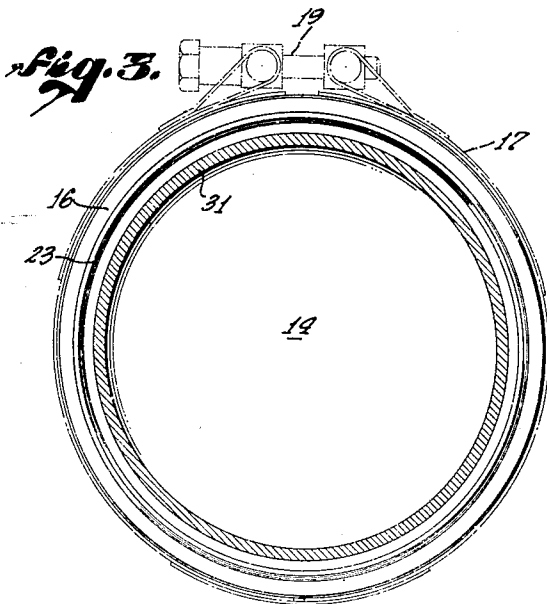
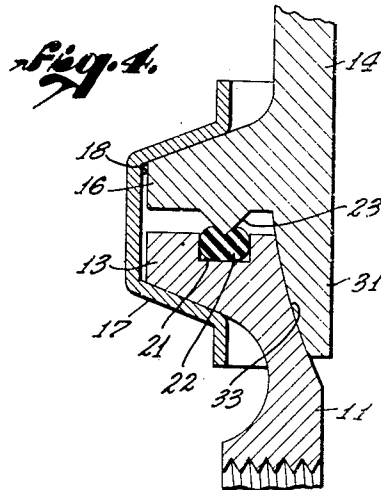


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SHIELDING CONTAINER  
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## UNITED STATES PATENT OFFICE

2,666,092

## SHIELDING CONTAINER

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6 Claims. (Cl. 174-35)

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This invention relates to a shielding container adapted to house an engine accessory such as a distributor, and has particular reference to such a container designed for ready access to the interior thereof.

In the design and fabrication of internal combustion engines, particularly small engines, it is necessary, for compactness, to mount the engine accessories, such as the distributor, as close as possible to the engine. In most designs the engine proper is provided with a horizontal crankshaft and the distributor is mounted close beside the engine in a vertical position; that is, the adjusting shaft, which rotates the distributor in accordance with spark advance, is vertical. Thus, the distributor cap is on top of the distributor, and for access to the distributor it is necessary to work from above down into the distributor.

In order to shield the distributor from water and also to prevent radio-interfering radiation therefrom, it is the practice in certain engines to house the distributor in a metal container having a cap which may be removed for repair and servicing of the distributor. Because of the necessarily close mounting of the distributor and its container against the side of the engine, removal and replacement of the container cap is often rendered awkward by other interfering engine parts; and service to the distributor with the container cap removed is rendered even more awkward because accessibility must be directly from above, downward into the container.

The primary object of this invention is to facilitate repair and servicing of an engine accessory such as a distributor.

A more specific object of this invention is to effect such facilitation by a more readily accessible shielding container, so designed that the engine itself constitutes a minimum of obstruction to ready access to the interior of the container.

In accordance with the instant invention the open end of the container, over which its cap fits, is formed on a bias, i. e., is disposed in a plane oblique to the adjacent engine exterior and facing outwardly or away from the engine. In this manner access to the distributor within the container is not obtained directly from above, but is somewhat from the side, whereby obstruction from the engine itself is minimized.

In the accompanying drawing a preferred species of the instant invention is illustrated.

Fig. 1 is an elevation, partially sectionalized, of a distributor container embodying the principles of the instant invention.

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Fig. 2 is a plan view of the container of Fig. 1.

Fig. 3 is a sectioned view taken on line 3-3 of Fig. 1.

Fig. 4 is a fragmentary section taken in elevation and showing an enlarged portion of the structure shown in Fig. 1.

Referring to the drawing, 11 designates the container housing mounted vertically close beside an internal combustion engine block, the exterior contour of which is designated generally at 12. The housing 11 is open at the top, the opening being defined by a rim 13 disposed in a plane oblique to the vertical housing axis 15 and facing outwardly, or away from the engine 12. The open upper end of the housing 11 is closed by a cap 14 having a rim 16 matching and engaging the rim 13 of the housing 11. A strap clamp 17, having an inner groove 18, receives and clamps together the juxtaposed rims 16 and 13.

As best seen in Fig. 4, the non-facing surfaces of the rims 16 and 13 are tapered to match the taper of the strap groove 18. Thus, as the strap 17 is tightened circumferentially by any suitable means such as a clamp bolt 19 (Fig. 3), the rims 16 and 13 are wedged tightly together. The facing surface of the rim 13 is grooved at 21 to receive a rubber O ring 22. The corresponding face of the rim 16 has an annular triangular ridge 23 formed thereon, the edge of which is pressed into the O ring 22, as shown in Fig. 4, to form a water-tight seal between the cap 14 and the housing 11 all around the housing rim 13. The strap clamp 17 forms the subject matter of copending application Ser. No. 218,619, filed March 31, 1951, in the name of Vernon W. Balzer.

As seen in Fig. 2, the housing 11 is generally of elliptical cylindrical shape. The oblique rim 13, forming the open face of the housing 11, is disposed at such an angle that the rim itself is circular, so that the cap 14, being mounted to the housing 11 obliquely, is simply a conventional circular cap of relatively cheap fabrication cost.

The container is adapted to house an engine accessory such as a distributor 24. Depending from the housing 11 on the axis 15 is a hollow boss 26, through which extends a rotatable adjusting shaft 27 supporting and mounting the distributor 24. Openings 28 are provided in the side wall of the housing 11 for the passage of electrical conduits to the distributor 24.

The bottom cylindrical portion of the cap 14 extends somewhat below the rim 16 to form a cylindrical flange 31 (Fig. 4). The outer surface of the flange 31 is formed as a portion of the surface of a sphere centered on the axis 32 of

the cap 14. The flange 31 engages and fits into a corresponding spherical concavity 33 formed on the inside of the housing rim 13. The spherical nature of the engaging faces on the housing and cap produces a limited universality of mounting attitude, so that even though the cap 14 may be cocked slightly when mounted over the housing rim 13, there is still a large surface of electrical contact between the housing and the cap all the way around the housing rim 13. The engaging portions 31 and 33 also serve to limit the compression exerted by the ridge 23 against the O ring 22 when the clamp 17 is screwed up tight.

In the manner above described, the instant invention provides a container which may be readily sealed against water; which provides excellent electrical shielding by virtue of the annular continuity of contact between cap and housing; and the interior of which is readily accessible by virtue of the oblique, outward-facing mounting of the cap 14 on the housing 11. It will be readily understood that the problem of sealing the electrical conduits where they pass through the openings 23 is easily solved, since there is no necessity for providing means for readily opening these apertures, as there is in the case of the cap 14.

While the instant invention has been shown and described herein in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is therefore not to be limited to the details disclosed herein but is to be accorded the full scope of the claims so as to embrace any and all equivalent apparatus and articles.

What is claimed is:

1. A shielding container for an engine accessory comprising a housing formed with an open spherical mouth circumscribed by a rim, a cap formed with a spherical flange complementary to said mouth and adjustably seating therein, said cap being provided with a peripheral rim above and extending externally of said flange and complementary to the first said rim, and means for advancing said flange into said mouth

and one rim toward the other and retaining them in the advanced position to clamp the cap to the housing in waterproof and electrically grounded relationship.

2. A device as defined in claim 1 wherein there is a groove in one rim and a sealing ring in said groove compressible by contact with a portion of the other rim.

3. A device as defined in claim 1 wherein there is a groove in one rim and a sealing ring in said groove, and a V ridge in the other rim contacting the sealing ring and compressing same.

4. A device as defined in claim 1 wherein the rims are disposed in oblique parallel planes whereby lateral access to the accessory is obtained upon removal of the cap.

5. A device as defined in claim 1 wherein the rims are formed with tapered external surfaces, and the advancing means is a grooved ring clamp engaging said surfaces.

6. A shielding container for an engine accessory comprising a housing formed with an open generally tapered mouth circumscribed by a rim, a cap formed with a generally tapered flange complementary to said mouth and seating therein, said cap being provided with a peripheral rim above and extending externally of said flange and complementary to the first said rim, and means for advancing said flange into said mouth and one rim toward the other and retaining them in the advanced position to clamp the cap to the housing in waterproof and electrically grounded relationship.

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