

Oct. 5, 1954

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2,690,946

CONTAINER WITH CLOSURE HAVING DESICCANT HOLDER

Filed Feb. 28, 1951

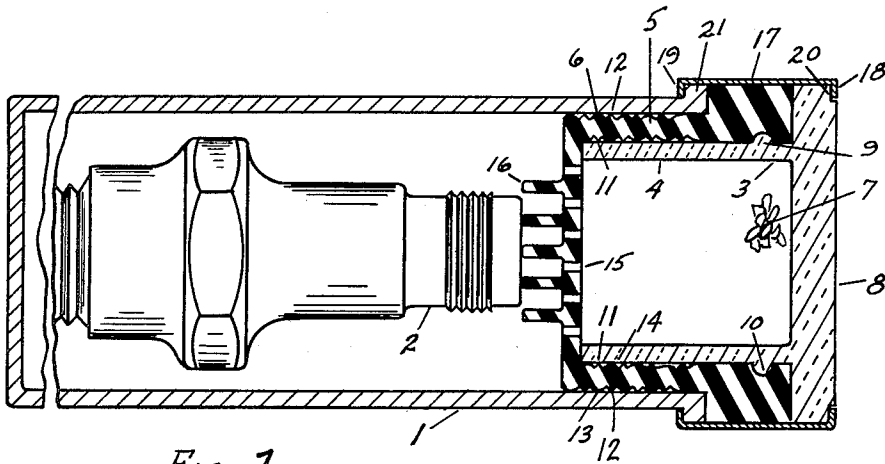


Fig. 1

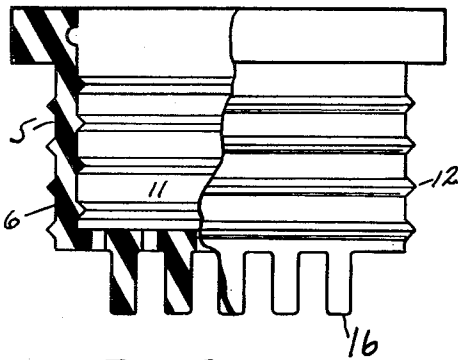


Fig. 2

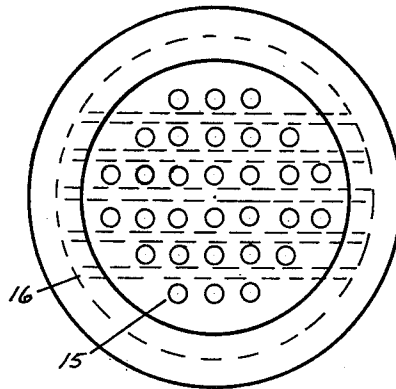


Fig. 3

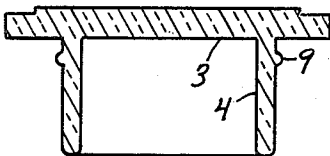


Fig. 4

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2,690,946

CONTAINER WITH CLOSURE HAVING
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Application February 28, 1951, Serial No. 213,150

1 Claim. (Cl. 312—31.1)

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It is desirable that articles such as aircraft spark plugs be kept dry in sealed containers which can be easily opened and closed. This invention is intended to provide such a container. Features include a hollow stopper holding a desiccant and closing the mouth of the container. The stopper includes a cup-shaped cap which preferably has a translucent bottom wall through which the condition of the desiccant can be observed. The side walls of the cap are telescoped within the side walls of the cup-shaped gasket having a perforate bottom wall and having annular ribs staggered along the inner and outer surfaces of the side walls and respectively engaging the outer side walls of the cap and the inner walls of the mouth of the container to effect a vapor-tight seal. Further objects and advantages appear in the specification and claims.

In the drawing, Fig. 1 is a section through the container, Fig. 2 is a side elevation partly in section of the gasket seal, Fig. 3 is a top view of the gasket seal and Fig. 4 is a sectional side elevation of the cap which telescopes into the gasket seal to make a stopper closure for the container.

The main body 1 of the container is preferably made of a vapor impervious material such as metal or a plastic having low vapor transmission such as polyethylene. When used to store spark plugs 2, the container can be of cylindrical shape open at one end. The open end of the mouth of the container is closed by a stopper which comprises a cup-shaped cap 3 having side walls 4 telescoped within side walls 5 of a cup-shaped sealing gasket 6. The cap is preferably made of a translucent material such as glass or Lucite so that the condition of a desiccant 7 such as silica gel can be observed through the bottom wall 8 of the cap. Silica gel, when dry, is blue and changes color from blue through reddish to white as it picks up moisture. So long as the silica gel is colored, it furnishes adequate protection against moisture. A rib 9 on the cap fits in a groove 10 in the sealing gasket and holds the cap and gasket in assembled relation so that the assembly can be used as a stopper for the container.

On the inner and outer surfaces of the side walls 5 of the gasket are respectively ribs 11 and 12, the ribs being in staggered relation so that one of the ribs 11, for example, is opposite the space between two of the ribs 12. The normal inside diameter of the ribs 11 is smaller than the outside diameter of the side walls 4 of the cap and the normal outside diameter of the ribs 12 is

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larger than the inside diameter of the container 1. When the stopper is pressed into the container, the sections of rubber 13 opposite the ribs 11 and the sections of rubber 14 opposite the ribs 12 are bowed producing a sealing pressure which both seals the ribs 11 against the walls of the cap 3 and the ribs 12 against the inside of the container 1, and may produce some sealing pressure between the bowed sections 13 and 14 and the side of the container and the walls of the cap 3 supplementing the ribs 12 and 11. The staggering of the ribs 11 and 12 in effect results in each rib being backed up by a cushion section, which provides the sealing pressure. This makes the functioning of the sealing gasket less dependent upon close fits. While the staggered arrangement of the ribs 11 and 12 is in the preferred form, sealing is obtainable with modifications. For example, the ribs 11 and 12 may be opposite each other provided the walls and the ribs 11 and 12 have sufficient resilience. Furthermore, if either the ribs 11 or the ribs 12 are omitted, the bowed sections 14 or 13 opposite the retained ribs 12 or 11 may make contact with the adjacent surface and perform the sealing function of the omitted ribs 11 or 12, as the case may be.

The bottom wall of the gasket is provided with rows of perforations 15, which provide access to the desiccant 7 within the stopper. As shown in Fig. 3, the perforations 15 are conveniently arranged between ribs 16, which engage and cushion one end of the spark plug 2.

The sealing gasket 6 may be made from any elastomer such as neoprene or vinyl resins. Preferably the gasket is made of an elastomer, which will stand the temperature necessary to dry the desiccant 7 so that after the desiccant has absorbed its limit of moisture, the stopper assembly can be reactivated by heating to drive off the moisture. Neoprene and the vinyl resins are examples of elastomers which will stand the temperatures necessary to reactivate desiccants such as silica gel.

In the manufacture of the container, the cap 3 and gasket 6 are usually assembled with the desiccant such as silica gel filling the side walls 4 of the cap. The cap and gasket assembly then can be pushed into the open end of the container 1 providing a stopper seal. By observing the color of the silica gel through the translucent bottom wall 8 of the cap, the degree of protection against moisture within the container can be easily ascertained. After the stopper is pushed into the container, the stopper can be locked to

the container by a sealing band 17, which has flanges 18 and 19 respectively overlapping a seat 20 on the cap and a rim 21 on the container.

What I claim as new is:

A storage container for articles such as aircraft spark plugs and the like having a container body having a mouth, a stopper closure fitting the inner walls of the mouth comprising a cup-shaped cap having side walls telescoped within the side walls of a cup-shaped gasket of a resilient elastomer, the side walls of the cap and gasket extending in opposite directions and the bottom walls of the cap and gasket being spaced apart to provide a cavity therebetween, perforations in the bottom wall of the gasket, cushioning projections extending from the bottom wall of the gasket for cushioning the article stored in the container, a desiccant in the cap, and annular ribs spaced along the inner and outer side walls of the gasket and respectively engaging the outer side walls of the cap and the inner walls of the mouth of the container, the ribs on the inner

side walls of the gasket being in staggered relation to the ribs on the outer side walls of the gasket.

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