

# United States Patent [19]

Kreipe et al.

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[54] **PRESSURE CONTAINERS**

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[58] Field of Search..... 169/30, 31 R; 220/3; 222/394

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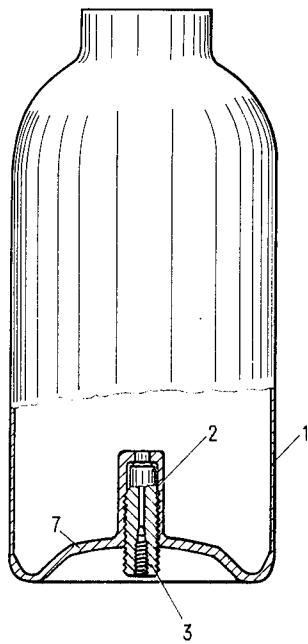
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[57]

## ABSTRACT

A seamless pressure container extruded from low-density metal includes a bush which extends into the interior of the container and which is integrally formed with the container, and a valve body sealingly fitted in the bush. In one arrangement in which the pressure container is part of a portable fire extinguisher and the valve body is that of a filling and test valve for the extinguisher the bush is positioned centrally of an inwardly-domed base part of the container.

5 Claims, 5 Drawing Figures



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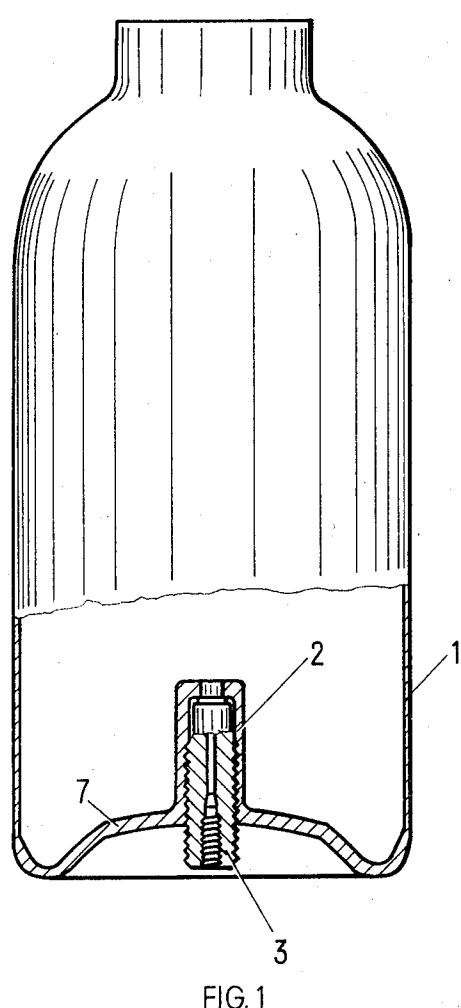


FIG. 1

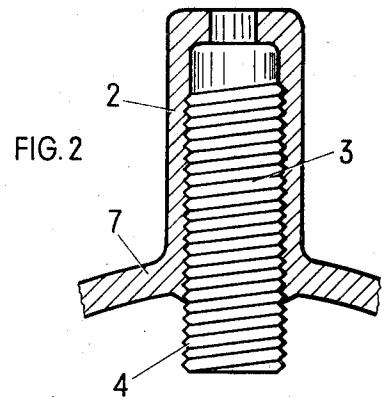


FIG. 2

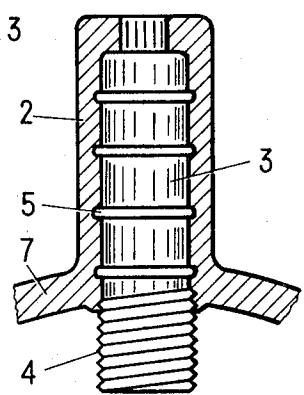


FIG. 3

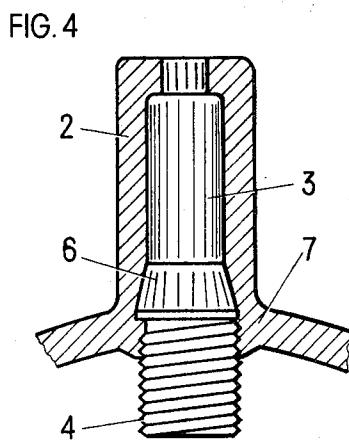


FIG. 4

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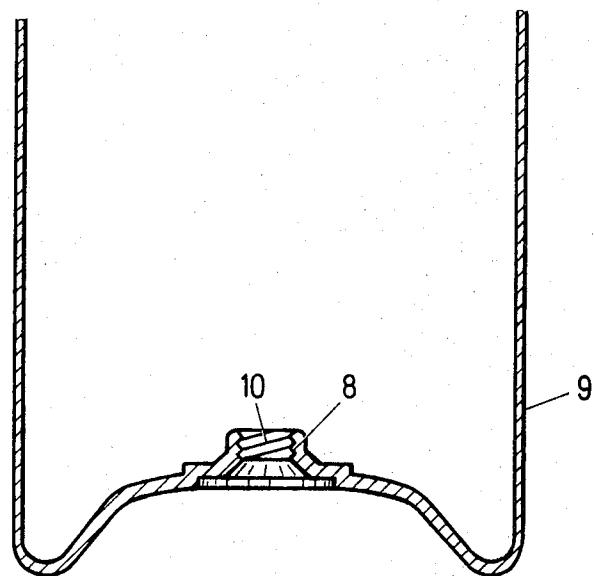


FIG. 5

## PRESSURE CONTAINERS

This invention relates to a seamless extruded metal pressure container, particularly of the kind used in fire extinguishers. Portable or hand fire extinguishers often have a supplementary filling and testing valve at the base of the container or on the spray valve. The standardized valves as normally fitted on automobile tyres are generally used for this purpose. The case or valve body of this type of valve is normally fitted in a housing which is secured to the pressure container by screwing or soldering. This method of attachment is very expensive.

An object of the invention is to simplify and improve the fitting and attachment of a filling and test valve to extruded seamless metal pressure containers.

According to the invention a seamless extruded metal pressure container has a bush which extends into the interior of the container and which is integrally formed with the container, and a valve body sealingly fitted in said bush. The valve body can be tightly secured in the bush for example by being pressed or screwed into it.

In a preferred arrangement, the bush and the valve are disposed in the middle of the base of the container and the base is inwardly domed in such manner that the outwardly projecting end of the valve body (and the valve cap which may be screwed onto this end) terminates above the plane on which the container stands when on the floor or ground.

This arrangement offers the advantage of simplifying the tight attachment of the valve body, of reducing the space required for fitting the valve and of enabling the container to be stood in a stable manner. In order to ensure complete tightness, the cylindrical surface of the valve case pressed into the bush may be provided with a continuous screw-thread for example, or has other anchoring means formed by undercut portions such as ribs or conical surfaces.

The invention will now be further described by way of example only with reference to the accompanying drawings in which:

FIG. 1 is a side view, partly in longitudinal section, of a pressure container of a fire extinguisher,

FIG. 2 is a longitudinal section of the bush and part of the valve body of the pressure container of FIG. 1,

FIG. 3 is a view similar to that of FIG. 2 of a modified arrangement,

FIG. 4 is another similar view of another arrangement, and

FIG. 5 is a longitudinal sectional view of the lower part of another pressure container.

FIG. 1 shows a seamless pressure container 1 for hand fire extinguishers, extruded in low density metal. The base 7 of the container is inwardly domed. At its centre the base has an inwardly-projecting bush 2 into which is tightly screwed a valve body or case 3. The outwardly-projecting lower end of the valve case 3 on which a valve cap (not illustrated) is normally screwed terminates above the plane on which the container 1 stands on the ground or floor, as does the valve cap when screwed onto this end.

FIG. 2 shows, on a larger scale, the base 7 of the container, the bush 2, the valve case 3 and a screw-thread 4 on the valve case.

FIG. 3 illustrates a modified arrangement in which only the outwardly projecting end of the valve case on which the valve cap is screwed is provided with a screw-thread 4; that part of the valve case pressed into the bush 2 is provided with a number of circular ribs 5.

In the arrangement shown in FIG. 4, the ribs are replaced by a tapered collar 6 on the valve case.

FIG. 5 is a longitudinal section through the lower part of another pressure container 9, the base of which is likewise inwardly domed. At its centre this base has an inwardly projecting bush 8 which has an internal screw-thread 10. A valve, not illustrated, can be tightly screwed into this threaded part, the case of the valve having a continuous external thread such as that illustrated in FIG. 2.

We claim:

1. A metal pressure container comprising:
  - a. a seamless wall forming said container, said wall having an inwardly domed base portion,
  - b. a bush integrally formed with said wall disposed substantially at the center of said base portion, said bush having a passageway therethrough, and
  - c. a valve body sealingly fitted in said passageway such that an outwardly projecting end of said valve body terminates above the plane defined by the bottom of said base portion.
2. A metal pressure container according to claim 1, wherein said bush has indentations formed in said passageway to engage corresponding protrusions on said valve body.
3. A metal pressure container according to claim 1 wherein the valve body is pressed into the bush.
4. A metal pressure container according to claim 1 wherein the valve body is screwed into the bush.
5. A fire extinguisher having a pressure container according to claim 1 including a filling and test valve wherein the case of said valve comprises said valve body fitted in said bush.

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