March 11, 1941. L. UNDERHILL 2,234,458

ATTACHMENT FOR CONTAINERS

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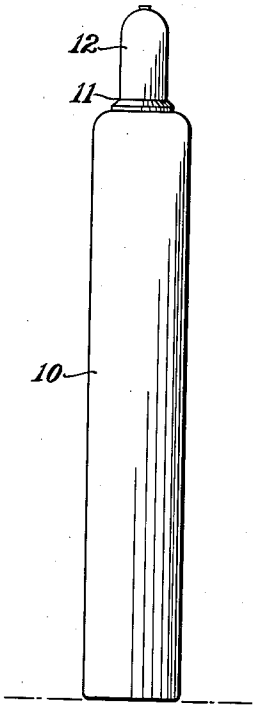


FIG. 1

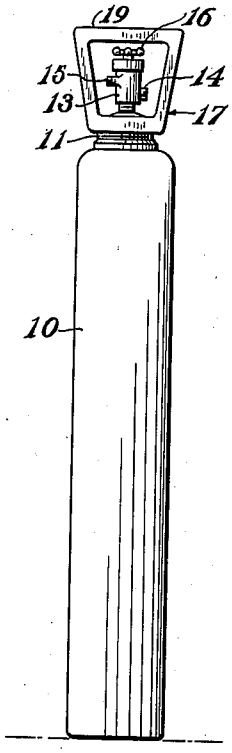


FIG. 2

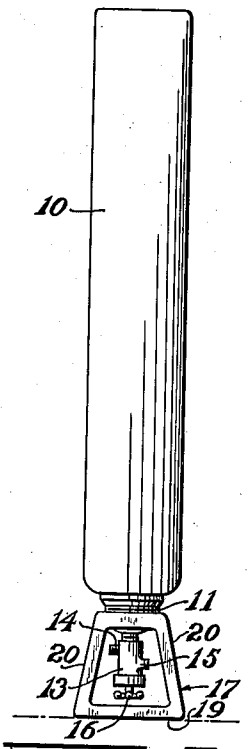


FIG. 3

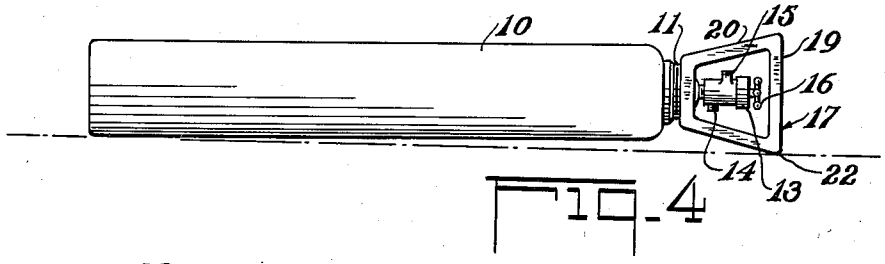


FIG. 4

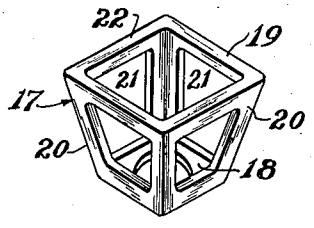


FIG. 5

INVENTOR
LANCE UNDERHILL
BY
Van Deventer & Grier
ATTORNEYS

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ATTACHMENT FOR CONTAINERS

Lance Underhill, Schenectady, N. Y.

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2 Claims. (Cl. 220—85)

This invention relates to attachments for containers and more particularly to attachments for pressure cylinders, shipping drums and the like.

It will be understood that hereafter when the term "container" is employed it may refer to a cylinder, drum, tank or the like as commonly used for storing and transporting gases and liquids and having a valve extending therefrom.

High pressure cylinders are commonly employed for transporting oxygen, carbon dioxide, hydrogen, sulphur dioxide, freon and other liquids and gases and are made to conform to the Bureau of Explosives' specifications. Such cylinders are commonly equipped with valves to permit the contents to be drawn off and said valves in many cases are provided with a safety device including a frangible or rupturable disk which may be supported by fusible metal. In some cases the safety device consists only of a fusible plug or a spring pressed valve, the complete valve unit usually being mounted in the head of the cylinder.

Because of the Bureau of Explosives' specifications and the regulations of various other bodies, such as the Interstate Commerce Commission, these cylinders and in many cases the valves therefor have become standardized and in order to protect the valves during shipment of the cylinders it has been customary to thread the neck of the cylinder surrounding the valve and place thereover a heavy threaded protective cap, completely enclosing the valve.

The device forming the subject matter of the instant application comprises an attachment for containers as herein defined which may replace the standard valve cap during shipment and which has the advantage thereover that it permits the valve to be used without removing the device from the container, and has for its object the protection of the valves of such containers while in use.

Another object is to provide an attachment base for standing the container with the valve inverted, and a further object is to provide an attachment that can be used for the foregoing objects and also as a handle or handles by means of which the container can be moved.

Other objects will be apparent from the following specification and the drawing referred to herein, the same illustrating one embodiment of the invention by way of illustration.

In the accompanying drawing:

Figure 1 is a front elevation of a container comprising a high pressure cylinder such as used for shipping oxygen, equipped with a protective cap or valve;

Figure 2 is the container, Figure 1, with the ordinary protective cap removed and the device constituting the present invention in place on the container;

Figure 3 is the container, Figure 2, inverted, showing how the improved device herein disclosed can be used as a base for supporting the container;

Figure 4 is the container laid on its side showing how the present invention prevents rolling; and

Figure 5 is a perspective view of the device constituting this invention.

The numeral 10 denotes a standard container or tank which has the usual threaded neck 11 which is engaged by an interiorly threaded protective cap 12 which completely surrounds and encloses the valve 13 which is provided with the usual safety device 14 and the threaded outlet 15. In many instances these valves are provided with the hand wheel 16.

All of the foregoing parts constitute the well known high pressure cylinders or shipping drums of commerce and same are made in a large variety of sizes and adapted to hold various pressures.

Such containers as just described, if laid on their sides, are free to roll, and presenting a smooth rounded exterior, are difficult to handle. The valve being the only free projecting part, it is often used as a handle by which to lift the container, which results in breakage of the valve. In many instances the protective cap 12 is omitted when transporting the container from place to place, with the result that the threads on the outlet 15 become battered or the safety device 14 is injured.

Also, in emptying the container, if it contains liquid it is necessary to tip the container as obviously it cannot be inverted, as is the container shown in Figure 3.

The foregoing difficulties are eliminated by the improved attachment hereinafter described. This replaces the standard valve or protective cap 12, the device constituting in combination, a valve cap or protective casing, a stand or base, handle means for transporting the container, and means for preventing the container from rolling if laid on its side.

The device may be made in any suitable manner. The following description applies when the device is made as a malleable or steel casting in one piece, but obviously the device can be

made from a stamping or the bottom and top can be castings or stampings and the side members be made of rods or the like, the entire structure being welded or otherwise suitably secured together. All such forms of construction are included within the scope of the appended claims.

The casting 17 forms a truncated pyramid having a top portion 18 which is threaded to engage the threaded neck 11 of the container. Obviously, the device can be secured to the container in any other manner, such as by set screws or bolts and nuts or by a split clamp collar, the only requisite being that the top portion 18 be detachably secured to the container. The base 19 of the casting 17 is open as shown, to permit access to the hand wheel 16 and the top 18 and base 19 are connected together by means of side members or uprights 20 which define openings such as that indicated at 21, which openings permit access to the safety device 14 and threaded outlet 15.

If desired, all four sides of the truncated pyramidal casting 17 may be open or only one side may be open. Also, the base 19 may be circular instead of square, as shown, and instead of four side members 20, the device may have only three such side members.

While the preferred form of the device is a truncated pyramid having flat sides as shown, it is obvious that the device as a whole might be round, or round with one flat side so as to permit the container to be laid on its side as shown in Figure 4, a flat side 22 on the attachment 17 preventing the container from rolling.

The base 19 by reason of the openings 21 may be used as a handle to transport the container, and by reason of the openings 21 the containers are readily transported from place to place by means of a travelling crane or the like.

If desired, the containers can be stood on end with a valve inverted as shown in Figure 3 which permits the entire contents thereof to be withdrawn without tipping the container or providing any special means of holding the same. In the case of very large and heavy containers the width of the base 19 can be extended in order to provide the necessary stability.

Although the invention has been disclosed in connection with the specific details of preferred embodiments thereof, it must be understood that such details are not intended to be limitative of the invention except in so far as set forth in the accompanying claims.

What is claimed is:

1. An attachment for a normally sealed cylindrical container having a valve member projecting from the central portion of one end thereof, comprising a one piece open truncated pyramidal frame surrounding said valve, means at the smaller end of said frame for attaching it coaxially of said container and enclosing the valve therein, the larger end of said frame being substantially rectangular in shape and having its side members providing handle elements, and at least two of said side members having their longitudinal dimensions at least equal to the diameter of said cylinder.

2. An attachment for a normally sealed cylindrical container having a valve member projecting from the central portion of one end thereof, comprising a one piece open truncated pyramidal frame surrounding said valve, means at the smaller end of said frame for attaching it coaxially of said container and enclosing the valve therein, the larger end of said frame being substantially square in shape and having its side members providing a square base for supporting the container in upright position, and said side members having their longitudinal dimensions at least equal to the diameter of said container.

LANCE UNDERHILL.