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[21] Appl. No. **811,844**
[22] Filed **Apr. 1, 1969**
[45] Patented **May 11, 1971**
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[56]

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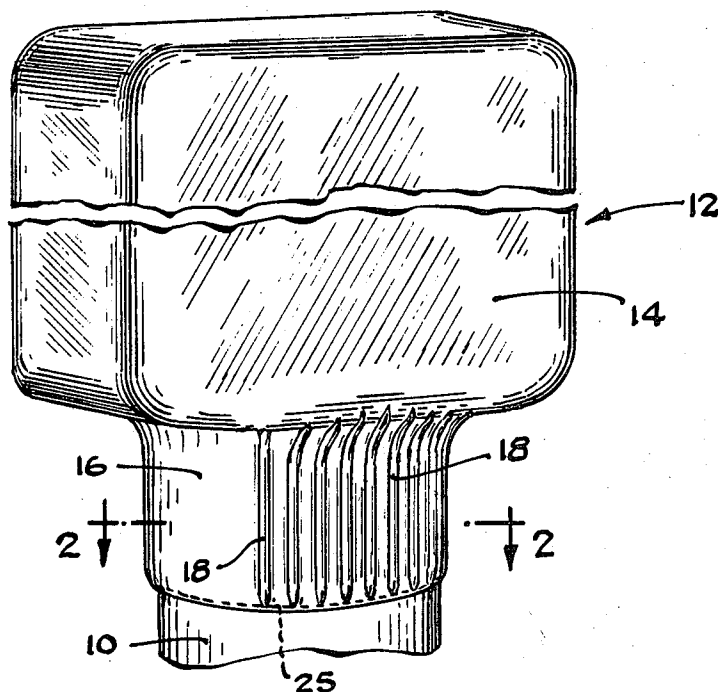
[54] **CYLINDER COVER**
4 Claims, 4 Drawing Figs.

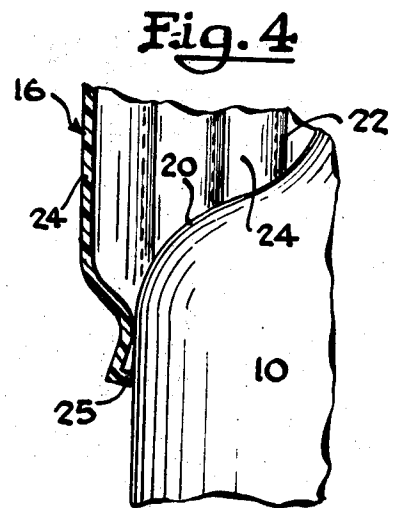
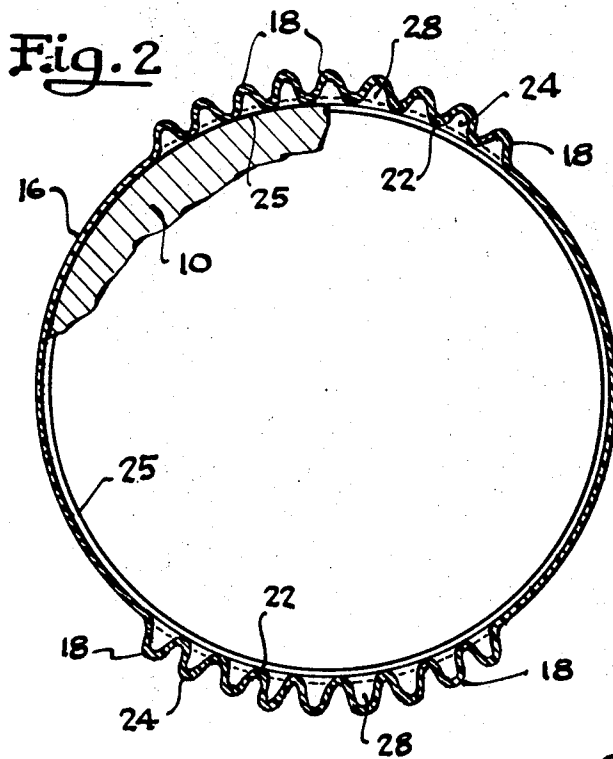
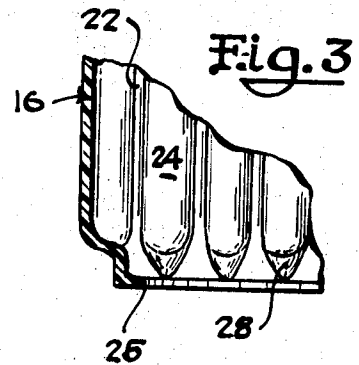
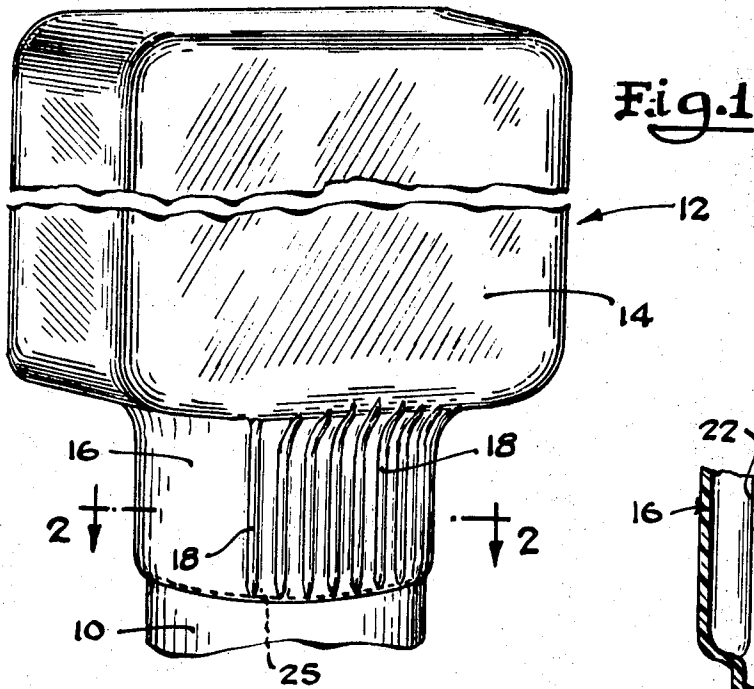
[52] U.S. Cl. **150/52**

[51] Int. Cl. **B65d 87/36**

[50] Field of Search. **150/52;**
222/131, 182, 183

ABSTRACT: Cover for enclosing the valved end of a container for gas material. At least a portion of the cover is resilient and has an open end which is engageable about the cylinder end by hand pressure.





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CYLINDER COVER

This invention relates to a protective cover for apparatus supported by a container for gas material and more specifically for a cylinder of breathing oxygen supporting equipment including a valve, a regulator and gauge, and a breathing mask and associated equipment.

Hospitals, emergency rooms, emergency vehicles and first aid stations are frequently required to administer oxygen to people. In an emergency where breathing is impaired, it is vital that oxygen administration be commenced quickly. Some portable emergency oxygen equipment is completely enclosed in a protective case or box. While such a case is being opened and the emergency equipment removed and assembled, time is consumed. Often emergency oxygen units are stored in cases which are positioned at strategic locations for emergency use. These cases usually have hinged closures from which the emergency breathing equipment must be removed. However these cases are not intended to be airtight and thus subject to the entrance of airborne impurities.

The protective cover of this invention is proportioned to enclose an oxygen mask and associated tubing for connection to a suitable outlet on a pressure-reducing regulator and flow-control device operatively connected to the valve of a cylinder containing gaseous oxygen. The cover is provided with a skirt-like portion defining an opening which expandably fits in sealing relation with the wall of the cylinder adjacent its neck. Thus ingress of moisture, dirt, and other contaminants within the cover are prevented. The cover is easily removable from the cylinder during an emergency to expose the regulator and to provide ready access to the emergency oxygen mask. Thus the mask and regulating apparatus are not only quickly available in an emergency but they are in a clean condition.

It is a principal object of this invention to provide a simple and efficient cover for enclosing the valved end of a gas cylinder.

An additional object of this invention is to provide a containerlike enclosure for an emergency oxygen mask and its associated tubing and apparatus.

Another object of this invention is to provide an improved container and cover which adheres to the cylinder but can readily be pulled off and slipped on.

A feature of this invention is to provide a cover with a resiliently fluted neck opening snugly engaging the cylinder wall.

Further objects, features and advantages of this invention will become apparent as the following description of an illustrated embodiment thereof proceeds taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a perspective view of a cover incorporating the principles of this invention attached to a cylinder;

FIG. 2 is a sectional view taken along the line 2-2 of FIG. 1;

FIG. 3 is an enlarged fragmentary elevational view of the fluted portion of said cover in its nonexpanded condition; and

FIG. 4 is an enlarged fragmentary elevational view illustrating the fluted portion in expanded condition secured to a cylinder.

Referring now more specifically to the drawings and first to FIG. 1, the valved end of a cylinder 10 is shown enclosed by a cylinder cover 12 embodying this invention. The cover 12 includes an envelope portion 14 from which depends a skirt 16, in this case generally cylindrical. The cover is made preferably of a resilient plastic material, such as polyethylene. The shape of the skirt is adaptable to receive endwise a container having exterior walls of any selected configuration.

The envelope 14 illustrated in the form of a generally rectangular box, may be formed in any other suitable geometric configuration. The dimensions of the envelope are selected so that the inside of the envelope is sufficiently large to contain the necessary apparatus and accessories for administering oxygen, such as a pressure-reducing regulator, flow control and gauge which may be connected to the cylinder valve, and

an oxygen mask and its connecting tubing, (not shown). Other items may be included.

The cylindrical skirt 16 appends to the envelope 14 and has a nonexpanded inside diameter which is somewhat less than the outside diameter of the gas-containing cylinder 10. At least a portion of the circumference of the skirt 16 is provided with flutes as at 18 and is sufficiently pliable to be expanded and stretch about and snugly engage the wall of the cylinder. As the cover 12 is pressed toward the cylinder 10, the sloping shoulder portion 20 (FIG. 4) of the cylinder engages the skirt 16 and with gentle urging stretches the fluted portion 18 circumferentially until the skirt is snugly engaged about the outer wall of the cylinder body. The flutes 18 include parallel ribs 22 interspaced by troughs 24 extending concavely of the inside of the skirt. The flutes 18 are arranged concentrically of the longitudinal axis of the skirt 16, and are thus concentric with the longitudinal axis of the cylinder. As the skirt is attached outside and longitudinally of the cylinder, the flutes 18 expand circumferentially. The outer end of the flutes terminate as at 28 in a circumferential bead 25. If the bead is omitted and the flutes open into the outer end of the skirt, the cover 12 will work as a cap and be suitable for many purposes but the bead enhances the specific use of the cover for sealing out dirt, dust and insects. The bead 25 cooperates in reducing the flexibility of the flutes 18 adjacent the outer end of the skirt and limiting the expandability of the flutes to provide a snug fit between the cover and the cylinder. The bead 25 effects a movable sealing relation between the outer end of the skirt and the external wall of the cylinder. Such sealing relation prevents the entrance of airborne impurities, moisture, dirt, insects and the like into the cover. The ribs 22 of the flutes frictionally engage the cylinder wall and snugly hold the cover to the cylinder regardless of movement of the cylinder from one location to another. Only a narrow bead 25 is required because the troughs 24 are spaced from the wall and terminated by the bead which is generally aligned with the ribs 22 and thus the bead snugly engages the cylinder wall and the sealing is enhanced. The fluted skirt is flexible enough so that the cover can be easily removed with modest effort from the valved end of the cylinder by simple longitudinal movement.

Thus it will be appreciated that all of the recited objects, advantages and features of this invention are obtainable in a highly practical and economical arrangement. It will be further understood that although this invention has been described with respect to certain specific embodiments thereof, this invention is not limited thereto, since various modifications of said invention will suggest themselves from the aforesaid description and are intended to be encompassed within the scope of the appended claims.

I claim:

1. A protective cover of semirigid resilient material such as polyethylene for a cylinder of the type adapted to contain a gas under pressure, said cover comprising: an envelope in the form of a generally rectangular box closed except for a generally circular opening in one wall thereof; a generally cylindrical skirt formed as a continuation of and extended from said envelope at the margin of said opening; axially extending flutes formed on at least a portion of said skirt, said flutes extending approximately from the intersection of said envelope and said skirt to the opposite end of said skirt; and a circumferential bead formed at said end of said skirt.

2. The cover of claim 1 wherein said flutes are formed on diametrically opposite portions of said skirt to facilitate circumferential expansion of said skirt.

3. The cover of claim 1 wherein said bead terminates said flutes and extends radially inwardly to engage the outer wall of said cylinder on which said cover is placed.

4. The cover of claim 3 wherein said flutes are formed on diametrically opposite portions of said skirt to facilitate circumferential expansion of said skirt.