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METHOD AND APPARATUS FOR PROVIDING ACCESSIBLE CONTAINERS FOR HIGH ALTITUDE OR SPACE USE

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FIG.1.

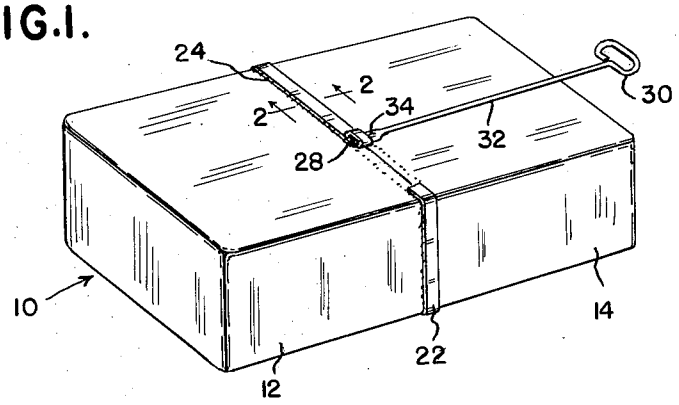


FIG.2.

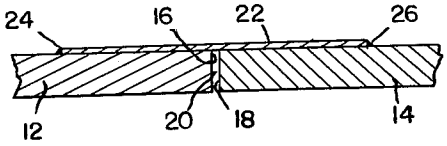
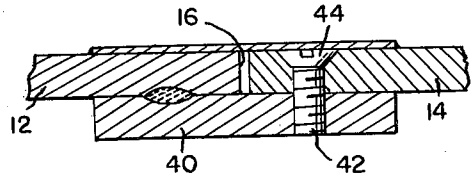


FIG.3.



INVENTORS
JAMES S. KIRKPATRICK
BY RICHARD R. STUDER
Whittemore, Hulbert & Belknap
ATTORNEYS

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METHOD AND APPARATUS FOR PROVIDING ACCESSIBLE CONTAINERS FOR HIGH ALTITUDE OR SPACE USE

James S. Kirkpatrick, Detroit, Mich., and Richard R. Studer, Pueblo, Colo., assignors to Brooks & Perkins, Inc., Detroit, Mich., a corporation of Delaware

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This invention relates to a portable lightweight atmospherically sealed container for use at high altitude or in space. The container is adapted to house delicate electronic equipment. The invention is characterized by the manner in which the container is sealed from the atmosphere by a sealing band and by the way in which the sealing band is removed from the container without injury to the contents of the container.

It is an object of the present invention to provide a portable lightweight atmospherically sealed container adapted for use at high altitude or in space comprising a pair of hollow sections arranged to have their peripheral edges which are free directly opposite, and a relatively narrow band abutting the sections and bridging the space between the aforesaid edges, said band extending completely around the outside periphery of said sections to close the interior thereof to the atmosphere and having its peripheral edges throughout their entire length soldered to the sections.

Another object of the present invention is to provide a portable lightweight atmospherically sealed container of the type just described wherein the band is provided with a tab which is adapted to be connected to a key for facilitating removal of the band from the sections without injury to the contents of the container.

Still another object of the present invention is to provide a portable lightweight atmospherically sealed container of the type just described wherein the sections are made of a metal plated with tin and said band is made from copper.

A further object of the present invention is to provide a container of the type described wherein a collar is secured to the inner periphery of one of the sections and extends beyond the free peripheral edge thereof into engagement with the inner periphery of the other of said sections, and threaded fasteners connect the free peripheral edge of the other section with the collar.

A still further object of the present invention is to provide a portable lightweight atmospherically sealed container which is economical to manufacture, efficient in operation, easy to maintain, and which is reuseable.

Other objects and features of the invention will become apparent as the description proceeds, especially when taken in conjunction with the accompanying drawing, illustrating preferred embodiments of the invention, wherein:

FIGURE 1 is a perspective view of the present invention.

FIGURE 2 is a sectional view taken on line 2—2 of FIGURE 1.

FIGURE 3 is a sectional view, similar to FIGURE 2, showing a modification of the present invention.

Referring now to the drawing, the novel container is designated by the numeral 10 and is composed of two hollow sections 12 and 14. The sections are assembled so as to provide a hollow interior which is adapted to house delicate electronic equipment.

The rectangularly shaped sections 12 and 14 are generally made from magnesium plated with tin, nickel or any other material which can be soldered.

After the electronic equipment has been carefully placed in the interior of the sections 12 and 14, the sections are moved together so that the peripheral edges 16 and 18 which are free are directly opposite with a small space 20 provided therebetween. A relatively thin tear strip or band 22 is wrapped around the outer periphery of the sections 12 and 14 in abutting relation therewith as is shown in FIGURE 1. The laterally spaced longitudinal edges 24 and 26 of the band 22 are soldered to the sections throughout their entire length so as to completely enclose the interior of the container 10.

The band 22 is generally made from copper and is provided with a tab 28 to which a key 30 is adapted to be connected. Referring to FIGURE 1, it should be observed that the key 30 has an elongated stem 32 which has a slot 34 on one end which is adapted to receive the tab 28. The tab 28 is locked on the slotted end of the key 30. The key 30 is rotated so as to break the soldered connection between the band 22 and sections 12, 14 and simultaneously roll the band 22 around the slotted end of the key 30 as illustrated.

After the container has performed its function, the delicate electronic equipment is removed from the container 10. Later, the sections 12 and 14 are cleaned so as to remove the solder to provide smooth surfaces on the outer periphery of the sections. Later, the electronic equipment is re-inserted into the container 10 and another tear strip or band 22 is placed around the outer periphery of the sections 12 and 14, as explained previously, so as to close the interior of the container 10 to the atmosphere.

In the modification illustrated in FIGURE 3, the sections 12 and 14 are provided with a rectangularly shaped collar 40, a part of which is shown. The collar 40 is permanently secured to the inner periphery of the section 12, as an example, by welding or the like and is arranged to extend outwardly beyond the free peripheral edge of the section 12 so as to engage the inner periphery of the section 14.

A plurality of judiciously spaced removable threaded fasteners 42 connect the peripheral edge of the section 14 to the collar 40. The head 44 of the fastener 42 is flush with the outer periphery of the sections 12 and 14. After the sections 12 and 14 have been assembled in the manner illustrated, the relatively thin band 22 is wrapped around the outer periphery of the sections in abutting relation therewith. The longitudinal edges 24 and 26 of the band 22 are soldered to the sections throughout their entire length as was described for the other embodiment.

After the container has performed its function, the band 22 is removed with the key 30 as previously described. The threaded fasteners 42 are then removed so as to permit the removal of the delicate electronic equipment. The sections are cleaned so as to remove the solder, after which time the container may be reused.

While the hollow sections 12 and 14 are described and illustrated as having a rectangularly shaped cross section, it should be understood that other hollow shaped sections, such as cylindrical, may be used.

The drawing and the foregoing specification constitute a description of the improved method and apparatus for providing accessible containers for high altitude or space use in such full, clear, concise and exact terms as to enable any person skilled in the art to practice the invention, the scope of which is indicated by the appended claims.

What we claim as our invention is:

1. A portable lightweight atmospherically sealed container for use at high altitude or in space comprising a pair of axially aligned hollow sections arranged to have their peripheral edges which are free directly opposite with a slight substantially uniform space therebetween, a relatively narrow collar in surface-to-surface engage-

ment with and secured to the inner periphery of one of said sections, said collar including a portion extending outwardly from the free peripheral edge thereof into the other of said sections, the outer periphery of said collar portion being in surface-to-surface engagement with the inner periphery of said other section, a plurality of removable threaded fasteners which are spaced apart connecting the free peripheral edge of said other section to said collar to maintain the aforesaid spaced relationship between said sections, the trailing ends of said threaded fasteners being substantially flush with the outer periphery of said other section, and a relatively narrow removable tear strip abutting the outer periphery of said sections and bridging the space between the aforesaid edges, said strip extending completely around the outer periphery of said sections and having its peripheral edges soldered to said sections throughout their entire length to close the interior of said sections to the atmosphere, said strip also bridging the aforesaid threaded fasteners for preventing said fasteners from unthreading while said strip remains in place.

2. A portable lightweight atmospherically sealed container defined in claim 1 wherein said collar is secured to said one section by welding.

3. A portable lightweight atmospherically sealed container defined in claim 1 wherein said hollow sections are of substantially equal size and of rectangular cross section.

4. A portable lightweight atmospherically sealed container defined in claim 1 wherein a tab is provided on said tear strip which is adapted to be connected to a key for facilitating the removal of said strip from said sections without injury to the contents of the container.

5. A portable lightweight atmospherically sealed container defined in claim 1 wherein said sections are plated with tin and said tear strip is made from copper.

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