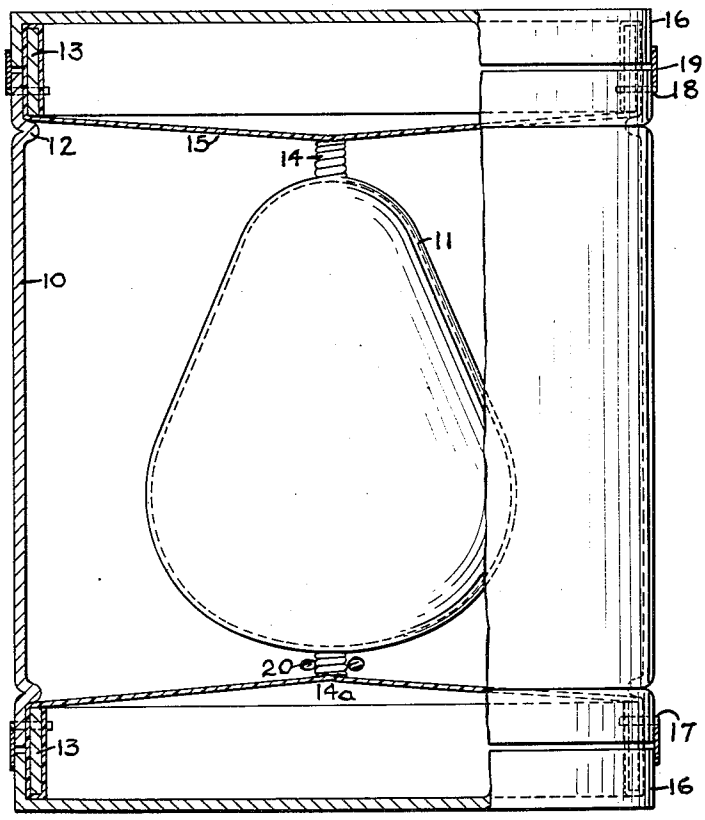
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SHOCK PROOF PACKAGE

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SHOCKPROOF PACKAGE

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3 Claims. (Cl. 206—46)

This invention relates to an improved form of shockproof package. In the handling of frangible articles, where they are apt to be subjected to rough treatment, it has been proposed to enclose these articles in a flexible bag, or tube, which is twisted above and below the article, with the article inclosed, and to support the package thus formed within a shell, spaced from the walls thereof, and supported spaced from the sides of the shell by the twisted portion of the tube.

It is an object of this invention to provide a package of that type, which is capable of inexpensive quantity production, while giving secure support at all the more vulnerable points. It is a further object to provide a device which will be easy to assemble, and to load and unload.

The invention accordingly comprises the package hereinafter described, an embodiment of which is shown in the accompanying drawing, which show a longitudinal section through the device. In the form of the invention disclosed the device comprises an outer shell 10 surrounding a flexible bag 11 of Pliofilm, or the like. This shell has near each end an inwardly projecting crease 12. The bag 11 has each end wrapped around a cylindrical ring 13 having a diameter to fit within the end of the shell, and having an axial length such as to protrude from the end of the shell when firmly forced into the shell, into engagement with the crease 12. The bag 11 is cylindrical in form and of a length to surround the object to be packed, and to be twisted together above and below the article, as shown at 14, and to extend out to the shell 10, as shown at 15, and surrounding the rings 13. A cap 16 of the same diameter as the shell fits over the rings 13 at each end.

The device may be used as follows. The container bag 11, ready for loading has the bottom ring fastened into the shell 10 by a staple 17, and the film is gathered together at the bottom, as shown at 14a. The upper ring 13 is inserted in the upper end of the shell, but the upper end of the bag is open.

To package an article it is placed in the bag and the upper ring twisted until the film is gathered together above the article, as at 14, and brought under tension. The portion 15, above and below the twisted portions 14 form two conical diaphragms under tension which serve to support the article in the middle of the shell 10, and at the same time resiliently resist axial displacement of the article.

The degree of tension will depend upon the weight of the article to be packaged. The upper ring, in its twisted position, is then fastened by a staple 18. Each end of the shell may then be closed by a cap 16, which may be held in place by an adhesive tape 19.

If desired a ring 20 may surround the twisted portion 14a to hold it gathered below the article to facilitate packaging.

What we claim:

1. A shock resisting container comprising a shell, a flexible open ended tubular bag within said shell for holding an article to be packaged, a cylindrical ring within each end of said shell, the ends of said bag being firmly attached to a respective ring, one of said rings being secured stationary relative the respective end of said shell, the end of the bag at said last named end of the shell being twisted into closed position and secured in said position thereby forming a supporting diaphragm of the material of said bag secured to said ring, the opposite end of the tubular bag being open, the other of said rings being rotative within the respective end of said shell so as to gather together said open opposite end of said bag, when an article is placed therein, for forming a further supporting diaphragm for said bag.

2. A device as set forth in claim 1, said shell being provided with inwardly projecting ridges adjacent each end abutting the respective rings and serving as supporting members therefor.

3. A shock resisting package comprising a shell, a flexible tubular bag within said shell, an article within said bag, a cylindrical ring within each end of said shell, the ends of said bag being firmly attached to a respective ring, one of said rings being secured stationary relative to the respective end of said shell, said bag being gathered together adjacent said last-mentioned ring so as to form a supporting diaphragm of the material of said bag secured to said ring, the other of said rings being rotative within the respective end of said shell so as to gather together an opposite end of said bag when an article is placed therein for forming a further supporting diaphragm for said bag, said shell being provided with inwardly projecting ridges adjacent each end for abutting the respective rings serving as supporting members therefor.

References Cited in the file of this patent

UNITED STATES PATENTS

890,668	Lombardo	June 16, 1908
1,315,394	Penn	Sept. 9, 1919
1,323,189	Hyland	Nov. 25, 1919
1,575,666	Warner	Mar. 9, 1926
1,612,986	Reynolds	Jan. 4, 1927
2,352,503	Walton	June 27, 1944
2,502,918	Beresford	Apr. 4, 1950
2,700,518	Ryno et al.	Jan. 25, 1955

FOREIGN PATENTS

237,322	Great Britain	July 28, 1925