

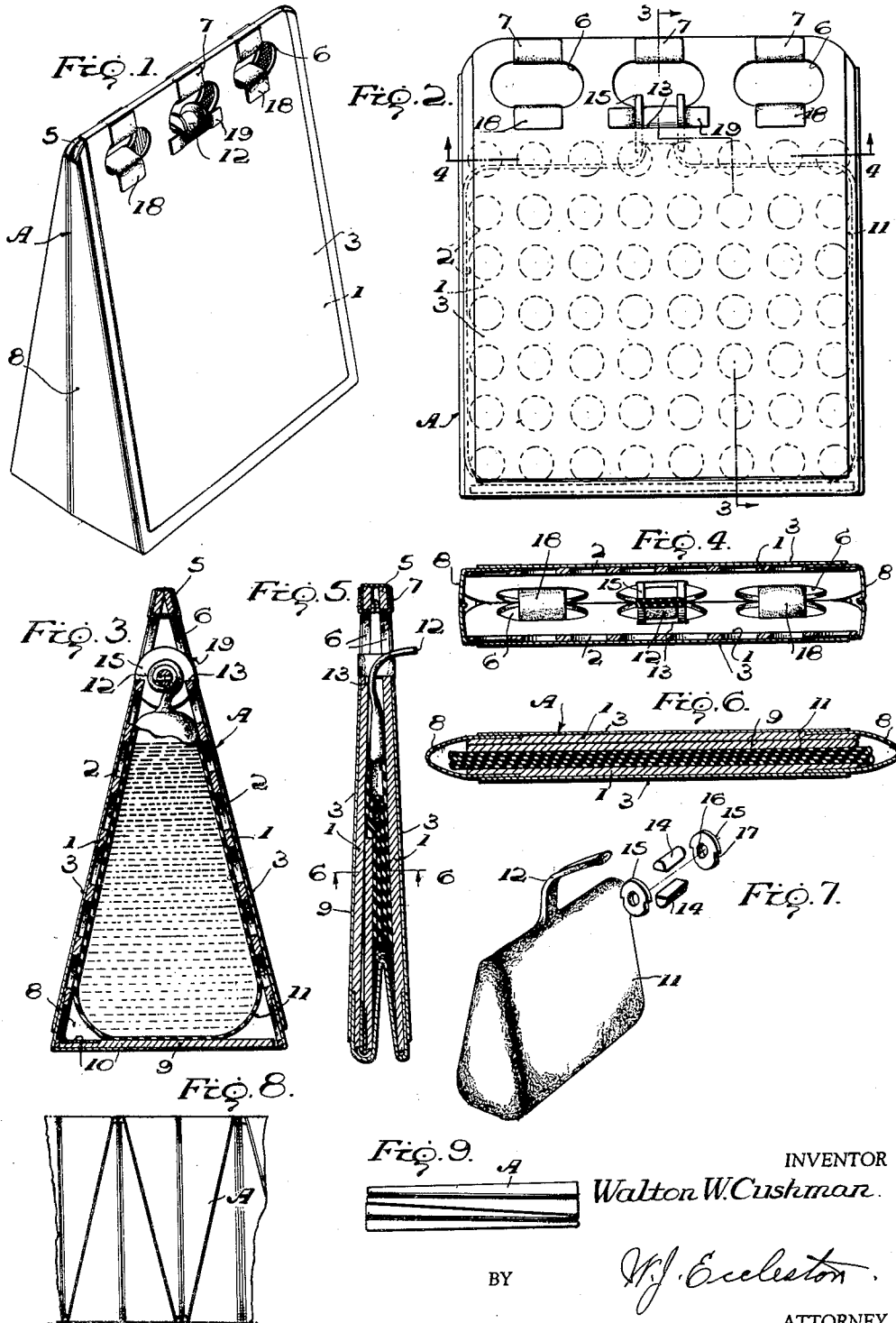
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REUSABLE COMBAT EXPENDABLE CONTAINER FOR GASOLINE OR WATER

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**REUSABLE COMBAT EXPENDABLE CONTAINER
FOR GASOLINE OR WATER**

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(Granted under Title 35, U.S. Code (1952), sec. 266)

The invention described herein, if patented, may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates to reusable portable containers for liquids and particularly to containers for hand-carrying gasoline or water, which may be manufactured at sufficiently low cost to be expendable.

One of the primary objects of the invention consists in providing such a container which is collapsible or foldable so that it may be readily stacked at low cost for shipping and storage, when empty.

Another object of the invention resides in the provision of an extremely light-weight container, yet one which is strong and durable in operation.

A further object of the invention consists in the provision of a light-weight container having a liquid-proof lining provided with a leak-proof seal.

Another object of the invention consists in so designing the container that it may be readily stacked in a variety of ways when filled so as to occupy a minimum of space.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawings, in which:

FIGURE 1 is a perspective view of the novel container;

FIGURE 2 is a side elevational view thereof;

FIGURE 3 is a vertical sectional view taken on the line 3-3 of FIGURE 2 looking in the direction of the arrows;

FIGURE 4 is a horizontal sectional view taken on the line 4-4 of FIGURE 2 looking in the direction of the arrows;

FIGURE 5 is a vertical sectional view of the container in collapsed condition;

FIGURE 6 is a horizontal sectional view of the container in collapsed condition taken on the line 6-6 of FIGURE 5;

FIGURE 7 is an exploded perspective view of the liner or bladder and the means for sealing the same; and

FIGURES 8 and 9 are elevational views showing two of the ways in which the containers may be stacked.

Referring to the drawings more specifically and by reference numerals, the rigid sides of the container A are indicated by the numeral 1 and are preferably formed of plywood perforated as indicated by the numeral 2 so as to very substantially reduce the weight thereof. The outer surfaces of the rigid side members are covered by fabric sheet 3 which may be adhesively secured to the surfaces in any well-known manner and the inner surfaces may be similarly covered if desired. The side walls 1 are hingedly connected together at their upper ends as indicated by the numeral 5, and the hinge consists of the fabric sheet 3 which is of integral construction and extends completely around the container to also provide a support for the bottom of the container. The upper end of the container is preferably provided with three pairs of hand openings 6, which are formed in the upper end of each of the side walls and complementarily arranged so that the hand may extend through both openings of any pair. These openings also provide for the reinforcement of the hinge by reason of fabric strips 7, which extend through the openings and are adhesively connected to the side walls of the container just above the hand openings.

The end or edge walls of the container are indicated

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by the numeral 8 and are of fabric, such as the fabric 3, and hence are collapsible so as to permit the collapsing of the container into the position shown in FIGURE 5 when the side walls are swung toward each other through the medium of hinge 5. The fabric of these end walls 8 may be formed of lateral extensions of the fabric 3, or they may be made of extra strips of fabric attached to the side wall in any preferred manner. The rigid bottom of the container preferably consists of a plywood board 9 which may be provided with a plurality of openings similar to openings 2 to reduce its weight, and this member is connected on its inner surface to the inner surface of one of the walls 1 by a fabric strip 10 which permits the bottom to be swung upwardly into the collapsed position shown in FIG. 5.

The collapsible container, just described, serves as an outer casing for a liquid-proof liner or bladder 11, provided with a neck portion 12, which extends upwardly and outwardly through an enlargement 13 of the central hand opening 6 of the container and is adapted to be clamped between the two sections 14 of an axle portion of a small reel provided with end discs 15. These discs are apertured at 16, and are adapted to clamp the two sections 14 together after the outer end of the neck portion 12 has been placed therebetween; thereafter, the reel is given several turns so as to securely seal the neck 12, and the periphery of the discs 15 are preferably provided with notches 17 adapted to interlock with the upper edges of the side walls 1 at the opening 13 so as to retain the reel against inadvertent unwinding.

In order to adequately close the upper end of the outer container 1, a pair of fabric strips 18 extend across the outer pairs of hand openings 6 and are secured to the side walls so as to completely close the space between the side walls at those points, and additional strips 19 are extended across the openings between the side walls 1 at the point 13 where the neck 12 of the bladder 11 extends to the exterior so as to further reinforce that portion of the container.

As heretofore indicated, this container is intended for use in carrying a small amount of gasoline or water, perhaps five gallons, and is so constructed as to be collapsible for storage purposes, when empty, as shown in FIGURE 5, and is of triangular outline when expanded, as indicated in FIGURE 3, so that it may be compactly stored in various ways as indicated in part in FIGS. 8 and 9.

The liner 11, of course, may be installed in the outer casing at any time and the sealing reel 14-15 need not be employed in the combination until the liner is filled with the liquid to be transported. Thereafter, the outer end of the neck 12 is placed between the sections 14 of the reel body, as heretofore mentioned, and secured in clamping position by placing the discs 15 over the ends of the body 14, as shown in FIGS. 1 and 2, and the notches 17 are caused to engage over the upper edges of the side walls 1, so as to secure the reel against unwinding. It will thus be seen that the neck 12 is securely closed against leakage, even when the fully charged containers are placed in the stacked position, as shown in FIGS. 8 and 9 or otherwise.

In accordance with the patent statutes I have described what I now consider to be the preferred form of the invention but inasmuch as various minor changes may be made in structural details without departing from the spirit of the invention, it is intended that all such changes be included within the scope of the appended claims.

I claim:

1. A collapsible triangular container comprising a pair of rigid side walls pivotally connected together at their upper ends and provided with hand hole openings adjacent the pivot, a bottom wall pivotally connected to the bottom edge of one of the side walls, and collapsible end walls connected to the edges of the side walls, a liquid-

proof receptacle formed of flexible material positioned in the collapsible container and terminating in a neck portion extending through one of the hand hole openings, and means disposed in one of said hand hold openings for sealing the neck portion, said means including a reel about which the neck portion is wound.

2. In combination a collapsible container formed of rigid walls pivotally connected at their upper ends, a liquid-proof receptacle formed of flexible material positioned in the container and provided with a neck portion extending to the exterior of the container, and means associated with the walls for sealing the neck portion, said means comprising a reel having a two-part axle portion between which the end of the neck portion is clamped and apertured discs receiving the ends of the axle portion, whereby the neck portion is reeled onto the axle to be more securely sealed against leakage.

3. In combination a collapsible container formed of rigid walls pivotally connected at their upper ends, a liquid-proof receptacle formed of flexible material positioned in the container and provided with a neck portion extending to the exterior of the container, and means adapted to be associated with said neck portion and walls for sealing the neck portion, said means comprising a reel having a two-part axle portion between which the end of the neck portion is clamped and apertured discs receiving the ends of the axle portion, the periphery of the discs provided with notch means for interlocking with a rigid portion of the container, whereby the neck portion is reeled onto the axle to be more securely sealed against leakage.

4. A collapsible triangular container comprising a pair of rigid side walls, means for pivotally connecting said walls together at their upper ends comprising a sheet of flexible fabric covering the outer surfaces of the walls and extending across the upper edges thereof, said fabric also extending across the side edges of the rigid walls to provide collapsible end walls, a rigid bottom wall pivoted to the lower edge of one of the side walls, said side walls adjacent their pivot being provided with three complementary hand openings to facilitate handling of the container, and flexible closure strips having their respective ends connected to said side walls through certain of said hand openings.

5. A collapsible container having a pair of like flat and generally rectangular rigid side walls hingedly connected together at their adjacent upper ends and being swingably free within a predetermined limit at their lower ends to move from a collapsed to and from an expanded condition, a rigid bottom board-like member hingedly connected along one longitudinal edge of the inner face at the lower end of one of said side walls and being unattached to the other side wall, said rigid bottom member providing movable means for maintaining said side walls in said expanded condition, an outer fabric sheet covering substantially all of the side walls and rigid bottom member, said sheet including portions providing end walls interconnecting said rigid side walls and also a portion underlying the board-like bottom member to provide a closed bottom for the container, said side walls having hand hold portions adjacent their upper ends, and a liquidproof liner formed from flexible material within the collapsible container terminating in a sealable dispensing neck portion accessible from the exterior of said container through a side wall thereof.

6. A collapsible container according to claim 5, wherein the rigid side walls are formed from plywood and have a plurality of spaced perforations therein whereby to reduce the weight thereof.

7. A collapsible container having a pair of like flat and generally rectangular rigid side walls hingedly connected together at their adjacent upper ends and being swingably free within a predetermined limit at their lower ends to move from a collapsed to and from an expanded condition, a rigid bottom board-like member hingedly connected along one longitudinal edge of the inner face at the lower end of one of said side walls and being unattached to the other side wall, said rigid bottom member providing movable means for maintaining said side walls in said expanded condition, an outer fabric sheet covering substantially all of the side walls and rigid bottom member, said sheet including portions providing end walls interconnecting said rigid side walls and also a portion underlying the board-like bottom member to provide a closed bottom for the container, said side walls having hand hold portions adjacent their upper ends, a liquidproof liner formed from flexible material within the collapsible container terminating in a sealable dispensing neck portion accessible from the exterior of said container through a side wall thereof, and means for sealing said neck portion.

8. A collapsible container having a pair of like flat and generally rectangular rigid side walls hingedly connected together at their adjacent upper ends and being swingably free within a predetermined limit at their lower ends to move from a collapsed to and from an expanded condition, a rigid bottom board-like member hingedly connected along one longitudinal edge of the inner face at the lower end of one of said side walls and being unattached to the other side wall, said rigid bottom member providing movable means for maintaining said side walls in said expanded condition, an outer fabric sheet covering substantially all of the side walls and rigid bottom member, said sheet including portions providing end walls interconnecting said rigid side walls and also a portion underlying the board-like bottom member to provide a closed bottom for the container, said side walls having hand hold portions adjacent their upper ends, a liquidproof liner formed from flexible material within the collapsible container terminating in a sealable dispensing neck portion accessible from the exterior of said container through a side wall thereof, and means including a reel about which the neck portion is wound to seal the same.

References Cited in the file of this patent

UNITED STATES PATENTS

645,432	Stohr	Mar. 13, 1900
753,063	Goodridge	Feb. 23, 1904
1,507,156	Bunker et al.	Sept. 2, 1924
1,623,107	Goodykontz	Apr. 5, 1927
1,633,991	Lifton	June 28, 1927
2,400,716	Sattler	May 21, 1946
2,574,931	Nason	Nov. 13, 1951
2,789,728	Britton	Apr. 23, 1957

FOREIGN PATENTS

454,113	Great Britain	Sept. 24, 1936
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