

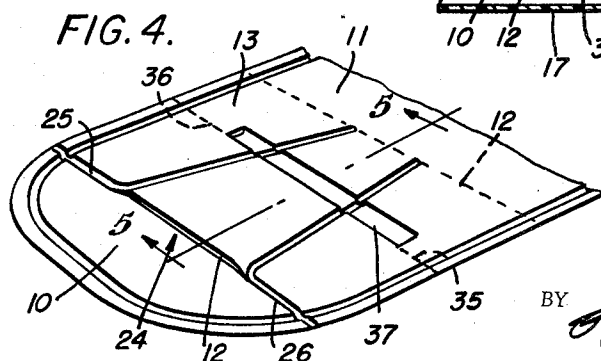
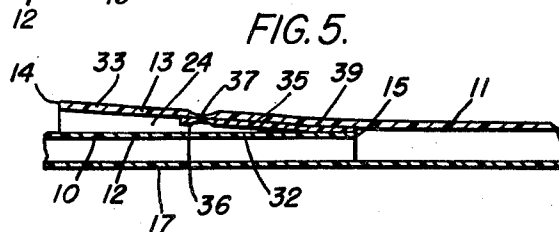
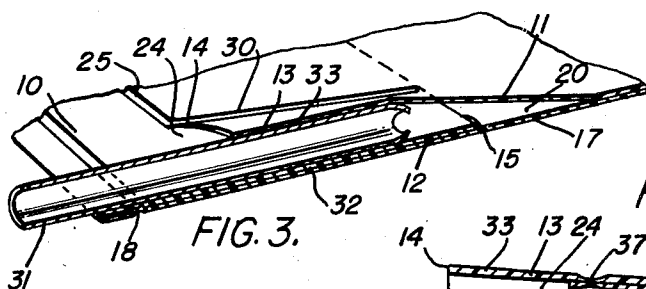
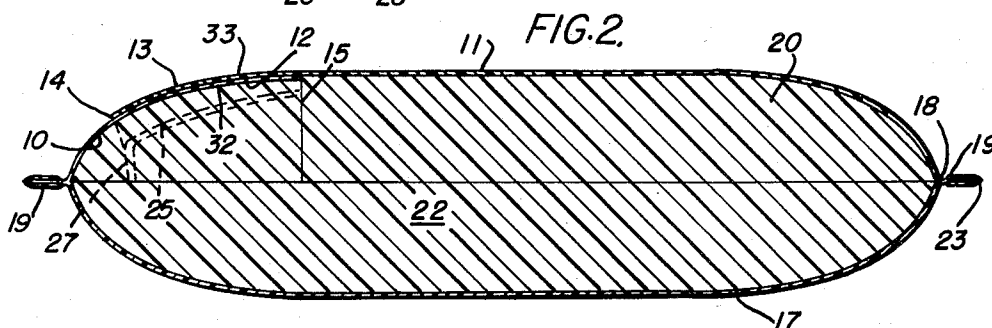
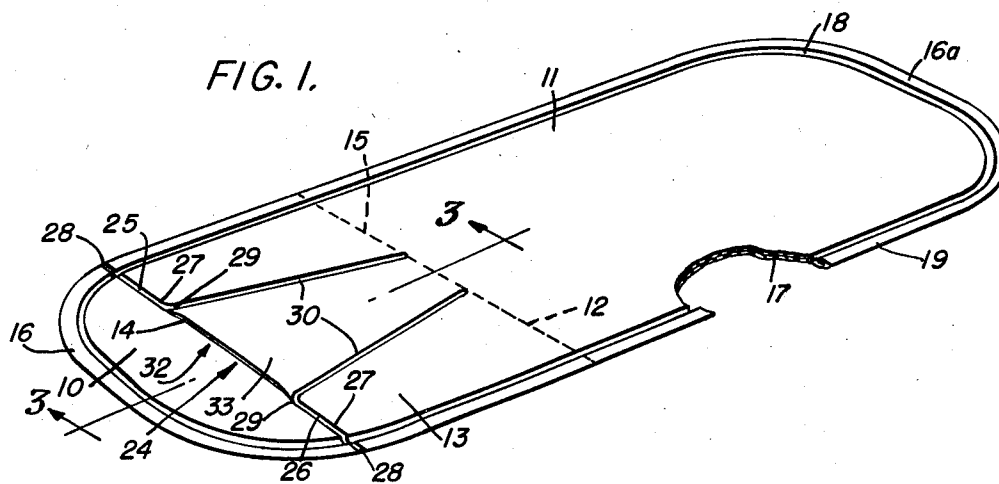
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CONTAINER FOR FLUID OR SEMI-PLASTIC MATERIALS

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CONTAINER FOR FLUID OR SEMI-PLASTIC MATERIALS

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10 Claims. (Cl. 150—2.1)

This invention relates to a container for fluid or semi-plastic material, and relates in particular to a container especially suitable for holding a heat absorbing material so that the filled container may be used as a source of refrigeration if its contents are frozen, or the source of heat if its contents are heated. The present application is a continuation in part of my co-pending application, Serial No. 455,462, now abandoned, for Reusable Freezable Refrigeration Unit, filed September 13, 1954. It is an object of the invention to provide a simple container and a method of making the same from flexible sheet material such as plastic sheet material, for example, the sheets being so arranged and secured together in cooperative relation as to provide a filling opening or duct through which the container may be filled, and valve means for preventing escape of contents from the container.

It is an object of the invention to provide a container having a wall section consisting of flexible sheets arranged in coplanar adjacency, with a portion of one of the sheets overlapping a portion of the other sheet, there being seams connecting the overlapping portions in such a manner as to provide a filling opening and valve means for the container.

It is a further object of the invention to provide a container of the character set forth in the preceding paragraph having supplementary sealing means arranged in cooperation with the overlapping sheet portions.

It is an object of the invention to provide for the container a supplementary sealing lip comprising a strip or sheet of thin flexible plastic material extending across the filling duct or opening and having its outward edge connected to one of the overlapping sheet portions so that the remaining edge thereof will be free to perform a sealing function.

Further objects and advantages of the invention may be brought out in the following part of the specification wherein details of the preferred embodiment of the invention have been described for the purpose of competence of disclosure without intending, however, to limit the scope of the invention which is defined by the claims hereof.

Referring to the drawings which are for illustrative purposes only:

Fig. 1 is a perspective view of the container in unfilled or flat condition;

Fig. 2 is a longitudinal sectional view showing the container filled with a semi-plastic material such as a jelly;

Fig. 3 is a fragmentary, perspective sectional view taken on the line 3—3 of Fig. 1, and showing the manner in which the filling tube is inserted in the filling opening of the container;

Fig. 4 is a fragmentary perspective view showing the front end of a container having an auxiliary sealing element; and

Fig. 5 is a fragmentary sectional view, to enlarged scale, taken as indicated by the line 5—5 of Fig. 4.

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The container, as shown in Fig. 1, is made originally in flat form by the securing together of sheets of flexible material such as plastic, for example. First and second front walls 10 and 11 are provided which are referred to as being in coplanar adjacency for the reason that they lie in the same plane, but the sheets are adjacent each other except for the overlapping portions 12 and 13 thereof. The front wall 10 extends from the front end 16 of the container to a location underneath the front wall 11. The front wall 11 extends from the rear end 16a of the container to a location adjacent the front end 16 of the container. The edge 14 of the sheet or wall 11 lies in the open, but the edge 15 of the wall lies under the wall 11. Also, the free edge 14 of the wall 11 is spaced from the front end 16 of the container. As shown in Fig. 2, the container has a rear wall 17 in confronting relation to the front walls 10 and 11, extending from the front end 16 to the rear end 16a of the container and is of the same width as the front walls 10 and 11. Seam means in the form of the seam 18 connects the peripheral portions 19 of the walls 10 and 11 and 17 so that a space or cavity 20 exists between those portions of the flexible walls lying within the seam 18, which cavity 20 may be filled with a material 22.

In the present form of the invention the walls or sheets 10, 11 and 17 are made from a thermo-softening plastic, and the seam 18 is formed by pressing together under heat and pressure narrow strip portions of the plastic walls so that there is in effect a welding together of the sheets. The extreme edges 23 of the peripheral portions 19 are seamed in a similar manner, but the seam is cut entirely through so that the sheet portions do not extend beyond the edge 23.

A filling opening or passage 24 is provided for connecting the exterior of the container with the cavity 20 thereof. This filling opening is formed by the use of seams 25 and 26 which connect together the overlapping portions 12 and 13 of the front walls 10 and 11. These seams 25 and 26 are made in the same manner as the seam 18, being an autogenous joining of the narrow adjacent strip portions of the plastic walls. The seams 25 and 26 have portions 27 which extend inwardly from points 28 in the container edge, along the front edge 14 of the wall portion 13, the seams 25 and 26 then bending rearwardly at points 29 and then extending in spaced, converging relation to points contiguous to the edge 15 of the wall portion 12, as indicated at 30, leaving a filling passage or opening for the container defined by the parts of the overlapping wall portions 12 and 13 lying between the seams 25 and 26. As shown in Fig. 3, a filling tube 31 is moved into the filling opening 24, spreading apart the areas 32 and 33 of the wall portions 12 and 13 which extend between the portions 30 of the seams 25 and 26. The material 22 is then forced through the tube into the cavity 20, causing the areas 32 and 33 of the walls 12 and 13 to separate from the rear wall 17, until finally the cavity 20 is filled to the desired extent, whereupon the filling tube 31 is withdrawn from the filling opening 24 whereupon the pressure of the material 22 in the cavity 20 will move the wall section 32 into face-to-face engagement with the wall section 33, as shown in Fig. 2, the filling opening 24 then being closed.

Where the container is to be used for a fluid material of low viscosity, such as water or spirit, I use an auxiliary sealing lip 35 in the filling opening 24, as shown in Figs. 4 and 5. All of the parts shown in Figs. 4 and 5, with the exception of the auxiliary sealing lip 35 have been described with relation to Figs. 1 to 3 inclusive. The member 35 is a strip of flexible material considerably thinner than the walls 10 and 11. It may be of plastic or rubber compound. It is extended between the wall

portions 12 and 13 of the front walls 10 and 11 adjacent the inner edge 15 of the wall portion 12. The outward edge 36 of the sealing member 35 is seamed to one of the adjacent walls. For example, a seam 37, Figs. 4 and 5 is employed to connect the outward edge 36 of the sealing member 35 to the wall portion 13 before it is placed in overlapping relation to the wall portion 12. The intermediate portion therefore of the sealing strip 35 lies between the wall sections 32 and 33 which define the filling opening 14, as clearly shown in the drawings. Being quite flexible the free edge or lip 39 of the sealing member 35 will lie tightly against the adjacent face of the wall portion 32 and effectively seal the filling opening 24 against the escape of the fluid which has then been placed in the cavity 20 of the container by use of a filling tube as previously described herein.

I claim:

1. In a container of the character described: a rear wall of flexible material extending from the front end to the rear end of the container; first and second front walls of flexible material adjacent said rear wall, said first wall extending from the front end of the container to a location intermediate the ends of the container and said second wall extending from the rear end of the container to a location spaced from the front end of the container, said first and second walls having overlapping portions; peripheral seam means connecting the edge of said rear wall with the edges of said front walls so that a cavity will be formed between them; and seams connecting said overlapping portions of said first and second front walls, said last named seams extending inwardly from the peripheral seam means toward each other and having portions thereof in spaced relation so as to define between adjacent parts of said overlapping portions of said first and second walls a filling opening connecting the exterior of the container with said cavity.

2. In a container of the character described: a rear wall of flexible material extending from the front end to the rear end of the container; first and second front walls of flexible material adjacent said rear wall, said first wall extending from the front end of the container to a location intermediate the ends of the container and said second wall extending from the rear end of the container to a location spaced from the front end of the container, said first and second walls having overlapping portions; peripheral seam means connecting the edge of said rear wall with the edges of said front walls so that a cavity will be formed between them; seams connecting said overlapping portions of said first and second front walls, said last named seams extending inwardly from the peripheral seam means toward each other and having portions thereof in spaced relation so as to define between adjacent parts of said overlapping portions of said first and second walls a filling opening connecting the exterior of the container with said cavity; and a sealing lip extending across said opening from said-to-side thereof between said overlapping portions of said front walls, said sealing lip comprising a thin flexible strip in face-to-face contact with said overlapping wall portions and having its outward edge connected to one of said front walls and its inward edge unattached.

3. In a container of the character described: a rear wall of flexible material; first and second front walls of flexible material adjacent said rear wall, said first and second walls having overlapping portions; and peripheral seam means connecting the edge of said rear wall with the edges of said front walls so that a cavity will be formed between them, parts of said overlapping portions of said front walls being connected together so that the remaining free portions of said front walls will define a filling opening connecting the exterior of said container with said cavity.

4. In a container of the character described: a rear wall of flexible material; first and second front walls of flexible material adjacent said rear wall, said first and

second walls having overlapping portions lying in face-to-face relation; peripheral seam means connecting the edge of said rear wall with the edges of said front walls so that a cavity will be formed between them, parts of said overlapping portions of said front walls being connected together so that the remaining free portions of said front walls will define a filling opening connecting the exterior of said container with said cavity; and a sealing lip extending across said opening from side-to-side thereof, said sealing lip comprising a thin flexible strip having its outward edge connected to one of said front walls.

5. In a container of the character described: wall means; and first and second walls having peripheral portions connected to said wall means so as to cooperate therewith in forming the container, said first and second walls being disposed in coplanar adjacency with a portion of said first wall overlapping a portion of said second wall at a location between the ends of said container, parts of said wall portions being joined so that the free areas of said wall portions adjacent the joined parts thereof will define a filling opening leading from a location on the exterior of the container between the ends thereof to the interior of the container.

6. In a container of the character described: wall means; and first and second walls having peripheral portions connected to said wall means so as to cooperate therewith in forming the container, said first and second walls being disposed in coplanar adjacency with a portion of said first wall overlapping a portion of said second wall at a location between the ends of said container, parts of said wall portions being joined so that the free areas of said wall portions adjacent the joined parts thereof will define a filling opening leading from a location on the exterior of the container between the ends thereof to the interior of the container; and a sealing lip extending across said opening from side-to-side thereof, said sealing lip comprising a thin flexible strip in face-to-face contact with said overlapping wall portions and having its outward edge connected to one of said walls and its inward edge unattached.

7. In a container of the character described: wall means; and first and second walls having peripheral portions connected to said wall means so as to cooperate therewith in forming the container, said first and second walls being disposed in coplanar adjacency with a portion of said first wall overlapping a portion of said second wall at a location between the ends of said container, and seams joining said walls, said seams extending inwardly from the sides of said walls toward each other and having portions which extend in spaced relation so as to define between said overlapping wall portions a filling opening connecting the exterior of the container between the ends thereof with the interior of said container.

8. In a container of the character described: wall means; and first and second walls having peripheral portions connected to said wall means so as to cooperate therewith in forming the container, said first and second walls being disposed in coplanar adjacency with a portion of said first wall overlapping a portion of said second wall at a location between the ends of said container, and seams joining said walls, said seams extending inwardly from the sides of said walls toward each other and having portions which extend in spaced relation so as to define between said overlapping wall portions a filling opening connecting the exterior of the container between the ends thereof with the interior of said container; and a sealing lip extending across said opening from side-to-side thereof, said sealing lip comprising a thin flexible strip in face-to-face contact with said overlapping wall portions and having its outward edge connected to one of said walls and its inward edge unattached.

9. In a container of the character described for holding material of a type which may be passed through a filling tube: flexible wall means forming the container, said wall means including a first side wall portion which terminates

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at a location between the ends of the container and a second wall overlapping said side wall portion in a location between the ends of the container, said first and second side wall portions being connected together along lines which extend inwardly from the opposite edges of said side wall portions and terminate in spaced relation so as to leave between said first and second wall portions a filling opening for the container leading from the exterior to the interior of the container between the unconnected portions of said side wall portions.

10. In a container of the character described: wall means forming the container, said wall means including a side wall portion which terminates at a location between the ends of the container and a wall overlapping said side wall portion in a location between the ends of the container and cooperating with said side wall portion so as to define a filling opening for the container leading from a location between the ends to the interior of the

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container; and a sealing lip of flexible material extending across said opening from side to side thereof and in face to face contact with said side wall portion and said overlapping wall, said sealing strip having its outward edge connected to a container wall adjacent thereto and its inward edge unattached.

References Cited in the file of this patent

UNITED STATES PATENTS

10	Re. 12,081	Bates	Feb. 17, 1903
	880,524	Hauphoff	Mar. 3, 1908
	1,370,966	Hirsch	Mar. 8, 1921
	1,496,462	Hunt et al.	June 3, 1924
	2,040,335	Rosmait	May 12, 1936
15	2,564,462	Brady et al.	Aug. 14, 1951
	2,622,646	Miller	Dec. 23, 1952
	2,682,902	Metzger	July 6, 1954
	2,697,531	Hood	Dec. 21, 1954