March 29, 1955 J. W. CARLILE 2,705,103

CONTAINER

Filed Nov. 16, 1951

Fig. 1

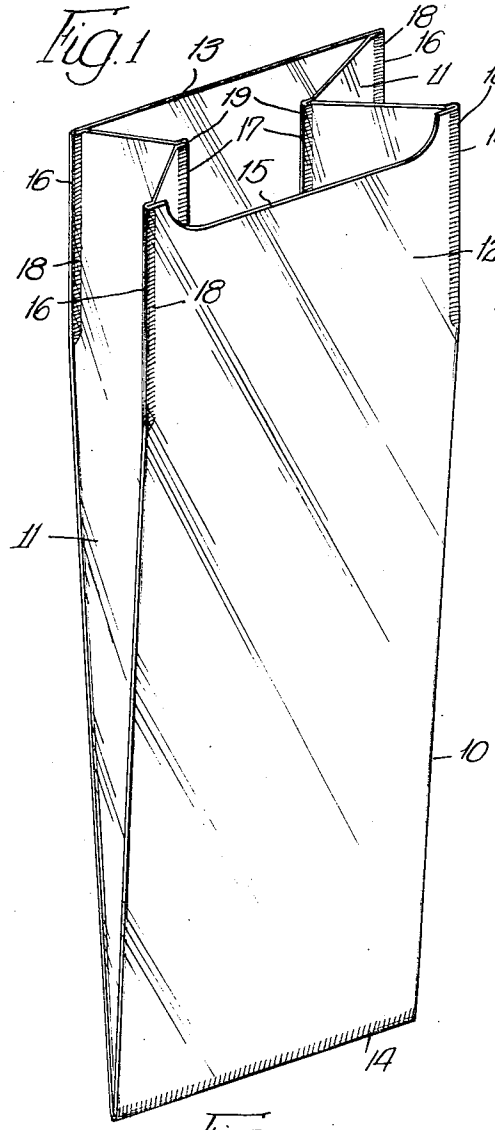


Fig. 2

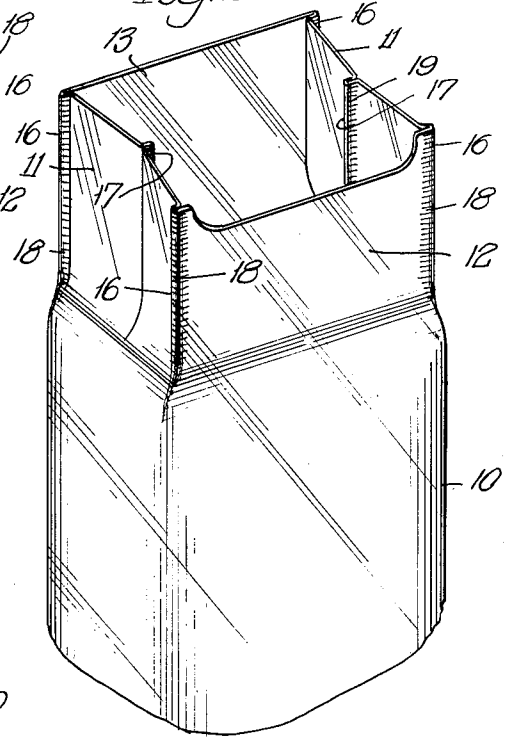


Fig. 3

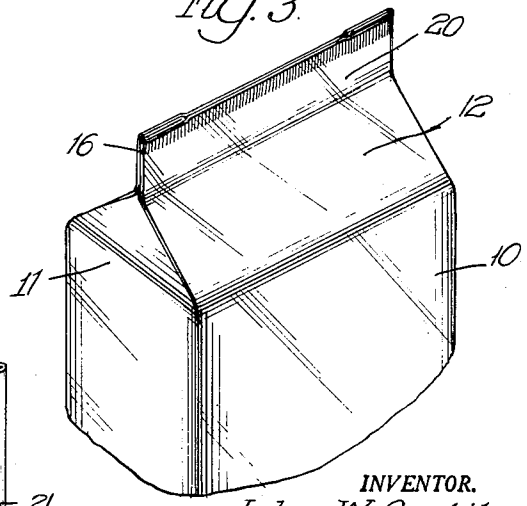
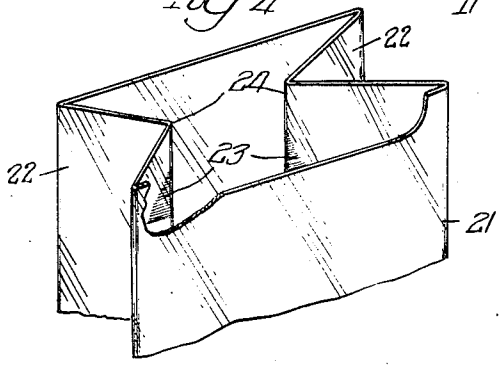


Fig. 4



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CONTAINER

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5 Claims. (Cl. 229—62)

This invention relates to containers which are fabricated from relatively thin flexible walled material and which are employed for the storage, shipment and handling of merchandise of a character such as liquids and solids in powder or granular form.

In using conventional containers which are fabricated from flexible walled materials such as Pliofilm, cellophane, polyethylene film, or the like, generally with side infolds or gussets, it is frequently desirable to fill the open end of the container by inserting therein a tubular filling spout or funnel while holding or supporting the body of the container and thereafter to close the open end by flattening the marginal end portions and applying thereto a flat transverse seam. Such containers or bags are generally supplied in flattened condition and difficulty is experienced in obtaining uniform closures because the character of the material of which the bag is made is frequently such that when filled, the container tends to assume a cylindrical form with no clearly defined folds or creases at the mouth to assist or guide the operator in flattening the same along uniform lines prior to the application of the transverse closure seam.

It is a general object of the present invention to provide a container of flexible material which consists of a tubular body forming section initially flattened and provided at its open end with longitudinally extending side seals which facilitate the refolding of the marginal portions of the mouth of the container after the filling operation, to place the same in condition for application of an independent closure seal extending transversely of the container.

It is a more specific object of the invention to provide a container fabricated of relatively thin flexible sheet material which comprises a tubular body forming section in initially flattened condition having a closure seam at one end thereof and provided adjacent the other end thereof with longitudinal side seams extending inwardly of the mouth end of the container a substantial distance, the container having oppositely disposed side infolds or gussets in which the side seams are formed and the folds of which are retained in creased position at the mouth of the bag by the side seams during the filling and closing operations.

It is a further object of the invention to provide a container made from a sheet of flexible material which comprises a tubular body provided with infolded sections forming oppositely disposed gussets therein and relatively narrow side seals which extend inwardly from adjacent one end thereof along the edge folds defining the gussets, the seals terminating approximately at the top of the merchandise therein after the container has been filled and facilitating final folding of the end of the body for application of an independent transverse closure seal.

It is another object of the invention to provide a container made from flexible sheet material which comprises a tubular body section initially flattened with oppositely disposed gusset folds therein and relatively narrow sealed areas extending longitudinally and inwardly along the edges of at least two oppositely disposed gusset folds and terminating approximately at lines corresponding to the side lines of the top of the contents thereof when the container is filled with a predetermined quantity of merchandise.

These and other objects of the invention will be apparent from the following description of a container which embodies the principal features of the same and which is

shown by way of illustration in the accompanying drawings, in which:

Fig. 1 is an elevation of a container embodying the present invention which is shown in partially opened condition prior to being filled with merchandise;

Fig. 2 is a perspective view of the mouth portion of the container in fully expanded condition for engagement over a spout for filling the same;

Fig. 3 is a perspective view of the top portion of the completely filled and sealed container; and

Fig. 4 is a view similar to Fig. 1, illustrating a modification of the invention.

Referring to Figs. 1 to 4 of the drawings, there is illustrated a container which is fabricated of a relatively thin flexible sheet material such as Pliofilm, cellophane, polyethylene, or the like and which embodies the principal features of the invention.

The container shown comprises a body forming section **10** of generally tubular shape which may be formed from sheet material by folding the same into edge overlapping relation and providing a longitudinal seam or the body forming section may be cut from a tubular extrusion. The tubular body **10** is initially flattened with oppositely disposed wall portions, infolded to form gusseted side walls **11** connecting the front and back walls **12** and **13** when the body section is expanded. The container is provided with a transverse bottom forming seam **14** which constitutes the bottom closure. The front side wall **12** is preferably cut away at the top margin at **15**, to provide a thumb recess to facilitate opening of the container.

At the open end of the body **10** the gusseted side walls **11** are provided, along the two outer edge folds **16** and the intermediate center fold **17**, with longitudinally extending sealed areas **18** and **19**. The sealed areas **18** and **19** are relatively narrow and extend inwardly a predetermined distance depending upon the top level of the merchandise when the container is filled.

The inner extent of the seals **18** and **19** may be varied depending upon the level of the contents which the container is designed to receive. The seals may extend to the upper end of the container or they may terminate short of the end thereof so long as they are of sufficient length to give a permanent set to a portion of the folds sufficient to insure proper re-forming of the folds after the container is filled.

The container may be filled in the usual manner after it is opened up as illustrated in Fig. 2. The filling spout or funnel (not shown) may be of tubular shape for insertion in the filling opening which is not materially restricted by the side seals **18** and **19** to permit the discharge of the required material within the body **10** of the container. When the usual round filling tube is employed it tends to form the container into rounded shape but the side seals **18** and **19** maintain the folds **16** and **17** in the gusseted walls **11** while the filling occurs and after the filling spout is withdrawn or the container is removed from the same. The side seals **18** and **19** define the location of the folds for proper closing of the container and facilitate positioning of the marginal portions of the front and back walls **12** and **13** and side walls **11** into closed relation for reception of a transverse seal **20** which may be applied completely across the flattened mouth of the container to completely close and seal the same, after which the margin of the container may be trimmed beyond the seal **20** to provide a neat closure on the filled container, which is easily duplicated with succeeding containers.

In Fig. 4 there is illustrated a modification of the present invention in which the tubular section **21** is formed of suitable material and initially flattened with gusseted side walls **22**. Sealed areas **23** are provided adjacent the mouth of the container along the center fold lines **24** which may extend inwardly any desired distance, and which may terminate short of the upper end of the container, the location being determined by the filling level or the top of the contents of the container after the container is filled. The seals **23** permanently locate or set the center folds **24** and permit the filling and closing operator to readily locate the center and edge or corner folds for folding or closing the mouth of the container

in preparation for the application of the final closure seam.

Since variations in the construction of the container are possible, it is intended that the forms shown and the detailed description made herewith shall be interpreted as illustrative of the invention only, it being understood that different embodiments of the container can be made without departing from the spirit of the invention.

I claim:

1. A container comprising a tube of relatively thin flexible sheet material, said tube having an open end and being of approximately rectangular cross-section when expanded, and said tube having two opposed sides infolded and the other two flat sides close together when collapsed, said tube having portions of the walls at each infolded side adhered to each other over an area of relatively small extent with the adhered wall portions permanently defining a portion of the center fold line of the infolded sides and with the inner extremities of said adhered areas extending inwardly of said open end to adjacent a transverse plane coinciding with the filling level when the container is filled with a predetermined quantity of merchandise.

2. A container comprising an initially flattened tube of relatively thin flexible material of predetermined length having infolded wall sections forming oppositely disposed longitudinally extending side wall forming gussets therein, said tube having an end open for filling, side wall portions of relatively narrow width extending inwardly of the open end and along the gusset folds being secured to each other and forming the side edges at said open end of the flattened tube, the remainder of the side wall forming portions of said tube being free at said open end to leave a filling opening, said secured side wall portions extending longitudinally inwardly to approximately a transverse line corresponding with the top of the merchandise therein after the container is filled.

3. A container comprising a tube of relatively thin flexible sheet material, said tube being of approximately rectangular cross-section when expanded, and having two opposed side walls infolded at the center and the other two flat side walls close together when collapsed, said container having an open end and being provided adjacent said open end with relatively narrow longitudinal inwardly extending portions of said unfolded side walls adjoining the center fold lines thereof sealed together along said center fold lines of said infolded side walls whereby to set the same and facilitate refolding of said open end to close the same after it is expanded and the container is filled with merchandise.

4. A container comprising an initially flattened tubular section of relatively thin flexible material having an open end and having infolded side wall sections forming oppositely disposed longitudinal gussets therein, and relatively narrow longitudinal, inwardly extending portions of the side wall sections adjoining the gusset folds of the flattened tubular section being sealed together along said gusset folds, whereby to set said gusset folds and facilitate refolding of said open end of said container along said gusset folds after it is filled with merchandise.

5. A container comprising a tube of relatively thin flexible sheet material having one end open for filling, said tube being of approximately rectangular cross-section when expanded, and having two opposed side walls infolded and the other two side walls flat and close together when collapsed, said tube having adjacent said open end relatively narrow longitudinally extending side wall portions which are permanently adhered to each other, said last mentioned side wall portions extending a predetermined distance inwardly of said open end in the longitudinal direction of the tube and said last mentioned side wall portions extending along the corner edge defining folds which are formed between the adjoining flat side walls and infolded side walls when the tube is collapsed, whereby to permanently set said corner edge defining folds at said open end while leaving the remainder of the side wall portions of the tube free at said end to permit said end to be expanded and provide a substantial opening for filling.

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