

March 11, 1941.

J. M. HOTHERSALL

2,234,167

CONTAINER

Filed Jan. 12, 1939

2 Sheets-Sheet 1

Fig 4

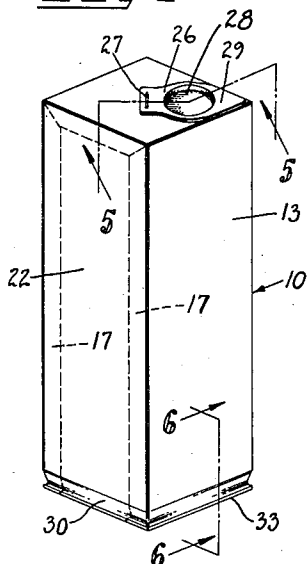


Fig 1

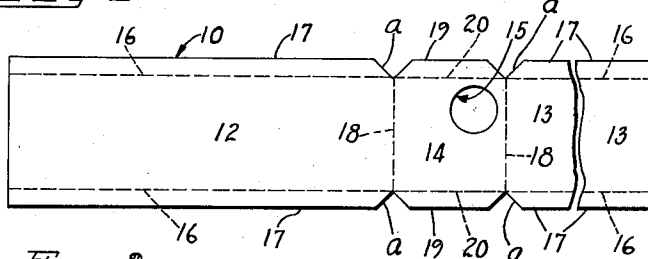


Fig 2

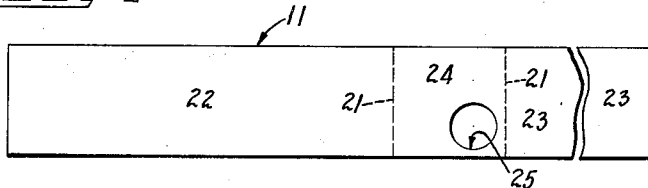


Fig 7

Fig 8

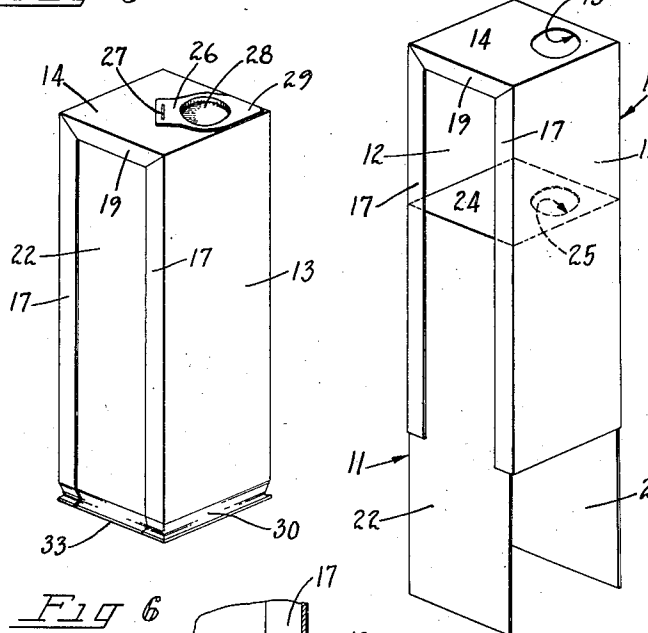


Fig 3

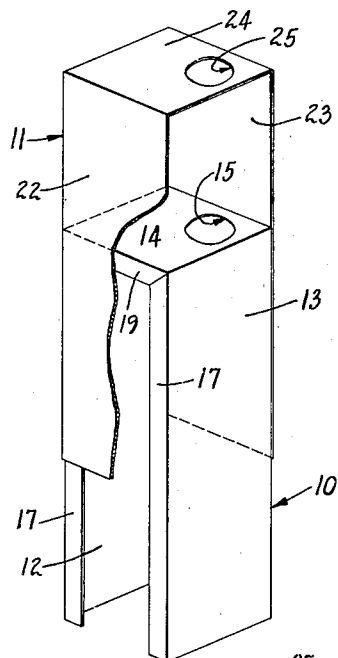


Fig 6

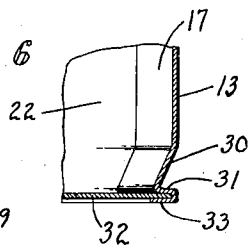
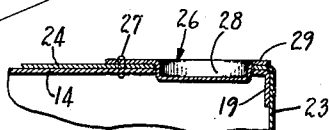


Fig 5



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2 Sheets-Sheet 2

Fig 11

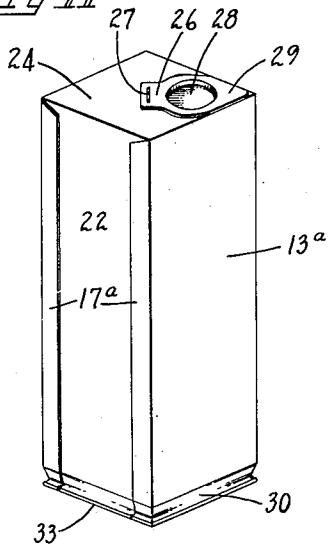


Fig 9

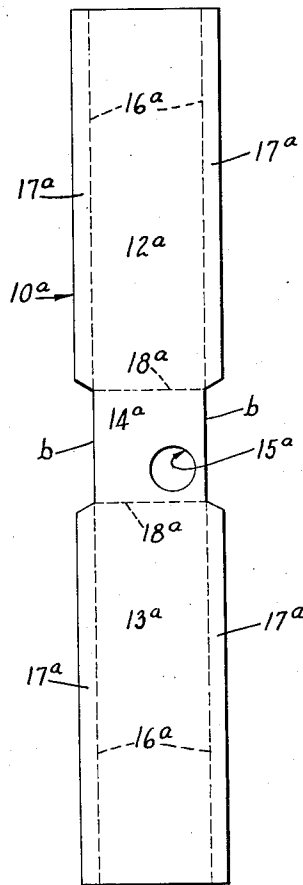
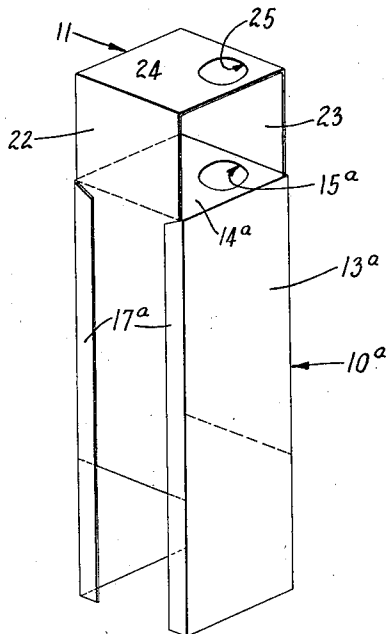


Fig 10



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UNITED STATES PATENT OFFICE

2,234,167

CONTAINER

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Application January 12, 1939, Serial No. 250,621

5 Claims. (Cl. 229—23)

The invention relates to paper or fiber con-
tainers particularly designed as a single service
container for holding milk or other liquids, and
is susceptible also of holding granular or other
commodities of a non-fluid nature. The inven-
tion relates to the class of containers fully dis-
closed in my issued Patents No. 2,089,958, granted
August 17, 1937, and No. 2,085,979, granted July
6, 1937, for Containers. The present invention
has for its objects to provide certain new and
useful advantages over such a container to
which my said patents are directed.

A principal object of the invention is to pro-
vide a paper or fiber container of the character
described, the body and one end wall of which is
of two-part construction, said parts being ca-
pable of convenient folding and telescoping to-
gether to comprise a completed tubular and pre-
ferably non-circular body including as a part
thereof a strong end wall of double thickness.

A further object of the invention is to provide
a container of the character described which may
be constructed of web or sheet material of much
smaller dimensions than in the instance of the
container body contemplated in my aforesaid
issued patents. A feature of the instant inven-
tion resides in the fact that the two-part con-
tainer body is strongly reinforced at its ends and
at its side or corner edges, thereby rendering the
same highly resistant to the shock and strains
of use in the packaging and dispensing of liquid
contents, such as milk or the like.

A still further object of the invention is to
provide a paper or fiber container having a clo-
sure member hingedly secured to an end wall
thereof, the features of construction being such
as to permit said end closure member to be se-
cured to the desired end wall adjacent the filling
and dispensing opening while one of the blanks
of the two-part body is in the flat and prior to
folding and assembling, or said closure member
may be attached to the container after the two-
part body has been assembled and adhesively or
otherwise secured together, and prior to attach-
ing thereto a separate end member at the opposite
open end of the receptacle.

When the closure member is secured to an
end wall of the partially assembled receptacle,
the manner of securement provides an added re-
inforcement to hold the end wall of double
thickness closely together thereby cooperating
with the usual adhesive in maintaining the con-
formation and rigidity of the completed package.

Numerous other objects and advantages of the
invention will be apparent as it is better under-

stood from the following description, which, when
taken in connection with the accompanying
drawings, discloses a preferred embodiment
thereof.

In said drawings,

Fig. 1 is a plan view partially broken away of
one of the fiber or paper blanks of which the
container body is constructed, said view indicat-
ing in dotted lines the manner of folding the
blank.

Fig. 2 is a similar view of the remaining blank
which enters into the construction of the con-
tainer body.

Fig. 3 is a perspective view showing the man-
ner of assembling or telescoping the blank parts
of Figs. 1 and 2 after the blanks have been fold-
ed as indicated in said figures, parts being
broken away.

Fig. 4 is a similar view showing the completed
container with the bottom wall secured in posi-
tion and a closure member attached to the op-
posite top end wall.

Fig. 5 is an enlarged fragmentary vertical sec-
tional view on line 5—5 of Fig. 4.

Fig. 6 is a similar view taken on line 6—6
of Fig. 4.

Fig. 7 is a perspective view similar to Fig. 3,
but showing the two body blank members in par-
tially telescoped position and in opposite or re-
verse relation.

Fig. 8 is a perspective view similar to Fig. 4,
showing the completed container in accordance
with the assembly of Fig. 7.

Fig. 9 is a plan view similar to Fig. 1, showing
a slightly modified construction of the corre-
sponding body blank.

Fig. 10 is a perspective view similar to Figs.
3 and 7 and showing the two body blank mem-
bers in partially assembled or telescoped rela-
tion.

Fig. 11 is a perspective view similar to Figs.
4 and 8, and showing the completed container
assembled as indicated in Figs. 9 and 10.

Referring to the drawings, and with particular
reference to Figs. 1 to 8 inclusive, 10 indicates
generally one of the body blanks and 11 its com-
panion body blank. The blank member 10 is
cut away as shown at *a* to constitute opposite
side wall members 12, 13 and an integral end or
top wall portion 14. A filling and dispensing
opening indicated at 15 is provided in the top
wall member. The blank 10 is further scored
or creased along folding lines 16 to provide side
wall enclosing flanges 17 at the side edges of
the body wall members 12 and 13, respectively.

Said opposite side wall portions 12, 13 are formed by folding the flat blank along score or crease lines 18, defining the opposite edges of the top wall. Depending opposite flange portions 19 are provided in the top wall 14 by folding the blank along the oppositely disposed score lines 20 provided in the top wall, it being understood that the flange portions 17 and 19 are folded so as to extend in the same direction or inwardly of the body blank to produce an integral U-shaped wall portion best seen in Fig. 7.

The companion body blank 11 is similar in material respects to the body blank 10, the same being folded along spaced score or crease lines 21 to provide oppositely disposed spaced side wall portions 22 and 23, and an intermediate top or end wall portion 24. A filling and dispensing opening indicated at 25 is provided in the top wall and is disposed to register with the opening 15 when the blanks are in the partially assembled position as shown in Fig. 3.

In assembling the two-part body to form the finished container illustrated in Fig. 4, the blank members 10 and 11 folded as described, are turned at right angles and the body blank member 11 is inserted or telescoped over the blank member 10 as shown in Fig. 3, with the flange portions 17 and 19 of the inner blank member 10 engaging the opposite margins of the opposite side wall members 22 and 23 of the outer folded blank member 11. Suitable adhesive, preferably a heat sealing thermo-plastic adhesive, is or may be provided on the outer surfaces of the flanged portions 17 of the blank member 10 and which serves to seal the engaged parts securely in position.

The top end wall of the assembled container body is of double thickness consisting of the wall portions 14 and 24 having the registering and filling apertures 15 and 25 therein.

If desired, the assembly may be made by reversely telescoping the blanks as shown in Fig. 7 wherein the flange portions 17 of the blank member 10 are disposed outwardly of the non-flanged inner blank member 11 instead of inwardly thereof as shown in Figs. 3 and 4. In such instance the inner surfaces of the inwardly turned flanged portions 17 of the blank member 10 are preferably provided with a suitable thermo-plastic adhesive so as to secure said flange portions to the adjacent wall portions 22 of the inner blank member 11, thereby producing the two-part container body illustrated in Fig. 8.

For the purpose of sealing the filling and dispensing aperture in the top wall of the container a suitable fiber or paper closure member 26 is provided and is secured as by stapling 27 to the end wall of the container adjacent said opening. The closure element includes a depressed cup-shaped plug section 28 adapted to be inserted with a tight friction fit in the dispensing opening formed by the registering apertures 15, 25. Said closure element further includes an outwardly projecting finger engaging tab portion 29 to enable the plug to be released from the closure when desired for the purpose of filling the container or for dispensing its contents. The staple 27 permits the closure member to be hinged upwardly and downwardly thereon for reclosing the container without displacement of the closure relative to the aperture, thereby constituting the closure a permanent part of the container body. When in closed position the inner wall portions of the cup shaped section 28 may be expanded outwardly to engage beneath the top wall of the container to serve as a mechanical lock insuring

against inadvertent displacement of the closure relative to the filling opening.

In the embodiment illustrated the closure member 26 is secured as by stapling to both top closure walls 14 and 24, and of course this is done after the two-part body has been assembled as described. The invention contemplates however securing said closure element as by stapling to either the top wall 14 of the blank member 10 adjacent its respective opening 15 or 25 or the top wall 24 of the blank member 11 while said members are in the flat and prior to folding, telescoping and assembling, depending upon which body blank member 10 or 11 constitutes the outer telescoped member as shown in Figs. 4 and 8 respectively.

After the U-shaped body blank members 10 and 11 are completely telescoped together, the bottom or open end of the container is subjected to die pressure to reinforce such end and secure a bottom closure member thereto. Under such die action the lower side wall portions 12, 13, 22 and 23 are inclined or bent inwardly as at 30 (Fig. 6) and thence outwardly as at 31 to constitute a shoulder or ledge providing an abutment for an imperforate end closure member 32 conforming to the configuration of the said end walls. After the closure member 32 is inserted in position the lower wall portions are bent inwardly thereafter as indicated at 33 to securely lock the same in position. A suitable thermo-plastic adhesive is preferably provided at this area to securely seal the end closure member 32 in place between the portions 31 and 33 of the container body wall. In this manner a secure reinforced end construction is provided for the two-part body wall opposite to the substantially integral end portion having the filling and dispensing opening and closure element 26.

The completed container may be rendered moisture and liquid proof, as well as completely sterile, by coating the inner and outer walls thereof with a suitable wax-like material such as paraffin, such coating being preferably provided by passing the completed container through a bath of melted paraffin or the like while the closure element 26 is in open position. Surplus paraffin is drained from the container as it leaves the bath, after which the closure member 26 is inserted in the filling and dispensing opening and removably sealed in place by pressure and the adhesive qualities of the paraffin as the same becomes cooled or chilled after the container leaves the bath.

In the slightly modified embodiment of Figs. 9 to 11, inclusive, the body blank member 11 is similar to the body blank 10 of the hereinabove described embodiment. The body blank member 10a is similar to the body blank member 10 with the exception that the top flange members 19 are omitted and the blank is cut away entirely on opposite sides thereof at this point as indicated at b to define with the score lines 18a, the top end wall member 14a and the sides 12a, 13a. The container is preferably assembled as shown in Fig. 10 by inserting or telescoping the folded U-shaped body blank member 11 into the similarly folded body blank member 10a, so as to closely register the end wall members 24, 14a and apertures 25, 15a with one another. After assembly the side flange portions 17a of the outer blank member 10a produced by bending along the score line 16a are adhesively secured as by heat sealing the previously applied thermo-

plastic glue to the adjacent surfaces of the side wall portions 22 of the inner blank 11.

The open end of the assembled container is provided with an end closure member similar to the closure member 32, and is subjected to the same die pressing action, and the end closure member is adhesively secured in place as in the instance of the heretofore described embodiment of Figs. 1 to 8, inclusive. The closure member 26 is also secured in place to the top wall of the container as in the instance of the first mentioned embodiment, either by stapling the same to the blank member 11 adjacent the filling and closing opening while said blank is in the flat, or by stapling the same to both end wall portions 24 and 14a of the completely assembled blanks prior to inserting and securing the bottom end closure member 32 in position. The completed container as in the instance of the first mentioned embodiment may then be subjected to a melted paraffin or other suitable bath of wax-like material so as to coat the inner and outer walls thereof and render the same moisture and liquid proof as well as completely sterile and in readiness for filling and dispensing purposes.

In the event the contents are of solid or granular material the invention contemplates if desired filling the container after the two-part body has been assembled and secured together and prior to the application of the end closure member thereto.

The advantages and nature of the reenforced end of the container having the closure element 32 secured therewithin, are more fully pointed out in my prior patents hereinabove referred to.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

What I claim is:

1. A non-circular liquid tight fiber container comprising two folded and telescoped U-shaped body members each consisting of opposite side wall portions and an intermediate integral end wall portion, one of said telescoped members having integral flange portions engaging and secured to adjacent side wall surfaces of the other of said members to provide a reenforced tubular container body closed at one end, said end wall portions being substantially in flush engagement with one another to provide a reenforced end of double thickness, the opposite end of said tubular body having a separate wall member secured thereto and interlocked with folded side wall flanges provided on adjacent parts of said telescoped body blank members.

2. A non-circular liquid tight fiber container comprising two folded and telescoped U-shaped body members disposed at right angles to one another and each consisting of oppositely disposed spaced side wall portions and an intermediate integral end wall portion, the inner of said telescoped members having side wall flange portions engaging and adhesively secured to adjacent side wall surfaces of the outer of said members to provide a tubular container body closed at one end, said end wall portions being substantially in flush engagement with one another to provide a reenforced end wall of double

thickness, the opposite end of said tubular body having a separate end wall member secured thereto and interlocked with outwardly and inwardly folded side wall flanges provided on adjacent parts of said telescoped body blank members, a filling and dispensing aperture in the said end wall of double thickness, and a closure element hingedly secured to said wall adjacent said aperture.

3. A non-circular fiber container comprising a pair of folded and telescoped U-shaped body members disposed at right angles to one another and each including oppositely disposed spaced side wall portions and an intermediate integral end wall portion, the outer of said telescoped members having side wall flange portions engaging and adhesively secured to adjacent side wall surfaces of the inner of said members to provide a tubular container body closed at one end, said end wall portions being substantially in flush engagement with one another to provide a reenforced end wall of double thickness, the opposite end of said tubular body having a separate end wall member secured thereto and interlocked with outwardly and inwardly folded side wall flanges provided on adjacent parts of said telescoped body blank members, a filling and dispensing aperture in the said end wall of double thickness, and a closure element hingedly secured to said end wall adjacent said aperture.

4. A non-circular liquid tight fiber container comprising two folded and telescoped U-shaped body members disposed at right angles to one another and each consisting of oppositely disposed spaced side wall portions and an intermediate integral top wall portion, the inner of said telescoped members having integral side and top wall flange portions engaging and adhesively secured to adjacent side wall surfaces of the outer of said members to provide a reenforced tubular container body closed at one end, said top wall portions being substantially in flush engagement with one another to provide a reenforced end of double thickness, the bottom end of said tubular body having a separate end wall member secured thereto and interlocked with outwardly and inwardly folded side wall flanges provided on adjacent parts of said telescoped body blank members, a filling and dispensing aperture in said top wall, and a closure plug element hingedly secured to both of said top wall portions adjacent said aperture.

5. A non-circular fiber container comprising a pair of folded and telescoped U-shaped body members disposed at right angles to one another and each including oppositely disposed spaced side wall portions and an intermediate integral top wall portion, the outer of said telescoped members having integral side and top wall flange portions engaging and adhesively secured to adjacent side wall surfaces of the inner of said members to provide a reenforced tubular container body closed at one end, said top wall portions being substantially in flush engagement with one another to provide a reenforced end of double thickness, the bottom end of said tubular body having a separate end wall member secured thereto and interlocked with outwardly and inwardly folded side wall flanges provided on adjacent parts of said telescoped body blank members, a filling and dispensing aperture in said top wall, and a closure plug element hingedly secured to both of said top wall portions adjacent said aperture.

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