Sept. 29, 1942. R. M. BERGSTEIN 2,296,895

LINED CONTAINER AND METHOD OF PACKAGING WITH SAME

Filed Dec. 23, 1939 2 Sheets-Sheet 1

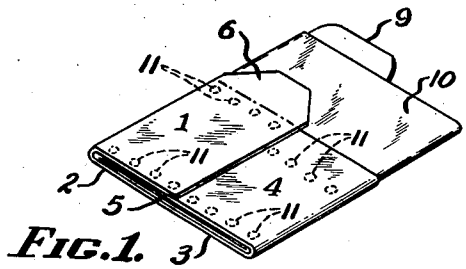


FIG. 1.

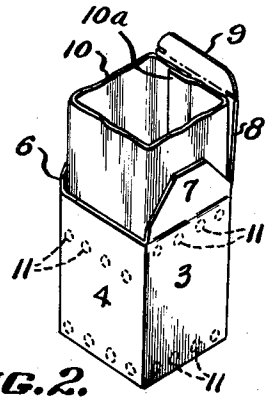


FIG. 2.

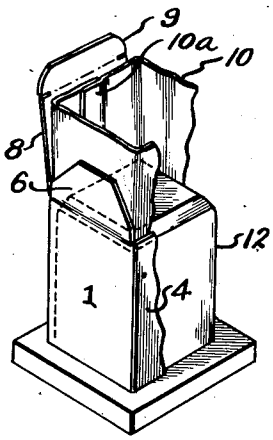


FIG. 3.

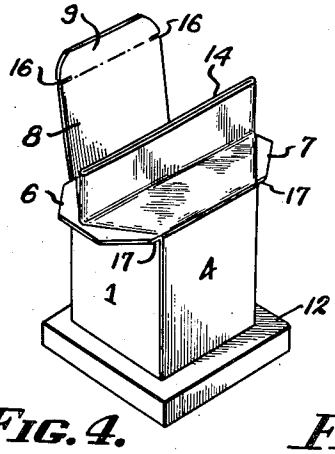


FIG. 4.

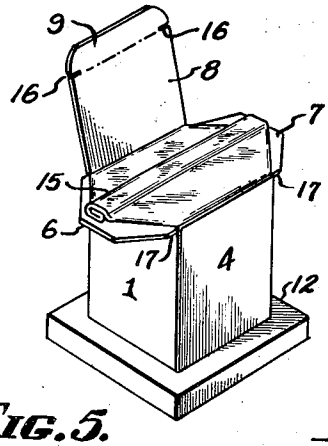


FIG. 5.

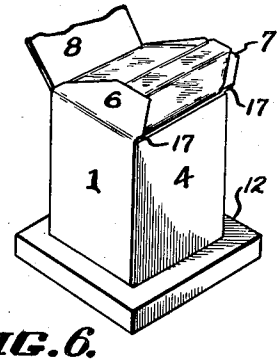


FIG. 6.

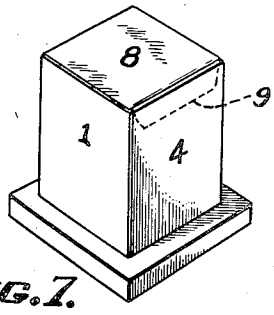


FIG. 7.

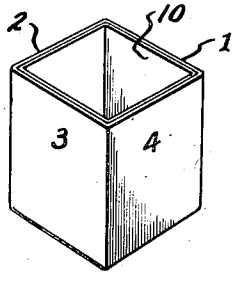


FIG. 8.

INVENTOR.
ROBERT MORRIS BERGSTEIN.

BY Allen & Allen

ATTORNEYS.

Sept. 29, 1942. R. M. BERGSTEIN 2,296,895

LINED CONTAINER AND METHOD OF PACKAGING WITH SAME

Filed Dec. 23, 1939 2 Sheets-Sheet 2

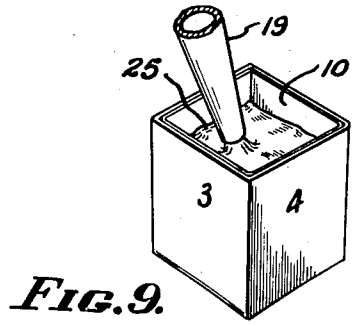


FIG. 9.

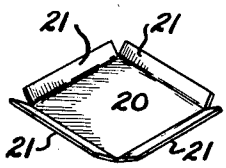


FIG. 10.

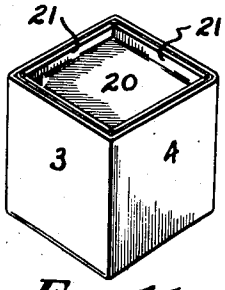


FIG. 11.

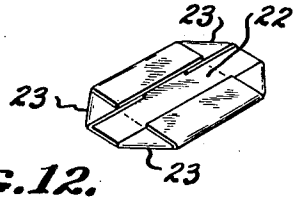


FIG. 12.

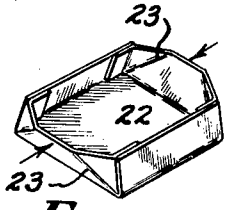


FIG. 13.

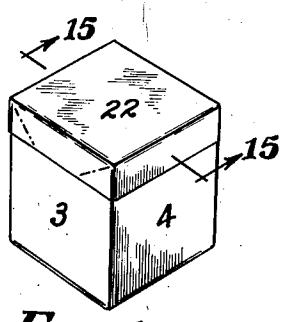


FIG. 14.

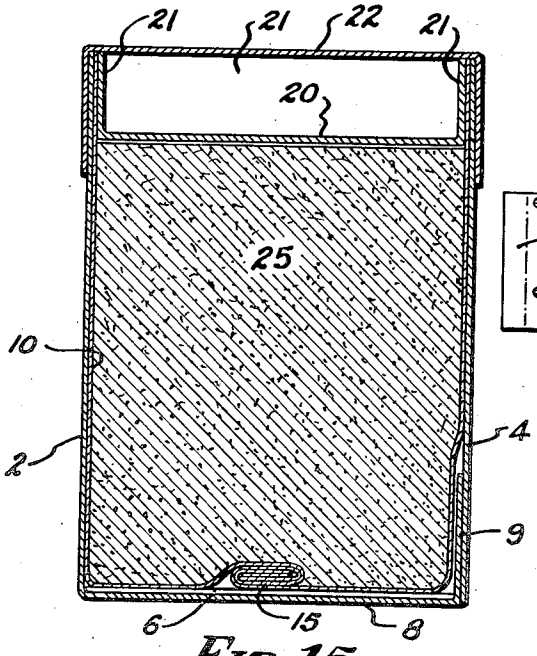


FIG. 15.

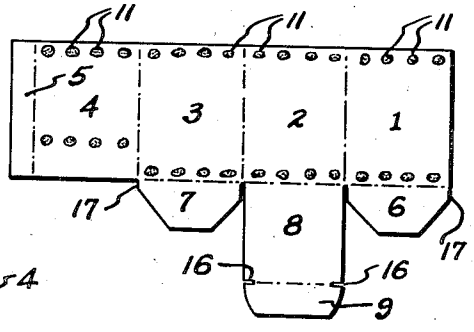


FIG. 16.

INVENTOR.
ROBERT MORRIS BERGSTEIN.

BY Allen & Allen

ATTORNEYS.

Patented Sept. 29, 1942 2,296,895

UNITED STATES PATENT OFFICE

2,296,895

LINED CONTAINER AND METHOD OF PACKAGING WITH SAME

Robert Morris Bergstein, Cincinnati, Ohio

Application December 23, 1939, Serial No. 310,789

7 Claims. (Cl. 229—14)

My invention relates to two-piece containers, the bottom portion being pre-lined, shipped in flat knock-down form, especially adaptable to the packaging of semi-solid, greasy substances such as lard, vegetable shortenings and the like, although it will be apparent that my invention is likewise adaptable to a variety of other products as well. Referring specifically to a material such as lard for example, it has long been customary to package this produce in containers which consisted of an outer cardboard box or carton, having an inner liner of greaseproof or parchment paper or the like. Such containers were customarily made in one-piece construction, of which a good example is the lined type of carton widely known in the trade as the "Peters" carton, the carton and liner being interleaved together and set up on so-called Peters machine.

Such containers involve the necessity of interleaving or folding over a portion of the liner material to form the final closure after filling, and this causes the serious difficulty of bringing these portions of the liner into contact with the upper surface of the lard, so that in opening the container the housewife not only has to take the time to unfold all these folded liner portions, but these same portions which have to be unfolded have become greasy due to their contact with the lard as explained, thereby making removal of the contents an inconvenient, distasteful and an unsanitary operation.

It is an object of my invention to overcome the aforementioned difficulties with present types of lined containers, and provide a two-piece container whereby upon removal of the lid, direct access to the contents is provided without the necessity of folding or opening the liners. It is a further object of my invention to provide a container in knock-down form wherein the liner extends down the body portion of the container at one end only, to permit a secure closure of the liner at said bottom end, and in which the liner is secured substantially flush at the opposite end of the container body to facilitate both the filling and removal of the contents.

These and other objects of my invention will become apparent as the description proceeds, reference being had to the claims appended hereto as to the nature and scope of the invention.

Referring now to the drawings:

Figure 1 shows the preferred form of the body of my container, as it is shipped to the point of packing.

Figure 2 illustrates the container shown in Figure 1 after having been squared up.

Figure 3 shows the squared-up container shown in Figure 2 after having been placed over a block or mandrel.

Figure 4 shows the first step in my preferred method of closing the bottom end of the extending liner.

Figure 5 shows the second step in my preferred method of closing the bottom end of the extending liner.

Figure 6 shows a still further step in the operation of closing the bottom, the liner having now been folded and the opposite pair of side flaps being folded inwardly.

Figure 7 shows the last step in the bottom closure.

Figure 8 shows the container assembled according to the previous figure, after having been removed from the mandrel, in position now ready for filling.

Figure 9 is a diagrammatical illustration of filling the contents such as lard into the assembled container.

Figure 10 shows a die-cut table piece or end closure member.

Figure 11 shows the piece of Figure 10 inserted into the top or open end of the container bottom, after same has been filled.

Figure 12 illustrates my preferred form of lid in flat or knock-down form.

Figure 13 illustrates the act of erecting the lid shown in Figure 12 before placing on the filled container.

Figure 14 illustrates the preferred form of the complete finished container, ready for shipment from the point of packing to the ultimate consumer.

Figure 15 is an enlarged section taken along the line 15—15 of Figure 14.

Figure 16 is a plan view of the blank employed for the main body of the container.

Before beginning a detailed description of the drawings, it might be well to clarify some of the terms which will be used in the description. By the use of the word "body" I refer to the container which actually holds the contents, that is, the container body or body, to distinguish from the insert or lid or closure used to cover the end of the container body or body after having been filled.

By the use of the word "bottom" or "bottom end" of the body or container body, I refer to the end which is closed prior to the introduction of the contents, the remaining end, that is the end through which the contents are filled, being referred to as the "top" or "top end." If part

of the final closure of the top end involves the use of a die-cut piece such as shown in Figure 10, then this piece will be referred to as an "insert table" or "platform." Then if the closure of the top involves a separate cover such as shown in Figure 12, this will be referred to as the "lid" or "cover."

Now referring to the preferred form of the container body as shown in Figures 1 and 16, this consists of an outer carton having in this case four main body panels 1, 2, 3 and 4, secured in flat tubular form by the adhesion of the glue flap 5 to the main body panel 1. At the bottom end panels 2 and 3 have articulated thereto closure flaps 6 and 7 respectively, and at the same end main body panel 2 has articulated thereto an end panel 8, having thereon a tuck or closure flap 9. The outer container body structure just described is preferably made from semi-rigid material such as cardboard or the like, suitably scored, and it may be printed or otherwise decorated and it may also be waxed or treated with other water-proofing means if so desired.

Secured within this outer member is a tubular liner of a lighter more flexible material, preferably grease-resistant by nature, such as glassine or parchment paper. In Figure 1 this inner liner is designated generally at 10. As shown in the drawing it is retained in tubular form by lapped seam portion 10*a*, and it should be pointed out that this seam is independent of the seam which retains the outer structure.

As can be seen from Figure 1, the inner liner projects considerably beyond the main body portion of the outer structure at the bottom end. As also seen in Figure 16, the shaded portions 11 indicate the adhesive areas which secure the liner within the outer carton, and it can be seen that at the top end of this container body the end of the liner is substantially flush with the end of the outer carton, and as the shaded portions indicate the liner and the carton are adhered to each other very close to this top or open end of the container.

As the shaded portions also indicate, the main body panels are secured to the adjoining portions of the inner liner near the bottom end of these panels, except for panel 4, where the line of adhesion is further from the bottom end, to provide clearance space for the tuck 9, upon assembly of the container. It is obvious that other portions of these main body panels can be secured to the adjoining surface of the inner liner, if desired.

The portion of the liner which projects at the bottom, that is the projecting mouth of the liner, is preferably unsecured to the closure flaps 6 and 7, and to the end panel 8. It is in this form, in flat or knock-down condition, that the container body is shipped to the packing plant or to the point at which it is to be filled or used. The container body as described can be made as shown by the method of my Patent No. 2,095,910 issued October 12, 1937, or otherwise, the method by which the container body is made forming no part of the present invention.

When it is desired to assemble the container body for filling, the first step is to square up the outer carton or structure, which likewise automatically squares up the liner which is secured thereto, as above described, and the container in squared up form is illustrated in Figure 2.

After having been squared up as shown in Figure 2, the container body is inserted over a block or mandrel 12 as shown in Figure 3. This mandrel is of such proportions as to permit the squared up container body to be placed over it readily, and the mandrel itself may be made of wood or any suitable material. The purpose of the mandrel is to provide a secure support for the folding operations involved in carrying out the bottom closure.

As shown in Figure 4 the next step in the preferred folding of the liner mouth is to elongate the mouth as at 14, bringing the opposite side walls of the liner together.

The next step as shown in Figure 5, consists of making a series of folds, of the liner portions thus flattened, at the same time bringing this flattened folded portion down towards the bottom end of the container body, as indicated at 15.

In Figure 6 the next step is illustrative of starting to fold in the two side flaps 6 and 7 of the outer carton, the folded end of the liner following the infolded action of these flaps as these flaps are pressed inwardly.

In Figure 7 the final step of the bottom closure is indicated, the tuck 9 being brought down into position in the clearance space provided therefor as previously described, between the panel 4 and the adjoining portion of the inner liner. To provide a more secure grip and a more dependable closure, there may be small slits 16 along the base of the tuck, to grip the corresponding portions 17 of the closure flaps which are lapped under the end panel when the tucking operation has been completed.

Figure 8 shows the finished assembled container body, after having been removed from the mandrel, ready for the filling operation. The container body thus provided has a secure bottom closure formed by the independent folding of the liner mouth, so that when in position as shown in this figure it is adapted to filling with fluid or semi-fluid products such as the customary temperatures at which lard and shortenings are filled, the interior of the container body being formed entirely of the greaseproof lining material, with no interposition of the outer carton structure within.

It should be noted that my container is particularly well adapted to assembly over a mandrel due to the flush nature of the top end of the container body. That is, the fact that the top end of the container is flush with projecting ends of the liner permits the top end to press down securely against the base on which the mandrel rests, without disrupting any part of the liner, and the mandrel can thus form a secure internal folding support for the bottom closing operations previously described.

Figure 9 is an illustration of the filling operation being carried with the assembled container body. The material 25 flowing from the filling spout 19 has direct and ready access to the interior of the container body, and it can be seen that since in my container the liner 10 does not project beyond the top edge of the body of the outer carton, and since the top edge of the liner is secured tightly to the upper edge of the carton body as previously described, the filling operation is greatly facilitated.

Preferably the cubic capacity of the container is such that when the container has been filled with the desired volume of contents, the upper level of the contents is somewhat below the top edge of the container body. If desired, therefore, a small die-cut platform or table 20 as shown in Figure 10, may be inserted within the top of the

container body. Referring to Figure 11 the flanges 21 of this insert piece or table actually engage the inner surface of the upper portion of the inner liner, upon insertion, serving thereby to provide a sanitary covering directly over the upper level of the contents, and also serving to reinforce and strengthen the container body itself, by acting as an internal bracing member.

In Figure 12 is shown my preferred type cover or lid. This lid 22 is formed of cardboard or other semi-rigid material preferably, and is made in a construction that is well-known in the art, wherein the corners are adhered together, and the structure is collapsed to flat or knock-down form along angular lines of fold 23. Since this construction is well known it is not felt necessary to describe it in detail, but it should be pointed out that I prefer the outwardly folded type of diagonally scored knock-down cover because it tends to engage the top of the container body more securely than if the inwardly folded type of knock-down style were used, and it should also be noted, as can be seen from Figure 14, that this cover portion is considerably less in depth of the container body itself.

In Figure 13 is illustrated the operation of erecting the lid shown in Figure 12 before placing on the filled container of Figure 11, and it can be seen (as indicated by the arrows) that this involves the pressing inwardly of the two outwardly folded walls. This serves to bring the lid into erect form, and upon so being squared up it is placed as a cover over the top end of the container body.

Figure 14 shows the finished packed container with the lid on, in which form the container is shipped from the point of packing to the final user. The container thus provided can be readily opened by the user, and it can be readily reclosed after a portion of the contents have been removed. It is sanitary and neat in appearance and is well adapted to successfully carrying semi-solid greasy contents such as lard or the like, and a variety of other products which are normally difficult to pack and protect properly.

It is readily apparent that the method of effecting the folds to form the final bottom closure may be readily varied from the preferred method shown, if desired. As disclosed in my patent previously referred to for example the liner may have the bottom end already sealed or otherwise closed if desired, so that upon squaring up the body it is merely necessary to fold in the closure flaps, or an open-ended liner may be used which is interleaved with the closure flaps as the flaps are folded, without the use of a mandrel. And so it would be a mere matter of choice to provide a different arrangement of the closure flaps at the bottom of the container body, sealing or locking these flaps together in any desired arrangement, rather than the use of the particular tuck end type of closure which was used in the description for illustrative purposes.

In regard to the top end of the container body, it should be noted that due to variations in manufacture the top edge of the liner and the top edge of the container body may not be always exactly flush, but small variations may occur without affecting the use or characteristics of the container adversely. For example, should the top edge of the liner project fractionally above the top edge of the container body, this projection would not affect anything harmfully and would not be sufficient to prevent free access to the top of the container for filling or for removal of contents; and contrariwise if the upper edge of the liner is fractionally below the upper edge of the outer carton, since as stated the upper level of the contents is preferably somewhat below the upper edge of the container body itself, there would still be no exposure of the inner surface of the outer carton to the contents. It is desirable, however, that the upper edge of the inner liner be as nearly flush as possible with the upper edge of the outer structure, and it is also desirable that the adhesion between the inner liner and the outer structure be as near the upper edge of the container body as possible, the remaining adhesion between the liner and the main body of the outer carton being a matter of choice.

It should also be further noted that the matter of top closure procedure can be readily varied from that described if desired. As an illustration if an insert piece and an outer cover were used, it is readily apparent that either one or the other could be used alone if desired. Previously I referred to my container as being a two-piece construction, but it is apparent that if both the insert piece and the outer cover are used as in the illustrations given, there are actually three pieces involved. Also it would be possible to have an edge of the cover articulated to an upper edge of one of the main body panels, forming a one-piece container thereby. All such variations are contemplated within the scope of my invention, just so long as the important feature is provided that the liner is substantially flush with the top edge of the carton body, so that the liner does not form a part of the final closure after filling.

Having thus described my invention what I claim as new and novel and desire to secure by Letters Patent is:

1. A container in knock-down form comprising an outer carton having a body with closure flaps articulated to one end only thereof, and secured within said carton an independently-seamed tubular liner, projecting beyond the carton body at said end, and terminating substantially flush with the carton body at the other end thereof.

2. A container in knock-down form comprising an outer carton having a body with closure flaps articulated to one end only thereof, and secured within said carton an independently-seamed tubular liner, projecting beyond the carton body at said end, and terminating substantially flush with the carton body at the other end thereof, all of the walls of said carton being adhered to the liner adjacent said flush end.

3. A container in knock-down form comprising an outer carton having a body with closure flaps at one end only, and within said carton an independently-seamed tubular liner projecting beyond the carton body at said end only, the opposite end of the liner and of the carton body being substantially co-terminous and adhered to each other.

4. A contents-containing package comprising a carton with a liner therein, one end of said package having a folded extension of said liner with closure flaps articulated to said carton secured thereabout, the other end of said package having the liner substantially co-terminous with the edges of the main body carton walls, which are devoid of closure flaps, said liner being adhered to said body, and said package comprising also an independent pre-formed cover as a closure therefor.

5. The method of packaging which comprises

providing cartons for a box with closure flaps at one end only, said cartons having secured therein independently formed seamed, tubular liners extending beyond the main body panels at said end, and substantially co-terminous with the main body at the other end, and closing said first named end by folding said liner extension and closure flaps, filling the contents through said remaining open end, and thereafter closing said open end by a pre-formed cap.

6. The method of making a container body from a flat folded carton having a body with closure flaps articulated to one end only thereof, there being an independently-seamed tubular liner secured within said carton, said liner projecting beyond the carton body at said end and terminating substantially flush with the carton body at the other end thereof, which includes squaring up said carton, said liner being likewise squared up thereby, and placing said flush-end down over a mandrel and folding said projecting liner and said closure flaps thereabout, and thereafter removing said container from the mandrel prior to introducing the contents therein.

7. A package comprising an outer carton having a body with articulated closure flaps at one end only thereof, and with an independently formed liner positioned therein, said liner extending beyond the body at the one of its ends at which said closure flaps are articulated and having said extension folded, with the closure flaps articulated to the outer carton secured about the folded extension of the liner, the other end of said package having the liner substantially co-terminous with the edge of the carton body, and made to adhere thereto, and an independent pre-formed cover for closing said other end of the carton.

ROBERT MORRIS BERGSTEIN.