

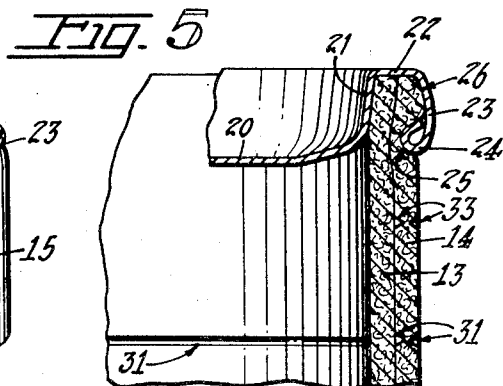
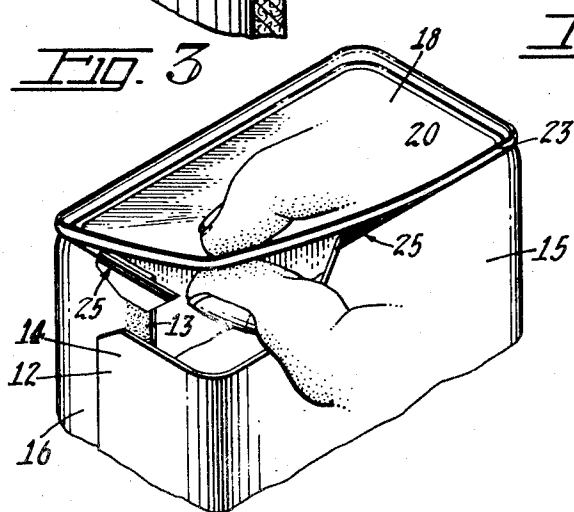
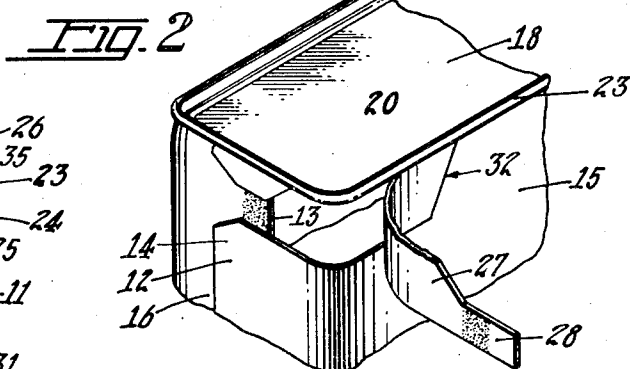
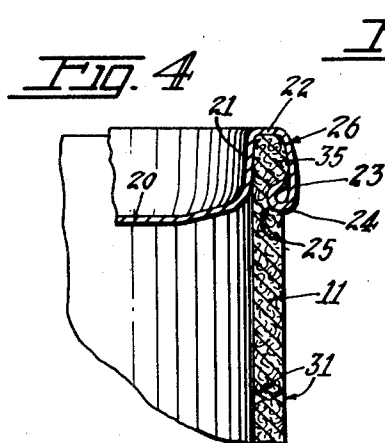
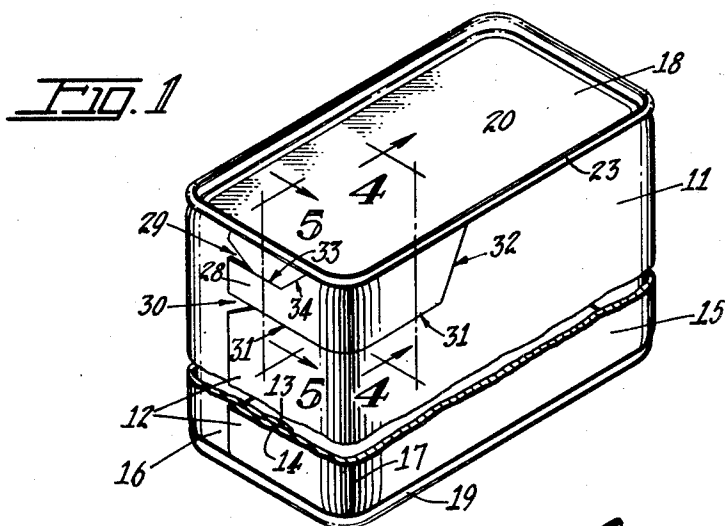
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FIBER CONTAINER

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2 Sheets-Sheet 1



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2 Sheets-Sheet 2

FIG. 6

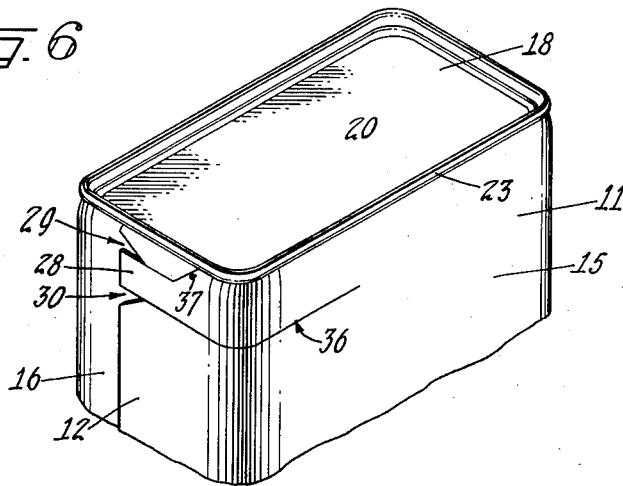


FIG. 8

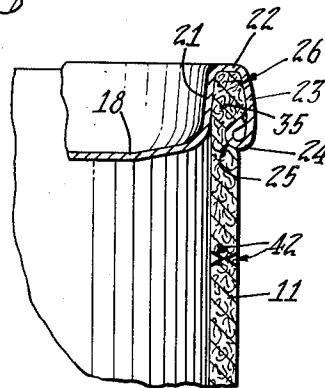
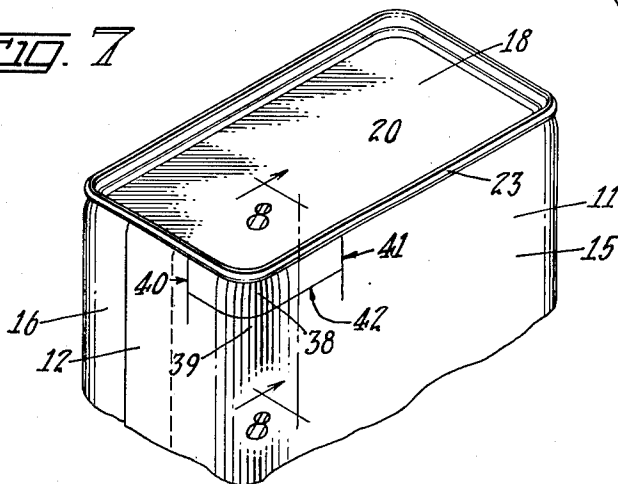


FIG. 7



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FIBER CONTAINER

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5 Claims. (Cl. 229—51)

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This invention relates to a container for frozen foods and the like and more particularly to a sealed container wherein the top end member may be quickly and cleanly removed by the ultimate consumer without the aid of opening tools.

There is on the market at the present time a container for frozen food products which is formed of a fibre body having metal ends seamed thereto. This container is very satisfactory in many respects. It is economical, easy to fill, seal and freeze, and provides excellent, tamperproof protection for its contents. However, in order to open it an opening tool, such as a knife to cut open the body or a pry-off tool to remove one of the end members, must be employed. My invention contemplates a frozen food container of this general type having a detachable end member and which may be easily opened without the necessity of using any tools other than the hands of the ultimate consumer.

An object of the invention, therefore, is the provision of a tightly sealed, tamperproof container which will withstand rough handling and usage and provide complete protection for its contents and yet may be easily opened without the use of special opening tools.

Another object of the invention is the provision of a removable section in the body of a container contiguous to one of the end members, preferably the top end member, whereby access may be had to the interior of the container so that the ultimate consumer may, by exerting digital pressure against the undersurface of the top end member, easily and quickly strip the top end member from the container body.

A further object of this invention is the provision of a container wherein the top end member may be easily and completely stripped from the container body thereby providing a full-open dispensing mouth which facilitates complete removal of the container contents.

Still another object is the provision of a container wherein the above recited objects may be attained at a minimum cost without the necessity of providing additional material for the container.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying

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drawings, discloses a preferred embodiment thereof.

Referring to the drawings:

Figure 1 is a perspective view of a sealed container embodying the instant invention, with parts broken away;

Fig. 2 is a perspective view of a portion of the container illustrated in Fig. 1 and showing the removable section in the container body partially removed;

Fig. 3 is a perspective view of the upper portion of the container showing the partial stripping of the top end member from the body;

Fig. 4 is an enlarged sectional view taken substantially along a plane indicated by the lines 4—4 in Fig. 1;

Fig. 5 is an enlarged sectional view taken substantially along a plane indicated by the lines 5—5 in Fig. 1;

Fig. 6 is a perspective view similar to the upper portion of Fig. 1 showing a modified form of the invention;

Fig. 7 is a perspective view similar to the upper portion of Fig. 1 showing another modified form of the invention, and

Fig. 8 is an enlarged sectional view taken substantially along a plane indicated by the lines 8—8 in Fig. 7.

As a preferred embodiment of the invention the drawings illustrate a container having a tubular body 11 (Fig. 1), the wall of which is formed from a single sheet of suitable fibrous material having its marginal side edge portions secured in a glued lap side seam 12 composed of an inner layer 13 and an outer layer 14. The tubular fibre body 11 is rectangular in cross-section and has two broad side panels 15 and two narrower end panels 16, the corners of the body being rounded as at 17, although the invention is equally well adapted to containers of other shapes and other materials.

The open ends of the body 11 are closed by a top end member 18 and a bottom end member 19, which is preferably but not necessarily identical in construction to the top end member 18. Prior to the application of the end members, the body 11 is coated or impregnated with a liquid and moisture vapor proofing substance. Paraffin or other hydrocarbon waxes of mineral or vegetable origin, other waxlike materials, and various

resinous varnishes and lacquers are especially suitable for this purpose since they provide a smooth and somewhat slippery body surface which is desirable for the purposes of this invention, as will be hereinafter explained.

Top end member 18 is made of thin sheet metal and is rectangular in shape, being formed with a substantially flat panel wall 20 (Figs. 1 and 4) which merges into a vertical countersink wall 21. The countersink wall 21 extends outwardly over the body wall in a bridge or inverted U-shaped section 22 which in turn merges into a downwardly extending flange 23. The lower end of this flange 23 is curled or turned inwardly as at 24 and this curl is crimped or embedded in the fibrous wall of the tubular body 11, thereby forming a groove 25 around the periphery of the body. The countersink wall 21, the outwardly extending bridge section 22, the flange 23 and the curl 24 cooperate to form a channel 26 which receives and embraces the body wall 11 in a tightly crimped or squeezed end seam or joint.

An end member attached to a container body in this manner can be secured very tightly and tenaciously thereto and can normally be removed only through the use of special opening tools. It can, however, be stripped from the body when pressure is applied against the undersurface of the marginal edge portion of the end member in an outward direction. It is to be understood that while the herein described form of end seam is the preferred form, other types of end seams having essentially the same characteristics and wherein the top end member is squeezed or crimped onto the body, may be substituted.

In order to strip off the end member in this manner, a short removable section or portion 27 is disposed at one corner of the container body wall contiguous or adjacent to the top end member so that when this section is removed from its position in the body wall access may be had to the undersurface of the marginal edge portion of the top end member. This removable portion extends from a tongue 28 (Figs. 1 and 2) which is formed in the outer layer 14 of the side seam 12 of the container. The tearing tongue 28 is preferably set off by an upper notch 29 and a lower notch 30 cut in the outer layer of the lap seam, although slits may be substituted if desired. The underside of the tongue 28 is left unglued (Fig. 2) so that it may be easily lifted.

A main score line 31 (Figs. 1 and 4) cut or otherwise formed in the body 11 extends from the lower notch 30 partially around the body 11 and thence extends upwardly as at 32 to the flange 23 of the top end member 18. A shorter upper auxiliary score line 33 extends from the upper notch 29 partially around the body 11 and thence upwardly to the flange 23 as at 34. These score lines together with a short section of flange 23, define the short removable section 27 as best seen in Figs. 1 and 2.

As shown in the drawings, each score line is composed of opposed cuts in the body wall, each cut necessarily being of less than half the thickness of the body material. The particular form of score line is, of course, of no material importance to this invention and may be varied if desired.

The manual detachment of the top end member 18 from the body is made possible by the displacement of the removable section or portion 27. This is effected when the ultimate consumer grasps the tongue 28 and pulls outwardly upon

it, thus tearing the fibrous stock simultaneously along both the upper and lower score lines. When the tear along the upper score lines 33, 34 progresses to the flange 23, the material further tears along the flange at the end joint, utilizing it as a cutting edge or tearing guide, until it reaches the junction of the flange and the score line 32. At this point the removable portion 27 is completely severed from the body leaving an opening in a corner of the body which provides access to the interior of the container.

In order to detach the top end member 18 from the container body, the consumer now inserts a finger into the opening to grasp the exposed portion of the top end member, and then pulls upwardly, preferably with a slight twisting motion. This lifting action results in a progressive upward bending of a corner of the thin sheet metal end member from its original flat position (as illustrated in Fig. 3), with the result that the end is stripped from the body, the stripping action progressing around the top in both directions until the end is completely detached. Thus a full-open dispensing mouth is provided through which the container contents may be quickly emptied. The marginal edge portion 35 of the container body which is incorporated within the end seam between the score lines 34 and 32 will be removed along with the top end member 18.

The stripping of the end member is facilitated by the slippery coating on the portions of the container body incorporated in the end seam, which coating functions as a lubricant.

Fig. 6 discloses a modification of the invention wherein a lower main score line 36 extends partially around the container body 11 but does not reach the end joint flange 23. The upper auxiliary score line 37 is similar to the one illustrated in Figs. 1 and 5. In this modified form of the invention the removable section is not necessarily detached from the body 11 when the tongue is grasped and pulled, but it is displaced from its position in the body thereby breaking the continuity of the body and leaving an opening so that the end member may be stripped from the body as hereinbefore described.

In another modification, shown in Fig. 7, the tongue 28 is entirely omitted. Instead, removable wall sections 38, 39 extending downwardly from the top end member 18 are set off by two vertical auxiliary score lines 40, 41 and a connecting horizontal main score line 42 located intermediate the ends of the vertical score lines. Detachment of the top end member 18 is facilitated when the score lines are ruptured by digital pressure to displace the sections 38, 39 inwardly, thereby removing them from their positions in the body wall, thus breaking the continuity of the body and providing an opening at the corner of the container into which a finger may be inserted to strip the top end member from the body. Obviously, various other arrangements of score lines may be had to set off a removable section contiguous the top end member.

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.

I claim:

1. A sealed imperforate container for frozen

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foods and the like for easy opening without the aid of tools, comprising a fibrous body wall of substantially rectangular cross section having rounded corners, and a removable metallic end member having a depending marginal flange having its terminal edge embedded throughout its entire peripheral extent in the outer surface of said fibrous body wall to secure the end member thereto in a crimped end seam, said body wall having a removable portion extending around one of the rounded corners thereof, said removable portion being partially defined by spaced score lines in adjacent body walls terminating at said end member flange and partially defined by the adjacent terminal edge of said flange extending between the terminal ends of said score lines, one of said score lines extending around said rounded body corner, said removable portion having a tearing tongue projecting at its outer end from said body to facilitate manual severance of said removable portion from said body along said score lines and also along the periphery of said terminal edge of the end member flange between the inner terminal ends of the score lines as a tearing guide, thereby forming an opening at a corner of said body wall to partially expose said end member to permit the latter to be manually grasped and completely stripped from its embedded crimped engagement with said body wall to open the container for access to the contents thereof.

2. A fully sealed imperforate composite container for frozen foods and the like, comprising a tubular fibre body of substantially rectangular cross section having side walls merging into substantially rounded corners, said body also having a removable metallic end closure including an annular depending marginal flange having its terminal edge embedded throughout its entire extent in the outer surface of said body walls to secure said closure to said walls in a sealed end joint, two adjoining side walls adjacent the corner therebetween containing a rupturable tear-away portion partially defined by a main score line extending in substantially spaced parallelism with said end joint from an intermediate point within one of said two walls through said corner and into the other of said two walls, said rupturable portion being further partially defined by an auxiliary score line extending at an angle to said main score line and terminating at said end joint, said rupturable portion being further defined by the adjacent portion of said end joint, whereby said rupturable portion is severable from the remainder of said body side walls by tearing along said score lines and along said adjacent portion of said end joint to form an opening in the container body which exposes a corner of said metallic end closure to permit the latter to be stripped from said tubular fibre body.

3. A fully sealed imperforate composite container for frozen foods and the like, comprising a tubular fibre body of substantially rectangular cross section having side walls merging into substantially rounded corners, said body also having a lapped side seam in a wall thereof and a removable metallic end closure including an annular depending marginal flange having its terminal edge embedded throughout its entire extent in the outer surface of said body walls to secure said closure to said walls in a sealed end joint, two adjoining side walls adjacent the corner therebetween containing a rupturable tear-away portion partially defined by a main score line extending in substantially spaced parallel-

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ism with said end joint from said side seam in one of said two adjoining walls through said corner and into the other of said two walls, said main score line ending in an angular extension terminating at said end joint, said rupturable portion being further partially defined by an auxiliary score line in said one wall extending from said side seam and thence at an angle to said main score line and terminating at said end joint, said rupturable portion being further defined by the adjacent portion of said end joint in said two adjoining side walls, whereby said rupturable portion is severable from the remainder of said body side walls by tearing along said score lines and along said adjacent portion of said end joint to form an opening in the container body which exposes a corner of said metallic end closure to permit the latter to be stripped from said tubular fibre body.

4. A fully sealed imperforate composite container for frozen foods and the like, comprising a tubular fibre body of substantially rectangular cross section having side walls merging into substantially rounded corners, said body also having a lapped side seam in a wall thereof and a removable metallic end closure including an annular depending marginal flange having its terminal edge embedded throughout its entire extent in the outer surface of said body walls to secure said closure to said walls in a sealed end joint, two adjoining side walls adjacent the corner therebetween containing a rupturable tear-away portion partially defined by a main score line extending in substantially spaced parallelism with said end joint from said side seam in one of said two adjoining walls through said corner and into the other of said two walls, said rupturable portion being further partially defined by an auxiliary score line in said one wall extending from said side seam and thence at an angle to said main score line and terminating at said end joint, said rupturable portion being further defined by the adjacent portion of said end joint in said two adjoining side walls, whereby said rupturable portion is severable from the remainder of said body side walls by tearing along said score lines and along said adjacent portion of said end joint to form an opening in the container body which exposes a corner of said metallic end closure to permit the latter to be stripped from said tubular fibre body.

5. A fully sealed imperforate composite container for frozen foods and the like, comprising a tubular fibre body of substantially rectangular cross section having side walls merging into substantially rounded corners, said body also having a removable metallic end closure including an annular depending marginal flange having its terminal edge embedded throughout its entire extent in the outer surface of said body walls to secure said closure to said walls in a sealed end joint, two adjoining side walls adjacent the corner therebetween containing a rupturable tear-away portion partially defined by a main score line extending in substantially spaced parallelism with said end joint from adjacent the side seam in one of said two adjoining walls through said corner and into the other of said two walls, said rupturable portion being further partially defined by a pair of spaced auxiliary score lines located respectively in said two adjoining walls, said auxiliary score lines each intersecting and extending at an angle to said main score line and terminating at said end joint, said rupturable portion being further defined by the

adjacent portion of said end joint extending between said auxiliary score lines, whereby said rupturable portion is located in said adjoining side walls between said auxiliary score lines and on opposite sides of said main score line, said rupturable portion being severable from the remainder of said body side walls by breaking along said main and auxiliary score lines to form a depressed opening in the container body which permits a corner of said metallic end closure to be grasped and stripped from said tubular fibre body.

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