

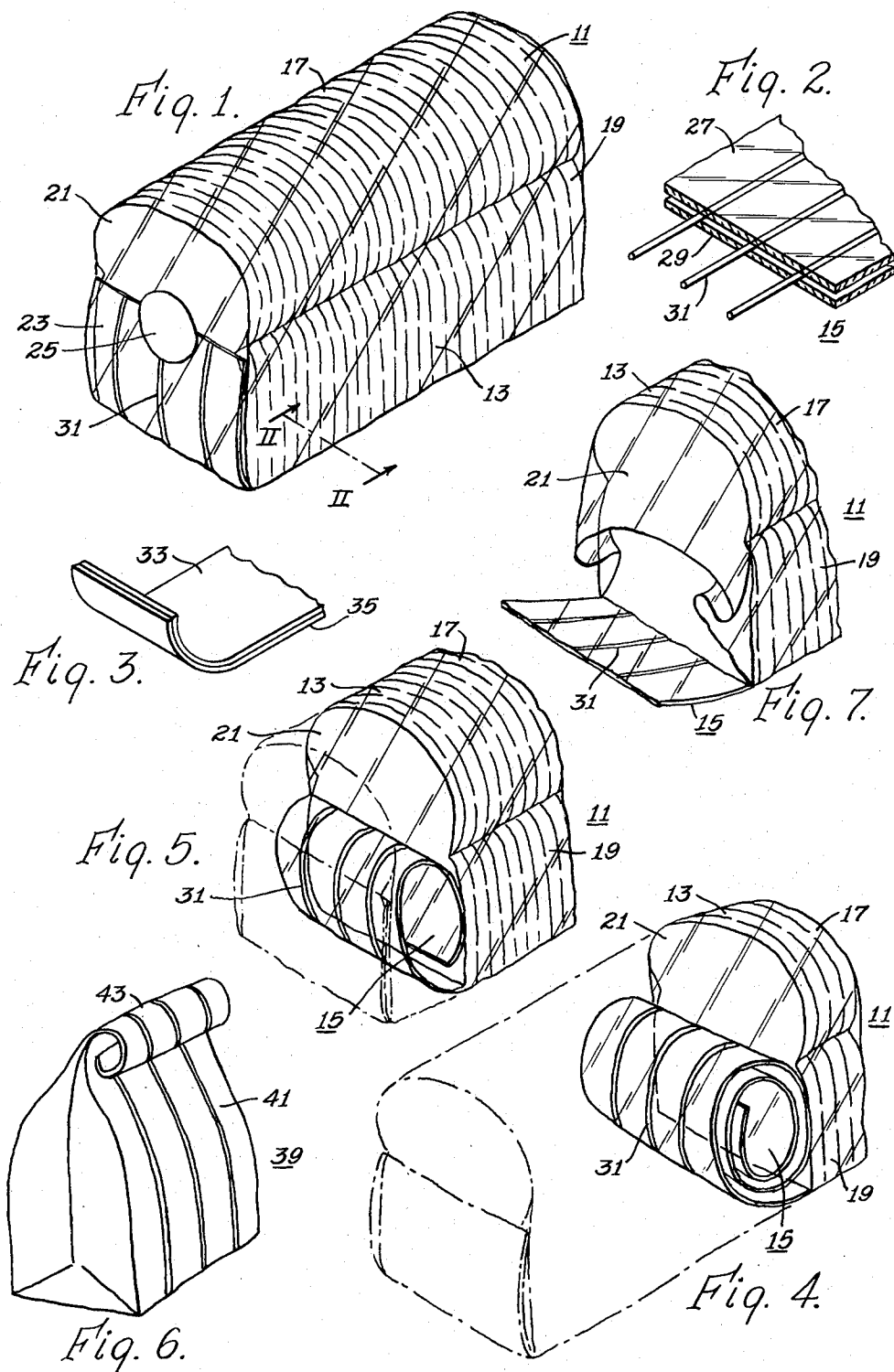
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3,201,030

CONTAINER

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3,201,030

CONTAINER

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4 Claims. (Cl. 229-65)

This invention relates to the art of containers, packages or closures and has particular relationship to containers for material such as foods. Such material is often composed of a number of units enclosed within the container and separately removable from the container. The removal of any number of units from the container reduces the volume occupied by the remaining units.

Such a container in accordance with the teachings of the prior art retains its original volume in spite of the reduction in volume of the contained material by the removal of units, and remains open. The material of reduced volume then occupies as much space as the original material and the user has no indication that the quantity of the material has been reduced. In addition, because the container is open, any perishable material within the container tends to spoil or become stale.

It is accordingly an object of this invention to overcome the above-described disadvantages. Another object of this invention is to provide a container for material made up of a number of units separately removable from the container which container shall assume a reduced volume on the removal of units from said container and shall remain firmly closed.

In accordance with this invention the container is provided with at least one wall which is resilient and is prestressed having internal forces which cause it to curl or roll into a spiral when released. Such a wall may be formed by embedding in the wall material wires which are uncoiled from a coil and exert a coiling force on this material. The wall may also be formed of a plurality of laminations preferably alternate sheets or webs which are prestressed in tension and of unstressed sheets adhered to the prestressed sheets. The tensioned sheets exert a force urging the wall to curl or coil into a spiral.

The container or package is usually formed so that when the container is full, the curable wall is prevented from curling or coiling by the adjacent walls and/or the material container. When units of the material are removed the holding force on a part of the curable wall is reduced so that the wall curls over to maintain the container closed and reduce the container volume substantially to the new reduced volume of the material.

The novel features considered characteristic of this invention are disclosed above. To enhance understanding of this invention, both as to its organization and as to its method of operation, together with additional objects and advantages thereof, reference is made to the following description taken in connection with the accompanying drawing in which:

FIGURE 1 is a view in perspective showing an embodiment of this invention;

FIG. 2 is a view partly in section and partly in perspective taken along line II—II of FIG. 1;

FIG. 3 is a fragmental view in perspective showing an alternative curable material used in the practice of this invention;

FIG. 4 is a view in perspective of the embodiment shown in FIG. 1 with a number of units of the contained material removed from the container;

FIG. 5 is a view in perspective of the embodiment shown in FIG. 1 showing how the curable wall reduces the volume of the container and maintains it closed as more and more contained units are removed;

FIG. 6 is a view in perspective of a modification of this invention; and

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FIG. 7 is a view in perspective showing how the units may be removed from the container.

In the drawing a package or container 11 of slices 13 of bread, typical of material packaged in the practice of this invention is shown. The package 11 has a curable wall 15 which constitutes the base. The top 17, side walls 19 and end wall 21 are formed of a unitary sheet of material. The walls 17, 19, 21 are formed around the assembly of slices 13 on the base with their edges engaging and secured to the base wall 15. The base wall 15 has an upwardly extending lip 23 which overlaps one end wall 21. The package is initially formed with the manufacturer's seal 25 extending over the end of the lip 23 and the adjacent end wall 21.

The container 11 may be composed of a packaging material such as cellophane. The walls 17, 19 and 21 may be ordinary sheets of this material. But the curable base wall 15 is composed of a pair of sheets 27 and 29 of the material (or others) between which wires 31 which had been drawn from a coil are secured. The wires exert a force urging the wall 15 to coil or curl.

Alternatively the base wall 15 may be laminated. In this case alternate sheets 33 (FIG. 3) (where there are more than two) are prestressed and the other sheets 35 are unstressed. The sheets 33 and 35 are adhered and the prestressed sheets exert a force causing the walls to curl.

The effect of the curling or coiling of the curable wall 15 is shown in FIGS. 4 and 5. As slices 13 are removed, the wall 15 curls and coils over to maintain the package closed and reduce its volume correspondingly.

To remove slices 13 from the package 11 the curable lip 23 may be held outwardly (FIG. 7) by one hand. The slices 13 are then engaged under the side 21 by the other hand and removed. On release of the lip 23 the package is reclosed.

In FIG. 6 a bag or sack 39 is shown. This bag 39 has sides 41 and 43. Side 43 is curable reducing the volume of the bag as the contained material is removed.

While preferred embodiments of this invention have been disclosed herein, many modifications thereof are feasible. This invention then is to be restricted only by the spirit of the prior art.

I claim as my invention:

1. A container containing different quantities of discrete articles, said container including walls defining an article containing volume within said walls, at least one of said walls being yieldable and including prestressed resilient means along substantially the whole extent of said one wall, said resilient means being prestressed to a curled position which it tends to maintain and exerting a force on said one wall urging said one wall to curl itself against an adjacent wall of said container in a containing-volume-reducing direction, reducing said volume to a magnitude substantially equal to that occupied by a quantity of said articles within said container.

2. A container containing different quantities of discrete articles, said container including walls defining an article containing volume within said walls, at least one of said walls being yieldable and including prestressed resilient means along substantially the whole extent of said one wall, said resilient means being prestressed to a curled position which it tends to maintain and exerting a force on said one wall urging said one wall to curl itself against an adjacent wall of said container in a containing-volume-reducing direction, reducing said volume to a magnitude substantially equal to that occupied by a quantity of said articles within said container, said one wall being composed of a web material having at least one resilient wire in engagement therewith longitudinally thereof, said wire having been prewound into a spiral.

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3. A container containing different quantities of discrete articles, said container including walls defining an article containing volume within said walls, at least one of said walls being yieldable and including prestressed resilient means along substantially the whole extent of said one wall, said resilient means being prestressed to a 5 curled position which it tends to maintain and exerting a force on said one wall urging said one wall to curl itself against an adjacent wall of said container in a containing-volume-reducing direction, reducing said volume 10 to a magnitude substantially equal to that occupied by a quantity of said articles within said container, said one wall being composed of a laminated web including at least one prestressed layer adhered to an unstressed layer.

4. A container having a plurality of walls defining a 15 containing volume for containing different volumes of material, said different volumes being of lesser volume than said container volume, at least one of said walls being yieldable and including resilient means along substantially the whole extent of said one wall, said prestressed resilient means being prestressed to a curled position which it tends to maintain and exerting a force in 20 said one wall, urging said one wall to curl itself against an adjacent wall of said container in a containing-volume reducing direction, and adjacent wall of said container to 25

said one wall engaging said one wall in a predetermined initial position in curling restraining relationship with the volume of said material in said container of a predetermined magnitude, and on removal of material from said container, said one wall, by curling itself against said adjacent wall, urging said adjacent wall to retract to containing volume of said container to the reduced volume of said material.

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