



Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number:

**0 164 957
A2**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number: 85303785.1

(51) Int. Cl.⁴: B 65 D 55/06

(22) Date of filing: 30.05.85

(30) Priority: 12.06.84 US 619997

(43) Date of publication of application:
18.12.85 Bulletin 85/51

(84) Designated Contracting States:
BE DE FR GB IT NL

(71) Applicant: Anchor Continental Inc
P.O. Drawer G. 2000 South Beltline Boulevard
Columbia South Carolina 29250(US)

(72) Inventor: Davidson, Gary A.
1732C Spanish Trail
Columbia South Carolina 29210(US)

(74) Representative: Cole, William Gwyn
Corporate Patents Department Smith and Nephew
Research Limited Gilston Park
Harlow Essex CM20 2RQ(GB)

(54) A severable closing member.

(57) A container which comprises a severable closing member comprising: an elongate ribbon having first and second planar surfaces and an imaginary longitudinal axis bisecting said planar surfaces: an adhesive layer over-laying and co-extensive with said first planar surface; and a release means overlaying and co-extensive with said planar ribbon surface; said elongate ribbon being provided with a plurality of uniformly spaced openings extending through said ribbon and being positioned in series along the imaginary longitudinal axis so that said closing member may be facilely severed by contact along said plurality of spaced openings, processes of forming and methods of opening the containers are described.

EP 0 164 957 A2

A SEVERABLE CLOSING MEMBERBackground of the Invention

This invention relates to a container which comprises an improved closing member. More particularly, this invention relates to a container which comprises a composite closing member wherein the member may be
5 facilely severed in a longitudinal direction to facilitate release of the member.

The basic concept of a closing member is to fasten the meeting edges of containers such as the flaps or walls of a box or carton. A threshold or common denominator of
10 almost all closing members is the function of providing adequate strength when in use as a fastening means. To this end, closing members have commonly assumed a form wherein a layer of adhesive or gum material is applied to one surface of a suitable support. Various kinds of
15 adhesives have been developed over the years and may be generally classified as water soluble or water insoluble. Similarly, a wide variety of materials, such as Kraft paper, fiberglass and fiber reinforced materials and plastic materials have been used as supports for closing
20 members.

2.

In addition, in certain instances it is envisioned that it would be desirable to provide relatively safe and easy access to the interior of the container when desired. Accordingly, over the years the closing member industry has attempted to provide a closing member which may be easily applied to a container and removed from the container. Such a closing member has typically assumed the structure of a composite tape.

Although composite tapes, as previously noted, have been widely utilized in the closing member industry, substantial disadvantages have been occasioned. In this connection, tapes which have been applied to containers with no specific removal means have proven difficult to unfasten.

A significant advance in the industry occurred in the relatively recent past when it was determined that multi-layered strippable tapes could be effectively employed to fasten and unfasten container portions. Sealing tapes of this type have typically included an upper strength layer of plastic material bonded to a second layer of strip material of relatively low strength upon which pressure sensitive adhesive is applied. The upper layer of a tape

3.

of this type is generally uniform and is designed to be stripped rather than severed.

Although strippable tapes in many instances provide easy access to the contents of a container, these tapes are relatively complex and costly to manufacture. In addition, strippable tapes of this type require that the individual handling the container manipulate the tape until a piece of the tape of sufficient length to be grasped by the individual is freed from the surface of the container so that the upper strength layer may be peeled off. In many instances, securing a length of tape of sufficient size to permit the remainder of the tape to be stripped from the container is difficult, such as when the work environment or the weight of the box requires the individual to wear gloves.

A similar kind of strippable tape which has received at least a degree of industry recognition comprises a multi-layered adhesive which includes a string or filament along its longitudinal medium. In the use of such tapes, the string is intended to overlies the crevice between the meeting edges of a container. To open the container, the tape is removed by pulling up on the string and away from

4.

the surface of the container. This type of closing member is substantially more complicated than that described by the present invention, and these tapes have the further disadvantage of causing a medial ridge in the tape roll which presents further difficulties and expense in manufacture.

While such closing members, as previously noted, have received some industry recognition, room for significant improvement remains. In this regard, strippable tapes are typically complicated and costly to manufacture, and may be difficult to remove from the container surface.

The present invention has particular advantages when the container is a cardboard beer case which has been returned with empty bottles. After the case is filled with empty bottles, either the storekeeper or the truck driver that picks up the case can apply the closing member used in this invention to the juncture line of the case flaps. Because of the plurality of perforations in the closing member, it is readily severed for bottle removal. At the same time, the bottles are securely retained in the case and accidental opening of the case is prevented during the many movements of the case between pick up and the bottle washing facility at the plant.

5.

The problems suggested in the proceeding are not intended to be exhaustive but rather are among many which may tend to reduce the effectiveness of prior closing members. Other noteworthy problems may also exist; however those presented above should be sufficient to demonstrate that closing members appearing in the past have not been altogether satisfactory.

Objects and Summary of the Invention

It is, therefore, a general object of the invention to provide a container which comprises a closing member which will obviate or minimize problems of the type previously described.

It is a particular object of the invention to provide a container which comprises a closing member which may be easily applied to the meeting edges of the container and facilely severed to provide access to the contents thereof.

It is another object of the invention to provide a container which comprises a closing member which is of a relatively simple construction and easy to manufacture from conventional materials.

Brief Summary of the Invention

Accordingly the invention which is intended to accomplish at least some of the foregoing objects resides in a container which comprises a severable closing member comprising an elongate ribbon having first and second planar surfaces and an imaginary longitudinal axis bisecting said planar surfaces; an adhesive layer overlaying and co-extensive with said first planar surface; and a release means overlaying and co-extensive with said second planar ribbon surface; said elongate ribbon being provided with a plurality of uniformly spaced openings extending through said ribbon and being positioned in series along the imaginary longitudinal axis so that said closing member may be facilely severed by contact along said plurality of spaced openings.

The closing member may be facilely severed by pressure or by contact with a cutting instrument along the longitudinal axis of the ribbon.

In a specific embodiment of this invention, the plurality of uniformly spaced openings which extend through the ribbon are formed as narrow, elongate slits for easy severability.

7.

The closing member used in the present invention is relatively inexpensive and easy to manufacture. Moreover, the present invention overcomes the problems associated with closing members such as strippable tapes.

5 This invention is described herein with reference to fastening and releasing the meeting edges of containers.

The Drawings

Other objects and advantages of the present invention will become more apparent from the following detailed
10 description of a preferred embodiment taken in conjunction with the accompanying drawings wherein:

Figure 1 is an axonometric view of a container in accordance with the present invention separated to show the configuration of a closing member after severing;

15 Figure 2 is a sectional view of the subject closing member disclosing the composition of the various courses making up the closing member composite and further illustrating one or the uniformly spaced openings in a central ribbon member;

8.

Figure 3 is a top view of a segment of the closing member illustrating a plurality of elongate narrow slits extending along a longitudinal axis which bisects the ribbon and showing an overlaying release course;

5 Figure 4 is a bottom view of the segment depicted in Figure 3 illustrating an overlaying adhesive layer;

Figure 5 is a top view of a segment of the closing member similar to Figure 3 but showing a plurality of elongate narrow slits being slanted with respect to the longitudinal direction of the member;

10

Figure 6 is a perspective view of a beer case prior to the application of closing member.

Figure 7 is a perspective view of a beer case with the closing member applied; and

15 Figure 8 is a diagonal partial cross section view along the line 8-8 of Figure 7 disclosing how a cutting instrument severs along the line of the plurality of longitudinally spaced openings of the closing member.

Description of a Preferred Embodiment

Referring now to the drawings, wherein like numerals indicate like parts, Figures 1-4 illustrate a preferred embodiment of a severable closing member in accordance with the present invention.

5 Figure 1 presents an axonometric view of a separated container 10 such as a hatbox of a type suitable to advantageously utilize the instant invention. The container 10 includes a lid 12 and a body portion 14 having an interior edge 16. The container has been separated to show a
10 separated configuration of a closing member 18 used in the invention.

 Prior to severing the closing member 18 of Figure 1, the member had been applied to the meeting edges of lid 12 and body portion 14 to form a tight and secure joint. The
15 closing member is preferably aligned along the meeting edges of lid 12 and body portion 14 such that the closing member 18 overlies the crevice formed by the meeting edges of the lid 12 and the body portion 14.

10.

As best seen in Figure 2, the closing member 18 includes a ribbon 20 having two planar surfaces. An adhesive layer or course 22 is applied to one of said planar surfaces and a releasing layer or course 24 is applied to the other of said planar surfaces. The ribbon 20 of the present invention also includes an imaginary longitudinal axis A-A which bisects the ribbon and a plurality of uniformly spaced openings, one of which is shown at 26, which extend through the ribbon layer and which are bisected by the longitudinal axis thereof. These openings are overlaid by the adhesive layer 22 and the releasing layer 24. The openings 26 are shown in Figure 2 as narrow slits, however, it is to be understood that the openings of the closing member used in the present invention could assume a variety of shapes, such as circular, square-shaped, triangular, and the like.

The ribbon 20 may be constructed of any material well known to the industry such as standard Kraft paper and the like. A coating of suitable adhesive material 22, such as that formed from a mixture of natural or synthetic rubber with tackifying resin, softener, antioxidant and filler is applied to one planar surface of the ribbon 20. On the other planar surface of the ribbon a releasing layer 24 is

11.

applied so that the closing member may be wound upon and dispensed from a spool or roll. The releasing layer may comprise a variety of polymeric materials such as natural or synthetic latex and preferably comprises a polyurethane polymer containing reactive or terminal isocyanate groups ($-N=C=O$). The releasing layer should preferably be solvent resistant since the adhesive layer may be applied in a solvent solution and since paint or lacquer sprayed over its surface often contains solvent. The release layer should preferably also be strong when wet in order to stand up in contact with water-based or latex paints, as untreated paper has little or no wet strength. The releasing layer should also preferably be able to withstand the high temperatures in baking or drying ovens, and should resist delamination or splitting so that the tape may be cleanly removed from a surface to which it has been attached.

As best seen in Figures 3 and 4, the closing member 18 includes a plurality of uniformly spaced openings 26 which longitudinally extend in series through the ribbon 20. In a preferred embodiment, these uniformly spaced openings are formed as narrow slits which extend in a direction parallel to the longitudinal edges of the ribbon. Other configurations of the uniformly spaced openings may be used in

12.

this invention, however, such as circular openings or slits which are slanted with respect to the longitudinal direction of the ribbon as shown in Figure 5.

When a container 10 is to be opened, note again Figure 1, the closing member 18 is severed by contacting the closing member along the line formed by the spaced openings 26 in the ribbon. In this connection, the closing member may be severed by the application of light pressure along the longitudinal center of the closing member such as by tapping one's finger along the tape. Having thus severed the closing member and, consequently, separated the meeting edges of the container to provide access to the contents therein, the residual strips of the closing member may be easily removed from the edges of the container through ordinary means.

In Figure 6 there is shown a cardboard beer case 30 having top opening flaps 32 and 34. When the case is closed there is formed a juncture line 36. When empty bottles are to be returned, a section of the closing member 27 is applied over line 36 as shown in Figure 7. The closing member is sufficiently strong to maintain the flaps in their closed position during handling of the case between pick-up and the brewery. When the cases are returned to the brewery

13.

they are aligned on a conveyor or platform 40 where the closing member 26 is moved into the path of a relatively simple cutting tool 38 as shown in Figure 8. Cutting is appreciably facilitated because of the plurality of longitudinally spaced openings, and the carton can then be
5 opened in a conventional manner. The cutting tool can move relative to the case or the cases can be placed on a conveyor which moves under the cutting tool.

Having described in detail a preferred embodiment of the invention and before continuing with the claim portion
10 of this specification, it may be useful to briefly set forth some of the major advantages of the invention.

Summary of Major Advantages of the Invention

In describing a severable closing member used in accordance with a preferred embodiment of the invention,
15 those skilled in the art will recognize several advantages which singularly distinguish the subject invention from the heretofore known prior art.

Without attempting to set forth all of the novel features of the invention as specifically and inherently

14.

set forth above, it will be noted that prior sealing members have either provided no specific means for removal after fastening the member to a container, or have provided means by which the member must be stripped from the container.

Those sealing members having no specific means for removal typically require a relatively strong blow to the meeting edges of the container to force the member from sealing contact with the container.

Closing members which provide strippable means are relatively complicated and expensive to manufacture. Moreover, sealing tapes of this type require that a user be able to manipulate the sealing tape until a segment of sufficient length is secured to permit the entire member to be stripped from a container. This requirement often makes such tapes exceedingly impractical when used in environments where a user normally wears gloves such as refrigerated environments or the loading and unloading of heavy cargo.

In contrast to closing members of the prior art, the closing member used in the present invention reduces or eliminates the difficulty of unfastening the meeting edges

15.

of the container. The invention provides uniformly spaced openings 26 in the ribbon 20 which facilitate access to the contents of the container. The unique configuration of the ribbon used in the present invention provides a closing member which may be easily severed by the application of pressure so that a potentially injurious instrument such as a knife or a razor blade may not be necessary. Furthermore, the closing member used in the present invention is of relatively simple design and is relatively inexpensive to manufacture.

CLAIMS

1. A container which comprises a severable closing member comprising an elongate ribbon having first and second planar surfaces and an imaginary longitudinal axis bisecting said planar surfaces; an adhesive layer overlaying and co-extensive with said first planar surface;
5 and a release means overlaying and co-extensive with said second planar ribbon surface; said elongate ribbon being provided with a plurality of uniformly spaced openings extending through said ribbon and being
10 positioned in series along the imaginary longitudinal axis so that said closing member may be facilely severed by contact along said plurality of spaced openings.
15
2. A container as claimed in claim 1 in which the elongate ribbon is comprised of paper.
3. A container as claimed in either of claims 1 or 2 in which the plurality of uniformly spaced openings in the ribbon are formed as narrow slits.

17.

4. A container as claimed in claim 3 in which the narrow slits in the ribbon extend in a longitudinal direction parallel to the longitudinal edges of the ribbon.

5. A container as claimed in claim 3 in which the narrow
5 slits are slanted with respect of the longitudinal edges of the ribbon.

6. A container which comprises a severable closing member comprising: an elongate Kraft paper ribbon having first and second planar surfaces and an imaginary longitudinal axis bisecting said planar surfaces;
10 an adhesive layer overlaying and co-extensive with said first planar surface; and a release means overlaying and co-extensive with said second planar ribbon surface; said elongate ribbon being provided
15 with a plurality of uniformly spaced narrow slits extending in a longitudinal direction parallel to the longitudinal edges of said ribbon and extending through said ribbon and in series along the imaginary longitudinal axis so that said closing member may be
20 facilely severed by contact along said plurality of spaced openings.

18.

7. A container as claimed in any of claims 1 to 6 which comprises a lid and a body portion.
8. A container as claimed in any of claims 1 to 6 which comprises top opening flaps.
- 5 9. A process of forming a container of any of claims 1 to 8 which comprises applying a severable closing member to the meeting edges of the container; which severable closing member comprises an elongate ribbon having first and second planar surfaces and an
10 imaginary longitudinal axis bisecting said planar surfaces; an adhesive layer overlaying and co-extensive with said first planar surface; and a release means overlaying the co-extensive with said second planar ribbon surface; said elongate ribbon being provided
15 with a plurality of uniformly spaced openings extending through said ribbon and being positioned in series along the imaginary longitudinal axis so that said closing member may be facilely severed by contact along said plurality of spaced openings.
- 20 10. A method of opening a container of claims 1 to 8 which comprises severing a severable closing member comprising

19.

an elongate ribbon having first and second planar surfaces and an imaginary longitudinal axis bisecting said planar surfaces; an adhesive layer overlaying and co-extensive with said first planar surface; and a release means overlaying the co-extensive with said second planar ribbon surface; said elongate ribbon being provided with a plurality of uniformly spaced openings extending through said ribbon and being positioned in series along the imaginary longitudinal axis so that said closing member may be facilely severed by contact along said plurality of spaced openings.

1/2

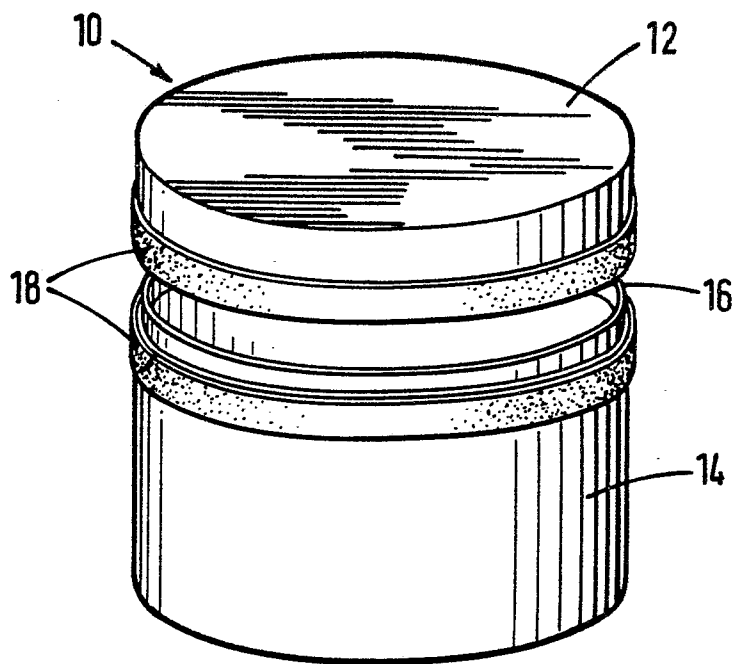


Fig. 1

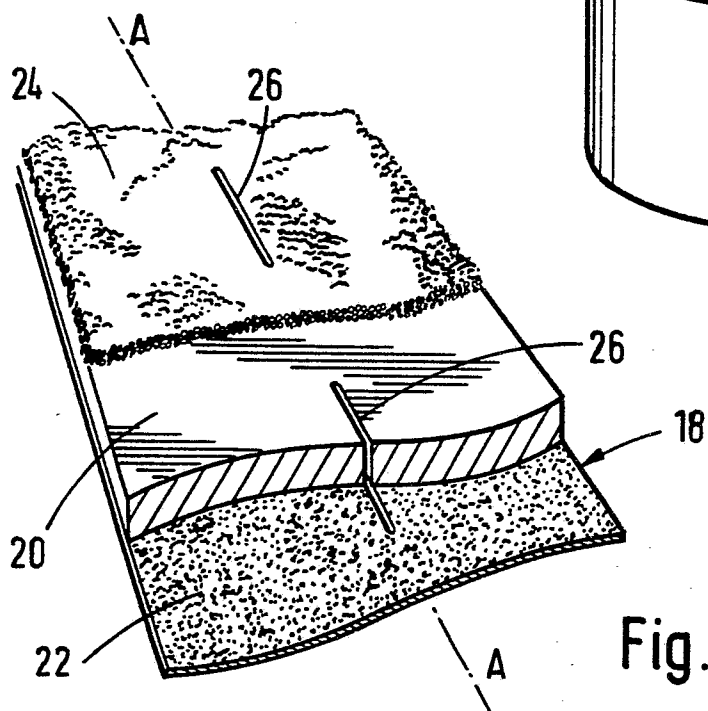


Fig. 2

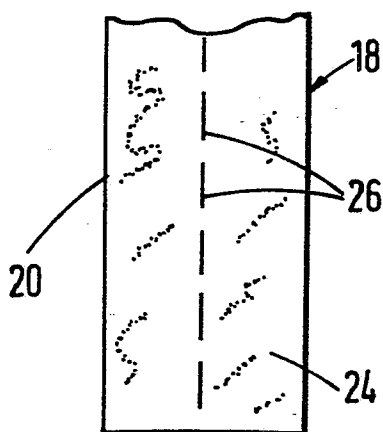


Fig. 3

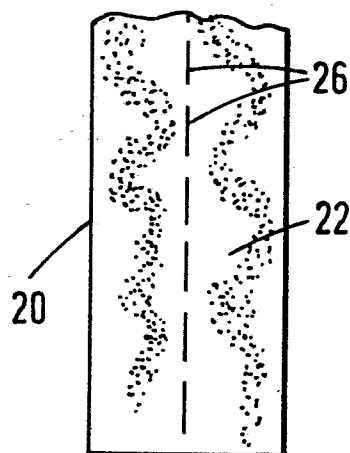


Fig. 4

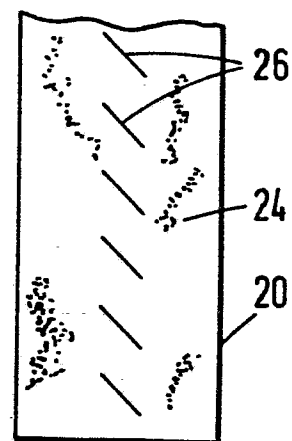


Fig. 5

2/2

