



Europäisches Patentamt
European Patent Office
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(11)

EP 1 669 306 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:
14.06.2006 Bulletin 2006/24

(51) Int Cl.:
B65D 85/10 (2006.01)

(21) Application number: **04257633.0**

(22) Date of filing: **08.12.2004**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR**
Designated Extension States:
AL BA HR LV MK YU

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(54) Side-opening container with audible indication of opening

(57) A side-opening container, which finds particular application as a "wing" pack for elongate smoking articles such as cigarettes, comprises: an outer shell 2; an inner shell 4 mounted in the outer shell 2 for pivotal relative thereto between a closed position, in which the interior of the inner shell 4 is not accessible, and an open position, in which at least a portion of the interior of the inner shell 4 is accessible; and at least one protrusion extending from an inner surface of a top wall 10 of the outer shell 2, wherein the at least one protrusion is engaged by an upper portion of the inner shell 4 to produce a sound during movement of the inner shell 4 from the closed position to the open position. The production of a sound during movement of the inner shell from the closed position to the open position advantageously provides the consumer with an audible indication of closure of the container. To provide the consumer with an audible indication of closure of the container, the at least one protrusion may also engaged by an upper portion of the inner shell 4 to produce a sound during movement of the inner shell 4 from the open position to the closed position.

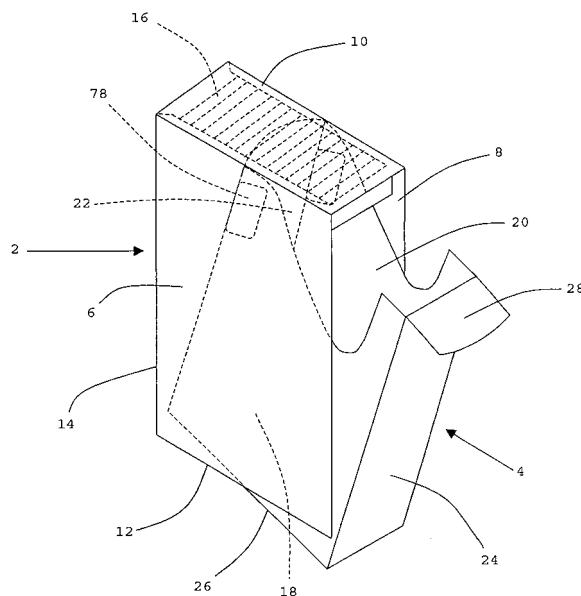


Figure 1

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Description

[0001] The present invention relates to a novel side-opening container, which finds particular application as a "wing" pack for elongate smoking articles such as cigarettes.

[0002] It is known to provide cigarettes in a variety of so-called "hard" packs, which are by folding one or more laminar cardboard blanks. As well as hinge-lid cigarette packs, in which a lid portion integral with a body portion of the pack hinges open along a wall thereof, and slide and shell cigarette packs, in which the cigarettes are housed in a tray or slide that is mounted within a hollow sleeve for longitudinal movement relative thereto, side-opening cigarette packs, in which the cigarettes are housed in an inner shell that is pivotably mounted within an outer shell, are also known. Side-opening cigarette packs having an inner shell pivotably mounted within an outer shell, such as those described, for example, in US-A-3 881 559 and US-A-4 172 520, are commonly referred to as "wing" packs.

[0003] According to a first aspect of the present invention there is provided a side-opening container comprising: an outer shell; an inner shell mounted in the outer shell for pivotal relative thereto between a closed position, in which the interior of the inner shell is not accessible, and an open position, in which at least a portion of the interior of the inner shell is accessible; and at least one protrusion extending from an inner surface of a top wall of the outer shell, wherein the at least one protrusion is engaged by an upper portion of the inner shell 4 to produce a sound during movement of the inner shell 4 from the closed position to the open position.

[0004] The production of a sound during movement of the inner shell from the closed position to the open position advantageously provides the consumer with an audible indication of opening of the container. The sound produced on opening may, for example, advantageously provide the consumer with an audible indication of tampering with the contents of the container.

[0005] Preferably, the at least one protrusion is also engaged by an upper portion of the inner shell 4 to produce a sound during movement of the inner shell 4 from the open position to the closed position. The production of a sound during movement of the inner shell from the open position to the closed position advantageously also provides the consumer with an audible indication of closure of the container. The production of a sound upon closure of the container may, for example, advantageously be employed to provide the consumer with an audible indication that the container has been completely and/or correctly closed.

[0006] Preferably, the inner surface of the top wall of the outer shell is provided with a plurality of substantially parallel corrugations, which are engaged by an upper portion of a side wall of the inner shell. Preferably, the corrugations are substantially perpendicular to the side wall of the inner shell.

[0007] According to a second aspect of the invention there is provided a side-opening container for elongate articles comprising: an outer shell; an inner shell for housing a plurality of elongate articles, the inner shell being mounted in the outer shell for pivotal movement relative thereto between a closed position, in which the interior of the inner shell is not accessible, and an open position, in which at least a portion of the interior of the inner shell is accessible; and lifting means mounted in the inner shell for, in use, raising relative to the inner shell at least one elongate article housed in a portion of the interior of the inner shell that is accessible in the open position.

[0008] The inclusion of lifting means advantageously enables the consumer to more easily remove elongate smoking articles such as cigarettes or other elongate consumer goods housed in the inner shell from the side-opening container.

[0009] The outer shell and inner shell may be made of any suitable material, including but not limited to, for example, cardboard, plastic and/or metal, and may be formed from a single folded laminar blank or from one or more separate, folded laminar blanks. Preferably, the outer shell and inner shell are each formed from a separate, single cardboard blank.

[0010] The invention will be further described by way of example only with reference to the accompanying drawings in which:

Figure 1 is a front perspective view of a side-opening container according to a first embodiment of the invention with the inner shell in the open position; Figure 2 is a plan view of a laminar blank for forming the outer shell of the side-opening container of Figure 1; and

Figure 3 is a plan view of a laminar blank for forming the inner shell of the side-opening container of Figure 1.

[0011] The side-opening container shown in Figure 1 comprises an outer shell 2 and an inner shell 4 which is pivotally mounted within the outer shell 4. The outer shell 2 comprises a front wall 6 and an opposed rear wall 8, a top wall 10 and an opposed bottom wall 12, which connect the front wall 6 and the rear wall 8 along their upper and lower edges respectively, and a left side wall 14, which connects the front wall 6, rear wall 8, top wall 10 and bottom wall 12. The walls 6, 8, 10, 12 of the outer shell 2 thus define an open-sided receptacle within which the inner shell 4 is housed. A corrugated flap 16, which is adjacent and parallel to the inner surface of the top wall 10 of the outer shell 2, extends from the edge of top wall 10 of the outer shell 2 adjacent to the side wall 14 thereof.

[0012] The inner shell 4 has a front wall 18 and an opposed rear wall 20, a left side wall 22 and an opposed right side wall 24, which connect corresponding side edges of the front wall 18 and the rear wall 20, and a bottom wall 26, which connects the lower edges of the front wall

18, rear wall 20, left side wall 22 and right side wall 24. The walls 18, 20, 22, 24 and 26 of the inner shell 4 thus define an open-topped receptacle within which, for example, a bundle of cigarettes or other elongate smoking articles may be housed. A pull tab 28 extends from the upper edge of the right side wall 24 of the inner shell 4.

[0013] Elongate cardboard blanks from which the outer shell 2 and the inner shell 4 of the pack of Figure 1 may be formed are shown in Figures 2 and 3 respectively. Corresponding reference numbers are used in Figures 2 and 3 for elements of the outer shell blank and the inner shell blank that are similar or related to elements of the pack of Figure 1 previously described. Each blank includes various panels and/or tabs which when folded about appropriate score lines (shown in Figures 2 and 3 by broken lines) form the required part of the side-opening container shown in Figure 1; the term score line is used to indicate a line formed by, for example, creasing, scoring, perforating, embossing or otherwise compressing, cutting and/or weakening the blanks.

[0014] The outer shell blank shown in Figure 2 comprises a front wall panel 8 and a rear wall panel 10 on either side of a top wall panel 10, to which they are connected by a first score line 30 and a parallel second score line 32, respectively. An inner bottom wall panel 12a is joined to the lower rear edge of the rear wall panel 8, distant from the top wall panel 10, along a third score line 34. An outer bottom wall panel 12, of substantially the same shape and size as the inner bottom wall panel 12a, is similarly joined to the lower rear edge of the front wall panel 6, distant from the top wall panel 10, along a fourth score line 36. A flap panel 38 is connected to the front edge of the top wall panel 10 along a fifth score line 40 and a corrugated rear flap panel 16 is connected to the rear edge of the top wall panel 10 along a sixth score line 42, parallel to the fifth score line 40. The front flap panel 38 is divided into two portions, an inner portion 38' and an outer portion 38", by a seventh score line 44, parallel to the fifth score line 40.

[0015] During erection of the outer shell 2 from the blank shown in Figure 2, the front wall panel 6 and the rear wall panel 8 are folded through 90 degrees about the first score line 30 and the second score line 32, respectively, and the inner bottom wall panel 12a and the outer bottom wall panel 12 are similarly folded through 90 degrees about the third score line 34 and the fourth score line 36, respectively. The inner surface of the outer bottom wall panel 12, facing the top wall panel 10, is then adhered to the outer surface of the inner bottom wall panel 12a. The corrugated rear flap panel 16 is folded through 180 degrees about the sixth score line 42 and adhered to the inner surface of the top wall panel 10. The inner portion 38' of the front flap panel 38, which is folded through 180 degrees about the fifth score line 40 during erection of the outer shell 2, is also adhered to the inner surface of the top wall panel 10 and the outer portion 38" of the front flap panel 38 is folded through 90 degrees about the seventh score line 44, so that it is substantially

perpendicular to the inner portion 38' of the front flap panel 38 and the top wall panel 10.

[0016] The outer shell blank further comprises an inner left side wall panel 14a which is connected to the rear edge of the rear wall panel 8 along an eighth score line 46. An outer left side wall panel 14, of substantially the same shape and size as the inner left side wall panel 14a, is connected to the rear edge of the front wall panel 6 along a ninth score line 48. To erect the outer shell 2, the inner left side wall panel 14a of and the outer bottom wall panel 14 of the outer shell blank are folded through 90 degrees about the eighth score line 46 and the ninth score line 48, respectively, and the inner surface of the overlying outer left side wall panel 14 adhered to the outer surface of the inner left side wall panel 14a.

[0017] The outer shell blank further comprises a rear wall reinforcement flap 50, which is connected to the front edge of the rear wall panel 8 along a tenth hinge line 52, and a front wall reinforcement flap 54, which is connected to the front edge of the front wall panel 6 along an eleventh hinge line 56. During erection of the outer shell from the blank shown in Figure 2, the front wall reinforcement flap 54 and the rear wall reinforcement flap 50 are folded through 180 degrees about the eleventh score line 56 and the tenth score line 52 and adhered to the inner surface of the front wall panel 6 and the rear wall panel 8, respectively.

[0018] With reference to Figure 3, the inner shell blank comprises a front wall panel 18 and a rear wall panel 20, which are disposed on either side of a right side wall panel 24, to which they are connected by a first score line 60 and a parallel second score line 62, respectively. An inner left side wall panel 22a having a rounded upper edge is joined to the side of the front wall panel 18 distant from the right side wall panel 24 by a third score line 64. An outer left side wall panel 22, of substantially the same shape and size as the inner left side wall panel 22a, is similarly joined to the side of the rear wall panel 20 distant from the right side wall panel 24 by a fourth score line 66. A pull tab panel 28 is connected to the upper edge of the right wall panel 24 along a fifth score line 68 and an lower tab panel 28a is connected to the lower edge of the right side wall panel 24 along a sixth score line 70, parallel to the fifth score line 68.

[0019] During erection of the inner shell 4 of the side-opening container of Figure 1 from the blank shown in Figure 3, the front wall panel 18 and the rear wall panel 20 are folded through 90 degrees about the first score line 60 and the second score line 62 respectively and the inner left side wall panel 22a and the outer left side wall panel 22 are similarly folded through 90 degrees about the third score line 64 and the fourth score line 66, respectively. The inner surface of the outer left side wall panel 22, facing the right side wall panel 10, is then adhered to the outer surface of the inner left side wall panel 22a. As shown in Figure 3, the upper edges of the front wall panel 18 and the rear wall panel 20 of the blank for the inner shell 4 are profiled to, in use, facilitate the re-

removal of elongate smoking articles such as cigarettes or other consumer goods housed in the inner shell 4, from the interior of the inner shell 4 when in the open position.

[0020] The inner shell blank further comprises an inner bottom wall panel 26a which is connected to the lower edge of the rear wall panel 20 along a seventh score line 72. An outer bottom wall panel 26, of substantially the same shape and size as the inner bottom wall panel 26a, extends from the lower edge of the front wall panel 18. The outer bottom wall panel is divided into two portions: a first portion 26' proximate the right side wall panel 24, which is connected to the front wall panel 18 along an eighth score line 74, and a second portion 26'' proximate the inner left side wall panel 22a, which is connected to the first portion 26' along a hinge line 76 (shown in bold broken lines in Figure 3), perpendicular to the eighth score line 74. A pair of opposed elongate flaps 78, cut from opposed upper portions of the front wall panel 18 and rear wall panel 20, extend from the inner left side wall panel 22a and the outer left side wall panel 22 inner shell blank along the about the third score line 64 and the fourth score line 66 respectively.

[0021] During erection of the inner shell 4, the lower tab panel 28a is folded through 90 degrees about the sixth hinge line 70 and the inner bottom wall panel 26a and the first portion 26' of the outer bottom wall panel 26 are similarly through 90 degrees about the seventh score line 72 and the eighth score line 74 respectively. The outer surface of the inner bottom wall panel 26a is then adhered to the inner surface of the overlying first portion 26' of the outer bottom wall panel 26.

[0022] To assemble the formed side-opening container shown in Figure 1, the inner shell 4 is secured to the outer shell 2 by adhering the overlying second portion 26'' of the outer bottom wall panel 26 of the inner shell 4 to the inner bottom wall panel 12a of the outer shell 2. To help retain the pack in the closed position until the consumer pulls on the pull tab 28 of the inner shell 4, the dimensions of the inner shell 4 and outer shell 2 are preferably chosen such that the inner shell 4 fits snugly within the outer shell 2, with the front wall 18 and the rear wall 20 thereof abutting the front wall 6 and the rear wall 8, respectively, of the outer shell 2.

[0023] It will be appreciated that the precise order in which the various panels of the outer shell blank and the inner shell blank of Figures 2 and 3, respectively, are folded and adhered to one another to form the side-opening container of Figure 1 may be varied depending upon, for example, the apparatus used to produce the formed container and/or the nature of the consumer goods to be packaged therein. Where side-opening containers according to the invention are employed to package cigarettes or other elongate smoking articles, the blanks shown in Figures 2 and 3 may be placed together with a bundle of cigarettes wrapped in, for example, metallised paper or aluminium foil in a pocket on a wrapping wheel that is indexable between a number of stations and, as the pocket indexes around from station to station, the

blanks folded in stages around the wrapped bundle of cigarettes to form the hinge-lid container as is well known in the art.

[0024] The formed side-opening container of Figure 1 may further comprise an elongate lifting strip (not shown), mounted in the inner shell 4, having a side portion of substantially the same size and shape as the right side wall 24 of the inner shell 4 and a base portion, extending from the side portion, of substantially the same size and shape as the bottom wall 26 of the inner shell 4, the base portion being divided into an inner section, proximate the side portion, and an outer section, distant from the side portion, by a transverse hinge line. The lifting strip further comprises a pull tab extending from the upper end of the side portion thereof, distant from the base portion. During erection of the side-opening container, the lifting strip is mounted in the inner shell 2 with the side portion thereof parallel and adjacent to the right side wall 24 of the inner shell 4 and the base portion thereof parallel and adjacent to the bottom wall 26 of the inner shell 4, and the outer surface of the outer section of the base portion distant from the side portion and the right side wall 24 of the inner shell 24 adhered to the inner surface of the bottom wall 26 of the inner shell 4. The lifting strip may alternatively be formed as an integral part of the inner shell blank. In use, with the inner shell 2 in the open position shown in Figure 1, the consumer pulling upwards on the pull tab of the lifting strip causes the inner section of the base portion of the lifting strip to pivot relative to the outer section thereof about the transverse hinge line, thereby raising the contents of the container housed in the inner shell 4 that rest thereon upwards relative to the inner shell 4, facilitating their removal. The inclusion of such a lifting strip is particularly advantageous where the side-opening container is used to package elongate consumer goods and, in particular, elongate smoking articles such as cigarettes.

[0025] In use, pulling on the pull tab 28 of the inner shell 4 causes the first portion 26' of the outer bottom wall panel 26 to pivot downwardly relative to the bottom wall panels 12, 12a of the outer shell 2 about the hinge line 76 to the open position shown in Figure 1. As the inner shell 4 reaches the position shown in Figure 1, the pair of opposed flaps 76, which are folded outwardly about the third score line 64 and the fourth score line 66 and extend from the front and rear longitudinal edges of the trailing left side wall of the erected inner shell 4, abut the inner longitudinal edges of the front wall reinforcement flap 54 and rear wall reinforcement flap 50, respectively, of the outer shell 2, thereby preventing further pivotal movement of the inner shell 4 relative to the outer shell 2.

[0026] To subsequently close the pack, the consumer pushes on the pull tab 28 and/or the right side wall 24 of the inner shell 4 to cause the first portion 26' of the outer bottom wall panel 26 to pivot upwardly relative to the bottom wall panels 12, 12a of the outer shell 2 about the hinge line 76, thereby returning the inner shell 4 to the

closed position.

[0027] As the inner shell 4 pivots about the hinge line 76 between the closed and open positions, the curved upper edges of the overlying inner 22a and outer 22 left side wall panels engage the corrugations provided on the outer surface of the inwardly folded top wall flap 16 producing a sound and so providing the consumer with an audible indication of both opening and closure of the container. In addition to producing a sound, frictional engagement between the upper edge of the trailing, left side wall of the inner shell 4 and the corrugations of the top wall flap 16 of the outer shell 2 also advantageously helps to prevent the container from opening and closing without the application of a force to the inner shell 4 by the consumer.

[0028] While the invention has been exemplified above with reference to a side-opening container comprising an outer shell having a side wall in addition to a front wall, rear wall, top wall and bottom wall, side-opening containers according to the invention may comprise an outer shell with a pair of opposed open sides, having only a front wall, rear wall, top wall and bottom wall and no side walls. To open such containers, the consumer may push, through an open side of the outer sleeve, on a side wall of the inner shell in order to pivot the inner shell from the closed position to the open position. Where, as shown in Figure 1, the outer shell does include a side wall, a cut-out may be provided therein to enable the consumer to similarly push on a side wall of the inner shell in order to open the container.

[0029] In addition, while the invention has been exemplified above with reference to a side-opening container having a plurality of corrugations provided on a flap folded against the inner surface of the top wall of the outer shell, side-opening containers according to the invention may be provided with one or more protrusions that are, for example, embossed on or adhered to the inner surface of the top wall of the outer shell. Furthermore, it will be appreciated that through appropriate choices of, for example, the dimension(s) and orientation(s) of the protrusion(s), side-opening containers according to the invention may be provided wherein at least one protrusion is engaged by an upper portion of the inner shell to produce a sound during movement of the inner shell only from the closed position to the open position.

[0030] Finally, while the invention has been exemplified with reference to the packaging of elongate smoking articles such as cigarettes, it will be appreciated that side-opening containers according to the invention may also be advantageously employed to package a variety of other consumer goods such as, for example, cosmetics, confectionery products and other foodstuffs.

Claims

1. A side-opening container comprising:

an outer shell 2;

an inner shell 4 mounted in the outer shell 2 for pivotal relative thereto between a closed position, in which the interior of the inner shell 4 is not accessible, and an open position, in which at least a portion of the interior of the inner shell 4 is accessible; and

at least one protrusion extending from an inner surface of a top wall 10 of the outer shell 2,

wherein the at least one protrusion is engaged by an upper portion of the inner shell 4 to produce a sound during movement of the inner shell 4 from the closed position to the open position.

2. A side-opening container according to claim 1 wherein the at least one protrusion is engaged by an upper portion of the inner shell 4 to produce a sound during movement of the inner shell 4 from the open position to the closed position
3. A side-opening container according to claim 1 or 2 wherein the inner surface of the top wall 10 of the outer shell 2 is provided with a plurality of substantially parallel corrugations, which are engaged by an upper portion of a side wall 22 of the inner shell 4.
4. A side-opening container according to claim 3 wherein the plurality of substantially parallel corrugations are substantially perpendicular to the side wall 22 of the inner shell 4.
5. A side-opening container according to any preceding claim further comprising lifting means mounted in the inner shell 4 for, in use, raising contents of the container housed in a portion of the interior of the inner shell 4 that is accessible in the open position relative to the inner shell 4.
6. A side-opening container for elongate articles comprising:
 - an outer shell 2;
 - an inner shell 4 for housing a plurality of elongate articles, the inner shell 4 being mounted in the outer shell 2 for pivotal movement relative thereto between a closed position, in which the interior of the inner shell 4 is not accessible, and an open position, in which at least a portion of the interior of the inner shell 4 is accessible; and
 - lifting means mounted in the inner shell 4 for, in use, raising relative to the inner shell 4 at least one elongate article housed in a portion of the interior of the inner shell 4 that is accessible in the open position.

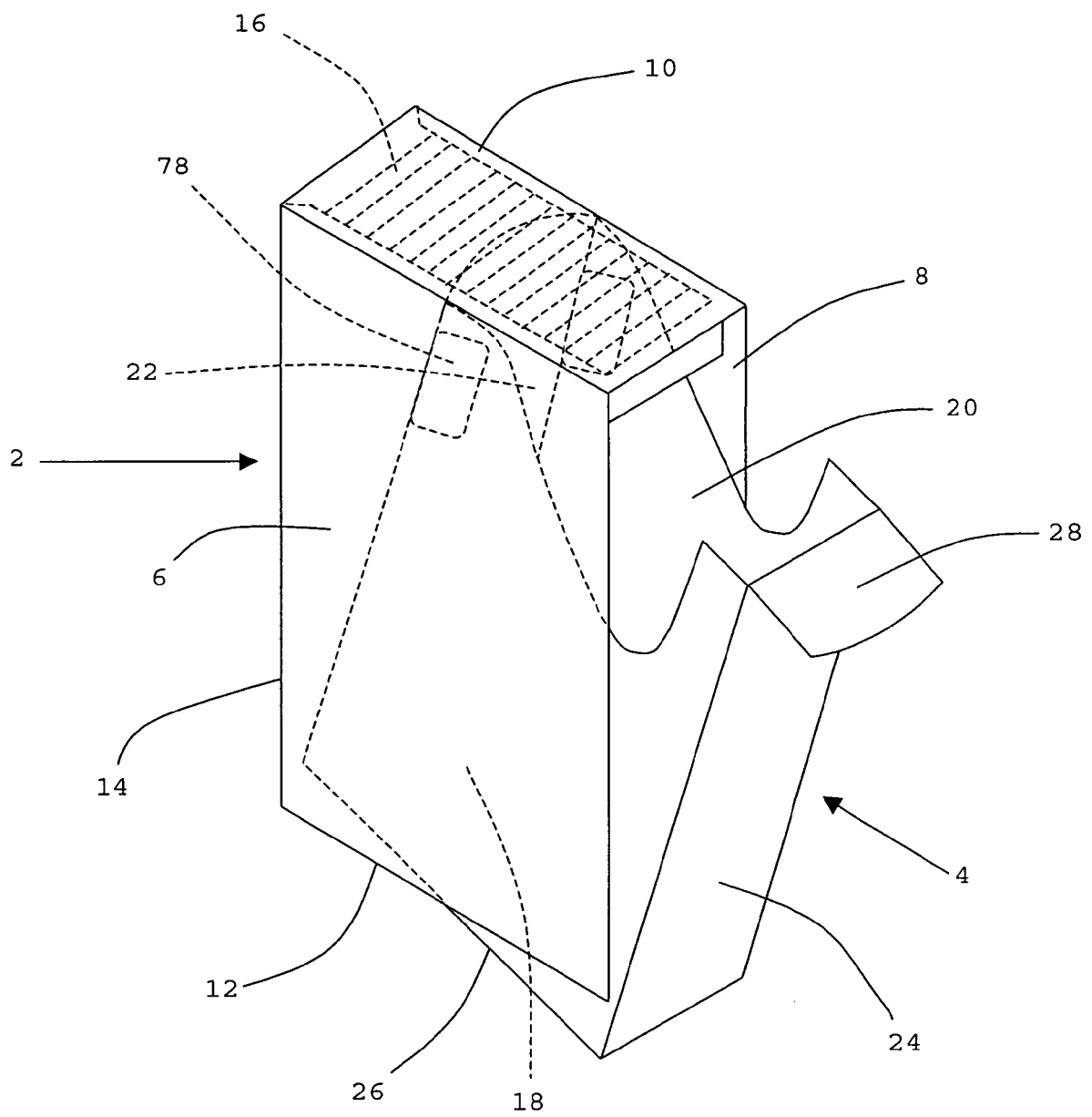


Figure 1

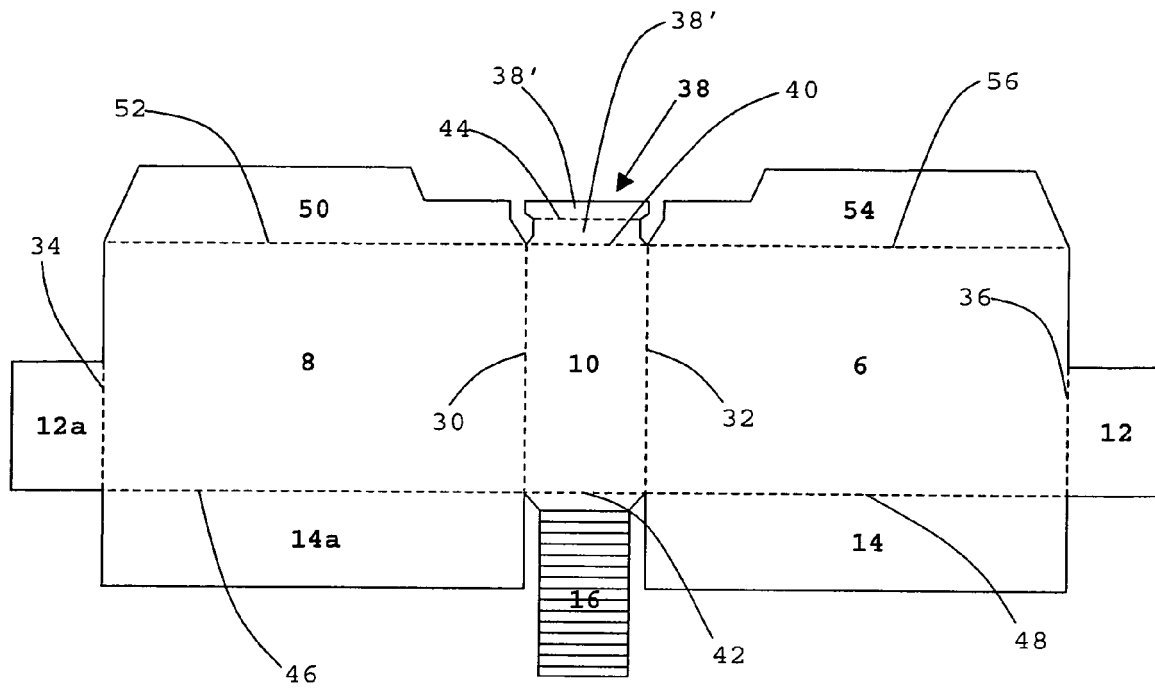


Figure 2

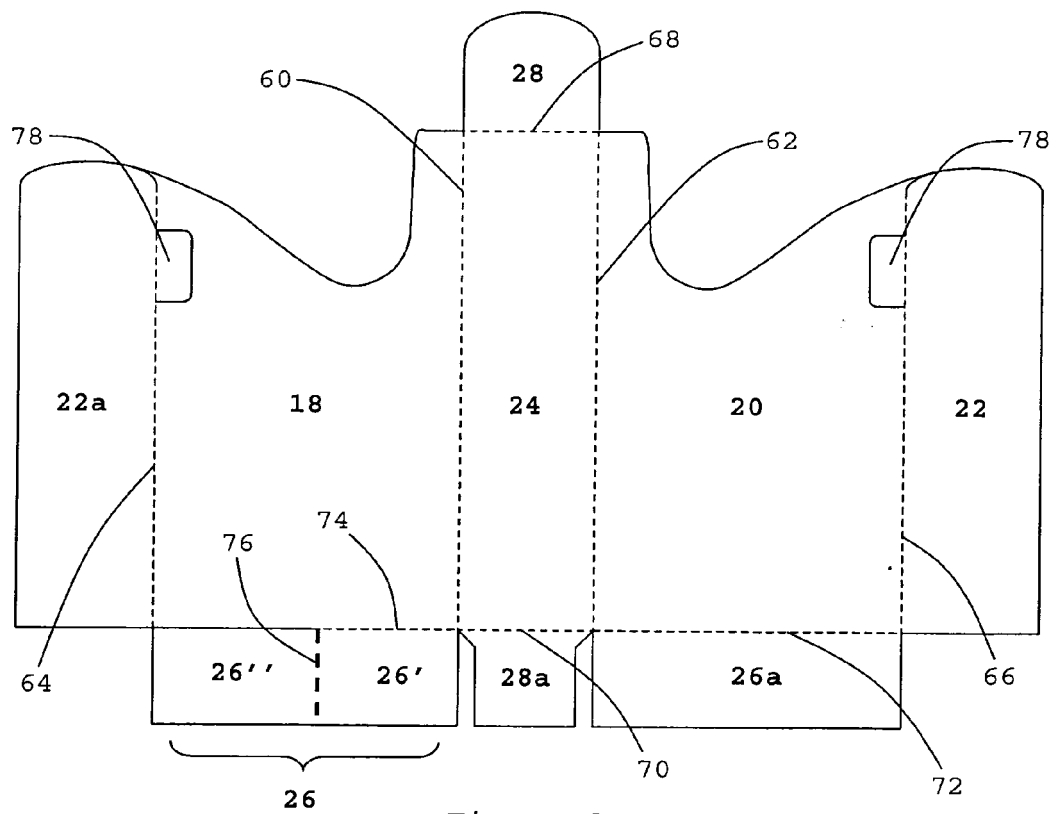


Figure 3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 25 7633

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 22 December 2005	Examiner Rodriguez Gombau, F
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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EPO FORM 1503 03/02 (P04C01)



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 04 25 7633

DOCUMENTS CONSIDERED TO BE RELEVANT				
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
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The present search report has been drawn up for all claims				
Place of search Munich		Date of completion of the search 22 December 2005	Examiner Rodriguez Gombau, F	
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document				

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EPO FORM 1503 03 82 (P04C01)

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



European Patent
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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 04 25 7633

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-4

Side-opening container with audible indication of opening

2. claims: 5,6

Side-opening container with lifting means

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

22-12-2005

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