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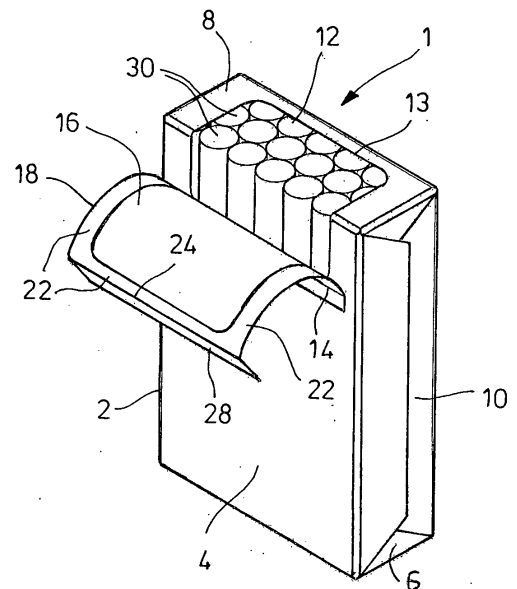
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(54) **PACKAGE OF TOBACCO-RELATED ARTICLES**

(57) A package of tobacco-related articles comprises a sealed enclosure (2) comprising flexible barrier sheet material wrapping a charge of tobacco-related articles (30) and forming a front wall (4), a rear wall, two lateral walls (6), a top wall (8) and a bottom wall, the front wall (4) having a larger area than the top wall (8). An access opening (12) extends over at least part of the top wall (8) and at least part of the front wall (4) and is covered by a re-sealable flap (20) which is foldable about a hinge line (14) to permit access to the interior of the package. The hinge line (14) of the flap (20) is located at the front wall (4) of the enclosure (2). Additionally, the package may comprise an outer shell, into which the enclosure (2) is inserted.



(c)

FIG.1

EP 3 034 432 A1

Description

[0001] The invention relates to a package of tobacco-related articles.

[0002] WO 98/22368 A discloses a pack or package comprising a frame (including a major panel, two side wings, and an end flap) and a sealed enclosure made of flexible barrier sheet material, which wraps a smoking-article charge and the frame. The sealed seams of the enclosure at least partially overlay the frame. The enclosure can have a re-sealable access aperture.

[0003] A similar pack is known from WO 98/22367 A. In this case, an access aperture in the sealed enclosure extends from a top side to a major side of the enclosure and can be closed by a re-sealable adhesive cover, which is foldable about a hinge line at an edge of the top side (remote from said major side) to permit access to the interior of the package. Parts of the frame provide a counter-pressure when the cover is re-sealed. The pack can be inserted in an additional rigid outer pack.

[0004] WO 00/01594 A discloses a lamella (tacky or adhesive label) for application to the barrier sheet material in the area of the access opening of the sealed enclosure of a pack similar to the packs explained before. In this way, a re-sealable flap having adhesive edges is formed, which is foldable about a hinge line located at an edge of the top side of the pack (remote from the major side). The label comprises two layers (plus adhesive), wherein the inner layer includes a major portion and a non-adhesive minor portion separated from the major portion by a cut through the inner layer. The minor portion serves as a gripping tab, wherein the cut has the effect that the gripping tab somewhat lifts from the barrier sheet material underneath the gripping tab, which facilitates the handling of the tab. The manufacture of the lamella involves some expenditure, however.

[0005] The object of the invention is to improve the packs explained so far, in particular with respect to the handling of a re-sealable flap.

[0006] This object is achieved by the package of tobacco-related articles defined in claim 1. Advantageous versions of the invention follow from the dependent claims. Claim 14 relates to a process of manufacturing such a package.

[0007] The package of tobacco-related articles according to the invention comprises a sealed enclosure comprising flexible barrier sheet material, which wraps a charge of tobacco-related articles (e.g., cigarettes) and forms a front wall, a rear wall, two lateral walls, a top wall and a bottom wall. The lateral walls may be flat, but other designs (e.g. roundish or with bevelled edge zones) are possible as well. Moreover, the term "wall" is not to imply that these walls are rigid. Using this terminology (and irrespective of the actual orientation of the package), the front wall has a larger area than the top wall. An access opening extends over at least part of the top wall and at least part of the front wall and is covered by a re-sealable flap which is foldable about a hinge line to permit access

to the interior of the package. According to the invention, the hinge line of the flap is located at the front wall of the enclosure. In this context, the edge between the front wall and the top wall of the enclosure is still considered as part of the front wall so that, in an extreme case, the hinge line of the flap may be located at the edge between front wall and top wall of the enclosure.

[0008] Thus, concerning the sealed enclosure and the re-sealable flap, the package according to the invention is generally similar to the package disclosed in WO 98/22367 A and keeps its contents fresh. The hinge line of the flap, however, is not arranged at the edge where the top wall meets the rear wall, but it is located at the front wall of the enclosure. To get access to the interior of the package, the user lifts the flap at the top wall and pulls it downwards along the upper area of the front wall, which is just the other way round compared to the prior art package. In the invention, the handling of the flap is generally easier because the end of the flap opposite to its hinge line, i.e. the end where the flap is grasped and lifted from the enclosure, is presented at the top wall of the package. To this end, the flap preferably comprises a gripping tab located in an area remote from the hinge line of the flap. The gripping tab facilitates the grasping of the flap.

[0009] In advantageous embodiments of the invention, the flap comprises a layer which includes barrier sheet material cut from the barrier sheet material forming the front wall and the top wall of the enclosure. This layer of the flap is covered by a label having adhesive edge zones extending beyond the cut edges of said layer and being adapted to seal the flap when the access opening is covered. In an area opposite to the hinge line of the flap and beyond said barrier sheet material layer of the flap, the label can be folded back about a fold line, thus forming a gripping tab, which is accessible at the top wall of the enclosure. For sealing purposes, there can be an adhesive zone between the fold line of the gripping tab and the cut edge of the barrier sheet material layer of the flap close to this fold line. Preferably, the gripping tab is non-adhesive. The label can be provided with a bottom side which is completely covered with an adhesive, which forms the adhesive edge zones of the label and permits the label to be glued to the barrier sheet material layer of the flap in an easy manner. In the area of the gripping tab, the adhesive can be removed or neutralised or covered by, e.g., paper or some film material.

[0010] In these embodiments, the fold line defining the gripping tab can be a fold line at which the gripping tab is folded back by about 180°. Since the gripping tab will not stay in such a strongly folded state but will lift somewhat, it can be easily grasped in order to open the flap. To this end, a particular treatment of the label in the area of the fold line is generally not required so that the label can be manufactured at relatively low cost.

[0011] The portion of the label extending at the front wall of the enclosure may have a large length, even if that is not required to cover a large access opening, e.g.

a length of at least 60%, at least 65%, at least 70%, at least 75%, at least 80% or at least 85% of the length of the front wall, wherein the length of the front wall is measured between the edges where the bottom wall and the top wall of the enclosure are connected to the front wall. A large label may be used as a striking marker or as a carrier for information. Since the label can be produced and, e.g., printed with information in a process independent of the preparation of the barrier sheet material, the overall manufacturing process gets more flexible. However, short labels are possible as well, depending on the size of the access opening.

[0012] Generally, the label can be designed in multiple ways. For example, the label may be blank, it may be printed with decorative elements and/or information, it may be coloured or non-coloured, it may comprise straight or non-straight edges, etc. Moreover, the label may be provided with punched holes or punched graphical elements. The latter will not deteriorate the sealing effect of the enclosure if such holes or punched elements overlay barrier sheet material of the enclosure after the label has been placed. Any combinations of different design elements of the label are conceivable as well.

[0013] The size of the access opening and, correspondingly, the length of the flap may vary, depending on the overall construction. To be more precise, in a long-flap design, the portion of the access opening extending at the front wall of the enclosure may have a length of at least 60% of the length of the front wall or at least 75% of the length of the front wall. In a short-flap design, that portion of the access opening may have a length of, e.g., at most 40% of the length of the front wall or at most 30% of the length of the front wall. An access opening of a short length may be combined with a long label, however, as already mentioned. Any intermediate values for the extension of the access opening on the front wall of the enclosure are possible as well.

[0014] To stabilize the package, an inner frame can be provided between the charge of tobacco-related articles and the enclosure. The inner frame, e.g. made of cardboard, has a shape so that it does not obstruct the area of the access opening. Generally, it is not required that the inner frame encompasses the tobacco-related articles completely because the barrier sheet material has already some stiffness and the tobacco-related articles also contribute to stabilisation. Examples for an inner frame are well known in the art, e.g. from WO 98/22368 A or from WO 98/22367 A.

[0015] The package according to the invention can be marketed in a form as described so far. In this case, the enclosure can be printed, e.g., with a brand name and information.

[0016] In further embodiments, the package additionally comprises an outer shell, into which the enclosure is inserted. The outer shell can be made, e.g., of cardboard or of plastics material.

[0017] In advantageous embodiments of this kind, the outer shell is designed as a hinge lid pack comprising a

lid which can be swivelled about a hinge line located at a rear wall of the outer shell. When the enclosure is inserted into the outer shell, the front wall of the enclosure faces a front wall of the outer shell. The access opening of the enclosure is accessible when the lid is open. Such hinge lid packs are well known in the art and are widely spread. Generally, they have a cutout at the front wall to facilitate access to the smoking articles contained therein when the lid is open.

[0018] The use of an enclosure including a flap having a folded gripping tab at the top wall, as explained above, with a hinge lid pack provides the great advantage that the gripping tab can be easily grasped when the lid is open in order to handle the flap. When the lid is closed again, the folded gripping tab fits under the lid, without problems, and keeps its folded shape. In contrast thereto, if the flap were arranged the other way round with the gripping tab placed at the front wall of the enclosure, it would require some effort to grip the tab after the lid has been opened or to re-arrange the tab correctly when the lid is to be closed.

[0019] In other embodiments, the package not only comprises an outer shell but also an inner shell, wherein the enclosure is inserted into the inner shell and the inner shell is moveable with respect to the outer shell from a closing position to an access position in which the access opening of the enclosure is accessible. For example, the enclosure (including its contents) can be inserted into the inner shell of a package which is designed as described in WO 2011/060930 A, the front wall of the enclosure facing a front wall of the inner shell. In this case, the inner shell can be moved upwardly in an outer shell, wherein a lid hingedly connected to the outer shell automatically opens. When the inner shell is in its lifted state, the flap and the access opening of the enclosure are readily accessible. The disclosure of WO 2011/060930 A is incorporated by reference.

[0020] Generally, if the material of the flap is relatively stiff, the flap may tend to close by itself after it has been opened to get access to the contents of the package. To avoid this self-closing effect, the flap can comprise, preferably in the region of the top wall of the enclosure, a self-sticking area comprising a sticking means facing outwardly. The self-sticking area can be used to stick or adhere the flap, in the opened state when the flap is bent or folded backwards, to the front wall of the enclosure or to the front wall of an outer shell, respectively. To close the flap again, it is easy to pull off the self-sticking area from the front wall of the enclosure or the outer shell. The sticking means of the self-sticking area can be provided in various ways, e.g. with a pressure-sensitive adhesive (which preferentially sticks better to itself and to the material of the flap than to the material of the enclosure or outer shell, respectively, to avoid adhesive remainders at the wrong face), or with suction devices, etc.

[0021] In the following, the invention is further described by means of embodiments. The drawings show in

Figure 1 three-dimensional views of a first embodiment of the package according to the invention, in which the package comprises a sealed enclosure in which an access opening can be closed by a re-sealable flap, i.e. in part (a) showing the front wall, the top wall and a lateral wall, the flap being closed, in part (b) showing the rear wall, the top wall and the other lateral wall, the flap being closed, and in part (c) showing the front wall, the top wall and a lateral wall, the flap being open,

Figure 2 a three-dimensional view of a variant of the first embodiment of the package according to the invention, showing the front wall, in which a label of the re-sealable flap is longer than in the first embodiment,

Figure 3 three-dimensional views of a second embodiment of the package according to the invention, in which the sealed enclosure including the re-sealable flap of Figure 1 is inserted into an outer shell designed as a hinge lid pack, i.e. in part (a) with the lid opened and the flap closed and in part (b) with the lid opened and the flap opened, and

Figure 4 three-dimensional views of a third embodiment of the package according to the invention, in which the sealed enclosure including the re-sealable flap of Figure 1 is inserted into an inner shell movable with respect to an outer shell having a lid, i.e. in part (a) with the lid opened and the flap closed and in part (b) with the lid opened and the flap opened.

[0022] Figure 1 illustrates an embodiment of a package 1 of tobacco-related articles in three three-dimensional views, i.e. Figure 1(a), Figure 1(b) and Figure 1(c).

[0023] The package 1 comprises an enclosure 2 made of flexible barrier sheet material. Such barrier sheet material is well-known in the art. When sealed, it keeps the moisture and the aromas of the tobacco-related articles contained therein. In the embodiment, the flexible barrier sheet material is arranged as a wrapping about a charge of cigarettes. This wrapping forms a front wall 4 (see Figure 1(a)), a rear wall 5 (see Figure 1(b)), two lateral walls 6 and 7, a top wall 8 and a bottom wall 9 (which is not directly visible in the figures). In this context, the term "wall" is used instead of "side", which does not have a special meaning, however, and does not imply any properties with respect to rigidity. The designation of the walls refers to an upright position of the package 1, corresponding to practical use and as shown in the figures, but does not include further implications. In any case, the front wall 4 has a larger area than the top wall 8. The enclosure 2 is sealed, e.g. by means of heat-sealing, gluing, and/or

friction or by other means known in the art, at seams 10. Two of these seams 10 are visible in Figure 1(a) and Figure 1(b).

[0024] As shown in Figure 1(c), an access opening 12 permits access to the interior of package 1. The access opening 12 extends over part of the top wall 8 and part of the front wall 4 and can be covered by a re-sealable flap.

[0025] In the embodiment, the access opening 12 is defined by a cut-line 13 made as a straight cut through the material of the enclosure 2 along three sides of the access opening 12, whereas the fourth side of the access opening 12 is defined by a hinge line 14. In this way, a layer 16 of barrier sheet material is partially cut out from the enclosure 2. To the outside of this layer 16, a flexible, adhesive label 18 is glued by means of an adhesive covering most of the area of the inner face of the label 18. In this way, the flap (designated by 20) is formed.

[0026] The area of the label 18 is greater than that of the layer 16 so that adhesive edge zones 22 are provided (see Figure 1(c)). At a fold line 24, the label 18 is sharply bent backwards in order to form a gripping tab 26. The inner face 28 of the gripping tab 26 is not adhesive, which can be achieved, e.g., by removing the adhesive of the label 18 in this area or by covering it with a film material. A zone between the fold line 24 and the cut edge of the layer 16 is adhesive, however.

[0027] Figure 1(c) shows the package 1 in a state when the flap 20 has been folded back to open the access opening 12. The contents of the package 1, i.e. cigarettes 30, can be conveniently removed. The flap 20 deflects from the enclosure 2 along the hinge line 14. The hinge line 14 does not have to be a precise line, but it roughly describes where the flap 20 starts to deflect from the enclosure 2.

[0028] When the flap 20 is closed, the adhesive in the edge zones 22 and the zone adjacent to the fold line 24 seals the package 1. The flap 20 can be easily opened by pulling at the gripping tab 26 and deflecting the flap 20 to the position shown in Figure 1(c).

[0029] Moreover, an inner frame made of cardboard is arranged between the cigarettes 30 and the inner face of the enclosure 2. The inner frame partially surrounds the bundle of cigarettes 30 to provide some rigidity to the package 1, in particular after part of the cigarettes 30 has been taken out of the package 1. In Figure 1(c), the inner frame is not visible because it is not present in the area of the access opening 12. Inner frames are well known in the art, e.g. from WO 98/22368 A and WO 98/22367 A mentioned above, and need not be explained in more detail.

[0030] A package 1' very similar to the package 1 is shown in Figure 2, in a three-dimensional view. Because of the similarity, generally the same reference numerals are used as in Figure 1. The package 1' comprises a label 18' which is much longer than the label 18 in Figure 1. Figure 1' does not show the access opening of package 1', which may be relatively large so that it is only slightly

smaller than the label 18' and the hinge line of the re-sealable flap comprising the label 18' is located just above the bottom wall 9 of package 1'. On the other hand, the access opening may be much smaller than label 18', e.g. sized as in the embodiment according to Figure 1, in which case the hinge line of the flap is located closer to the top wall 8 of the package 1'.

[0031] An advantage of the large area of the label 18' in Figure 2 is the possibility of using this area as an information carrier or marker, which can be prepared in a process independent of the manufacture of the rest of the package 1'.

[0032] Figure 3 illustrates a second embodiment of a package of tobacco-related articles in two three-dimensional views, i.e. Figure 3(a) and Figure 3(b).

[0033] In this embodiment, the package is formed by inserting the package 1 explained by means of Figure 1 into an outer shell 40. The outer shell 40 is designed as a conventional hinge lid pack which comprises a main part 42 having a front side 43 and a lid 44, which is swivally connected to the main part 42 at a hinge line located at the rear side of the main part 42. In the embodiment, the outer shell 40 is made of cardboard and further includes a collar 46 having a cutout 48, as shown in Figure 3 (a) and Figure 3(b). When the lid 44 is closed, the collar 46 is not visible.

[0034] The package according to this embodiment is used in a very similar way as the package according to Figure 1. After the lid 44 has been opened, the gripping tab 26 is accessible and serves to open the flap 20, see Figure 3(b). The lower portion of the access opening 12 in the enclosure 2 is accessible via the cutout 48 in the collar 46. The flap 20 can be re-sealably closed in the same way as described in the context of Figure 1.

[0035] A third embodiment of a package of tobacco-related articles is shown in Figures 4(a) and 4(b).

[0036] In this case, the package comprises an outer shell 50 and an inner shell 52 as well as a lid 54 having bevelled edge walls 56. The front wall of the outer shell 50 is provided with a cutout 58. To open this package, a user gently presses onto the inner shell 52, through the cutout 58, and shifts the inner shell 52 upwardly. Due to a coupling (not shown in the figures) between the inner shell 52 and the lid 54, the lid 54 opens automatically. When the user moves the inner shell 52 downwardly, again by exerting a force through the cutout 58, the lid 54 is pulled to a closed state, wherein the bevelled edge walls 56 enter the interior of the outer shell 50.

[0037] So far, this package is disclosed in detail in WO 2011/060930 A1 so that further explanations are not required.

[0038] In addition to the design of WO 2011/060930 A1, a package 1 as described by means of Figure 1 is inserted into the inner shell 52 so that the gripping tab 26 can be grasped at the top side of the package when the lid 54 is open and the inner shell 52 is shifted upwardly, as in Figure 4(a). As before, the flap 20 can be pulled from the access opening 12 and deflected, see Figure

4(b). Since the inner shell 52 has a cutout in its upper front part, see Figure 4(b), the cigarettes 30 are presented ready for use.

[0039] The package shown in Figure 4(a) and Figure 4(b) is an example of a package which comprises an outer shell and an inner shell, wherein the enclosure is inserted into the inner shell and the inner shell is moveable with respect to the outer shell from a closing position to an access position in which the access opening of the enclosure is accessible.

[0040] Depending on the elastic properties of the flap 20, it may be helpful if the flap 20 sticks to the front side of the outer shell 50 when the package is in the state shown in Figure 4(b), in order to avoid that it swings back. To this end, the outer face of the label 18 may be provided with a self-sticking area 60, see Figure 4(a), comprising a sticking means facing outwardly. The sticking means may include, e.g., a pressure-sensitive adhesive or a suction device. In this case, the flap 20 sticks to the front wall of the outer shell 50 when it is opened, as in Figure 4(b). To re-close the flap 20, the self-sticking area 60 can be easily pulled off the front wall of the outer shell 50.

[0041] Such a self-sticking area may also be helpful in other embodiments, e.g. in the first embodiment as shown in Figure 1 or in the second embodiment as shown in Figure 3.

[0042] In the second and in the third embodiment, an inner frame is less important than in the embodiment of Figure 1 because the enclosure 2 is externally stabilised by the outer shell 40 and by the inner shell 52, respectively.

Claims

1. Package of tobacco-related articles,
 - comprising a sealed enclosure (2) comprising flexible barrier sheet material wrapping a charge of tobacco-related articles (30) and forming a front wall (4), a rear wall (5), two lateral walls (6, 7), a top wall (8) and a bottom wall (9), the front wall (4) having a larger area than the top wall (8),
 - wherein an access opening (12) extending over at least part of the top wall (8) and at least part of the front wall (4) is covered by a re-sealable flap (20) which is foldable about a hinge line (14) to permit access to the interior of the package,
 - **characterised in that** the hinge line (14) of the flap (20) is located at the front wall (4) of the enclosure (2).
2. Package according to claim 1, **characterised in that** the flap (20) comprises a gripping tab (26) located in an area remote from the hinge line (14) of the flap (20).
3. Package according to claim 1 or 2, **characterised**

- in that the flap (20) comprises a layer (16) which includes barrier sheet material cut from the barrier sheet material forming the front wall (4) and the top wall (8), said layer (16) being covered by a label (18) having adhesive edge zones (22) extending beyond the cut edges of said layer (16) and being adapted to seal the flap (20) when the access opening (12) is covered.
4. Package according to claim 3, **characterised in that** the label (18), in an area opposite to the hinge line (14) of the flap (20) and beyond said barrier sheet material layer (16) of the flap (20), is folded back about a fold line (24) and forms a gripping tab (26), which is accessible at the top wall (8) of the enclosure (2).
 5. Package according to claim 4, **characterised in that** the gripping tab (26) is non-adhesive.
 6. Package according to any one of claims 3 to 5, **characterised in that** the portion of the label (18) extending at the front wall (4) of the enclosure (2) has a length of at least 65% of the length of the front wall (4), preferably of at least 80% of the length of the front wall (4), wherein the length of the front wall (4) is measured between the edges where the bottom wall (9) and the top wall (8) of the enclosure (2) are connected to the front wall (4).
 7. Package according to any one of claims 1 to 6, **characterised in that** the portion of the access opening extending at the front wall (4) of the enclosure (2) has a length of at least 60% of the length of the front wall (4), preferably of at least 75% of the length of the front wall (4), wherein the length of the front wall (4) is measured between the edges where the bottom wall (9) and the top wall (8) of the enclosure (2) are connected to the front wall (4).
 8. Package according to any one of claims 1 to 7, **characterised in that** an inner frame, preferably comprising cardboard, is provided between the charge of tobacco-related articles (30) and the enclosure (2), the inner frame not obstructing the area of the access opening (12).
 9. Package according to any one of claims 1 to 8, **characterised by** further comprising an outer shell (40), into which the enclosure (2) is inserted.
 10. Package according to claim 9, **characterised in that** the outer shell (40) is designed as a hinge lid pack comprising a lid (44) swivelable about a hinge line located at a rear wall of the outer shell (40), wherein the access opening (12) of the enclosure (2) is accessible when the lid (44) is open.
 11. Package according to any one of claims 1 to 8, **characterised by** further comprising an outer shell (50) and an inner shell (52), wherein the enclosure (2) is inserted into the inner shell (52) and the inner shell (52) is moveable with respect to the outer shell (50) from a closing position to an access position in which the access opening (12) of the enclosure (2) is accessible.
 12. Package according to claim 11, **characterised in that** the enclosure (2) is inserted into the inner shell (52) of a package as defined in claim 1 of WO 2011/060930 A1.
 13. Package according to any one of claims 1 to 12, **characterised in that** the flap (20) comprises a self-sticking area comprising a sticking means (60) facing outwardly.
 14. Process of manufacturing a package according to any one of claims 1 to 13.

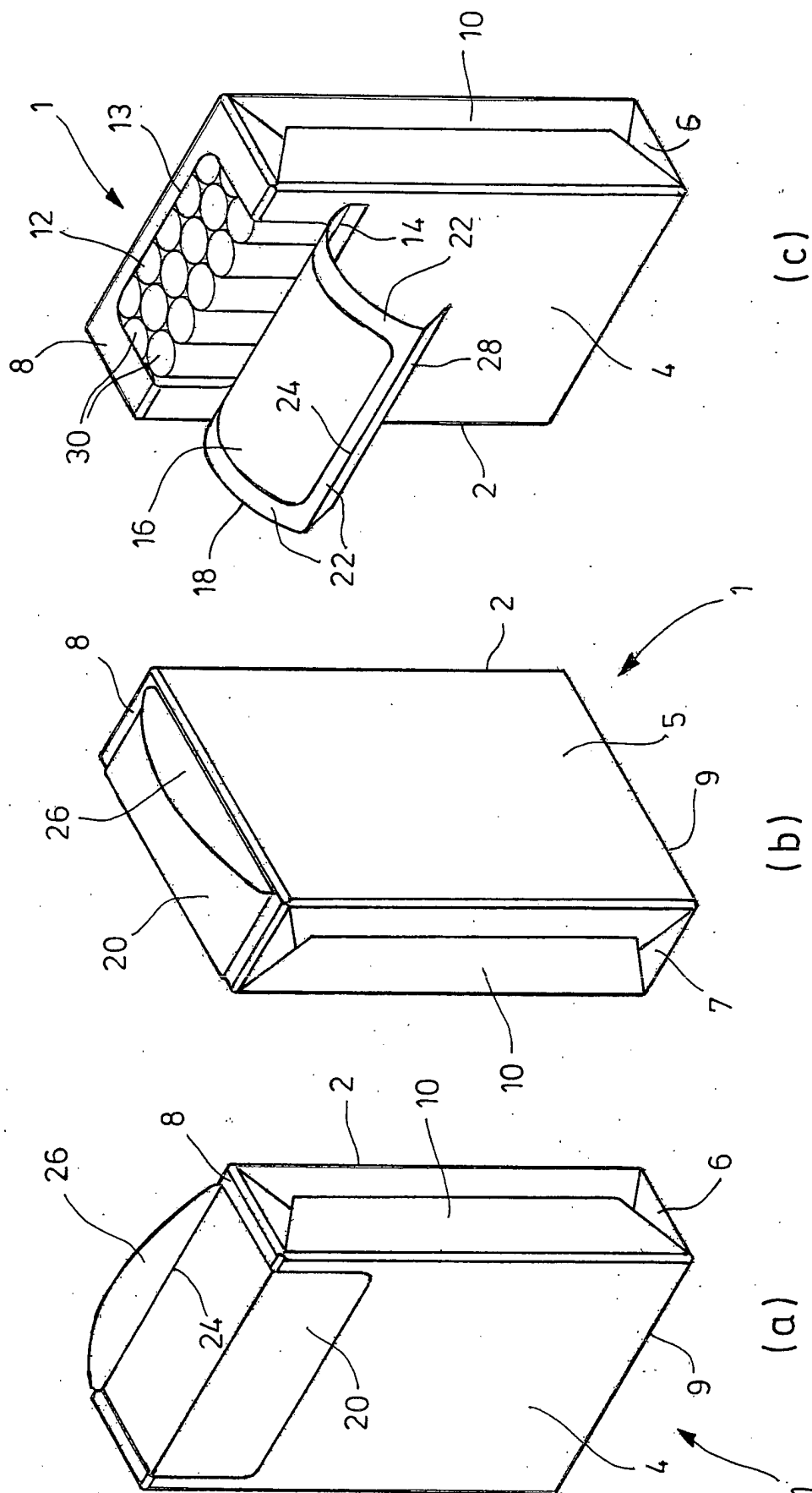


FIG. 1

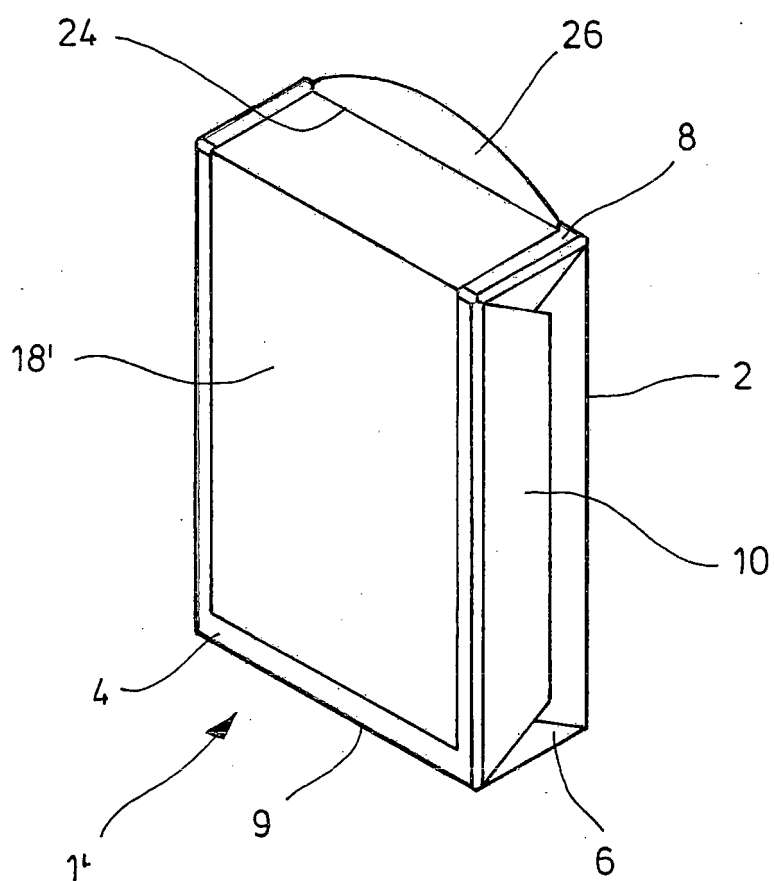
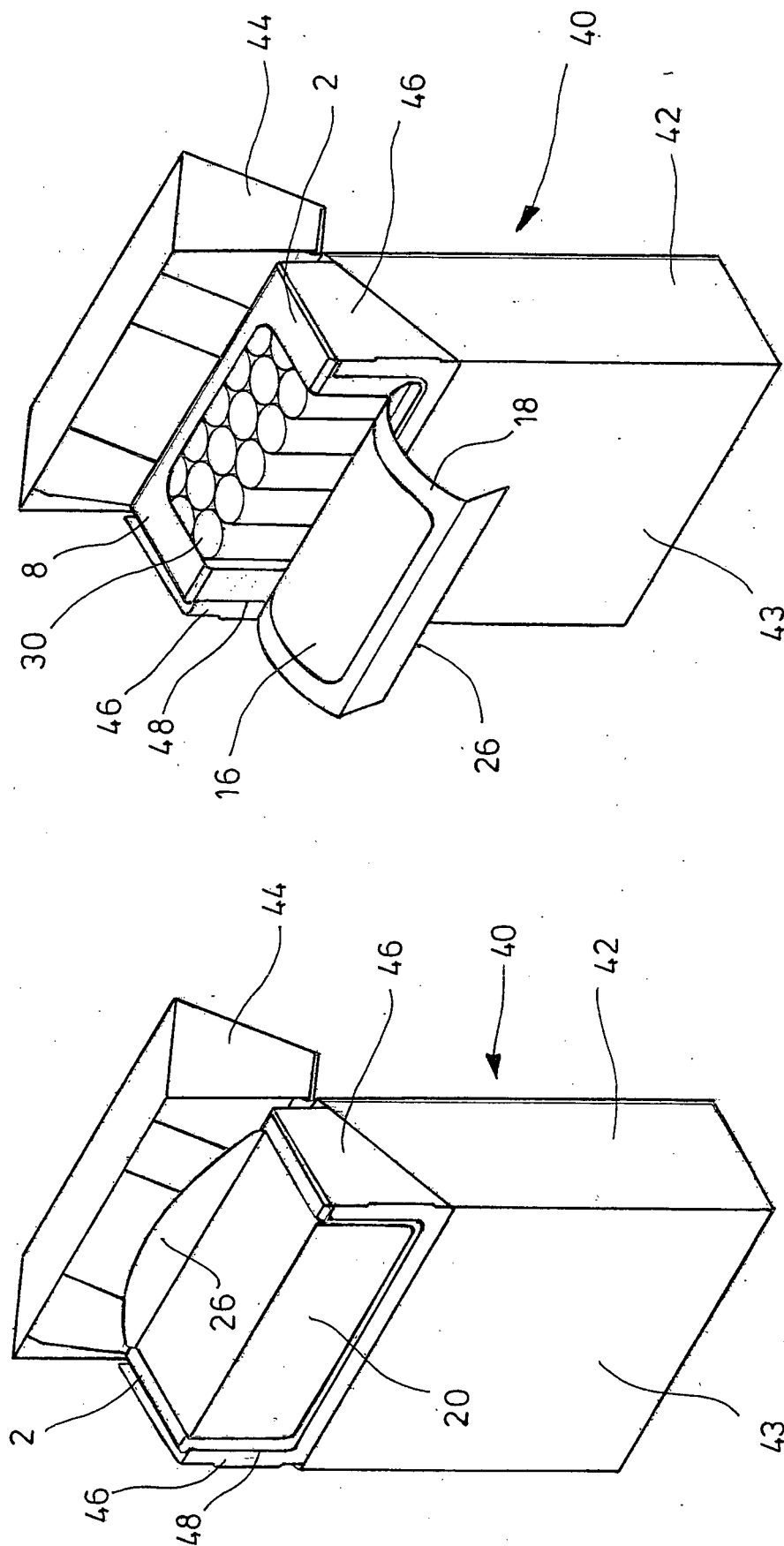


FIG.2



(b)

(a)

FIG. 3

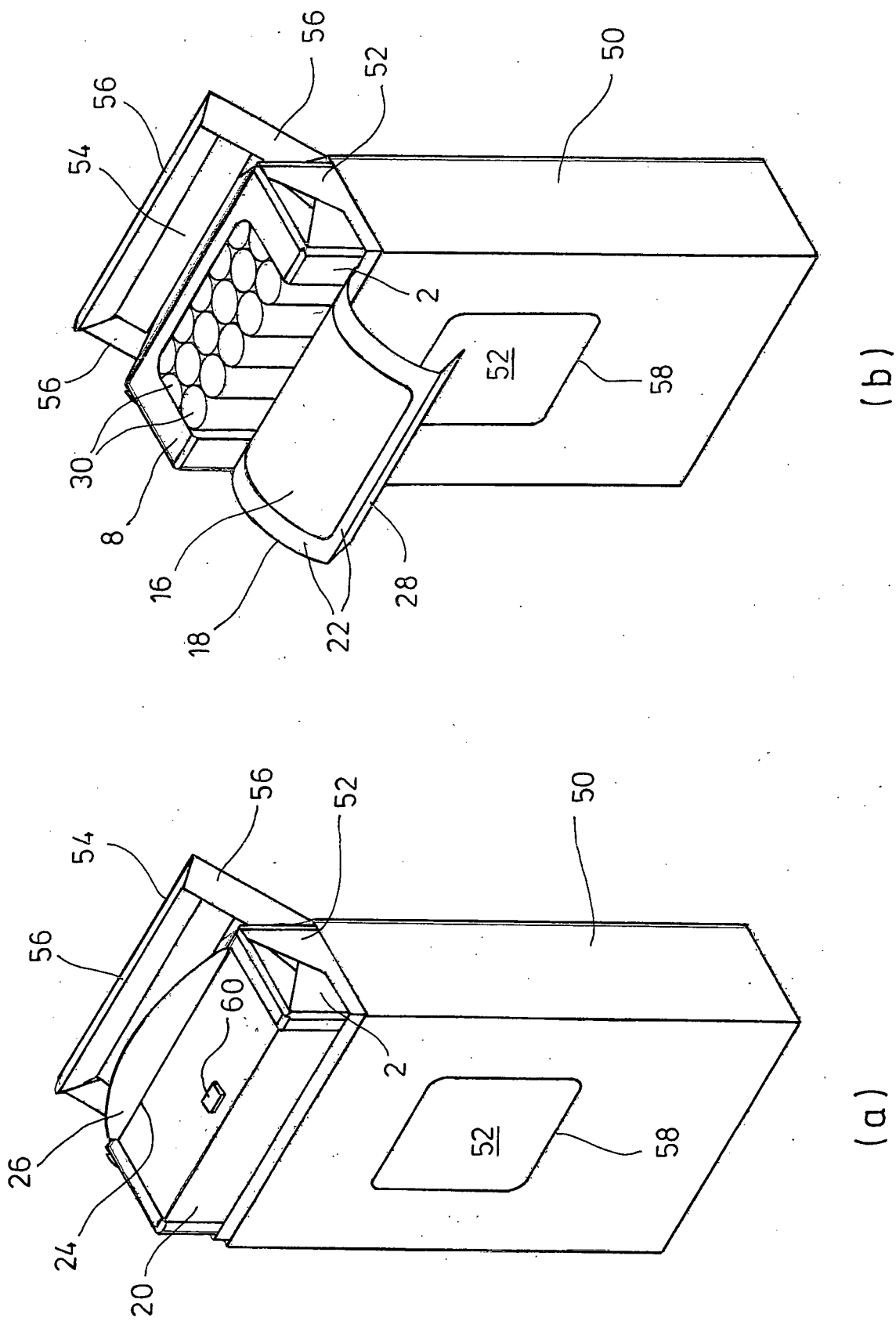


FIG. 4



EUROPEAN SEARCH REPORT

Application Number
EP 15 16 4285

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DE 10 2007 031208 A1 (FOCKE & CO [DE]) 8 January 2009 (2009-01-08)	1-10	INV. B65D85/10
A	* the whole document *	11,13	
X	WO 2005/082738 A1 (BURGER SOEHNE [CH]; BURGER CHRISTIAN [CH]; BURGER BEAT [CH]) 9 September 2005 (2005-09-09)	1-7	
A	* the whole document *	8-11,13	
A	EP 1 102 712 B1 (BRITISH AMERICAN TOBACCO CO [GB]) 28 May 2003 (2003-05-28)	1-14	
	* paragraphs [0007], [0017]; figure 1 *		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
Place of search		Date of completion of the search	Examiner
Munich		22 September 2015	Visentin, Mauro
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			

EPO FORM 1503 03/02 (P04C01)

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

EP 15 16 4285

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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22-09-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 102007031208 A1	08-01-2009	AT 498568 T	15-03-2011
		DE 102007031208 A1	08-01-2009
		EP 2170734 A2	07-04-2010
		WO 2009003581 A2	08-01-2009

WO 2005082738 A1	09-09-2005	DE 212004000001 U1	29-07-2004
		WO 2005082738 A1	09-09-2005

EP 1102712 B1	28-05-2003	AR 019195 A1	26-12-2001
		AT 241537 T	15-06-2003
		AU 4520999 A	24-01-2000
		CN 1306490 A	01-08-2001
		DE 69908373 D1	03-07-2003
		DE 69908373 T2	01-04-2004
		DK 1102712 T3	23-06-2003
		EP 1102712 A1	30-05-2001
		ES 2194471 T3	16-11-2003
		HK 1036038 A1	26-09-2003
		ID 27857 A	26-04-2001
		JO 2108 B	21-05-2000
		JP 4573232 B2	04-11-2010
		JP 2002519261 A	02-07-2002
		MY 124048 A	30-06-2006
		PT 1102712 E	31-10-2003
		US 6505735 B1	14-01-2003
		WO 0001594 A1	13-01-2000
		ZA 200007601 A	10-12-2001

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 9822368 A [0002] [0014] [0029]
- WO 9822367 A [0003] [0008] [0014] [0029]
- WO 0001594 A [0004]
- WO 2011060930 A [0019]
- WO 2011060930 A1 [0037] [0038]