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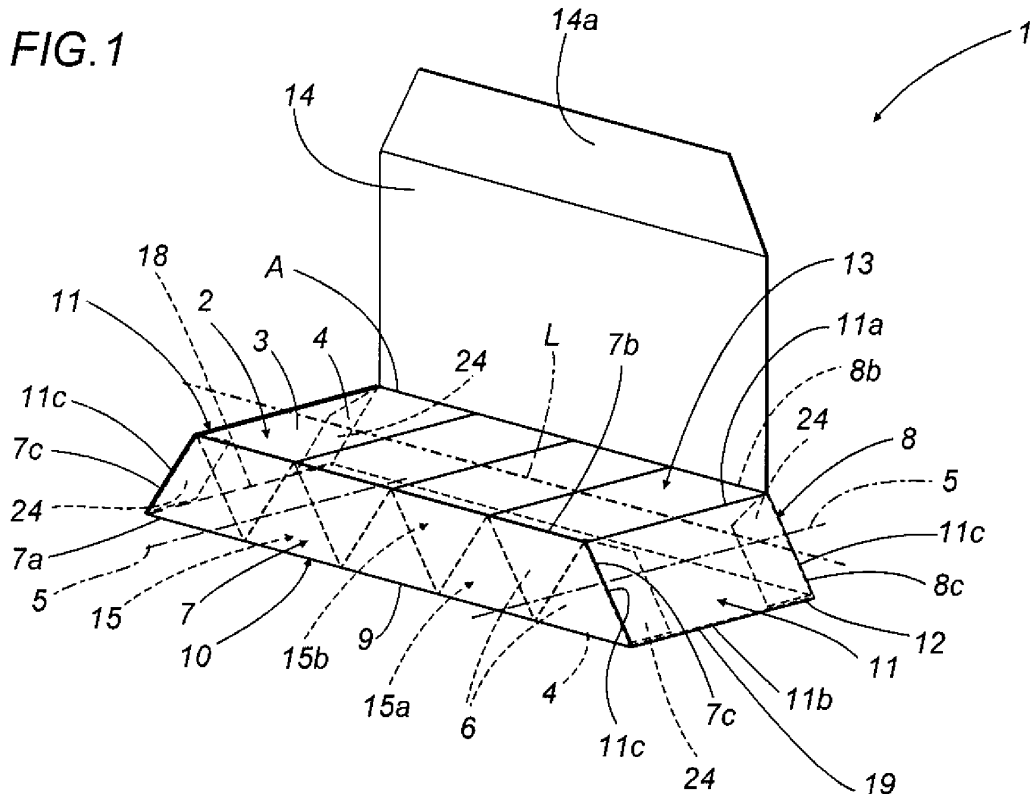
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(54) **A rigid wrapper containing packets of cigarettes**

(57) Packets (2) of cigarettes appearing prismatic in shape with a triangular cross section are ordered side by side and in direct contact one with another to form a group (15) alignable on a predominating longitudinal axis (L), with the axes (5) of the single packets transverse to the

direction of alignment. The assembled group (15) of packets (2) is prismatic in shape, with a longitudinal section of trapezoidal appearance, and wrapped in a rigid carton (1) aligned likewise on the predominating longitudinal axis (L), similarly prismatic and presenting a longitudinal profile of isosceles trapezoidal outline.



Description

[0001] The present invention relates to a rigid wrapper serving to contain packets of cigarettes.

[0002] The term wrapper is employed generically herein to indicate rigid containers, known as "cartons", designed to accommodate packets of cigarettes which as a general rule are of substantially rectangular parallelepiped geometry.

[0003] A first type of wrapper appears substantially as a flattened parallelepiped with sharp corner edges, referable to a predominating longitudinal axis, and contains a plurality of packets disposed one beside the next, placed in contact one with another in such a way as to form one or more rows extending along the longitudinal axis.

[0004] A second type of wrapper presents a substantially parallelepiped appearance with sharp corner edges, in this instance referable to a vertical axis, and comprises a cupped container with a lid likewise of cupped embodiment, connected to the container by way of a hinge and capable thus of rotating between open and closed positions respectively exposing and concealing an open top end of the container, also a reinforcing frame projecting from the open top end, by which the lid is retained when in the closed position. With this type of wrapper, packets are placed in contact one with another and ordered in two rows aligned along respective axes disposed transversely to the vertical axis of the selfsame wrapper.

[0005] The two types of rigid wrapper outlined above are not suitable as cartons for packets of cigarettes exhibiting a shape other than that of a rectangular parallelepiped.

[0006] The object of the present invention is to provide a rigid wrapper obtainable starting from a flat diecut blank embodied as simply and economically as possible, able to accommodate packets of cigarettes presenting a shape notably different to that of a rectangular parallelepiped, and moreover, requiring a relatively modest quantity of wrapping material for its manufacture.

[0007] The stated object is duly realized according to the present invention in a rigid wrapper serving to contain multiple packets of cigarettes, referable geometrically to a predominating longitudinal axis and characterized in that it presents a prismatic shape of trapezoidal longitudinal section.

[0008] The invention will now be described in detail, by way of example, with the aid of the accompanying drawings, in which:

- figure 1 illustrates a first embodiment of the rigid wrapper according to the present invention, viewed in perspective;
- figure 2 is a plan view of a diecut blank from which to fashion the wrapper of figure 1;
- figure 3 illustrates a second embodiment of the rigid wrapper according to the present invention, viewed

in perspective;

- figure 4 shows a further alternative embodiment of the wrapper of figure 1, viewed in perspective.

[0009] With reference to figure 1, numeral 1 denotes a rigid wrapper, in its entirety, designed to hold multiple packets 2 of cigarettes of the type, in particular, as disclosed in patent EP 1,240,088, incorporated here by reference in the interests of providing a full description; the single packet 2 comprises an outer wrapper 3 appearing as a prism of substantially triangular cross section, hence with three adjoining side faces 4 of substantially rectangular outline all disposed parallel with a predominating longitudinal axis 5 of the prism, and two substantially triangular end faces 6.

[0010] The wrapper 1 is referable to a predominating longitudinal axis denoted "L" disposed transversely to the axes 5 of the packets 2 of cigarettes, and appears as a prism of substantially trapezoidal longitudinal section.

[0011] In particular, it will be seen that the wrapper 1 presents a longitudinal section identifiable as isosceles trapezoidal in outline, and that the trapezoidal outline is displayed by a front face 7 and a rear face 8.

[0012] More exactly, the aforementioned front and rear faces 7 and 8 of the wrapper 1 extend parallel to the predominating longitudinal axis "L", adjoining two respective longer sides 9 of a substantially rectangular bottom face 10 and two flank faces 11 disposed transversely to these same three faces 7, 8 and 10, the two flank faces 11 in turn similarly adjoining relative shorter sides 12 of the bottom face 10. Thus, the longer and shorter sides 9 and 12 of the bottom face coincide with bottom corner edges of the wrapper 1.

[0013] The wrapper 1 also presents an access opening of rectangular outline, denoted 13, occupying a plane parallel to the bottom face 10 and affording a passage through which the packets 2 contained in the wrapper 1 can be removed.

[0014] As discernible in the drawings, the front and rear faces 7 and 8 of isosceles trapezoidal outline occupy planes perpendicular to the plane occupied by the bottom face 10. Each of the two trapezoidal faces 7 and 8 presents a longer base 7a and 8a adjoining the longer side 9 of the bottom face 10, a shorter base 7b and 8b adjoining a longer side of the opening 13, and two angled sides 7c and 8c each adjoining a relative flank face 11.

[0015] The two flank faces 11 are of rectangular outline and inclined relative to the plane occupied by the bottom face 10. Also, each flank face 11 presents a top edge 11a adjoining a respective shorter side of the access opening 13, a bottom edge 11b adjoining a shorter side 12 of the bottom face 10, and two side edges 11c each adjoining one angled side 7c or 8c of a respective front or rear face 7 or 8.

[0016] In practice, each bottom edge 11b coincides with an acute corner edge, whilst each top edge 11a coincides with an obtuse corner edge, given that the flank

faces 11 converge upwardly toward the opening 13.

[0017] In the example of figure 1, the rigid wrapper 1 presents a top face 14 of which the outline matches the outline of the opening 13. In short, the top face 14 presents a rectangular outline of the same dimensions as the opening 13, which are smaller than the dimensions of the bottom face 10.

[0018] The top face 14 of the wrapper 1 is joined to the rear face 8 along a hinge line "A" coinciding with the shorter base 8b aforementioned, and capable of movement thus between a closed position (not shown in the accompanying drawings), disposed parallel to the bottom face 10 and occluding the opening 13, and an open position (as in figure 1), distanced from the opening 13.

[0019] In the example of figure 3, the rigid wrapper 1 is not furnished with a top face 14 as in figure 1. In this instance the opening 13 remains uncovered and the packets 2 contained in the wrapper 1 are exposed to view.

[0020] In both the examples mentioned (figures 1 and 3), the rigid wrapper 1 can also be furnished with an outer protective covering, or overwrap, fashioned from a transparent and heat-shrinkable material such as polypropylene. In the example of figure 3, accordingly, where the wrapper 1 has an open top, the packets 1 contained in the selfsame wrapper are held in place by the overwrap.

[0021] Still referring to figures 1 and 3, the packets 2 of cigarettes, illustrated in phantom lines, are arranged within the respective wrapper 1 mutually parallel and in contact one with another, so as to form at least one group denoted 15. The assembled group 15 is of prismatic geometry, presenting a trapezoidal longitudinal section matching that of the wrapper 1.

[0022] The group 15 of packets comprises a first row 15a of packets 2 disposed with respective side faces 4 offered to and resting on the inside surface of the bottom face 10, and with respective triangular end faces 6 offered to the inside surfaces of the front face 7 and the rear face 8. In this situation, the packets 2 of the first row 15a are placed side by side with respective corner edges directed toward the opening 13.

[0023] The group 15 further comprises a second row 15b of packets 2 disposed with respective side faces 4 offered to and facing the access opening 13, and with respective triangular end faces 6 offered to the inside surfaces of the front and rear faces 7 and 8. The packets 2 of this second row 15b are placed with respective corner edges directed toward the bottom face 10.

[0024] It will be seen that each packet 2 of the second row 15b is interposed between two corresponding packets 2 of the first row 15a. Consequently, the number of packets 2 making up the second row 15b is less than the number of packets 2 making up the first row 15a.

[0025] For example, as illustrated in figures 1 and 3, the group 15 includes nine packets 2 of cigarettes, of which five make up the first row 15a and four the second row 15b.

[0026] The wrapper 1 might be proportioned to contain any given number of packets 2, arranged with the packets

of the second row 15b interposed between those of the first row 15a.

[0027] In the example of figure 4, the packets 2 are arranged internally of the wrapper 1 in such a way as to form two groups 15 positioned one on top of another and making up a single group of prismatic geometry that presents a longitudinal section of trapezoidal outline. In this particular instance, the first row 15a of the top group 15 presents the same number of packets 2 as the second row 15b of the bottom group 15.

[0028] Referring to figure 2, the wrapper 1 is fashioned from a flat diecut blank 16 of wrapping material, of which the component parts will be indicated where possible using the same numbers, primed, as those used to indicate the corresponding parts of the wrapper 1.

[0029] The blank 16 is substantially rectangular, with an axis of symmetry 17 disposed transversely to the predominating longitudinal axis "L", and presents two transverse crease lines 18 and 19, also a plurality of longitudinal precreased areas 20, 21, 22 and 23 extending parallel to the aforementioned longitudinal axis "L". The areas 20, 21, 22 and 23 in question delimit a plurality of longitudinal panels 7', 8', 10' and 14' extending between the transverse crease lines 18 and 19 and coinciding respectively with corresponding faces 7, 8, 10 and 14 of the finished wrapper 1, as well as at least one longitudinal connecting flap 14a.

[0030] At least one of the aforementioned longitudinal panels is associated at the opposite ends with two end folds 11' of substantially rectangular outline. In effect, the two end folds 11' are joined along the aforementioned transverse crease lines 18 and 19 to the central panel 10' of the flat blank, as seen in figure 2, which corresponds to the bottom face 10 of the wrapper.

[0031] To advantage, at least two further panels 7' and 8' located on either side of the central panel 10' are furnished at the opposite ends with respective tongues 24 that will be connected ultimately to the respective end folds 11', with which they combine to establish the flank faces 11 of the wrapper 1.

[0032] The panels 7' and 8' presenting the tongues 24, which coincide respectively with the front and rear faces 7 and 8 of the wrapper 1, are associated with the central panel 10' along respective longitudinal precreased areas 20 and 21 coinciding each with a longer side 9 of the bottom face 10.

[0033] Accordingly, once the blank is bent along the areas 20 and 21 delimiting the panels denoted 7' and 8', and the end folds 11' are bent along the transverse crease lines 18 and 19, the tongues 24 can be offered to the inside surfaces of the end folds 11'. The tongues 24 are bent advantageously along respective end portions 18a and 19a of the transverse crease lines 18 and 19, by way of which the selfsame tongues 24 are joined to the relative panels 7' and 8'.

[0034] As discernible in figures 1 and 4, the tongues 24 are united with the inside surfaces of the relative end folds 11' to form the two flank faces 11.

[0035] The step of bending the end folds 11' involves rotating each of the folds into alignment with the end portions 18a and 19a of the transverse crease lines 18 and 19, which coincide with the angled sides 7c and 8c of the front and rear faces 7 and 8. Thus, the end folds 11' will be inclined in the manner already described, and the assembly of the flank faces 11 can be completed.

[0036] Also forming part of the blank 16 illustrated in figure 2, which produces the wrapper shown by way of example in figure 1, is a panel 14' extending from the panel 8' that provides the rear face 8 of the wrapper 1.

[0037] The panel 14' in question coincides with the top face 14 of the wrapper (figure 1), and is joined to the adjacent panel 8' via a longitudinal precreased area 22 providing the hinge line "A" about which the selfsame top face 14 rotates between the open and closed positions aforementioned.

[0038] The connecting flap 14a is associated with the panel 14' defining the top face 14, on the side opposite from the side associated with the panel 8' defining the rear face 8.

[0039] The connecting flap 14a presents an isosceles trapezoidal outline and is joined to the panel 14' along a precreased longitudinal area 23 coinciding with one longer side of the top face 14.

[0040] As illustrated to better advantage in figure 1, the flap 14a can be offered to the inside surface of the front face 7 when the top face 14 is in the closed position.

[0041] The wrapper 1 presents longitudinal corner edges, afforded by the precreased longitudinal areas 20, 21, 22 and 23, which might be rounded or bevelled. Similarly (as in the case of the cigarette packet disclosed in European Patent Application EP 764595, incorporated here by reference in the interests of providing a full description), the wider transverse corner edges generated by the transverse crease lines 18 and 19 could be non-rectilinear edges, again rounded or bevelled; alternatively, certain of the longitudinal corner edges and certain of the transverse corner edges could be non-rectilinear, thereby combining both longitudinal and transverse non-rectilinear rounded or bevelled corner edges in the same pack.

[0042] The wrapper 1 described above offers important advantages.

[0043] Firstly, the wrapper 1 is able to accommodate cigarette packets 2 of shape appreciably different to the familiar rectangular parallelepiped format. In effect, the cigarette packets 2 described and illustrated in this instance present a triangular cross-sectional profile.

[0044] In addition, the wrapper 1 is fashioned from a flat blank 16 that can be produced in one piece and therefore, to advantage, using a relatively limited amount of material. Accordingly, the wrapper 1 is structurally simple, and economical to manufacture.

Claims

1. A rigid wrapper containing packets of cigarettes, referable to a given predominating longitudinal axis (L), **characterized in that** it is of prismatic appearance, presenting a trapezoidal longitudinal section.
2. A wrapper as in claim 1, wherein the longitudinal section is of isosceles trapezoidal outline.
3. A wrapper as in claims 1 or 2, comprising a bottom face (10) of rectangular outline; an access opening (13) parallel to the bottom face (10) and of rectangular outline; two mutually opposed flank faces (11) associated with respective shorter sides (12) of the bottom face (10); also a front face (7) and a rear face (8) parallel one with another and associated with respective longer sides (9) of the bottom face (10).
4. A wrapper as in claim 3, wherein the front and rear faces (7, 8) occupy planes perpendicular to the plane occupied by the bottom face (10) and present an isosceles trapezoidal outline composed of a longer base (7a, 8a) adjoining the longer side (9) of the bottom face (10), a shorter base (7b, 8b) adjoining a longer side of the access opening (13), and two angled sides (7c, 8c) each adjoining a respective flank face (11).
5. A wrapper as in claim 4, wherein each of the flank faces (11) occupies a plane inclined relative to the plane occupied by the bottom face (10) and presents a top edge (11a) adjoining a shorter side of the access opening (13), a bottom edge (11b) adjoining a shorter side (12) of the bottom face (10), and two side edges (11c) each adjoining a respective angled side (7c, 8c) of the front and rear face (7, 8).
6. A wrapper as in claims 3 to 5, further comprising a top face (14) of which the outline matches the outline of the opening (13), joined to at least the front face (7) or the rear face (8) along a hinge line (A) and capable of movement thus between a closed position in which it is disposed parallel to the bottom face (10), occluding the opening (13), and an open position in which it is distanced from the opening (13).
7. A wrapper as in claims 3 to 6, wherein the cigarette packets (2) are of prismatic geometry, presenting a substantially triangular section.
8. A wrapper as in claim 7, wherein the packets (2) are disposed inside the wrapper with respective longitudinal axes (5) extending perpendicular to the predominating longitudinal axis (L) of the wrapper.
9. A wrapper as in claim 8, wherein the packets (2) are

arranged mutually parallel and in contact one with another in such a way as to form at least one group (15) of packets appearing prismatic in shape and presenting a trapezoidal longitudinal section.

10. A wrapper as in claim 9, wherein the at least one group (15) of packets comprises a first row (15a) of packets (2) disposed with respective side faces (4) offered to and resting on the bottom face (10), and a second row (15b) of packets (2) disposed with respective side faces (4) offered to and facing the access opening (13), in such a way as to interpose each packet (2) of the second row (15b) between two corresponding packets (2) of the first row (15a) .

11. A wrapper as in claim 10, comprising at least two groups (15) of packets (2) positioned one on top of another in such a way as to form a single group appearing prismatic in shape and presenting a longitudinal trapezoidal section.

12. A wrapper as in claims 1 to 11, further comprising a protective overwrap fashioned from transparent and heat-shrinkable material.

13. A wrapper as in claims 1 to 12, fashioned from a flat diecut blank (16) of wrapping material with an axis of symmetry (17) disposed transversely to the predominating longitudinal axis (L), presenting two transverse crease lines (18, 19), also a plurality of precreased areas (20, 21, 22, 23) extending parallel to the longitudinal axis (L), delimiting a plurality of longitudinal panels (7', 8', 10', 14') compassed between the transverse crease lines (18, 19) and coinciding with the faces (7, 8, 10, 14) of the wrapper (1), and at least one longitudinal connecting flap (14a), wherein at least one of the longitudinal panels (7', 8', 10', 14') presents two substantially rectangular opposite end folds (11'), and at least two of the longitudinal panels (7', 8', 10', 14') present respective tongues (24) at their two opposite ends, designed to unite and combine with the respective end folds (11') in forming the flank faces (11) of the wrapper (1).

14. A wrapper as in claim 13, wherein the panel (10') presenting the end folds (11') provides the bottom face (10), and the two panels (7', 8') presenting the respective tongues (24) are positioned one on either side of the panel (10') providing the bottom face (10), in such a way as to provide the front face (7) and the rear face (8) respectively.

15. A wrapper as in claim 13 or 14, wherein the two panels (7', 8') presenting the respective tongues (24) are of isosceles trapezoidal outline.

16. A wrapper as in claim 14, wherein the blank (16)

comprises at least one longitudinal panel (14') providing the top face (14), positioned adjoining the panel (8') that provides the rear face (8).

17. A wrapper as in claim 16, wherein the longitudinal connecting flap (14a) is of isosceles trapezoidal outline, joined to the longitudinal panel (14') providing the top face (14) on the side remote from the panel (8') providing the rear face (8), and matchable to the longitudinal panel (7') providing the front face (7).

FIG.1

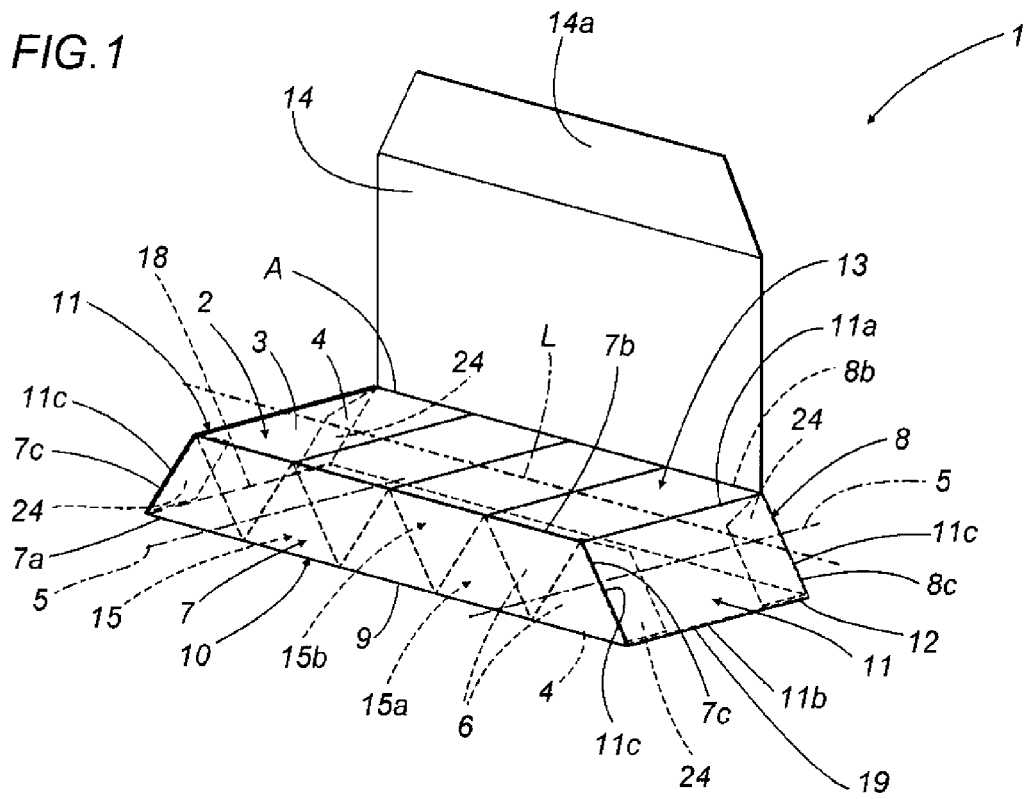


FIG.2

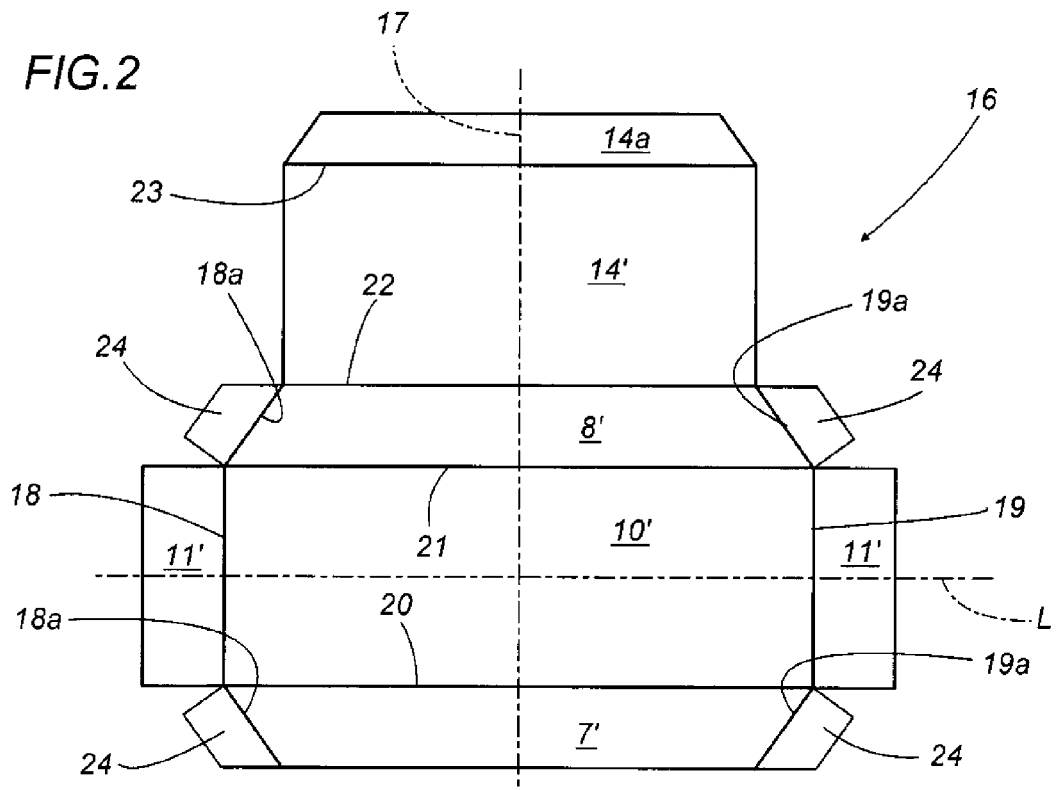


FIG.3

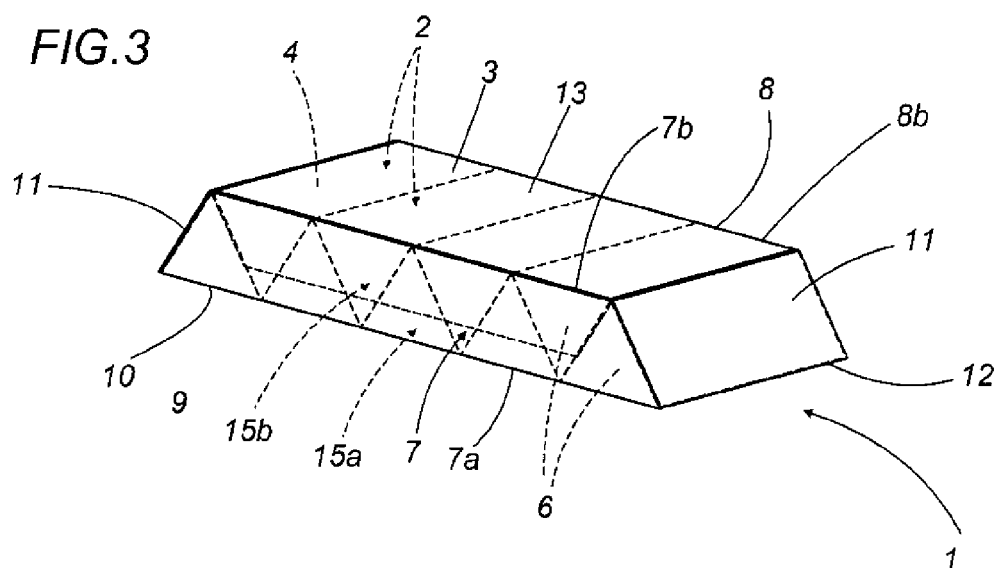
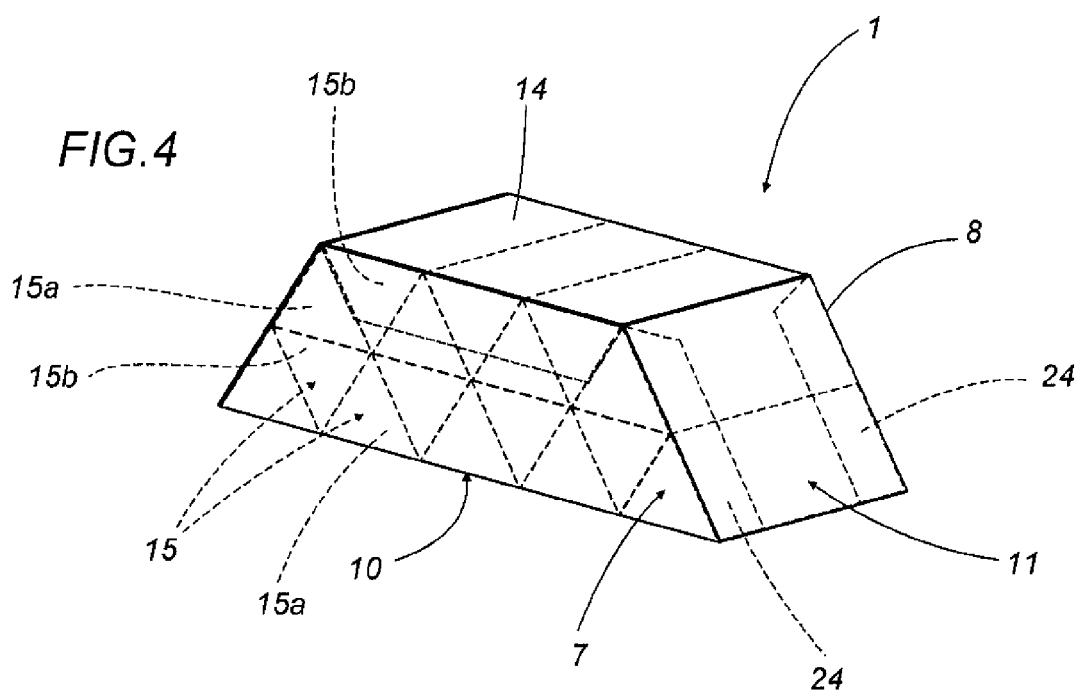


FIG.4





European Patent
Office

EUROPEAN SEARCH REPORT

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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