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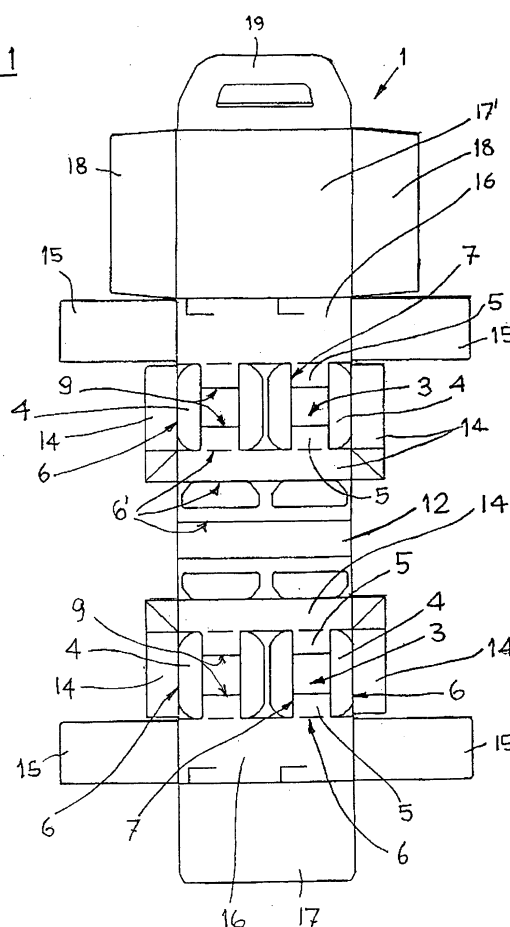
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(54) **Carrier for brick-type containers**

(57) A carrier (1,1',1'') for groups of containers (2) of the Tetrapak type consists of a flat sheet, comprising open spaces (3,3') with side shapes (4,4') and front/back tabs (5,5') that bent upon the introduction of containers, position the same in alignment and constrain them through the hooking of the top portions (9,9') of said tabs (5,5') with the projecting bottom ends (10) of the triangular closing and sealing tabs (11) present on all the Tetrapak packages.

FIG. 1



Description

[0001] The invention relates to outline cuttings for groups of containers of the Tetrapak type.

[0002] It is known that current packages in groups of containers of the Tetrapak, generally used for containing fluid products, such as drinks like milk, fruit juice, wine or the like, consist of packages shaped as boxes suitably sized for containing, in a compact, aligned manner and with total wrapping, a predetermined number, such as four, six, eight.

[0003] It is also known that such packages, generally made of resistant cardboard, while ensuring a good protection and compacting of the groups of packages, are expensive due to: a useless and non-environmental friendly waste of material due to the total wrapping of the groups of packages; for the way the packaging of said Tetrapak packages must be made and for the intrinsic difficulty of handling of the same packaging due to the lack of manual grips.

[0004] The object of this invention is to eliminate the above drawbacks by outline cuttings for groups of containers of the Tetrapak type characterised according to what claimed in claim 1. Further features are defined in the dependent claims. The advantages achieved by the present invention essentially consist in that the outline cuttings for groups of containers for drinks and the like of the Tetrapak type ensure a correct, simple, quick and inexpensive way of grouping in two, four, six and more containers using a single sheet, preferably but non limited to, of cardboard of a recycled material or the like, suitably pre-cut so as to be easily and quickly constrained only on top of the same groups.

[0005] Other advantages consist in that the precuttings obtained from single sheets are easy to make with reduction of costs and consumption, ensuring perfect compacting of containers and being inclusive of grips, they allow an easy handling of the packaging.

[0006] The invention is described in detail hereinafter, according to embodiments thereof given only by way of a non-limiting example, with reference to the attached drawings, wherein:

figs. 1, 2 and 3 show plan views of examples of cut cardboards for making groups of Tetrapak packages,

figs. 4 to 7 show the outline cutting of figure 1 in the most important steps of engagement on a group of four Tetrapak packages,

figs. 8 to 11 show the outline cutting of figure 2 in the most important steps of engagement on a group of six Tetrapak packages,

figs. 12 and 13 show the outline cutting of figure 3 in the steps of engagement on a group of four Tetrapak packages, and

figs. 14 to 19 show the same outline cutting of figure 3 in the most important steps of engagement and locking on the same group of four Tetrapak packages,

es.

[0007] With reference to the figures, the configurations of the outline cuttings (1, 1', 1'') consist of a flat sheet, generally of cardboard or corresponding, suitably pre-formed for the number of Tetrapak containers (2) comprised in each group.

[0008] In the first embodiment (figures 1 and 4 to 7) the configuration of the outline cutting (1) is conceived for four containers (2).

[0009] During the packaging, said outline cutting (1) is placed above the aligned packages (2) and is pushed downwards through corresponding open rooms (3) which comprise side shapes (4) and front/back tabs (5) which during such action, are forced to bend upwards according to the peripheral bending lines (6) and pre-cut intermediate ones (7), engaging in adhesion with the peripheral walls (8) of the same packages.

[0010] The outline cutting (1) is then partly lifted up for engaging and constraining joint-wise the top portions (9) of said front/back tabs (5) with the bottom projecting ends (10) of the triangular closing and sealing tabs (11) present on Tetrapak packages (fig. 4)

[0011] After that, the central band (12) of the outline cutting, delimited by bending lines (6'), is pushed upwards by the approach to the centre of the pairs of containers (2); in this way, said band (12) arranges at a higher height than that relating to the projection of the plugs (13) (fig. 5).

[0012] Such condition, associated to the bending of reinforcements (14), of side strips (15) and end bands (16), arranged along the sides of the package and adhering with the outer surfaces of the containers (2), has the function of forming a top box space wherein the plugs (13) are located in a protected manner and the respective surfaces whereon Tetrapak containers are arranged; this is to exclude any possible damages during transport and superimposed piling of the packages thus obtained.

[0013] The side bending of said reinforcements (14) and said side strips (15) along with the lifting of the end edges (16), the relative gluing thereof and the tilting and gluing in superimposition of the covers (17, 17') complete the packaging of the packages (figs. 6, 7).

[0014] The top cover (17') comprises two side expansions (18), that bend and glue on said side strips (15), and comprises at least one appendix (19) shaped as a bending handle, intended to facilitate the handling of the package during the transport, loading, unloading and storage steps.

[0015] In the second example (figures 2 and 8 to 11) the configuration of the outline cutting (1') is designed for six containers (2). As for the first example, in the packaging step the outline cutting (11) is placed above the containers (2) and is pushed downwards through corresponding open rooms (3') so that the corresponding side shapes (4') and front/back tabs (5') engage in adhesion with the peripheral walls (8) of the same packages. The outline cutting (1') is then lifted up for engaging and con-

straining joint-wise the top portions (9') of the front/back tabs (5') with the bottom projecting ends (10) of the triangular closing and sealing tabs (11) of the Tetrapak containers (fig. 8)

[0016] After that, the bending of the central band (12) of the outline cutting (1'), delimited by bending lines (6'), is pushed upwards by the approach to the centre of the series of containers (2); in this way, the band (12) arranges at a higher height than that relating to the projection of the plugs (13), placing them into spaces (20) and covering them totally (fig. 9).

[0017] The subsequent bending of the reinforcements (14'), associated to a first cover (21), and the superimposition of a second cover (21') with side (22) and end (23) bands, that glue in superimposition on the same reinforcements, complete the packaging of the package (figs. 10, 11). The cover (21') comprises opposite outline cuttings (24) that detached and lifted along bending lines (25), form an excellent bending gripping handle, intended for facilitating the package handling during transport, loading, unloading and storage steps.

[0018] In the third example (figs. 3 and 12 to 19) besides being effective for traditional applications, is also configured for applications with a high weight, for which greater general sturdiness and a more consistent manual grip should be ensured for carrying the packages, for groups of containers not just heavier but also with a larger number of containers, all using a single cardboard sheet of a recycled material or the like.

[0019] As in the previous configurations, the outline cutting (1") (fig. 3) hooks to the containers (2) of the packages through the engagement and the constraint of its front/back tabs (5), bent upwards, in the projecting bottom ends (10) of the triangular closing and sealing tabs present on the packages of the Tetrapak type whereas the side shapes (4) arrange in adhesion with the peripheral walls (8) of the same containers.

[0020] After that, the central band (12) of the outline cutting, delimited by bending lines (6'), is pushed upwards by the approach to the centre of the containers (2), arranging at a higher height than that relating to the projection of the plugs (13); end bands (16) are then bent upwards and covers (17, 17') associated thereto are placed in superimposition to the plugs (13) closing the packaging at the top.

[0021] After that, reinforcements (35) are bent along the sides of the package and in adhesion with outside surfaces (8) of the containers (2), and reinforcements (34) are superimposed and constrained thereto (35) forming, with the band (12), the bands (16) and the covers (17, 17'), a top box space wherein the plugs (13) find a location protected from possible damages during the transport of packages and in the superimposed piling of the packaging thus obtained, along with said front/back tabs (5) engaged at the bottom projecting ends (10) of the triangular closing and sealing tabs present on Tetrapak packages.

[0022] For a greater resistance to external loads re-

sulting from said possible piling, on reinforcements (34) and (35) there are made teeth (34') and (35') which may be bent and engaged with one another inwards of said space, generating structural stiffening at the inside edges of the packages.

[0023] The top cover (17) comprises two side expansions (18), that bend, engage and constrain on said side reinforcements (34). The same covers (17, 17') comprise precut handles (19) bending outwards and intended for forming, together, a robust manual grip for handling the package during the transport, loading, unloading, storage steps and for the collection and transport handling by the buyers.

[0024] The superimposed parts (34), (35), (18), (17, 17') are constrained to each other by adhesives. Half cut traces (40) may be made on the surfaces of the outside bands (16), to facilitate the tearing breakage of the packages to use the products comprised in the Tetrapak containers.

[0025] In the practice it is seen: that the constraining means between the outline cutting (1, 1', 1") and the containers (2) of each package consist of the hooking between the top portions (9, 9') of the tabs (5, 5') and the bottom projecting ends (10) of the triangular closing and sealing tabs (11), present on the containers (2); that the reinforcements (14, 14'), and/or strips (15) and/or end bands (16), along with the peripheral edges (15, 18, 22, 34) and covers (17, 17'), (21, 21') superimposed and glued to one another constitute the constraining and peripheral containment means of the packaging of series of containers (2) and form a box space for the protective containment of the plugs (13) of the containers (2).

Claims

1. Outline cutting (1, 1', 1") for groups of containers (2) of the Tetrapak type **characterised in that** it consists of a single flat sheet, comprising open spaces (3, 3') with side shapes (4, 4') and front/back tabs (5, 5') that bent by the introduction of said containers (2), position the same into alignment with a constraint through the hooking between the top portions (9, 9') of said tabs (5, 5') and the bottom projecting ends (10) of the triangular closing and sealing tabs (11), present on the Tetrapak packages; said outline cutting (1, 1', 1") comprising a central band (12, 12'), liftable at a higher height than that of projection of the plugs (13) of said containers, which together with peripheral reinforcements (14, 14'), strips (15, 34) and end bands (16) and along with peripheral edges (18, 22) and covers (17, 17'), (21, 21') that may be superimposed and glued to one another, forms a box space for protective containment, said covers being provided with handle appendices (19); said outline cutting (1") being further **characterised in that** it comprises side reinforcements (34) and (35) whereon teeth (34') and (35') are made, which may be

bent and engaged with one another inwards and at the edges of the same outline cuttings assembled, with structural stiffening arrangement; said version comprising covers (17, 17') provided with precut (19) handles that may be bent outwards that, together, 5
arrange as a single manual grip.

2. Outline cutting for groups of containers of the Tetrapak type according to claim 1, **characterised in that** said central band (12, 12') of said outline cutting (1, 1', 1''), is delimited by bending lines (6', 6''), and is pushed upwards through the approach to the centre of the pairs of containers (2), arranging at a higher height than that relating to the projection of the plugs (13) of said packages of the Tetrapak type. 10
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3. Outline cutting for groups of containers of the Tetrapak type according to claims 1 and 2, **characterised in that** the constraint means between the outline cutting (1, 1', 1'') and said containers (2) consists of the hooking between top portions (9,9') of said tabs (5, 5') and the bottom projecting ends (10) of the triangular closing and sealing tabs (11), present on all of said containers (2) of the Tetrapak type. 20
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4. Outline cutting for groups of containers of the Tetrapak type according to claims 1 to 3, **characterised in that** said reinforcements (14, 14'), and strips (15) and end bands (16), together with said peripheral edges (15, 18, 22, 34) and covers (17, 17'), (21, 21') that may be superimposed and glued to one another are the constraining and peripheral containment means of the packages of series of containers (2) of the Tetrapak type 30
and constitute a chamber wherein the plugs (13) of the same packaged containers (2) are positioned. 35
5. Outline cutting for groups of containers of the Tetrapak type according to claims 1 to 3, **characterised in that** it comprises half-cut facilitated breaking traces (40) made on the surfaces of the end bands (16) of the packages. 40
6. Outline cutting for groups of containers of the Tetrapak type according to claims, **characterised in that** the superimposed peripheral parts are constrained to each other by adhesives. 45

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FIG. 1

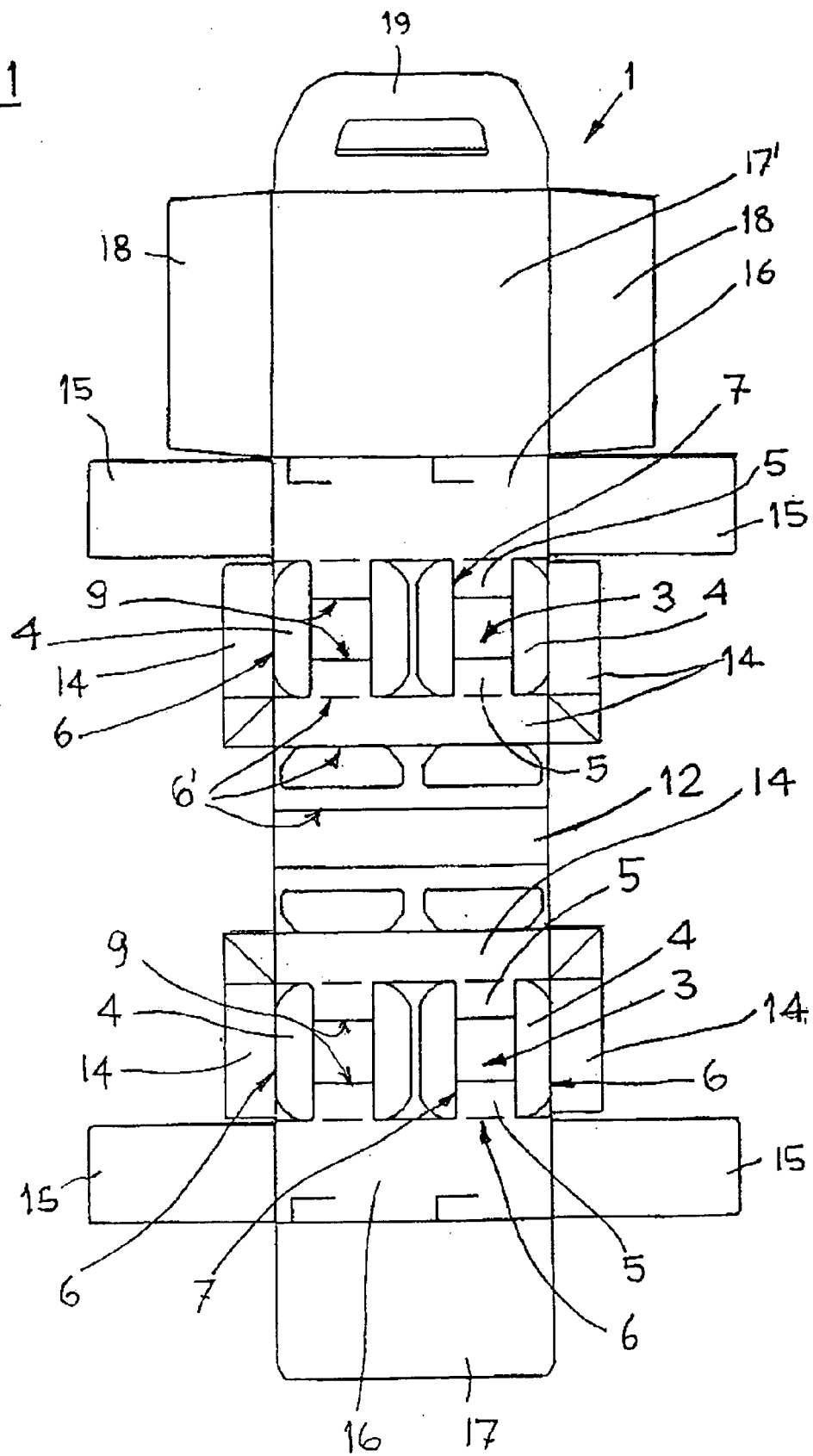
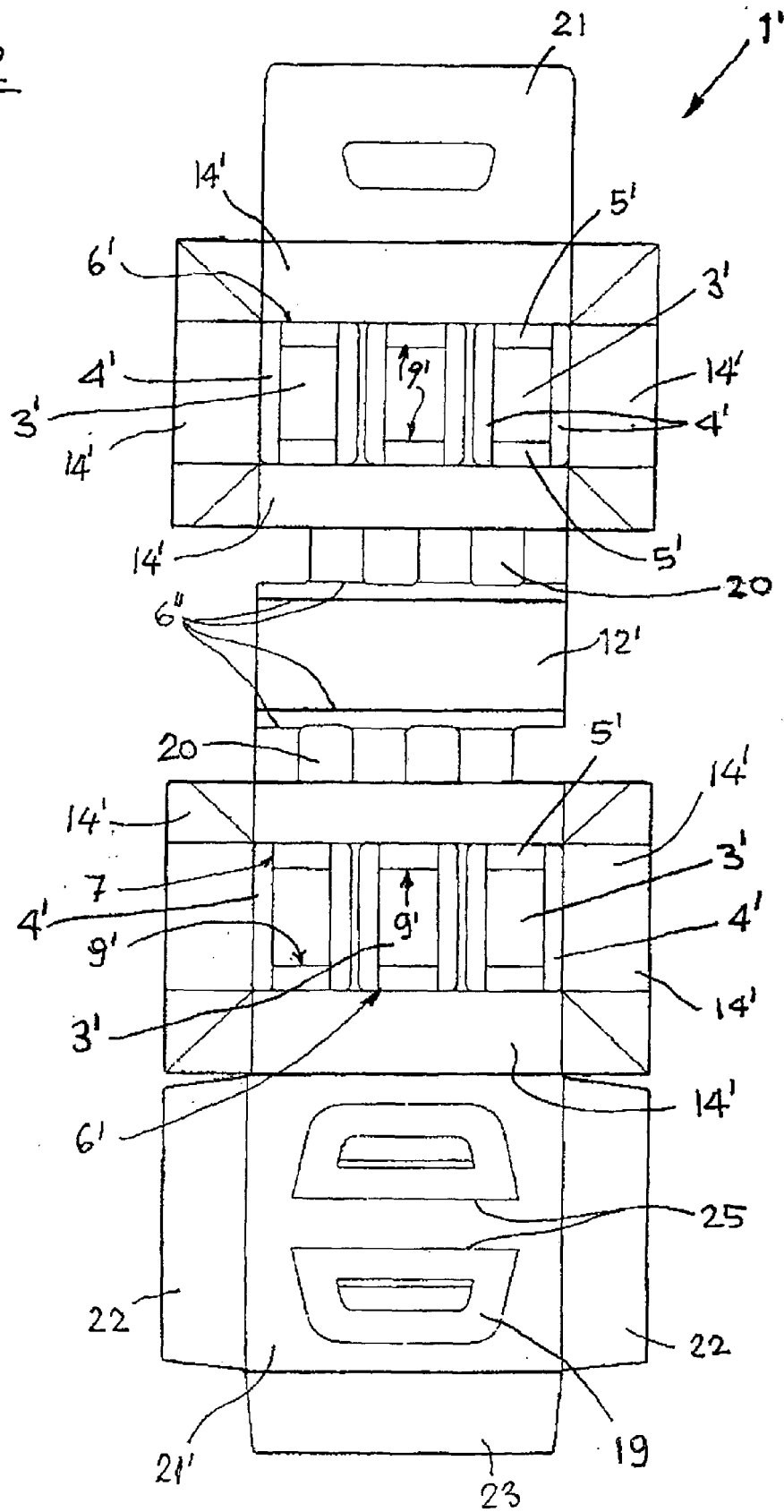
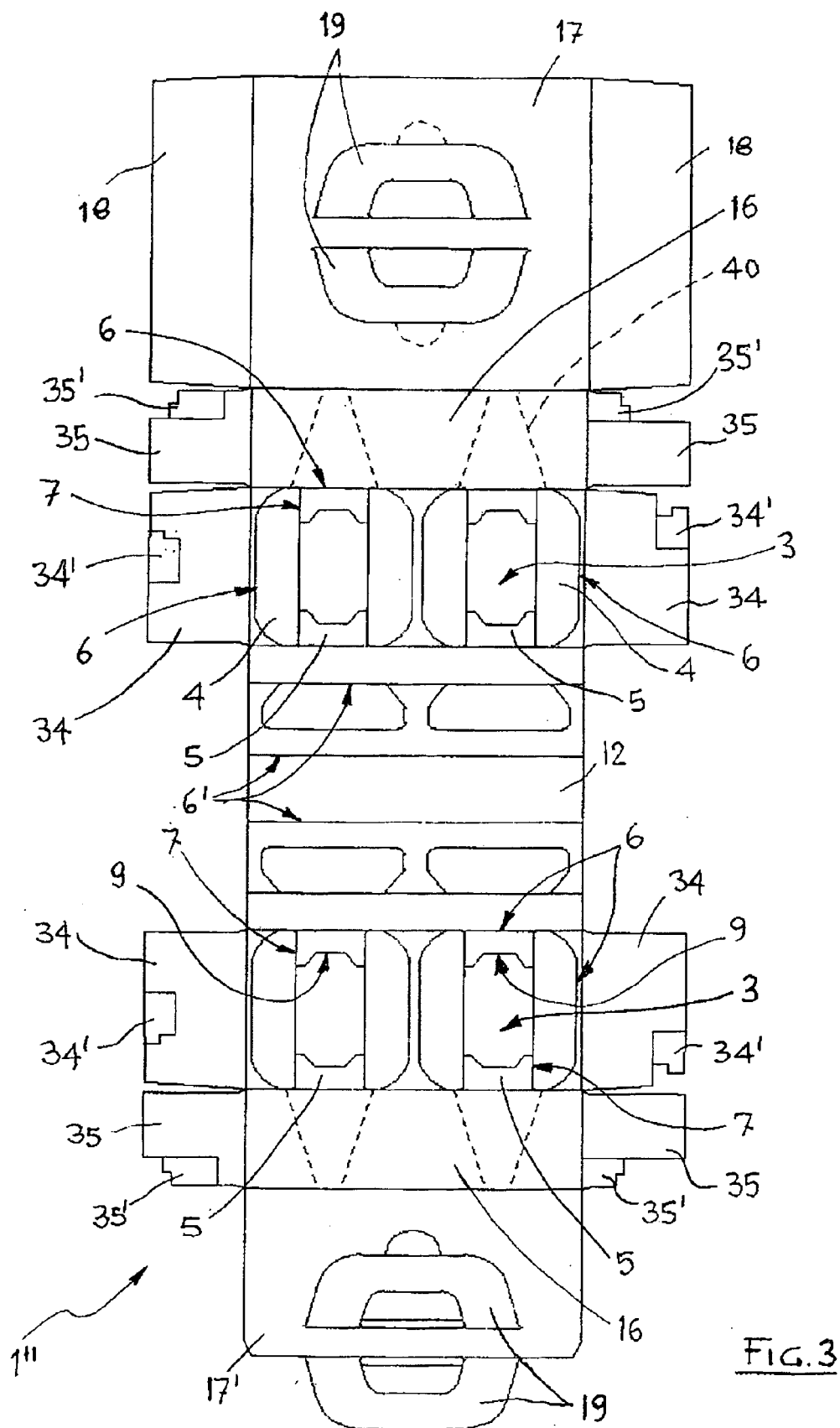
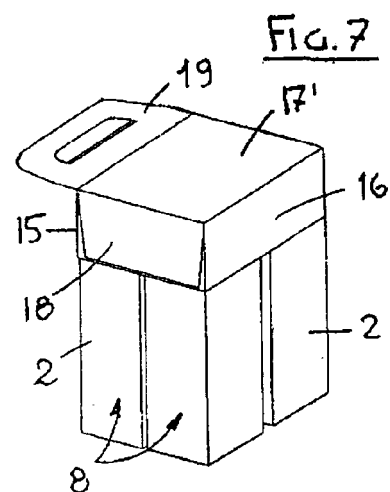
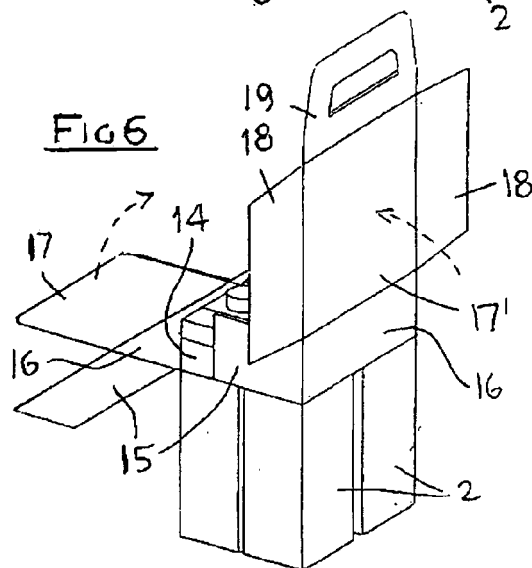
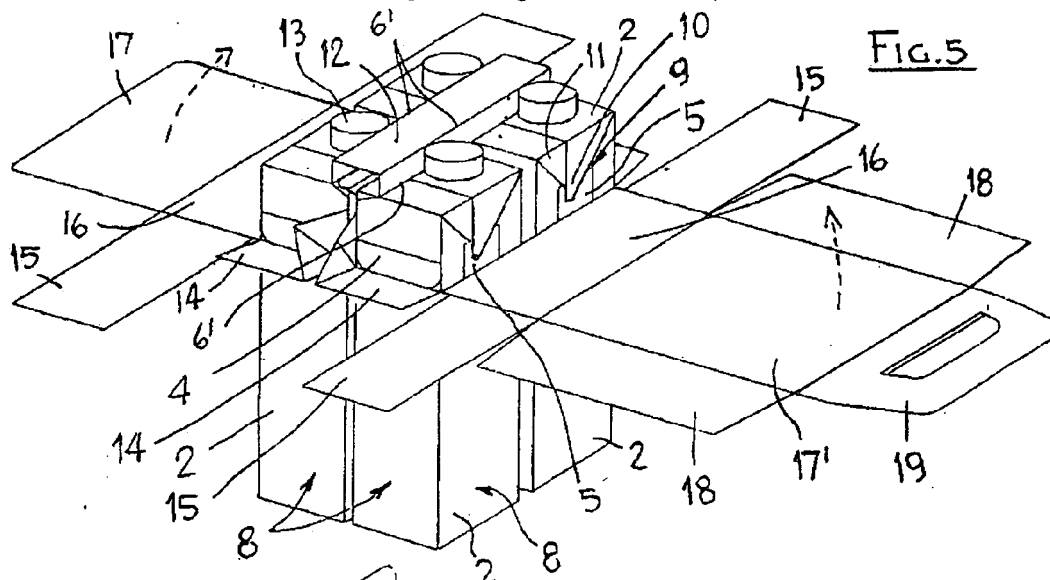
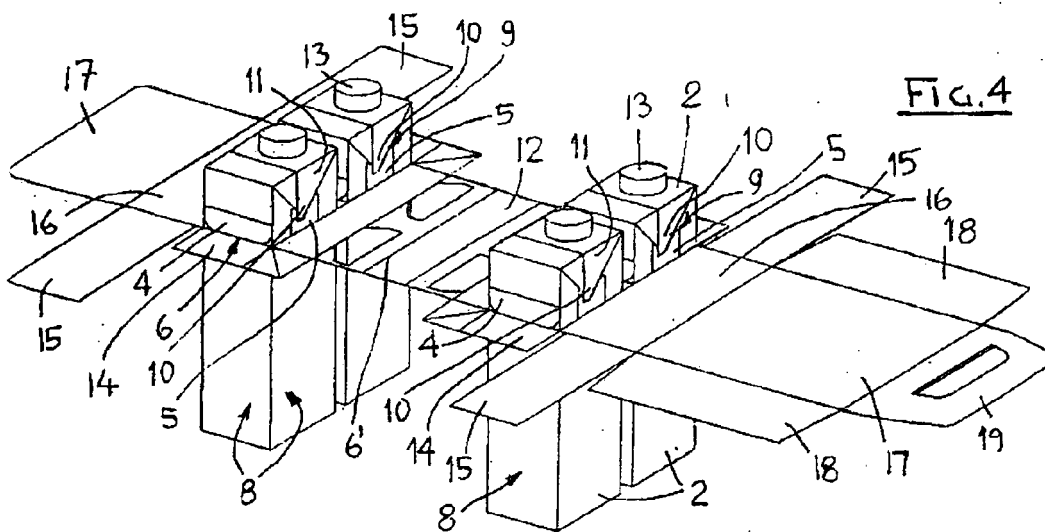
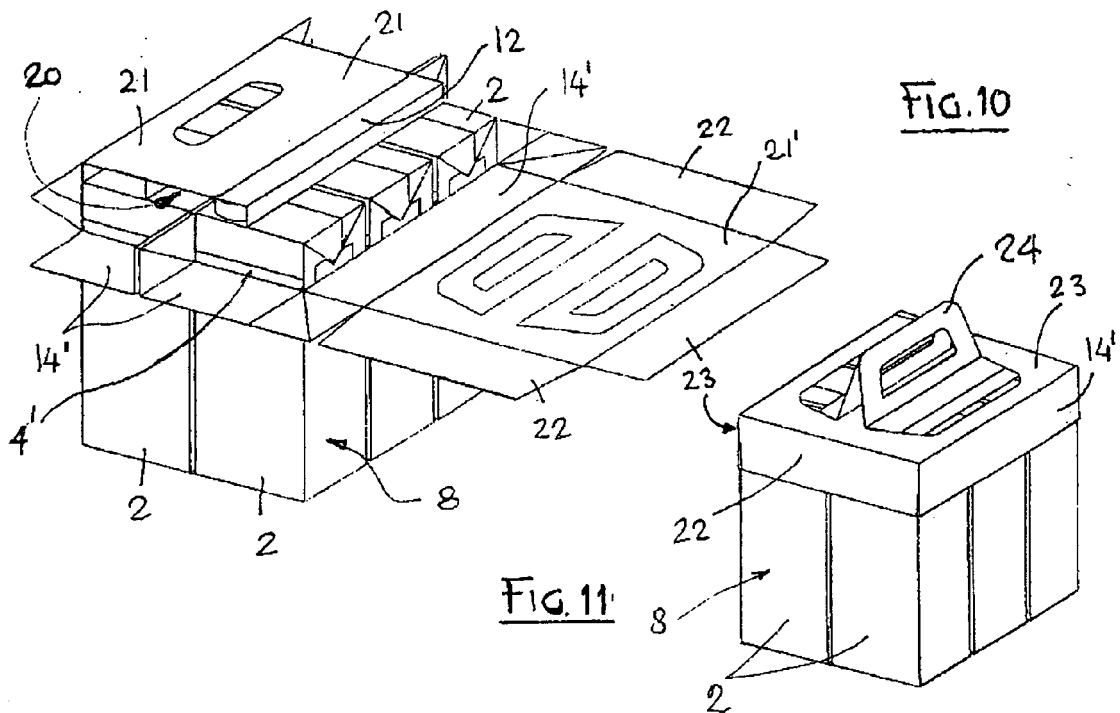
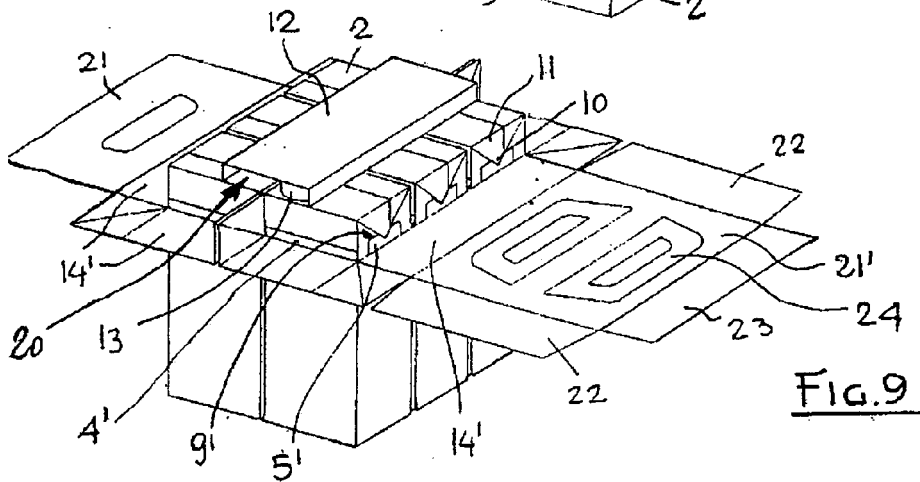
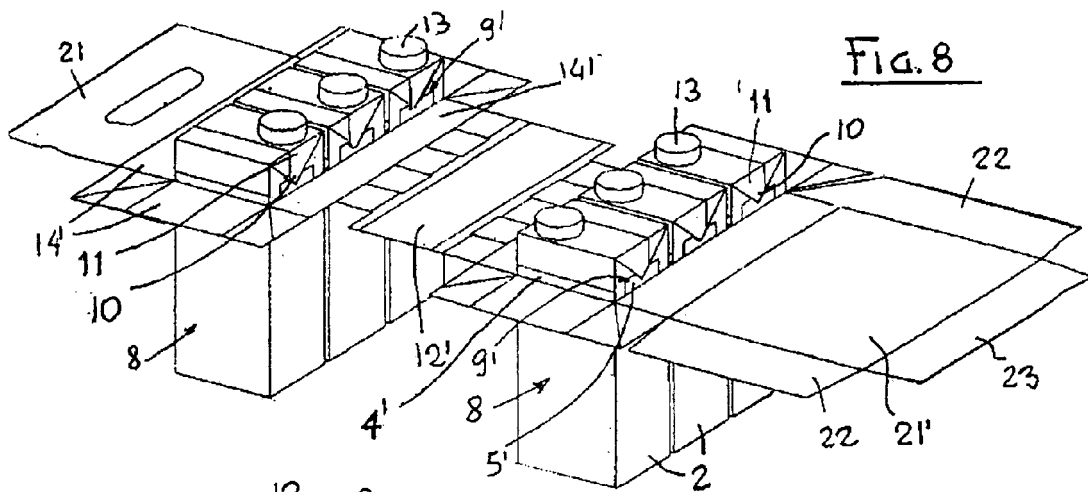


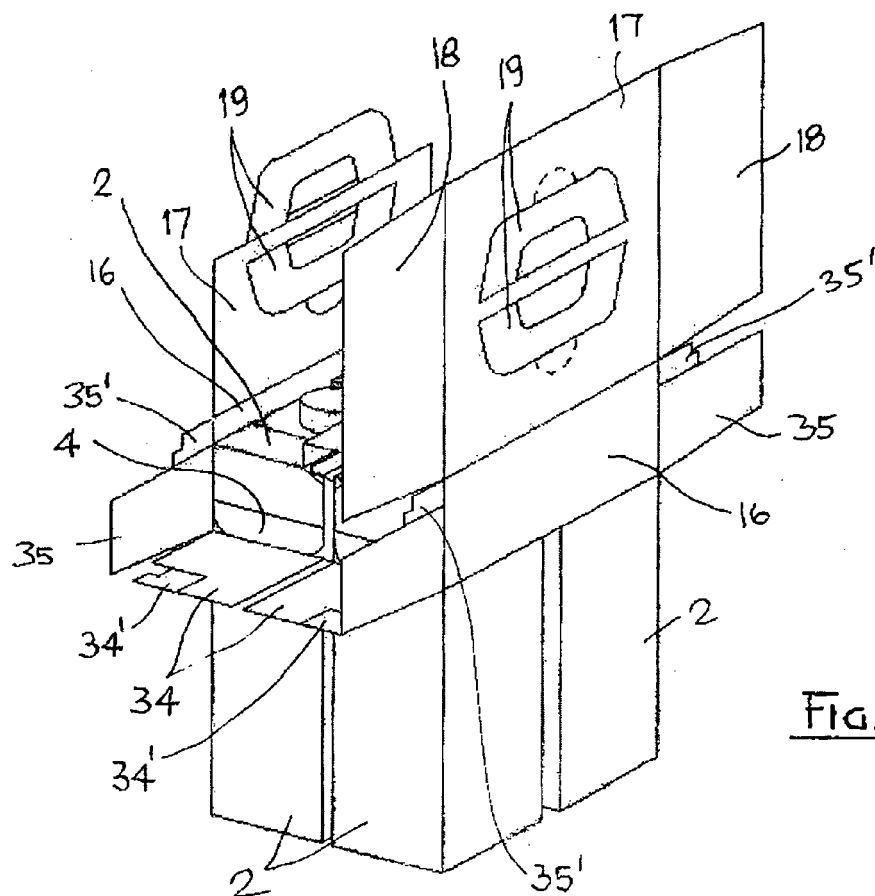
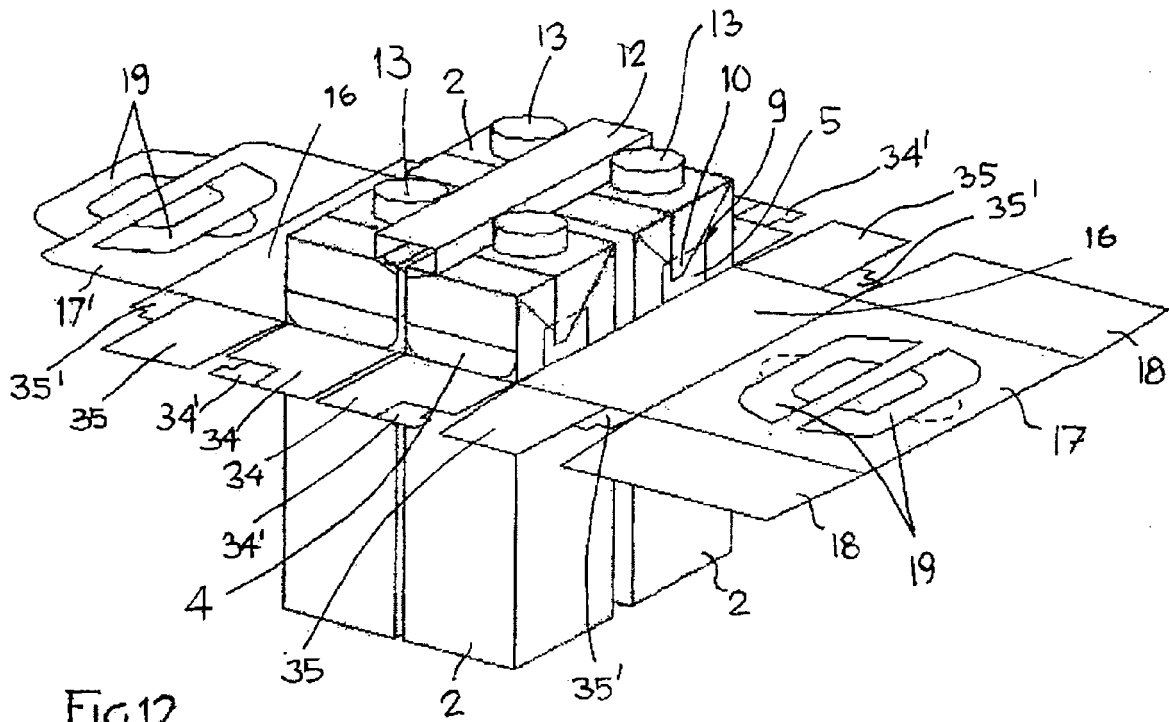
FIG. 2

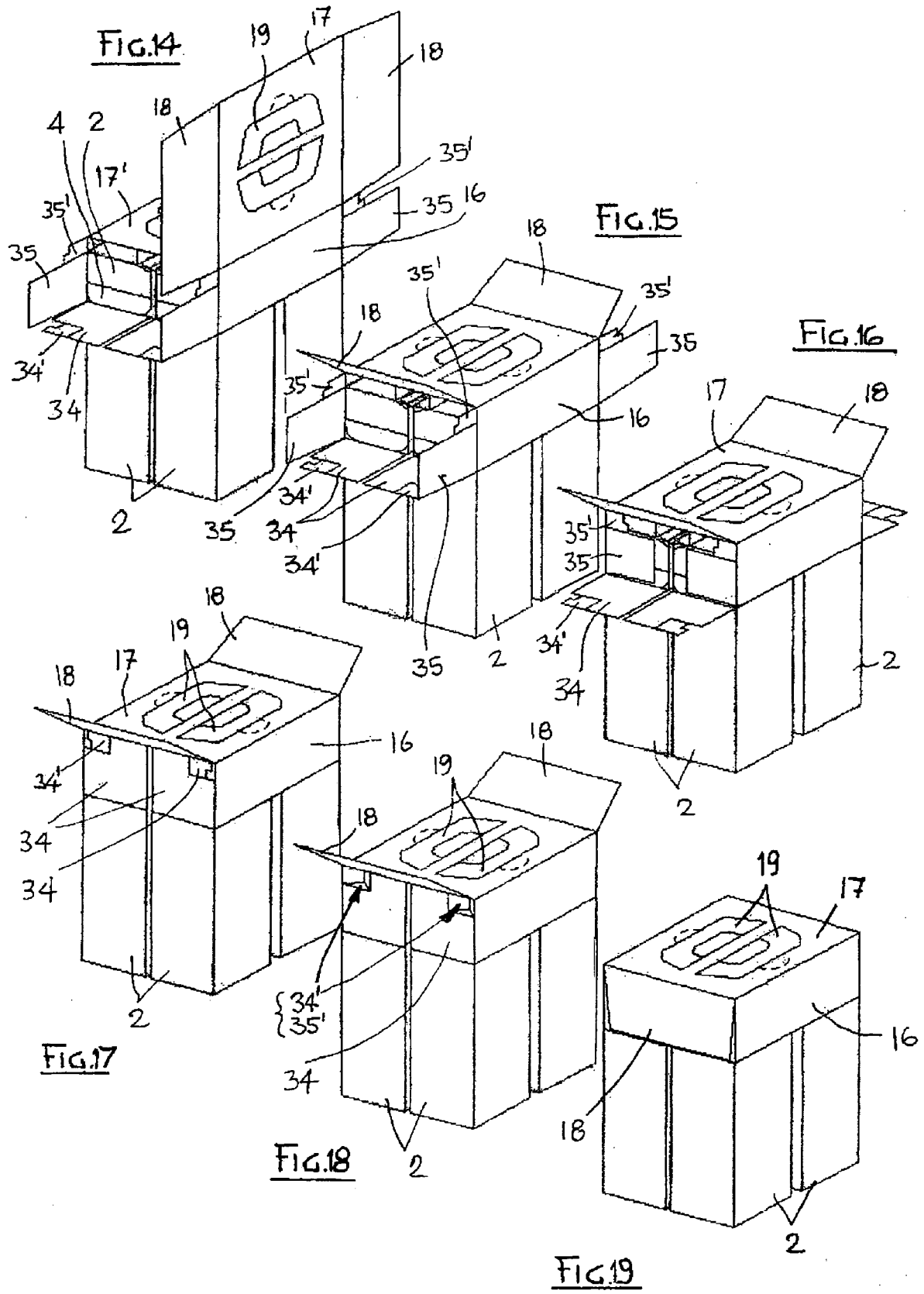














EUROPEAN SEARCH REPORT

Application Number
EP 10 01 0177

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19 November 2010	Examiner Leijten, René
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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**ANNEX TO THE EUROPEAN SEARCH REPORT
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