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(54) **RIGID PACK FOR TOBACCO ARTICLES**

(57) A rigid pack (1) for tobacco articles provided with: a parallelepiped shaped container (2); a parallelepiped shaped lid (3) hinged to the container (2); an inner wrap (4) which encloses a group of tobacco articles, is housed on the inside of the container (2) and has a cross section that is smaller than the cross section of the container (2); and a collar (13), which embraces the inner wrap (4), is internally glued to the container (2) and comes out of the open upper end of the container (2); the collar (13) has: a front wall (14), two side walls (15), an upper wall (16), a pull-out opening (18) for the tobacco articles which extends on a portion of the front wall (14) and on a portion of the upper wall (16), a rear wall (17), and at least one support element (25; 37), which projects from a corresponding wall (15; 17) of the collar (13) and rests against the inner wrap (4).

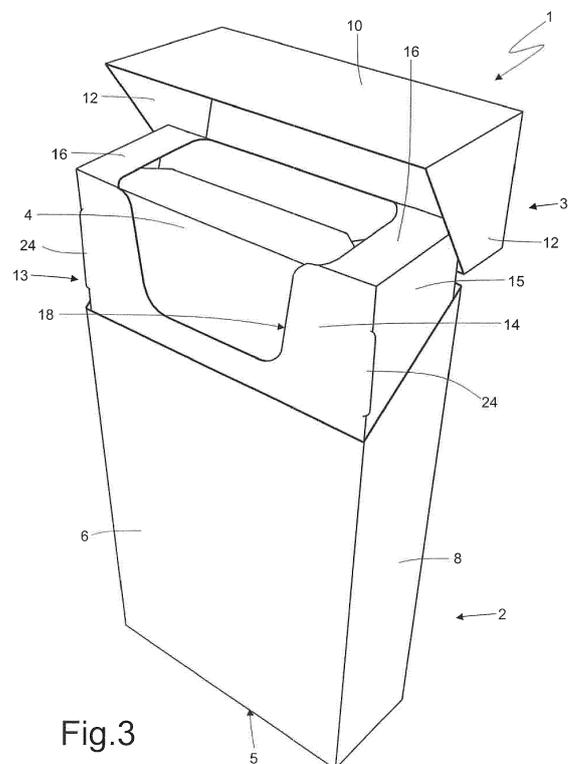


Fig.3

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DescriptionTECHNICAL FIELD

[0001] The present invention relates to a rigid pack for tobacco articles.

[0002] In particular, the present invention relates to a rigid pack for tobacco articles with a hinged lid and internally provided with a collar having an upper wall and a rear wall.

The present invention finds advantageous application to a pack of cigarettes containing a group of small-sized cigarettes, to which the following description will make explicit reference without implying any loss of generality

PRIOR ART

[0003] The patent applications EP2311632-A1, EP0443365-A2, EP0801011-A1 and EP2666736-A1 describe a rigid pack of cigarettes with a hinged lid which is internally provided with a collar and has been modified to house a group of small-sized cigarettes, namely a group of cigarettes smaller than the total inner volume.

[0004] In the patent application EP2311632-A1 the collar is of a standard type whereas the container is provided with containment elements that protrude inwards to rest against the group of cigarettes in order to prevent the group of cigarettes from "*shaking*" inside the pack of cigarettes. In the patent applications EP0443365-A2, EP0801011-A1 and EP2666736-A1 the container is of a standard type and the collar is provided with containment elements that protrude inwards to rest against the group of cigarettes in order to prevent the group of cigarettes from "*shaking*" inside the pack of cigarettes.

[0005] In fact, if the group of cigarettes were free to "*shake*" inside the pack of cigarettes, the movement of the group of cigarettes during handling of the pack of cigarettes (both in the production step, and during the distribution and selling step) would subject the cigarettes to mechanical stress that could easily cause an emptying of the tips (i.e. loss of tobacco fibers from the free ends of the cigarettes).

[0006] However, these known technical solutions have some drawbacks in that they are not always able to provide adequate restraint of the group of cigarettes (i.e. are not always able to effectively prevent the group of cigarettes from "*shaking*" inside the pack of cigarettes).

[0007] Finally, the document WO2015067999-A1 illustrates a pack of cigarettes provided with a collar which is suitably folded so as to act as a filler for wrapping for small-sized or reduced number cigarettes. The collar is provided with upper walls that are arranged at a different height than the height of the upper wall of the inner wrap of the group of cigarettes; in particular, the upper surface of the collar is lower than the upper surface of the group of cigarettes, so as to ensure ease of extraction of the cigarettes. Said filler collar is, however, not very stable since being devoid of a rear wall, i.e. it surrounds the

wrapped group of cigarettes only on three of its five free sides that come out from the pull-out opening of the container body. Furthermore, in the packaging step it is necessary to apply glue points to keep the panels that make up the upper walls of the collar connected and this operation is not always perfect, due to the high production speed of the machines for packaging packs of cigarettes, which often results in the staggered overlapping of said panels.

DESCRIPTION OF THE INVENTION

[0008] The object of the present invention is to provide a rigid pack for tobacco articles with a hinged lid and internally provided with a collar which is free from the drawbacks described above and, in particular, is simple and inexpensive to produce. According to the present invention a rigid pack for tobacco articles is provided, as claimed in the attached claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The present invention will now be described with reference to the accompanying drawings, which illustrate some examples of non-limiting embodiments, wherein:

- Figure 1 is a front perspective view and in a closed configuration of a pack of cigarettes according to the present invention;
- Figure 2 is a rear perspective view and in a closed configuration of the pack of cigarettes of Figure 1;
- Figure 3 is a front perspective view and in an open configuration of the pack of cigarettes of Figure 1;
- Figure 4 is a cross-sectional view of the pack of cigarettes of Figure 1;
- Figure 5 is a front perspective view of a collar of the pack of cigarettes of Figure 1 coupled to an inner wrap;
- Figure 6 is a rear perspective view of only the collar of Figure 5;
- Figure 7 is a plan view of a blank used to make a container and a lid of the pack of cigarettes of Figure 1;
- Figure 8 is a plan view of a blank used to make the collar of Figure 5;
- Figure 9 is a plan view of an alternative of the blank of Figure 8;
- Figure 10 is a rear perspective view of an alternative of the collar of Figure 5;
- Figure 11 is a plan view of a blank used to make the collar of Figure 10;
- Figure 12 is a plan view of a further alternative of the blank of Figure 8;
- Figure 13 is a rear perspective view of a different embodiment of the collar of Figure 5;
- Figure 14 is a plan view of a blank used to make the collar of Figure 13;

- Figure 15 is a front perspective view of a further embodiment of the collar of Figure 5;
- Figure 16 is a rear and partial perspective view of the collar of Figure 15;
- Figure 17 is a schematic view and in cross section of an upper part of the collar of Figure 15;
- Figure 18 is a plan view of a blank used to make the collar of Figure 15;
- Figure 19 is a rear perspective view of a further embodiment of the collar of Figure 5;
- Figure 20 is a plan view of a blank used to make the collar of Figure 19;
- Figure 21 is a schematic view and in cross section of an upper part of an alternative of the collar of Figure 19; and
- Figure 22 is a plan view of a blank used to make the collar of Figure 21.

PREFERRED EMBODIMENTS OF THE INVENTION

[0010] In Figures 1, 2 and 3 number 1 denotes as a whole a rigid pack of cigarettes.

[0011] The pack 1 of cigarettes comprises a parallelepiped shaped container 2, a parallelepiped shaped lid 3 which is hinged to the rear part of the container 2 for rotating between a closed position (illustrated in Figures 1 and 2) and an open position (illustrated in Figure 3), and an inner wrap 4 (partially illustrated in Figure 3) which encloses a group of cigarettes and is housed inside the container 2. Normally (but not obligatorily), the inner wrap 4 is formed by the group of cigarettes wrapped in a wrapping sheet of metalized paper which is provided with a tear-off upper portion removable at the first opening of the pack 1 of cigarettes; alternatively, the inner wrap 4 may be formed by the group of cigarettes wrapped in a wrapping sheet of waterproof and heat-sealable plastic material which is provided with a pull-out opening covered by a repositionable closing label (i.e. usable several times).

[0012] In the following description of the pack 1 of cigarettes, terms such as "bottom" and "top" and "front" and "rear" will be used to designate the positions of portions of the pack 1 of cigarettes, assuming that the pack 1 is located in an arrangement such that the direction of its prevailing development coincides with the vertical direction; therefore, the lower and upper walls are arranged "at the bottom" and "at the top", respectively, and the front (or face) and rear walls define the "the front" and "the rear", respectively.

[0013] The term "cross section" means a section of the pack 1 or of the inner wrap 4 obtained perpendicularly to its prevailing development direction.

[0014] The term "width" means a dimension measured parallel to the front wall and perpendicular to the side walls and to the prevailing development direction of the pack 1.

[0015] The term "height" means a dimension measured parallel to the front wall and to the prevailing devel-

opment direction of the pack 1, and perpendicular to the lower and upper walls.

The term "depth" means a dimension measured perpendicular to the front wall and to the prevailing development direction of the pack 1, and parallel to the side walls.

[0016] The container 2 is cup-shaped, has a parallelepiped shape and has an open upper end, a lower wall 5 opposite to the open upper end, a front wall 6, a rear wall 7 (parallel and opposite to the front wall 6), and two side walls 8 (parallel and opposite to each other). In the container 2, between the front and rear walls 6 and 7, respectively, and the side walls 8 four longitudinal edges are defined, which are arranged parallel to the cigarettes of the group of cigarettes. In the container 2, between the walls 6, 7 and 8 and the lower wall 5 four transverse edges are defined, which are arranged perpendicular to the cigarettes of the group of cigarettes.

[0017] The lid 3 is cup-shaped, has a parallelepiped shape and has an upper wall 9 (parallel and opposite to the lower wall 5 of the container 2 when the lid 3 is arranged in the closed position), a front wall 10 (coplanar and adjacent to the front wall 6 of the container 2 when the lid 3 is arranged in the closed position), a rear wall 11 (hinged to the rear wall 7 of the container 2 and coplanar with the rear wall 7 of the container 2 when the lid 3 is arranged in the closed position), and two side walls 12 (coplanar and adjacent to the corresponding side walls 8 of the container 2 when the lid 3 is arranged in the closed position). In the lid 3, between the front and rear walls 10 and 11, respectively, and the side walls 12 four longitudinal edges are defined, which are arranged parallel to the cigarettes of the group of cigarettes (when the lid 3 is arranged in the closed position). In the lid 3, between the walls 10, 11 and 12 and the upper wall 9 four transverse edges are defined, which are arranged perpendicular to the cigarettes of the group of cigarettes (when the lid 3 is arranged in the closed position).

[0018] In the embodiments illustrated in the attached figures all the edges are straight; according to other embodiments not illustrated and perfectly equivalent part of the longitudinal and/or transverse edges may be bevelled or rounded.

[0019] As well illustrated in Figure 4, the inner wrap 4 has a cross section (significantly) smaller than the cross section of the container 2, and therefore in the container 2 a space of significant size (approximately 10-40% of the total volume of the container 2) remains unoccupied by the inner wrap 4. In particular, in the embodiment illustrated in Figure 4 the inner wrap 4 is narrower than the container 2 (i.e. the width of the inner wrap 4 is smaller than the inner width of the container 2); according to a different embodiment not illustrated, the inner wrap 4 may be (additionally or alternatively) shallower than the container 2 (i.e. the depth of the inner wrap 4 could be less than the depth of the container 2).

[0020] As illustrated in Figures 3, 5 and 6, the pack 1 of cigarettes comprises a collar 13 which embraces the inner wrap 4, is internally glued to the container 2 and

comes out of the upper open end of the container 2. The collar 13 in cross section is substantially "U"-shaped and has a front wall 14 which is superimposed on and glued to the front wall 6 of the container 2 and two side walls 15 that are folded by 90° relative to the front wall 14 and are superimposed on and glued to the side walls 8 of the container 2. In addition, the collar 13 comprises an upper wall 16 which is arranged perpendicular to the front wall 14 and to the side walls 15 and is parallel to and facing (and substantially in contact with) the upper wall 9 of the lid 3, when the lid 3 is in the closed position (illustrated in Figures 1 and 2). Finally, the collar 13 comprises a rear wall 17 which is perpendicular to the upper wall 16 and to the side walls 15, is parallel and opposite to the front wall 6, and is superimposed on and glued to the rear wall 7 of the container 2; furthermore, the rear wall 17 of the collar 13 is parallel to and facing (and substantially in contact with) the rear wall 11 of the lid 3, when the lid 3 is in the closed position (illustrated in Figures 1 and 2). The front wall 14 and the rear wall 17 of the collar 13 are in direct contact with (i.e. rest on) the front wall and the rear wall of the inner wrap 4, respectively, whereas the side walls 15 of the collar 13 are arranged at a given distance from the side walls of the inner wrap 4 and touch the side walls of the inner wrap 4 by means of respective inner protrusions which will be better described hereinafter.

[0021] The collar 13 has a pull-out opening for the cigarettes which is centrally arranged and extends on a portion of the front wall 14 of the collar 13 and on an upper portion of the wall 16 of the collar 13. The pull-out opening 18 is defined by a through incision having a closed shape which is obtained through the collar 13 and internally delimits a throwaway portion of the collar 13 which is eliminated before folding the collar 13 around the inner wrap 4. In the embodiment illustrated in the attached figures, the pull-out opening 18 extends on the entire depth of the upper wall 16 of the collar 13 and therefore the upper wall 16 of the collar 13 is physically present only at the two opposite sides of the pull-out opening 18; according to a different embodiment illustrated only in Figure 22, the pull-out opening 18 does not extend on the entire depth of the upper wall 16 of the collar 13 and therefore the upper wall 16 of the collar 13 is physically present both at the two opposite sides of the pull-out opening 18, and in the back of the pull-out opening 18 (i.e. the upper wall 16 of collar 13 comprises a fixed frame which is "U"-shaped and surrounds an upper part of the pull-out opening 18 from three sides).

[0022] The collar 13 has the function of keeping the inner wrap 4 in a correct position, i.e. to prevent the inner wrap 4 from performing unwanted movement inside the container 2 (since the inner wrap 4 is smaller than the container 2). Furthermore, the collar 13 also has the function of keeping the lid 3 in the closed position with a certain force to avoid unwanted openings of the lid 3 itself; said function of "restraining" the lid 3 in the closed position is carried out thanks to the fact that when the lid 3 is in the

closed position the inner collar 13 partially protrudes from the open end of the container 2 and then engages a corresponding inner surface of lid 3: in this way to open the lid 3 it is necessary to elastically and slightly deform the lid 3 and/or the collar 13 and is therefore necessary to apply a given force to the lid 3 in order to open the lid 3 itself. According to the embodiments illustrated in Figures 1-14, the front wall 14 of the inner container 3 is provided with a pair of extensions 24 which laterally protrudes to engage with interference the lid 3 when the lid 3 is in the closed position so as to keep the lid 3 in the closed position with greater force. According to the different embodiment illustrated in Figures 15-18, the front wall 14 of the inner container 3 is devoid of the extensions 24.

[0023] In order to keep the inner wrap 4 in a correct position, by compensating for the smaller width of the inner wrap 4 in respect to the inner width of the container 2, the collar 13 comprises a pair of support elements 25, each of which raises (protrudes) from a corresponding side wall 15 of the collar 13 and rests against the inner wrap 4 to help keep the inner wrap 4 in the correct position. Namely the two support elements 25 protrude inwardly from the side walls 15 of the collar 13 and touch the side walls of the inner wrap 4. Each support element 25 is, in its cross sectional view, "L"-shaped (clearly visible in Figure 4) and comprises a panel 26 which originates from a corresponding side wall 15 of the collar 13 and is arranged perpendicular to the side wall 15 itself and a panel 27 which is joined to the panel 26, originates from the front wall 14 of the collar 13, is arranged perpendicular to the front wall 14 and rests on a corresponding side wall of the inner wrap 4. In the case in which the thickness of the inner wrap 4 is less than the thickness of the container 2 and to keep the inner wrap 4 in a correct position by compensating for the reduced thickness of the inner wrap 4 compared to the thickness of the container 2, to the inner wrap 4 a filler element may be coupled, which is interposed between a rear wall of the inner wrap 4 and the rear wall 7 of the container 2.

[0024] The container 2 and the lid 3 are obtained by folding a blank 28 (illustrated in Figure 7) around the inner wrap 4 and the collar 13 (previously folded around to the inner wrap 4), which comprises a plurality of panels that will be marked with accented reference numbers equal to the reference numbers that distinguish the corresponding walls of the container 2 and of the lid 3. As illustrated in Figure 7, the blank 28 has two longitudinal folding lines 29 (which define the longitudinal edges of the container 2 and of the lid 3) and a plurality of transverse folding lines 30 which define, between the two longitudinal folding lines 29, a panel 6' which forms the front wall 6 of the container 2, a panel 5' which forms the lower wall 5 of the container 2 and is directly connected to the panel 6' along a transverse folding line 30, a panel 7' which forms the rear wall 7 of the container 2 and is directly connected to the panel 5' along a transverse folding line 30, a panel 11' which forms the rear wall 11 of the lid 3 and is directly connected to the panel 7' along a transverse folding line

30, a panel 9' which forms the upper wall 9 of the lid 3 and is directly connected to the panel 11' along a transverse folding line 30, a panel 10' which forms the front wall 10 of the lid 3 and is directly connected to the panel 9' along a transverse folding line 30.

[0025] The blank 28 comprises a flap 31, which is connected to the panel 10' along a transverse folding line 30, is folded by 180° against the panel 10', and is internally glued to the panel 10' itself.

[0026] The blank 28 comprises a pair of wings 8', which are arranged on opposite sides of the panel 6', are connected to the panel 6' along the two longitudinal folding lines 29, and form part of side walls 8 of the container 2. The blank 28 comprises a pair of wings 8", which are arranged on opposite sides of the panel 7', are connected to the panel 7' along the two longitudinal folding lines 29, form part of side walls 8 of the container 2, and are glued to and superimposed on the corresponding wings 8'. Each wing 8" comprises a tab 32 which is folded by 90° relative to the wing 8" and is superimposed on and glued to the panel 5' inside of the container 2.

[0027] The blank 28 comprises a pair of wings 12', which are arranged on opposite sides of the panel 10', are connected to the panel 10' along the two longitudinal folding lines 29, and form part of the side walls 12 of the lid 3. The blank 28 comprises a pair of wings 12", which are arranged on opposite sides of the panel 11', are connected to the panel 11' along the two longitudinal folding lines 29, form part of the side walls 12 of the lid 3, and are glued to and superimposed on the corresponding wings 12'. Each wing 12" comprises a tab 33 which is folded by 90° relative to the wing 12" and is superimposed on and glued to the panel 9' inside of the lid 3.

[0028] The collar 13 is obtained by folding, around the inner wrap 4, a blank 34 (illustrated in Figure 8) comprising a plurality of panels that are marked with accented reference numbers equal to the reference numbers that distinguish the corresponding walls of the collar 13. According to what is illustrated in Figure 8, the blank 28 comprises a panel 14' which forms the front wall 14 of the collar 13, a panel 16' (divided into two opposite parts) which forms the upper wall 16 of the collar 13 and is directly connected to the panel 14' along a transverse folding line, and a panel 17' which forms the rear wall 17 of the collar 13 and is directly connected to the panel 16' along a transverse folding line. The blank 34 comprises a pair of tabs 15', which are arranged on opposite sides of the panel 14', are connected to the panel 14' along two longitudinal folding lines, and form the side walls 15 of the collar 13.

[0029] In the embodiment illustrated in Figure 8, the panel 16' (i.e. the upper wall 16 of the collar 13) comprises a pair of connection tabs 35, each of which is folded by 90° relative to the panel 16' (i.e. relative to the upper wall 16 of the collar 13) and is glued to an inner face of a corresponding wing 15' (i.e. of a corresponding side wall 15 of the collar 13). In the alternative illustrated in Figure 9, the connection tabs 35 are moved from the panel 16'

(i.e. from the upper wall 16 of the collar 13) to the wings 15' (i.e. to the side walls 15 of the collar 13), therefore in this embodiment, each wing 15' (i.e. each side wall 15 of the collar 13) comprises a connection tab 35, which is folded by 90° relative to the wing 15' (i.e. to the corresponding side wall 15 of the collar 13) and is glued to an inner face of the panel 16' (i.e. of the upper wall 16 of the collar 13). The function of the connection tabs 35 is to establish a mechanical connection between the upper wall 16 of the collar 13 and the side walls 15 of the collar 13 (which are glued to the side walls 8 of the container 2) so as to make the upper wall 16 of the collar 13 more stable, and then, among other things, improve the containment of the inner wrap 4.

[0030] The panel 17' (i.e. the rear wall 17 of the collar 13) comprises a pair of connection tabs 36, each of which is folded by 90° relative to the panel 17' (i.e. relative to the rear wall 17 of the collar 13) and is glued to an inner face or to an outer face of a corresponding wing 15' (i.e. of a corresponding side wall 15 of the collar 13). The function of the connection tabs 36 is to establish a mechanical connection between the rear wall 17 of the collar 13 and the side walls 15 of the collar 13 (which are glued to the side walls 8 of container 2) to make the rear wall 17 of the collar 13 more stable (and indirectly make the upper wall 16 of the collar 13 more stable, which is directly connected to the rear wall 17 of the collar 13) and therefore, among other things, improve the containment of the inner wrap 4. In other words, the connection tabs 36 serve to stabilize the rear wall 17 of the collar 13, i.e. to make the rear wall 17 of the collar 13 more stable in its own position thus preventing the rear wall 17 of the collar 13 from performing (small) unwanted movement particularly during the rotation of the lid 3. Due to the presence of the connection tabs 36 the lid 3 is prevented from jamming against the collar 13 when the lid 3 is closed again after a complete 180° opening. Moreover, thanks to the presence of the connection tabs 36 the keeping of the lid 3 in the closed position is improved.

[0031] In the alternative illustrated in Figure 10, each panel 27 has an appendage 28 protrudes from the panel 27 itself, protruding from the plane defined by the corresponding panel 26; the appendage 28 is obtained by means of a through incision, which is "U"-shaped and is made through the corresponding panel 26. In the alternative illustrated in Figure 10, the connection tabs 36 are glued to an outer face of a corresponding wing 15' (i.e. of a corresponding side wall 15 of the collar 13) and are therefore visible from the outside (as illustrated in Figure 10). In Figure 11 the blank 34, which is similar to the blank 34 illustrated in Figure 9, is illustrated, and is adapted to form the collar 13 provided with the appendages 28 illustrated in Figure 11.

[0032] In Figure 12 a further alternative of the blank 34 illustrated in Figure 8 is illustrated which differs from the blank 34 illustrated in Figure 8 for the rounded shape of the connection tabs 36.

[0033] In the embodiment illustrated in Figure 13, the

side walls 15 of collar 13 are higher than the upper wall 16 of the collar 13 along the vertical direction of the prevailing development of the pack 1 (i.e. the upper wall 16 of the collar 13 is arranged lower than the upper edge of the side walls 15 of the collar 13); in this embodiment, the inner wrap 4 can have the same height as the side walls 15 of the collar 13 (in this case the inner wrap 4 comes out from the pull-out opening 18 reaching beyond the upper wall 16 of the collar 13) or the inner wrap 4 can have the same height as the upper wall 16 of the collar 13 (in this case the inner wrap 4 ends flush with the upper wall 16 of the collar 13, i.e. ends lower than the upper edge 15 of the side walls of the collar 13). In Figure 14 the blank 34, which is similar to blank 34 illustrated in Figure 8, is illustrated and is adapted to form the collar 13 illustrated in Figure 13.

[0034] In the embodiment illustrated in Figures 15, 16 and 17, the inner wrap 4 is less deep than the container 2 (i.e. the depth of the inner wrap 4 is less than the depth of the container 2) and the collar 13 has a support element 37 (better illustrated in Figure 16), which raises (protrudes) from the rear wall 17 of the collar 13 and rests against the inner wrap 4 (in particular against the rear wall of the inner wrap 4) to help keep the inner wrap 4 in the correct position. Namely the support element 37 protrudes towards the inside of the rear wall 17 of the collar 13 and touches the rear wall of the inner wrap 4. The support element 37 is, in its cross sectional view "L"-shaped (clearly visible in Figure 17) and comprises a panel 38 which originates from the upper wall 16 of the collar 13, is arranged perpendicular to the upper wall 16 of the collar 13 and is arranged parallel to the rear wall 17 of the collar 13, and a panel 39 which originates from the rear wall 17 of the collar 13, is arranged perpendicular to the rear wall 17 of the collar 13 and is arranged parallel to the upper wall 16 of the collar 13; therefore the panel 38 is connected on one side to the upper wall 16 of the collar 13 and, on the opposite side, to the panel 39, whereas the panel 39 is connected on one side to the rear wall 17 of the collar 13 and on the opposite side to the panel 38. According to the embodiment illustrated in Figure 15, the collar 13 further comprises two support elements 40, each of which raises (protrudes) from a corresponding side wall 15 of the collar 13 and rests against the inner wrap 4 to help keep the inner wrap 4 in the correct position. Namely the two support elements 40 protrude inwardly from the side walls 15 of the collar 13 and touch the rear wall of the inner wrap 4. Each support element 40 is made up of one single panel 41 which is hinged on one side to a corresponding side wall 15 and is folded by 90° relative to the side wall 15 itself. According to a possible embodiment illustrated in Figure 17, the rear wall 17 of the collar 13 may be glued by means of the glue 42 to the wall 7 of the container 2 to make the collar 13 more rigid in the area of the support element 37 (obviously the rear wall 17 of the collar 13 can never be glued to the rear wall 11 of the lid 2 otherwise it would be impossible to open the lid 2).

[0035] In Figure 18 the blank 34, which is similar to the blank 34 illustrated in Figure 8, is illustrated and is adapted to form the collar 13 illustrated in Figures 15, 16 and 17; note the panels 38 and 39 interposed between the panel 16', which forms the upper wall 16 of the collar 13, and the panel 17', which forms the rear wall 17 of the collar 13.

[0036] In the embodiments illustrated in Figures 1-18, the pull-out opening 18 is defined by a closed shape through incision which is formed through the collar 13 and internally delimits a throwaway portion of the collar 13 which is eliminated before folding the collar 13 around the inner wrap 4; in other words, the part of the collar 13 delimited by the closed shape through incision is separated and eliminated from the remaining part of the collar 13 (thus creating the pull-out opening 18) before folding the collar 13 around the inner wrap 4.

[0037] In the embodiment illustrated in Figure 19, the through incision which defines the pull-out opening 18 has an open "U"-shape, and therefore the collar 13 comprises an inner panel 43 which reproduces the shape of the pull-out opening 18 (since the pull-out opening 18 is obtained by separating the inner panel 43 from the remaining part of the collar 13), always remains connected to the remaining part of the collar 13 and is connected to the remaining part of the collar 13 along a folding line 44 (i.e. a pre-weakened folding line); in this way, the inner panel 43 of the collar 13 is moved away from the walls 14 and 16 of the collar 13, thus releasing (opening) the pull-out opening 18. The inner panel 43 is folded around the folding line 44 and rests against the rear wall 17 of the collar 13: in the embodiment illustrated in Figure 19, the inner panel 43 is folded by 90° around the folding line 44 and rests against the rear wall 17 of the collar 13 in front of the rear wall 17 itself (i.e. the inner panel 43 is located between the rear wall 17 and the inner wrap 4); alternatively, the inner panel 43 is folded by 180° around the folding line 44 and rests against the rear wall 17 of the collar 13 behind the rear wall 17 itself (i.e. the inner panel 43 is located between the rear wall 17 of the collar 13, on one side, and the rear wall 11 of the lid 3 and the rear wall 7 of the container 2 on the other side).

[0038] In Figure 20 the blank 34, which is similar to blank 34 illustrated in Figure 8, is illustrated and is adapted to form the collar 13 illustrated in Figure 19; note the inner panel 43 which is separated from the remaining part of the collar 13 by an open "U"-shaped through incision and is connected to the panel 17' which forms the rear wall 17 of the collar 13 along the folding line 44.

[0039] In the alternative illustrated in Figure 21, the inner wrap 4 is less deep than the container 2 (i.e. the depth of the inner wrap 4 is less than the depth of the container 2) and the collar 13 has the support element 37, which is formed by folding into a "Z" the inner panel 43, raises (protrudes) from the rear wall 17 of the collar 13 and rests against the inner wrap 4 (in particular against the rear wall of the inner wrap 4) to help keep the inner wrap 4 in the correct position. In particular, the inner panel 43 is

divided into a portion 43' which is connected to the upper wall 16 of the collar 13 along the folding line 44, is arranged perpendicular to the upper wall 16 of the collar 13 and is arranged parallel to the rear wall 17 of the collar 13, in a portion 43" which is connected to the portion 43', is arranged perpendicular to the portion 43' and is arranged perpendicular to the rear wall 17 of the collar 13, and in a portion 43''' which is connected to the portion 43", is arranged perpendicular to the portion 43" and is arranged parallel to (and rests on) the rear wall 17 of the collar 13. According to a possible embodiment, the portion 43" of the inner panel 43 may be glued to the rear wall 17 of the collar 13 by means of the glue 45 and/or may be glued to the rear wall 7 of the container 2 by means of the glue 46 (in this way the collar 13, in the area of the support element 37, is made more rigid); obviously the portion 43" of the inner panel 43 can never be glued to the rear wall 11 of the lid 2 otherwise it would be impossible to open the lid 2 itself.

[0040] In Figure 22 the blank 34 is illustrated which is similar to the blank 34 illustrated in Figure 9, and is adapted to form the collar 13 illustrated in Figure 21; note the inner panel 43 which is separated from the remaining part of the collar 13 by an open "U"-shaped through incision, is connected to the panel 16' which forms the upper wall 16 of the collar 13 along the folding line 44, and is divided into the three portions 43', 43" and 43''' by means of corresponding folding lines parallel to the folding line 44.

[0041] In the embodiments illustrated, the inner wrap 4 is arranged symmetrical (i.e. centered) relative to the side walls 8 of the container 2, therefore the side walls of the inner wrap 4 are equidistant from the corresponding side walls 8 of the container 2. According to a different and perfectly equivalent embodiment, not illustrated, the inner wrap 4 is arranged asymmetrical (i.e. not centered) relative to the side walls 8 of the container 2, therefore the side walls of the inner wrap 4 are not equidistant from the corresponding side walls 8 of the container 2; in this embodiment a support element 25 is wider than the other support element 25 or a single support element 25 is provided (therefore, from the opposite side, the inner wrap 4 is arranged in contact with the corresponding side wall 8 of the container 2).

[0042] According to a different embodiment not illustrated, the inner wrap 4 has the same depth of the container 2 and the same width of the container 2 (therefore the collar 13 is devoid of the support elements 25, 37 and 40); in this case, it is not necessary to provide any special containment to the inner wrap 4 as the inner wrap 4 has the same size of the container 2 and the presence of the upper wall 16 and of the rear wall 17 of the collar 13 is justified by the fact of allowing a greater stability to the collar 13 itself.

The pack 1 of cigarettes described above has numerous advantages.

[0043] In the first place, the pack 1 of cigarettes described above ensures in all conditions an adequate re-

straint of the inner wrap 4 (i.e. it is always able to effectively prevent the inner wrap 4 from "shaking" inside the container 2); said result is obtained thanks to the fact that the collar 13 has the upper wall 16 and the rear wall 17 which give to the collar 13 a greater rigidity and thus allow a better containment of the inner wrap 4. At the same time, the presence of the pull-out opening 18 allows to pull-out the cigarettes contained inside the inner wrap 4 even in the presence of the upper wall 16.

[0044] The pack 1 of cigarettes described above uses a relatively modest amount of wrapping material (i.e. only slightly higher than the amount of wrapping material used in a standard type rigid pack with a hinged lid).

[0045] The pack 1 of cigarettes described above also has a great aesthetic impact at the opening of the lid 3, since the upper wall 16 of the collar 13 by upwardly closing the spaces not occupied by the inner wrap 4 (otherwise visible) transmit to the consumer a feeling of "completeness" and "solidity" that are particularly appreciated.

The upper wall 16 of the collar 13 can also be printed with trademarks, designs or writings (due to its very visible position, the upper wall 16 of the collar 13 allows to optimally enhance the printing provided on the upper wall 16 itself).

[0046] The pack 1 of cigarettes described above can be made in a fast and inexpensive manner, since both the blank 34 and the collar 13 have a relatively conventional shape (i.e. similar to the blanks known and normally used to make the collars of a rigid pack of cigarettes with a hinged lid currently on the market); in this context, it is important to note that the blank used to make the container 2 and the lid 3 is entirely conventional (i.e. identical to the blanks known and normally used to make a rigid pack of cigarettes with a hinged lid currently on the market).

[0047] Because of the many advantages presented by the pack 1 of cigarettes described above, the shape of said pack 1 of cigarettes can be integrally destined also for making a packet of other types of smoking articles (such as cigars, cigarettes, electronic charging cartridges for electronic cigarettes, pieces of tobacco for electronic cigarettes).

45 Claims

1. A rigid pack (1) for tobacco articles comprising:

a container (2), which has a parallelepiped shape, has an open upper end, a lower wall (5), a front wall (6), a rear wall (7), and two side walls (8);

a lid (3), which is hinged to the container (2), has a parallelepiped shape and has an upper wall (9), a front wall (10), a rear wall (11), and two side walls (12);

an inner wrap (4) which encloses a group of tobacco articles, is housed on the inside of the

- container (2) and has a cross section that is smaller than the cross section of the container (2); and
 a collar (13), which embraces the inner wrap (4), is internally glued to the container (2), comes out of the open upper end of the container (2) and has a front wall (14), two side walls (15) and an upper wall (16) which is arranged perpendicular to the front wall (14);
 wherein the collar (13) comprises at least one support element (25; 37), which projects from a corresponding wall (15; 17) of the collar (13) and rests against the inner wrap (4) to help keep the inner wrap (4) in the correct position; and
 wherein the collar (13) comprises a pull-out opening (18) for the tobacco articles, which extends on a portion of the front wall (14) of the collar (13) and on a portion of the upper wall (16) of the collar (13);
 the pack (1) for tobacco articles is **characterized in that** the collar (13) comprises a rear wall (17) which is arranged perpendicular to the upper wall (16) is parallel and opposite to the front wall (14), and overlaps the rear wall (7) of the container (2);
 wherein the pull-out opening (18) is defined by an open "U"-shaped through incision; and
 wherein the collar (13) comprises an inner panel (43) which reproduces the shape of the pull-out opening (18) and is connected to the remaining part of the collar (13) along a folding line (44).
2. The pack (1) for tobacco articles according to claim 1, wherein the rear wall (17) of the collar (13) laterally has a pair of first connection tabs (36), which are arranged on opposite sides of the rear wall (17), are folded by 90° relative to the rear wall (17), and are glued to the corresponding side walls (15) of the collar (13).
 3. The pack (1) for tobacco articles according to claim 1 or 2, wherein the upper wall (16) of the collar (13) comprises a pair of second connection tabs (35), each of which is hinged to the upper wall (16), is folded by 90° relative to the upper wall (16), and is glued to a corresponding side wall (15) of the collar (13).
 4. The pack (1) for tobacco articles according to claim 1 or 2, wherein each side wall (15) of the collar (13) comprises a second connection tab (35), which is hinged to the side wall (15), is folded by 90° relative to the side wall (15), and is glued to the upper wall (16) of the collar (13).
 5. The pack (1) for tobacco articles according to any of the claims from 1 to 4, wherein:
 6. The pack (1) for tobacco articles according to claim 5, wherein the first support element (25) is, in its cross sectional view, "L"-shaped and comprises a first panel (26) which originates from a corresponding side wall (15) of the collar (13) and is arranged perpendicular to the side wall (15), and a second panel (27), which is joined to the first panel (26), originates from the front wall (14) of the collar (13), is arranged perpendicular to the front wall (14) and rests against a corresponding side wall of the inner wrap (4).
 7. The pack (1) for tobacco articles according to claim 6, wherein:
 - the second panel (27) has an appendage (28) that projects from the second panel (27), thus extending out of the plane defined by the corresponding first panel (26); and
 the appendage (28) is obtained by means of a through incision, which is "U"-shaped and is made through the corresponding first panel (26).
 8. The pack (1) for tobacco articles according to any one of the claims from 1 to 4, wherein:
 - the inner wrap (4) has a less deep cross section compared to the cross section of the container (2); and
 the collar (13) comprises at least one second support element (37), which projects from the rear wall (17) of the collar (13) and rests against the inner wrap (4) to help keep the inner wrap (4) in the correct position.
 9. The pack (1) for tobacco articles according to claim 8, wherein the second support element (37), is, in its cross-sectional view "L"-shaped and comprises:
 - a third panel (38) which originates from the upper wall (16) of the collar (13), is arranged perpendicular to the upper wall (16) of the collar (13), is arranged parallel to the rear wall (17) of the collar (13), and rests against a rear wall of the inner wrap (4); and
 a fourth panel (39) which originates from the rear wall (17) of the collar (13), is arranged perpendicular to the rear wall (17) of the collar (13), is arranged parallel to the upper wall (16) of the

- collar (13), and is connected to the third panel (38).
10. The pack (1) for tobacco articles according to claim 8 or 9, wherein the collar (13) comprises two third support elements (40), each of which projects from a corresponding side wall (15) of the collar (13) and rests against the inner wrap (4) to help keep the inner wrap (4) in the correct position.
11. The pack (1) for tobacco articles according to claim 10, wherein each third support element (40) is made up of one single panel (41), which is hinged on one side to a corresponding side wall (15) and is folded by 90° relative to the side wall (15).
12. The pack (1) for tobacco articles according to any one of the claims from 1 to 11, wherein the side walls (15) of the collar (13) are higher than the upper wall (16) of the collar (13).
13. The pack (1) for tobacco articles according to claim 12, wherein the inner wrap (4) has the same height as the side walls (15) of the collar (13) and projects from the pull-out opening (18) protruding beyond the upper wall (16) of the collar (13).
14. The pack (1) for tobacco articles according to claim 12, wherein the inner wrap (4) has the same height as the upper wall (16) of the collar (13) and ends flush with the upper wall (16) of the collar (13).
15. The pack (1) for tobacco articles according to any one of the claims from 1 to 14, wherein the inner wrap (4) has a smaller thickness compared to the thickness of the container (2) and a filler element is provided, which is interposed between a rear wall of the inner wrap (4) and the rear wall (7) of the container (2), to help keep the inner wrap (4) in the correct position.
16. The pack (1) for tobacco articles according to any one of the claims from 1 to 15, wherein the inner panel (43) is connected to the rear wall (17) of the collar (13) along the folding line (44), and is folded against the rear wall (17) of the collar (13) around the folding line (44).
17. The pack (1) for tobacco articles according to any one of the claims from 1 to 15, wherein the inner panel (43) is connected to the upper wall (16) of the collar (13) along a folding line (44), and is folded around the folding line (44).
18. The pack (1) for tobacco articles according to claim 17, wherein the inner wrap (4) has a less deep cross section compared to the cross section of the container (2); and
- the collar (13) comprises at least one second support element (37), which projects from the rear wall (17) of the collar (13), rests against the inner wrap (4) to help keep the inner wrap (4) in the correct position, and is made up of the inner panel (43), which is properly folded.
19. The pack (1) for tobacco articles according to claim 18, wherein the inner panel (43) comprises:
- a first portion (43') which is connected to the upper wall (16) of the collar (13) along the folding line (44), is arranged perpendicular to the upper wall (16) of the collar (13) and is arranged parallel to the rear wall (17) of the collar (13); a second portion (43'') which is connected to the first portion (43'), is arranged perpendicular to the first portion (43') and is arranged perpendicular to the rear wall (17) of the collar (13); and a third portion (43''') which is connected to the second portion (43'') and is arranged perpendicular to the second portion (43'') and is arranged parallel to the rear wall (17) of the collar (13).
20. The pack (1) for tobacco articles according to claim 19, wherein the third portion (43''') of the inner panel (43) is glued to the rear wall (17) of the collar (13) and/or is glued to rear wall (7) of the container (2).

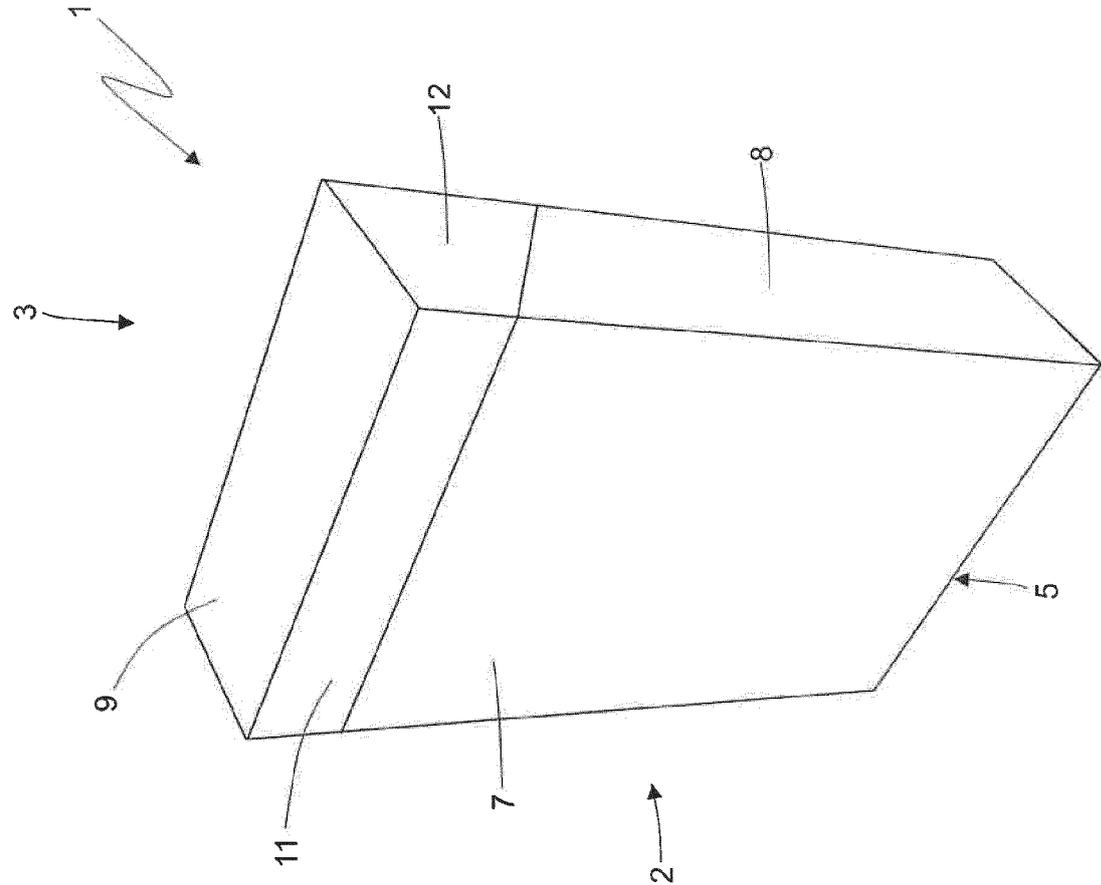


Fig. 1

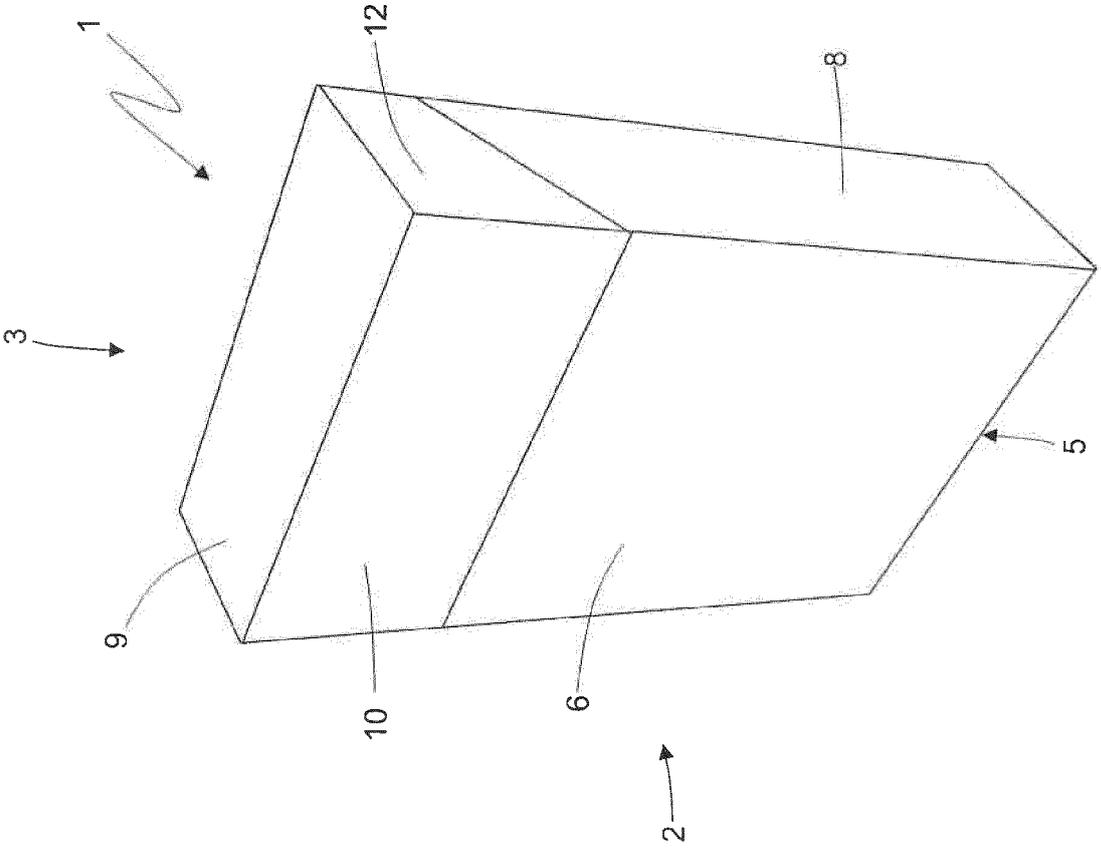


Fig. 2

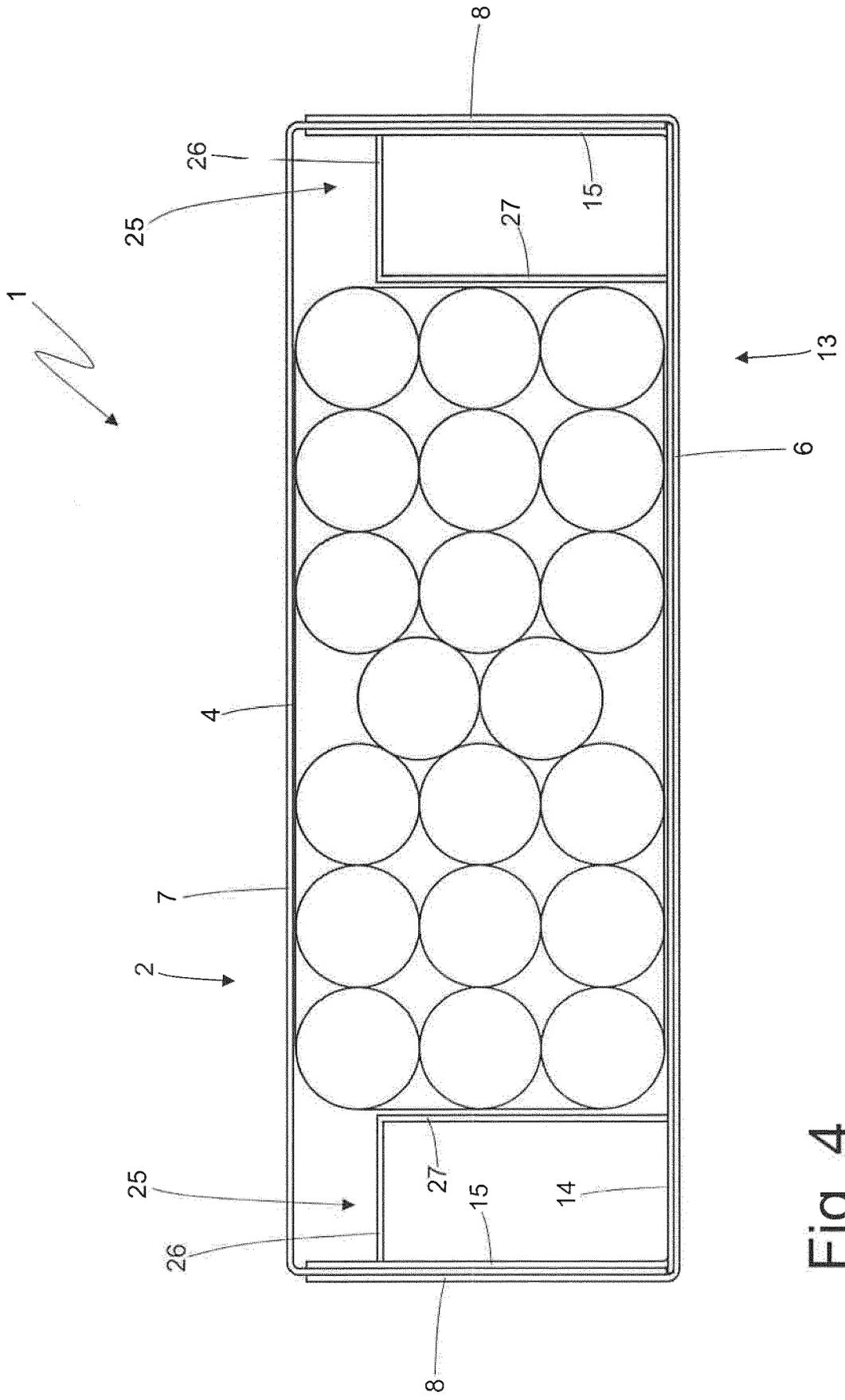


Fig. 4

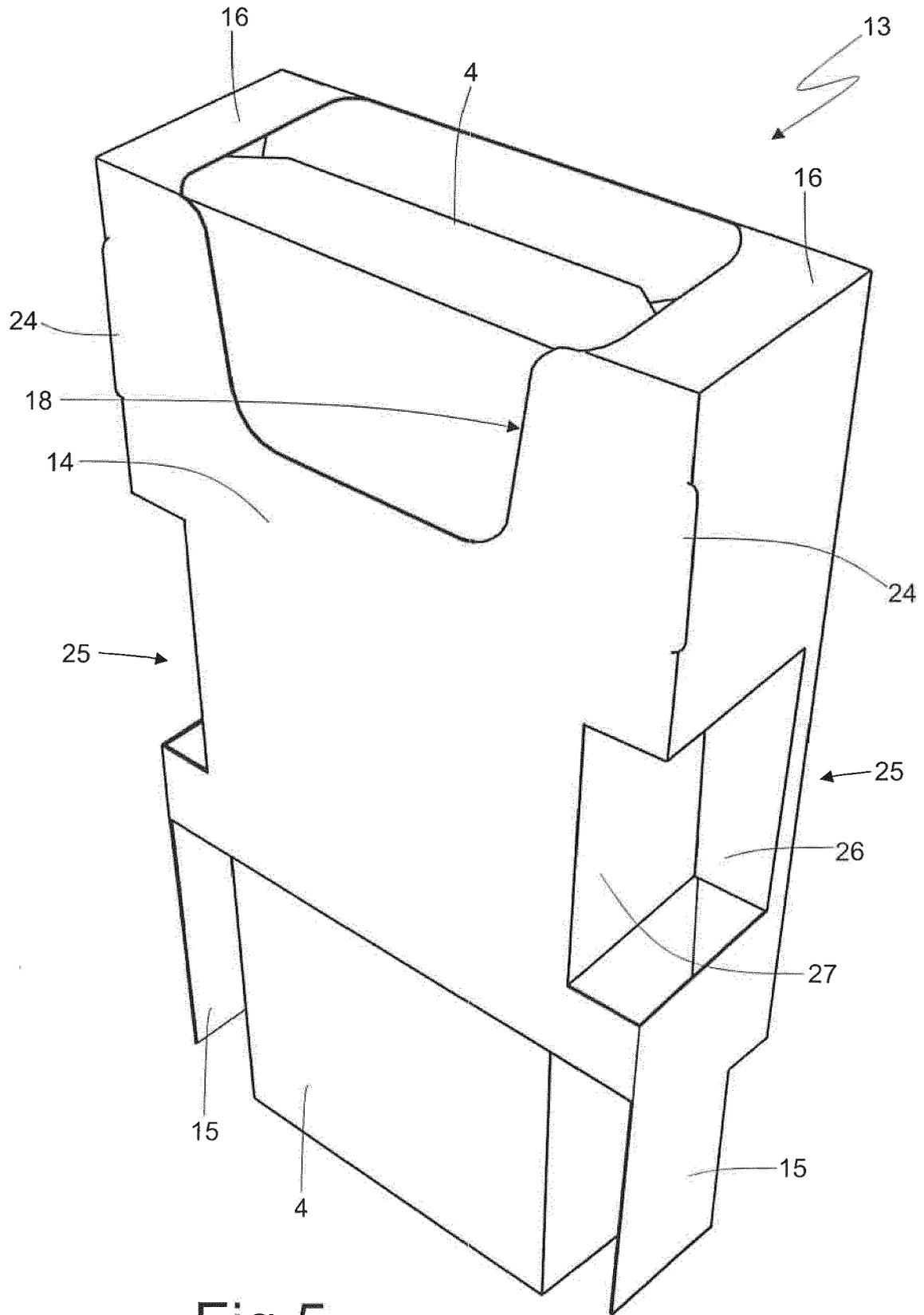


Fig.5

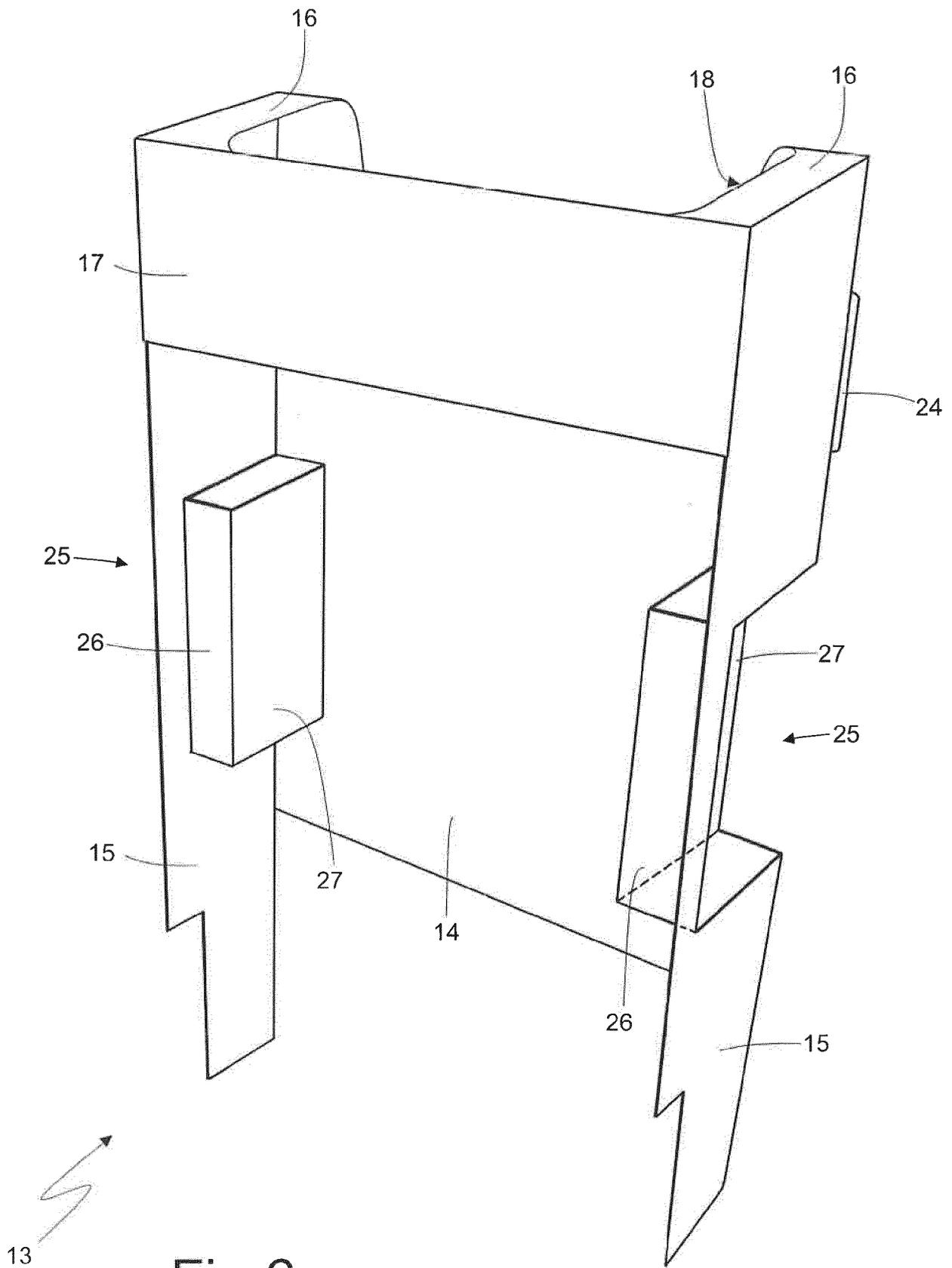


Fig.6

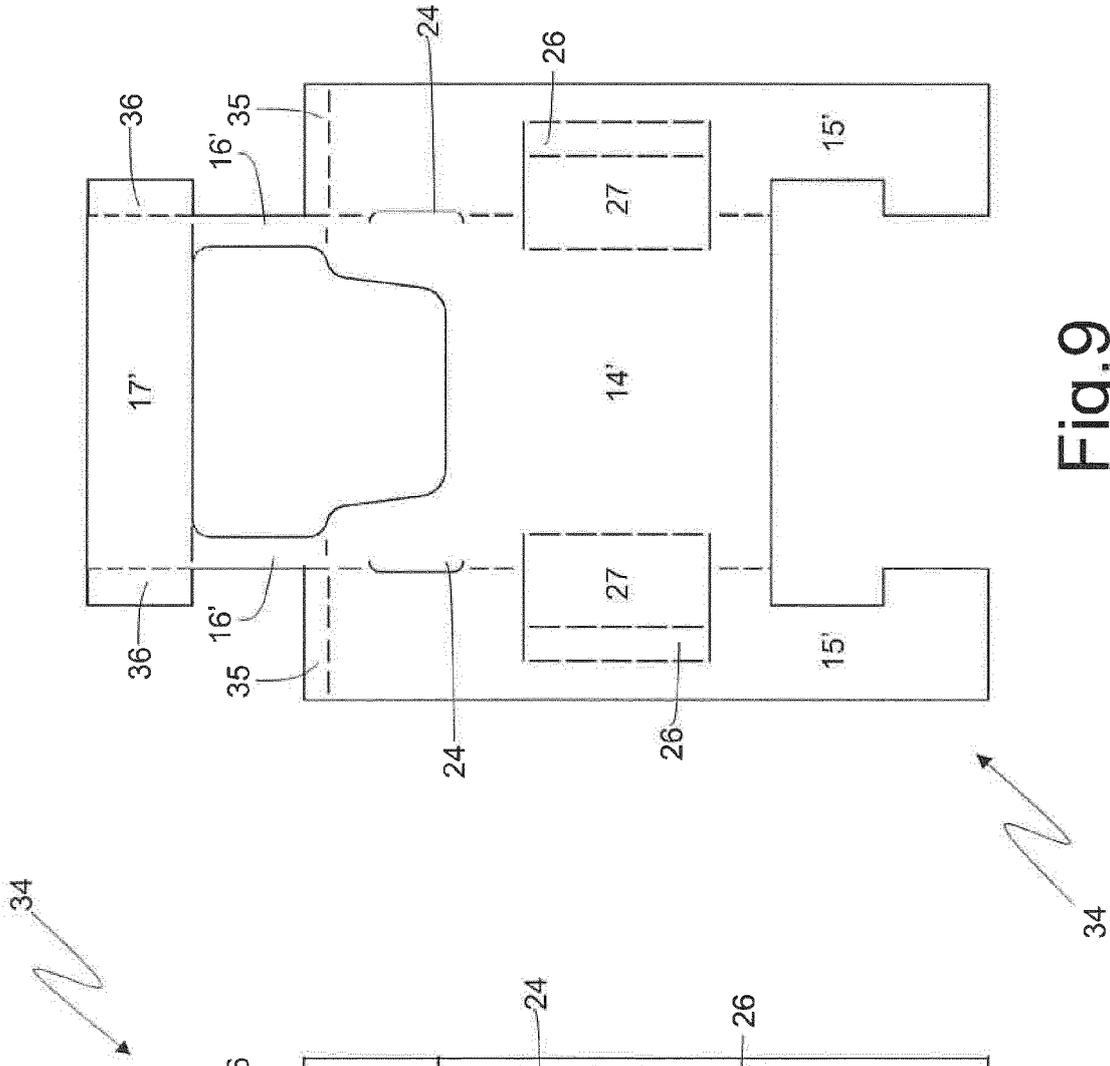


Fig. 8

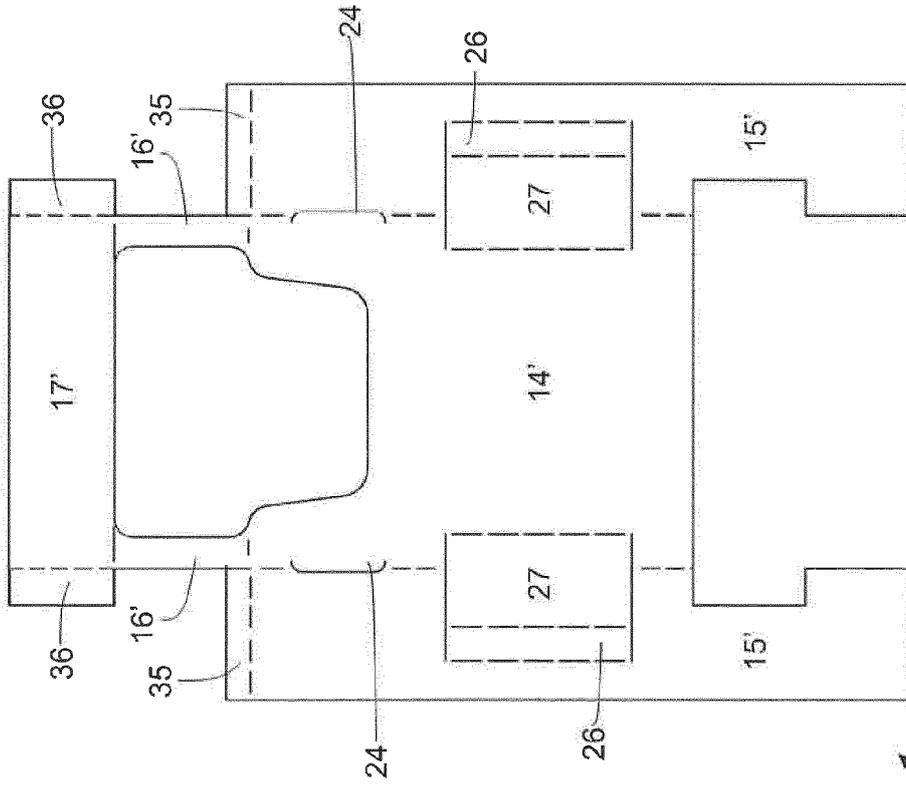


Fig. 9

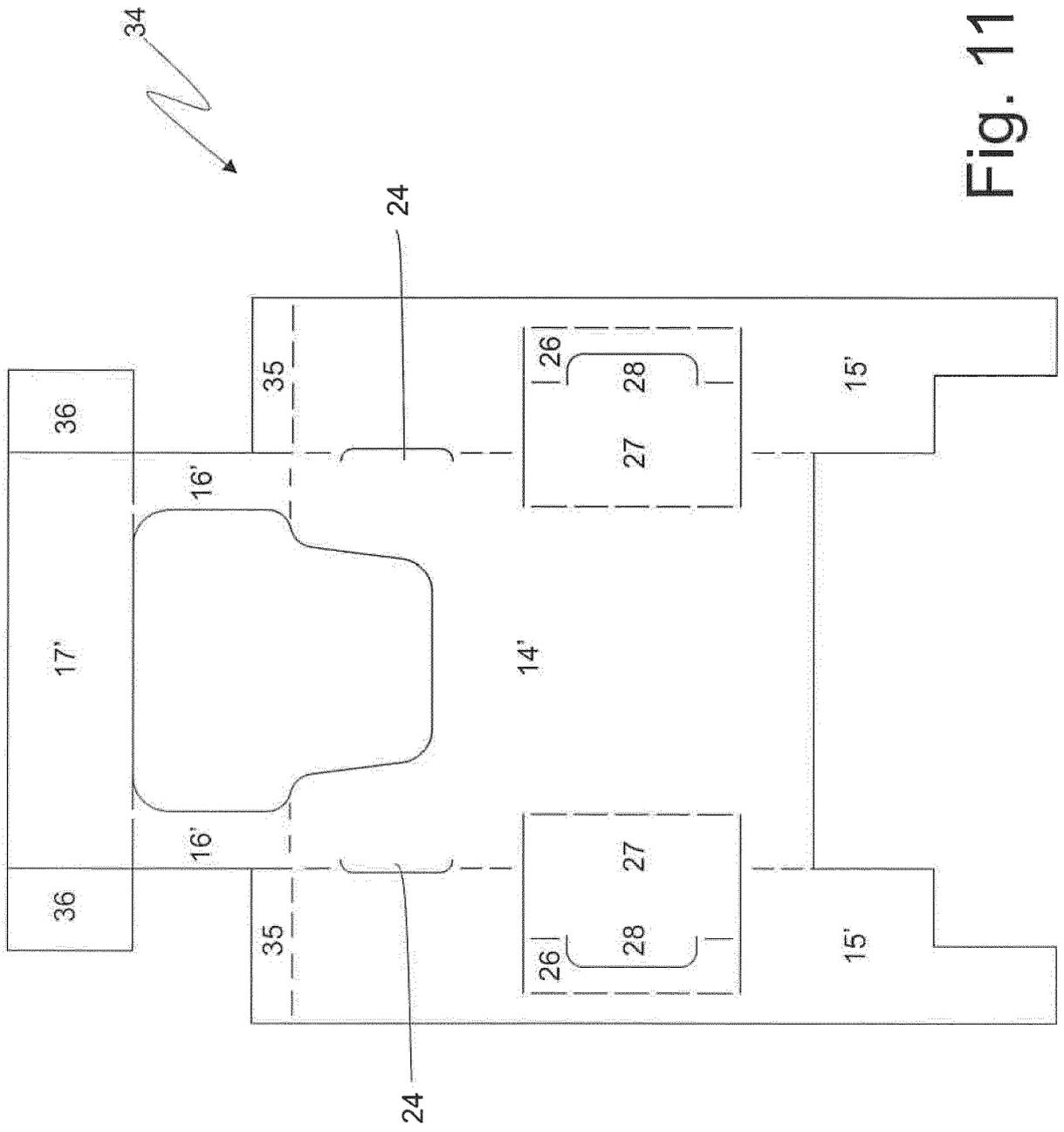


Fig. 11

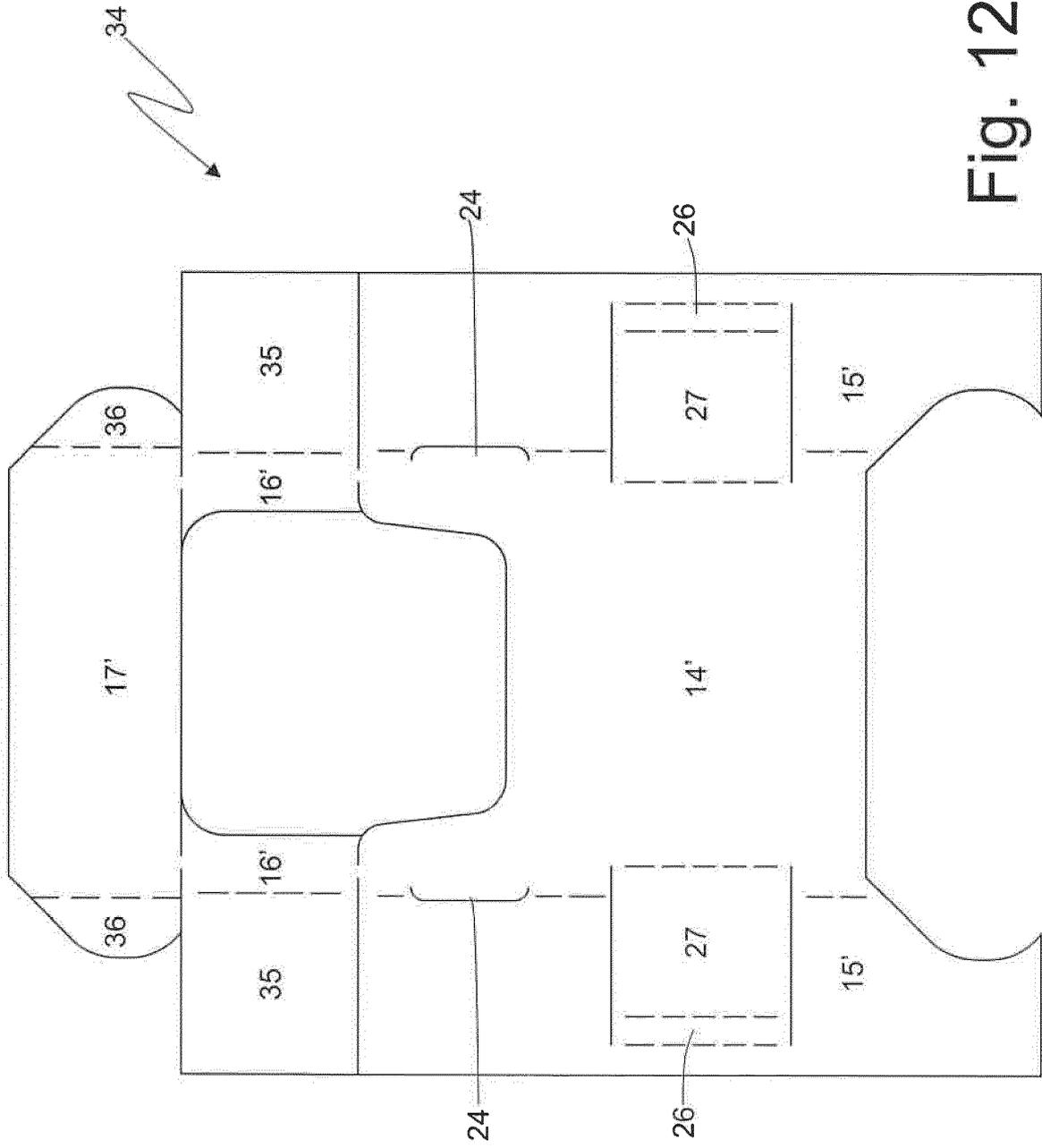


Fig. 12

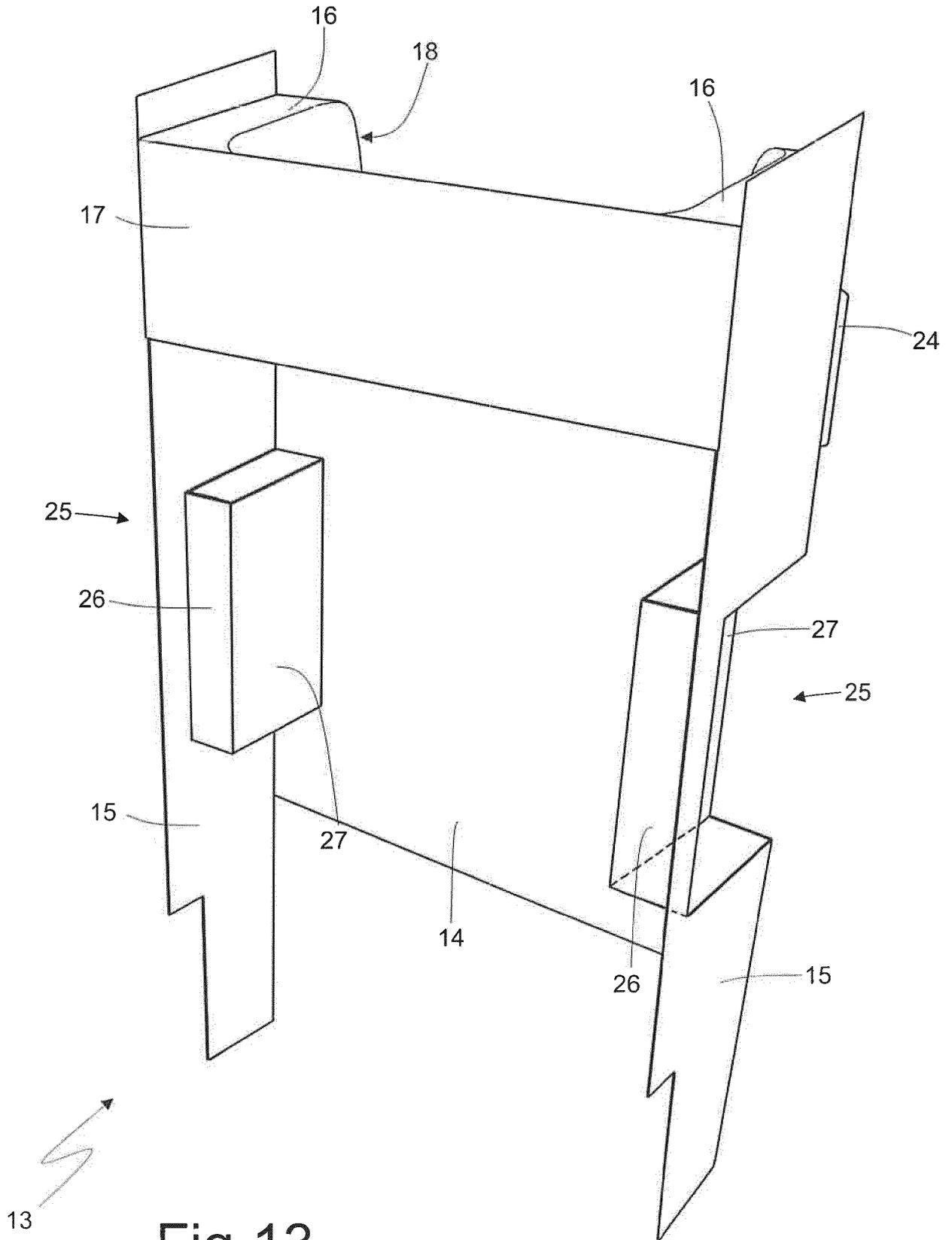


Fig.13

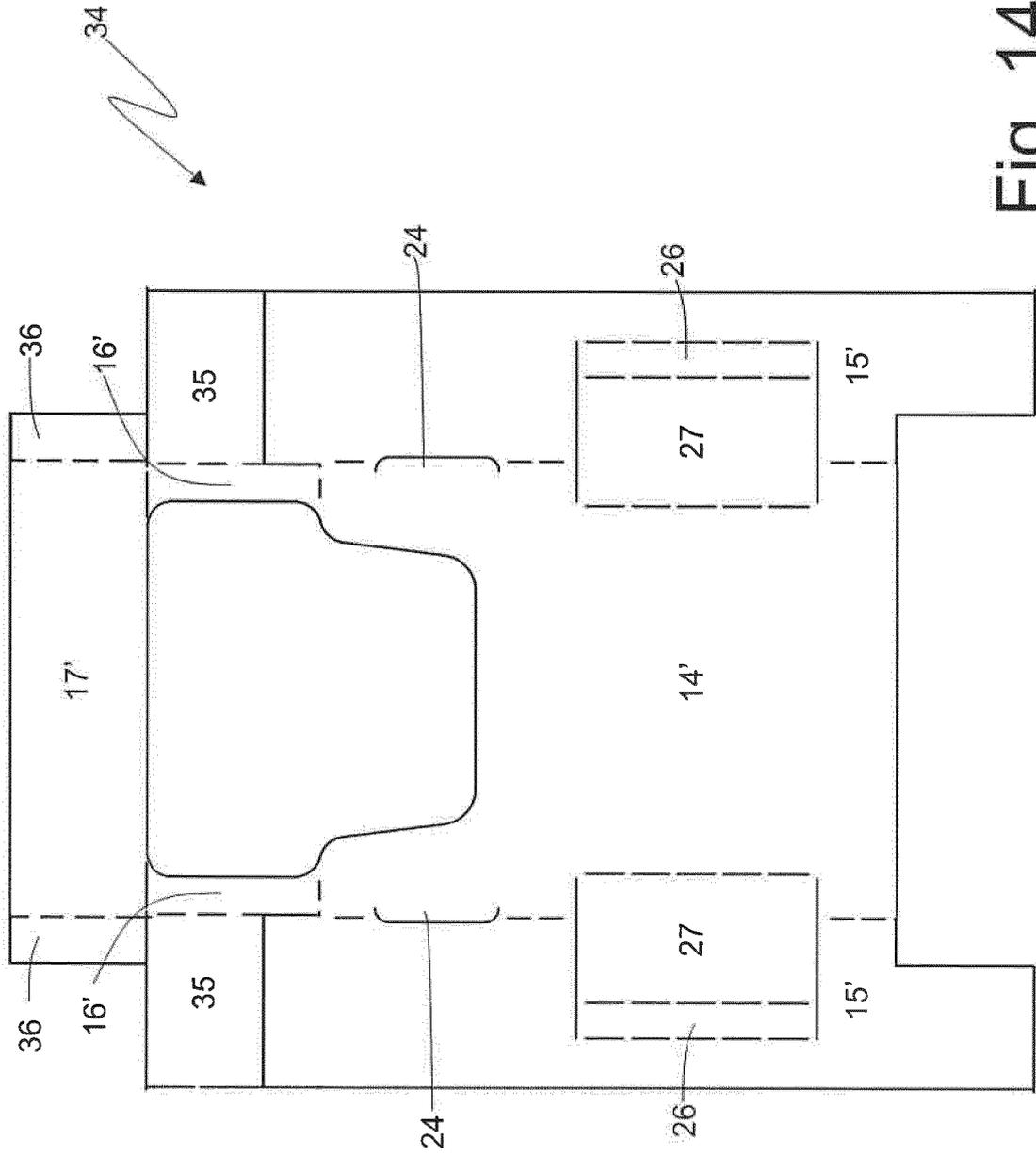


Fig. 14

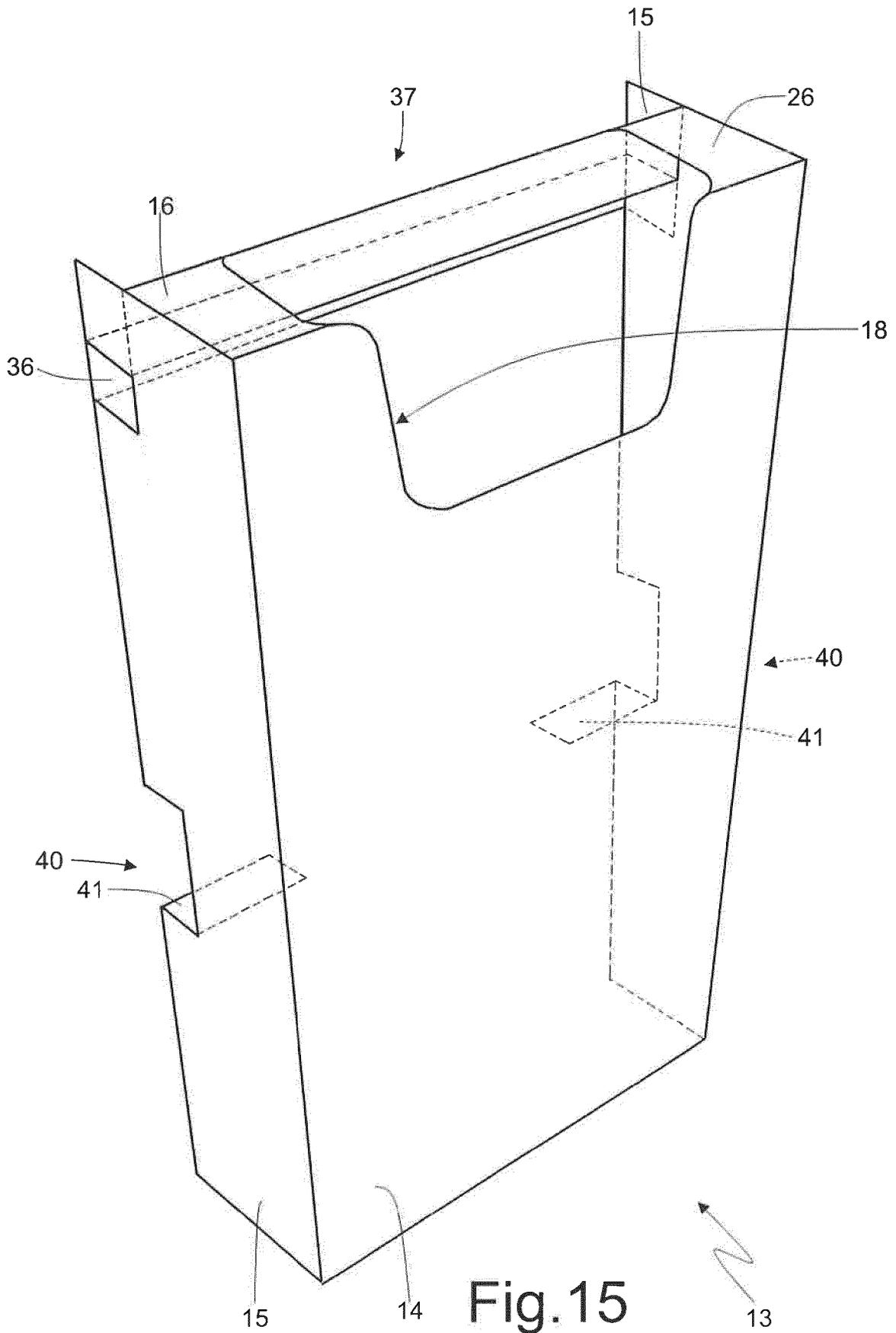


Fig. 15

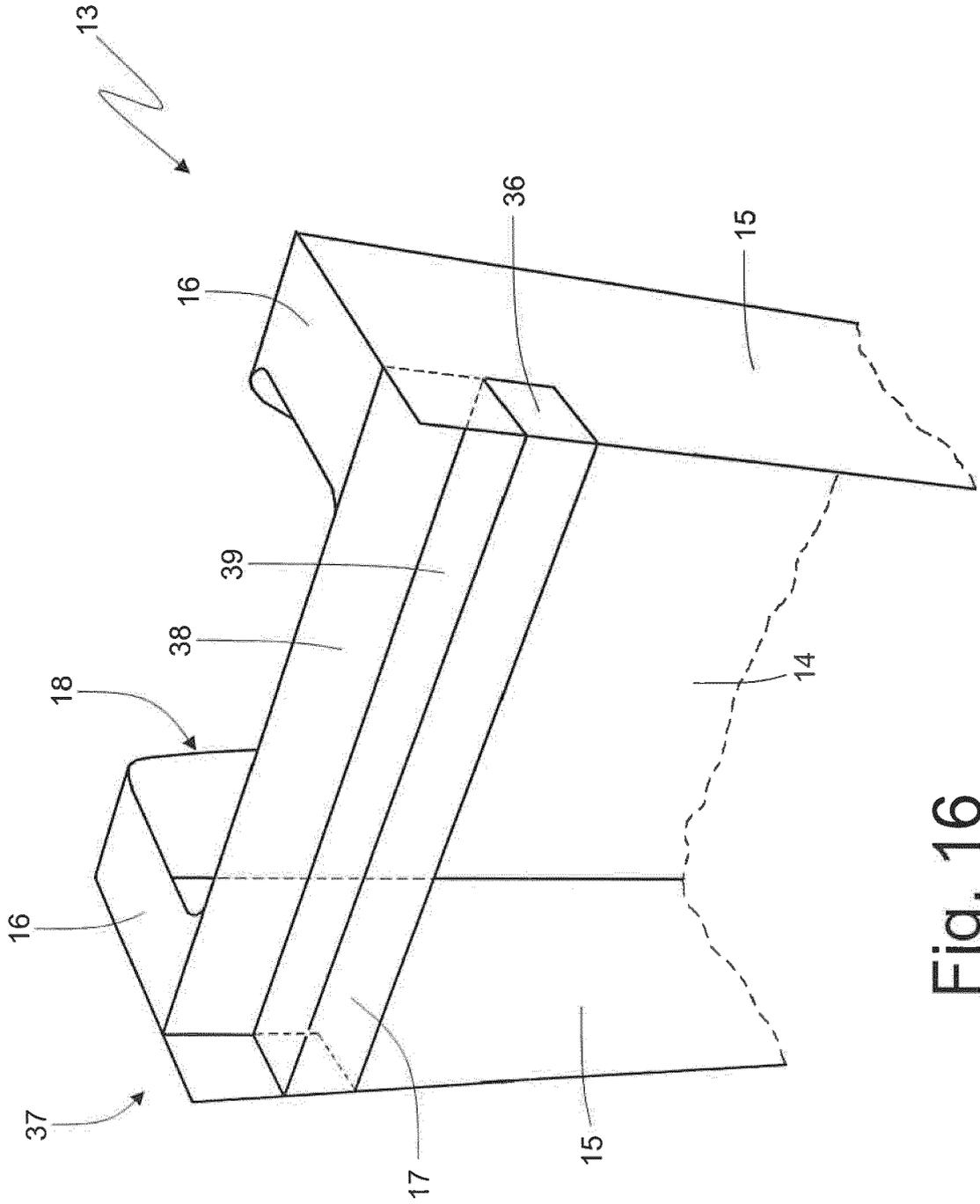


Fig. 16

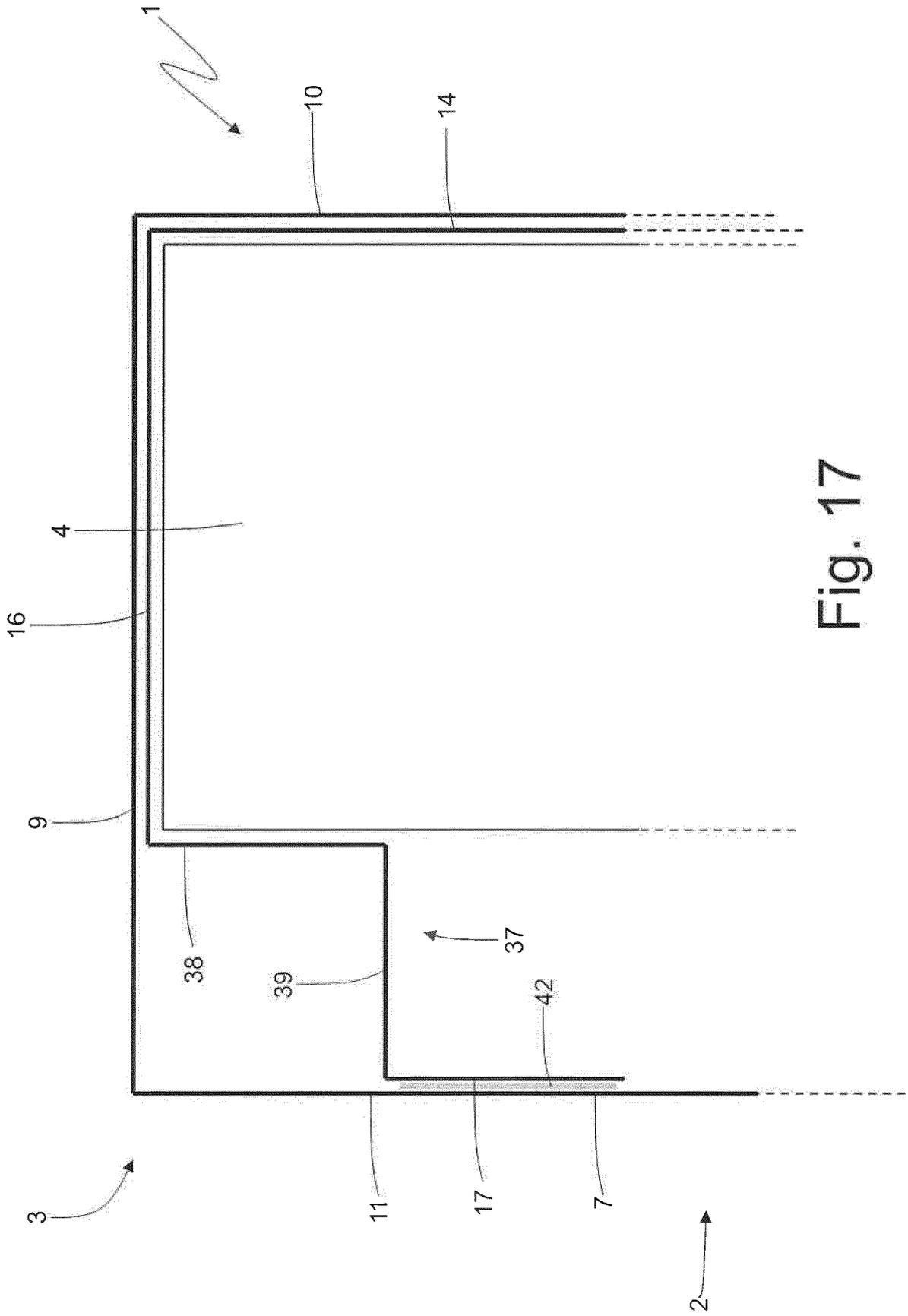


Fig. 17

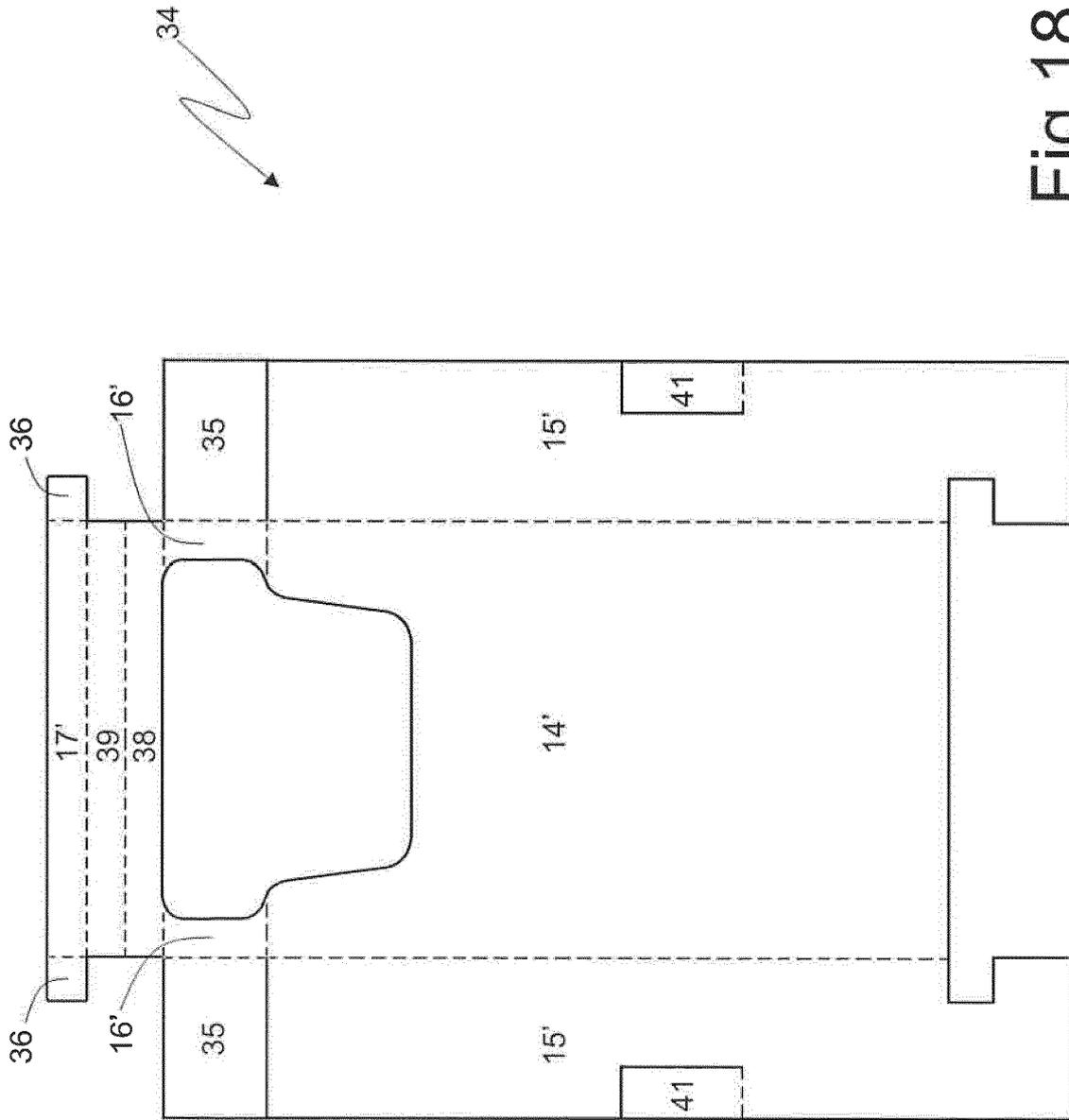


Fig.18

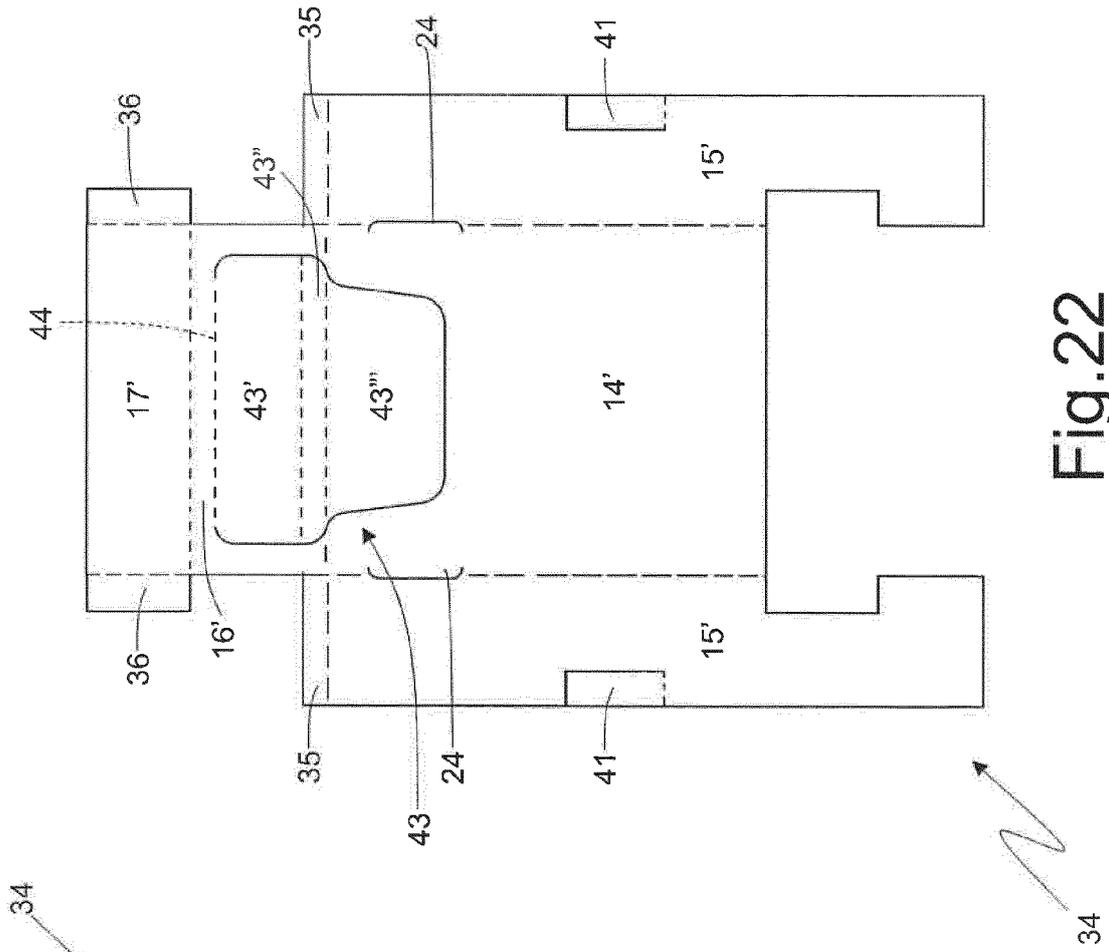


Fig. 20

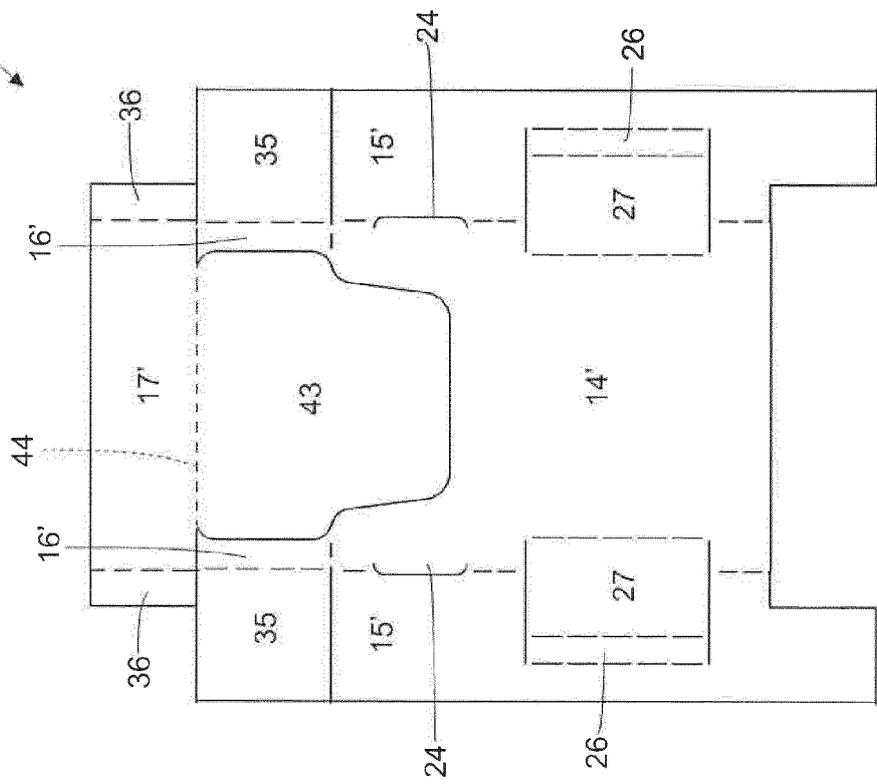


Fig. 22



EUROPEAN SEARCH REPORT

Application Number
EP 16 20 3679

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A	US 4 850 482 A (CAMPBELL CHRISTOPHER J [US]) 25 July 1989 (1989-07-25) * figure 2 *	1-20	
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			B65D
Place of search		Date of completion of the search	Examiner
Munich		9 March 2017	Czerny, M
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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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