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(54) Display container

(57) A one-piece blank for use in providing a display container in the form of a hollow body (30) having an internal display platform (10B) has a body-forming area (1) which is foldable to form the generally hollow body. The area (1) has a pair of flaps (10) connected to it by fold lines (10A) so as to extend generally transversely of the body-folding direction. The arrangement is such that the flaps (10) are foldable to a position generally transverse to the body wall in the formed container to form the display platform. A method of making a container using the aforesaid blank is also described.

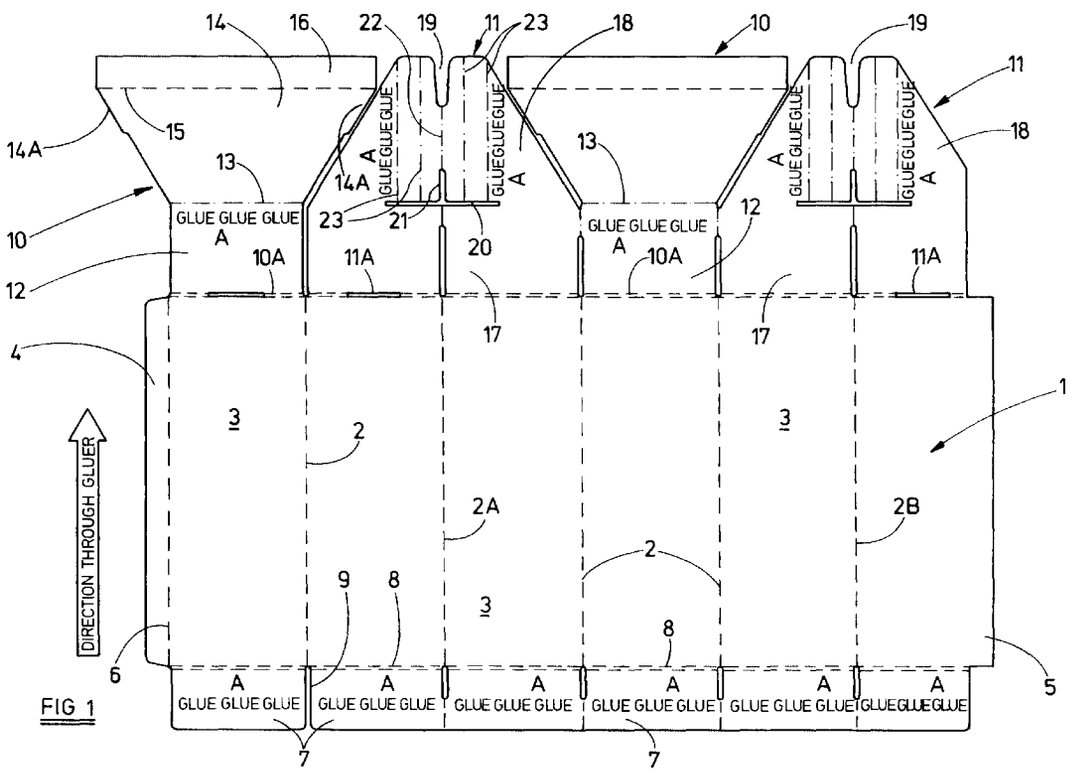

FIG 1

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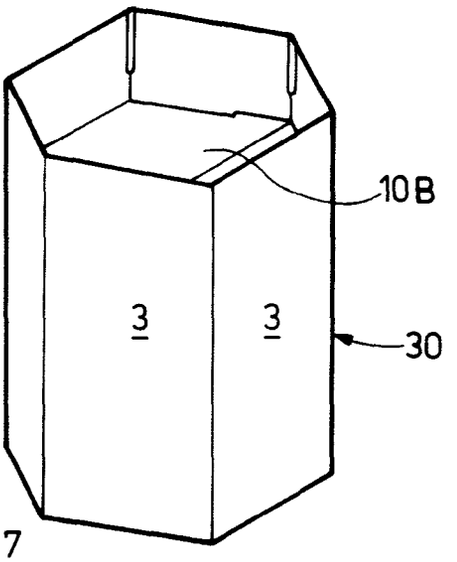


FIG 7

Description

This invention relates to a display container, for use primarily in shops and similar locations, in displaying products for sale, for example.

The invention is particularly concerned with a display container in the general form of a hollow body, such as a column or pillar, having an internal display platform usually at or near its intended upper end for supporting goods to be displayed. In one conventional form of such a container, the body is of generally hexagonal cross-section and the display platform is formed by a component produced separately from the body by cutting and folding a blank, the formed component being inserted within the body and glued in place to provide the platform. Whilst the finished product is satisfactory in use, it has the disadvantage of being complicated and expensive to produce because of the necessity to form and manually fit the separate platform component.

An object of the present invention is to provide a display container, a one-piece container blank and a method of making the container, which blank and method enable production of the container to be simplified and its cost reduced as compared with the aforesaid conventional container.

According to one aspect of the present invention, there is provided a one-piece blank for use in providing a display container in the form of a hollow body having an internal display platform, the blank comprising a body-forming area which is foldable to form the generally hollow body, and a pair of flaps connected to the body-forming area by fold lines so as to extend generally transversely of the body-folding direction, the arrangement being such that the flaps are foldable to a position generally transverse to the body wall within the erected body to form the display platform.

Preferably, the blank includes further flaps connected by further fold lines to the body-forming area and arranged to be folded to form support formations lying beneath the display platform in the erected body.

From another aspect of the invention, there is provided a method of making a display container using the blank of the invention.

The invention also embraces a display container formed from the blank of the invention, preferably by the method of the invention.

The invention will now be described, by way of example, with reference to the accompanying drawings, in which:-

Figure 1 is a view of one side of a blank of the invention in its initial form;

Figure 2 illustrates the blank following a primary folding operation;

Figure 3 illustrates the blank during a secondary folding stage;

Figure 4 illustrates the folded blank in a condition suitable for transport and storage, prior to formation of the container;

Figures 5 and 6 illustrate stages during the erection of the container from the folded blank of Figure 4, and

Figure 7 illustrates the container of the invention in its completed form.

The one-piece blank from which the container is produced is illustrated in Figure 1 in its entirely unfolded condition and will be seen to have a generally rectangular body-forming area 1 divided by fold lines 2, 2A, 2B into a plurality of panels 3 intended to form the respective sides of a multi-sided body in the form of a generally tubular column, in the manner to be described. Six such panels are provided in the illustrated example in order to form a hexagonal column, although this number may be varied as required. Each end panel 3 of the area 1 has a projecting tongue 4, 5 along its outer edge, the tongue 4 being connected to its panel by a fold line 6.

One side edge of the area 1 is provided with a series of reinforcing flaps 7, each having the width of one panel 3 and being connected to a respective panel by a fold line 8. The flap on the panel 3 provided with the tongue 4 is separated from the adjacent flap by a slit 9 and it would be possible to provide similar slits between any other pair of flaps 7 if required.

The other side of the area 1 is provided with a pair of platform-forming flaps 10 and a pair of further flaps 11, the latter being intended to provide supports for the platform in the formed container in the manner to be described. The flaps 10, 11 of the two pairs are arranged alternately along the side of the area 1, being connected thereto by respective fold lines 10A, 11A.

Each flap 10 includes a rectangular portion 12 connected along one of its sides to the area 1 by one of the fold lines 10A. Each portion 12 is connected along an opposite side by fold line 13 to the shorter parallel side of a trapezoidal portion 14, the longer parallel side of which is connected by a further fold line 15 to a narrow rectangular tongue 16. The inclined sides of the flap portions 14 are cut away to leave projecting tabs 14A adjacent the tongue 16.

Each flap 11 includes a generally rectangular portion 17 spanning two panels 3 and connected along one of its sides to both of these panels by fold lines 11A. The other side of the portion 17 is common with the longer parallel side of a further generally trapezoidal portion 18 inverted with respect to the portions 10, the shorter parallel side having a deep notch 19 therein. The junction between the portions 17 and 18 includes a slit 20, from which extends a further slit 21 towards and in longitudinal alignment with the notch 19 and perpendicular to the slit 20. The slit 21 and notch 19 are interconnected by a partially cut fold line 22. Further partially cut fold lines 23 are arranged in pairs at either side of the line 22, the fold lines of each pair being equi-spaced and the fold lines immediately adjacent the fold line 22 having a similar spacing from the latter. The angles of the inclined

edges of the trapezoidal portions 18 and/or adjacent inclined edges of the portions 14 may be such that the gaps between the edges are greater than those illustrated to facilitate folding of the blank.

The blank is shaped by standard die-cutting techniques using a machine which cuts it to the shape shown in Figure 1 and forms the various fold lines and slits.

The first stage in the formation of the container is to pass the blank through a folder-gluer machine which first applies glue to the areas "GLUE A" on the flap portions 12 and 18 in Figure 1. The blank is fed into the machine in the direction shown by the arrow and a first folding step is carried out to fold the flaps 10 and 11 inwardly through 180° so as to lie against the area 1 to which they are adhered by the glue already applied to the aforesaid areas "GLUE A". Simultaneously or subsequently, the flaps 7 at the other side of the blank are folded inwardly through 180° so that they also lie against the same side of the area 1 as the flaps 10, 11, being again adhered to the area 1 by the glue previously applied to areas "GLUE A" thereon. Upon the completion of these glueing and folding operations, the blank is in the form illustrated in Figure 2.

Glue is then applied to the now upwardly facing areas GLUE B of the tongues 16 on the folded portions 10 and to the tongue 5, as seen in Figure 2. This is followed by a secondary folding operation, as illustrated in Figure 3, in which the blank is first folded along secondary fold line 2A to bring the portions 10 into superposed relationship such that the glued tongues 16 of these portions become adhered together. The right-hand end panel 3 is then folded inwardly along fold line 2B, bringing the glued tongue 5 to a position overlying the then upwardly facing surface of the tongue 4, to which it becomes adhered by the glue. The blank is now in the flat intermediate condition illustrated in Figure 4, in which it may be transported and stored, prior to unfolding, when required, to form a display container.

The display container column is erected by pulling apart the two flattened leaves, each of which includes three panels 3, so that the panels unfold along the fold lines 2, 2A, 2B. A first stage in this unfolding process is illustrated in Figure 5, from which it can be seen that the trapezoidal parts 14 of the flaps 10 begin to move apart, moving towards a position in which they extend across the column, with their conjoined tongues 16 extending in a direction which will leave them projecting downwardly in the finished article, the container being viewed from beneath in Figure 5. The unfolding process finally brings the container column into the hexagonal configuration shown in Figures 6 and 7, the flaps 10 being pushed upwardly through a small distance until they form a transverse platform 10B adjacent the intended upper end of the column, thereby producing a relatively shallow container (Figure 7). It will be understood that the level of the platform is governed by the length of the rectangular portions 12 which connect the trapezoidal portions 14 to the area 1. In order to provide support for the raised platform 10B, the portions of the flaps 17 defined by the fold lines 22, 23 and slit 20 (Figures 1 and 2) are pushed inwardly beneath the platform. The provision of the parallel fold lines 22, 23 causes the portions 18 to form triangular stays 18A, as can be seen from Figure 6, the stays locating on the conjoined flaps 16 by way of the slots 19 formed at the upper ends of the portions 18. This arrangement locks the stays positively to the platform and provides a very stable arrangement. Further stability is achieved by the tabs 14A of the platform engaging in the adjacent slit 20 when the platform is raised.

Although illustrated as hexagonal, the column of the container may be of any convenient shape and, when of polygonal cross-section may have any desired number of sides.

Claims

1. A one-piece blank for use in providing a display container in the form of a hollow body (30) having an internal display platform (10B), the blank comprising a body-forming area (1) which is foldable to form the generally hollow body, and a pair of flaps (10) connected to the body-forming area by fold lines (10A) so as to extend generally transversely of the body-folding direction, the arrangement being such that the flaps are foldable to a position generally transverse to the body wall within the formed container to form the display platform.

2. A blank according to Claim 1, including further flaps (11) connected by further fold lines (11A) to the body-forming area and arranged to be folded to form support formations (18A) lying beneath the display platform in the formed container.

3. A blank according to Claim 1 or Claim 2, wherein the body forming area includes a plurality of panels (3) interconnected by fold lines (2A, 2B) arranged so that folding the area along the fold lines produces a multi-sided generally tubular body (30), the flaps being shaped so that, when folded to form the platform (10B) within the body, the platform has sides corresponding to and lying adjacent respective sides of the body.

4. A blank according to Claim 2, wherein each platform-forming flap (10) is attached to an edge of a respective panel (3), these flaps being separated by a further pair of panels (3).

5. A blank according to Claim 4, wherein each of said further flaps (11) is attached along the edges of two adjacent panels (3), said platform-forming flaps (10) and further flaps (11) alternating along the body-forming area (1).

6. A blank according to any one of the preceding claims, wherein each of said platform-forming flaps (10) includes a generally trapezoidal part (14) intended to form part of the platform (10B) in the formed container, and a rectangular part (12), the latter being joined along a fold line (13) at one edge to the shorter side edge of the trapezoidal part (14) and along another fold line (10A) at its opposing edge to the associated panel (3).

7. A blank according to any one of Claims 2 to 6, wherein each further flap (11) has a generally trapezoidal portion (18) inverted with respect to that of each platform-forming flap (10) and a generally rectangular portion (17) of which one side edge is connected by a fold line (11A) to the adjacent edges of its associated panels.

8. A blank according to Claim 7, wherein the generally trapezoidal section (18) of each of said further flaps (11) is provided with a group of generally parallel fold lines (22, 23) enabling a generally triangular formation (18A) to be produced which extends out of the plane of the flap.

9. A blank according to any one of Claims 6 to 8, wherein the free outer edges of the trapezoidal parts (14) of the platform-forming flaps (10) are provided with projecting tongues (16) extending therealong, the tongues being foldable to positions in which they extend transversely of said parts and arranged so as to lie closely adjacent each other beneath the formed platform (10B) in the formed container.

10. A blank according to any one of Claims 6 to 9, wherein the rectangular parts (12) of the platform-forming flaps (10) are arranged to lie against their associated body panels (13) in the formed container and serve to set the position of the platform along the body (30).

11. A blank according to any one of Claims 6 to 10, wherein the trapezoidal parts (14) of the platform-forming flaps (10) are provided with projecting tabs (14A) for engagement, in the formed container, with locating slots (20) formed by the further flaps.

12. A blank according to any one of Claims 3 to 11, wherein the body-forming area (10) has six adjacent panels (3) which form a hexagonal body (30) in the formed container.

13. A one-piece blank substantially as hereinbefore described, with reference to Figure 1 of the accompanying drawings.

14. A method of making a container in the general form of a hollow body (30) having an internal display platform (10B) using a blank according to any one of the preceding claims, the method comprising folding the platform-forming flaps (10) inwardly to lie against the body-forming area (1), folding the body-forming area such as to bring said flaps into superposed relationship, connecting together then overlying portions (16) of the flaps and connecting together overlying portions of the body-forming area, expanding the folded area to form a hollow body (30), such expansion moving the connected flaps (10) towards positions within the body in which they lie generally transversely across the body to form the display platform (10B).

15. A method according to Claim 14 using a blank according to Claim 2, wherein said further flaps (11) are moved to form support formations (18A) arranged to lie beneath the platform (10B).

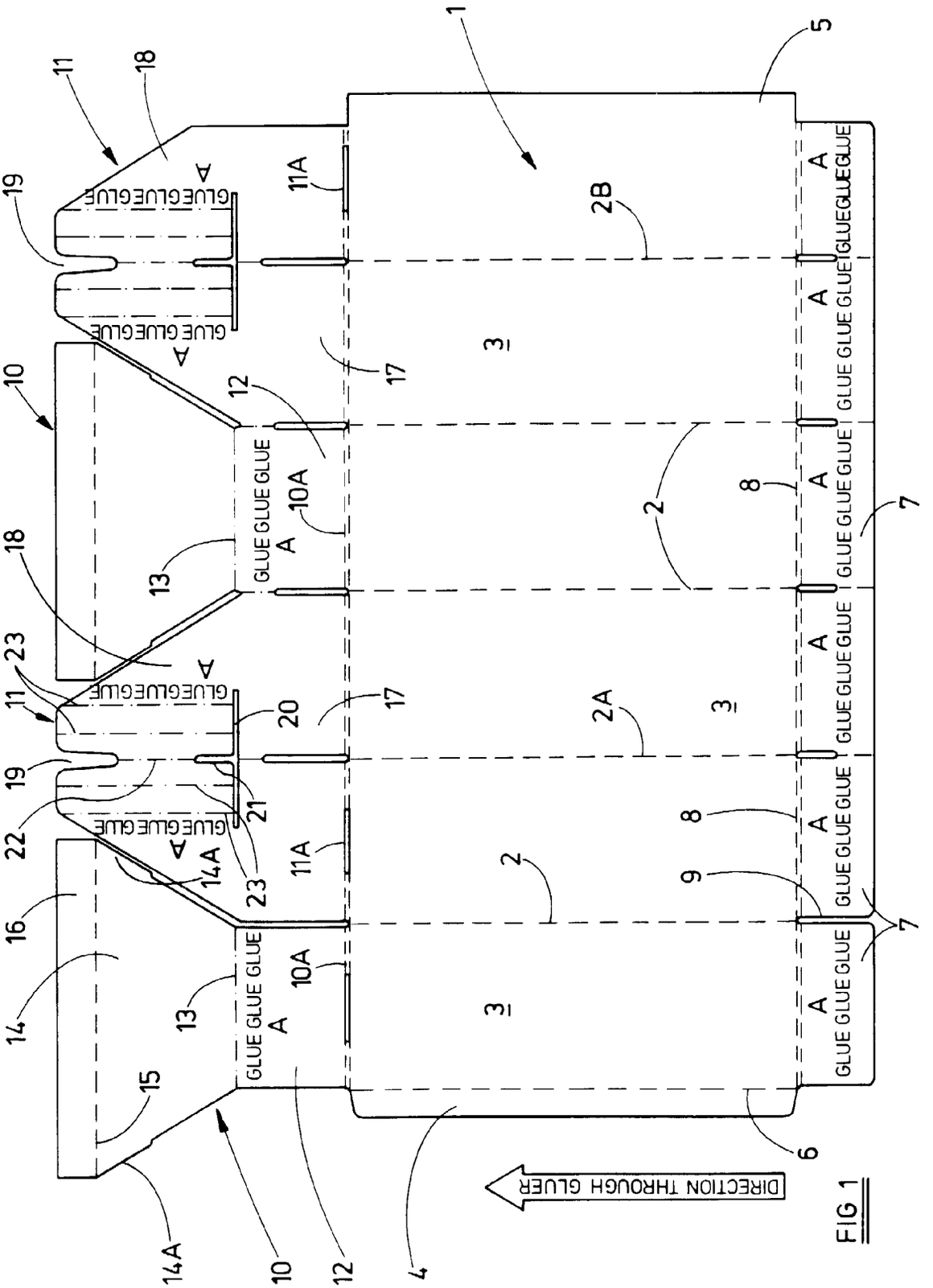
16. A method according to Claim 14 using a blank according to Claim 3, wherein folding of the body-forming area (1) takes place along fold lines (2A, 2B) between the panels (3) such as to produce a flat structure have two superposed layers each composed of an equal number of panels (3).

17. A method according to Claim 15, using a blank according to Claim 9, wherein the portions of the platform-forming flaps which are connected together are the projecting tongues (16) thereon which, during said expansion, are brought to positions generally centrally transverse to the platform (10B) beneath the latter, where they interengage with the support formations (18A) to lock the latter to the platform.

18. A method of making a container substantially as hereinbefore described with reference to Figures 2 to 7 of the accompanying drawings.

19. A container made by the method of any one of Claims 14 to 18.

20. A container according to Claim 19 substantially as hereinbefore described with reference to Figure 7 of the accompanying drawings.


DIRECTION THROUGH GLUER
GLUE GLUE GLUE
A
1
2
2A
2B
3
4
5
6
7
8
9
10
10A
11
11A
12
13
14
14A
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16
17
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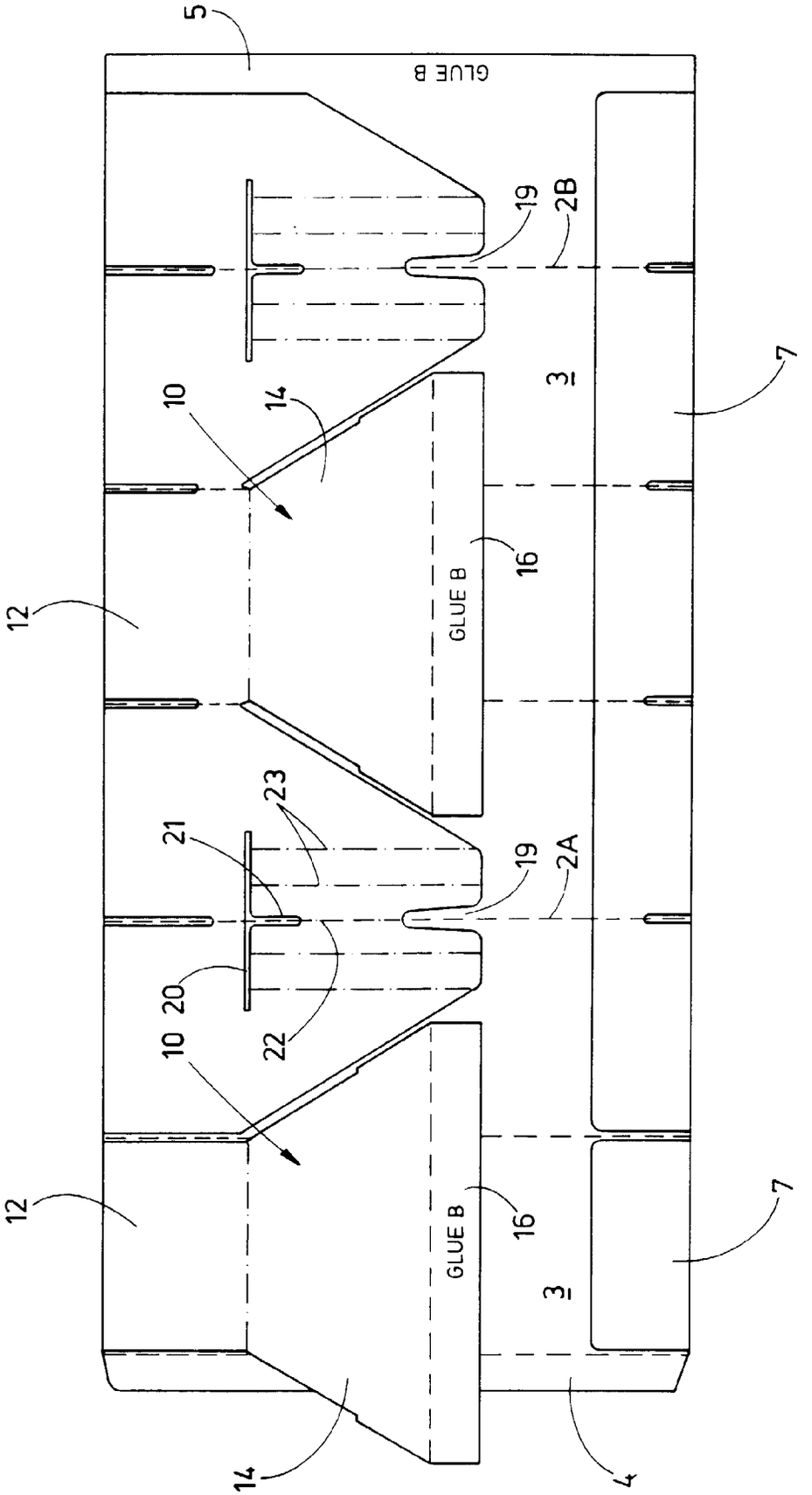
22
23

FIG 1


5
GLUE B
19
2B
3
7
10
14
16
GLUE B
12
23
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19
2A
20
22
10
12
16
GLUE B
7
3
14
4

FIG 2

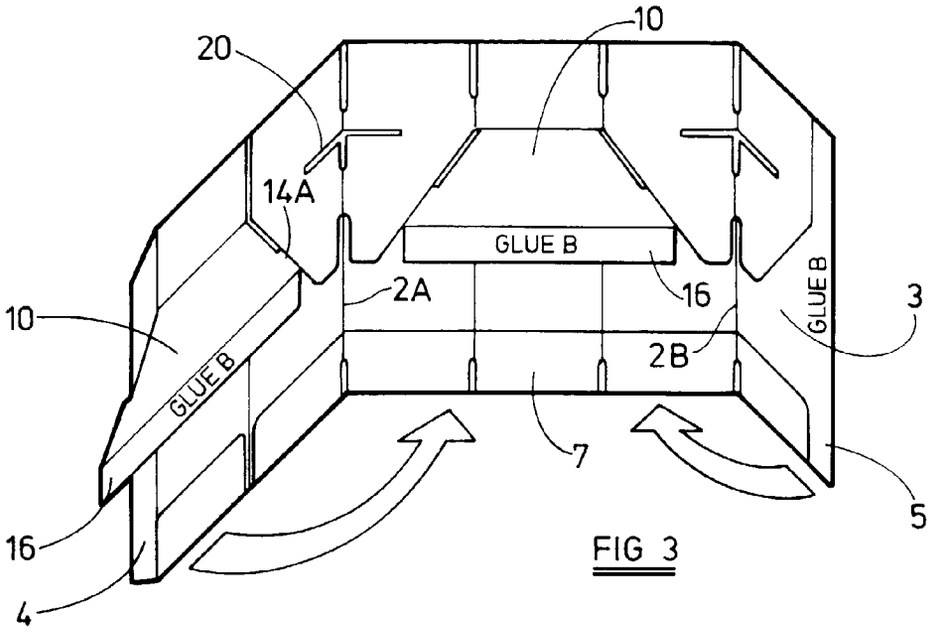

FIG 3

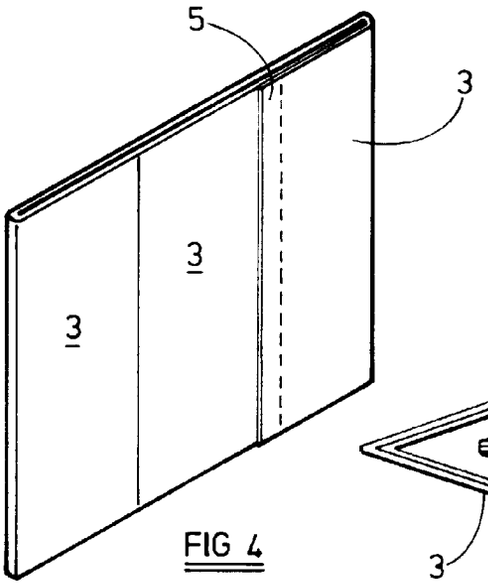

FIG 4

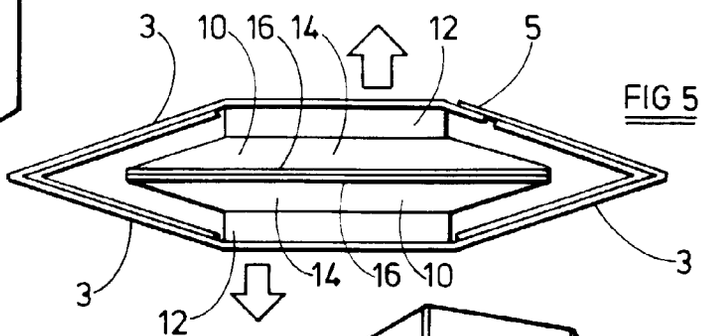

FIG 5

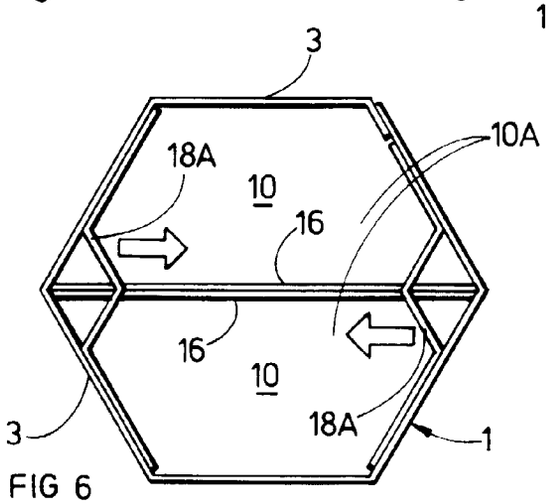

FIG 6

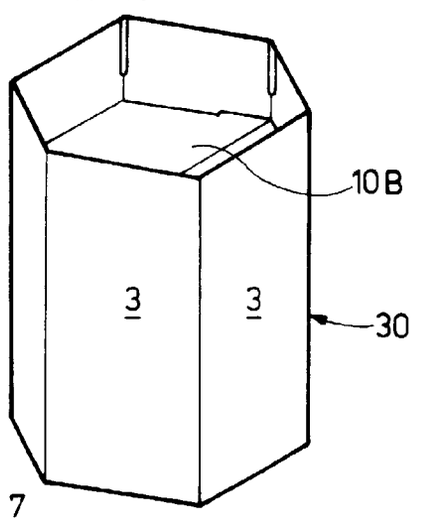

FIG 7