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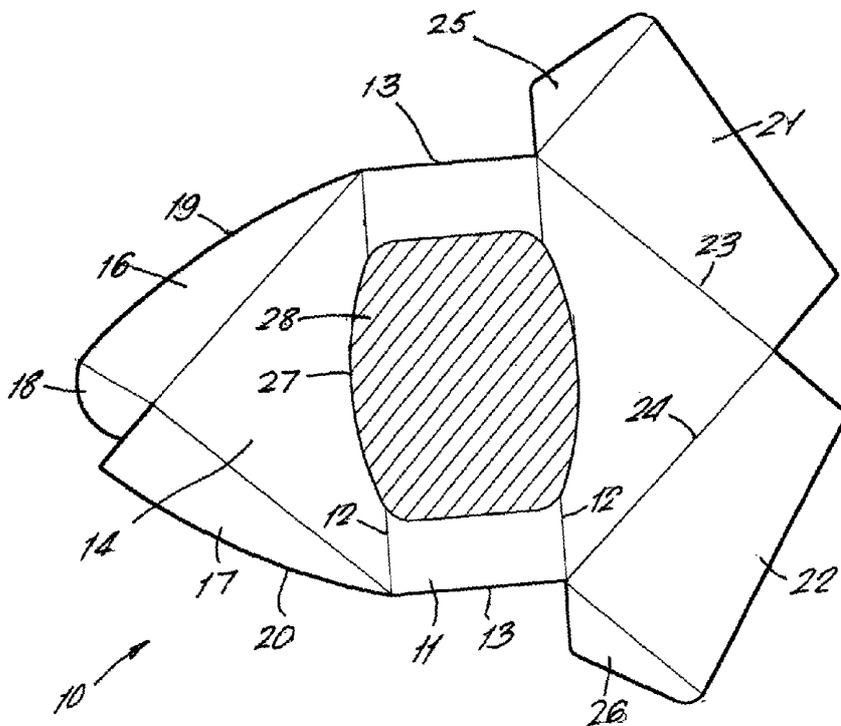
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[Continued on next page]

(54) Title: SANDWICH PACK



(57) Abstract: A wedge shaped sandwich pack is formed from a folded card blank having a rectangular base (11) with a window (27, 28) to reveal the contents of the pack and triangular shaped end walls (14) hinged by folds (12) to the elongate sides of the base. Each end wall has side walls (16, 17; 21, 22) connected by folds along the convergent edges thereof, the side walls (16, 17) of one end wall (14) being attached at the apex of the end wall to form a lid for the container and the side walls (21, 22) of the other end wall (14) having end flaps (25, 26) along the edges adjacent the base to fold inwardly over the base to support the ends of the sandwich unit in the container.



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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

- 1 -

SANDWICH PACK

This invention relates to sandwich packs and in particular to sandwich packs for holding a diagonally cut sandwich stack for display and sale.

This invention provides a wedge or prism shaped sandwich pack comprising a folded card blank having a rectangular base formed with a window to reveal the contents of the pack, triangular shaped end walls hinged by folds to the elongate sides of the base, each end wall having side walls connected by folds along the convergent edges thereof, the sides walls of one end wall being attached at the apex of the end wall to form a lid for the container and the side walls of the other end wall having end flaps along the edges adjacent the base to fold inwardly over the base to support the ends of the sandwich unit in the container.

Preferably, a sheet of transparent film is mounted in the window in the base of the blank to provide protection for the contents of the pack whilst allowing the contents to be viewed.

Moreover the window may extend from the base into adjacent regions of the triangular end walls to permit the contents of the pack to be viewed from a direction facing the base and from either side of the pack.

In any of the above arrangements the side walls of the lid may be connected at the apex of the triangular end wall on which they are formed by a flap on one of the side walls which is adhered to the other side wall to hold the side walls at right angles to the triangular end wall on which they are formed.

Also in any of the above arrangements the side walls of the lid may taper towards the ends of the side wall adjacent the rectangular base.

In the latter case the side walls may taper to zero at the base.

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According to a further feature of the invention the side walls on the other triangular end wall are secured together at the apex of the triangular wall.

5 More specifically the side walls on said other triangular end wall may be secured together by a flap on one of the side walls which is adhered to the other side wall at the apex of the end wall to hold the side wall for extending at right angles to the end wall.

10 In an alternative arrangement the side walls on said other triangular end wall of the blank abut one another at the apex of the end wall without any fixing.

The invention also provides a one-piece cardboard blank for forming a prism shaped pack to receive and hold a stack of diagonally cut sandwiches comprising a rectangular base wall having triangular end walls hinged at their respective bases by fold lines to opposing edges of the base wall, each triangle having rectangular side walls hinged by fold lines to the sides of the triangles and the side walls of each triangle being secured together at the apices of the triangles so that when the triangular side walls are folded up with respect to the base to lie parallel to one another the side walls of the respective triangles come together to form an enclosure with the end walls, a fold line being formed in the blank between the respective apices of the triangles about which the blank is symmetrical to allow the blank to be folded flat in two for convenient stacking prior to use.

30 Preferably the side walls of one of the triangular end walls are relatively deep to form an enclosure for the sandwich stack and the side walls of the other end wall are relatively shallow to form a lid for the enclosure.

35 More specifically the side walls of said one end wall may have flaps hinged by fold lines to the side walls to be tucked under the base and over lie the

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ends of the sandwich stack in the enclosure.

In any of the above arrangements a window may be formed in said rectangular base wall for viewing the contents of the pack.

5 In one arrangement according to the invention the window may extend from the base into the adjacent portions of the triangular side walls.

Preferably, the window is closed by a transparent film secured to the blank.

10 The following is a description of some specific embodiments of the invention, reference being made to the accompanying drawings in which:

Figure 1 shows a first form of blank from which a sandwich pack can be formed;

15 Figure 2 is a perspective view of blank which a diagonally cut sandwich stack placed on the blank of the pack to the formed from the blank around the sandwich;

20 Figures 3 to 5 show the step by step erection of the pack around the sandwich stack;

Figure 6 shows a modified form of blank from which a similar sandwich pack may be formed.

25 Figure 7 illustrates a further form of cardboard blank for forming a sandwich pack in accordance with the invention having a centre line about which the blank may be folded in two for stacking prior to use;

Figure 8 shows the blank of Figure 7 folded for stacking.

30 Figure 9 shows the blank of Figure 7 partially folded ready for filling with a sandwich block; and

Figures 10 to 12 show the step by step stages in opening the blank to receive a diagonally cut block of sandwiches and forming the blank into a pack enclosing the round of sandwiches for display and sale.

35 Referring firstly to Figure 1 of the drawings, there is shown a blank indicated generally at 10, formed principally from card from which a sandwich

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container is formed. The grain direction of the card is indicated by the arrow A.

5 The blank comprises a rectangular base 11 having elongate side edges 12 and short ends 13. Triangular end walls 14, 15 are formed integrally with the base and hinged to the base by fold lines along the edges 12 of the base. One of the triangular end walls 14 which is to form the lid of the container has side walls 16, 17 extending along the convergent sides of the end wall. At the apex of the end wall one of the side walls 16 is formed with a D-shaped flap 18 which engages behind the other side wall 17 when the side walls are folded downwardly with respect to the end wall to form the lids of a container as described later. The side walls 16, 17 have convexly curved edges 19, 20 which taper to nothing at the ends of the side walls adjacent the base 11.

10 The other triangular end wall 15 has somewhat deeper side walls 21, 22 hinged to the convergent edges of the triangular end wall 15 along fold lines 23, 24 respectively. The ends of these side walls adjacent the base 11 have flaps 25, 26 to be tucked inwardly as the container as the container is erected to overlie the base 11 and contain the ends of the sandwich as will be described later.

15 The side walls 21 and 22 are folded upwardly with respect to the base 15 along the fold lines 23,24 to form with the base 11 the enclosure to receive a sandwich. No form of attachment is provided between the side walls 21 and 22 when they are erected since the lid of the container will constrain the side walls when folded into place as described later.

20 The side walls 21 and 22 have shallow tapers towards the apex of the end wall 15 to provide a shallow taper to the enclosure as a whole in which the sandwich stack to be held.

25 The central region of the base 11 of the blank

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and adjacent portions of the triangular end walls 14,15 are cut out to provide a window 27 through the blank which is covered by a sheet of transparent inert film 28 adhered to the inner side of the blank to
5 protect the contents of the container whilst allowing the contents to be viewed both face on to the end wall and from either side.

The manner of erecting a sandwich container from the blank and filling the container with a precut
10 sandwich stack will now be described with reference to Figures 2 to 5. A filled sandwich is cut on the diagonal and the two parts of the sandwich are placed one on top of the other to form a stack indicated at 29. The stack is placed on the inside of the
15 triangular end wall 15 of the blank. The dimensions and shape of the triangular wall 15 correspond to the dimensions and shape of the triangular stack. The side walls 21 and 22 are then folded upwardly along the crease lines with the end wall 15 as shown in
20 Figure 3 on either side of the stack and the end flaps are 25, 26 are folded inwardly around the corners of the stack. The base 11 is then folded out along the bottom of the stack as shown in Figure 4 so that the flaps 25, 26 lie inside the base. The triangular end
25 wall 14 which forms the lid of the container is then folded over the top of the stack with the side walls 16, 17 overlying the side walls 21, 22 of end wall 15 and an adhesive label secures the flap 18 of the lid in place over the side wall 17 to complete the stack.
30 The enclosed sandwich is then placed on display for sale with the window 27 in the base facing outwardly to enable the sandwich and its contents to be viewed by the customer.

The advantages of the pack as described are that
35 it comprises a single blank of card cut to the required profile and which is flat when the sandwich stack is first placed on it. No glue is required to

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secure components of the blank together, the lid of the container being secured by a simple adhesive label. The container can be displayed with the window in the base facing outwardly to reveal the contents of the sandwich whilst the closure of the lid is out of sight. The blank is formed with a simple series of creases and perforations along the fold lines to enable the container to be readily erected around the sandwich stack prior to being put on display.

10 A modified form of the container is shown in Figure 6 of the drawings to which reference will now be made. Most of the features of the blank remain the same but in this case the side walls 21 and 22 are not tapered and so the container will not be tapered. Also one of the side walls 22 has a projecting flap 35 and the end of the side wall at the apex of the triangular wall 15 for securing the side wall to the other side wall 21 with a suitable adhesive to hold the side walls erect on the triangular end wall 15 ready to receive a sandwich stack. Also the tab 18 of side wall 16 which forms part of the lid of the container is replaced by a flap 36 to be secured by adhesive to the inside of the adjacent side wall 17 to secure the side wall 16 and 17 of the lid together to form the enclosure of the lid. The flaps 35 and 36 are secured to the respective side walls 21 and 17 prior to placing the sandwich stack in the container ready to be enclosed.

30 A further modification to the blank is that the window 27 has rather deeper extensions into the triangular end walls 14 and 15 to increase the viewability of the sandwich within the container from either side of the container.

35 Referring firstly to Figure 7 of the drawings, there is shown a one-piece cardboard blank from which a prism shaped pack to hold a diagonally cut and stacked round of sandwiches is formed. The blank

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comprises any elongate rectangular base 50 having side edges 51 and 52 and end edges 53 and 54. The side edges 51 and 52 have isosceles form triangular end walls 55 and 56 hinged thereto at the bases of the triangles along pre-scored fold lines indicated at 59 and 60. The triangular shaped end wall 55 has side edges indicated at 61 and 62 which converge to an apex 63. Likewise the triangular shaped end wall 56 has side edges 64 and 65 which converge to an apex 66. A fold 67 extends along a centre line through the blank between the apices 63 and 66 about which the blank can be folded flat in two for storage as described later.

The end wall 55 of the blank provides a lid for the prism shaped pack and has side flaps 68, 69 extending along the side edges 61 and 62 of the end wall. At the apex 63 of the end wall, one of the side flaps 68 has a tab connected to the flap by a fold line 70a to be glued to the other side flap 69. A short elongate slot 69a is cut into the flap 69 along the fold line 70a for a purpose to be described later.

The end wall 56 provides an enclosure or compartment for a stack of diagonally cut sandwiches to be enclosed in the pack. The end wall has rectangular side walls 71 and 72 formed along the edges 64 and 65 of the triangular wall and at the apex 66 of the triangular shaped wall the side wall 72 has an integral tab 73 to be adhered to the other side wall 71 to hold the side walls together at right angles to the end wall 56. Side wall 71 has a short projection 71a at the apex of the enclosure which is engageable in the slot 69a at the apex of the enclosure to hold the lid closed over the enclosure. The other ends of the side walls 71 and 72 have integral flaps 74 and 75 which are tucked under the base wall 50 as the blank is erected to overlie and hold the ends of a sandwich stack placed in the partially erected pack as the pack is erected.

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The base 50 of the blank is formed with an elongate window or aperture 78 standing between the side edges 51 and 52 of the blank and projecting a short distance into the respective base portions of the triangular end walls 55 and 56. A sheet of transparent film 79 is adhered to the inside face of the base wall and end walls to extend over the aperture to allow viewing of the contents of the pack whilst protecting the sandwiches enclosed in the pack from the atmosphere.

As indicated above, Figure 7 shows the blank in a flat, open form. Figure 8 shows the blank folded in two along the centre line 67 and with the tab 70 pre-glued to the flap 69 and tab 73 pre-glued to the side wall 71. Stacks of blanks are supplied to customers in this form for filling and display for sale. Figure 9 shows a blank un-folded ready to receive a diagonally cut round of sandwiches. In unfolding the blank, the side walls 71 and 72 on the triangular shaped end wall 56 automatically fold upright with respect to the end wall 56 to define a compartment indicated at 80 to receive the stacked pre-cut round of sandwiches. Similarly the side flaps 68 and 69 fold upright with respect to the triangular wall 55 automatically deform a lid to close over the sandwich pack.

Figures 10 to 12 show the sequence of placing a pre-cut stack of sandwiches in the partially erected pack and the further steps in which the pack is folded over around the sandwich and eventually the lid of the pack is closed over the sandwich pack to contain the pack. As the base 50 of the pack is folded over the end of the sandwich stack, the flaps 74 and 75 are tucked underneath the base and these serve to hold the ends of the sandwich pack in place in the erect pack. The projection at the apex of the enclosure engages automatically in the slot 69a at the apex of the top

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to hold the lid closed.

The window 79 permits the block of sandwiches to be viewed prior to purchase whilst protecting the sandwiches from extraneous matter.

5 It will be appreciated that many modifications may be made to the above described embodiments without departing from the scope of the invention. For example blobs of adhesive may be applied to the outer sides of the flaps 74, 75 of the enclosure of the pack
10 to adhere the flaps to the inside of base 50 when the base is folded over the flaps. In addition lines of adhesive may be applied to the outer faces of side walls 71, 72 adjacent the edges to be enclosed by the side flaps 68, 69 of the lid of the container to be
15 adhered to the lid to provide a substantially sealed pack. This increases the shelf life of the sandwiches in the pack.

 Further, the transparent film 79 in the window 78 in the base may be omitted and, instead, the pack is
20 wrapped in a transparent film heat sealed to secure the wrapping in place on the pack to provide a substantially hermetically sealed pack to increase the shelf life of the sandwiches in the pack. The pack
25 could be wrapped in a flow wrap process, in a shrink wrap process or in a line wrap process. The pack may also be flushed with gas or evacuated to remove contaminants.

 The various forms of pack described above lend themselves to machine production including at least
30 partial erection prior to filling, filling, closure and sealing.

CLAIMS:

1. A wedge shaped sandwich pack comprising a folded
card blank having a rectangular base formed with a
5 window to reveal the contents of the pack, triangular
shaped end walls hinged by folds to the elongate sides
of the base, each end wall having side walls connected
by folds along the convergent edges thereof, the side
walls of one end wall being attached at the apex of
10 the end wall to form a lid for the container and the
side walls of the other end wall having end flaps
along the edges adjacent the base to fold inwardly
over the base to support the ends of the sandwich unit
in the container.

15

2. A sandwich pack as claimed in claim 1, wherein a
sheet of transparent film is mounted in the window in
the base of the blank to provide protection for the
contents of the pack whilst allowing the contents to
20 be viewed.

3. A sandwich pack as claimed in claim 1 or claim 2,
wherein the window extends from the base into adjacent
regions of the triangular end walls to permit the
25 contents of the pack to be viewed from a direction
facing the base and from either side of the pack.

4. A sandwich pack as claimed in any of the
preceding claims, wherein the side walls of the lid
30 are connected at the apex of the triangular end wall
on which they are formed by a flap on one of the side
walls which is adhered to the inside face of the other
side wall to hold the side walls at right angles to
the triangular end wall on which they are formed.

35

5. A sandwich pack as claimed in any of the
preceding claims, wherein the side walls of the lid

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taper towards the ends of the side wall adjacent the rectangular base.

5 6. A sandwich pack as claimed in claim 5, wherein the side walls taper to zero at the base.

10 7. A sandwich pack as claimed in any of the preceding claims, wherein the side walls on the other triangular end wall are secured together at the apex of the triangular wall.

15 8. A sandwich pack as claimed in claim 7, wherein the side walls on said other triangular end wall are secured together by a flap on one of the side walls which is adhered to the other side wall at the apex of the end wall to hold the side wall for extending at right angles to the end wall.

20 9. A sandwich pack as claimed in any of claims 1 to 5, wherein the side walls on said other triangular end wall of the blank abut one another at the apex of the end wall without any fixing.

25 10. A sandwich pack as claimed in any of the preceding claims, wherein the side walls on said other triangular end wall taper towards the apex of the triangular end wall to form a tapered pack.

30 11. A one-piece cardboard blank for forming a prism shaped pack to receive and hold a stack of diagonally cut sandwiches comprising a rectangular base wall having triangular end walls hinged at their respective bases by fold lines to opposing edges of the base wall, each triangle having rectangular side walls
35 hinged by fold lines to the sides of the triangles and the side walls of each triangle being secured together at the apices of the triangles so that when the

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triangular side walls are folded up with respect to the base to lie parallel to one another the side walls of the respective triangles come together to form an enclosure with the end walls, a fold line being formed in the blank between the respective apices of the triangles about which the blank is symmetrical to allow the blank to be folded flat in two for convenient stacking prior to use.

10 12. A blank as claimed in claim 11, wherein the side walls of one of the triangular end walls are relatively deep to form an enclosure for the sandwich stack and the side walls of the other end wall are relatively shallow to form a lid for the enclosure.

15 13. A blank as claimed in claim 12, wherein the side walls of said one end wall have flaps hinged by fold lines to the side walls to be tucked under the base and over lie the ends of the sandwich stack in the enclosure.

20 14. A pack as claimed in any claims 11 to 13, wherein a window is formed in said rectangular base wall for viewing the contents of the pack.

25 15. A pack as claimed in claim 14, wherein the window extends from the base into the adjacent portions of the triangular side walls.

30 16. A pack as claimed in claim 14 or claim 15, wherein the window is closed by a transparent film secured to the blank.

35

FIG. 2.

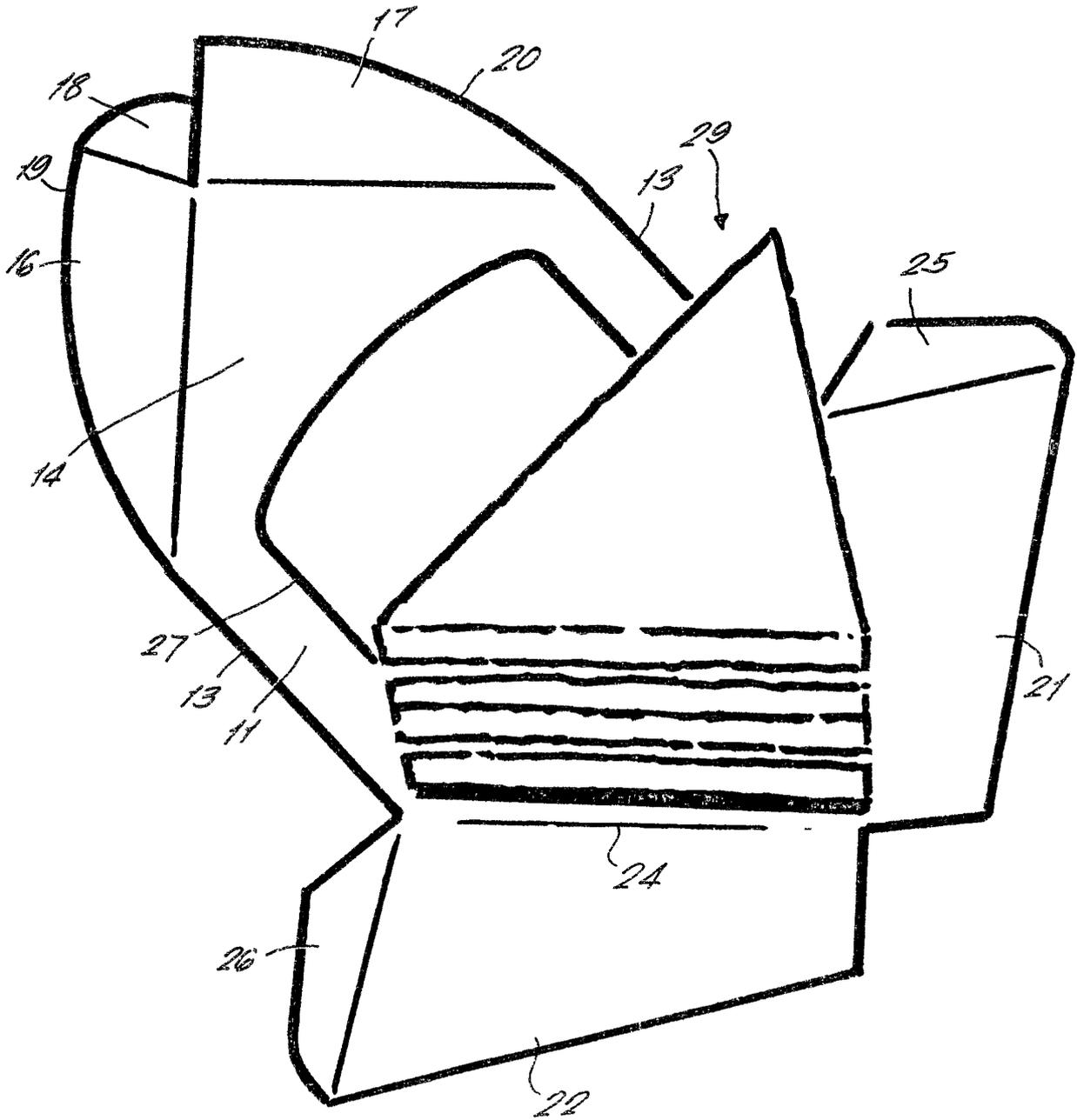
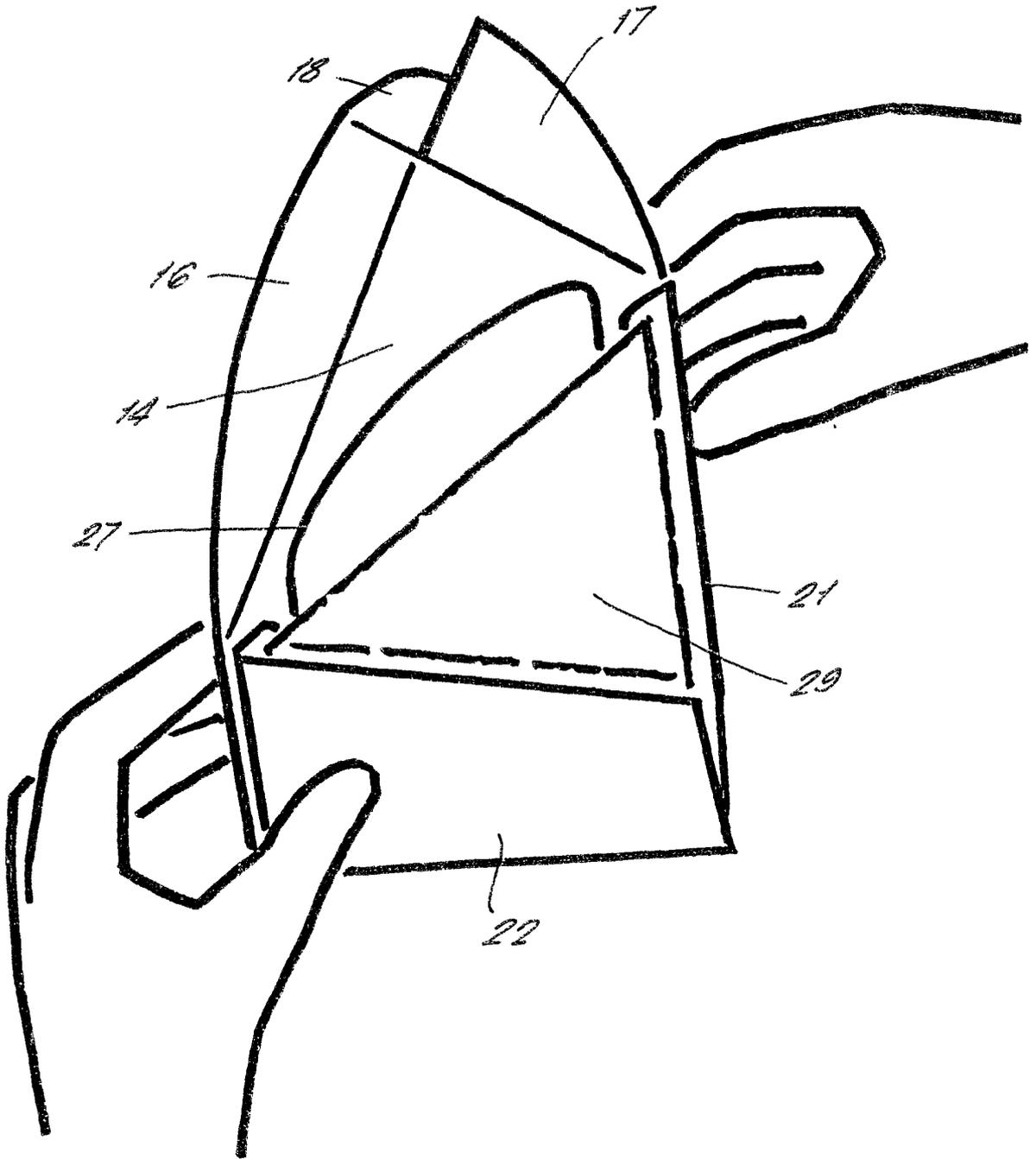


FIG. 3



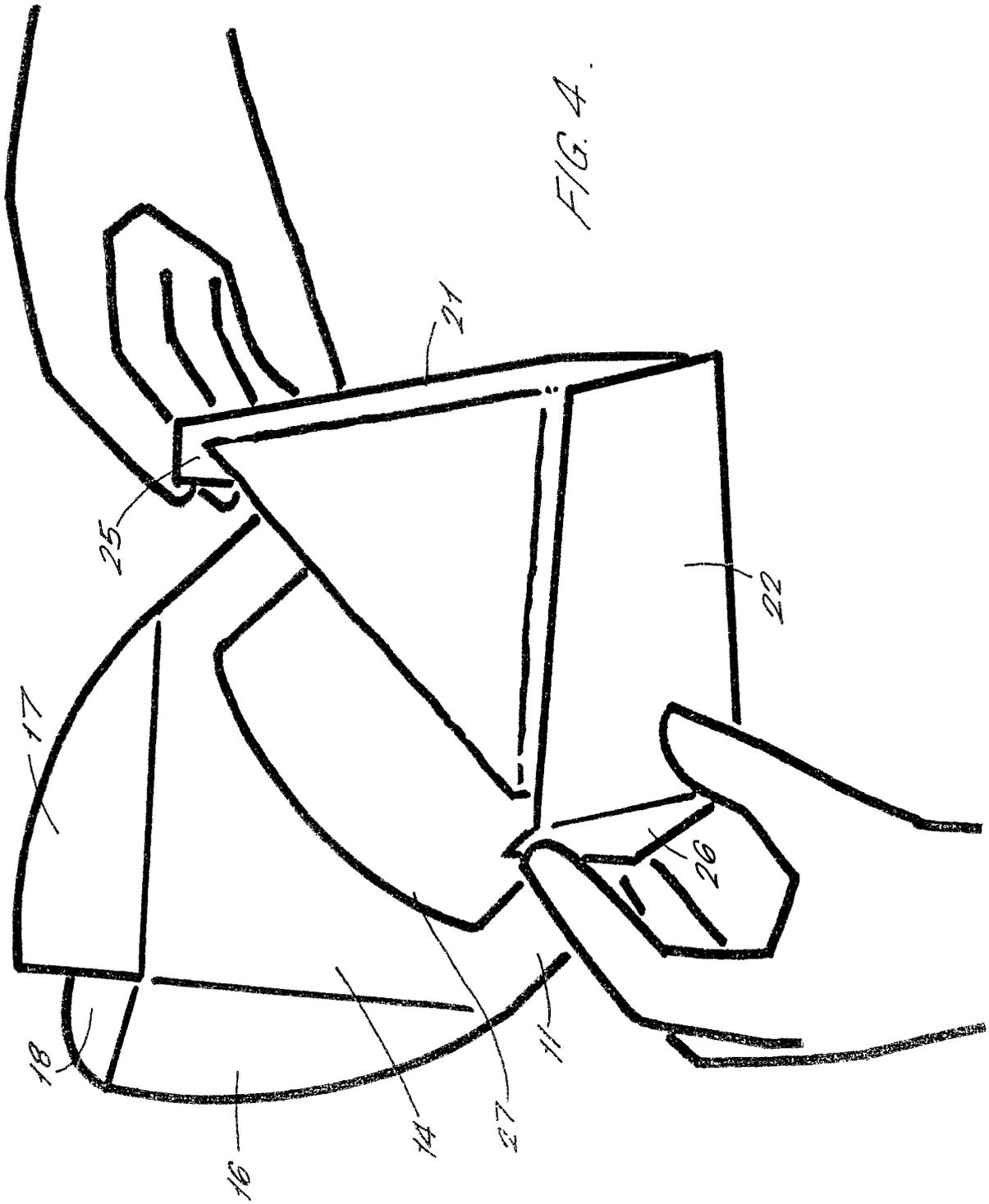


FIG. 4.

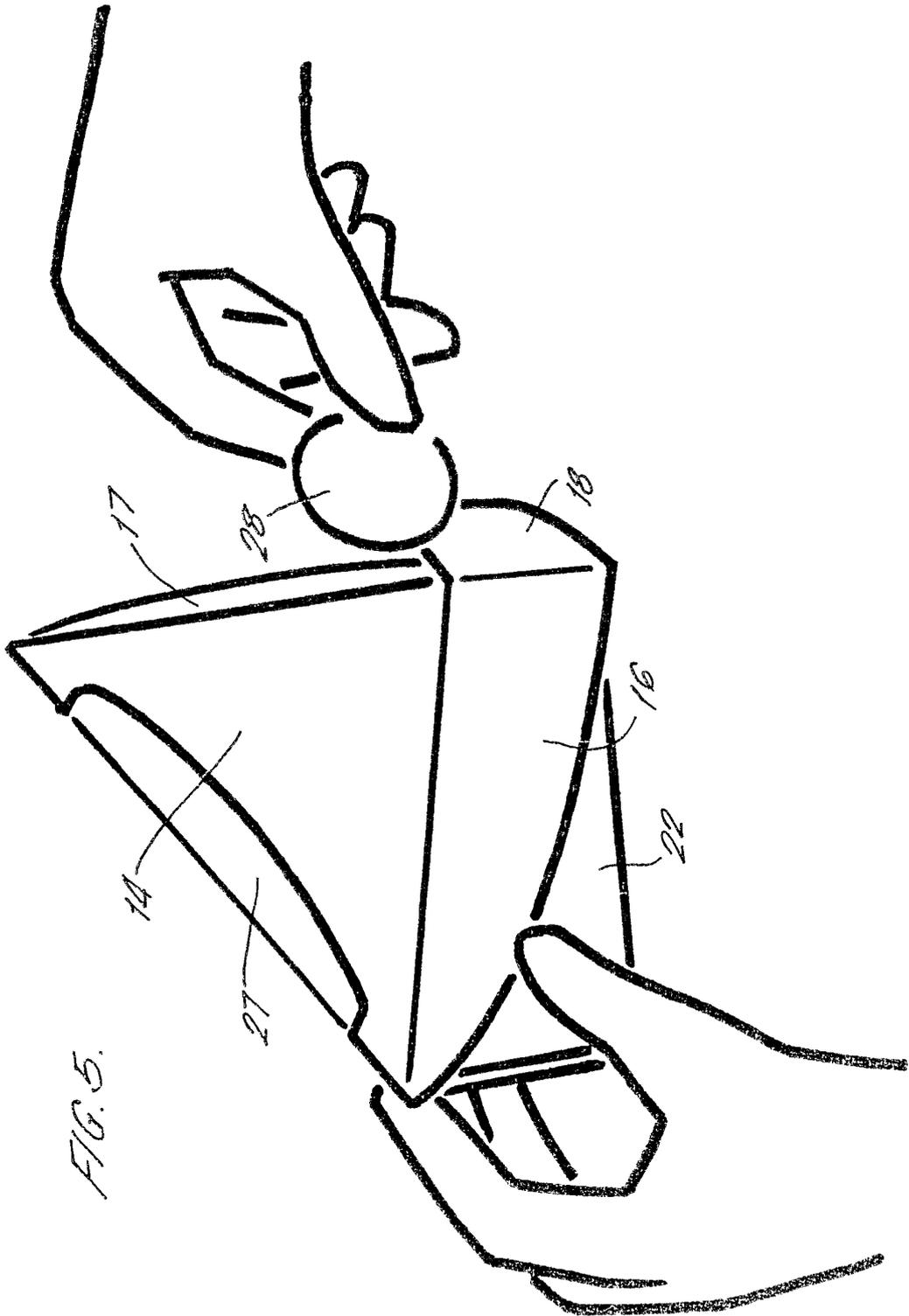


FIG. 5.

FIG. 6.

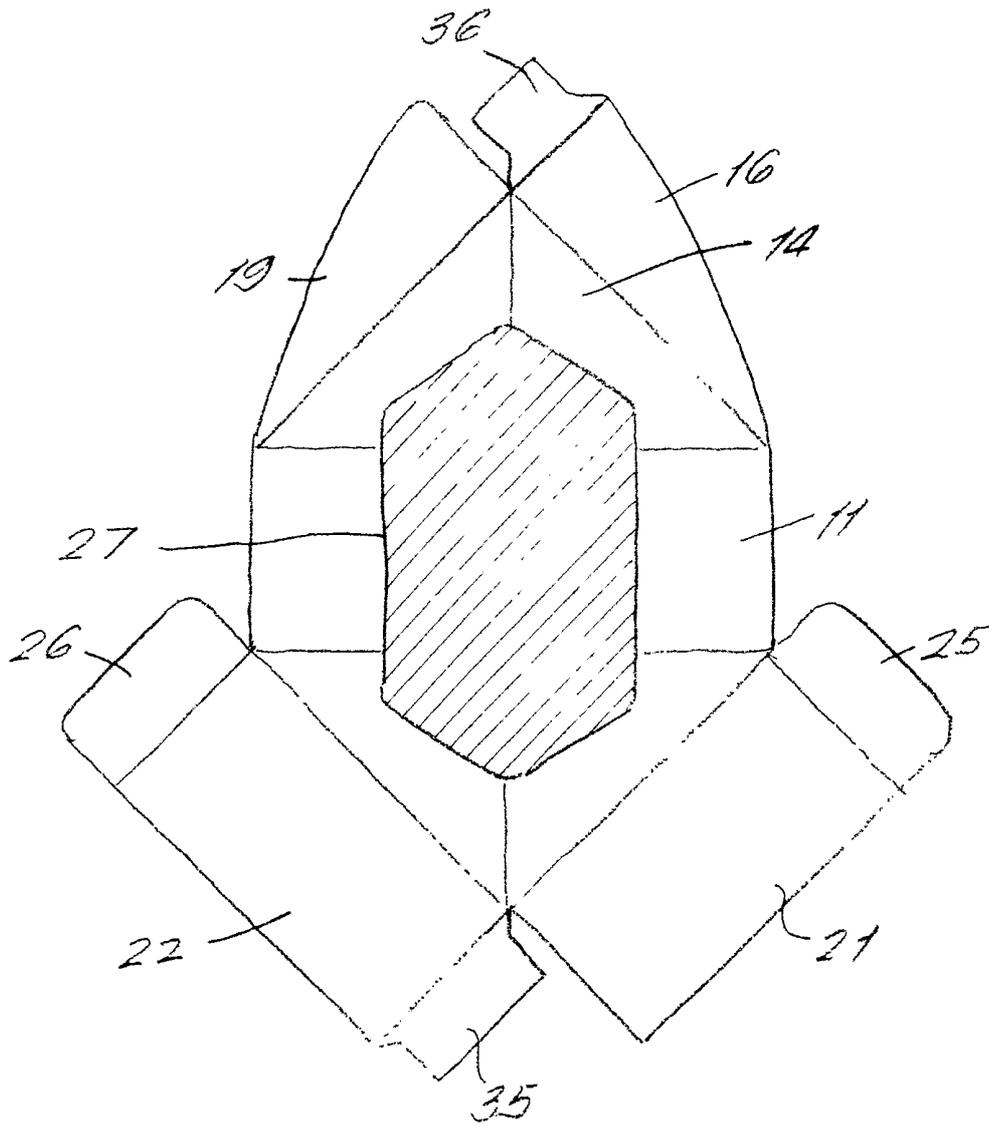


FIG. 7.

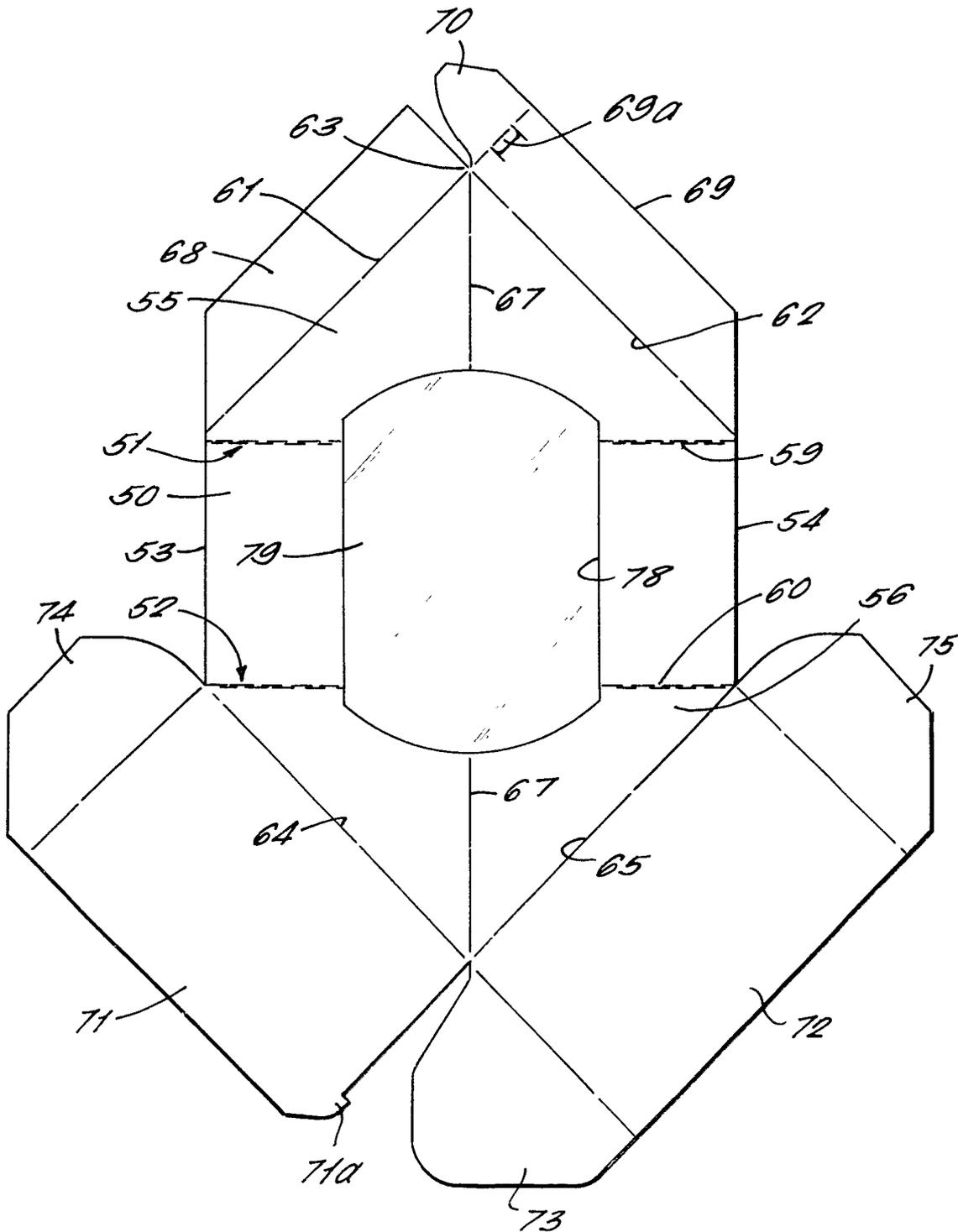


FIG. 8.

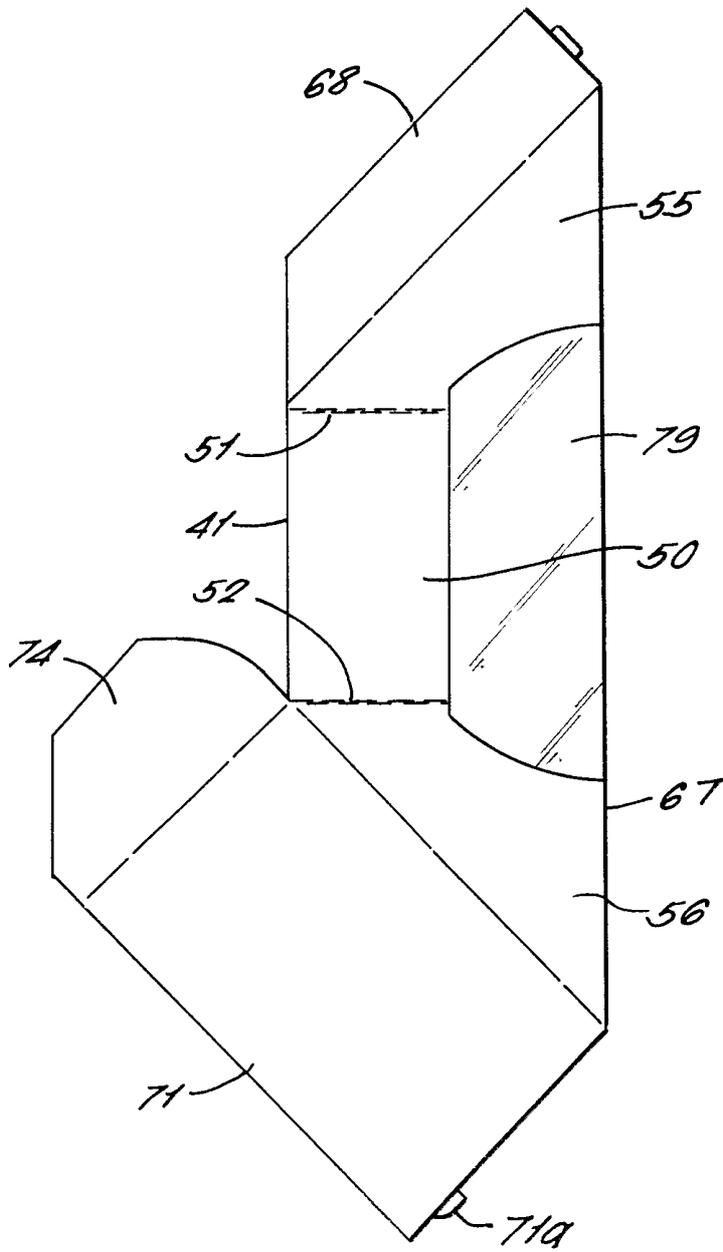


FIG. 9.

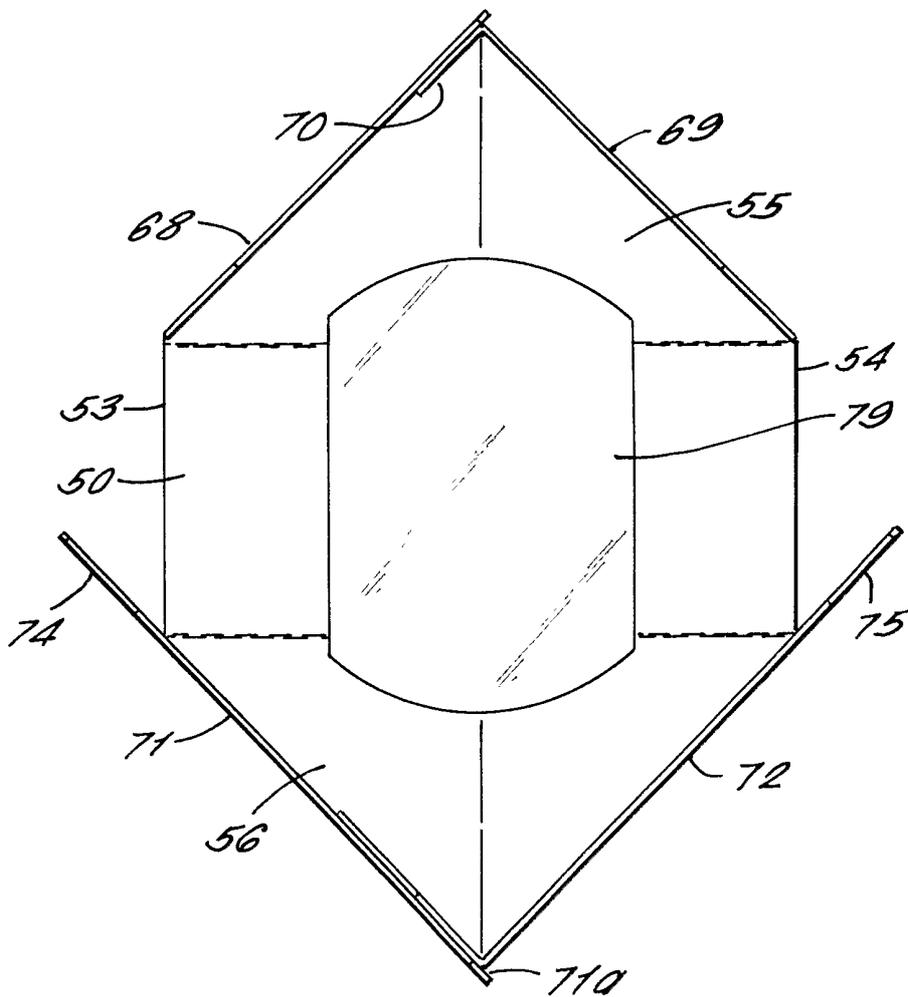


FIG. 10.

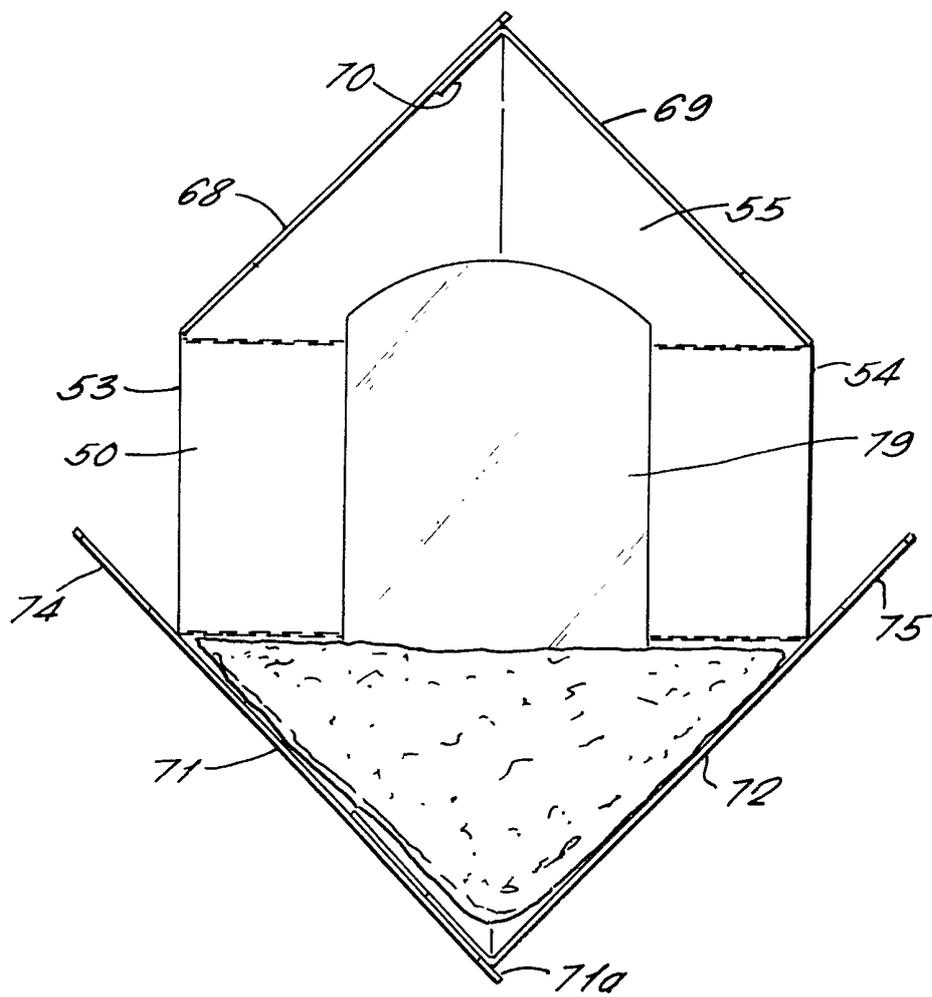


FIG. 11.

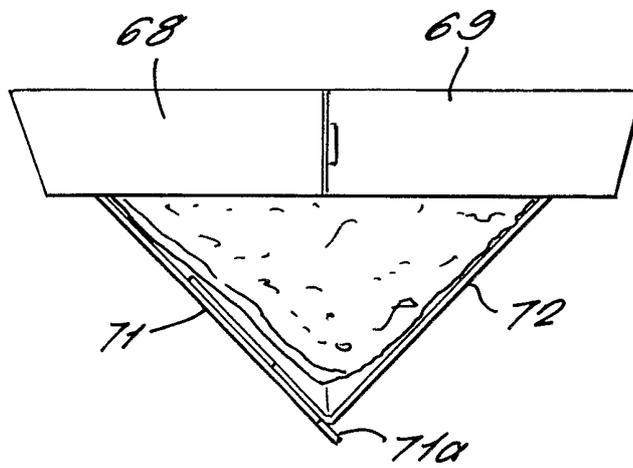
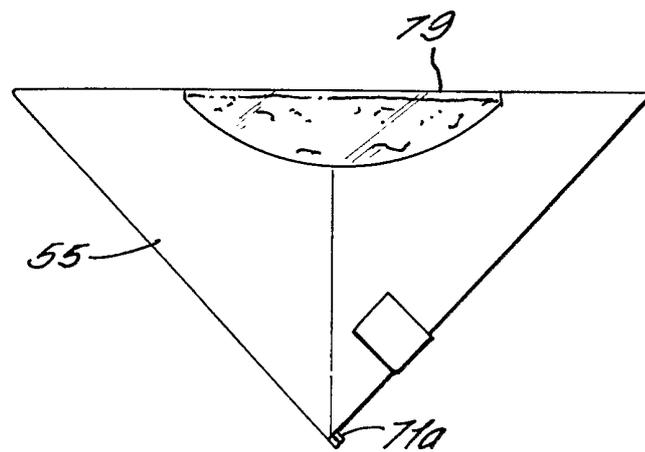


FIG. 12.



INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 01/04721

A. CLASSIFICATION OF SUBJECT MATTER		
IPC 7	B65D5/42	B65D5/20 B65D5/18 B65D5/36
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
IPC 7	B65D	
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practical, search terms used)		
EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 598 627 A (WEISS) 27 May 1952 (1952-05-27)	1,2,4,7, 8
Y	column 1, line 37 -column 2, line 41	3,5,9,10
A	figures 1-4	11
X	US 2 701 090 A (BUTTERY) 1 February 1955 (1955-02-01)	1,2,4,7, 8
Y	column 1, line 46 -column 2, line 9;	
A	figures 1-6	
Y	GB 2 221 449 A (CHEVERTON & LAIDLER) 7 February 1990 (1990-02-07)	3
A	page 3, line 23 -page 6, line 5; figures 1-3	1
	-/--	
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C. <input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) *O* document referring to an oral disclosure, use, exhibition or other means *P* document published prior to the international filing date but later than the priority date claimed *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *G* document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
29 January 2002		05/02/2002
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Berrington, N

INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 01/04721

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
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