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(54) **Reclosable carton.**

(57) A reclosable carton (30) comprises a gable top formed by folding on crease lines (25) upper side panels (19) and when reclosure of the carton (30) is effected, a flap (17) is folded inwardly between the inwardly folded side panels (19) and an adjacent front or rear panel (12) to trap a folded neck of a liner (31) and thereby enhance closure of the liner (31).

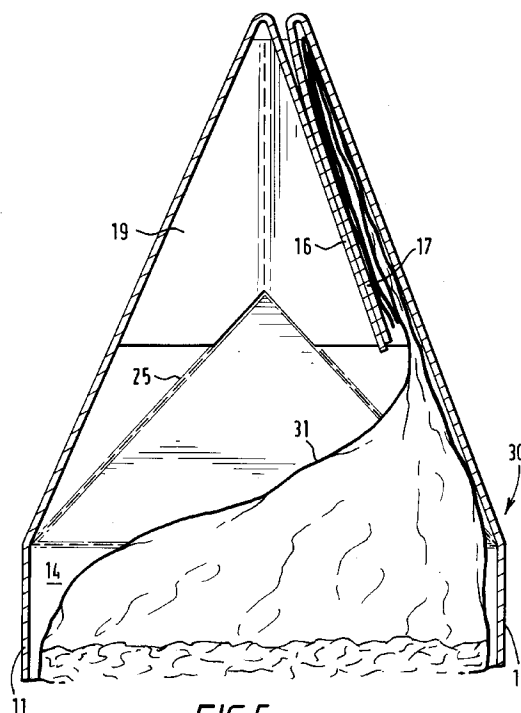


FIG. 5

This invention relates to a reclosable carton of substantially rectangular configuration comprising front and rear panels and two side panels.

In US-A-4 484 683 there is disclosed such a carton in which upper portions of the side panels are scored along lines extending downwardly from a top of the carton. The carton contains a liner in the form of an inner bag and the arrangement is such that reclosing of the carton results in the side panels folding inwardly along the score lines and upper portions of the front and rear panels being brought together. Generally, the front panel is provided with a closure flap having a tab and the rear panel is provided with a slot for receiving the tab to effect closure of the carton. It is envisaged that an upper portion of the liner during reclosure would be folded over a top edge of the rear panel and would thereby be trapped by the closure flap when the carton is closed and the liner thus would be air tight while the carton remains closed.

A disadvantage of such an arrangement is that the folded over liner is bulky at the upper rear surface of the carton and causes the tab to spring out of engagement with the slot, thereby reducing the efficacy of the closure. A further disadvantage is that it is necessary to provide a liner of greater than normal depth to ensure that the upper portion of the liner extends over the top edge of the rear panel of the carton. The increase in size of the liner is an increase in the cost of manufacture.

The invention is characterised in that the other of the front or rear panels which is not provided with the closure flap is provided with a restraining flap which is adapted to be inserted between the inwardly folded side panel portions and an adjacent front or rear panel so as to trap an upper portion of the liner.

Since the liner is not folded over an upper edge of the carton to cause it to be trapped, there is no pressure acting against the closure flap when the carton is closed.

Following is a description, by way of example only and with reference to the accompanying drawings, of one method of carrying the invention into effect.

In the drawings:-

Figure 1 is a plan view of a blank for forming into a carton in accordance with the present invention,

Figures 2 to 4 inclusive are diagrammatic representations indicating stages in a procedure for effecting closure of the carton,

Figure 5 is a cross section on the line V-V of Figure 4,

Figure 6 is a partial plan view of a modified blank for forming into a carton in accordance with the present invention, and

Figure 7 is a view similar to Figure 5 of a carton formed from the blank shown in Figure 6.

Referring to Figure 1 of the drawings, there is

shown a carton blank 10 comprising two rectangular panels 11, 12 of equal area and two narrower elongate rectangular panels 13, 14 also of equal area. One of the longer panels 12 is located between the two narrower panels 13, 14 and one of the narrower panels 13 is located between the two larger panels 11, 12. The larger panel 11 which is not located between the two narrower panels 13, 14 is provided with a longitudinal tab 15. The panels 11, 12, 13 and 14 are each provided with a corresponding upper flap 16, 17, 18 and 19 and a corresponding lower flap 20, 21, 22 and 23. The narrower panels 13, 14 are each provided in an upper position thereof with lines of weakening forming an upright equilateral triangle with an upward line extension from the apex thereof as shown at 24 and 25 and each of the flaps 18, 19 is provided with a rectilinear line of weakening 26, 27 which is an extension of the corresponding line 24, 25 of the corresponding panel 13, 14. The flaps 16, 17, 20 and 21 extending from the larger panels 11, 12 are of a transverse dimension less than the corresponding transverse dimension of the corresponding panels 11, 12 and the corners of the flaps 16, 17 are rounded and the side edges thereof are sloped towards the rounded corners. The flaps 18, 19 extending upwardly from the narrower panels 13, 14 are each provided with a notch 28, 29, the apex of which is in line with the corresponding line of weakening 26, 27.

The blank 10 is erected to form a carton by folding the panels 11, 12, 13 and 14 to form a rectangular configuration in plan view and the tab 15 is adhesively attached to an inner surface of the narrower panel 14. The flaps 20, 21, 22 and 23 then are folded towards one another and are secured adhesively one to another to form a base of the carton 30. A liner in the form of a flexible container containing contents then is inserted into the carton and the flaps 16, 17, 18 and 19 are folded towards one another, the flaps 16, 17 overlying the flaps 18, 19, and the flaps 16, 17 are secured one to another by a peelable adhesive to enclose the liner and provide a top for the carton.

Referring now to Figures 2 to 5 of the drawings, after the top of the carton 30 has been opened by peeling the flaps 16, 17 one from another, at least some of the contents are poured from the liner, which remains in the carton. The liner 31 is reclosed by gripping together and folding downwardly upper portions of opposite walls of the liner 31 and the rear flap 17 and side flaps 18 and 19 of the carton 30 are folded inwardly of the corresponding panels 12, 13 and 14, as shown in Figure 2. The inward folding of the rear flap 17 causes the folded upper portion of the liner 31 to become trapped under the rear flap 17, as shown in Figure 5. Upper portions of the side panels 13, 14 are then folded inwardly at the lines of weakening 24, 25, as indicated in Figure 3. The front flap 16 is then folded downwardly and inserted between the upper folded portions of the side panels 13, 14, as indicated

in Figure 4. As the flap 16 is progressively inserted into the carton 31 the relative movement combined with the inner folded upper portions of the side panels 13, 14 results in the upper portions of the front and back panels 11, 12 being moved towards one another in opposite angular directions to form a "gable top", as shown in Figures 4 and 5. The relative movement also has the effect of increasing pressure on the trapped upper portion of the liner 31 thereby increasing the efficacy of closure of the liner 31.

It will be appreciated that, since the dimension of each of the flaps 16, 17 is less than the corresponding dimension of the front and rear panels 11, 12, the flaps 16, 17 may easily be folded inwardly of the carton 30 without distortion of the flaps 16, 17, 18 and 19.

It will also be appreciated that the notches 28, 29 accommodate the inner folding of the corresponding flaps 18, 19 on the lines of weakening 26, 27.

Furthermore, it will be appreciated that the shape of the flaps 16, 17, in that the corners thereof are rounded and the side edges thereof are sloped inwards towards the rounded corners, facilitates insertion of the flaps inwardly between the upper folded portions of the side panels 13, 14.

Referring now to Figures 6 and 7 of the drawings, there is shown a modified blank 33 and a carton 34 formed therefrom. The blank 33 corresponds in all respects to the blank 10 except that the flap 17 is provided with a transverse line of weakening 35. The arrangement is such that, in use, the flap 17 is reverse folded on the line of weakening 35 so as to trap the neck of the liner 31 in a fold and further enhance the efficacy of closure of the liner 31.

It will be appreciated that, instead of erecting the blank 10 to form a carton 30 in which the flaps 16, 17 overlie the flaps 18, 19 prior to initial opening of the carton 30, the blank 30 may be erected so that the carton 30 is of a configuration as shown in Figure 4 of the drawings. With such a configuration, the flap 16 would overlie the upper surface of the panel 12 and would be united therewith by a peelable adhesive until first opened.

Claims

1. A reclosable carton (30) of substantially rectangular configuration for containing a liner (31), the carton (30) comprising front and rear panels (11, 12) and two side panels (13, 14), upper portions of the side panels being adapted to fold inwardly and one of the front or rear panels (11, 12) being provided with closure flaps (16, 17, 18, 19) characterised in that the other of the front or rear panels is provided with a restraining flap which is adapted to be inserted between the inwardly folded side panel portions and an adjacent front or rear panel (11, 12) so as to trap an upper portion of the liner (31).

2. A carton (30) as claimed in Claim 1 characterised in that the side panels (13, 14) are each provided with a flap (18, 19).

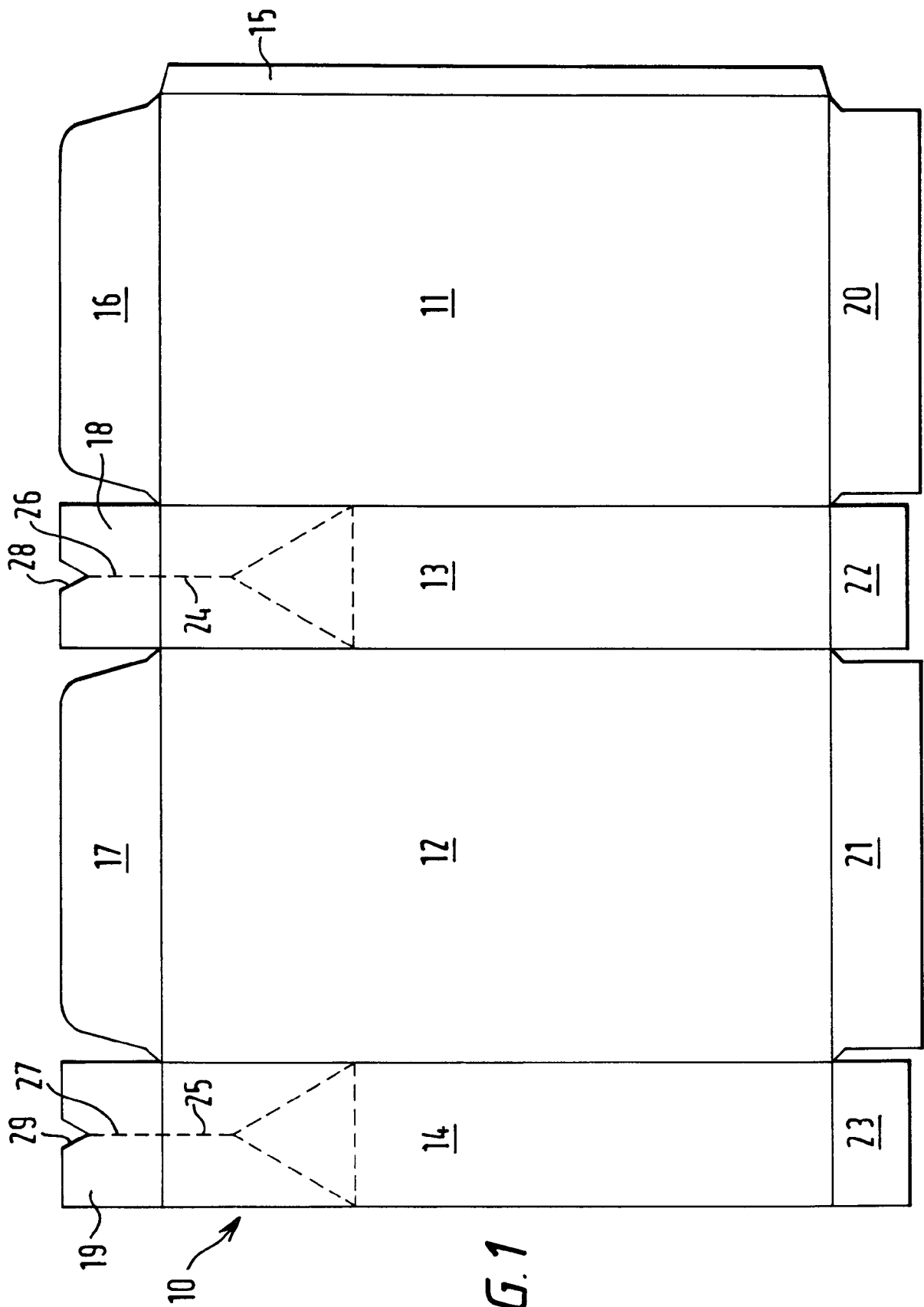
3. A carton (30) as claimed in Claim 2 characterised in that upper portions of the said panels (13, 14) and corresponding flaps (18, 19) are provided with lines of weakening (24, 25, 26, 27) for effecting folding of the material of the carton (10).

4. A carton (30) as claimed in Claim 3 characterised in that the said corresponding flaps (18, 19) are each provided with a notch (28, 29).

5. A carton (30) as claimed in any one of the preceding Claims characterised in that the insertable flap (17) is shaped to facilitate insertion between the inwardly folded side panel portions and an adjacent front or rear panel (11, 12).

6. A carton (34) as claimed in any one of the preceding Claims characterised in that the insertable flap (17) is provided with a line of weakening (35).

7. A blank for forming a carton as claimed in any one of the preceding Claims.



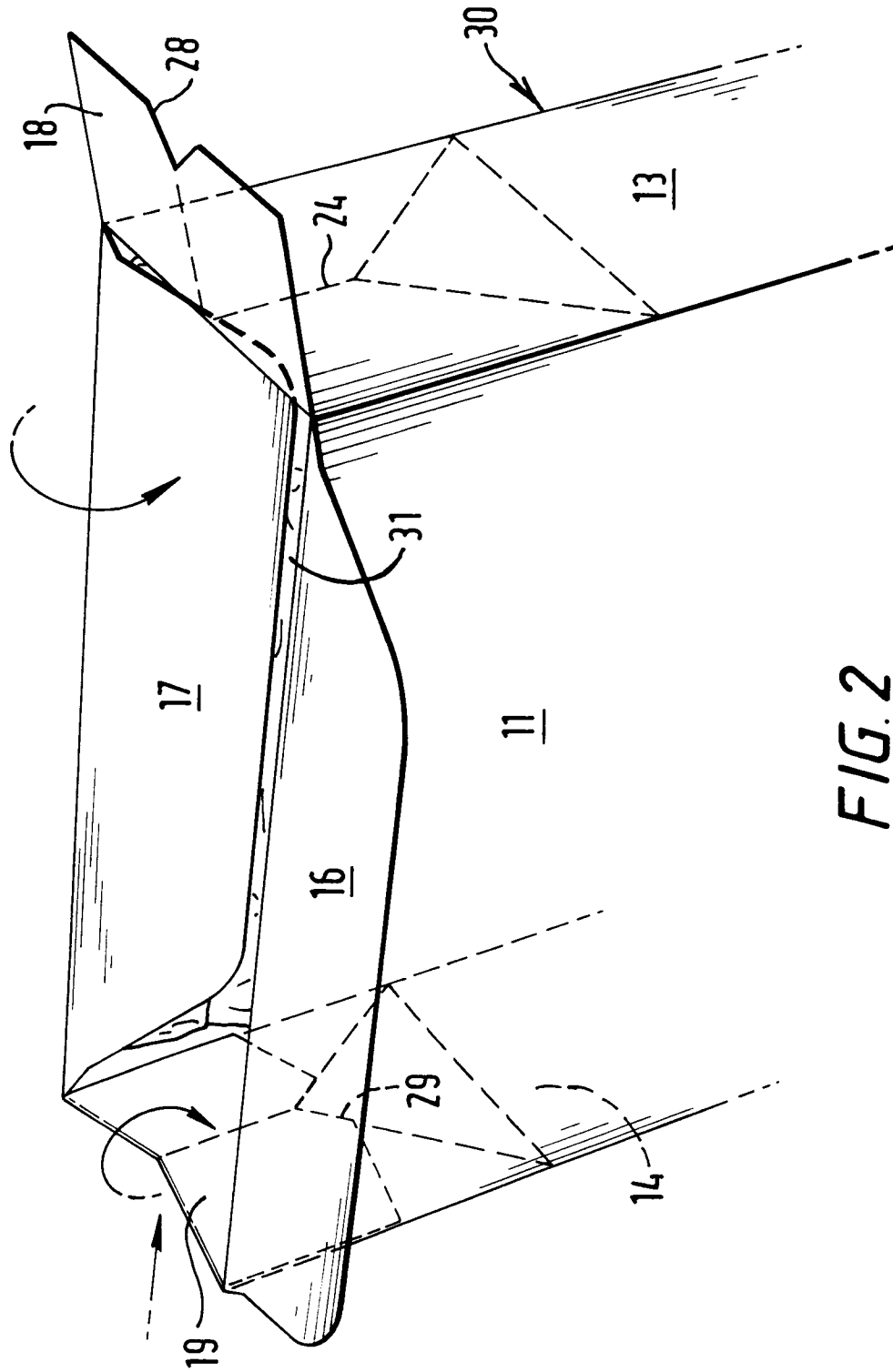


FIG. 2

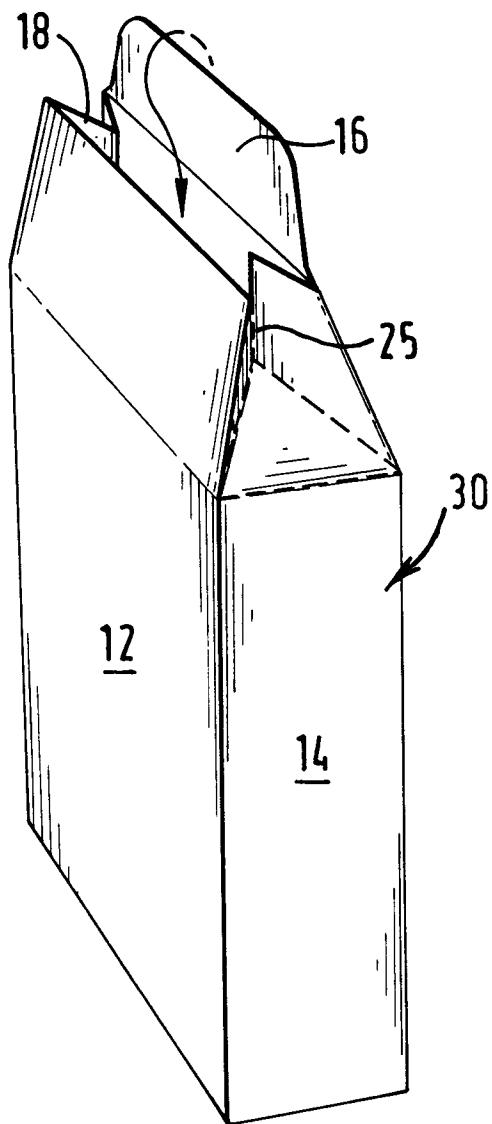


FIG. 3

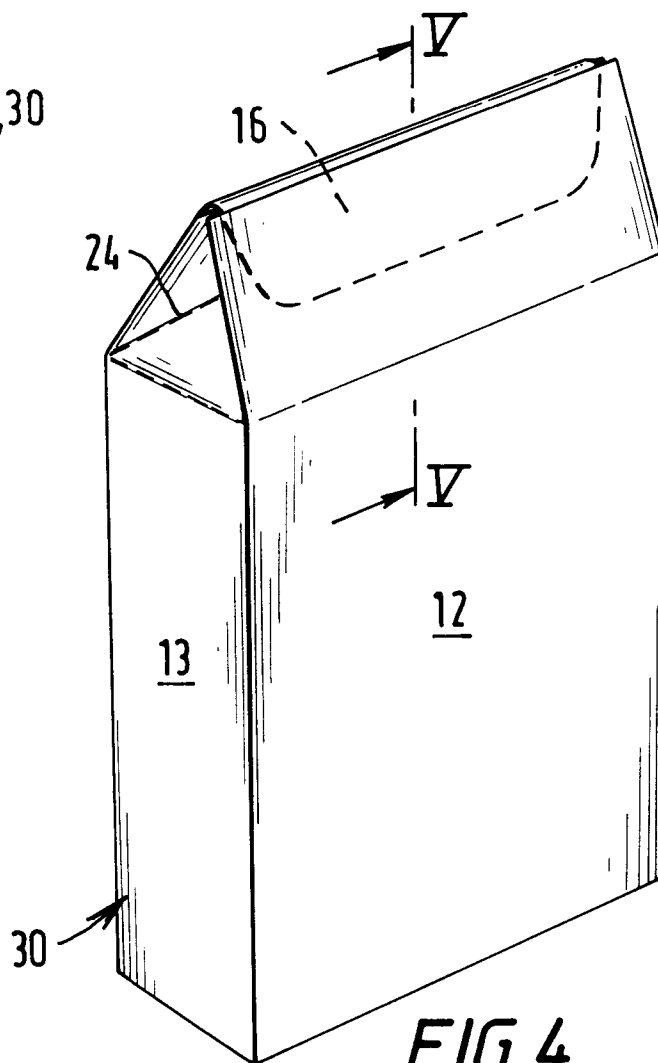


FIG. 4

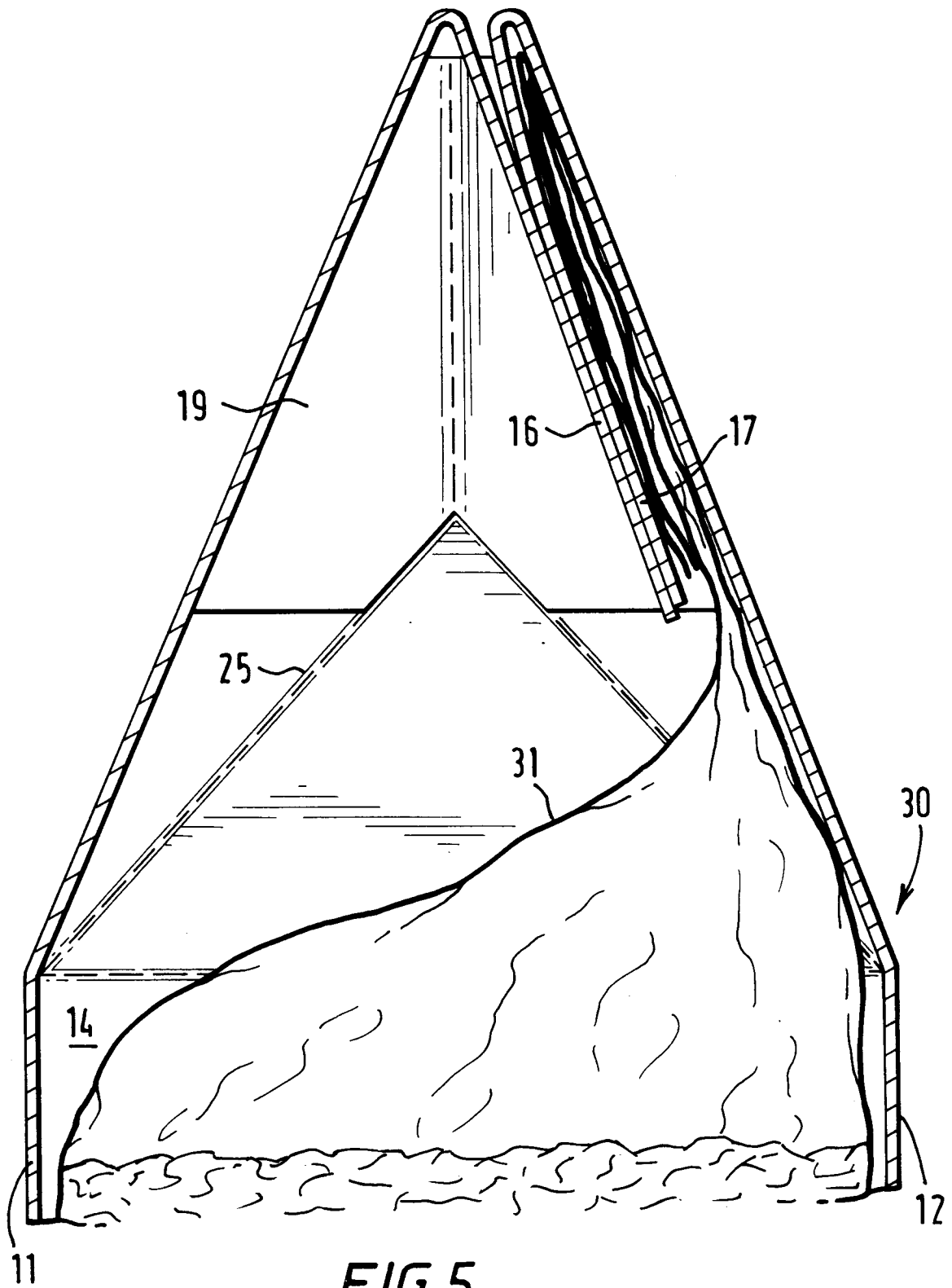


FIG. 5

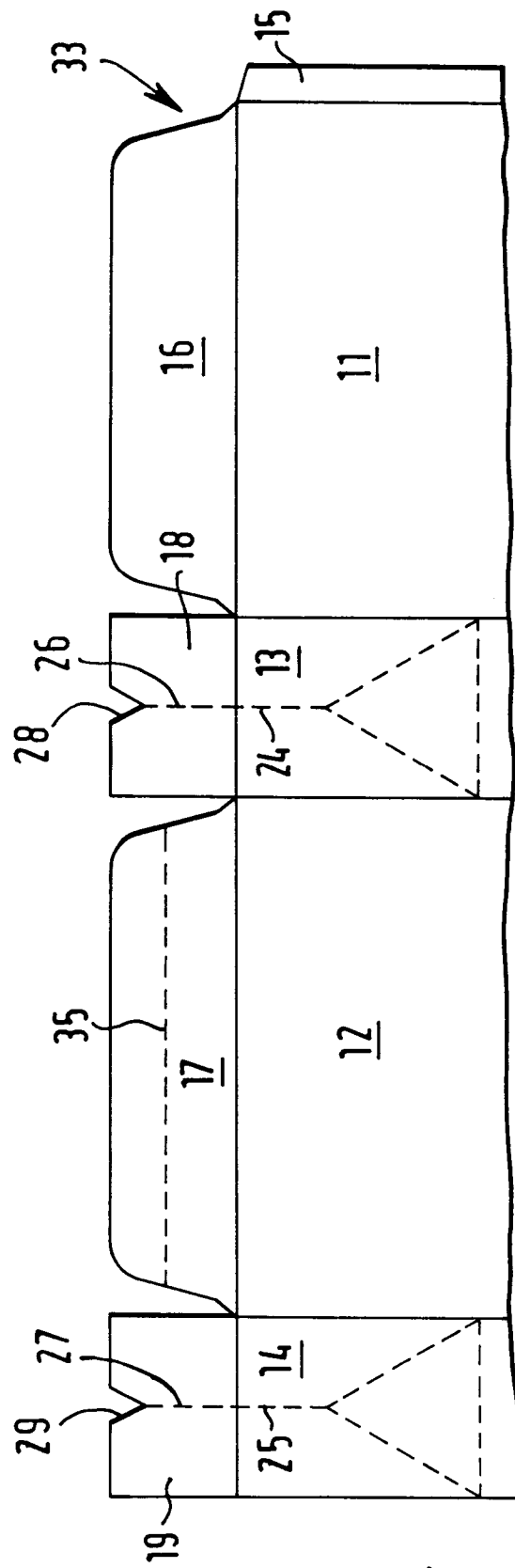


FIG. 6

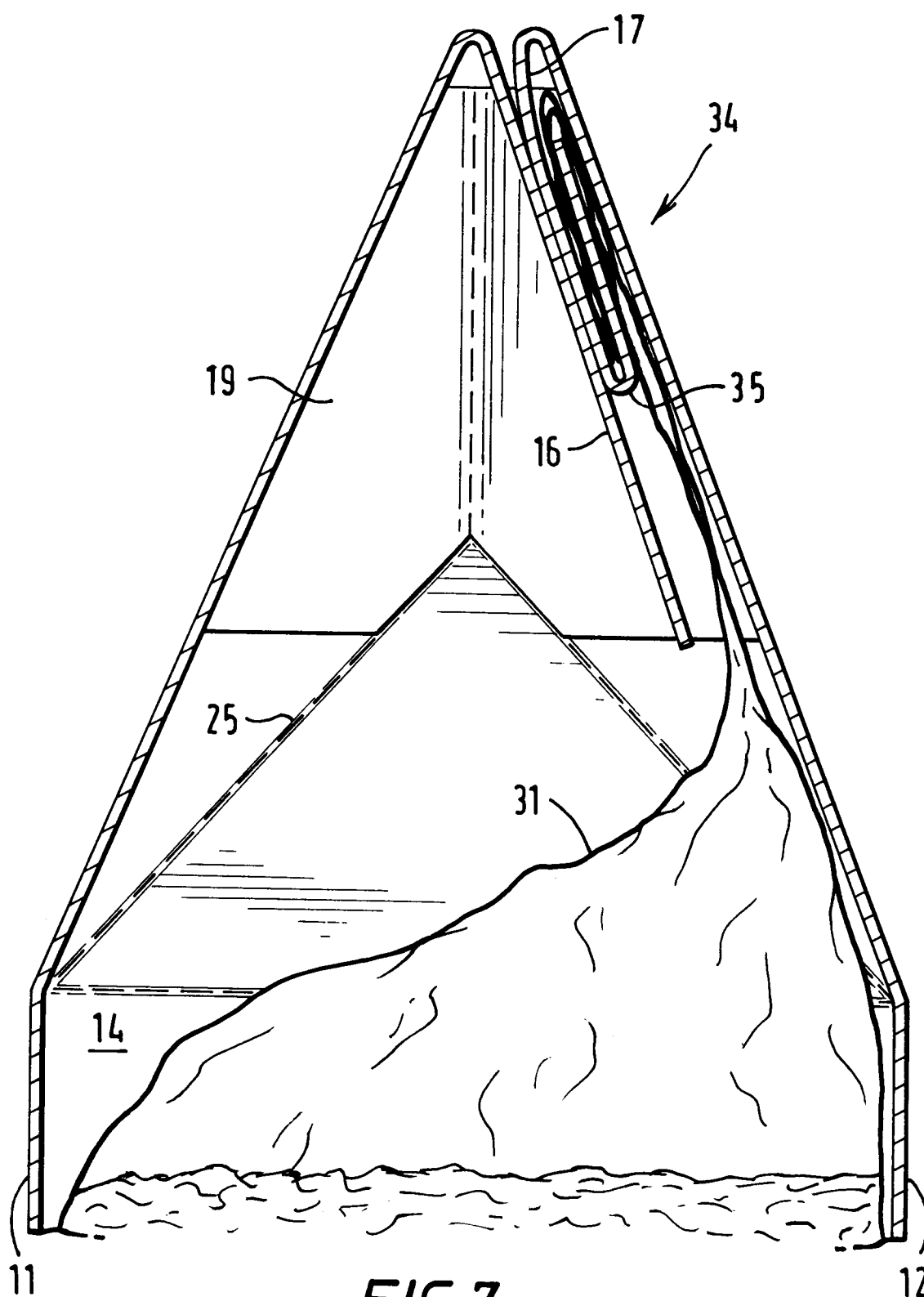


FIG. 7



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 94 30 6087

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	CH-A-267 542 (CAFAG) * page 1, line 39 - line 60; figures 1-3 * ---	1-3,8-11	B65D77/06
A	US-A-2 292 653 (PALMER) * page 1, column 1, line 52 - page 2, column 1, line 69; figures 1-6 * ---	1-3,5-10	
A	CH-A-674 190 (SCHMOCKER) * page 2, column 2, line 6 - line 68; figures 1-4 * ---	1-3,5-10	
A	US-A-4 484 683 (WERNER) * column 1, line 54 - column 2, line 61; figures 1-4 * ---	1-3,5-10	
A	US-A-4 872 588 (TEXIDOR) * column 2, line 23 - column 3, line 7; figures 1-4 * -----	1-3,5-10	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65D
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 7 December 1994	Examiner VANTOMME, M
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