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(54) **Package for protecting flat articles**

(57) The present invention concerns a packaging, which protects items inside the packaging from the effects of blows and hits. The packaging 1, which is intended to be made from corrugated cardboard includes a bottom 3, long sides 6, 7 and gables, which have side

surfaces 9. It is a characteristic of the packaging that the long sides 6, 7 are not at right angles to the top and bottom of the packaging but at an angle thereto so that the packaging has a trapezoid cross-section and, as shown in figure 2, preferably an equily sided trapezoid.

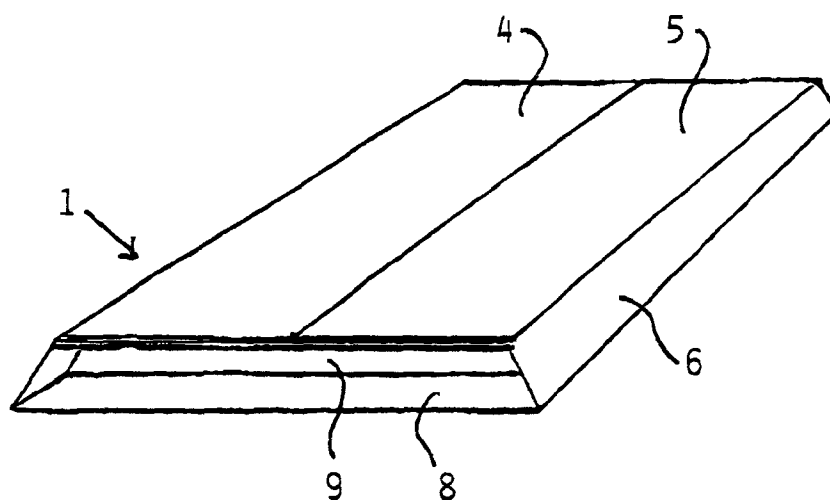


FIG 1

EP 0 796 796 A1

Description

The present invention concerns a packaging, which protects objects inside the packaging from the effects of blows and hits. The packaging is primarily intended to be used for flat objects, such as shelves, doors etc., the appearance of which are especially sensitive to blows and hits on edges and corners. The packaging is intended to be made from foldable material, preferably corrugated cardboard.

Objects, such as doors and shelves, for interior decoration are often manufactured with a thin surface veneer or the like and a careful surface treatment. They are thus very sensitive to blows and hits, especially at edges and corners, as minor damages may make the product more or less unusable for appearance reasons. Such products must be well protected during the handling at manufacturers, warehouses, retailers and customers and during transportation between them. It is thus common that individual objects are put into packagings made from corrugated cardboard and special inlays are used to obtain protection of the edges. Folded or rolled corrugated cardboard or other suitable material is used for this protection.

The damages which may occur on the goods are mostly caused in connection with transportation or selling of the product. This kind of products are often produced in a greater number of identical or together with each other belonging individual items. After being packed up a number of items are often stacked lying upon each other. They are therefor exposed to hits along the edges, depending upon e.g. handling with trucks and other means, stacks which fall over and individual items which during transportation to the end user is dropped or exposed to blows onto edges of vehicles, door frames and the like.

The object of the present invention is a packaging which in itself is so designed that it protects the goods from damages of the kind mentioned above, without any further additions such as inlays along the edges or the like. It is another object of the invention to further simplify handling by supplying a packaging which is made from a single blank, which essentially simplifies the wrapping.

The invention will below be described more in detail with reference to the embodiment which is shown in the enclosed figures.

Figure 1 shows a closed packaging according to the invention.

Figure 2 is a cross-section through the packaging, at right angle to its length direction.

Figure 3 is a cross-section through a part of the packaging along its length direction.

Figure 4 shows a blank of a packaging according to the invention.

The packaging 1 shown in the figures is intended to be made from corrugated cardboard and has a bottom 3, long sides 6, 7 and gables which are defined by side surfaces 9. It is a characteristic of the packaging that

the long sides 6, 7 are not at right angles to the top and bottom of the packaging but are positioned at an angle thereto so that a cross-section of the packaging is trapezoid and, as shown in figure 2, preferably an equally sided trapezoid. This means that along each of the long sides the bottom 3 is a distance "a" wider than the overall width of the top. The triangular space which is formed along the sides is left empty. In order to obtain both a corresponding protection against blows and a firm shape of the packaging the gable parts are made in a special way. They include three different areas of the blank, namely closest to the bottom 3 a side surface 8 which is intended to be folded over and lay against the bottom 3, and a side surface 9 having angular edges 13, 14 and finally an outer surface 10 which is intended to lie against the smaller side of the packaging, formed by the two lid parts 4, 5.

When the packaging is to be used, the item 2 of the goods is placed upon the bottom 3 and before or after that the long sides 6, 7 are folded upwards to about at right angle to the bottom. Thereupon the short sides are folded to the position which is shown in figure 3, whereupon the lid parts 4, 5 are folded down and the folding of the long sides 6, 7 relative to the bottom is completed, so that the packaging takes its desired shape. The long sides 6, 7 are then supported by the angular surfaces 13, 14 of the short sides and the packaging is held together, e.g. by glueing the lid parts 4, 5 to the upper surfaces 10 of the short sides or by applying an adhesive tape along the joining line. The packaging ought to be well adapted to the size of the goods. The goods is kept in its position inside the packaging by being in contact with the short sides 9 and the border lines between the long sides 6, 7 and the lid parts 4, 5.

The packaging is preferably made from corrugated cardboard, and it is preferred that the direction of corrugation is along the length of the packaging.

Within the frame of the inventive idea various embodiments of the packaging are possible. It is for example possible to make the lid from one piece only and it may have an extending flap which overlaps either one of the long sides 6, 7, whereby the packaging may be sealed by glueing this flap to the long side. It is also possible for example to make the packaging such that the corners next to the short sides of the triangular space are to some extent filled up by parts of the packaging.

Claims

1. Packaging for flat object, such as shelves, doors and the like, having the function of protecting from blows characterized therein that one cross-section of the packaging has trapezoid shape.
2. Packaging according to claim 1 characterized therein that the cross-section is an equally sided trapezoid.

3. Packaging according to claim 1 characterized therein that the trapezoid cross-section is at right angle to the length direction of the packaging.
4. Packaging according to any of the preceding claims characterized therein that it is made from corrugated board having the corrugations in the length direction of the packaging.
5. Packaging according to any of the preceding claims characterized therein that its short sides are withdrawn inside the outer borders of the packaging.

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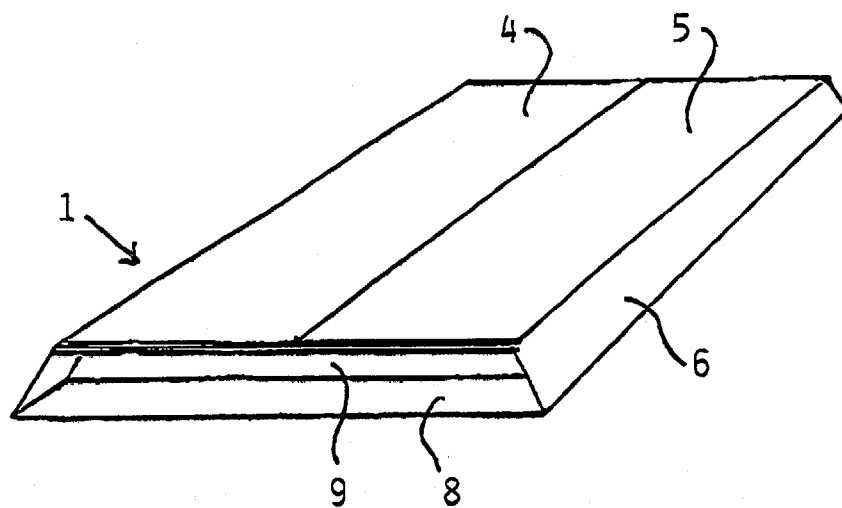


FIG 1

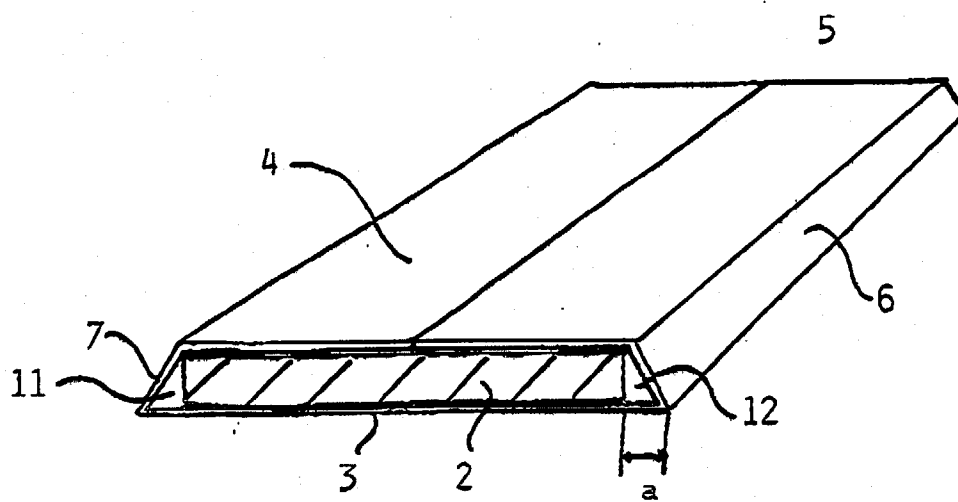


FIG 2

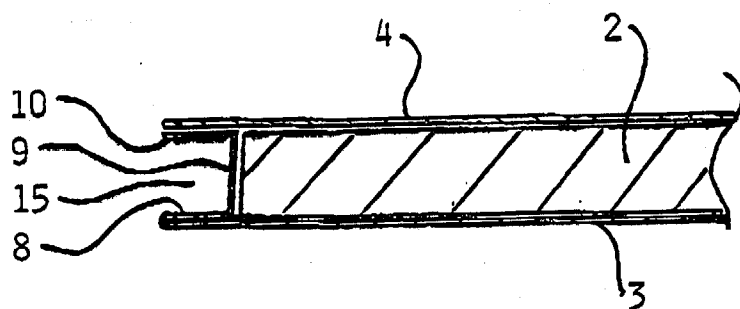


FIG 3

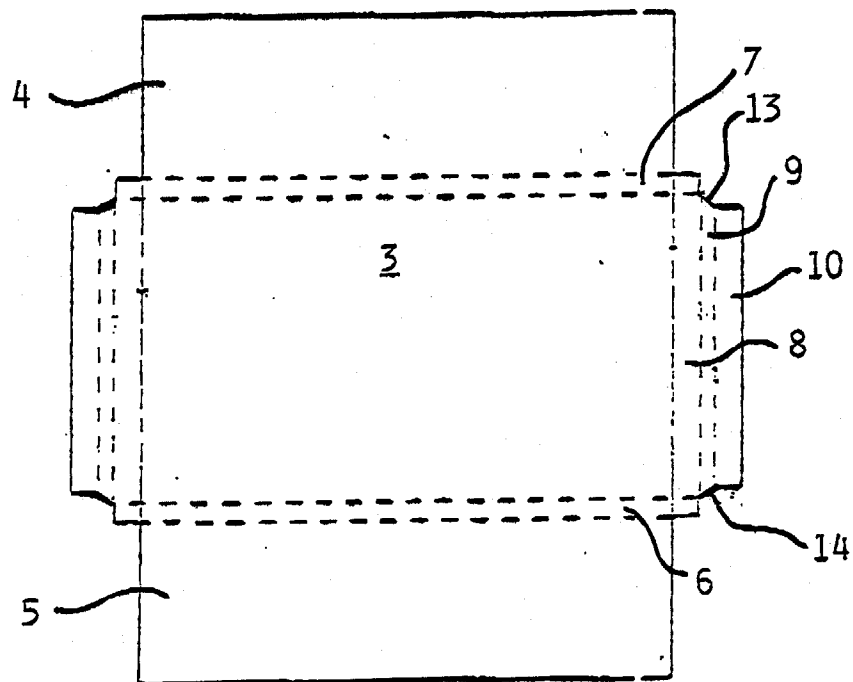


FIG 4



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EUROPEAN SEARCH REPORT

Application Number
EP 97 85 0043

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)
X	US 3 986 608 A (ROUS BENJAMIN) 19 October 1976 * column 2, line 43 - column 2, line 51 * * figures 1,5 *	1-4	B65D5/02
Y	---	5	
Y	US 3 055 574 A (JOHNSON) * column 3, line 23 - column 4, line 57 * * figures 1-6 *	5	
A	---	4	
	US 3 144 979 A (YOUNG) * figure 2 *		

The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65D
Place of search	Date of completion of the search	Examiner	
THE HAGUE	12 June 1997	Farizon, P	
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			

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