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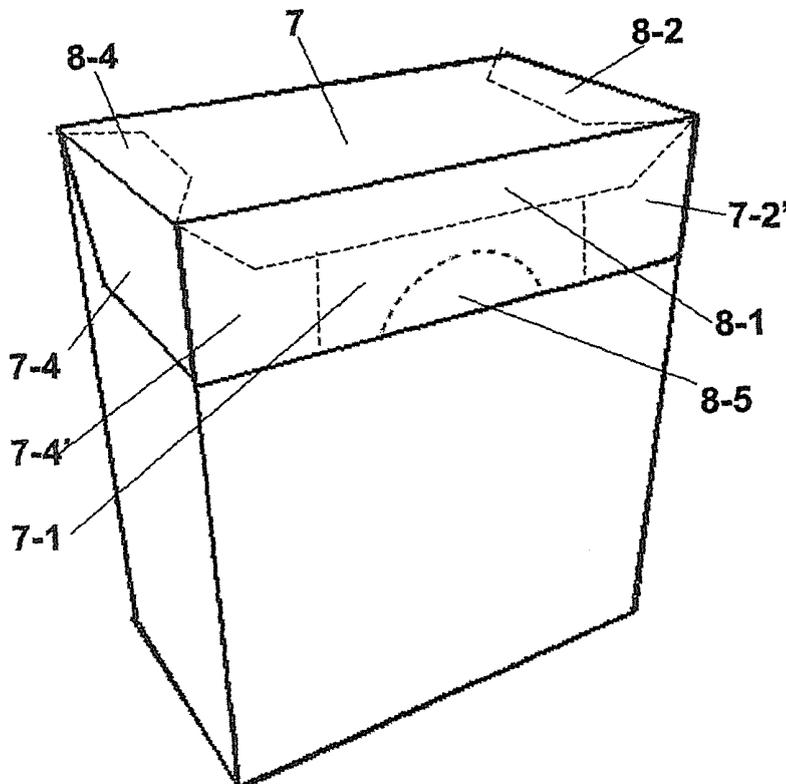
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(54) **Case with hermetic closure and relative process for the formation thereof**

(57) A case for containing objects, with hermetic closure, comprising side walls, a base, a lid, tabs (8-2, 8-4)

with tear-off perforations connected to the upper edge of the side walls (2, 4); a finger notch (8-5) with tear-off perforations on the front edge of said lid (7-1).



**FIG. 3**

## Description

**[0001]** The present invention relates to a case for containing objects with hermetic closure, and to the relative formation process.

**[0002]** Packaging for containing objects presents various problems. It is necessary to produce a case for containing objects, which has a stable and sturdy hermetic closure, and at the same time is easy to open to remove the contents while keeping the integrity of the case, so that it can also be closed again and re-used.

**[0003]** Therefore, the object of the present invention is a case for containing objects which solves the aforesaid problems and which comprises side walls, a base, a lid, characterized in that it comprises means for the hermetic closure of said lid, comprising tabs (8-2, 8-4) with tear-off perforations connected to the upper edge of said side walls (2, 4); at least one finger notch (8-5) with tear-off perforations on the front edge of said lid (7-1).

**[0004]** A further object of the present invention is a process for the formation of the case.

**[0005]** A particular object of the present invention is a case for containing objects, and relative formation process, as better described in the claims, which form an integral part of the present description.

**[0006]** Objects and advantages of the present invention will be clear from the following detailed description of an embodiment thereof (and its variants) and from the accompanying drawings provided purely as a non-limiting example, wherein:

Figure 1 shows a plane development of the parts forming a case, object of the present invention; Figures 2, 3 and 4 show the case respectively with the lid open, with the lid closed and with the lid open again.

**[0007]** The same reference numbers in the figures identify the same parts.

**[0008]** In Figure 1, the case, preferably parallelepipedal, is composed of side walls, respectively front 1, sides 2 and 4 and back 3; of flaps 5-1, 5-2, 5-3 and 5-4 which form the base, connected respectively to the side walls 1, 2, 3 and 4; a first tab 6 produced on one side of the side wall 1 to be joined with the side wall 4 during production of the case; a lid 7, connected to the upper edge of the back wall 3, with adjoining side edges 7-2, 7-4, and front edge 7-1; the side edges 7-2 and 7-4 comprise front projecting tabs 7-2' and 7-4' provided with recesses towards the front edge 7-1. The recesses comprise a notch with an oblique edge. In accordance with the present invention are produced:

- two tabs 8-2 and 8-4, with tear-off perforations, connected to the upper edge of the side walls of the sides 2 and 4, respectively;
- a finger notch 8-5, with tear-off perforations, on the outer front edge 7-1. The finger notch can have a

semi-circular or other shape.

**[0009]** Preferably, there is a further tab 8-1 on the upper edge of the front side wall 1. The tab 8-1 preferably has oblique side edges.

**[0010]** The process for the formation of the case includes a first printing step on an original sheet, preferably made of cardboard, or PVC, propylene, polypropylene, or micro-corrugated cardboard.

**[0011]** This is followed by a punching step, with cutting of the edges, and production of the perforations and incisions for folding the various parts.

**[0012]** Subsequently, there is a first step to fold and join the side walls with gluing of the tab 6 to the edge of the side wall 4, e.g. with cold vinyl glue.

**[0013]** This is followed by a step for forming the base, joining together the flaps 5-1, 5-2, 5-3 and 5-4, e.g. by interlocking or gluing with cold vinyl glue.

**[0014]** The lid is then formed: the side edges 7-2 and 7-4 are folded and glue is applied to the front projecting tabs 7-2' and 7-4' folded again; the front edge 7-1 is folded on the projecting tabs, gluing it thereto.

**[0015]** At this moment one or more objects to be contained in the case can be introduced.

**[0016]** The two tabs 8-2 and 8-4 are then folded inwards and the tab 8-1 outwards (Figure 2).

**[0017]** Quick-drying hot glue is then applied to the upper part of the tabs 8-2 and 8-4 and to the inner part of the finger notch 8-5. The lid is then closed, exerting a certain amount of pressure, so that the tabs 8-2 and 8-4 are glued to the inner edges of the lid 7, and the finger notch 8-5 is glued to the front wall 1. Thus, a hermetic closure with seal is produced (broken lines in Figure 3).

**[0018]** Moreover, upon closing the lid, the tab 8-1 is folded on the outside of the front wall 1 and interlocks engaging the corresponding recesses of the projecting tabs 7-2' and 7-4' (broken lines in Figure 3).

**[0019]** To open the case, a light pressure is exerted on the finger notch 8-5: the latter detaches from the front edge 7-3 along the perforations and remains attached to the front wall 1. The lid is then pulled upwards, exerting a light upward thrust on the front edge 7-3: thus, the tabs 8-2 and 8-4 detach from the side walls 2 and 4 along their perforations and remain glued to the lid 7. The tab 8-1 is disengaged from the recesses of the projecting tabs 7-2' and 7-4', and the lid opens to allow removal of the object (Figure 4).

**[0020]** If the case must be closed again, the lid 7 is closed: the tab 8-1 again interlocks with the recesses of the projecting tabs 7-2' and 7-4' to hold the lid closed (Figure 3).

**[0021]** Changes in the embodiment of the non-limiting example described are possible, without departing from the scope of protection of the present invention, which includes all the embodiments equivalent according to the knowledge of the skilled in the art.

**[0022]** The advantages deriving from application of the present invention are apparent.

**[0023]** The case forming the object of the present invention produces a stable and sturdy hermetic closure, and at the same time allows easy opening to remove the content without jeopardizing the integrity thereof, so that it can be closed again and re-used.

**[0024]** Moreover, opening of the case i.e. for theft or to alter the content, can be discovered, as even when the lid is closed again the finger notch will remain detached from the lid, drawing attention to any undue opening that has taken place.

**[0025]** From the description above those skilled in the art are able to produce the object of the invention without introducing further constructional details.

## Claims

1. Case for containing objects, comprising side walls, a base, a lid, **characterized in that** it comprises means for the hermetic closure of said lid comprising:

- tabs (8-2, 8-4) with tear-off perforations connected to the upper edge of said side walls (2, 4);
- at least one finger notch (8-5) with tear-off perforations on a front edge of said lid (7-1).

2. Case as claimed in claim 1, **characterized in that** said tabs (8-2, 8-4) are suitable to be fixed to said lid at the first closing of the case, and detached from said side walls at the first opening of the case, and **in that** said at least one finger notch (8-5) is suitable to be fixed to the front side wall at the first closing of the case, and suitable to be detached from said lid at the first opening of the case .

3. Case as claimed in claim 1, **characterized in that** said lid comprises side edges (7-2, 7-4), and a front edge (7-1); said side edges (7-2, 7-4) comprising front projecting tabs (7-2', 7-4') provided with recesses towards said front edge (7-1), **in that** said side walls of the case comprise a further tab (8-1) on the upper front edge, and **in that** upon closing the case, said further tab interlocks in said recesses in a removable way.

4. Case as claimed in any one of the previous claims, **characterized in that** it is made of cardboard, or PVC, propylene, polypropylene, or micro-corrugated cardboard.

5. Process for formation of a case as claimed in any one of claims 1 to 4, **characterized in that** it comprises the following steps:

- printing on an original sheet;
- punching, with cutting of the edges, and production of said perforations;
- first folding and joining of said side walls and

formation of the base;

- formation of said lid with second folding and joining of said side edges (7-2, 7-4) and said front edge (7-1);

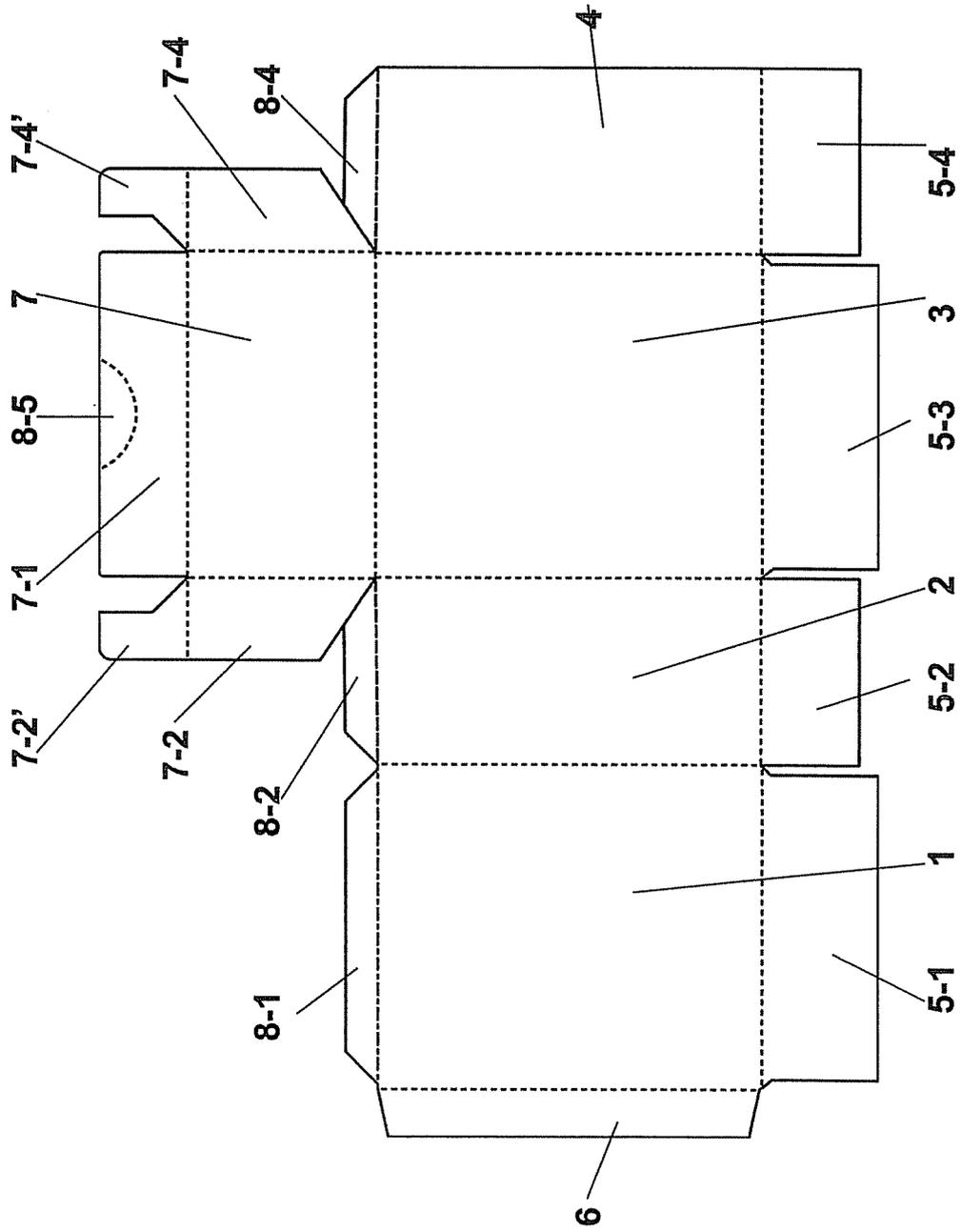
- third folding, towards the inside, of said tabs (8-2, 8-4) with tear-off perforations, and towards the outside of said further tab (8-1);

- gluing on the upper part of said tabs (8-2, 8-4) with tear-off perforations and on the inner part of said at least one finger notch (8-5);

- closing of said lid with pressure, so that said tabs (8-2, 8-4) are glued to the inner edges of said lid (7), and said at least one finger notch (8-5) is glued to the front wall 1.

6. Process as claimed in claim 5, **characterized in that** in said step of closing said lid with pressure, said further tab is folded on the outside of the front wall 1 and interlocks, engaging in a removable way in said recesses of said projecting tabs (7-2', 7-4').

7. Process as claimed in claim 5, **characterized in that** said gluing to the upper part of said tabs (8-2, 8-4) with tear-off perforations and to the inner part of said at least one finger notch (8-5) is performed by applying quick-drying hot glue.



**FIG. 1**

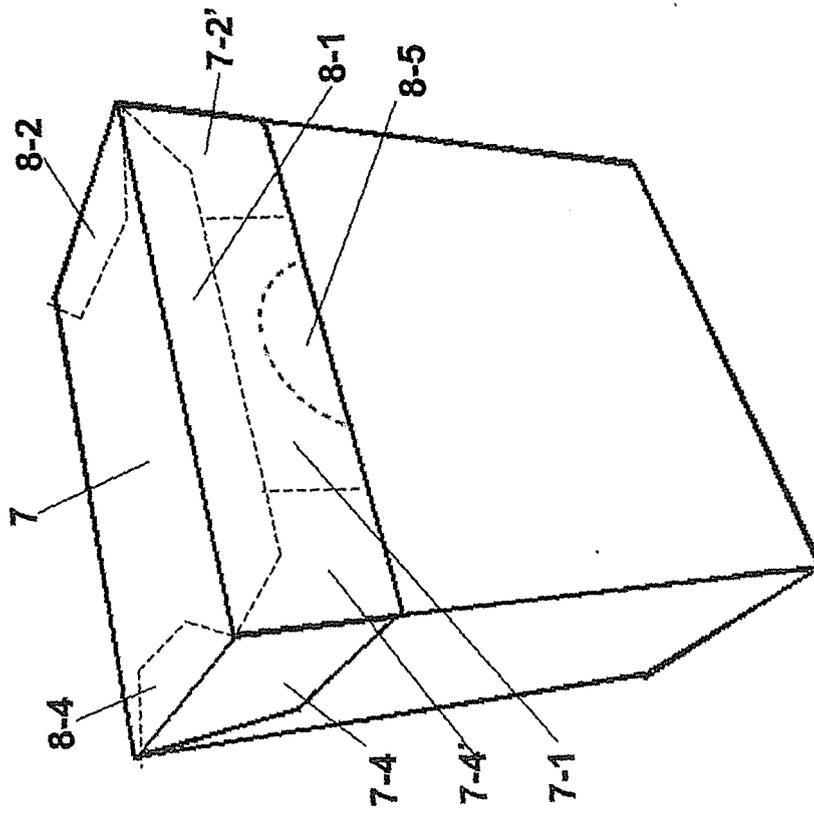


FIG. 3

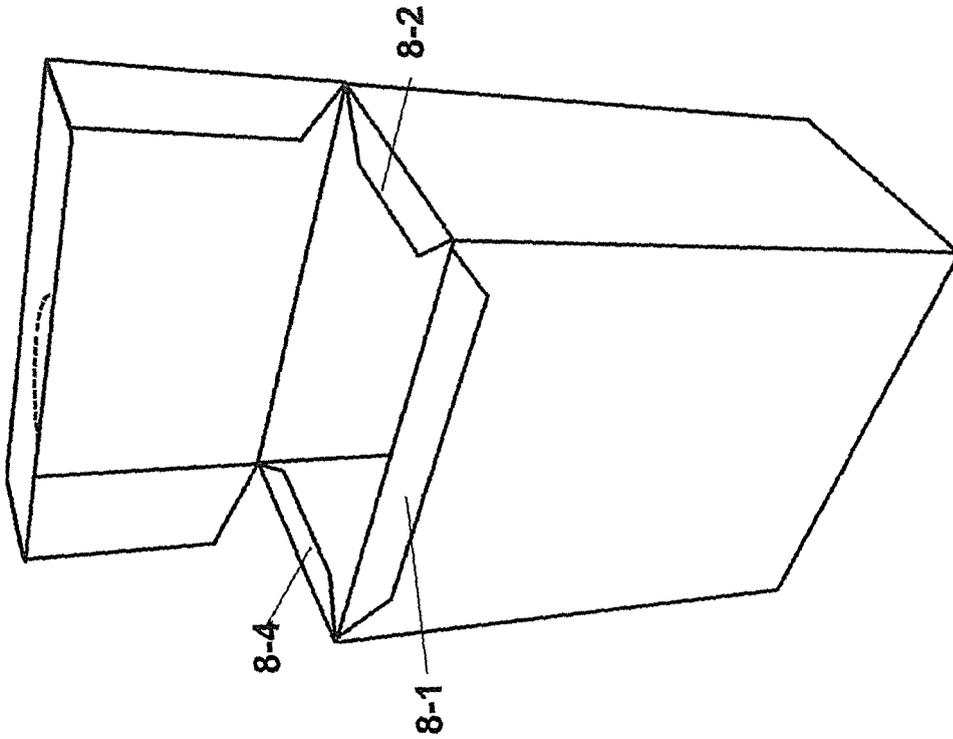
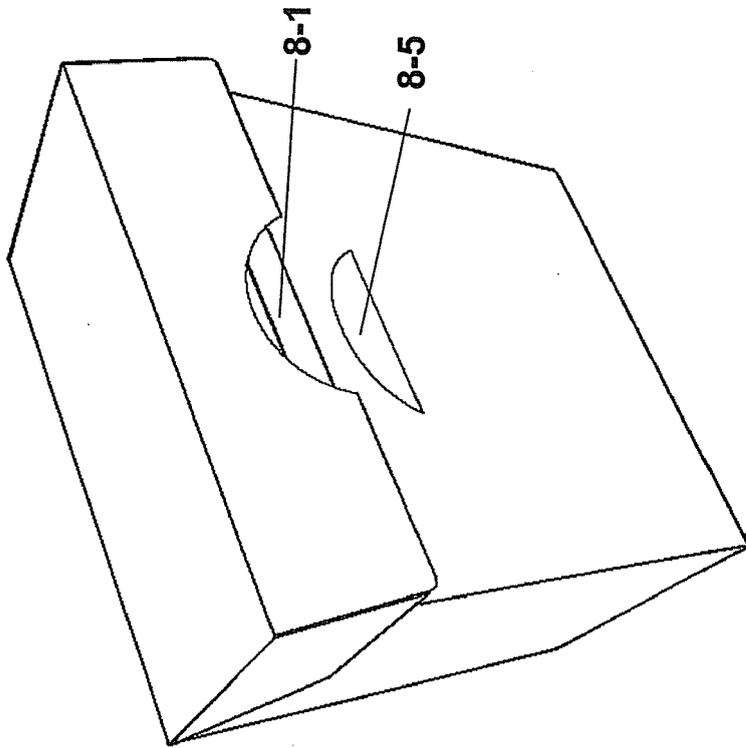


FIG. 2



**FIG. 4**



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 702 407 A (LISIECKI ET AL) 27 October 1987 (1987-10-27)	1,4	B65D5/54 B65D5/66
Y	* column 2, line 30 - column 4, line 15 * * figures 1-5 *	2,3,5-7	
Y	----- US 4 113 104 A (MEYERS ET AL) 12 September 1978 (1978-09-12) * column 1, line 20 - line 33 * * column 2, line 30 - column 4, line 28 * * figures 1-10 *	2,3,5-7	
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The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
Place of search		Date of completion of the search	Examiner
Munich		21 February 2006	Fitterer, J
CATEGORY OF CITED DOCUMENTS		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	
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			

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ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on  
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