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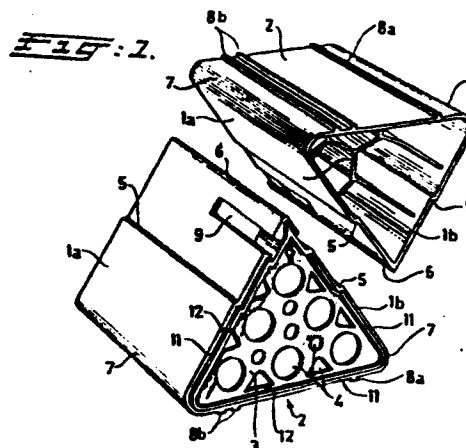
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54 Nondeformable container.

57 A container is provided with a partition forming compartments for accomodating wine bottles. The container has a triangular cross section and two adjoining side walls (1a, 1b) are provided with a step (5) directed towards the corner (6) between the side walls.

A handle for carrying the container is formed by an opening (9) in said step.



Nondeformable container

5 The invention relates to a nondeformable container, having a bottom part and side walls with thereinbetween a partition for a number of subjects, in particular to a container for wine bottles. These containers are commonly known and are used for storing and transporting a number of bottles.

10 These containers have the disadvantage that mostly they have to be handled with both hands, the said containers being provided for that aim with handles on the opposite side walls. Another disadvantage of these containers is that they can be stacked bottom-down only, which, for example when stacking up containers containing wine bottles, is undesirable because in such a case it is better to be able to stack these containers on their sides.

15 It is an aim of the invention to provide a container which is easy to handle as packing means and easy to transport with one hand by the consumer.

Another aim of the invention is to provide a container which can be stacked in an upward position and in a position such that the bottles are maintained in a horizontal state.

20 This is attained, according to the invention, by a container having a bottom part and side walls with thereinbetween a partition for a number of objects, in particular bottles, wherein the side walls of the container form a trilateral prism.

25 The trilateral prism form affords stacking of the containers both with the bottoms down and on their sides, since the trilateral prisms fittingly match each other.

In order to prevent a wedge effect from occurring on the side as a result of the triangular shape, when stacking up the

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containers, the container according to the invention has been so designed that two adjoining side walls are provided, at least over a portion of the height of these walls, with a step directed towards the angle between said side walls. When  
5 putting them on their sides, in which case the containers are stacked alternately with their base sides down and with their base sides up, the steps engaging each other, only perpendicular normal forces arise in the area where the steps are located.

10 According to a preferred embodiment of the invention, the side walls of the containers provided with a step have an opening in the vicinity of the angle closed in by said walls, and the openings in both side walls thus directly face one another. This results in some sort of handle which facilitates handling  
15 by the consumer.

According to the invention, it is also possible to vertically stack the containers, the bottom being turned downwards, for instance during transport by trucks. According to the invention this is enabled in accordance with another particular  
20 feature of the invention, whereby in the vicinity of one end plane of the trilateral prism, the side walls contain a rabbet and the collar thus formed fits into the interior of the space enclosed by the side walls at the other end plane of the trilateral prism.

25 The invention will be illustrated by an embodiment as shown in the drawings wherein:

Fig. 1 is a perspective view of two containers turned upside down with respect to one another, the bottom part of the containers being vertically disposed;

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Fig. 2 is a perspective view of the stacking of these containers, the side walls being disposed one upon the other and

Fig. 3 is a perspective view of stacking of containers with the bottom down.

- 5 In the drawings the containers are shown in the form of a trilateral prism having two side walls 1a and 1b and a third side wall 2 as well as a bottom part 3. As frequently occurs in the case of nondeformable containers the bottom is provided with openings 4.
- 10 As regards the side walls 1a and 1b it is to be noted that they are provided with a step 5. The step is directed towards the angle 6 closed in by the side walls 1a and 1b. The angle 6 has a small rounding contrary to the angles 7 between the side walls 1a, 1b and the side wall 2 which have a relatively large
- 15 rounding.

The side wall 2 is provided with protruding cams or ribs which, with respect to the centre line of the side wall, are divided into two groups, that is, into an odd number on the one side of the centre line and an even number on the other

20 side of the centre line. These groups are referenced 8a and 8b, respectively. The side walls 1a and 1b are, furthermore, provided with an opening 9 in the vicinity of the angle for carrying the container with one hand. The opening 9 in the side wall 1a then lies directly opposite the opening in the

25 side wall 1b. In addition, the interior is provided, in a known manner, with a compartment subdivided by means of partitions in the form of a honey comb 10. Since, in the exemplified embodiment, the container is designed to receive six wine bottles, the honey comb need not fully extend to the open

30 end of the container, as only the wide portion of the bottle is able to fit in the sections, formed by a honey comb partit-

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ion and the bottle necks are allowed to protrude freely into the clear space present. For this reason also, the handle formed by the openings 9 is located in the vicinity of the bottom, since a container when filled, is heavier near the bottom than it is near the open end. Moreover, the side walls are provided with a rabbet 11 (Fig. 1) close to one end plane of the trilateral prism formed by the side walls 1a, 1b and 2, and the thus resulting collar 12 fits in the interior of the space enclosed by the side walls at the other end plane of the trilateral prism.

Stacking the containers on their sides proceeds as follows: Initially, the containers A are placed on the floor with their side wall 2 down. Subsequently, in the resultant spaces thereinbetween, the containers B are positioned with their bottom part 2 disposed upwardly. Thus, there arises on top of the containers A and B a flat surface upon which the containers C may be placed. In order to prevent the containers C from sliding sideways, a rib 8a of a container C fits in between two ribs 8b of a container B, as is clearly shown in Fig. 2.

As illustrated in Fig. 3, the container of the invention also affords a stacking in a different arrangement. In this case the containers B are placed upon the containers A, whose bottoms are facing down, the containers C in turn being placed upon the former. The collar 12 produced by the rabbet 11 then fits in the open end of the containers already disposed thereunder. It is evident that in this manner the containers are prevented from sliding in relation to each other. In addition, the steps 5 of the neighbouring containers again fit into one another, so that a relatively great stability can be obtained in the transverse direction as well. The open end of the container may be provided with a cover plate 13 which is preferably provided with one or several openings 14 enabling

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a removal of the cover plate from the interior of the container. If the cover plate 13 should be sturdy enough, the openings 14 may also facilitate handling when stacking the containers. Such a cover plate may also be used at the bottom end to enhance the physical appearance of the holders when they are stacked with their side walls upon each other.

In a very preferred embodiment the edges of the openings 9 do not extend perpendicular to the bottom but the edges extend obliquely with respect to the bottom in such a way that the extension of the centre line of an opening 9 intersects the corner line 6 or the extension thereof at a point upwards from the inner end of the opening 9 towards the upper end of the container. In this way there is no risk that the bottles as present in a container slide from the container and drop on the ground.

## Claims:

1. A nondeformable container having a bottom part and side walls with thereinbetween a partition for a number of objects, in particular bottles, characterised in  
5 that the side walls of the container form a trilateral prism.
2. A container as claimed in claim 1, in which two adjoining side walls are provided, at least over a portion of the height of said walls, with one or several parts  
10 which, with respect to a flat surface, are protruding end parts which, with respect thereto, are recessed.
3. A container as claimed in claim 1, in which a step lies in the vicinity of the area located at half the width of the side walls and extends as a rib over the entire  
15 height of the side walls.
4. A container as claimed in claim 1, in which side walls provided with a step, have an opening in the vicinity of the angle closed in by said walls, while the openings in both side walls are located directly opposite each other and  
20 preferably the edges of an opening extend obliquely with respect to the bottom in such a way that the extension of the centre line of an opening intersects the nearest corner line or the extension thereof at a point upwards from the inner end of said opening.
- 25 5. A container as claimed in claim 1, in which in a side wall is provided with a number of protruding cams or ribs.

6. A container as claimed in claim 1, in which the side wall provided with protruding cams or ribs, adjoins walls provided with a step.
- 5 7. A container as claimed in claim 5, in which the cams or ribs are divided into two groups with respect to the centre line of the wall an even number being provided on the one side of the centre line and an odd number on the other side.
- 10 8. A container as claimed in claim 1, in which the bottom is recessed and designed to receive a triangular plate of closing material with respect to the end edges of the walls, which closing material may be provided with one or several openings for handling the container or for removing said closing material.
- 15 9. A container provided with closing material as claimed in claim 8, in which the closing material fits in the open end of the container and is made of a relatively nondeformable material.
- 20 10. A container as claimed in claim 1, in which close to one end plane of the trilateral prism, the side walls are provided with a rabbet and the collar so formed fits in the interior of the space enclosed by the side walls at the other end plane of the trilateral prism.



Fig: 1.

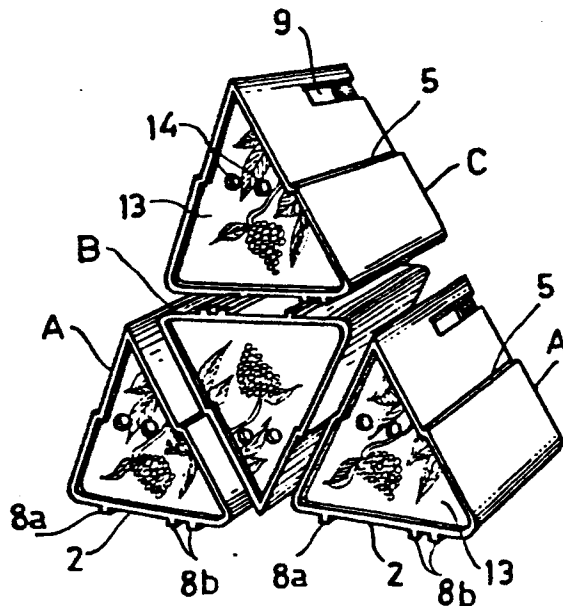
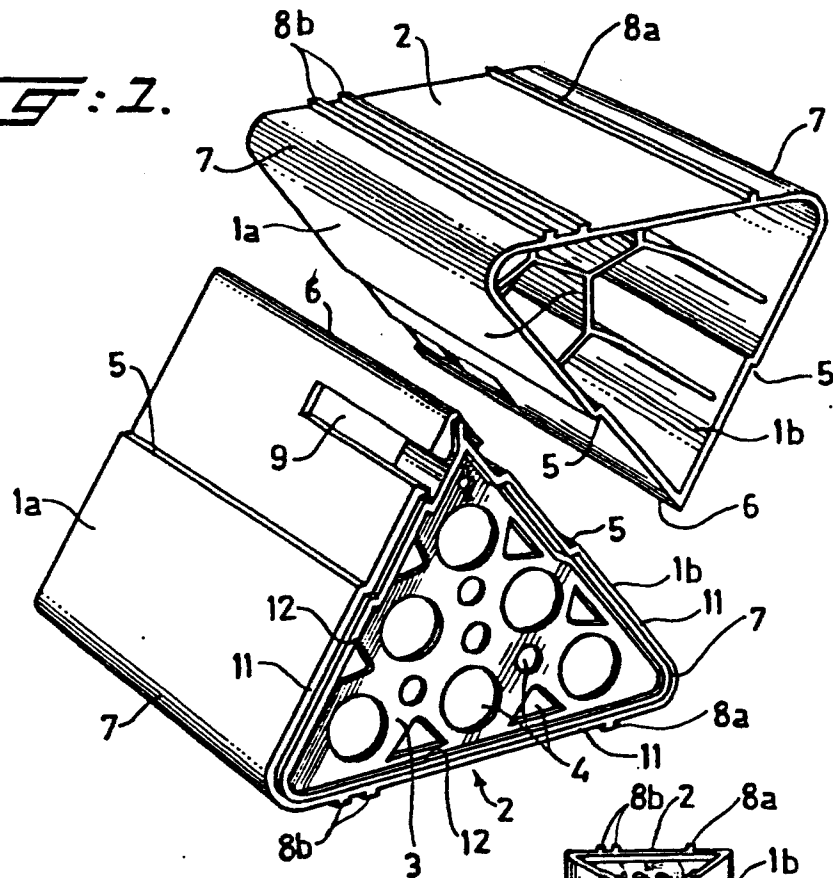
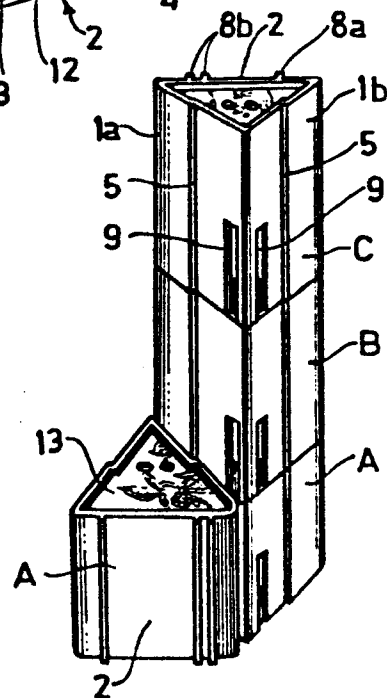


Fig: 2.



**Fig: 3.**



European Patent  
Office

# EUROPEAN SEARCH REPORT

0007145

Application number  
EP 79 20 0409

| DOCUMENTS CONSIDERED TO BE RELEVANT                        |                                                                                        |                   | CLASSIFICATION OF THE APPLICATION (Int. Cl. <sup>3</sup> )                                                                                                                                                                                                                 |
|------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Category                                                   | Citation of document with indication, where appropriate, of relevant passages          | Relevant to claim |                                                                                                                                                                                                                                                                            |
|                                                            | <u>DE - A - 1 954 298 (ZAGELow)</u><br>* Page 5, paragraph 2; page 6; figure 3 *<br>-- | 1,2,5             | B 65 D 21/02                                                                                                                                                                                                                                                               |
|                                                            | <u>FR - A - 1 283 698 (STOCKLI)</u><br>* Patent specification *<br>--                  | 1                 |                                                                                                                                                                                                                                                                            |
|                                                            | <u>FR - A - 2 324 528 (BUSKE)</u><br>* Patent specification *<br>--                    | 2,3               | TECHNICAL FIELDS SEARCHED (Int.Cl. <sup>3</sup> )                                                                                                                                                                                                                          |
|                                                            | <u>FR - A - 1 456 249 (RICCI)</u><br>* Patent specification *<br>----                  | 5,7               | B 65 D                                                                                                                                                                                                                                                                     |
|                                                            |                                                                                        |                   | CATEGORY OF CITED DOCUMENTS                                                                                                                                                                                                                                                |
|                                                            |                                                                                        |                   | X: particularly relevant<br>A: technological background<br>O: non-written disclosure<br>P: intermediate document<br>T: theory or principle underlying the invention<br>E: conflicting application<br>D: document cited in the application<br>L: citation for other reasons |
|                                                            |                                                                                        |                   | &: member of the same patent family.                                                                                                                                                                                                                                       |
|                                                            |                                                                                        |                   | corresponding document                                                                                                                                                                                                                                                     |
| The present search report has been drawn up for all claims |                                                                                        |                   |                                                                                                                                                                                                                                                                            |
| Place of search                                            | Date of completion of the search                                                       | Examiner          |                                                                                                                                                                                                                                                                            |
| The Hague                                                  | 17-10-1979                                                                             | VANTOMME          |                                                                                                                                                                                                                                                                            |