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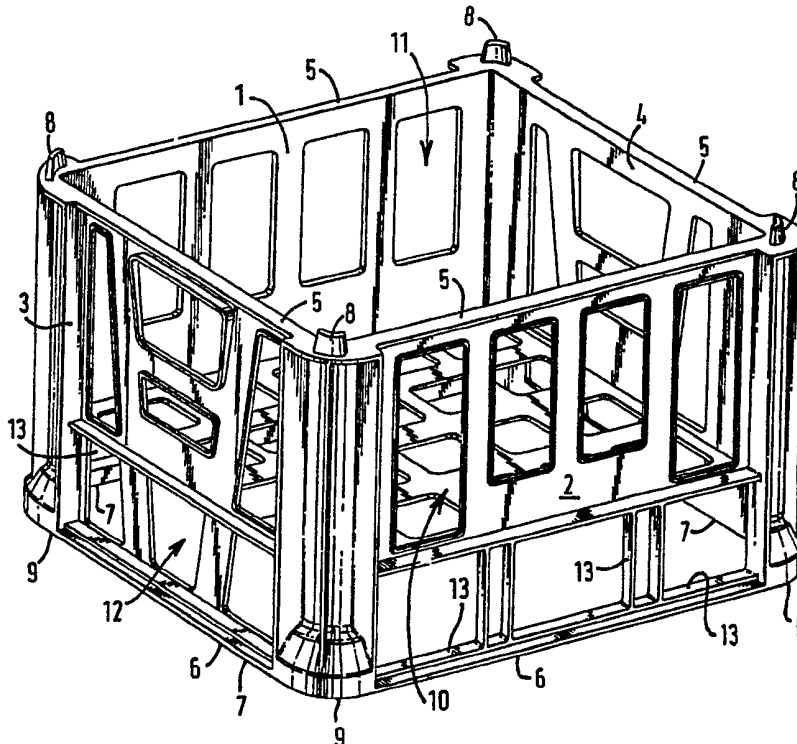
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(56) Documents Cited
GB 2176171 A GB 1234421 A GB 0888612 A
US 4664260 A US 4144968 A

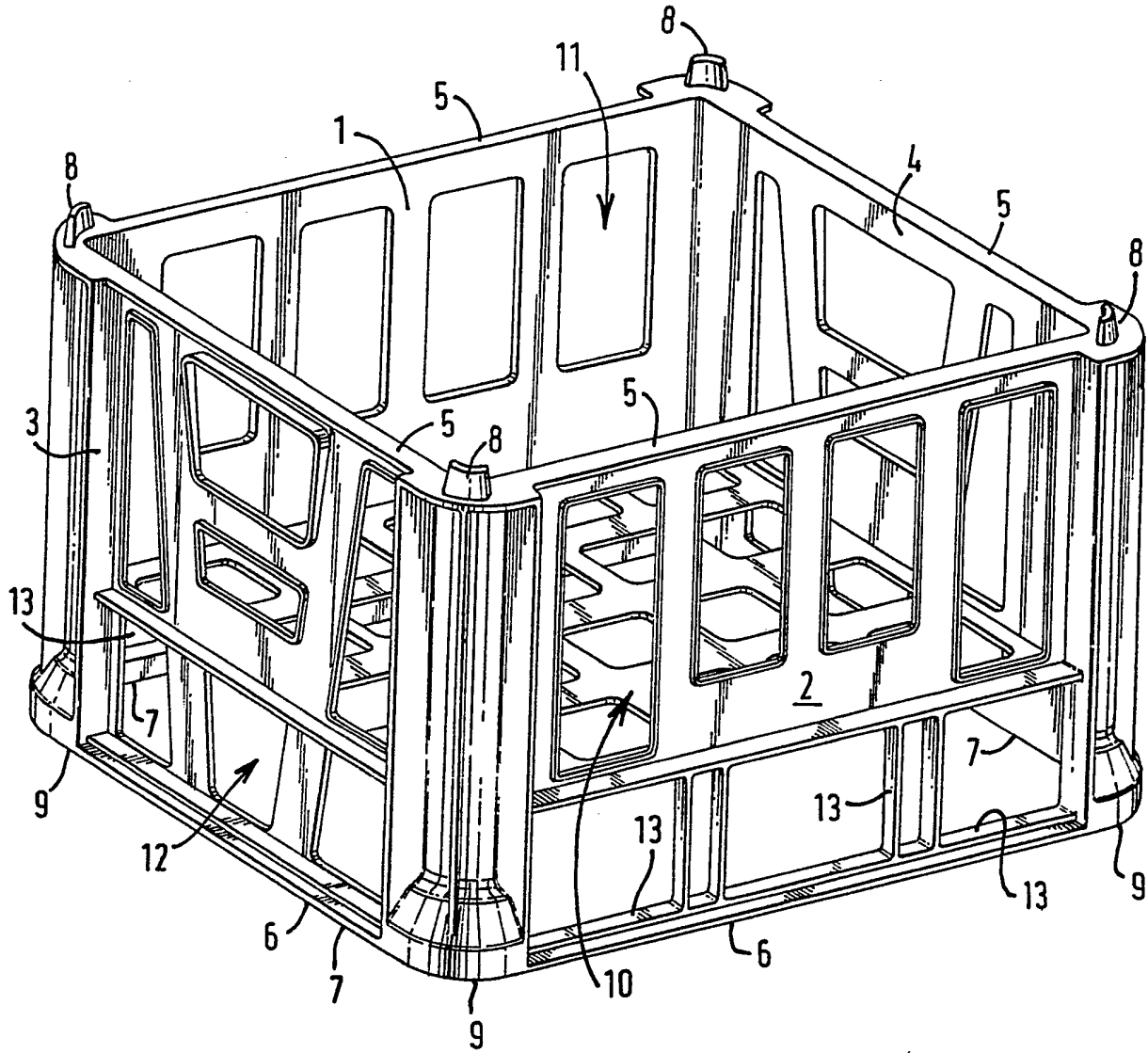
(58) Field of Search
UK CL (Edition K) B8P PK6 PS PU
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(54) A stackable container

(57) A container has a horizontal platform 10 extending between walls 1 to 4 which extend upwardly and downwardly from the platform to form an upper compartment 11 and a lower compartment 12. The walls present a top rim 5 and a bottom rim 6, each of which extends continuously about the periphery of the container so that two containers may be stacked vertically with the bottom rim 6 of the upper container standing on the upper rim 5 of the lower container and articles in the upper compartment 11 of the lower container can project from that compartment into the lower compartment 12 of the overlying container in the stack. The continuous bottom rim 6 facilitates movement of the container along a roller conveyor. The walls 1 and 7 are provided with apertures 13 which oppose each other so that tines of a forklift can be received in the apertures 13 beneath the platform 10 for the purpose of lifting the container and any similar containers that may be stacked thereon.



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A CONTAINERTechnical Field and Background Art

5 The present invention relates to a container. It is particularly concerned with such containers of the kind having a substantially horizontal platform on which goods or articles may be located for storage or transport and side walls, parts of which extend upwardly from the platform to form an upper compartment over the platform and parts of which extend downwardly from the platform to form a lower compartment beneath the platform and which upper and lower side wall parts present upper and lower surfaces respectively by which two or more of the containers can be stacked in overlying relationship as a vertical column so that an upper container overlies a lower container with the lower surface of the upper container standing on the upper surface of the lower container to locate the platforms thereof substantially parallel and in vertically spaced relationship whereby articles or goods on the platform in the upper compartment of the lower container can project into the lower compartment of the immediately overlying container in the stack. Such containers are particularly useful in the storage and transport of, for example, bottles or cartons, so that the bottles or cartons can project upwardly from the upper compartment of the container to be presented for ready removal or for display purposes.

10 Containers of the kind discussed above are generally moulded in plastics and in a known form of such a container the parts of the side walls which extend downwardly from the platform are provided by directly opposed substantially vertical flanges so that the spacing

provided between the flanges permits tines of a forklift to be received beneath the platform for the purpose of lifting the container (or that container and several other containers which may be stacked vertically thereon). Such kind of container is known in the art as an H-container and a disadvantage of it is that during transfer of the container on a conveyor, particularly one of the roller-type, it frequently occurs that the opposed flanges become wedged in, or otherwise interfere with the conveyor. It is an object of the present invention to provide a container of the kind discussed by which the aforementioned disadvantage may be alleviated.

Statement of Invention and Advantages

According to the present invention there is provided a container comprising a substantially horizontal platform and side walls having a part which extends upwardly from said platform to form an upper compartment over the platform and a part which extends downwardly from said platform to form a lower compartment beneath the platform, said upper and lower side wall parts presenting upper and lower surfaces respectively by which two of said containers can be stacked in overlying relationship as a vertical column with the lower surface of the downwardly extending side wall part of the upper container standing on the upper surface of the upwardly extending side wall part of the lower container for articles or goods on the platform in the upper storage compartment of the lower container to project into the lower compartment of the upper container, and wherein said lower surface on the downwardly extending side wall part of the container is provided on a bottom rim which is substantially continuous about the periphery of the container.

By the present invention, two or more of the containers may be stacked vertically in overlying relationship so that goods on the platform of an underlying container in the stack may project into the lower compartment of the immediately adjacent overlying container in the stack. However, the continuous rim presented by the downwardly extending side wall part of the container and which carries the lower surface of that container alleviates the likelihood of the downwardly extending side wall part from interfering with a conveyor, particularly a roller conveyor where the peripheral rim should ride freely over the rollers.

Preferably the downwardly extending side wall part of the container has at least one aperture through which a tine or tines of a forklift may be received beneath the platform for lifting the container or several such containers in a vertical stack. Usually the downwardly extending side wall part will have apertures which are directly opposed on opposite sides of the container and through which a tine or tines of a forklift may be received for such tines to pass substantially horizontally completely through the container to provide stability during lifting. Typically the container will be in the form of a substantially rectangular parallelepipedon with opposed side walls and opposed end walls which form the upwardly and downwardly extending side wall parts so that such parts extend continuously from each other on each of the respective side and end walls. Usually the upper surface on the upwardly extending side wall part of the container will be carried by a top rim which extends continuously about the periphery of the container.

Drawing

One embodiment of a container constructed in accordance with the present invention will now be described, by way of example only, with reference to the accompanying illustrative drawing which shows a perspective view of the container.

Detailed Description of Drawing

The container illustrated is formed as a one piece plastics moulding and is generally of oblong rectangular parallelopipedon form having substantially parallel and opposed vertical side walls 1 and 2 and substantially parallel and opposed vertical end walls 3 and 4. The walls 1 to 4 present upper surfaces which form a top rim 5 that extends continuously about the generally rectangular profile of the container. The walls 1 to 4 also form a bottom rim 6 which extends continuously about the generally rectangular profile of the container and on which rim 6 is located a lower surface 7 that extends about the generally rectangular periphery at the bottom of the container. The rim 6 with its lower surface 7 is arranged so that two said containers can be stacked vertically in directly overlying relationship with the overlying container in such a stack having its lower surface 7 standing on the rim 5 of the underlying container. The bottom rim 6 may be rebated so that it engages over the top rim 5 on an underlying container, effectively to enclose that top rim and provide horizontal stability to the stack in a known manner. In addition the container may have lugs 8 upstanding from the top rim 5 and located one at each corner of that rim and sockets 9 in the bottom rim 6 located one at each corner of that rim 6 to vertically underlie the respective lugs 8. The lugs 8 and sockets 9 are arranged so that in erecting a

vertical stack of containers the lugs 8 of an underlying container engage in the respective sockets 9 of the immediately overlying container to provide horizontal stability between those containers.

5 Extending between the walls 1 to 4 is a horizontal platform 10 that is spaced vertically from both the upper rim 5 and the lower surface 7 so that upper parts of the side and end walls form with the platform 10 an upper compartment 11 which overlies the platform and lower parts
10 of the side and end walls form with the platform a lower compartment 12 which underlies the platform. With this arrangement goods or articles (not shown) may be carried in the upper compartment 11 on the platform 10 to project and be presented above the top rim 5 and when such a
15 container is incorporated in a vertical stack of similar containers the goods or articles may extend into the lower compartment 12 of the immediately overlying container in the stack.

20 By providing a substantially flat-bottomed rim 6 which extends continuously about the periphery of the container it will be appreciated that the container may be conveyed in an upstanding condition by a conventional roller conveyor without the likelihood of either an end wall or side wall of the container becoming trapped between
25 rollers or otherwise interfering with the conveyor.

Located in the part of each side wall 1 and 2 which extends downwardly from the platform 10 is an array of apertures 13. The apertures 13 in the respective side walls 1 and 2 are directly opposed and are intended to
30 receive one or more tines of a forklift. Such a tine or tines received in the apertures 13 may extend completely

through the container beneath the platform 10 for the purpose of lifting and transporting the container (together with any additional containers which may be vertically stacked thereon). The end walls 4 and 5 may be similarly apertured to be capable of receiving forklift tines. Usually the four walls and the platform will be apertured generally to provide the container with an open framework structure as shown in the drawing to conserve the use of plastics material.

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It will be appreciated that the upper compartment 7 may be partitioned in conventional manner for accommodating bottles, cartons or similar articles or the platform and upper part of the side and end walls can be profiled otherwise as appropriate for location and storage of particular articles or goods.

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CLAIMS

1. A container comprising a substantially horizontal platform and side walls having a part which extends upwardly from said platform to form an upper compartment over the platform and a part which extends downwardly from said platform to form a lower compartment beneath the platform, said upper and lower side wall parts presenting upper and lower surfaces respectively by which two of said containers can be stacked in overlying relationship as a vertical column with the lower surface of the downwardly extending side wall part of the upper container standing on the upper surface of the upwardly extending side wall part of the lower container for articles or goods on the platform in the upper storage compartment of the lower container to project into the lower compartment of the upper container, and wherein said lower surface on the downwardly extending side wall part of the container is provided on a bottom rim which is substantially continuous about the periphery of the container.

2. A container as claimed in Claim 1 in which the downwardly extending side wall part is provided with at least one aperture through which a tine of a forklift can be received beneath the platform for lifting the container and any similar containers which may be stacked vertically thereon.

3. A container as claimed in Claim 2 in which the downwardly extending side wall part has apertures which are directly opposed on opposite sides of the container and through which a tine of a forklift can be received for such tine to pass substantially horizontally through the container beneath the platform.

4. A container as claimed in any one of the preceding

Claims in which the upwardly and downwardly extending wall parts are substantially vertical and extend substantially continuously one from the other.

5. A container as claimed in any one of the preceding Claims and which is of substantially rectangular parallelepipedon form having opposed side walls and opposed end walls with the platform extending between said side walls and end walls.

6. A container as claimed in any one of the preceding Claims in which the upper surface presented by the upwardly extending side wall part is provided on a rim which extends substantially continuously about the periphery of the container.

7. A container substantially as herein described with reference to the accompanying illustrative drawing.

Patents Act 1977
Examiner's report to the Comptroller under
Section 17 (The Search Report)

- 9 - Application number
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Relevant Technical fields

- (i) UK CI (Edition K) B8P (PS, PV, PK6)
- (ii) Int CI (Edition 5) B65D 21/00, B65D 21/02

Search Examiner

MIKE HENDERSON

Databases (see over)

- (i) UK Patent Office
- (ii)

Date of Search

5 JANUARY 1993

Documents considered relevant following a search in respect of claims 1-7

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2176171 A (HALEY) whole specification relevant	1-5
X	GB 1234421 (ENGINEERING & GLASS FIBRE DEVELOPMENTS LTD) whole specification relevant	1,3,5,6
X	GB 888612 (CRYSTAL PRODUCTS CO LTD) whole specification relevant	1,6
X	US 4664260 (STOKES) whole specification relevant	1,2,6
X	US 4144968 (SHELTON) whole specification relevant	1,6

Categories of documents

X: Document indicating lack of novelty or of inventive step.

Y: Document indicating lack of inventive step if combined with one or more other documents of the same category.

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P: Document published on or after the declared priority date but before the filing date of the present application.

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