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(71) Applicant and
(72) Inventor: **BURRELL, George Timothy** [AU/AU]; Unit 3/77 Dennis St, Lakemba, New South Wales 2195 (AU).

(74) Agents: **ADAMS PLUCK** et al.; Suite 3, Level 1, 20 George Street, Hornsby, New South Wales 2077 (AU).

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(54) **Title**: A CARRIER FOR CARRYING RECTANGULAR ITEMS

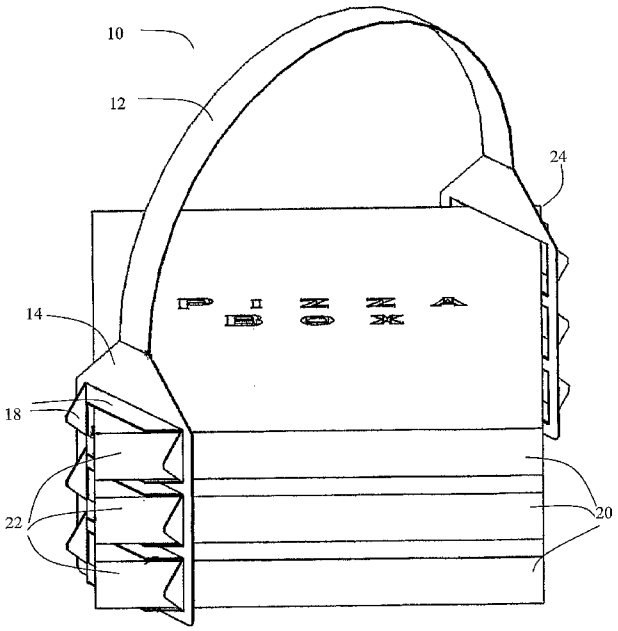

Figure 2

(57) **Abstract**: A carrier for carrying rectangular items is disclosed, the carrier including: a generally elongate handle portion which can be grasped by a user; holding portions are provided at either end of the handle portion; each holding portion includes at least one aperture arranged to receive and support respective opposite corners of an item so that the item may be carried by way of the handle portion.

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A CARRIER FOR CARRYING RECTANGULAR ITEMS

Technical Field

The present invention relates to a carrier for carrying items. The invention has particular application to rectangular carrying boxes, and in a preferred embodiment the boxes are square pizza boxes.

Background to the Invention

When carrying items such as rectangular pizza boxes, it is common practice to stack the items one on top of the other and carry them with two hands under the stack. However, this method is often unsatisfactory, and the person carrying the boxes does not have any free hands with which to manipulate or carry other items. In the case of pizza boxes, it can be difficult to carry additional food or drink items such as salads or drink bottles such as when picking up a take away order of food from a pizza restaurant. Further, the undersides of pizza boxes are often extremely hot to handle and a person carrying them from beneath risks being burnt.

Summary of the Invention

In a first aspect the present invention provides a carrier for carrying rectangular items, the carrier including: a generally elongate handle portion which can be grasped by a user; holding portions are provided at either end of the handle portion; each holding portion includes at least one aperture arranged to receive and support respective opposite corners of an item so that the item may be carried by way of the handle portion.

Each aperture may be provided with at least one flange which in use stabilises the item being carried.

Each aperture may be provided with at least two flanges which in use stabilise the item being carried.

The at least one flange may be hingedly connected to the holding portions.

The at least one flange may be hingedly connected to the holding portions by way of a creased or scored joint

The flanges may be textured to grip the item being carried in use.

Each holding portion may include multiple apertures.

Each holding portion may include three apertures.

The carrier may be constructed from a number of interlocking pieces.

The carrier may be is constructed from a pair of carrier halves.

The carrier may be constructed from two carrier ends joined by a handle portion.

The carrier may further include at least one strap for carrying an additional item.

The at least one strap may be arranged to be pressed out of the handle portion and includes a lug which engages with at least one shoulder to form a loop for carrying the additional item.

The carrier may be rigid to be stretched apart to fit about an item.

In a second aspect the present invention provides a method of carrying a rectangular item including the steps of: providing a device according to the first aspect of the invention; engaging respective opposite corners of at least one item with an aperture provided in each holding portion; and carrying the item by way of the handle portion.

The item may be rectangular.

The item may be a box.

The box may be a pizza box.

The method may further include the step of engaging one or more additional items with an aperture in each holding portion.

The additional items may be engaged with additional apertures.

Multiple apertures may be provided in each holding portion, and multiple items are carried in a stack, each item being engaged with a respective aperture in each holding portion.

Three apertures may be provided in each holding portion, and three items are carried in a stack, each item being engaged with a respective aperture in each holding portion.

The step of engaging the corners of the item with an aperture in each holding portion may causes flanges associated with each aperture to be folded outwardly.

The carrier may be provided as a flat blank.

The carrier may be provided as a number of components that are assembled at the time of use.

A square is a special type of rectangle with all four sides of equal length. The

term rectangle in this specification includes square items.

Brief Description of the Drawings

An embodiment of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of an embodiment of a carrier according to the invention;

Figure 2 is a perspective view of the carrier of figure 1 shown in engagement with three boxes to carry the boxes;

Figure 3 is a top view of the arrangement of figure 2;

Figure 4 is a side view of the arrangement of figure 2 with engaged corners of the boxes in the foreground;

Figure 5 is a side view of the arrangement of figure 2 with free corners of the boxes in the foreground;

Figure 6 is a plan view of the carrier of figure 1 shown laid out flat;

Figure 7 is a plan view of an alternative embodiment of carrier;

Figure 8 is a plan view of a still further embodiment of a carrier;

Figure 9 is a perspective view of another embodiment of the invention; and

Figure 10 shows the carrier of figure 9 in use.

Detailed Description of the Preferred Embodiment

Referring to figure 1, a carrier 10 is shown for carrying items. The carrier 10 includes a handle portion in the form of band 12 and holding portions 14 which are provided at each end of band 12. Each holding portion includes three apertures 16 which are each provided with four flanges in the form of flaps 18. The flaps are hingedly attached to the holding portion by way of score lines.

Carrier 10 is preferably formed as a blank from a sheet of plastic material (see figure 6). The outline shape of the holding portions and apertures are stamped out. The flaps are stamped out and scored for later folding along the score lines. The flat blanks may then be transported and stored in a stack until required for use.

Carrier 10 works by receiving and supporting respective opposite projecting formations of items in the apertures 16 so that the item may be carried by way of a user grasping the band 12 as will now be described with reference to carrying three

identically sized square boxes 20 of the type that are typically used to transport cooked pizzas.

In order to carry the pizza boxes 20, opposite corners 22, 24 of the boxes 20 are engaged with an aperture 16 in each holding portion 14 by inserting the box corner 22, 24 into the aperture and pushing the corner 22, 24 into the aperture so as to cause the flaps 18 to fold outwardly. The box corners 22, 24 are fully inserted into apertures 16 as far as they will go to achieve a snug fit. The flaps 18 serve to support, grip and stabilise the box corners 22, 24. The resulting assembly is shown in figures 2 to 5.

The assembly is carried by a user grasping and lifting band 12. During carrying, the tension in band 12 brought about by the weight of the boxes 20 acts to urge the holding portions 14 towards one another and thus reinforces the gripping action of the carrier 10 about the boxes to provide a secure carrying arrangement.

By use of the carrier of the invention, it can be seen that three pizza boxes may be carried by a user in one hand. This leaves another hand free for carrying or manipulating other items.

The flaps 18 may be provided with a textured finish to provide further increased frictional grip on the boxes 20.

Referring to figure 7, an alternative embodiment of carrier 30 is shown. This embodiment is made up of two identical carrier halves 32. A formation 34 is provided on each half which can engage securely with another like formation. Thus, two carrier halves 32 may be joined to form carrier 30. This embodiment of carrier requires less room to store as the carrier halves 32 are shorter than an assembled carrier 30. The halves 32 may be stored in a stack and assembled together at the time of use. Further, in the case of moulding the carrier, a smaller mould may be used.

Referring to figure 8, yet another alternative embodiment of carrier 40 is shown. This version utilises identical carrier ends 42 which are joined by a handle portion 46. Again, formations 44 are used to engage the carrier portions. This version requires even less storage space for assembly at the time of use.

Referring to figure 9, a further embodiment of carrier 50 is shown in perspective view. This embodiment differs to those already described in that this embodiment includes press out straps 60 which can be used to carry additional items, such as garlic breads which are often provided at pizza take away outlets and are shaped as small baguettes.

The straps 60 end in widened lugs 66. As seen in detail A, near the base of each of straps 60 is provided a pair of cut-out shoulders 62. The distance between the shoulders 62 is less than the width of lugs 66. The lugs 66 are inserted into engagement with shoulders 62 to form a loop to hold an item, such as a garlic bread as shown in figure 10. In figure 10, a garlic bread is held in each of straps 60 and the carrier is also carrying three pizza boxes as previously described.

Although it can be seen that one size of carrier can accommodate items of various sizes, other carriers may be made in smaller or larger sizes as required to suit the particular items to be transported.

The carrier is preferably formed from plastic, but can be formed from other sheet materials such as cardboard.

In the embodiment described above the carrier was stamped from a sheet of material. Other manufacturing process can be used such as injection moulding.

The carrier 10 may be made in various colours and can have graphics. The graphics can suited be for branding, promotional or decorative purposes.

In the embodiments described above, three apertures were provided in each of holding portions 14. On other embodiments, different numbers of apertures can be provided.

In some embodiments, the carrier may be provided with a degree of rigidity so that it must be stretched apart to fit about the item. This sets up a degree of tension in the carrier, particularly the carrier handle portion, which biases the holding portions towards the item to further secure the grip on the item.

In the embodiment described above, the carrier was described in use carrying rectangular pizza boxes. Similarly, other items with projecting formation can be carried with the carrier such as oval boxes, airline meals in pre-packaged containers, and other shaped items.

Any reference to prior art contained herein is not to be taken as an admission that the information is common general knowledge, unless otherwise indicated.

Finally, it is to be appreciated that various alterations or additions may be made to the parts previously described without departing from the spirit or ambit of the present invention.

CLAIMS:

1. A carrier for carrying rectangular items, the carrier including:
a generally elongate handle portion which can be grasped by a user;
holding portions are provided at either end of the handle portion;
each holding portion includes at least one aperture arranged to receive and support respective opposite corners of an item so that the item may be carried by way of the handle portion.
2. A carrier according to claim 1 wherein each aperture is provided with at least one flange which in use stabilises the item being carried.
3. A carrier according to claim 2 wherein each aperture is provided with at least two flanges which in use stabilise the item being carried.
4. A carrier according to either of claim 2 or claim 3 wherein the at least one flange is hingedly connected to the holding portions.
5. A carrier according to claim 4 wherein the at least one flange is hingedly connected to the holding portions by way of a creased or scored joint
6. A carrier according to any one of claims 2 to 4 wherein the flanges are textured to grip the item being carried in use.
7. A carrier according to any preceding claim wherein each holding portion includes multiple apertures.
8. A carrier according to claim 7 wherein each holding portion includes three apertures.
9. A carrier according to any preceding claim which is constructed from a number of interlocking pieces.
10. A carrier according to claim 9 wherein the carrier is constructed from a pair of carrier halves.
11. A carrier according to claim 9 which is constructed from two carrier ends joined by a handle portion.
12. A carrier according to any preceding claim which further includes at least one strap for carrying an additional item.
13. A carrier according to claim 12 wherein the at least one strap is arranged to be pressed out of the handle portion and includes a lug which engages with at least one shoulder to form a loop for carrying the additional item.

14. A carrier according to any preceding claim which is rigid to be stretched apart to fit about an item.

15. A method of carrying a rectangular item including the steps of:
providing a device according to any one of claims 1 to 14;
engaging respective opposite corners of at least one item with an aperture provided in each holding portion;
carrying the item by way of the handle portion.

16. A method according to claim 15 wherein the item is rectangular.

17. A method according to claim 16 wherein the item is a box.

18. A method according to claim 17 wherein the box is a pizza box.

19. A method according to any one of claims 15 to 18 further including the step of engaging one or more additional items with an aperture in each holding portion.

20. A method according to any one of claims 15 to 19, wherein the additional items are engaged with additional apertures.

21. A method according to any one of claims 15 to 20 wherein multiple apertures are provided in each holding portion, and multiple items are carried in a stack, each item being engaged with a respective aperture in each holding portion.

22. A method according to claim 22 wherein three apertures are provided in each holding portion, and three items are carried in a stack, each item being engaged with a respective aperture in each holding portion.

23. A method according to any one of claims 15 to 22 wherein the step of engaging the corners of the item with an aperture in each holding portion causes flanges associated with each aperture to be folded outwardly.

24. A method according to any one of claims 15 to 23 wherein the carrier is provided as a flat blank.

25. A method according to any one of claims 15 to 24 wherein the carrier is provided as a number of components that are assembled at the time of use.

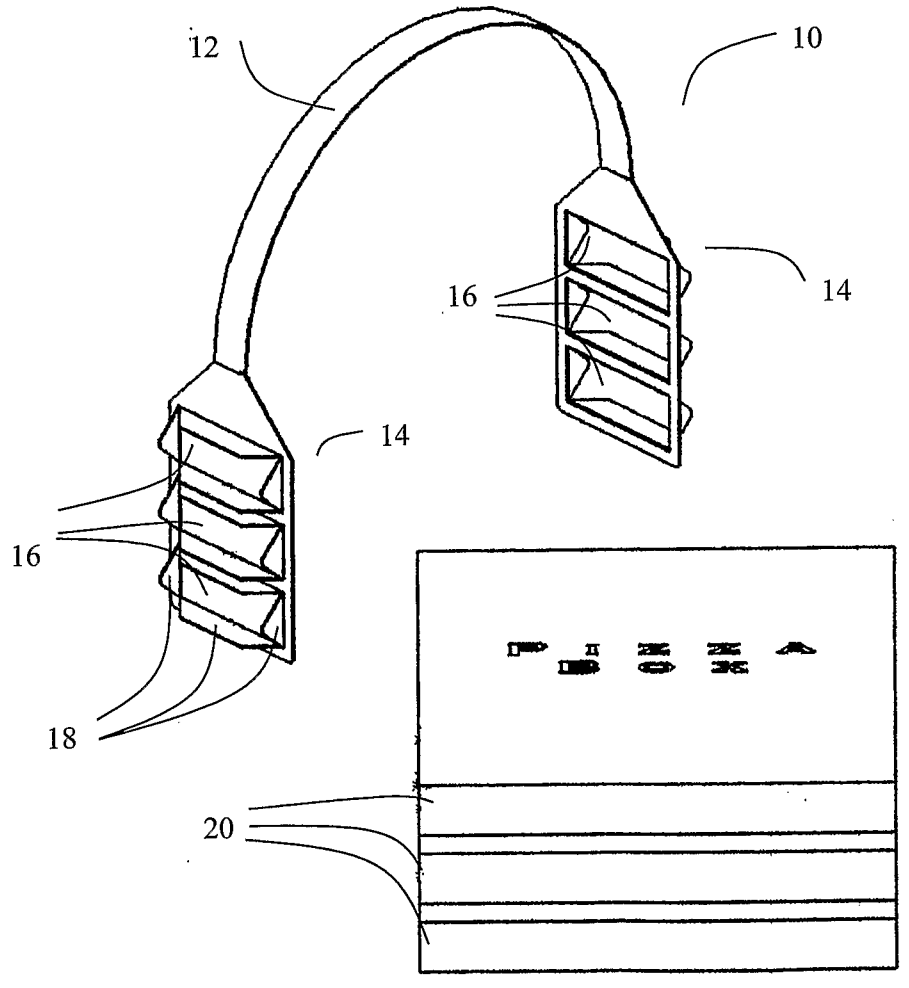

Figure 1

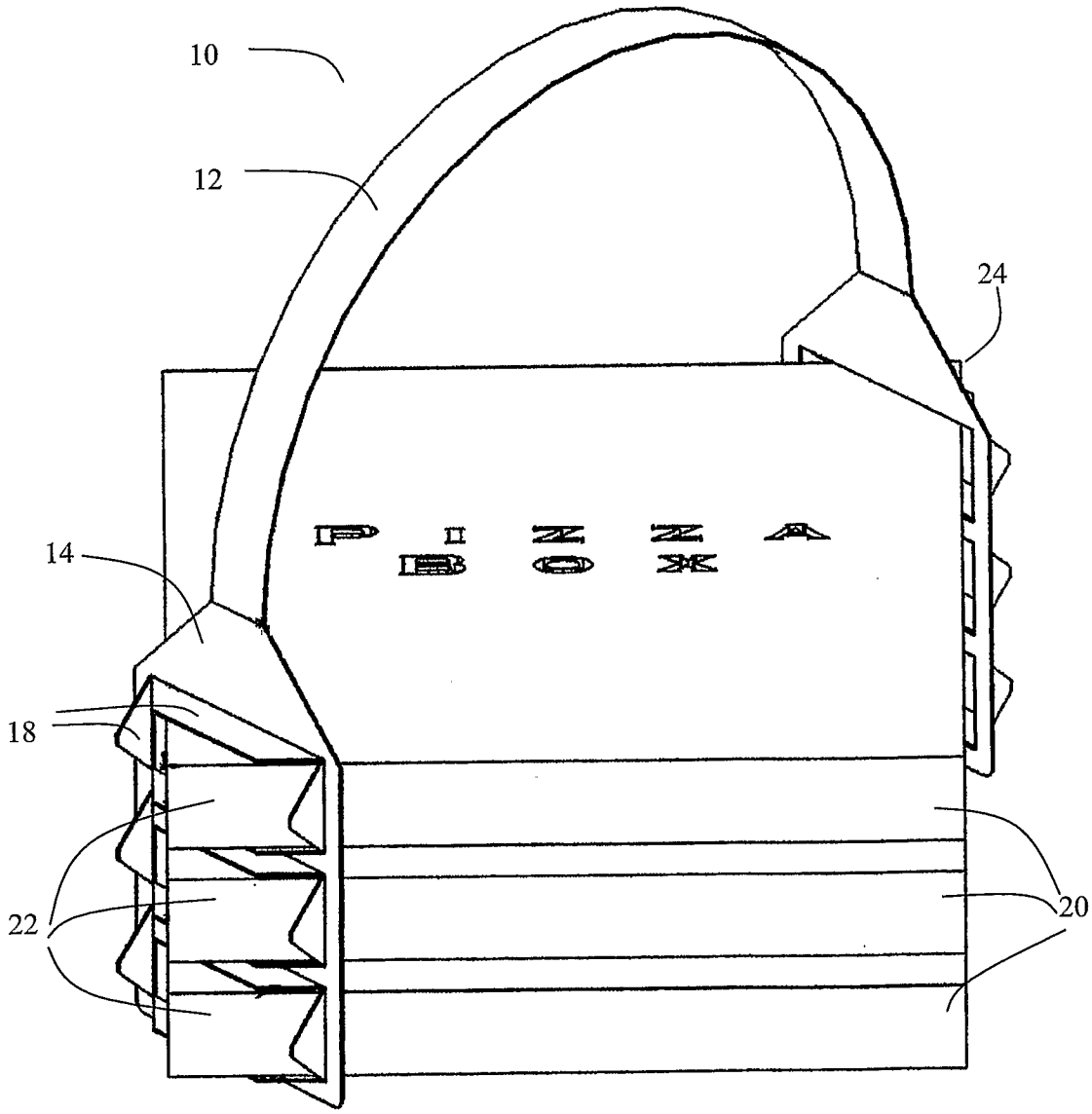

Figure 2

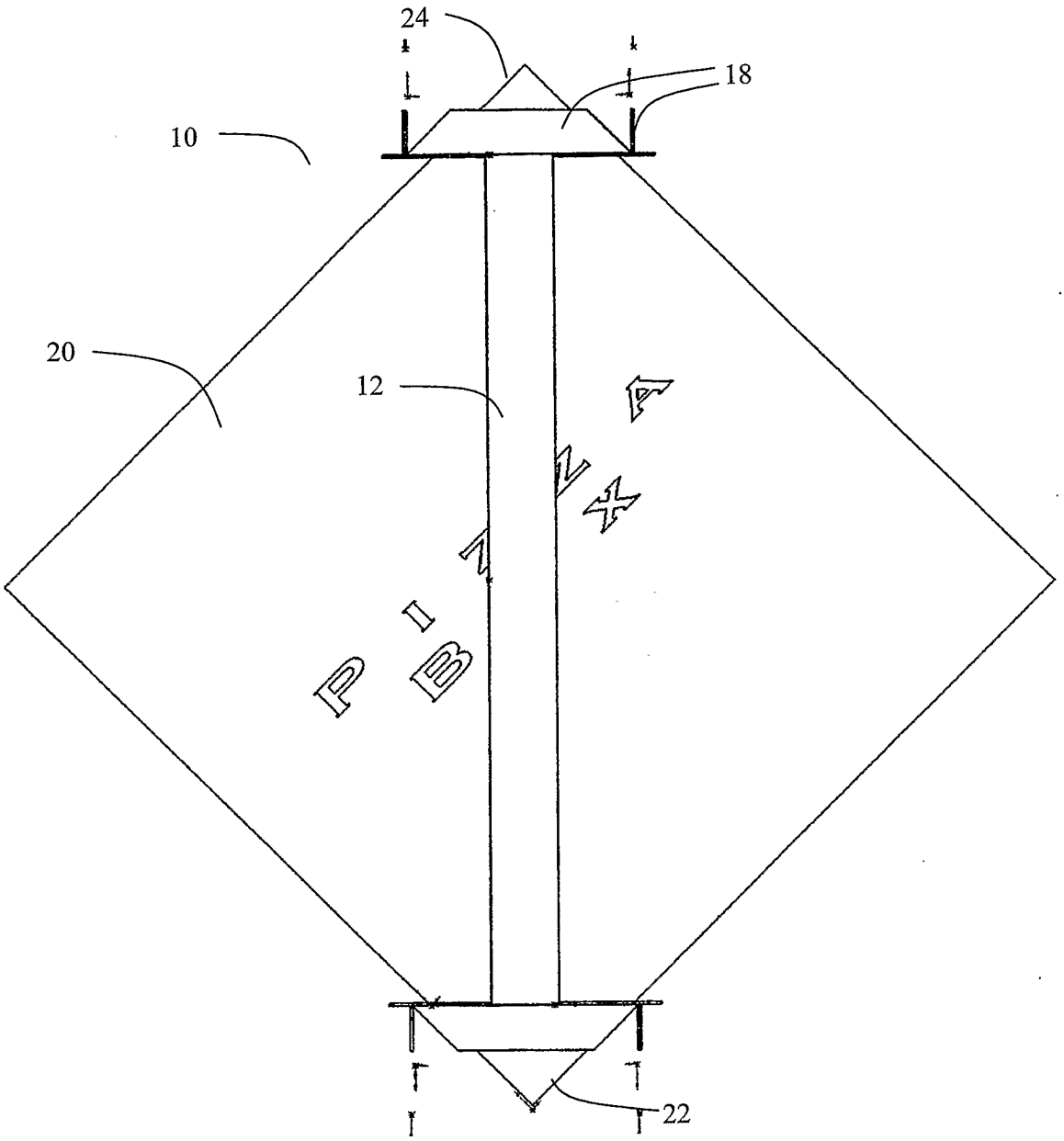

Figure 3

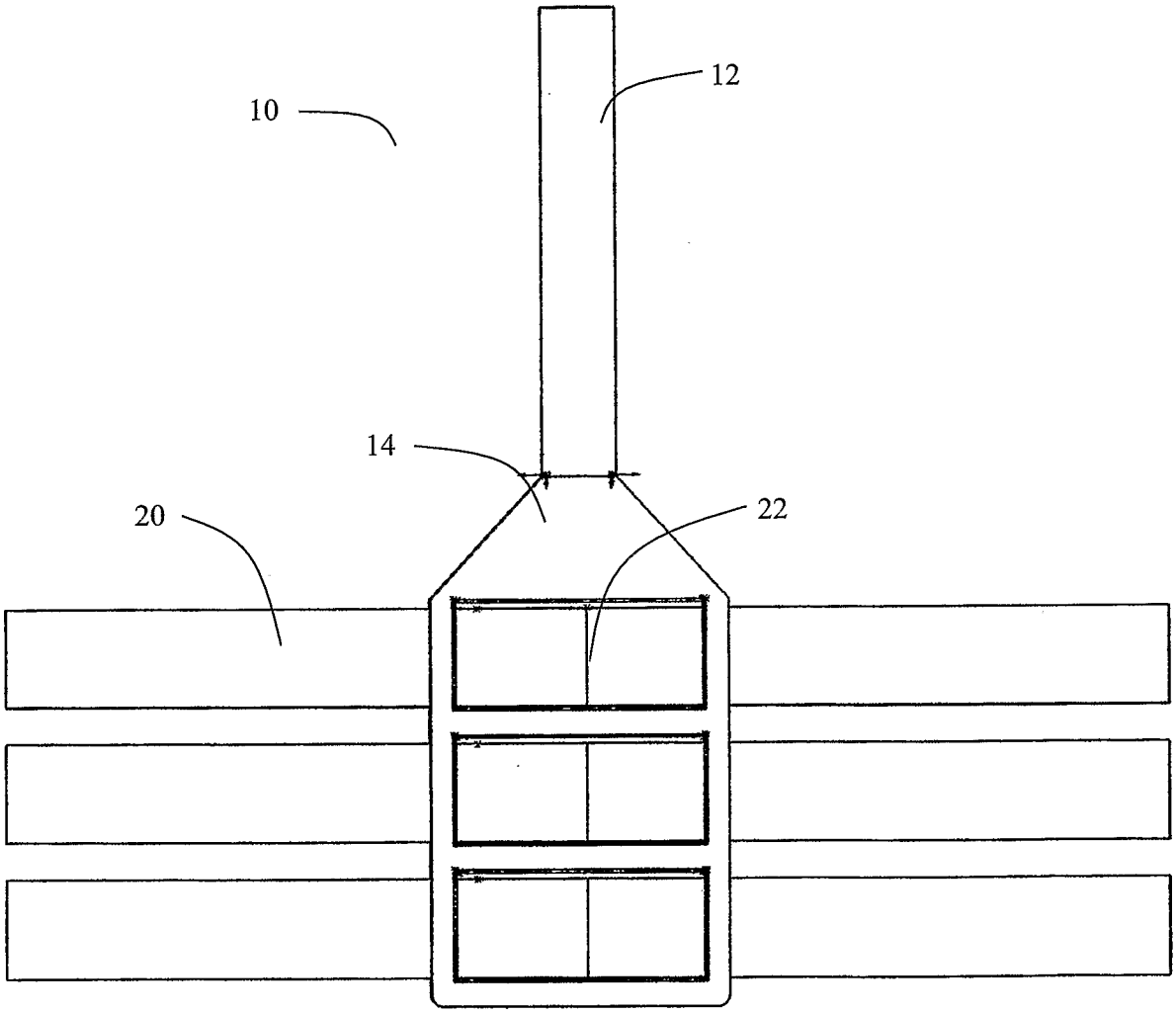

Figure 4

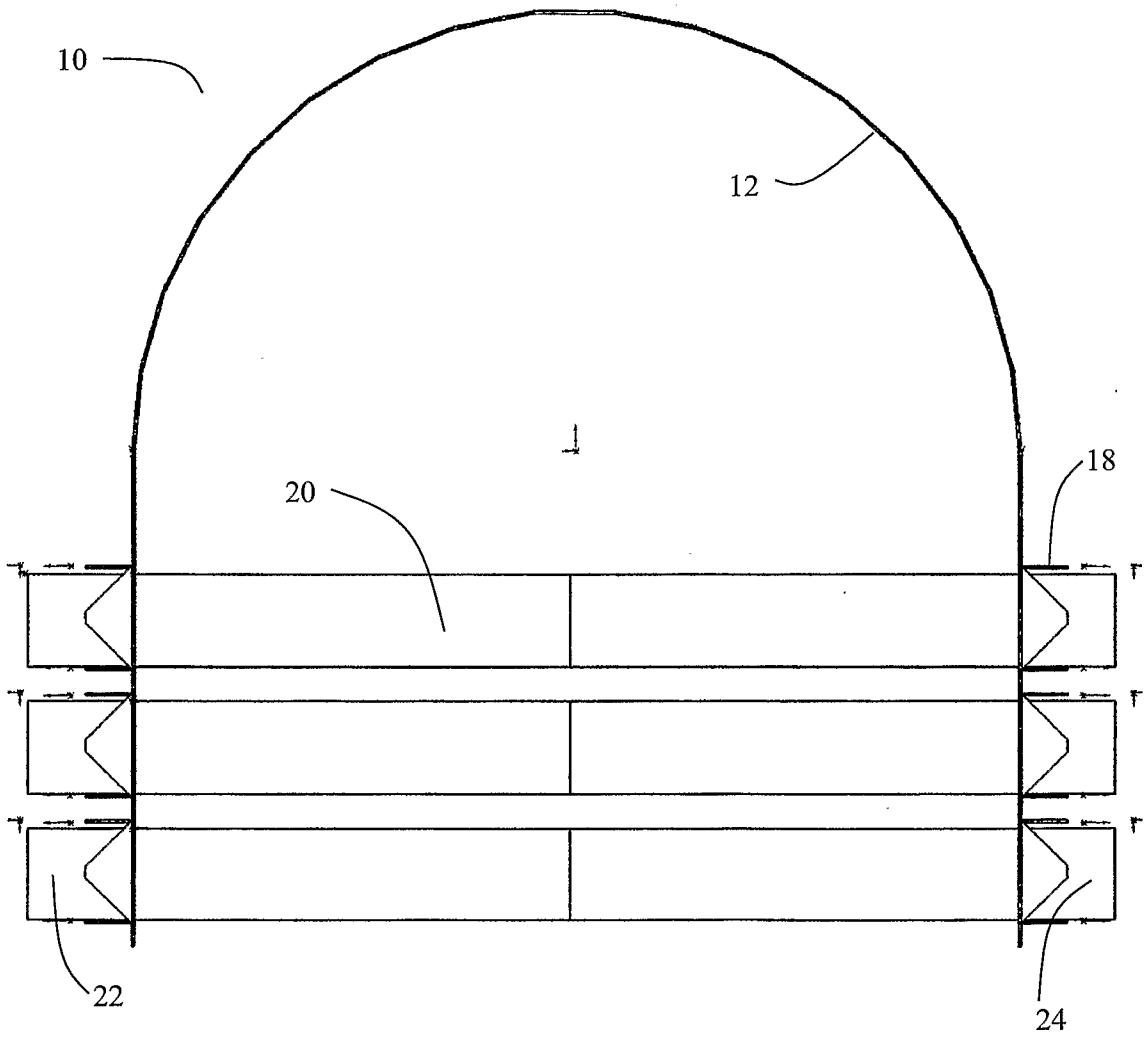

Figure 5

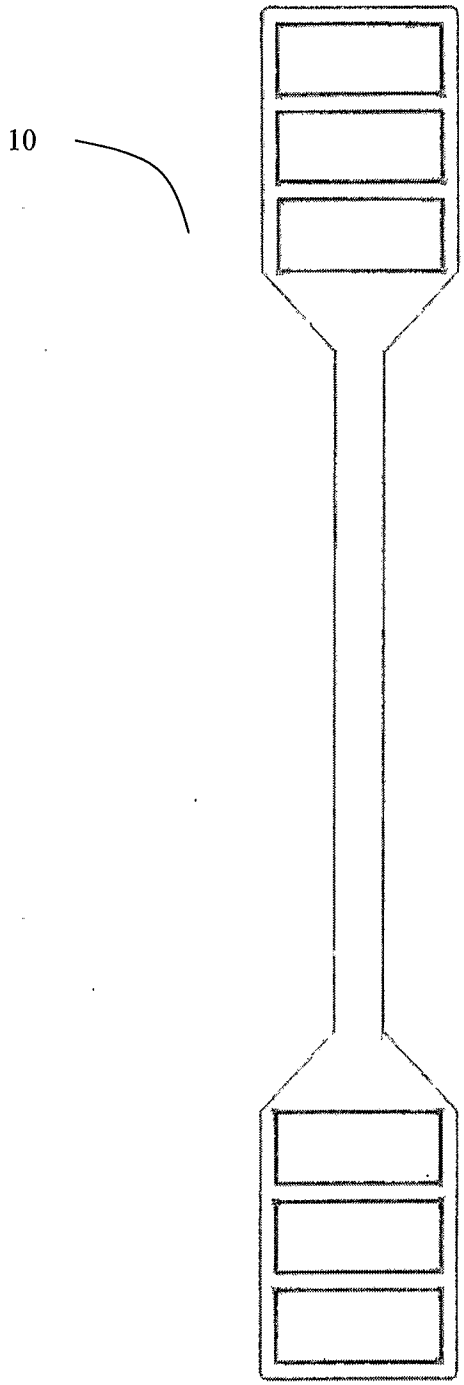

Figure 6

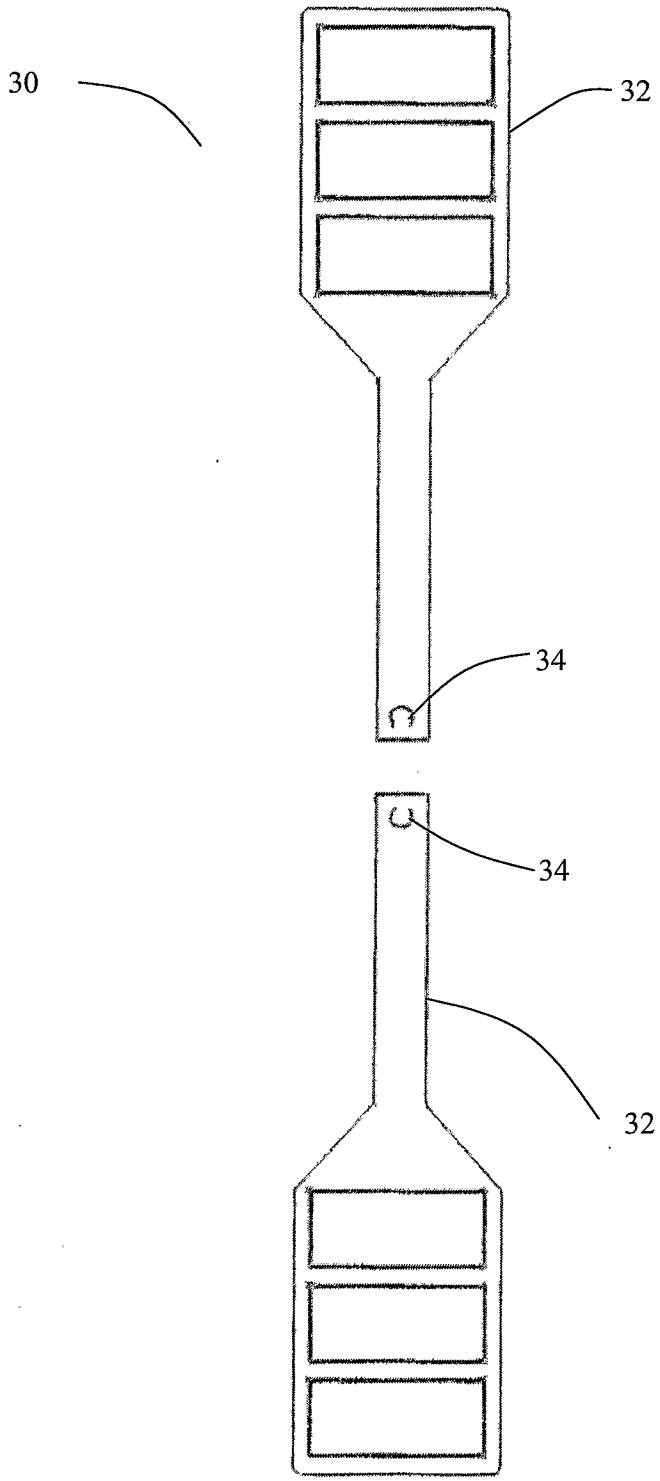

Figure 7

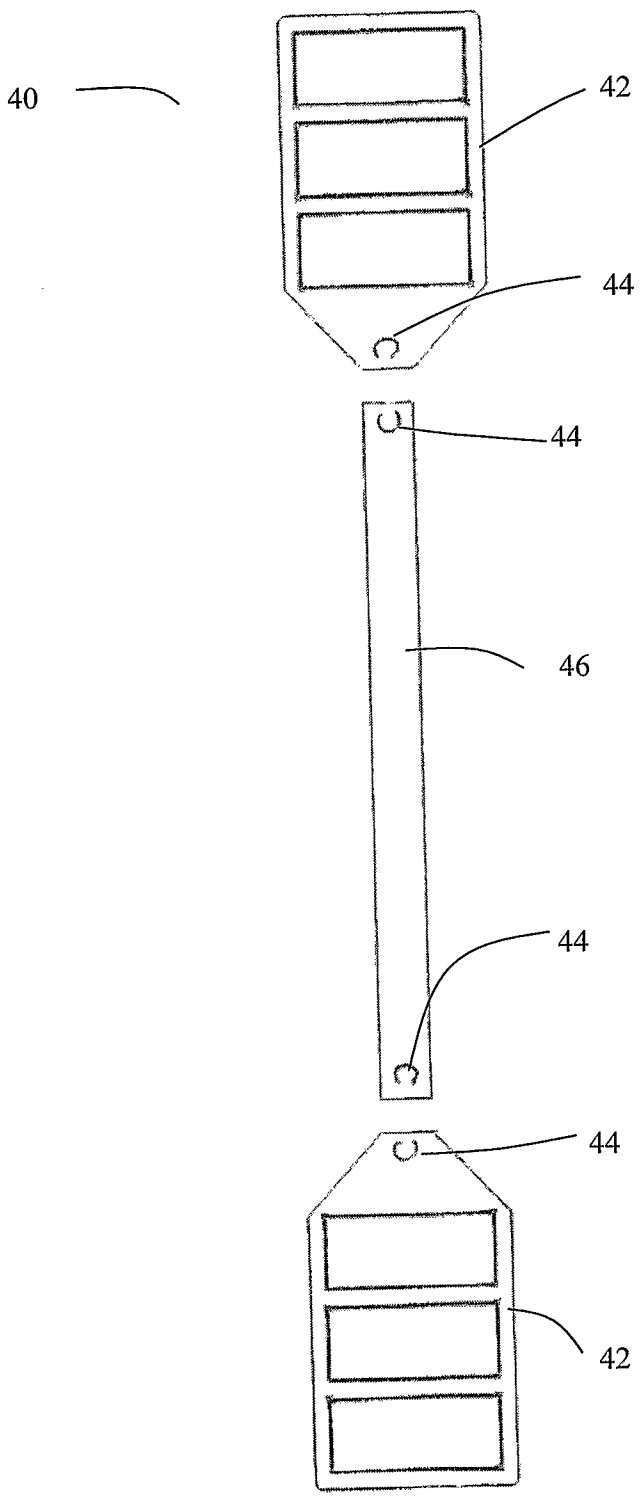

Figure 8

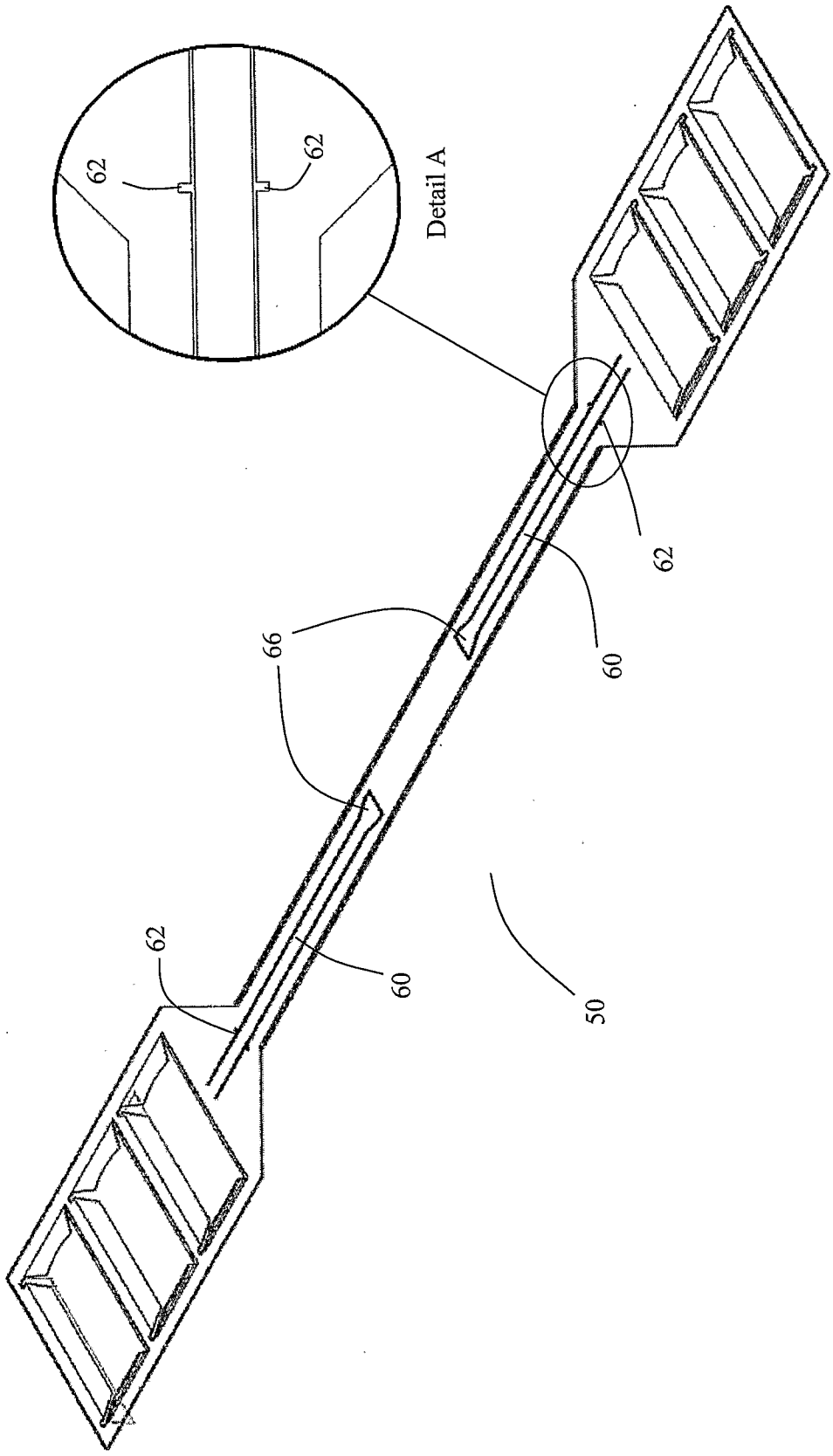

Figure 9

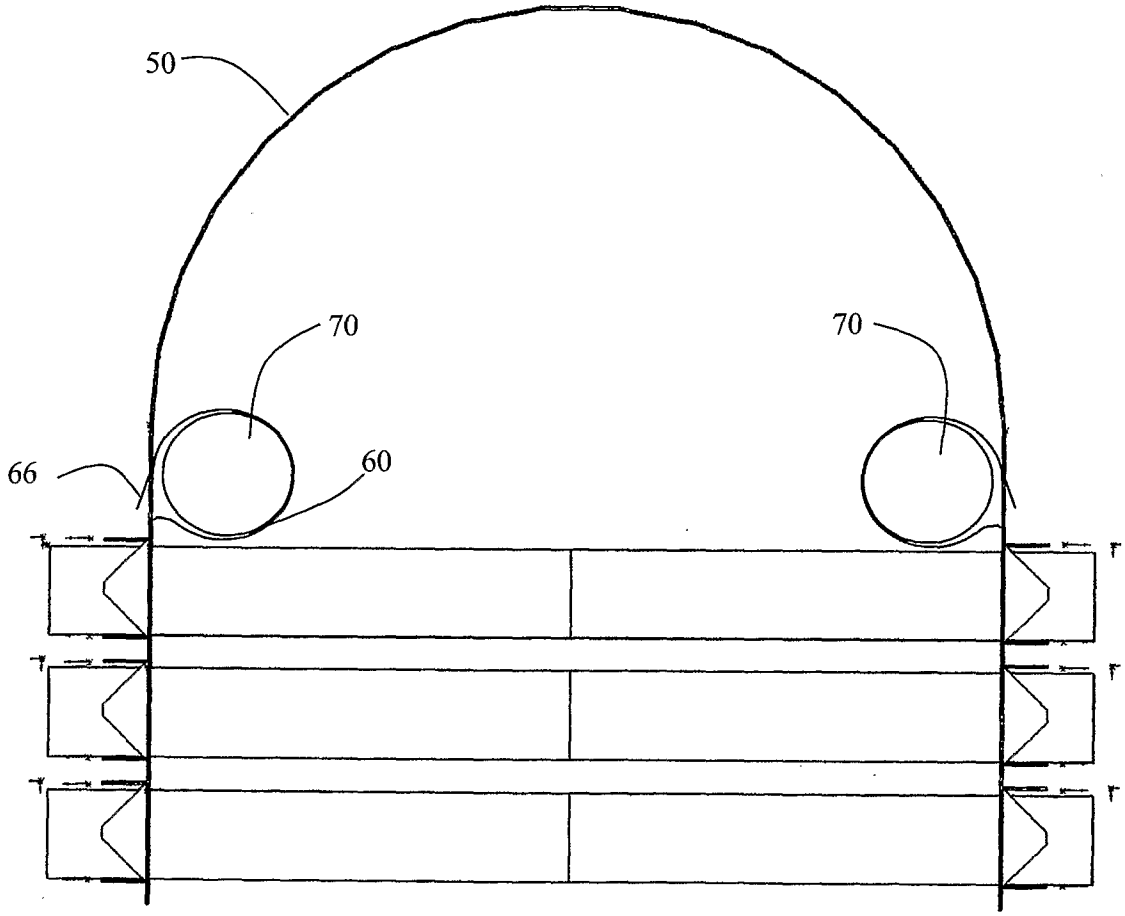

Figure 10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/AU2009/000204

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl.

B65D 25/22 (2006.01) ***B65D 61/00*** (2006.01) ***B65G 9/00*** (2006.01)
A45F 5/10 (2006.01) ***B65D 63/18*** (2006.01) ***A47J 47/14*** (2006.01) ***B65G 7/12*** (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPODOC & WPI: Classification Marks (B65D/IC/EC, B65G/IC/EC, A45F5/10/IC/EC, A47J47/IC/EC) and keywords (carrier, lifter, handle, user, grip, aperture, recess, corner, edge, apex, box, pizza, corner, loop, elongate and related words)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2687321 A (TOFFOLON) 24 August 1954 Entire Document, particularly Figs. 1, 2	1-11, 14-17, 23-25
X	US 5524949 A (MOONEY) 11 June 1996 Entire Document, particularly Fig. 1	1-3, 15-18
X	GB 214037 A (WHITEHEAD) 17 April 1924 Entire Document, particularly Figs. 1-3	1-11, 14-17, 23-25
A	US 5794999 A (CORSARO) 18 August 1998 Entire Document	1-25

☐ Further documents are listed in the continuation of Box C ☒ See patent family annex

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
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"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
01 April 2009	22 APR 2009
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustralia.gov.au Facsimile No. +61 2 6283 7999	Authorized officer **SARAVANA COIMBATORE** AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No : +61 2 6222 3641

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/AU2009/000204

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
US	2687321	NONE					
US	5524949	AU	43499/93	CA	2138156	EP	0646086
		WO	9400357				
GB	214037	NONE					
US	5794999	NONE					

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX