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WO 2002/098265 A1 **FR 002676212 A1**
US 5904388 A **US 5855403 A**
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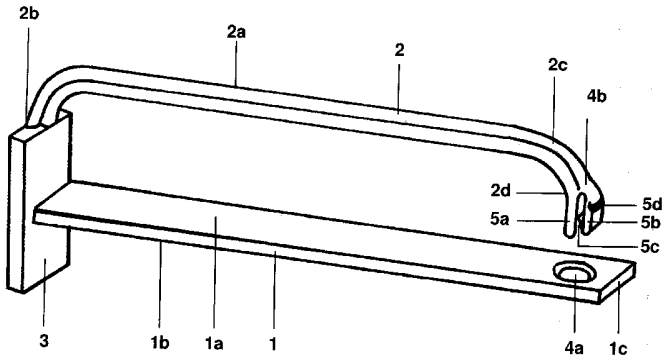
INT CL **A45F, A47B, A47F, A47G, B25H, B65D, B65G**
Other: **Online: EPODOC, WPI**

(54) Abstract Title: **Product carrier**

(57) The invention relates to a carrier device for transporting a plurality of products intended for loading onto a retail product storage/display element. The carrier comprises a rod-like member (1) adapted to carry the products; a handle (2), and a securing element (4) releasably coupled to the rod-like member (1) such that when the securing element (4) is coupled to the rod-like member (1) the products are prevented from being released there from. The carrier can be configured such that the securing element (4) is formed from a portion of the handle (2). The invention also encompasses a method of transporting at least one product from one location to a second location wherein the at least one product is loaded on the carrier device.



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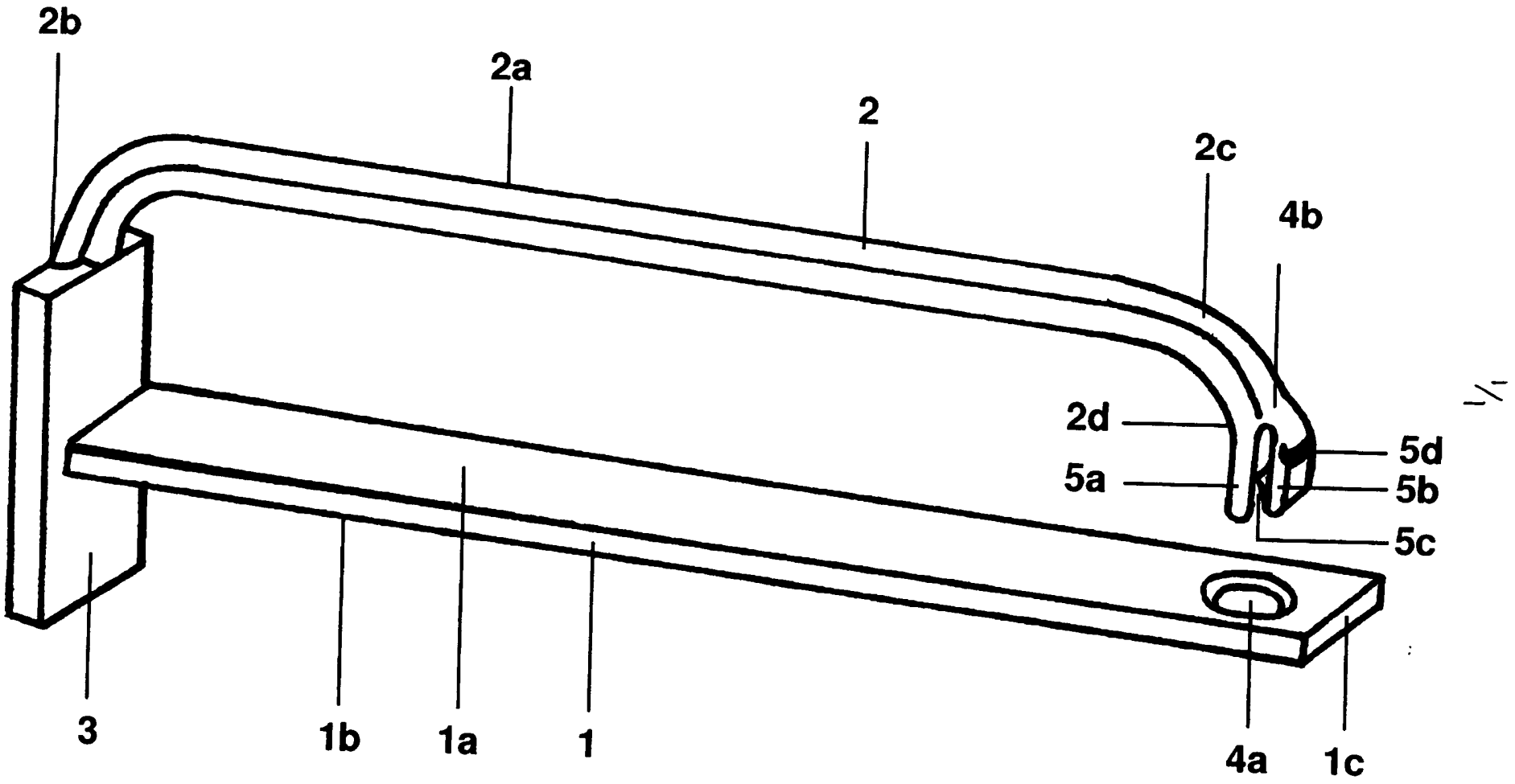
At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

This print takes account of replacement documents submitted after the date of filing to enable the application to comply with the formal requirements of the Patents Rules 1995


2b
2a
2
2c
4b
2d
5a
5d
5b
5c
3
1b
1a
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4a
1c

Product carrier

The present invention relates to a carrier device for transporting a plurality of products, which products are intended for loading onto a product storage/display element.

It is well known in the art that products, typically retail products can be loaded onto storage and display units for presentation to consumers in shops or similar commercial outlets. For instance, products can typically be boxed or bagged, and a portion of the packaging can contain a hole, slot or other type of aperture, such that the products can be sequentially and linearly loaded onto a peg, rack or similar element. In this way, a plurality of products can be stored on the same element with the packaging of the outermost product being displayed to consumers.

Typically, the aperture in the product packaging is complementary in shape with the shape of the element on which the product is to be stored and displayed. One example of such an element is the Euro-clip which is an industry-standard element. However, it is well known in the art that such elements come in many different shapes and sizes, typically depending on the nature of the product to be stored and displayed. The invention is not limited to any one type.

A number of problems arise in relation to such product storage/display elements. For example, products typically arrive at the commercial premises, from wholesalers or distributors, in bulk quantity in boxes. As such, it is necessary for individual products to be removed sequentially from the transportation box. The sequential loading of individual products onto product storage/display elements can be additionally time-consuming. Such inefficiencies in the processing of products from the transportation box through loading and displaying the products

on storage/display elements can lead to significantly decreased productivity and increased cost for the retailer.

It is an object of the present invention to overcome or at least ameliorate at least some of the problems inherent in such processes.

According to a first aspect of the invention, there is provided a carrier for carrying a plurality of products during transportation comprising a rod-like member adapted to carry the products; a handle; and a securing element releasably coupled to the rod-like member such that when the securing element is coupled to the rod-like member the products are prevented from being released therefrom

Thus, the rod-like member of the carrier can be shaped in such a way that products can be loaded directly onto the member. For example, in the case of products intended for storage and display on a Euro-clip element, the products will typically be packaged in such a way that a slot-like aperture is cut into the upper part of the product packaging. The rod-like member will be correspondingly dimensioned so as to allow the product to be slotted onto the rod-like member in a complementary fashion. In this way, a plurality of products can be loaded onto the rod-like member in the same format as they will appear when on display in the ultimate consumer environment.

In the context of the present invention, the products are typically longitudinally slotted or slid onto the rod-like member and the term "prevented from being released therefrom" should be construed as preventing the products from unintentionally sliding or being slid longitudinally from the rod-like member.

Of course, one skilled in the art will realise that the rod-like member can be shaped so as to accept any type of packaged product intended for a storage/display element having any type of configuration or dimension, not just the Euro-clip standard element.

The handle of the invention can be used to provide a convenient gripping mechanism for a user in order to transport the product carrier.

Products can be loaded onto the rod-like member and retained on the member by means of the securing element. Such a securing element can be any suitable structure, for example a wire clip, ring or similar stopper of suitable dimensions such that when the securing element is in use, the products cannot detach from a loading end of the rod-like member.

An advantage of the present invention is that it provides a vehicle for the loading and transportation of pre-defined quantities of product. In this way, a retailer, for example, can order pre-defined quantities of product from a wholesaler/distributor and the products can arrive, typically boxed, pre-loaded onto the carrier of the invention. As such, a plurality of products can simultaneously be moved about the premises, for example from the bulk storage area directly to the product fixtures. Thus, the carrier of the invention can significantly reduce product-handling time and provide a convenient and rapid product transportation mechanism.

In an embodiment of the invention, the securing element is formed from a portion of the handle. As such, a portion of the handle can connect with the rod-like member, adjacent to the loading end of the rod-like member, to resist the detachment therefrom of pre-loaded products.

For example, the rod-like member can include an aperture and the handle can include a portion adapted to fit within the aperture and at least one lug; whereby the handle portion and the at least one lug snap-fits within the aperture. The lug can be made from a resiliently deformable material and can be compressed such that it fits within the aperture upon insertion of the handle portion, but then springs back to its rest configuration after insertion whereupon it is capable of

resisting or preventing the unwanted removal of the handle portion from the aperture.

In a further embodiment of the invention, the rod-like member includes an aperture; and a portion of the handle is adapted to be received into the aperture and secured therein by means of a locking element. The locking element may be a clip or other similar device. The locking element may be releasably coupled to the handle portion to prevent or resist its removal from the aperture.

For example, the handle potion may pass through an upper portion of the aperture and protrude beyond a lower portion of the aperture and the locking element secured to the handle portion below the lower portion of the aperture.

In certain embodiments, the securing element may comprise inter-engaging elements of the carrier, in which case, the securing element may be referred to as a securing assembly. For example, the securing assembly may comprise a plurality of lock members which can engage with an aperture formed in the rod-like member. As such, when the securing assembly is in an open configuration, the lock members are spaced apart from the aperture. At least one lock member may be resiliently deformable, comprise a ridge and be capable of flexing as a result of the cam action of the ridge when it comes into contact with the side wall of the aperture during the closure of the securing assembly. When the ridge has passed through the aperture, the at least one resiliently deformable lock member springs back towards its rest position and the ridge resists removal of the locking assembly from the aperture. This type of snap-fit connection is well known to those skilled in the art.

In a still further embodiment of the invention, the handle is adapted to include a rod-like member receiving portion within which the rod-like member can be received, the rod-like member receiving portion of the handle forming the securing element.

Thus, for example, the rod-like member receiving portion may be a slot or recess formed within a portion of the handle which is capable of receiving a portion of the rod-like member, such that the action of the rod-like member on the slot or recess acts to resist or prevent the unwanted movement of the handle.

In a yet further embodiment of the invention, the rod-like member comprises a slot therethrough; and the handle is adapted to include a portion formed of a resiliently deformable material and further includes a portion having a reduced width; wherein the width of the slot is greater than the width of reduced width portion of the handle, but less than the width of the remainder of the handle and wherein the reduced width portion of the handle is capable of being received into the slot and retained therein. This type of slot and reduced width channel-type securing arrangement is well known. Typically, the resiliently deformable portion of the handle allows it to be rotated or twisted through about 90 degrees so that the handle portion can be inserted through the slot (the length of the slot being greater than the width of the handle) until the reduced width portion is aligned with the slot. At this point, the handle is allowed to return to its non-twisted configuration whereby the reduced width portion of the handle is secured within the slot.

In a second aspect of the invention, the rod-like member is adapted to include a backplate, wherein the handle is secured at a first end thereof to the backplate; the rod-like member is secured at a first end thereof to the backplate; and wherein the second end of the handle is capable of being releasably coupled to the second end of the rod-like member.

The backplate can provide a portion having a substantially planar surface being arranged orthogonal with respect to the longitudinal axis of the rod-like member. The backplate advantageously allows the carrier to be free-standing with the rod-like member being substantially upwardly presented, such that products can be

loaded onto the carrier without the need for a user or machine to provide direct support to the carrier. As such, the carrier can be rapidly loaded with defined amounts of product.

The backplate additionally presents a resilient surface against which loaded products can abut, thus providing further support to the loaded products.

The backplate may further provide a second handle portion whereby the carrier can be held adjacent to a product storage/display element by a user such that products can be more efficiently transferred from the carrier to the element.

In a third aspect of the invention one end face of the rod-like member includes a recess adapted to receive an end portion of a product storage/display element such that the carrier can be coupled to the storage/display element for the transfer of the products from the carrier to the storage/display element.

For example, the end face of the rod-like member can include a concave portion which can receive a rounded end-portion of a storage/display element, optionally a Euro-clip element. This provides a mechanism whereby the rod-like member can be temporarily docked with the storage/display element and held stably in place to provide a supported continuous surface such that products can be efficiently transferred from the rod-like member directly onto the storage/display element.

It will be apparent that an entire set of products can be transferred by a user from the rod-like member directly onto the storage/display element in a single action, significantly reducing product-handling time and effort.

It will be clear to those skilled in the art that the carrier can be formed from any suitable material. In a preferred embodiment, the carrier is formed from a plastics material, optionally by injection molding techniques.

In a fourth aspect of the invention the carrier is adapted such that the handle is releasably attached to the carrier and wherein the backplate is adapted to be mountable onto a product display board; wherein products loaded onto the rod-like member can be detached therefrom via the second end.

In such an embodiment, the rod-like member itself forms the storage/display element. As such, the carrier can be used to transport a plurality of products as defined above. The user can then detach the handle from the carrier and mount the entire rod-like member with pre-loaded products onto a product display board via mounting elements located at the rear of the backplate, such as clips, lugs or screws.

In a fifth aspect of the invention there is provided a method of transporting at least one product from a first location to a second location, comprising loading the at least one product onto the rod-like member of the carrier of the invention as defined above; coupling the securing element to the rod-like member; and moving the carrier from the first location to the second location.

The first and second locations could be respectively, for example, a manufacturing site and retail outlet, a manufacturing site and warehouse/distribution site or a warehouse/distribution site and retail outlet.

Thus, the invention advantageously allows carriers to be pre-loaded with defined amounts of product and provides for the simultaneous transportation of multiple carrier units, for example in boxes. In this way, defined amounts of product loaded onto carriers can be ordered by a user, for example from a wholesaler, and the carriers can be shipped and delivered in such a way that the user can immediately and efficiently receive the carriers and locate the products directly onto the storage/display elements.

The various embodiments and features of the invention as defined above in any aspect of the invention may be combined with one or more other aspects, embodiments or features of the invention unless expressly stated otherwise

An embodiment of the invention will now be described in detail, by way of example only, with reference to the accompanying drawing.

For the avoidance of doubt, the terms used herein which refer to relative positions, such as "upper", "lower", "top", "bottom", "forwards", "backwards", etc. relate to an orientation of the product carrier in which the handle portion is situated above the rod-like member, i.e. the orientation shown in the drawing appended hereto.

The figure shows an isometric view of an embodiment of the product carrier of the invention.

The product carrier comprises a rod-like member 1, a handle 2, a backplate 3, and a securing assembly 4 comprising an aperture 4a formed in the rod-like member and a locking element 4b formed at one end of the handle and comprising two opposed lock members 5a and 5b arranged in a generally U-shaped configuration. The locking element 4b can further comprise a wedge-like member 5c located between the two opposed lock members 5a and 5b. The wedge-like member 5c is attached to the inner surface of lock member 5b (i.e. the surface of lock member 5b which faces towards lock member 5a). The lock member 5b further comprises a ridge 5d located on its outer surface (i.e. the surface of lock member 5b which faces away from lock member 5a). The ridge 5d is located on lock member 5b at a position (when the carrier is in use) above the position of the wedge-like member 5c.

The rod-like member 1 has a substantially flat upper surface 1a, for supporting products attached thereto, and a corresponding substantially flat lower surface

1b. Typically, packaging for products will contain a slot, or other similar aperture. A first end of the rod-like member 1 (adjacent to the securing assembly 4) will be threaded through the packaging slot such that products can be carried by the rod-like member 1 and moved along the substantially flat upper surface 1a in the direction of the backplate 3. In this way, products will typically hang below the substantially flat lower surface 1b and be supported by a portion of the packaging which is itself supported by the substantially flat upper surface 1a.

It will be apparent that in this arrangement, the rod-like member 1 can have a width which is smaller than the width of the packaging aperture but large enough such that the packaging is held securely in place on the rod-like member 1. That is to say, the width of the rod-like member 1 can be dimensioned so as to substantially match the size of the product packaging. For example, where the products are intended for display on a product storage/display element which is a Euro-clip, the width of the rod-like member 1 is configured to be smaller than the width of a Euro-slot.

Persons skilled in the art will immediately understand, however, that rod-like member 1 could be used to carry products which are intended for display on any suitable product storage/display element. As such, the dimensions of the rod-like member 1 can be suited to the particular product storage/display element on which the products are intended to be stored and displayed. For example, the rod-like member 1 could comprise a single cylindrical member, and therefore be suitable to carry products which are intended for display on a correspondingly similar single cylindrical peg-like product storage/display element. The rod-like member 1 could comprise two cylindrical members disposed in a substantially parallel arrangement, and therefore suitable to carry products which are intended for display on a correspondingly similar dual-cylindrical peg-like product storage/display element. Thus, the exact shape of the rod-like member can vary considerably, and will be dictated, at least in part, by the nature of the product storage/display system on which the products are intended for display.

The product carrier includes a handle 2. The handle 2 is disposed in use above the rod-like member 1. The handle 2 comprises an elongate member, the main portion 2a of which is disposed substantially parallel with respect to the rod-like member.

In the depicted embodiment, a first end of the handle 2b is attached to a backplate 3. However, it will be appreciated that in embodiments of the invention which lack a backplate 3, the first end 2b of the handle 2 can be attached directly to the rod-like member 1.

In the depicted embodiment, the handle 2 comprises a curved portion 2c.

In the depicted embodiment, the second end 2d of the handle 2 forms part of the securing assembly 4. However, in embodiments of the invention where a portion of the handle 2 does not form a part of the securing assembly, the second end of the handle 2 may be truncated in comparison to the depicted second end 2d. In such an embodiment the handle 2 need not in use be disposed in a substantially parallel arrangement with respect to the rod-like member 1.

It will be appreciated that the precise dimensions of aspects of the handle 2 can vary significantly. In addition, the spatial arrangement of the handle 2 with respect to the rod-like member 1 can also vary. For example, the distance between the main portion of the handle 2a and the upper surface of the rod-like member 1a can be dictated, at least in part, by the dimensions of the packaging through which the rod-like member 1 engages. Furthermore, the point along the main portion of the handle 2a at which the curved portion 2c begins to form may also vary. This may be dictated by the quantity of products intended to be carried.

Starting from a position wherein the securing assembly 4 is in an open configuration. The two lock members 5a and 5b are spaced apart from the aperture 4a. The lock member 5b is resiliently deformable and capable of flexing inwards towards the lock member 5a as a result of the cam action of the ridge 5d when it comes into contact with the side wall of the aperture 4a during the closure of the securing assembly 4. The inward movement of lock member 5b brings the wedge-like member 5c into contact with lock member 5a. Contact between wedge-like member 5c and lock member 5a acts to resist further inward movement of lock member 5b towards lock member 5a. When the ridge 5d has passed through the aperture 4a, the lock member 5b springs back towards its rest position and the ridge 5d resists removal of the locking element 4b from the aperture 4a. This type of snap-fit connection is well known to those skilled in the art. In this position the securing assembly 4 is in a locked configuration.

A release force applied to the lock member 5b can lead to displacement from its rest position towards the lock member 5a. This in turn moves the ridge 5d into alignment with the aperture 4a and permits the locking element 4a to be removed from the aperture 4a upon the application of an upwardly directed force to the handle 2, whereupon the securing assembly 4 is returned to an open configuration.

In the depicted embodiment, when the securing assembly 4 is in the open configuration, the locking element 4b is spaced from the rod-like member 1. The gap between the locking element 4b and the rod-like member 1 is sized to permit the products to be slid onto the rod-like member 1 towards the backplate 3.

It will be apparent to those of skill in the art that other types of securing assembly, other than that depicted, could be employed in order to releasably couple the second end 2d of the handle 2 to the rod-like member 1.

For example, the securing assembly need not comprise a wedge-like member 5c.

In an alternative embodiment, the second end of the handle 2d may pass through an upper portion of the aperture and protrude beyond a lower portion of the aperture. A clip, peg or other similar stopping device can then be secured to the second end 2d of the handle 2 at a position below the lower portion of the aperture whereupon the second end 2d of the handle 2 is prevented from being removed from the aperture and the carrier may be said to be in a locked configuration. For example, the clip may be a wire ring applied through a hole provided in the second end 2d of the handle 2.

In embodiments of the invention where a portion of the handle 2 does not form a part of a securing assembly, a securing element may be provided in the form of a clip, peg or other similar stopping device which can be applied to the rod-like member 1 at a product loading end (i.e. the end opposite the backplate 3) of the rod-like member 1 after products have been loaded onto the rod-like member 1. Such a securing element is capable of preventing the unwanted removal of the products from the carrier.

Alternatively, the second end 2d of the handle 2 can be adapted to include a rod-like member receiving portion within which the rod-like member 1 can be received, the rod-like member receiving portion of the handle forming a securing element. For instance, the rod-like member receiving portion may be a slot or recess formed within a portion of the second end 2d of the handle 2 which is capable of receiving a portion of the rod-like member 1, such that the action of the rod-like member 1 on the slot or recess acts to resist or prevent the unwanted movement of the second end 2d of the handle 2.

Alternatively still, the rod-like member 1 and the second end 2d of the handle 2 can interact to form a securing assembly by means of a slot and reduced-width channel-type securing arrangement as defined and described above. In this

arrangement, the rod-like member 1 comprises the slot and the second end 2d of the handle 2 comprises the reduced-width channel portion.

In certain embodiments (not depicted), the end face 1c of the rod-like member 1 includes a recess adapted to receive an end portion of a product storage/display element such that the rod-like member 1 can be coupled to the storage/display element for the transfer of the products from the carrier to the storage/display element. For example, where the storage/display element is a single cylindrical member, the recess can be a complementary cylindrical bore formed at a single point in the end face 1c. Where the storage/display element is a dual cylindrical member or a rod-like member, the recess can be a groove or channel formed in the surface of the end face 1c.

Claims

1. A carrier for carrying a plurality of products during transportation comprising a rod-like member adapted to carry the products; a handle; and a securing element releasably coupled to the rod-like member such that when the securing element is coupled to the rod-like member the products are prevented from being released therefrom.

2. A carrier according to claim 1, wherein the securing element is formed from a portion of the handle.

3. A carrier according to claim 2, wherein the rod-like member includes an aperture and the handle includes a portion adapted to fit within the aperture and at least one lug; whereby the handle portion and at least one lug snap-fits within the aperture.

4. A carrier according to claim 2, wherein the rod-like member includes an aperture; and wherein a portion of the handle is received into the aperture and is secured therein by means of a locking element.

5. A carrier according to claim 2, wherein the handle is adapted to include a rod-like member receiving portion within which the rod-like member can be received, the rod-like member receiving portion of the handle forming the securing element.

6. A carrier according to claim 2, wherein the rod-like member comprises a slot therethrough; and wherein the handle is adapted to include a portion formed of a resiliently deformable material and a portion having a reduced width; wherein the width of the slot is greater than the width of reduced width portion of the handle, but less than the width of the remainder of the

handle and wherein the reduced width portion of the handle is capable of being received into the slot and retained therein.

7. The carrier according to any of claims 2 to 6, wherein the rod-like member is adapted to include a backplate, wherein the handle is secured at a first end thereof to the backplate; the rod-like member is secured at a first end thereof to the backplate; and wherein the second end of the handle is releasably coupled to the second end of the rod-like member.

8. The carrier according to any preceding claim wherein one end face of the rod-like member includes a recess adapted to receive an end portion of a product storage/display element such that the carrier can be coupled to the storage/display element for the transfer of the products from the carrier to the storage/display element.

9. The carrier according to claim 7 wherein the handle is releasably attached to the carrier and wherein the backplate is adapted to be mountable onto a product display board; wherein products loaded onto the rod-like member can be detached therefrom via the second end.

10. The carrier according to any preceding claim wherein the carrier is formed from a plastics material.

11. A method of transporting at least one product from a first location to a second location, comprising loading the at least one product onto the rod-like member of the carrier according to any preceding claim; coupling the securing element to the rod-like member; and moving the carrier from the first location to the second location.

12. A carrier as substantially described in any embodiment herein, with reference to the drawings.

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Application No: GB0703971.2 **Examiner:** Morten Bach

Claims searched: 1-12 **Date of search:** 29 June 2007

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
X	1-5,10,11	FR2676212 A1 (BIREMBAUT) See e.g. page 2, lines 19-22 and figures.
X	1,2,10,11	US5904388 A (SIEBEL) See e.g. column 2, lines 38-44
X	1,2,10,11	US5855403 A (HARPER) See e.g. detailed description of the invention and figures.
X	1,10,11	GB2343109 A (WOODWORTH) See e.g. page 3, lines 3-8 and figures
X	1,10,11	WO02/098265 A1 (PIENAAR) See e.g. abstract and figures
X	1	WO03/080972 A1 (SEDON et al.) See e.g. page 6, lines 21-28 and figures.
A	-	US3226147 A (MARSHALL)

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category	P	Document published on or after the declared priority date but before the filing date of this invention
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^{X} :

Worldwide search of patent documents classified in the following areas of the IPC

A45F; A47B; A47F; A47G; B25H; B65D; B65G

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI

International Classification:

Subclass	Subgroup	Valid From
A47G	0025/14	01/01/2006
A47G	0025/06	01/01/2006
B65G	0001/02	01/01/2006