United States Patent [19]

Hlinsky et al.

[11] **3,865,047**

[45] **Feb. 11, 1975**

[54] **CONTAINER PEDESTAL RETAINING DEVICE**

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[73] Assignee: **MacLean-Fogg Lock Nut Company**, Mundelein, Ill.

[22] Filed: **May 31, 1974**

[21] Appl. No.: **474,950**

[52] **U.S. Cl.** ..... **105/366 D**, 248/119 R

[51] **Int. Cl.** **B65j 1/22**

[58] **Field of Search** ..... 105/366 D, 366 C, 377; 248/119 R, 361 R; 267/155; 296/35.1

[56] **References Cited**

UNITED STATES PATENTS

3,391,654	7/1968	Crob et al.	105/366
3,603,267	9/1971	Schwiebert	105/366 D
3,621,794	11/1971	Gramse	105/366 D
3,719,794	3/1973	Peterson	105/366 D

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[57] **ABSTRACT**

A container pedestal retaining device for use in a collapsible pedestal container support and securement system for container transportation above a vehicle deck, the system including a pedestal guide track comprising a continuation of the deck, and having a slot and pedestal stowage hole therein, and a container support pedestal mounted on, supported by and slidable along the guide track for movement between an upright container supporting position, and a collapsed position through the stowage hole wherein the pedestal is in generally flush relationship with the deck, the pedestal having a reaction member comprising a brace of a proper width for movement through the slot, and a cross member connected to the brace and being wider than the slot. The retaining device comprises means defining a closed retaining channel for the brace of the pedestal, preferably parallel bars transversely interconnected by means of a rod at their lower ends, and connecting means for securing the channel defining means to the track, the channel being narrower than the pedestal cross member in order to retain the brace within said channel.

14 Claims, 5 Drawing Figures

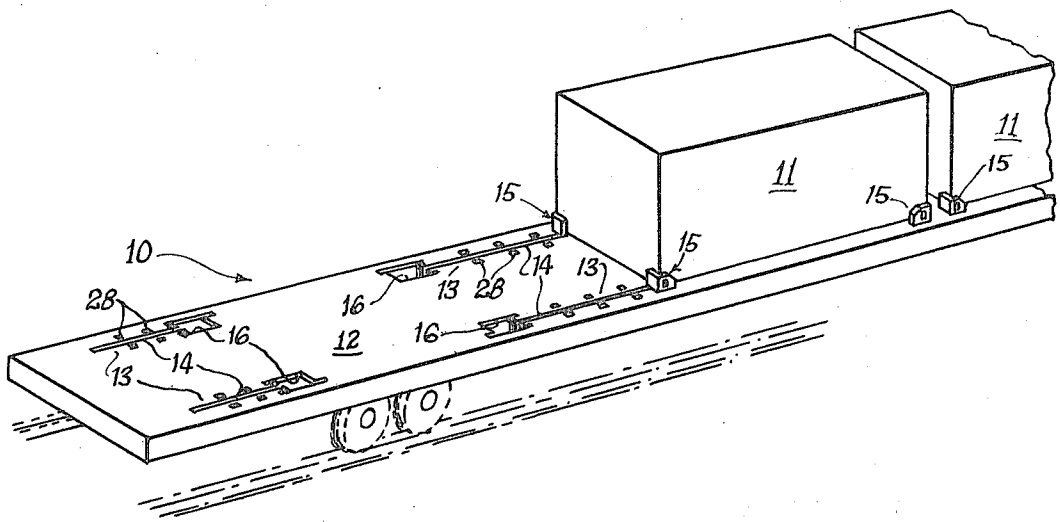


FIG. 1

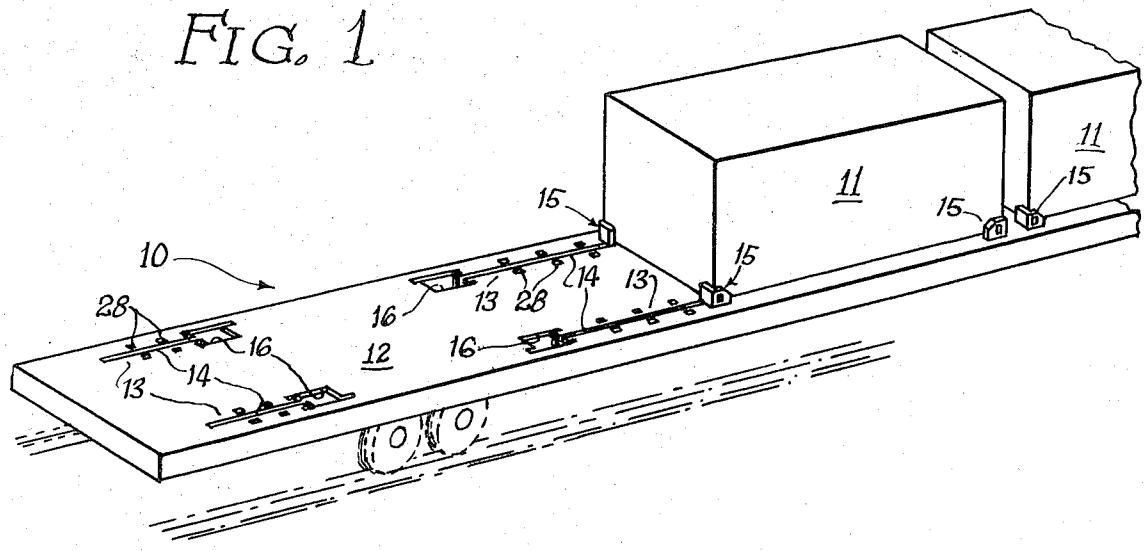

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FIG. 2

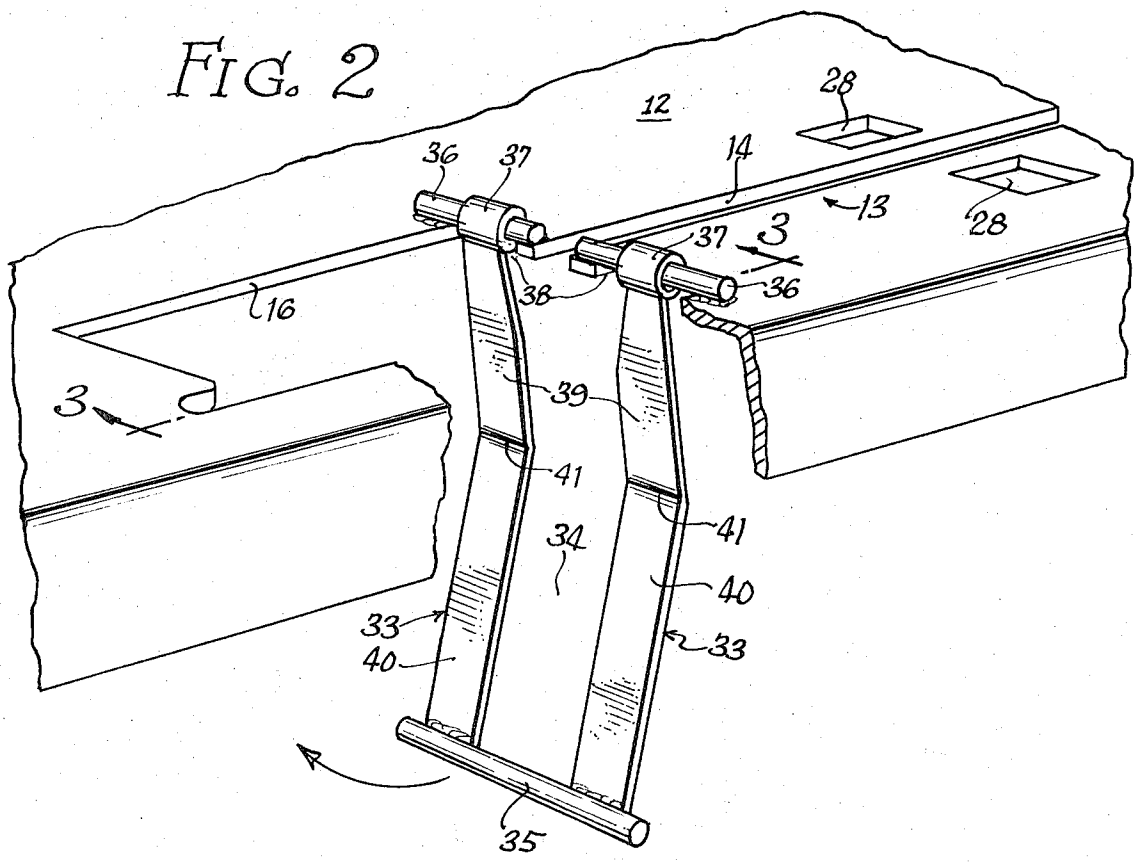

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FIG. 3

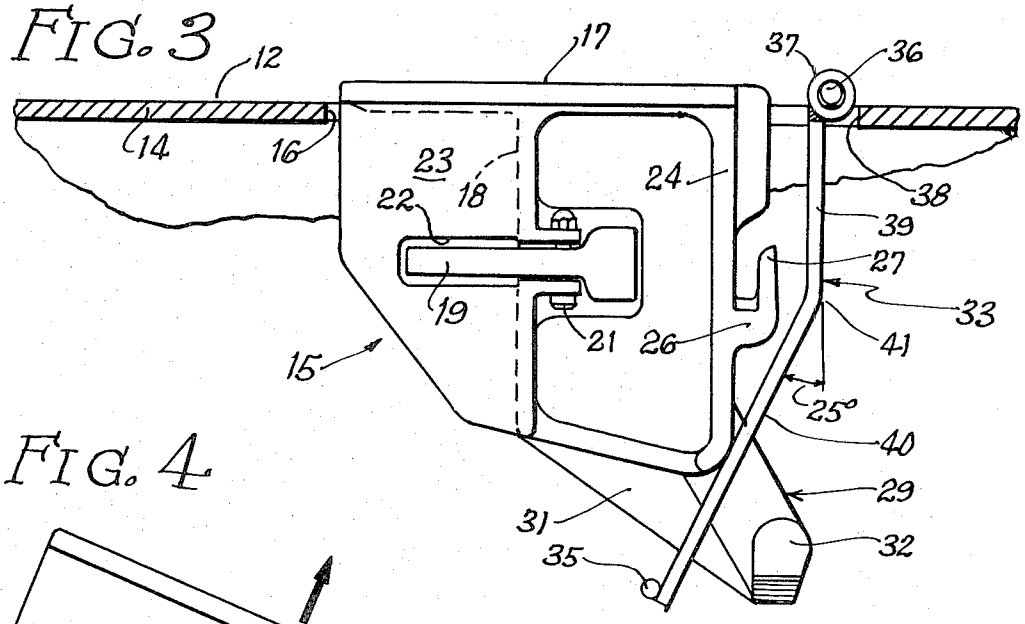


FIG. 4

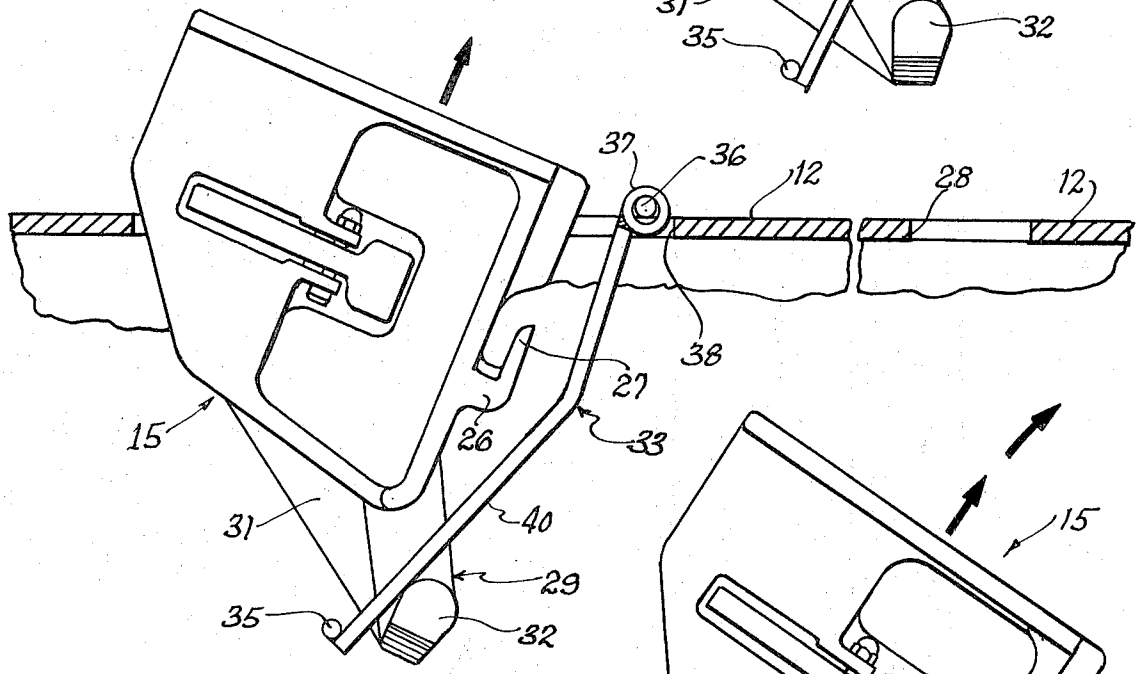
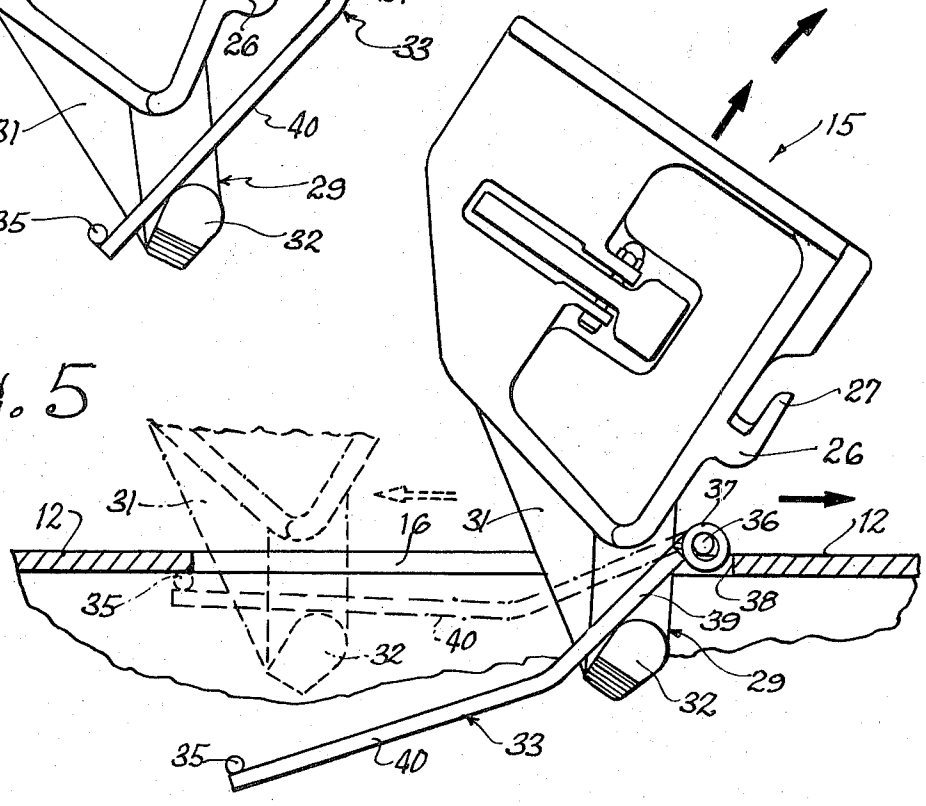


FIG. 5



CONTAINER PEDESTAL RETAINING DEVICE

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates in general to collapsible pedestal container support and securement systems for container transportation above decks of carrier vehicles including railway flatcars, and, more particularly, to a novel container pedestal retaining device for use therein.

2. Description of the Prior Art

Collapsible pedestal container support and securement systems have been provided for transportation of lading containers above the deck of a multi-purpose carrier vehicle such as a railway flatcar, the same vehicle being also usable for hauling other types of loads, such as truck trailers, without material change of the car structure or substantial interference from the container supporting and securement equipment. See, for example, the container support and securement structure disclosed in U.S. letters Patent No. 3,603,267.

A typical container support and securement system includes pedestal guide tracks, the upper surfaces of which are continuations of the carrier vehicle deck, and a plurality of corner support pedestals for supporting the lading containers above the deck, the pedestals being movable through a relatively narrow slot in the guide track to predetermined position of use spaced longitudinally of the guide track as determined by the sizes of the box-type containers to be supported. Each pedestal is mounted on, supported by, and slidable along the guide track for movement between an upright container-supporting position, and a collapsed non-interfering stored position through a stowage hole in the guide track wherein the pedestal is in generally flush relationship with the vehicle deck.

In such a system, it is desirable that the pedestals should not be readily removable from the guide tracks, which frequently results in their separation from the carrier vehicle and eventual loss. One prior art pedestal retaining system is disclosed in U.S. letters Patent No. 3,391,654 to Grob et al, and includes means for anchoring the container support pedestals to their associated guide way structures, each anchoring means comprising a projecting cross member attached to each pedestal, and a set of angle iron retaining tabs welded to its guide way section. However, such angle iron tabs are difficult and expensive to install, and a retaining projecting cross member must be provided for each pedestal.

SUMMARY OF THE INVENTION

The present invention is a simple, inexpensive and easily installed container pedestal retaining device adapted for use with a typical pedestal having a reaction member comprising a brace and a cross member connected to the brace, the brace being of a proper width for movement through a slot in a known pedestal guide track, the cross member being wider than the slot. The pedestal retaining device of the present invention comprises means defining a closed retaining channel for the brace of the pedestal, and connecting means for securing the channel defining means to the track, the channel being narrower than the cross member in order to retain the brace within said channel. The channel defining means preferably comprises two inexpensive parallel bars transversely interconnected by means of a rod at their lower ends. Furthermore, such bars are preferably hingedly or pivotally mounted by the connecting means to the guide track to enable rotation of the container pedestal essentially about the hinge or pivot point of the bars from its collapsed positionn to its upright container-supporting position, such rotation being readily accomplished by personnel standing on the ground alongside the vehicle, pedestal rotation being preferred to lifting the pedestal to its upright position, which must be done by personnel standing on the deck.

Accordingly, it is an important object of this invention to provide a simple, inexpensive and easily installed retaining device for lading container corner support pedestals.

Another important object of this invention is to provide a container pedestal retaining device which does not require the provision of separate retaining cross members on the pedestals or angle iron tabs on their associated guide way structure.

Still another important object of this invention is to provide a pedestal retaining device which enables rotation of a pedestal from its collapsed position to its upright container supporting position.

Numerous other objects and advantages of the invention will be apparent from the following description, which, when taken in conjunction with the accompanying drawings, discloses a preferred embodiment thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a simplified perspective view of a multi-purpose carrier vehicle comprising a railroad flatcar utilizing the preferred embodiment of the pedestal retaining device of the present invention;

FIG. 2 is a perspective view, with parts broken away, illustrating a portion of the deck of the vehicle shown in FIG. 1, the preferred embodiment of the pedestal retaining device of the present invention being shown with its associated pedestal removed;

FIG. 3 is a horizontal sectional view taken substantially along the line 3—3 in FIG. 2, showing the pedestal retaining device, and also its associated pedestal in its collapsed or stowed position; and

FIGS. 4 and 5 are similar to FIG. 3, and illustrate movement of the support pedestal from its collapsed position to its upright container-supporting position, and its retention to a guide track by the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As best shown in FIGS. 1 and 2, a multi-purpose carrier vehicle comprising a railway flatcar 10 utilizes a known support and securement structure for transportation of lading containers 11 above a deck 12. The container support and securement structure includes a plurality of guide tracks 13 having upper surfaces thereof in generally flush relationship with the deck 12 to comprise a continuation thereof, the guide tracks having slots 14 therein through which a plurality of corner support pedestals 15 can move longitudinally of the track to predetermined positions of use for supporting the containers 11. Each pedestal is collapsible to an out-of-the-way stowed position (illustrated in FIG. 3) through a stowage hole 16 in its associated guide track 13 into generally flush relationship with the vehicle

deck 12 when not in use, the stowage hole communicating with the slot 14.

With reference to FIG. 3, a typical pedestal, generally illustrated by reference numeral 15, includes a back plate 17 which substantially covers a stowage hole 16 in the guide track 13 when the pedestal 15 is collapsed relative to its guide track. The known pedestal 15 further includes a container seat 18, a spring urged latch mechanism 19 hingedly mounted on the pedestal by means of a pivot pin 21 for movement through an opening 22 in a side wall 23 to secure an associated container 11 in place against dislodgement. The pedestal 15 further comprises a bottom plate 24 having a pair of integral projecting tongues 26 and integral flanges 27 which extend downwardly through a pair of corresponding notches 28 (FIGS. 1, 2 and 4) in the guide track 13 when the pedestal 15 is in its upright container-supporting position for limiting rearward movement of the pedestal relative to the guide track 13, thereby serving to lock the pedestal into a selected position of use in known manner.

Each pedestal 15 comprises an integral reaction member, generally designated by numeral 29, opposite the back plate 18, the reaction member comprising a brace 31 and a cross member 32 integrally connected to the brace. The brace 31 is of a proper width narrower than the slot 14 to enable movement of the brace through the slot. The cross member 32 is wider than the slot 14, thereby preventing removal of the pedestal 15 from the guide track 13.

As best shown in FIG. 2, which illustrates a portion of the guide track 13 with its associated pedestal 15 removed, the pedestal retaining device of the present invention includes means preferably comprising two parallel bars, generally designated by numeral 33, defining a closed retaining channel 34 therebetween for the brace 31 of an associated pedestal, the bars being preferably transversely interconnected by means of a rod 35 welded or otherwise suitably secured to their lower ends.

The pedestral retaining device further comprises connecting means for securing the bars 33 to the upper surface of the track 13, the connecting means preferably comprising a pin 36 for each of the bars 33, each bar having a socket 37, preferably integrally formed therewith, pivotally mounted about its associated pin. The lengths of the sockets 37 are sufficient to prevent substantial lateral deflection of the bars 33 and subsequent removal of the pedestal 15 retained thereby. The guide track 13 comprises a recess 38 on each side of the slot 14 for accommodating an associated bar 33 and socket 37, each pin 36 being simply supported by, and welded to, the upper surface of the guide track on both sides of an associated recess.

As an alternate form of the preferred embodiment, the connecting means can comprise a well-known socket (not shown) for each of the bars 33, each socket being secured to the upper surface of the guide track 13, and each bar being pivotally mounted within its associated socket. Instead of the illustrated parallel interconnected bars 33, the channel defining means can comprise a single or multiple section U-shaped bar (not shown) having two outwardly extending ends each pivotally mounted within an associated socket, with each end being of sufficient length as to be incapable of being pryed therefrom.

As best shown in FIG, 3, each bar 33 comprises an upper portion 39, and a lower portion 40 being angularly disposed with respect to its upper portion, each lower portion being bent about a point 41 rearwardly at a sufficient angle with respect to its upper portion, such as 25 degrees, by way of example. As further shown in FIG. 3, the cross member 32 does not engage the rear or lower surface of the lower portion 40 of the bars 33, and limited upward movement of the pedestal 15 effects movement of its cross bar without engaging the lower portions of the bars, thereby minimizing friction resulting from contact between the cross member 32 and the bars 33.

As shown in FIGS. 4 and 5, the pedestal 15 can be lifted and rotated from its collapsed position to its upright container position, its position along two stages of its upward movement being illustrated in those figures. With reference to FIG. 4, after the pedestal 15 has been moved upwards a predetermined distance, its cross member 32 engages the rear surface of a lower portion of the bars 33, thereby causing the pedestal retaining device to rotate clockwise as viewed in that figure, to minimize friction resulting from the engagement of the cross member 32 with the bars 33.

With reference to FIG. 5, when the pedestal 15 is moved substantially out of its collapsed position, the cross member 32 engages the upper portions of the bars 33. It will be recognized (although not illustrated in the figures) that instead of lifting the pedestal 15 from its collapsed to its upright position, the pedestal can be rotated by resting the lower surface of its bottom plate 24 on the upper surface of the socket 37 or pivot point of the bars, the pivotal rotation of the bars enabling such pedestal rotation, which can be readily accomplished by personnel standing alongside the deck of the vehicle.

The length of the bars 33 preferably exceeds the length of the stowage hole, whereby pivotal movement of the bars is limited by engagement of the lower portions 40 or the interconnecting pin 35 thereof with the underside of the guide track, as shown in phantom in FIG. 5. With further reference to that figure, leftward movement of the pedestal 15 in the stowage hole 16 will be limited by engagement of the brace 31 with the connecting rod 35 closing the channel 34, and the engagement between the cross member 32 and the lower surface of the bars 33, thereby retaining the brace within the channel to prevent removal or separation of the pedestal from its associated guide track 13.

It is though that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

We claim:

1. For use in a collapsible pedestal container support and securement system for container transportation above a vehicle deck, the system including a pedestal guide track comprising a continuation of the deck and having a slot and a pedestal stowage hole therein, and a container support pedestal mounted on, supported by and slidable along the guide track for movement between an upright container supporting position, and a collapsed position through the stowage hole wherein

the pedestal is in generally flush relationship with the deck, the pedestal having a reaction member comprising a brace of width for movement through the slot, and a cross member connected to the brace and being wider than the slot; a pedestal retaining device comprising: means defining a closed retaining channel for the brace of the pedestal, and connecting means for securing said channel defining means to the track, said channel being narrower than the cross member in order to retain the brace within said channel.

2. The pedestal retaining device of claim 1, wherein said means defining a closed retaining channel comprises two parallel interconnected bars.

3. The pedestal retaining device of claim 2, wherein said bars are transversely interconnected by means of a rod.

4. The pedestal retaining device of claim 2, wherein said connecting means comprises a pivot pin for each of said bars, each said pin being secured to the guide track, and a socket for each bar for pivotally connecting said bar to its associated pin.

5. The pedestal retaining device of claim 4, wherein each said socket is of sufficient length to prevent substantial lateral deflection of said bars.

6. The pedestal retaining device of claim 4, wherein each said socket is formed integrally with its associated bar.

7. The pedestal retaining device of claim 4, wherein the guide track comprises a recess on each side of the slot, each said pin being simply supported by the upper surface of the guide track on both sides of an associated said recess.

8. The pedestal retaining device of claim 2, wherein said connecting means comprises a socket for each of said bars, each said socket being secured to the guide track, and each said bar having an end thereof pivotally mounted within its associated socket.

9. The pedestal retaining device of claim 2, wherein each of said bars comprises an upper and a lower portion, each said lower portion being angularly disposed with respect to its associated said upper portion, whereby limited movement of the pedestal effects movement of its cross bar out of engagement with each said lower portion.

10. The pedestal retaining device of claim 2, wherein the length of each of said bars exceeds the length of the stowage hole, whereby pivotal movement of said bars is limited by engagement thereof with the underside of the guide track.

11. The pedestal retaining device of claim 1, wherein the slot communicates with the stowage hole, and wherein said connecting means secures said means defining a closed retaining channel to the guide track at the junction of the slot and the stowage hole.

12. The pedestal retaining device of claim 1, wherein said means defining a closed retaining channel comprises a U-shaped bar having two outwardly extending ends, and wherein said connecting means comprises a socket for each end of said bar, each said socket being secured to the guide track, and each end of said bar being mounted within its associated socket.

13. The pedestal retaining device of claim 11, wherein each of said outwardly extending ends is of sufficient length to prohibit removal thereof from the said associated socket.

14. For use in a collapsible pedestal container support and securement system for container transportation above a vehicle deck, the system including a pedestal guide track comprising a continuation of the deck and having a slot and a pedestal stowage hole therein, and a container support pedestal mounted on, supported by and slidable along the guide track for movement between an upright container supporting position, and a collapsed position through the stowage hole wherein the pedestal is in generally flush relationship with the deck, the pedestal having a reaction member comprising a brace of width for movement through the slot, and a cross member connected to the brace and being wider than the slot; a pedestal retaining device comprising: two parallel transversely interconnected bars defining a closed retaining channel for the brace of the pedestal, a pivot pin associated with each of said bars and being secured to the guide track, and a socket integrally formed with each said bar for pivotally connecting the latter to its associated pin, said channel being narrower than the cross member in order to retain the brace within said channel.

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