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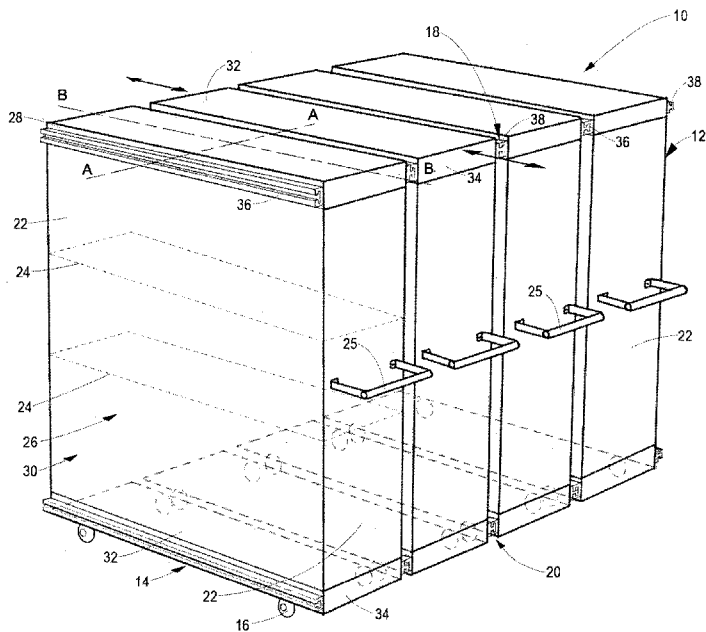


Figure 1

(57) Abstract: A cabinet storage system includes a first cabinet, a second cabinet and at least two wheels on the operative base of each of the first and second cabinets. The cabinets are secured to each other by: an upper connector comprising a first connector member that defines a track, which first connector member is connected to the operative upper half of the first cabinet; and a second connector member that is at least partially locatable within and slideable along the track, which second connector member is secured to the operative upper half of the second cabinet, such that, when connected to each other, relative slidability of the cabinets is guided and limited by the upper connector.

Cabinet Storage System

BACKGROUND

The present invention relates to a cabinet storage system. More specifically, the present invention relates to a filing cabinet storage system including cabinets that are slidably connected to each other.

Filing or storage systems including cabinets that are movable relative to each other are known. For instance, US4,467,924 "Movable aisle storage system" describes rectangular cabinets with wheels captured in rails that guide the cabinets in a direction substantially parallel to the minor axis of the cabinets. Other known systems also provide for relative movement of the cabinets in a direction substantially parallel to their major axis. For example, US2,848,293 "Mechanical interlock for cabinet-housed apparatus-mounting framework" describes cabinets housed within a frame; US5,205,627 "Modular anti-slip lateral mobile storage system" describes wheeled cabinets guided by floor rails; and US6,688,708 "Stabilizing and enclosure system for mobile storage units" describes cabinets movable on an extensible support.

A drawback of known systems is that they either require: (i) a frame, which does not lend itself to a modular system; or (ii) guides that are either secured to the ceiling or floor, which limits system adaptability and complicates system installation.

The cabinet storage system according to the present invention aims to address these drawbacks.

SUMMARY OF THE INVENTION

According to a first embodiment of the present invention, a cabinet storage system includes:

a first cabinet;

a second cabinet;

at least two wheels on the operative base of each of the first and second cabinets;

an upper connector comprising:

a first connector member that defines a track; and

a second connector member at least partially locatable within and slideable along the track;

the first connector member being secured to the operative upper half of the first cabinet; and

the second connector member being secured to the operative upper half of the second cabinet,

such that when connected to each other, relative slidable movement of the cabinets is guided and limited by the upper connector.

Typically, the cabinets are rectangular with a minor axis extending between the midpoints of the major side walls and a major axis extending between the midpoints of the minor side walls.

Generally, the first connector member is secured to a major side of the first cabinet, and the second connector member is secured to a major side of the second cabinet.

Preferably, the first and second connector members are elongate in shape and slidable relative to each other in a direction substantially parallel to the major axis.

Typically, the track defined by the first connector member extends between the axial ends of the first connector member and has a constricted opening along the radial wall of the first connector member.

Generally, the axial ends of the first connector member are open to permit access to the track.

In one arrangement, in axial cross section, the first connector member is substantially C-shaped with its free ends extending towards each other. Preferably, the second connector member is sized and shaped to be at least partially captured by the first connector member within the track. More preferably, the second connector member includes a neck sized to extend through the constricted opening of the track and an enlarged head that is captured within the track. Even more preferably, in axial cross section, the portion of the second connector member that extends through the constricted opening and into the track is substantially T-shaped.

In an alternative arrangement, in axial cross section, the track and constricted opening defined by the first connector member are generally L-shaped. Preferably, the second connector member includes a first portion that extends through the constricted opening of the track and a second portion that extends angularly from the end of the first portion further into the track. More preferably, in axial cross section, the portion of the second connector member that extends through the constricted opening and into the track is substantially L-shaped.

Typically, the second connector member is slidable within the track and can protrude from both axial ends of the first connector member.

Generally, the first and second connector members include formations that prevent at least a portion of the second connector member from passing through the axial ends of the first connector member and escaping the track.

Preferably, each cabinet includes a set of four wheels.

Typically, the minor sides of each cabinet are closed off by a wall panel and the major sides are open to permit access to the inside of the cabinet.

Generally, the cabinets includes shelves supported at each end on the minor side walls.

Preferably, each cabinet comprises: (i) a base cabinet portion including the wheels; (ii) a cabinet body portion including the shelving; and (iii) a top cabinet portion including the first and/or second connector member.

Typically, the base and top cabinet portions comprise a rectangular planar panel with a continuous perimeter wall extending orthogonally therefrom, the perimeter wall being sized and shaped to receive an end of a cabinet body portion therein.

Generally, at least one of the cabinets includes a first connector member or a second connector member on each of its major sides.

Preferably, the cabinet storage system further includes a lower connector similar to the upper connector.

Typically, connector members of the lower connector are secured to the operative lower half of the cabinets.

Generally, one or both of the minor side walls of each cabinet includes a handle for pulling or pushing the cabinet relative to adjacent cabinet(s) in a direction substantially parallel to the major axis.

Preferably, the wheels are in use not located within or captured by tracks or rails.

Typically, the first and second cabinets are directly connected to each other via the upper connector and/or the lower connector.

Generally, each cabinet is slidable relative to an adjacent cabinet in either direction from a stored position in which their minor axes are substantially aligned.

Preferably, the operative base of each cabinet includes a skirt that extends towards the floor to at least partially shield the wheels.

Typically, the wheels are rotatably secured in pairs to rockers that are pivotally connected to the cabinets, to facilitate rolling over uneven floors.

Optionally, the cabinet storage system includes drive means for slidably moving adjacent cabinets relative to each other.

The cabinet storage system may include a door slidably secured to a cabinet to cover the major side of the cabinet.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will now be described in more detail, by way of example only, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of a cabinet storage system according to the present invention;

Figure 2 is a perspective view of a first embodiment of a connector for a cabinet storage system according to Figure 1;

Figure 3 is a side view of the wheel and rocker for a cabinet storage system according to Figure 1; and

Figure 4 is a perspective view of a second embodiment of a connector for a cabinet storage system according to Figure 1.

DESCRIPTION OF PREFERRED EMBODIMENTS

With reference to Figures 1 to 3 of the drawings, a cabinet storage system 10 according to a preferred embodiment of the present invention includes a first cabinet 12, a second cabinet 14, wheels 16, an upper connector 18 secured to the operative upper half of the cabinets 12 and 14 and a lower connector 20 secured to the operative lower half of the cabinets 12 and 14.

The first and second cabinets 12 and 14 are rectangular in shape and define a minor axis A-A (shown in Figure 1) that extends between the midpoints of the major sides and a major axis B-B (also shown in Figure 1) that extends between the midpoints of the minor sides. Only the minor sides of the cabinets 12 and 14 are closed by a planar wall panel

22, permitting access into the cabinets 12 and 14 from the major sides. Shelves 24 are provided within the cabinet, supported at either end by the wall panels 22. It will be appreciated that other compartments or other arrangements for the storage of files / other articles can be provided within the cabinet.

A door (not shown) may be slidably secured to a cabinet 12 or 14 to cover its major side and prevent access to the cabinet 12 or 14.

Handles 25 are also secured to the wall panels 22 for users (not shown) to pull and push the cabinets 12 and 14 in a direction substantially parallel to their major axis (illustrated in Figure 1 by lines with arrow heads at both ends).

Each cabinet 12 and 14 is a modular structure comprising a cabinet body portion 26, a top cabinet portion 28 and a base cabinet portion 30. The cabinet body portion 26 includes the side walls 22 and shelves 24 and is generally available in a variety of standard heights. Both the top and base cabinet portions 28 and 30 comprise a rectangular planar panel 32 and a continuous perimeter wall 34 extending orthogonally from the rectangular planar panel 32. The continuous perimeter wall 34 being sized and shaped to receive the ends of the cabinet body portion 26 therein.

A first embodiment of a connector 18 and 20 is shown in Figure 2. The connector 18 and 20 comprises elongate first connector member 36 and a second connector member 38.

In axial cross section, the first connector member 36 is substantially C-shaped with its free ends extending towards each other to define a track 40 therein and a constricted opening 42 to the track 40. The track 40 and constricted opening 42 travel axially along the entire length of the first connector member 36 and the axial end walls of the first connector member 36 are open to permit access to the track 40 and constricted opening 42.

The second connector member 38 is substantially the same length as the first connector member 36 and includes a neck 44 and enlarged head 46, both of which extend along the entire length of the second connector member 38. The neck 44 is shaped and sized to extend through the constricted opening 42 and the head 46 is shaped and sized to be received within and be captured by the track 40. In axial cross-section, the neck 44 and head 46 are substantially T-shaped. In this condition, the head 46 is able to run along the track 40 causing axial end portions of the head 46 to protrude from the axial ends of the

first connector member 36. It will be appreciated that the first and second connector members 36 and 38 are thereby slidable relative to each other in a direction substantially parallel to the longitudinal axis of the first and second connector members 36 and 38, while being secured to each other so as to limit relative movement of the first and second connector members 36 and 38 in any other direction.

First formations 48 on the first connector member 36 and second formations 50 on the second connector member 38 limit relative sliding of the first and second connector members 36 and 38 so as to prevent the head 46 from escaping the track 40.

Turning to Figure 3, the wheels 16 are rotatably connected in pairs to a rocker 52 that is pivotally connected at a midpoint between the wheels 16 to the operative base of the cabinet 12 or 14. This arrangement facilitates rolling of the wheels 16 over uneven floors.

A skirt 54 is optionally connected to the base cabinet portion 30. The skirt extends orthogonally from the rectangular planar panel 32 of the base cabinet portion 30 in the opposite direction of the perimeter wall 34 of the base cabinet portion 30 to shield at least a portion of the wheels 16 from view.

In an assembled state, the rocker 52 (with wheels 16) is pivotally connected to the operative bottom of the base cabinet portion 30, and one of the first or second connector members 36 or 38 are then secured to a major side of the perimeter wall 34 of the base cabinet portion 30. The cabinet body portion 26 is then inserted within the perimeter wall 34 of the base cabinet portion 30. At least one of the first or second connector members 36 or 38 are then also secured to a major side of the perimeter wall 34 of the top cabinet portion 28, and the top cabinet portion 28 is located over the cabinet body portion 26, receiving the top of the cabinet body portion 26 within its perimeter wall 34. The first and/or second connector member 36 or 38 on the base and top cabinet portions 30 and 28 are then slidably secured to the corresponding other first and/or second connector member 36 or 38 secured to an adjacent cabinet 12 or 14 to slidably connect the adjacent cabinets 12 and 14 to each other. It should be appreciated that each cabinet 12 or 14 is connected directly to the adjacent cabinet via the upper and lower connectors 18 and 20. In such arrangement, the cabinets are movable relative to each other: (i) from a stored position in which their minor axes are substantially aligned; (ii) to a first extended position wherein one cabinet is rolled towards one side of the minor axis of the adjacent cabinet in a direction substantially parallel to the major axis of the cabinet, but with such movement guided and limited by the upper and lower connectors 18 and 20; and (iii) to a second

extended position wherein one cabinet is rolled towards the other side of the minor axis of the adjacent cabinet in a direction substantially parallel to the major axis of the cabinet, but with such movement guided and limited by the upper and lower connectors 18 and 20.

An alternative embodiment of connectors 18 and 20 is shown in Figure 4. The connector 118 / 112 similarly comprises elongate first connector member 136 and a second connector member 138.

In axial cross section, a track 140 and constricted opening 142 defined by the first connector member 136 are generally L-shaped. The track 140 and constricted opening 142 travel axially along the entire length of the first connector member 136 and the axial end walls of the first connector member 136 are open to permit access to the track 140 and constricted opening 142.

The second connector member 138 is substantially the same length as the first connector member 136 and includes: (i) a first portion 144; and (ii) a second portion 146 that extends angularly from the end of the first portion, both of the first and second portions 144 and 146 extending along the entire length of the second connector member 138. The first portion 144 is shaped and sized to extend through the constricted opening 142 and the second portion 146 is shaped and sized to be received within and be captured by the track 140. In axial cross-section, the first and second portions 144 and 146 are substantially L-shaped. In this condition, the second portion 146 is able to run along the track 140 causing axial end portions of the second portion 146 to protrude from the axial ends of the first connector member 136. It will be appreciated that the first and second connector members 136 and 138 are thereby slidable relative to each other in a direction substantially parallel to the longitudinal axis of the first and second connector members 136 and 138, while being secured to each other so as to limit relative movement of the first and second connector members 136 and 138 in any other direction.

The first and second connector members 136 and 138 in Figure 4 includes: (i) a pair of tracks 140 and constricted openings 142 on the first connector member 136; and (ii) a pair of first and second portions 144 and 146 on the second connector member 138.

Optionally, the cabinet storage system 10 includes drive means (not shown) for slidably moving adjacent cabinets relative to each other.

It will be appreciated that the cabinet storage system 10 described above does not require: (i) tracks or rails located on the floor or the ceiling; or (ii) a frame housing the cabinets 12 and 14 to guide movement of the cabinets 12 and 14. As such, the cabinet storage system 10 according to the present invention can easily be relocated merely by rolling the cabinets to a new position. Furthermore, the cabinet storage system 10 is modular, permitting simple addition / removal of cabinets, as required.

CLAIMS

1. A cabinet storage system including:
 - a first cabinet;
 - a second cabinet;
 - at least two wheels on the operative base of each of the first and second cabinets;
 - an upper connector comprising:
 - a first connector member that defines a track; and
 - a second connector member at least partially locatable within and slideable along the track;
 - the first connector member being secured to the operative upper half of the first cabinet; and
 - the second connector member being secured to the operative upper half of the second cabinet,

such that when connected to each other, relative slidable movement of the cabinets is guided and limited by the upper connector.
2. A cabinet storage system according to claim 1, wherein the cabinets are rectangular with a minor axis extending between the midpoints of the major side walls and a major axis extending between the midpoints of the minor side walls.
3. A cabinet storage system according to claim 2, wherein the first connector member is secured to a major side of the first cabinet, and the second connector member is secured to a major side of the second cabinet.

4. A cabinet storage system according to claim 3, wherein the first and second connector members are elongate in shape and slidable relative to each other in a direction substantially parallel to the major axis.
5. A cabinet storage system according to claim 4, wherein the track defined by the first connector member extends between the axial ends of the first connector member and has a constricted opening along the radial wall of the first connector member.
6. A cabinet storage system according to claim 5, wherein the axial ends of the first connector member are open to permit access to the track.
7. A cabinet storage system according to claim 6, wherein, in axial cross section, the first connector member is substantially C-shaped with its free ends extending towards each other.
8. A cabinet storage system according to claim 7, wherein the second connector member is sized and shaped to be at least partially captured by the first connector member within the track.
9. A cabinet storage system according to claim 8, wherein the second connector member includes a neck sized to extend through the constricted opening of the track and an enlarged head that is captured within the track.
10. A cabinet storage system according to claim 9, wherein, in axial cross section, the portion of the second connector member that extends through the constricted opening and into the track is substantially T-shaped.
11. A cabinet storage system according to claim 6, wherein, in axial cross section, the track and constricted opening defined by the first connector member are generally L-shaped.
12. A cabinet storage system according to claim 11, wherein the second connector member includes a first portion that extends through the constricted opening of the track and a second portion that extends angularly from the end of the first portion further into the track.
13. A cabinet storage system according to claim 12, wherein in axial cross section, the portion of the second connector member that extends through the constricted opening and into the track is substantially L-shaped.

14. A cabinet storage system according to either claim 10 or claim 13, wherein the second connector member is slidable within the track and can protrude from both axial ends of the first connector member.
15. A cabinet storage system according to claim 14, wherein the first and second connector members include formations that prevent at least a portion of the second connector member from passing through the axial ends of the first connector member and escaping the track.
16. A cabinet storage system according to claim 15, wherein each cabinet includes a set of four wheels.
17. A cabinet storage system according to claim 16, wherein the minor sides of each cabinet are closed off by a wall panel and the major sides are open to permit access to the inside of the cabinet.
18. A cabinet storage system according to claim 17, wherein the cabinets includes shelves supported at each end on the minor side walls.
19. A cabinet storage system according to claim 18, wherein each cabinet comprises:
(i) a base cabinet portion including the wheels; (ii) a cabinet body portion including the shelving; and (iii) a top cabinet portion including the first and/or second connector member.
20. A cabinet storage system according to claim 19, wherein the base and top cabinet portions comprise a rectangular planar panel with a continuous perimeter wall extending orthogonally therefrom, the perimeter wall being sized and shaped to receive an end of a cabinet body portion therein.
21. A cabinet storage system according to claim 20, wherein at least one of the cabinets includes a first connector member or a second connector member on each of its major sides.
22. A cabinet storage system according to claim 21 further including a lower connector similar to the upper connector.
23. A cabinet storage system according to claim 22, wherein connector members of the lower connector are secured to the operative lower half of the cabinets.

24. A cabinet storage system according to claim 23 wherein one or both of the minor side walls of each cabinet includes a handle for pulling or pushing the cabinet relative to adjacent cabinet(s) in a direction substantially parallel to the major axis.
25. A cabinet storage system according to claim 24 wherein the wheels are in use not located within or captured by tracks or rails.
26. A cabinet storage system according to claim 25, wherein the first and second cabinets are directly connected to each other via the upper connector and/or the lower connector.
27. A cabinet storage system according to claim 26, wherein each cabinet is slidable relative to an adjacent cabinet in either direction from a stored position in which their minor axes are substantially aligned.
28. A cabinet storage system according to claim 27, wherein the operative base of each cabinet includes a skirt that extends towards the floor to at least partially shield the wheels.
29. A cabinet storage system according to claim 28, wherein the wheels are rotatably secured in pairs to rockers that are pivotally connected to the cabinets, to facilitate rolling over uneven floors.
30. A cabinet storage system according to claim 29 including drive means for slidably moving adjacent cabinets relative to each other.
31. A cabinet storage system according to claim 30, including a door slidably secured to a cabinet to cover the major side of the cabinet.

1/4

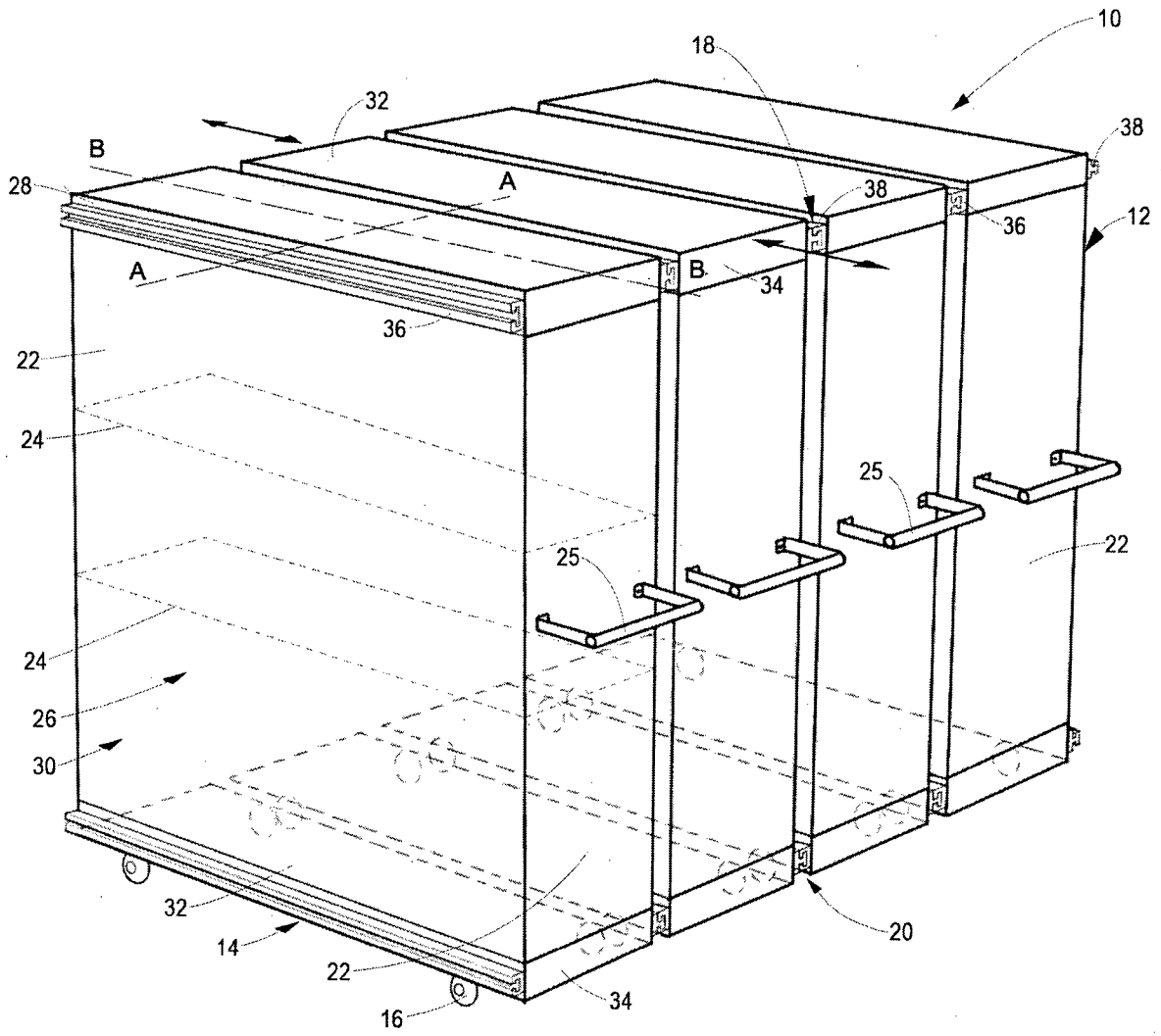


Figure 1

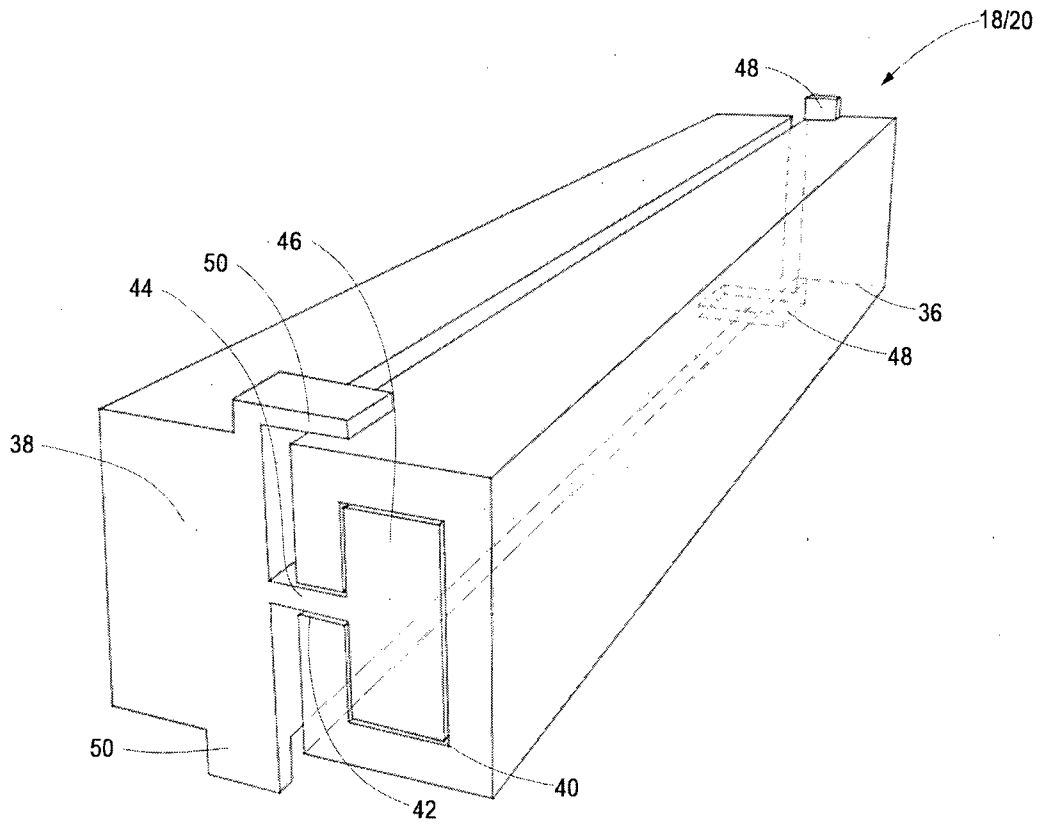


Figure 2

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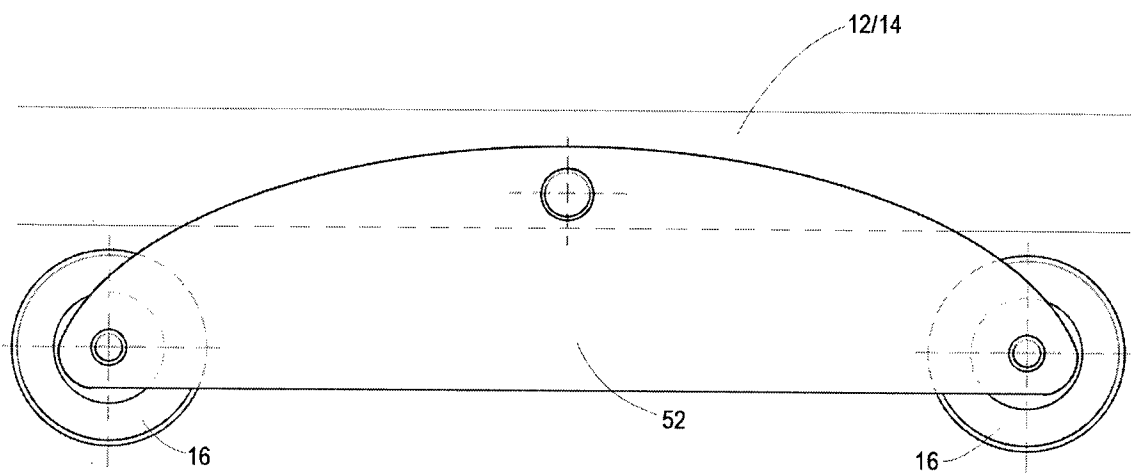


Figure 3

4/4

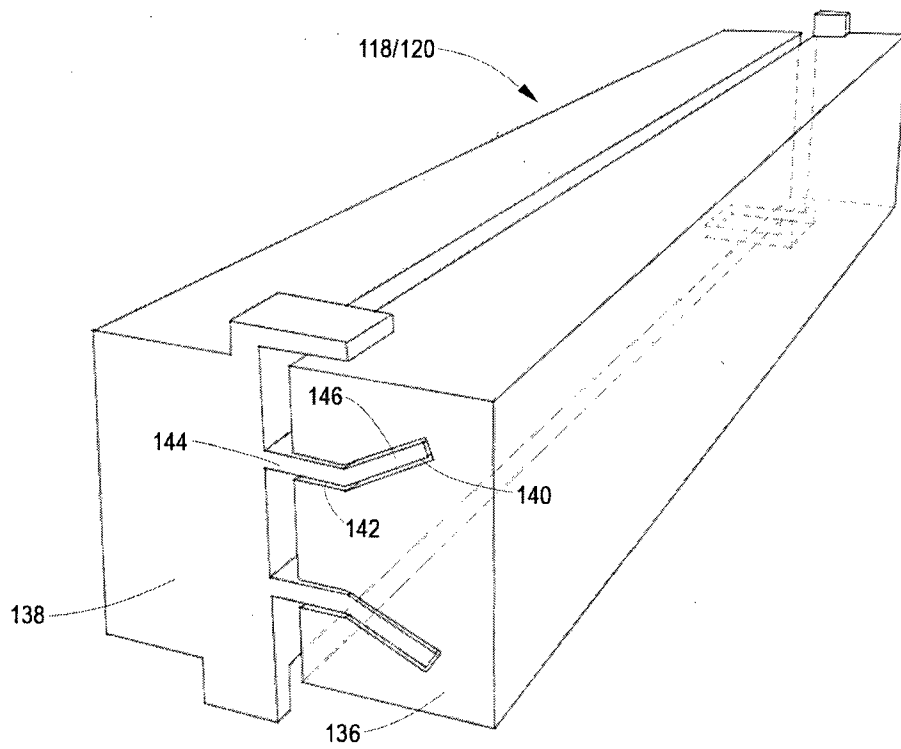


Figure 4

INTERNATIONAL SEARCH REPORT

International application No
PCT/ZA2013/000077

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A47B53/02 B65G1/10
 ADD.
 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)
 A47B B65G B62B

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)
 EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 2004 010274 A (KOKUYO KK) 15 January 2004 (2004-01-15) abstract; figures 1-4 -----	1-7
X	US 4 008 931 A (KENNEDY ET AL) 22 February 1977 (1977-02-22) column 3, line 1 - column 4, line 57; figures 2-4 -----	1-6
X	GB 2 085 284 A (MORESECURE LTD) 28 April 1982 (1982-04-28) the whole document -----	1,2
A	US 5 624 166 A (THEKEN ET AL) 29 April 1997 (1997-04-29) the whole document -----	1-10,14

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

* Special categories of cited documents :

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Date of the actual completion of the international search 3 January 2014	Date of mailing of the international search report 10/01/2014
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Jacquemin, Martin
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/ZA2013/000077

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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