

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.:	8,024,901)
)
Issued:	September 27, 2011)
)
Inventors:	Geoff Gosling et al.)
)
Title:	Integrated Reconfigurable Wall System)

PRELIMINARY AMENDMENT

Mail Stop REISSUE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Please amend the above-identified patent as follows:

Amendments to the Claims begin on page 2 of this paper;

Amendments to the Figures begin on page 14 of this paper; and

Remarks/Arguments begin on page 15 of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Amended) A movable reconfigurable wall system comprising:
 - a) at least one wall module having a front and rear surface and top, bottom, right side and left side edges, said at least one wall module having:
 - i) a vertical end frame disposed adjacent to each of said right and left side edges, each vertical end frame having a first vertically extending flange and a spaced apart second vertically extending flange thereon, each of said first vertically extending flange and said second vertically extending flange having a beaded portion, the beaded portion on one of said first vertically extending flange or said second vertically extending flange extending toward the front surface of the wall module and the beaded portion on the other of said first vertically extending flange or said second vertically extending flange extending toward the rear surface of the wall module;
 - ii) a plurality of horizontal stringers [affixed between said vertical end frames at said right and left side edges] that interconnect said vertical end frame with a separate vertical end frame of a second wall module, wall bracket, finishing trim or connection post; and
 - iii) an aesthetic surface affixed to said stringers; and
 - b) a removable connecting strip having a pair of spaced apart flexible arms, each arm having a beaded portion thereon, the beaded portion of one of said arms being adapted to connect releasably to the beaded portion of one of said first vertically extending flange or said second vertically extending flange on said vertical end frame and the beaded portion of the other of said arms being adapted to connect releasably to the beaded portion of a corresponding opposed vertically extending flange on [a]said separate vertical end frame of [a]said second wall module, [a]wall bracket, [a]finishing trim or [a]connection post to hold one of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together,

the beaded portions of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange fitting inside the arms of said connecting strip to hold said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together thereby releasably connecting said at least one wall module to the other of said second wall module, wall bracket, finishing trim or connection post.

2. The movable reconfigurable wall system of claim 1, wherein said connecting strip includes a spine adapted to fit between said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange.

3. The movable reconfigurable wall system of claim 1, wherein said connecting strip further includes a pair of flexible fin extensions extending opposite to said flexible arms for providing a seal.

4. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface includes a tile panel on said front surface, said rear surface, or both said front surface and said rear surface.

5. The movable reconfigurable wall system of claim 4, wherein each said stringer includes one or more protrusions, said reconfigurable wall system further including tile clips for affixing tiles to said one or more protrusions.

6. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface is a single divider selected from a group consisting of substrates consisting of glass, plastic, or wood and metal.

7. The movable reconfigurable wall system of claim 6, wherein said stringers and end frames include a channel for receiving said divider.

8. The movable reconfigurable wall system of claim 1, wherein said stringers include a cantilever channel stringer, said cantilever channel stringer having:

a central horizontally extending channel portion with a generally L-shaped slot, said L-shaped slot adapted to receive and engage a substantially L-shaped hook formed on a wall accessory;

an upper portion having a tile support; a lower portion having a tile support; and

a pair of extending webs connecting said channel portion to said upper and a lower portion.

9. The movable reconfigurable wall system of claim 1, wherein said system further comprises an extension frame, said extension frame including a pair of vertical extension end frames and at least one stringer, said extension frame being affixed atop of said at least one module with a spline on each end of said end frame.

10. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface includes a slat wall, said slat wall having slats and slat wall channels for connection to slat wall accessories.

11. The movable reconfigurable wall system of claim 1, said system further comprising a levelling system having:

a universal foot;

a leveller capable of engaging said universal foot; and

a structural extrusion to engage surface of said at least one module, said structural extrusion connecting to said leveller, wherein said leveller provides the sole connection between said universal foot and said module.

12. The movable reconfigurable wall system of claim 11, wherein said leveller comprises:

a cylindrical internally threaded upper section;

an internally and externally threaded middle section, said external threads matching said internally threaded upper section; and

an externally threaded lower section, said externally threaded lower section matching internal threads of said middle section, wherein said middle section can be twisted to extend or contract said leveller.

13. The movable reconfigurable wall unit of claim 11, further comprising a base trim, said base trim attaching to said universal foot.

14. (Amended) The movable reconfigurable wall unit of claim 1 further comprising a ceiling connection, said ceiling connection including:

a ceiling track affixed to a ceiling; a horizontal upper section affixed to said module, said horizontal upper section adapted to fit about said ceiling track; and

a flexible gasket affixed to said horizontal upper section and extending above said horizontal upper section to contact the ceiling.

15. The movable reconfigurable wall unit of claim 1, wherein said wall bracket comprises:
 - an extrusion for connection to an existing wall in alignment with said end frame;
 - and
 - first and second flanges on said extrusion corresponding to said first vertically extending flange and said second vertically extending flange on said end frame and arranged in opposition thereto.

16. The movable reconfigurable wall unit of claim 1, further comprising a wall joint, said wall joint comprising a flexible gasket and a channel, said channel adapted to connect to a flange of said at least one module.

17. The movable reconfigurable wall unit of claim 1, wherein said at least one module includes curved stringers and curved aesthetic surfaces.

18. The movable reconfigurable wall unit of claim 1, wherein said connection post includes at least two sides having vertically extending flanges thereon corresponding to and arranged in opposition to said first and second flanges on said end frame.

19. The movable reconfigurable wall unit of claim 1, wherein said aesthetic surface includes a multimedia component.

20. The movable reconfigurable wall unit of claim 19, wherein said multimedia component is a video monitor.

21. The movable reconfigurable wall unit of claim 1, wherein said vertical end frame depth is extended to provide a deeper wall.

22. The movable reconfigurable wall unit of claim 21, wherein said deeper wall is adapted to accommodate a rear-projection video system.

23. The movable reconfigurable wall unit of claim 21, wherein said deeper wall is adapted to accommodate an integrated storage system.

24. The movable reconfigurable wall unit of claim 1, further comprising a wall mounted module for mounting to an existing wall face, said wall mounted module having: a) vertical end brackets disposed at least at its side edges, each said vertical end frame having a vertically extending flange directed away from said existing wall face; b) a plurality of horizontal stringers affixed between said pair of vertical end brackets; and c) an aesthetic surface affixed to said stringers.

25. (Amended) The movable reconfigurable wall unit of claim 1, further comprising a furniture system connectable to said at least one module, the furniture system having: a work surface, said work surface connectable to said stringers; and furniture legs, said furniture legs connecting to said work surface at a first end and connecting to a threaded bolt at a second end opposite said first end, said threaded bolt allowing [levelling] leveling of said work surface.

26. (New) A movable reconfigurable wall module having one or more tiles mounted thereto, and sufficient depth so that a multimedia component is mounted flush with the one or more tiles and enclosed within the wall module, comprising:

a first vertical end frame set of one or more vertical end frames, the first vertical end frame set having a height, and further having a depth defined by a distance between first and second opposing sides of the one or more vertical end frames;

a second vertical end frame set of one or more vertical end frames, the second vertical end frame set having a depth that is at least as large as the depth of the first vertical end frame set;

a plurality of horizontal frame stringers that interconnect the first and second vertical end frame sets;

one or more tiles mounted to the horizontal frame stringers so as to provide at least a portion of an aesthetic surface to the wall module; and

a multimedia center suspended between the first and second vertical frame sets, wherein the multimedia center is flush with the one or more tiles on one side, and extends past one, but not both, of the first or second opposing sides, such that the multimedia center extends into but not beyond the depth of the first vertical end frame set and is enclosed within the wall module.

27. (New) The movable reconfigurable wall system as recited in claim 26, wherein:

at least one of the one or more tiles is mounted between the first and second vertical frame sets; and

at least one of the one or more tiles is mounted so as to span horizontally across one or both of the first or second vertical frame sets.

28. (New) The movable reconfigurable wall system as recited in claim 26, wherein the multimedia center comprises a television.

29. (New) The movable reconfigurable wall system as recited in claim 28, wherein a screen of the television is within the same plane as the one or more tiles on the one side.

30. (New) The movable reconfigurable wall system as recited in claim 28, wherein at least one of the one or more tiles on the one side comprises one or more integrated speakers.

31. (New) The movable reconfigurable wall system as recited in claim 28, wherein at least one of the one or more tiles on the one side comprises one or more integrated storage spaces.

32. (New) The movable reconfigurable wall system as recited in claim 26, wherein the multimedia center comprises a digital whiteboard.

33. (New) A movable reconfigurable wall system comprising:

at least one wall module having a vertical end frame disposed at a left edge and a right edge thereof, each vertical end frame comprising opposing flanges having a connection detail extending from the flange;

a plurality of horizontal stringers interconnecting the left vertical end frame and the right vertical end frame, the plurality of horizontal stringers being positioned along the height of the left and right vertical end frames;

a removable connecting strip releasably connected to the connection detail extending from the flange of the left or right vertical end frames, and a connection detail of a flange extending from another vertical end frame, such that the removable connecting strip connects the at least one wall module to a second wall module; and

an aesthetic surface affixed to one or more of the horizontal stringers that interconnect the left and right vertical end frames, and one or more additional horizontal stringers of the second wall module, such that the aesthetic surface spans two wall modules.

34. (New) The movable reconfigurable wall system as recited in claim 33, wherein the horizontal stringers further comprise:

one or more connection details that are configured to mount the aesthetic surface;
and

wherein the one or more connection details are positioned in front of the left vertical end frame and the right vertical end frame, such that the left vertical end frame and the right vertical end frame are both positioned behind one or more aesthetic surfaces.

35. (New) The movable reconfigurable wall system as recited in claim 34, wherein:

at least one of the one or more connection details is continuous with at least one of another one or more connection details in another horizontal frame stringer mounted to another side of the left vertical end frame or the right vertical end frame; and

the at least one of the one or more connection details and the at least one of the another one or more connection details provide a continuous connection point across the left vertical end frame or right vertical end frame to which each is mounted.

36. (New) The movable reconfigurable wall system as recited in claim 34, wherein at least one of the one or more connection details comprises a portion of a bead and snap connection.

37. (New) The movable reconfigurable wall system as recited in claim 36, wherein at least one aesthetic surface comprises a complementary portion of a bead and snap connection.

38. (New) The movable reconfigurable wall system as recited in claim 33, comprising:

one or more aesthetic surfaces mounted to the horizontal stringers; and

a multimedia center suspended between the left vertical end frame and the right vertical end frame, wherein a front face of the multimedia center is within the same plane as the one or more aesthetic surfaces.

39. (New) A modular reconfigurable wall system comprising:

a plurality of horizontal frame stringers extending from a mounting on a first vertical end frame set to a mounting on a second vertical end frame set;

the plurality of horizontal stringers comprising one or more connection details that are configured to mount one or more aesthetic elements;

the one or more connection details positioned in front of both the first vertical end frame set and the second vertical end frame set, such that the first vertical end frame set and the second vertical end frame set are both positioned behind the one or more aesthetic elements; and

wherein at least one of the one or more connection details is continuous with at least one of another one or more connection details in another horizontal frame stringer mounted to another side of the first or second vertical end frame sets, such that the at least one of the one or more connection details and the at least one of the another one or more connection details provide a continuous connection point across the first or second vertical frame sets to which each is mounted.

40. (New) The modular wall system as recited in claim 39, wherein at least one of the one or more connection details comprises a portion of a bead and snap connection.

41. (New) The modular wall system as recited in claim 40, wherein:

at least one of the one or more aesthetic elements comprises a wall tile; and

the wall tile further comprises a complementary portion of the bead and snap connection, such that a connection detail on a horizontal stringer engages with the complementary portion of the bead and snap connection on the wall tile.

42. (New) The modular wall system as recited in claim 41, wherein:

the portion of the bead and snap connection is continuous with another portion of a bead and snap connection in another horizontal frame stringer mounted to another side of the first or second vertical end frame sets; and

the portion of the bead and snap connection and the other portion of the bead and snap connection provide a continuous connection point across the first or second vertical frame sets to which each is mounted.

43. (New) The modular wall system as recited in claim 42, wherein the portion of the bead and snap connection is configured to allow a wall tile to be slid along the length of the portion of the bead and snap connection and onto the other portion of the bead and snap connection in the other horizontal frame stringer.

44. (New) The modular wall system as recited in claim 39, wherein at least one of the one or more connection details comprises a cantilever channel that is configured to receive and hold one or more aesthetic elements mounted on a front of one or more wall tiles that are connected to the modular wall system.

45. (New) The modular wall system as recited in claim 44, wherein:

the cantilever channel is continuous with another cantilever channel in another horizontal frame stringer mounted to another side of the first or second vertical end frame sets; and

the cantilever channel and the other cantilever channel provide a continuous connection point across the first or second vertical frame sets to which each is mounted.

AMENDMENTS TO THE FIGURES

Please replace Figures 1 through 31 with Figures 1 through 31 in the enclosed Replacement Sheets 1-21. The enclosed Replacement Sheets merely correct issues of formality and add no new matter.

REMARKS

Applicants respectfully submit this amendment in conjunction with its application for a broadening reissue of U.S. Patent No. 8,024,901 (the “’901 Patent”). Claims 1-25 were previously issued in the ’901 Patent. As set forth herein, Applicants add new claims 26-45. Accordingly, claims 1-45 are currently pending. Support for the amended and new claims is found throughout the specification (including the drawings), and the issued claims of the ’901 Patent; and is pointed out more particularly in the appended chart.

Applicants respectfully submit that the amendments to the drawings (*i.e.*, the enclosed Replacement Sheets) do not add or change the subject matter originally contained within the respective Figures in the granted patent. Instead, the amended Figures formalize the labeling and provide higher quality drawings of the original Figures. As such, Applicants respectfully submit that it is not necessary to specifically point out support for each amended Figure within the original specification because the original Figures provide all necessary support.

Although the claims as amended broaden the claim scope of the ’194 Patent, the broadened claims are proper for reissue because they (1) are being submitted within 2 years of the issue of the ’194 Patent, (2) are directed to the same general invention as the issued claims of the ’194 Patent, and (3) do not seek to recapture subject matter that was surrendered during prosecution. Applicants believe that the claims are allowable over the prior art of record at least for the same reasons that the issued claims were found to be allowable.

In the event that the Examiner finds any impediment to the prompt allowance of this reissue application that may be clarified through a telephone interview, the Examiner is respectfully requested to contact the undersigned attorney.

The following chart sets forth the support for the claims as amended herein:

Claim	Exemplary Support for Claim Amendments/New Claims
1	<i>See, e.g.</i> , Figure 1; col. 4, ll. 44-46.
14	The amendments are directed toward formalities and support is found within the original claim as filed.
25	The amendments are directed toward formalities and support is found within the original claim as filed.
26	<i>See, e.g.</i> , Figures 17-18; <i>see</i> , col., 8 l. 61 through col. 9, l. 6 (Depicting and describing electronics embedded within a modular wall)
27	<i>See</i> exemplary support for claim 26, above.
28	<i>See</i> exemplary support for claim 26, above.
29	<i>See</i> exemplary support for claim 26, above.
30	<i>See</i> exemplary support for claim 26, above.
31	<i>See</i> exemplary support for claim 26, above.
32	<i>See</i> exemplary support for claim 26, above.
33	<i>See, e.g.</i> , Figure 1; <i>see</i> col. 4, ll. 37-63, col. 5, ll. 14-33 (Depicting and describing various embodiments of a modular wall system with stringers)
34	<i>See</i> exemplary support for claim 33, above.
35	<i>See</i> exemplary support for claim 33, above.
36	<i>See</i> exemplary support for claim 33, above.
37	<i>See</i> exemplary support for claim 33, above.
38	<i>See</i> exemplary support for claim 33, above.

39	<i>See, e.g.,</i> Figure 1, and Figures 8- 9; <i>see</i> col. 4, l. 37 - col. 5, l. 33; <i>see</i> col. 6, ll. 16-67 (“The flanges formed on vertical end frames 12 and 17 that are connected together by zippers will not interfere with the continuity of slot 42 from one module to the next, so that wall accessories, mill work or work surfaces can be connected or moved between modules without interference.”)
40	<i>See</i> exemplary support for claim 40, above.
41	<i>See</i> exemplary support for claim 40, above.
42	<i>See</i> exemplary support for claim 40, above.
43	<i>See</i> exemplary support for claim 40, above.
44	<i>See</i> exemplary support for claim 40, above.
45	<i>See</i> exemplary support for claim 40, above.

Dated this 19th day of September, 2013.

Respectfully submitted,

/Michael J. Frodsham/

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	16196.6.1.1
		Application Number	
Title of Invention	INTEGRATED RECONFIGURABLE WALL SYSTEM		
<p>The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.</p>			

Secrecy Order 37 CFR 5.2

<input type="checkbox"/>	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
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Inventor Information:

Inventor 1					<input type="button" value="Remove"/>
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	Geoff		Gosling		
Residence Information (Select One) <input type="radio"/> US Residency <input checked="" type="radio"/> Non US Residency <input type="radio"/> Active US Military Service					
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All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button.**Correspondence Information:**

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	16196.6.1.1
	Application Number	
Title of Invention	INTEGRATED RECONFIGURABLE WALL SYSTEM	

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

An Address is being provided for the correspondence information of this application.

Customer Number	22913		
Email Address	Docketing@wnlaw.com	<input type="button" value="Add Email"/>	<input type="button" value="Remove Email"/>

Application Information:

Title of the Invention	INTEGRATED RECONFIGURABLE WALL SYSTEM		
Attorney Docket Number	16196.6.1.1	Small Entity Status Claimed	<input type="checkbox"/>
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	21	Suggested Figure for Publication (if any)	

Publication Information:

Request Early Publication (Fee required at time of Request 37 CFR 1.219)

Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer number will be used for the Representative Information during processing.

Please Select One:	<input checked="" type="radio"/> Customer Number	<input type="radio"/> US Patent Practitioner	<input type="radio"/> Limited Recognition (37 CFR 11.9)
Customer Number	22913		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

Prior Application Status	Patented		<input type="button" value="Remove"/>		
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
	reissued of	11/205314	2005-08-17	8024901	2011-09-27

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	16196.6.1.1
		Application Number	
Title of Invention	INTEGRATED RECONFIGURABLE WALL SYSTEM		
Prior Application Status	Expired	<input type="button" value="Remove"/>	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
11/205314	non provisional of	60/601985	2004-08-17
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			<input type="button" value="Add"/>

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

<input type="button" value="Remove"/>			
Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			<input type="button" value="Add"/>

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

Authorization to Permit Access to the Instant Application by the Participating Offices

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	16196.6.1.1
	Application Number	
Title of Invention	INTEGRATED RECONFIGURABLE WALL SYSTEM	

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.			
Applicant 1			<input type="button" value="Remove"/>
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.			
<input type="button" value="Clear"/>			
<input checked="" type="radio"/> Assignee	<input type="radio"/> Legal Representative under 35 U.S.C. 117	<input type="radio"/> Joint Inventor	
<input type="radio"/> Person to whom the inventor is obligated to assign.		<input type="radio"/> Person who shows sufficient proprietary interest	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:			
Name of the Deceased or Legally Incapacitated Inventor : <input type="text"/>			
If the Applicant is an Organization check here. <input checked="" type="checkbox"/>			
Organization Name	DIRTT ENVIRONMENTAL SOLUTIONS LTD.		
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	16196.6.1.1
		Application Number	
Title of Invention	INTEGRATED RECONFIGURABLE WALL SYSTEM		

Email Address	
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Additional Applicant Data may be generated within this form by selecting the Add button.

Non-Applicant Assignee Information:

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Assignee 1				
Complete this section only if non-applicant assignee information is desired to be included on the patent application publication in accordance with 37 CFR 1.215(b). Do not include in this section an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest), as the patent application publication will include the name of the applicant(s).				
				<input type="button" value="Remove"/>
If the Assignee is an Organization check here. <input type="checkbox"/>				
Prefix	Given Name	Middle Name	Family Name	Suffix
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Address 2				
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Country i		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee Data may be generated within this form by selecting the Add button.				<input type="button" value="Add"/>

Signature:

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications					
Signature	/Michael J. Frodsham/		Date (YYYY-MM-DD)	2013-09-19	
First Name	Michael J.	Last Name	Frodsham	Registration Number	48699
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	16196.6.1.1
	Application Number	
Title of Invention	INTEGRATED RECONFIGURABLE WALL SYSTEM	

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REPLACEMENT SHEET

1 / 21

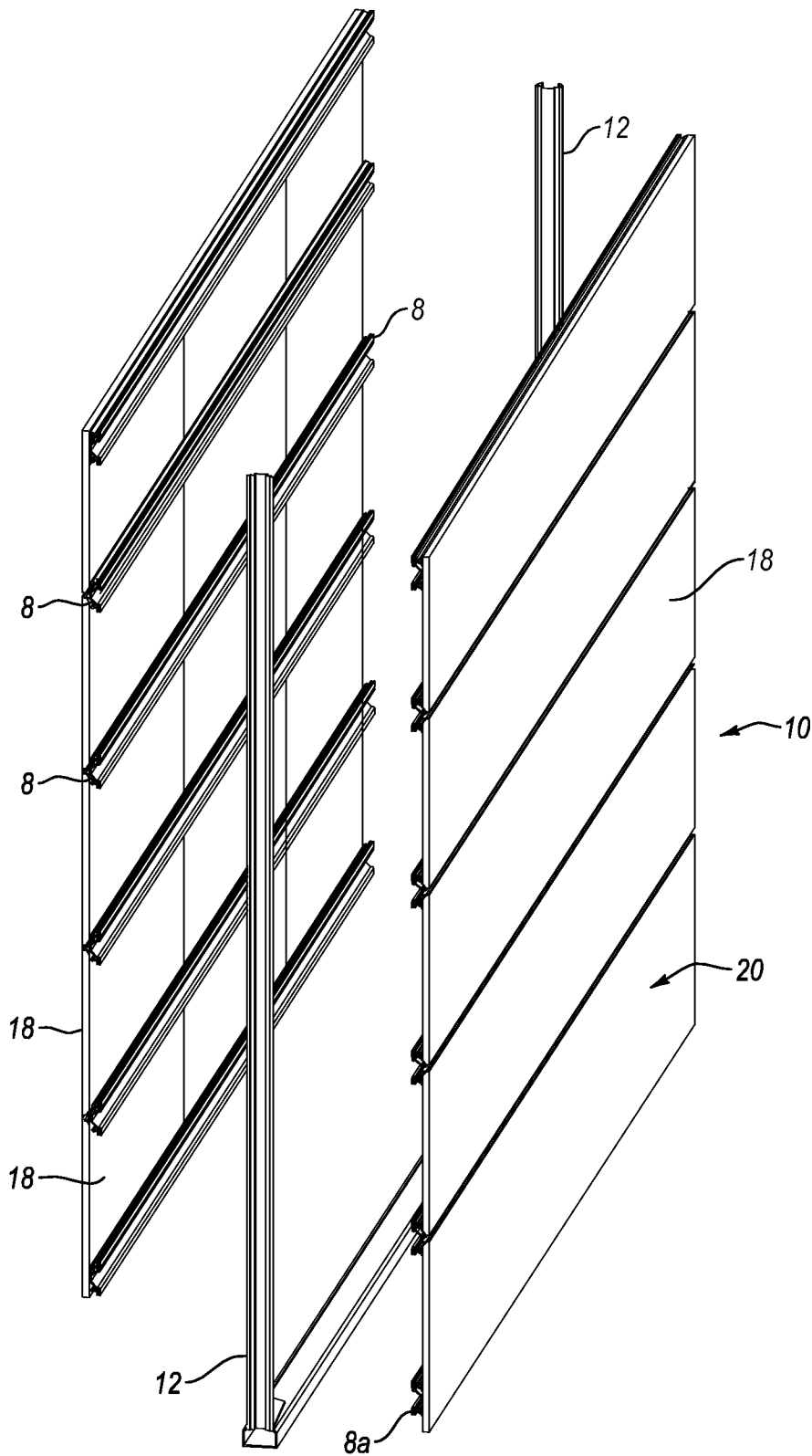


Figure 1

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2 / 21

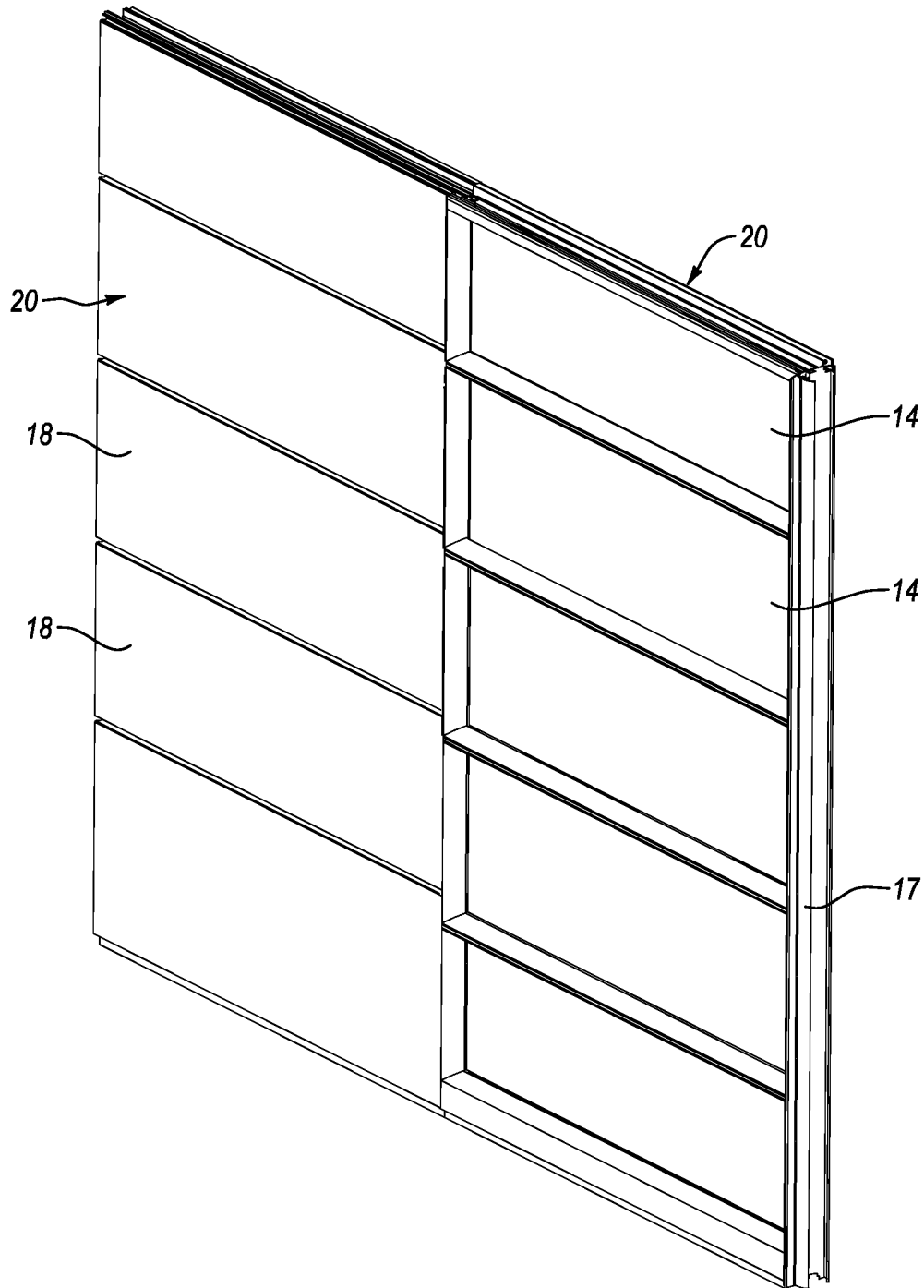
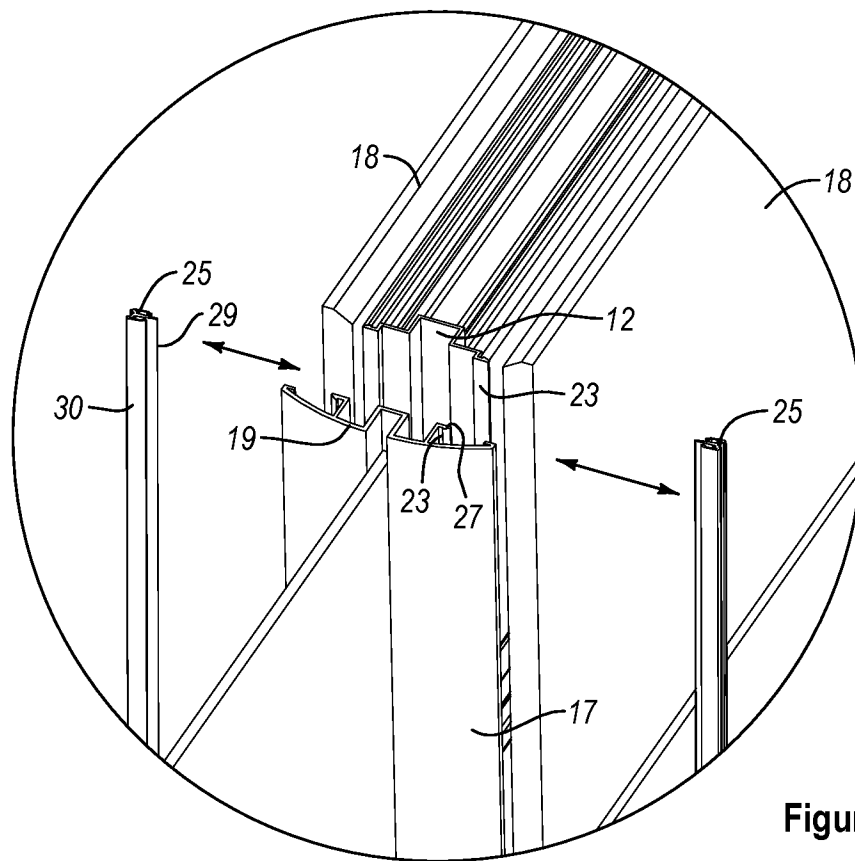
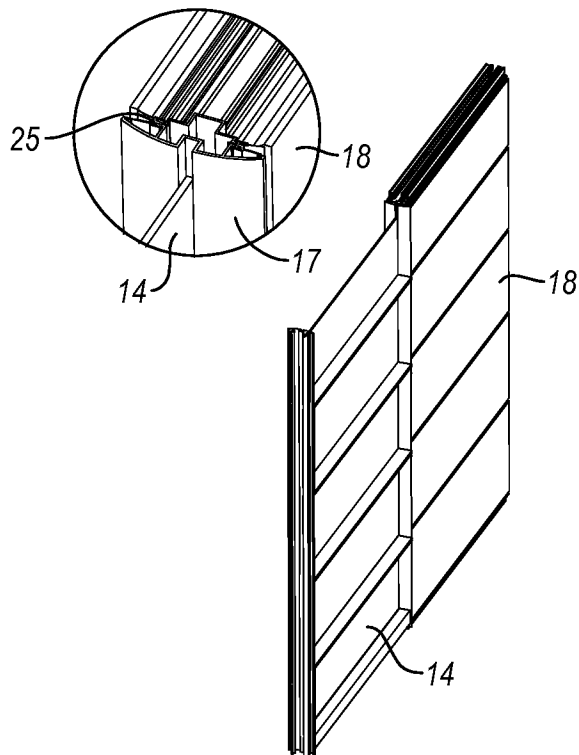


Figure 2



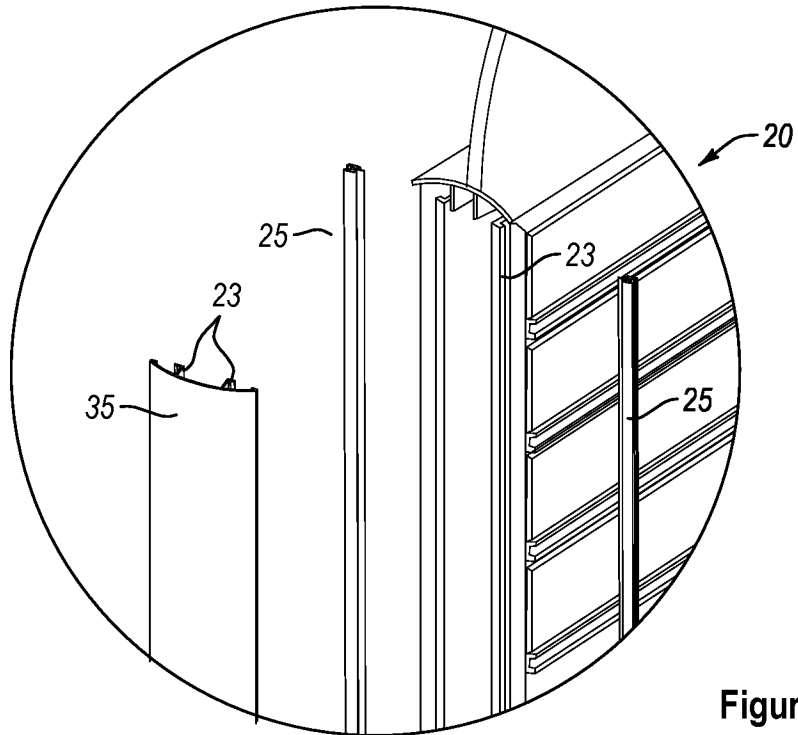


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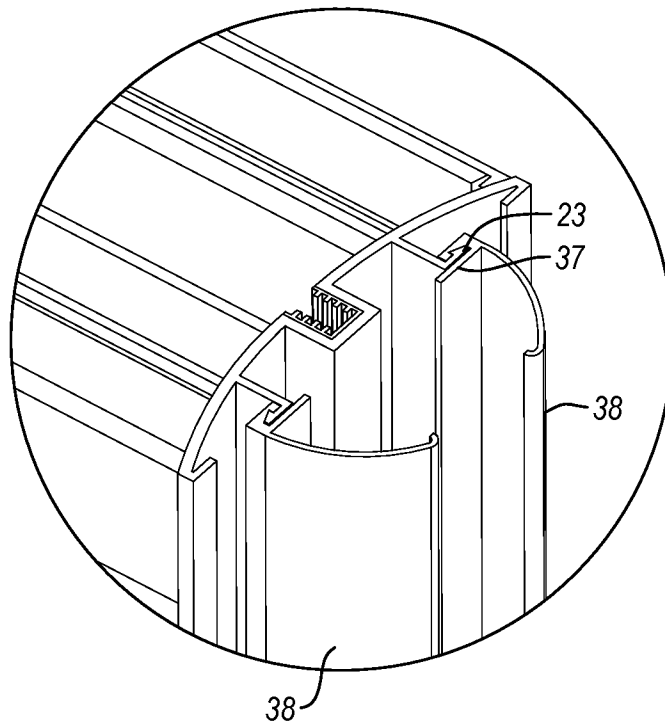


Figure 6

REPLACEMENT SHEET

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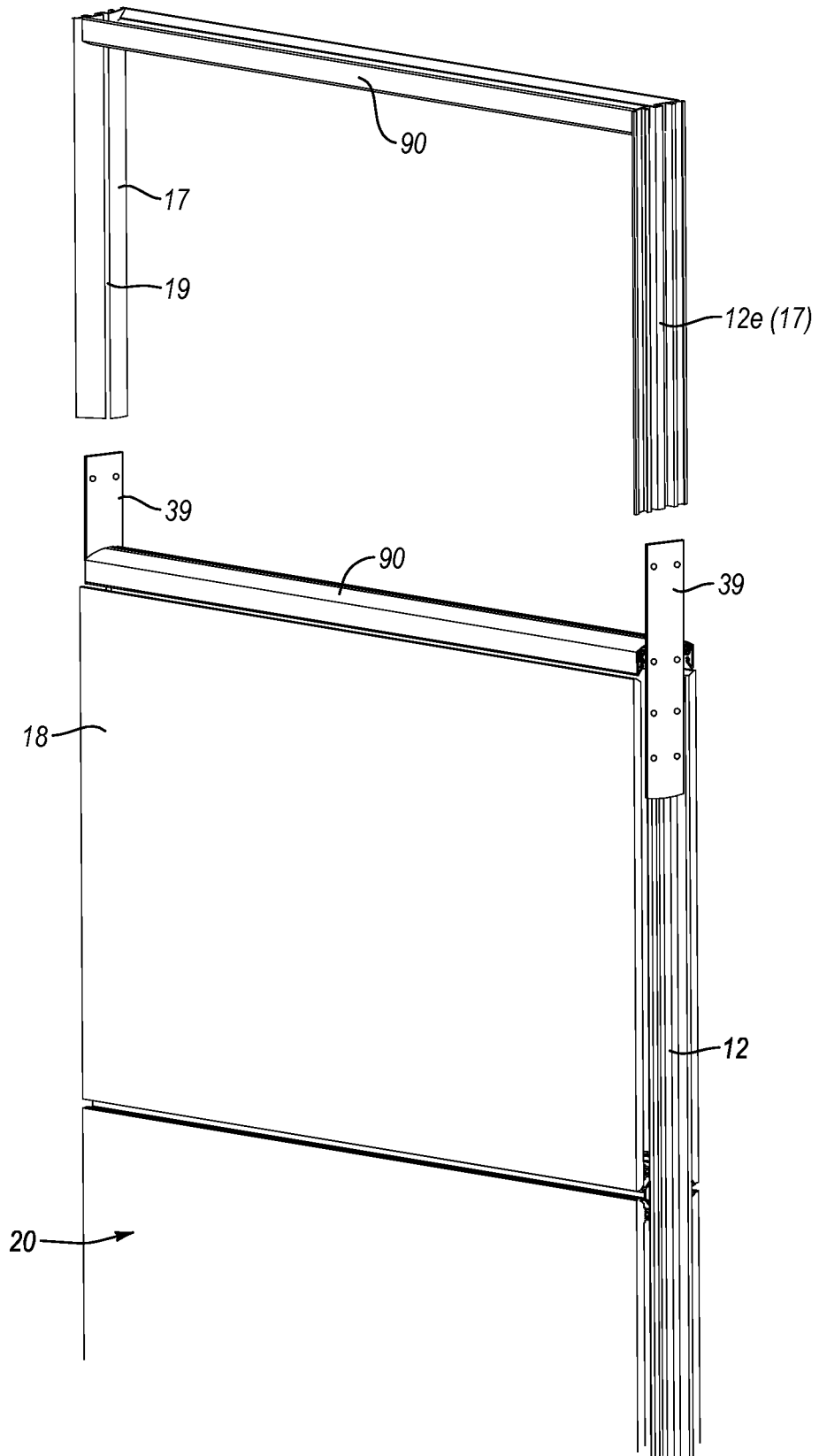
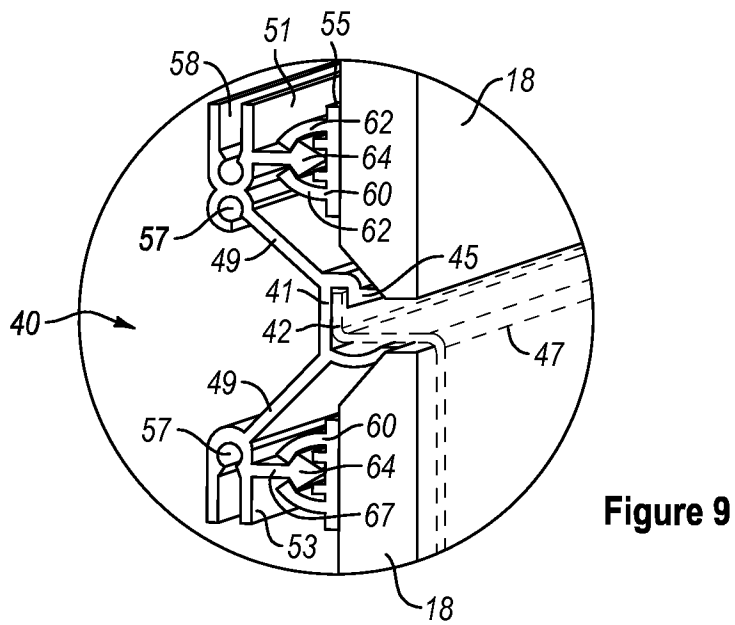
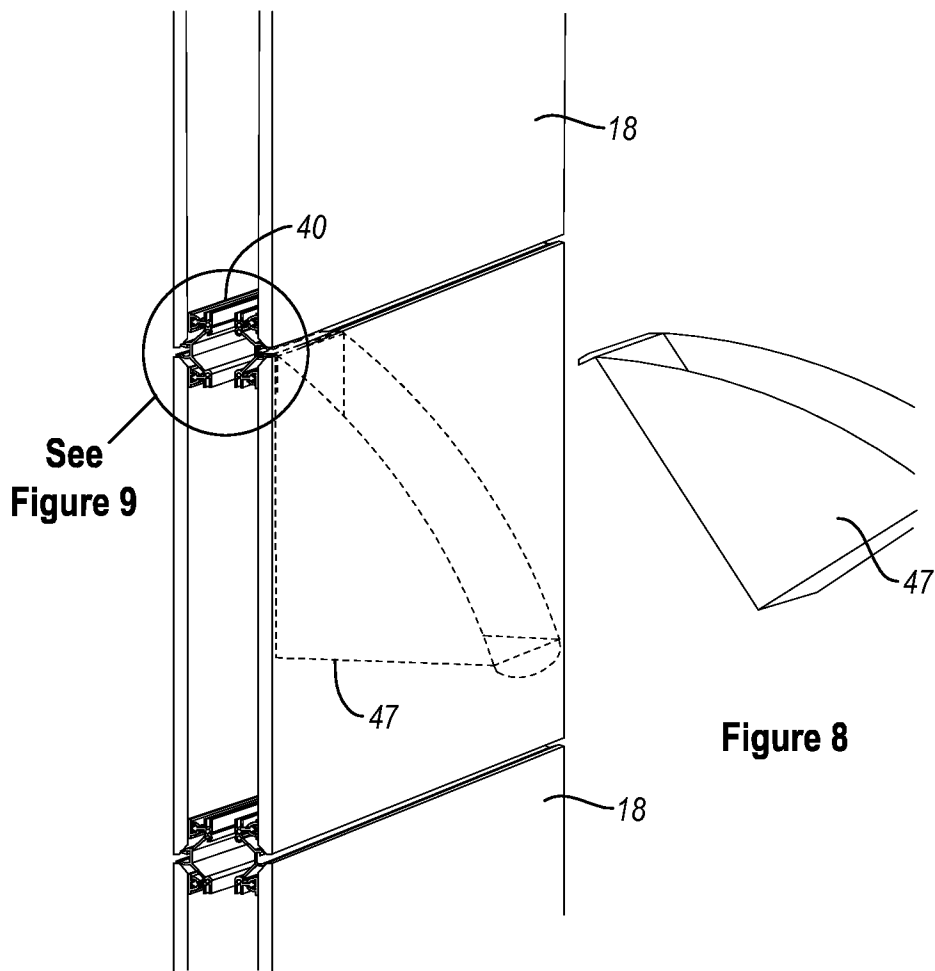


Figure 7



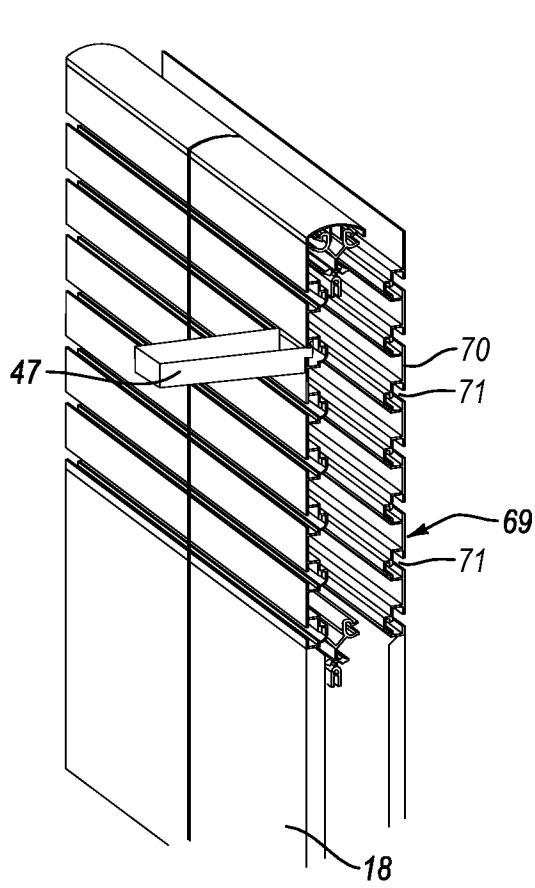


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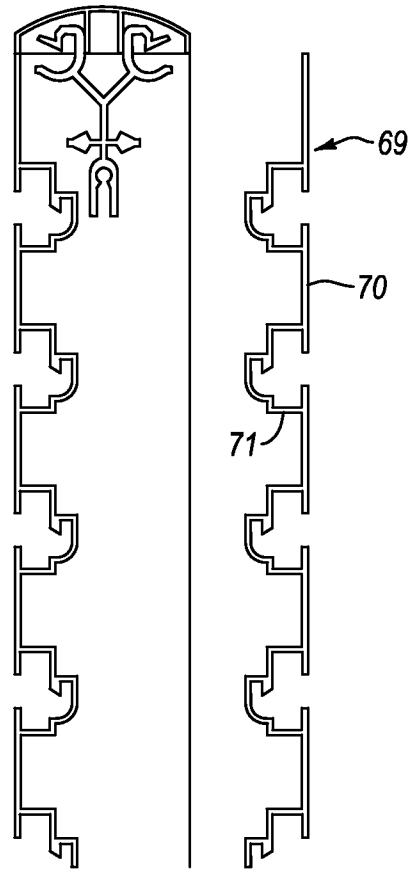


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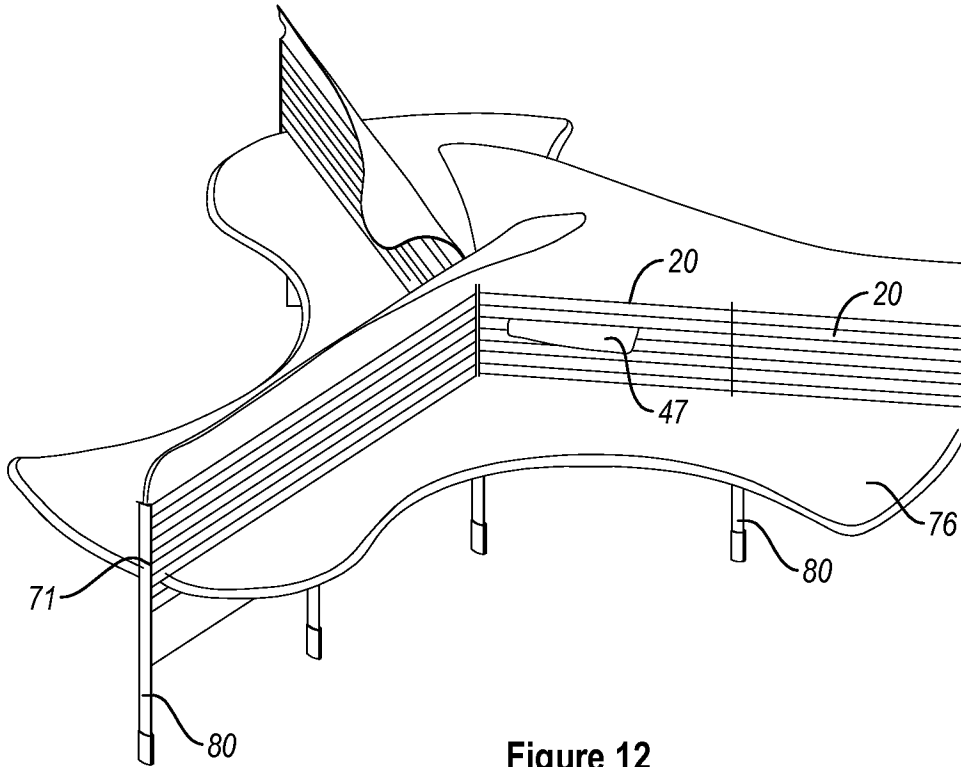


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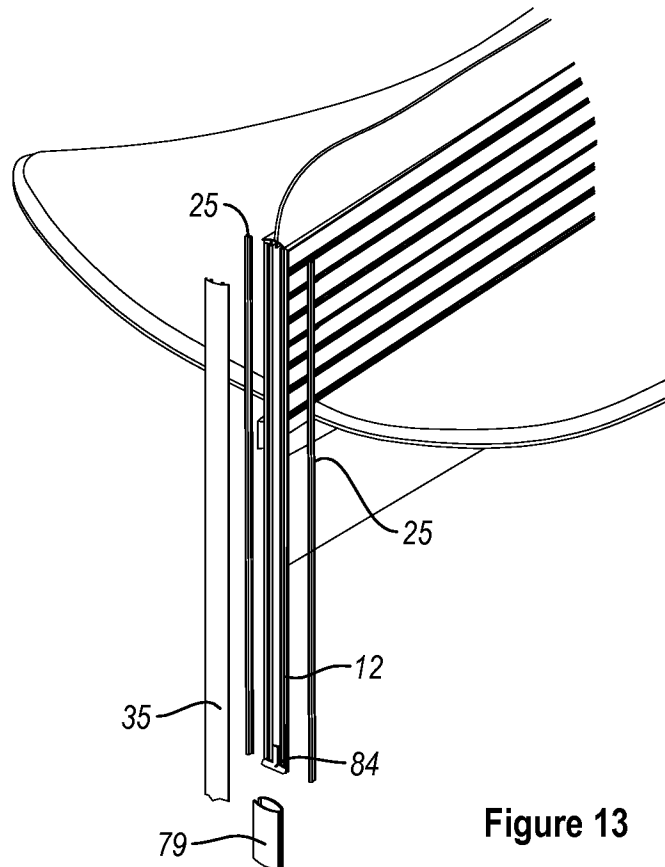


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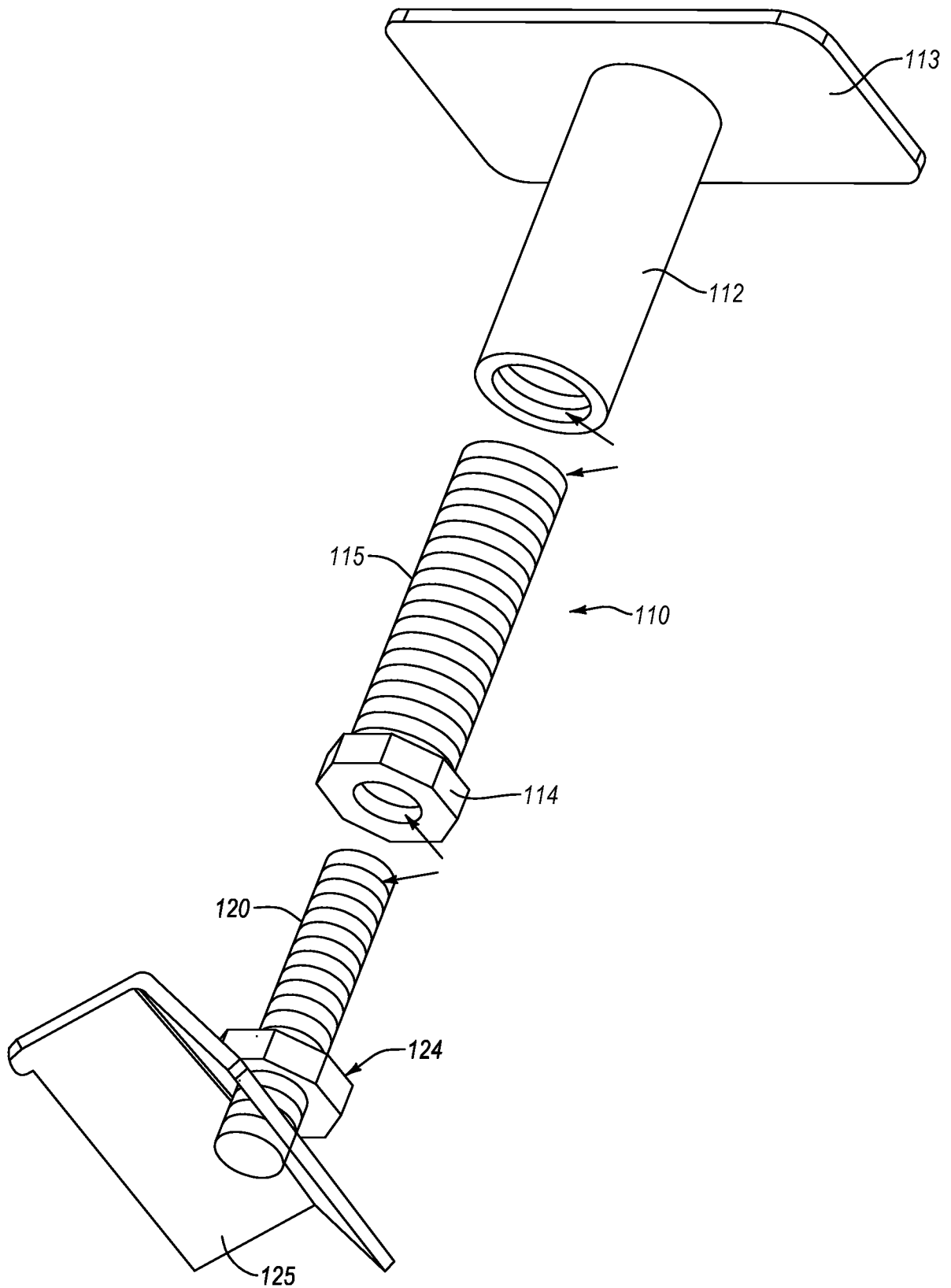


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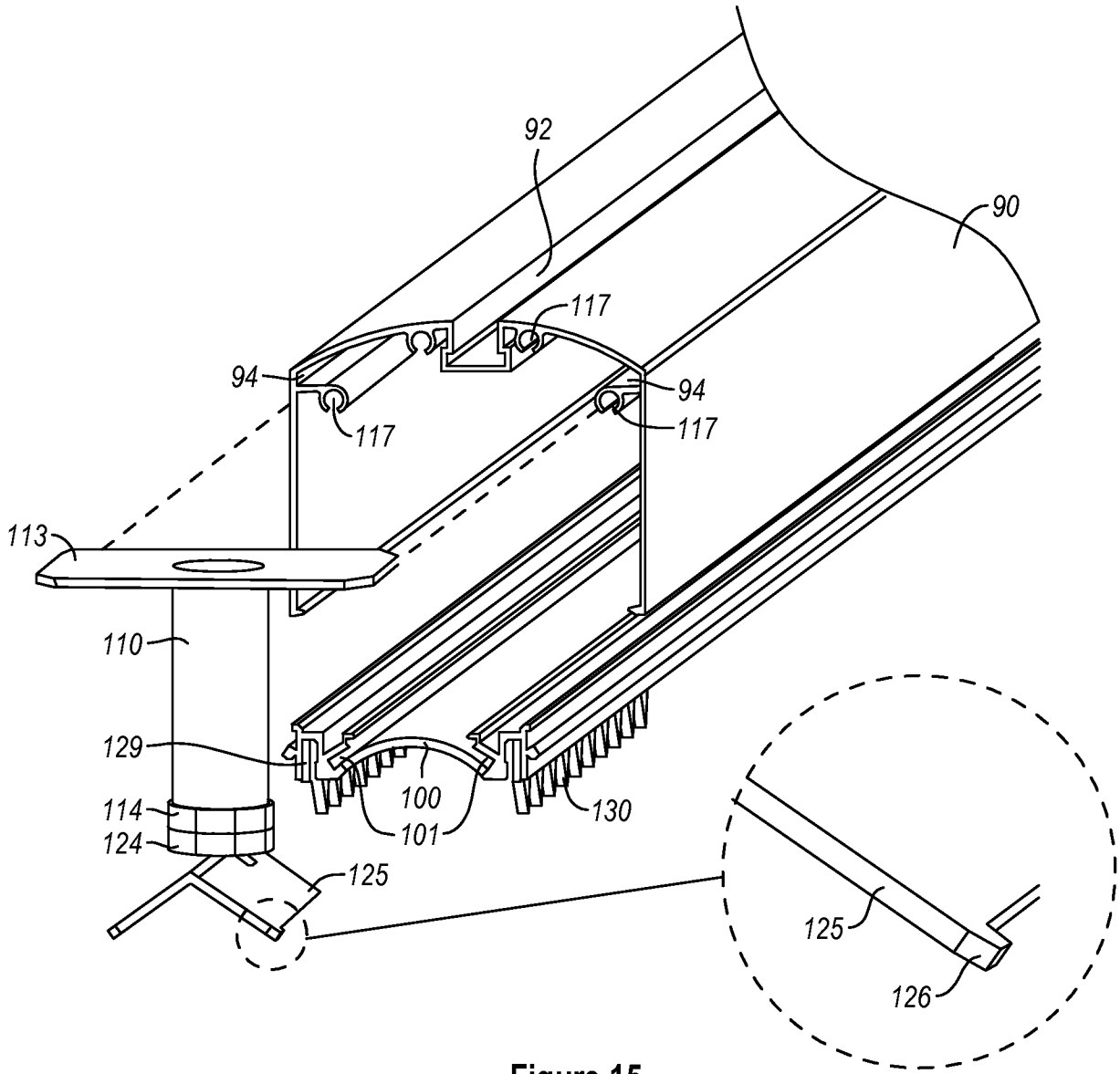


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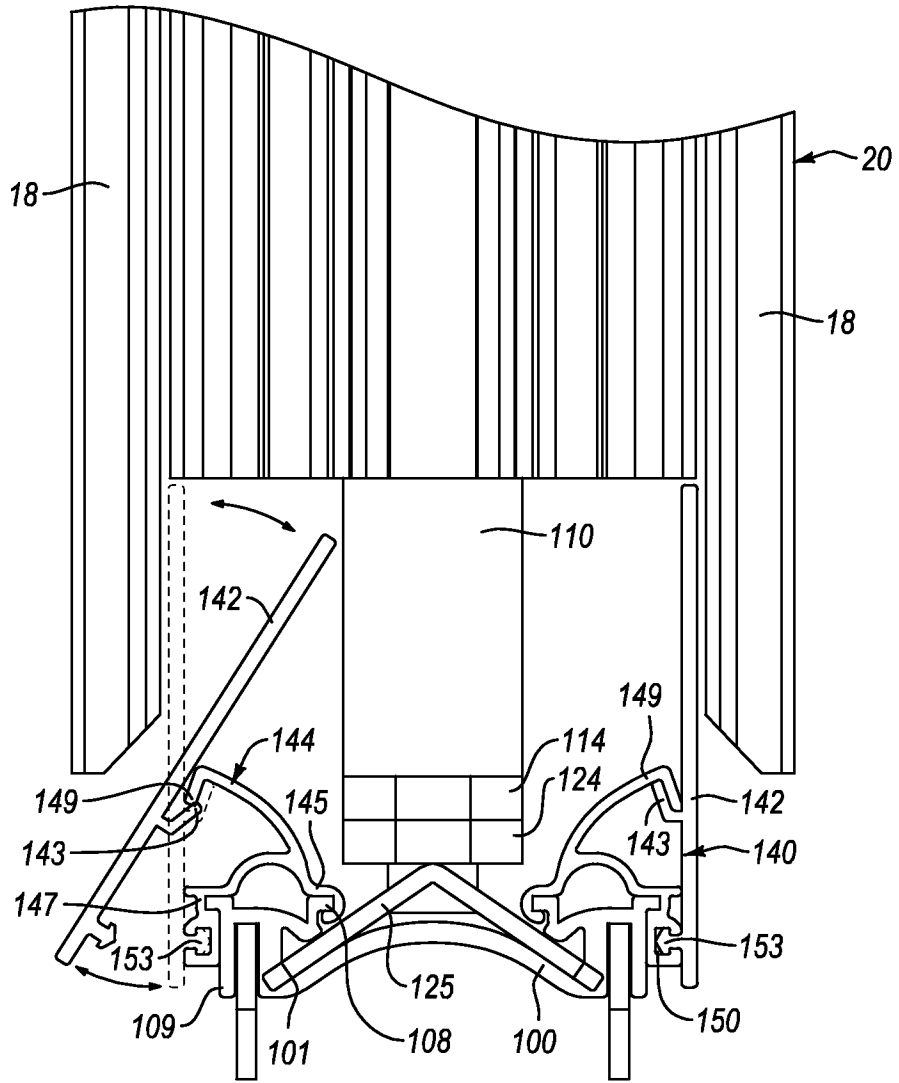


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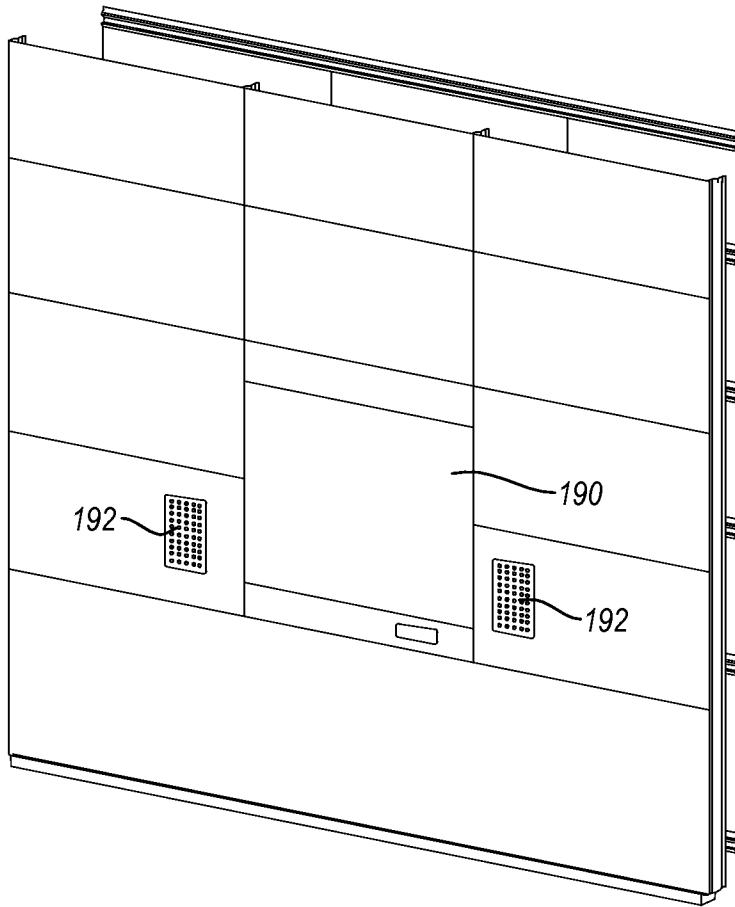


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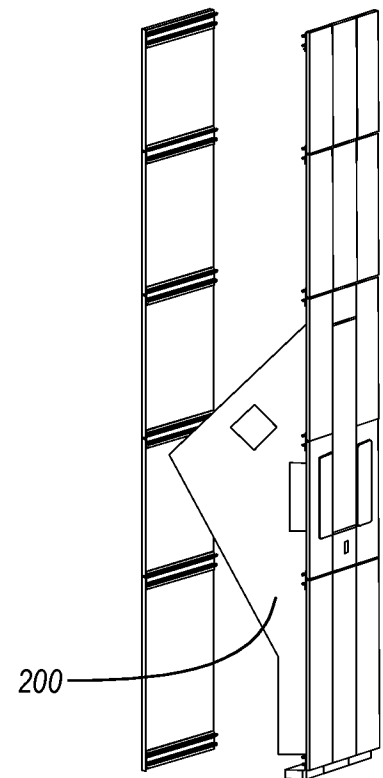


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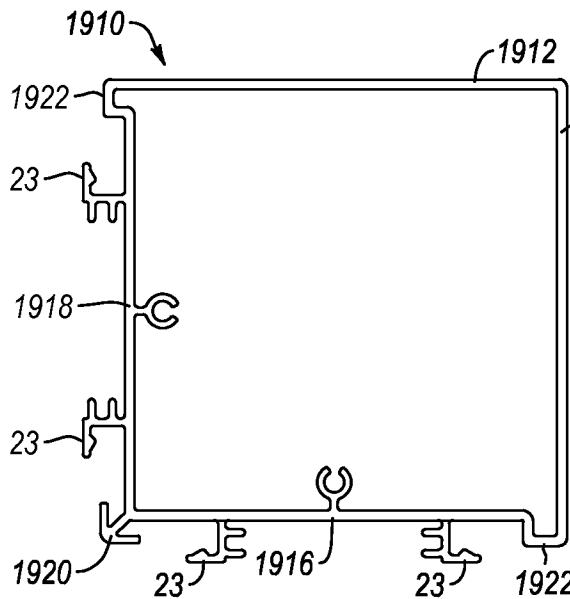


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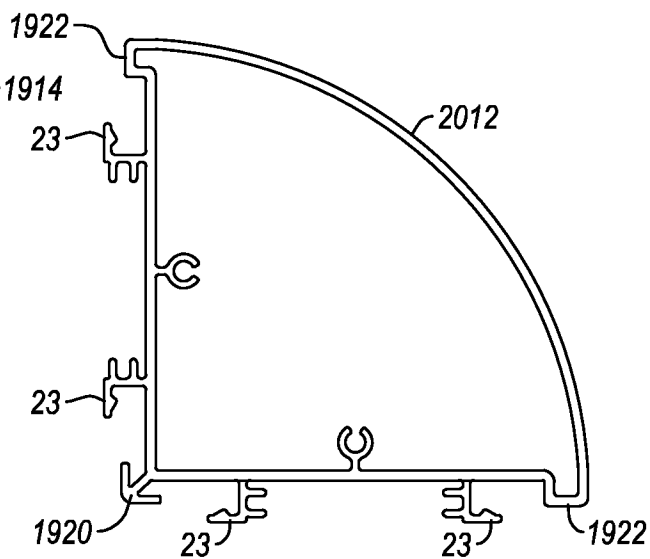


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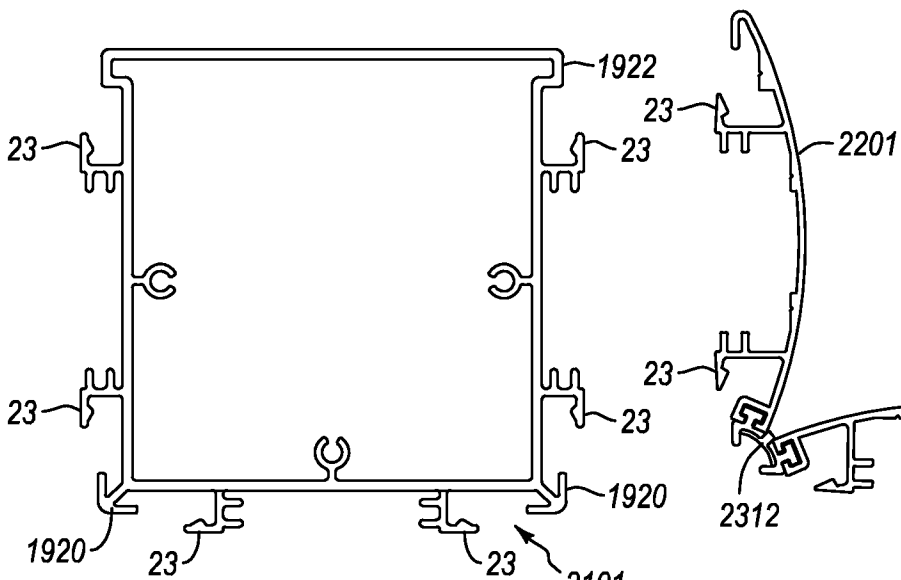


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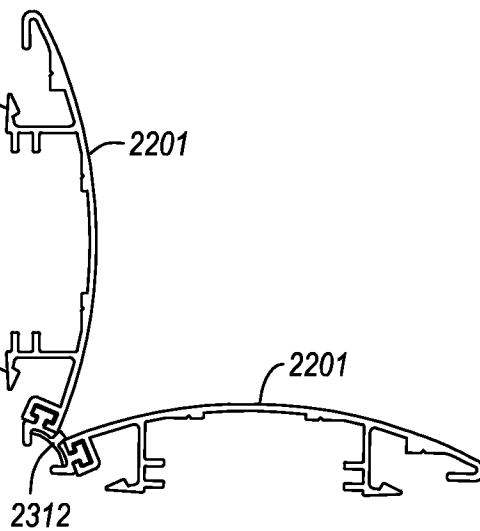


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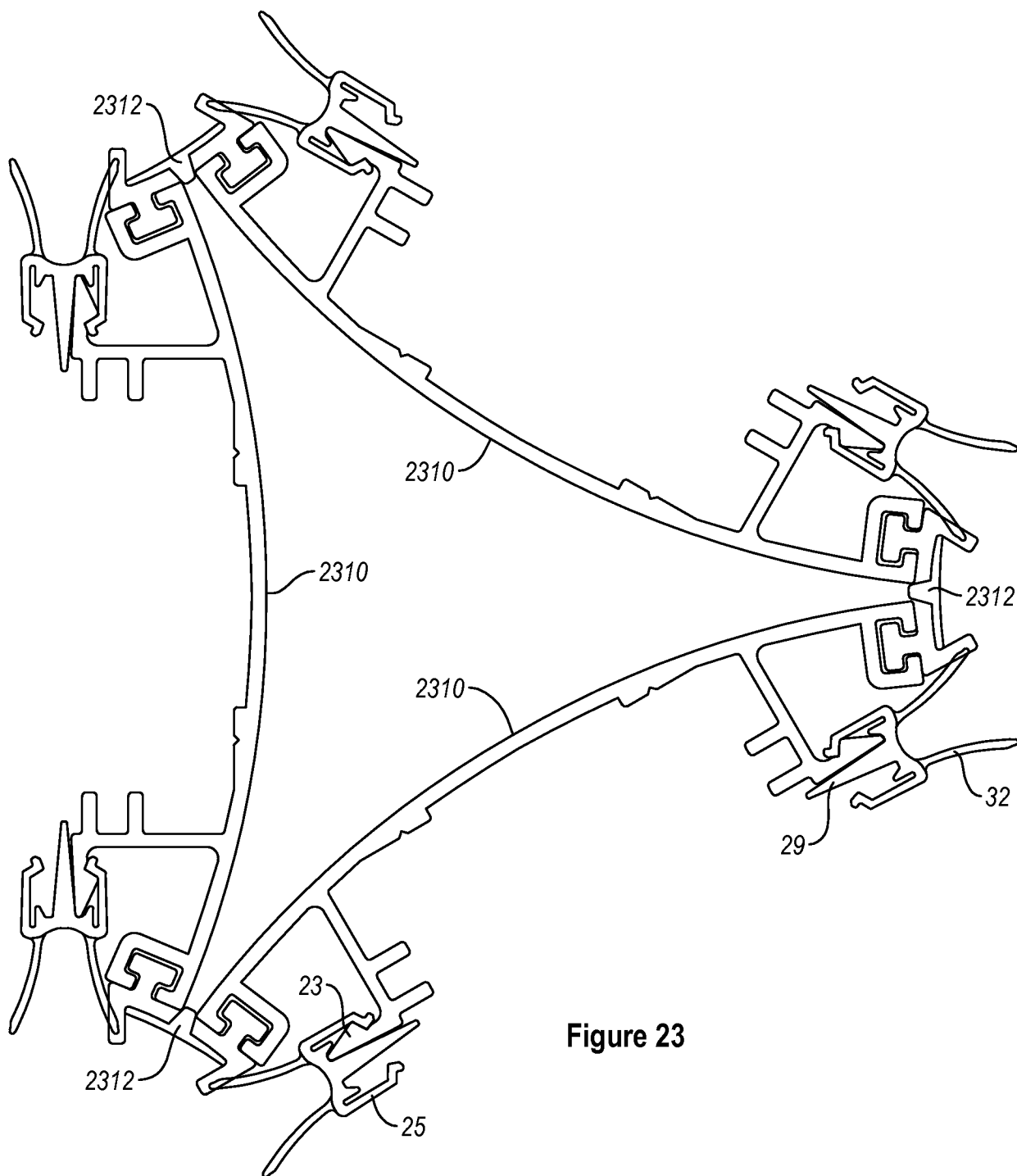


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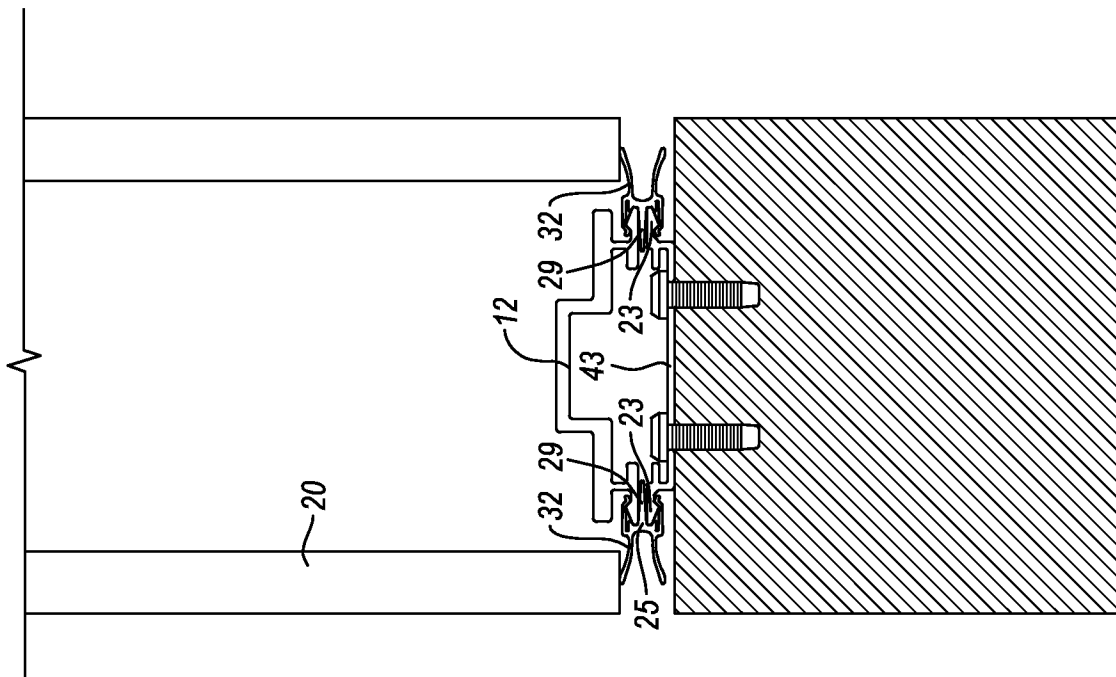


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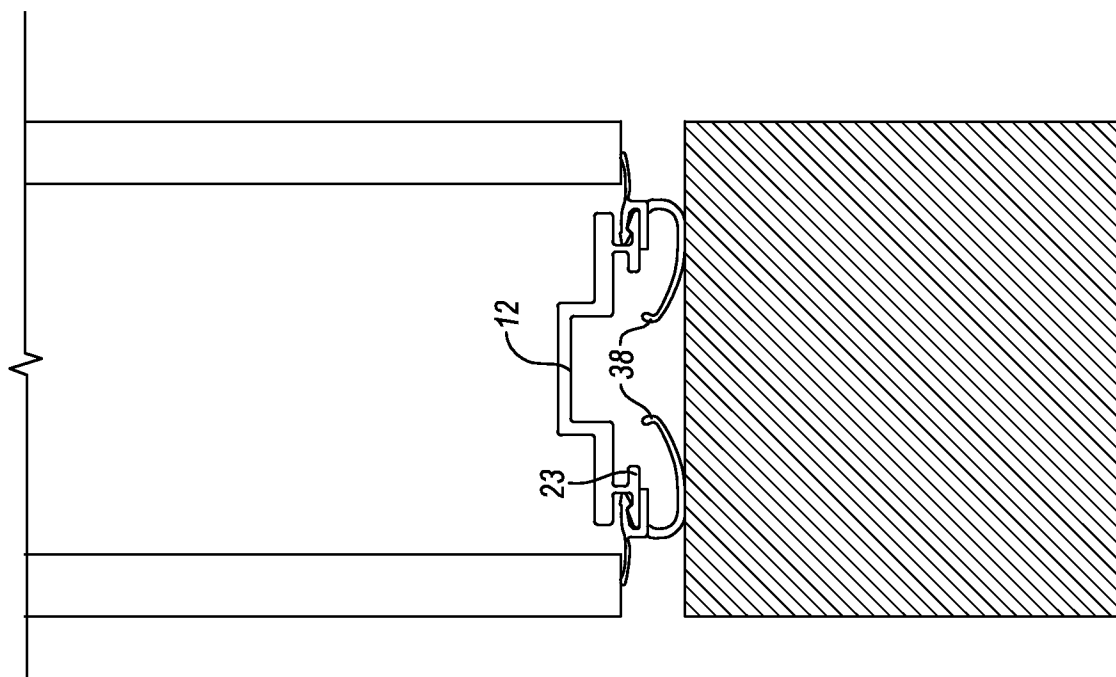


Figure 24

REPLACEMENT SHEET

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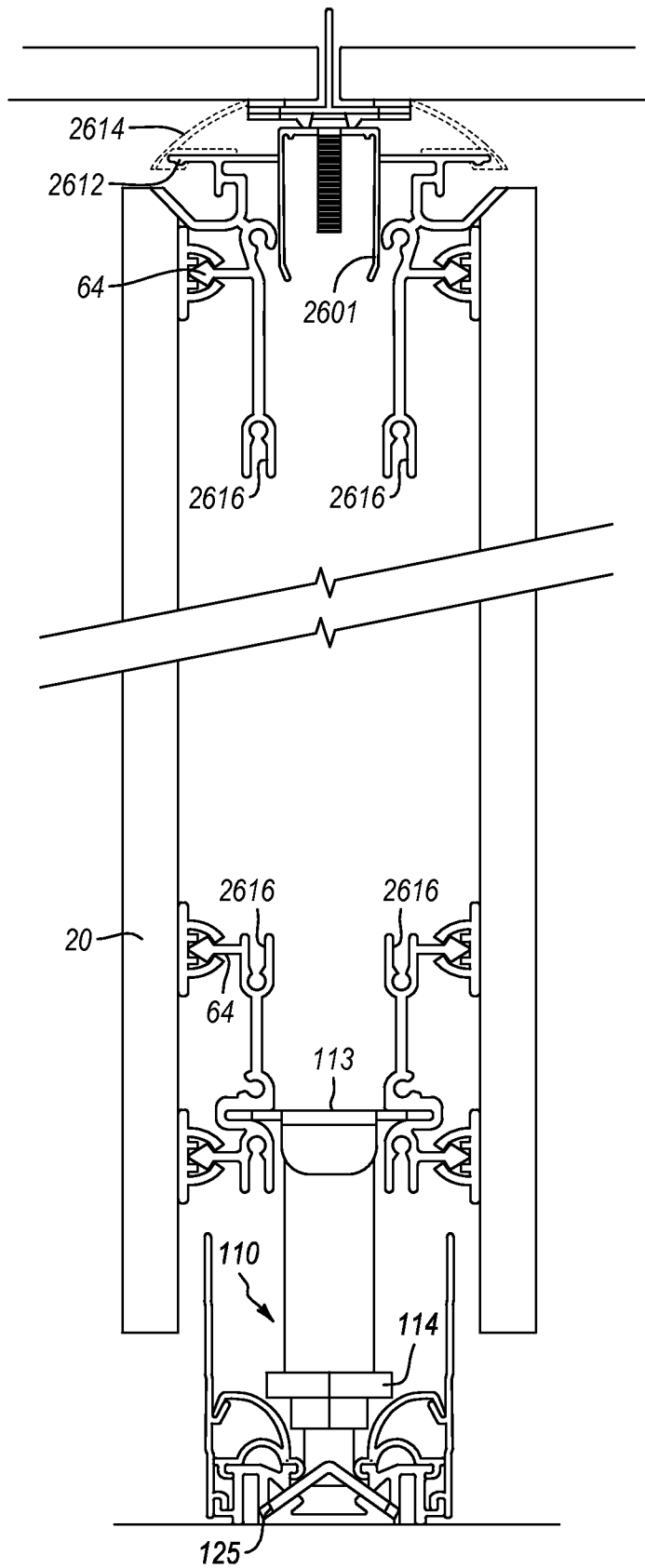


Figure 26

REPLACEMENT SHEET

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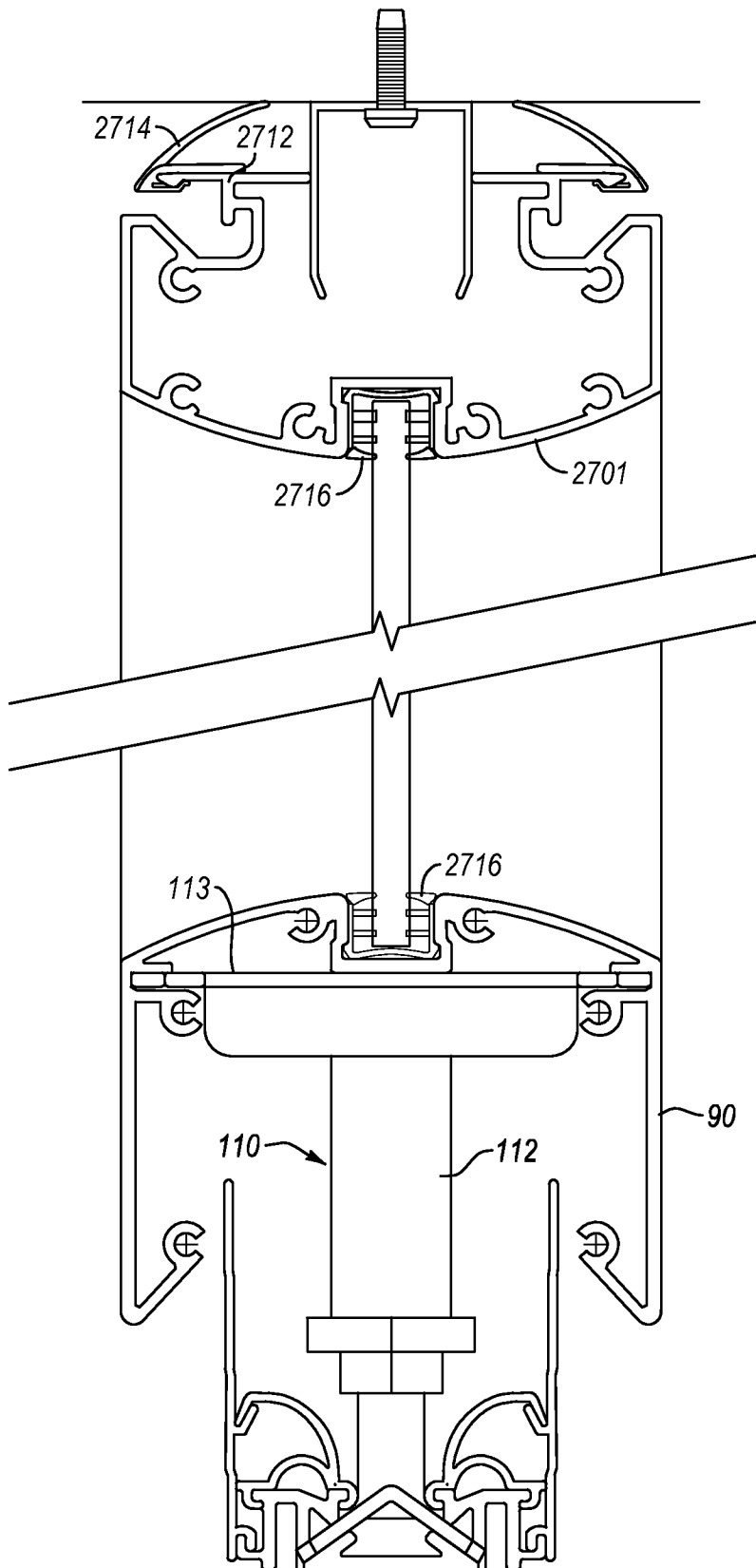


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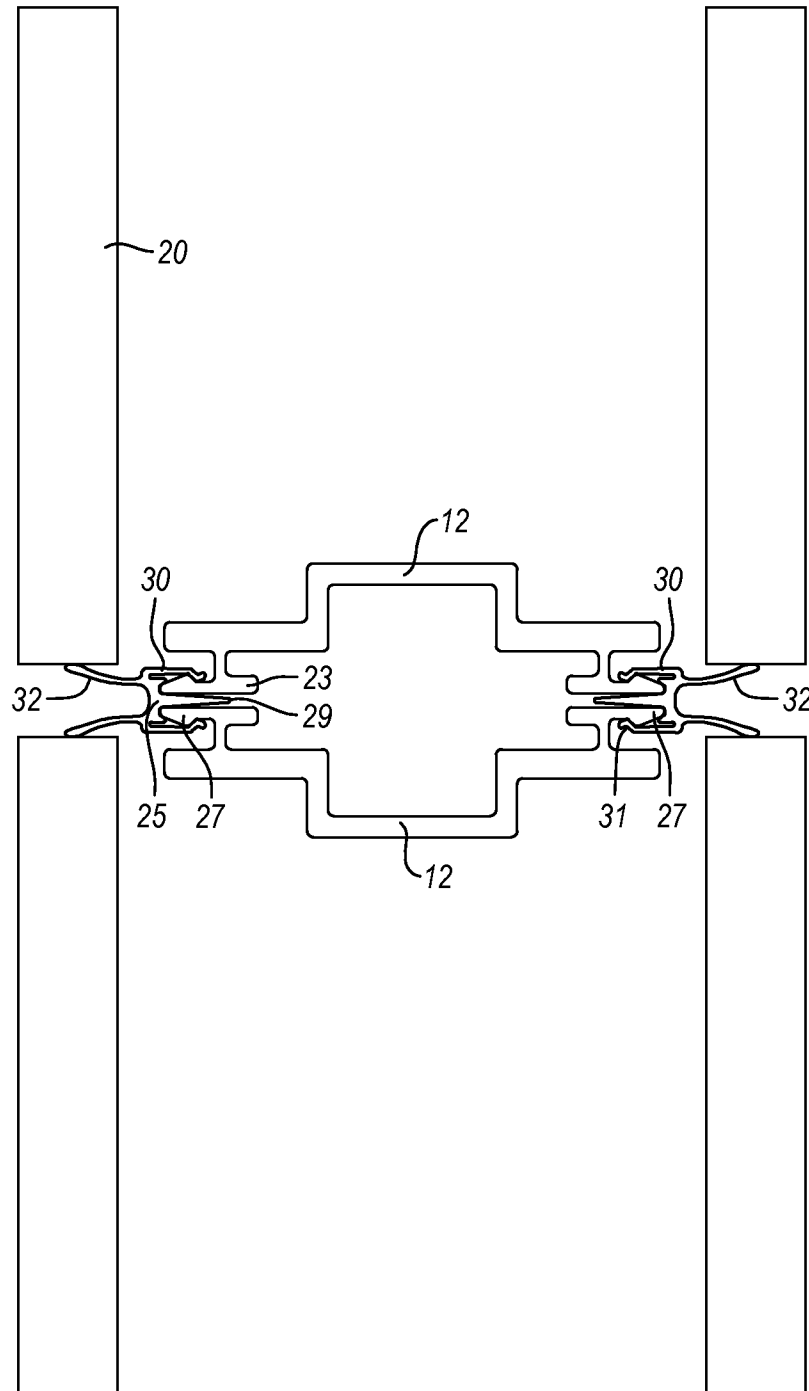


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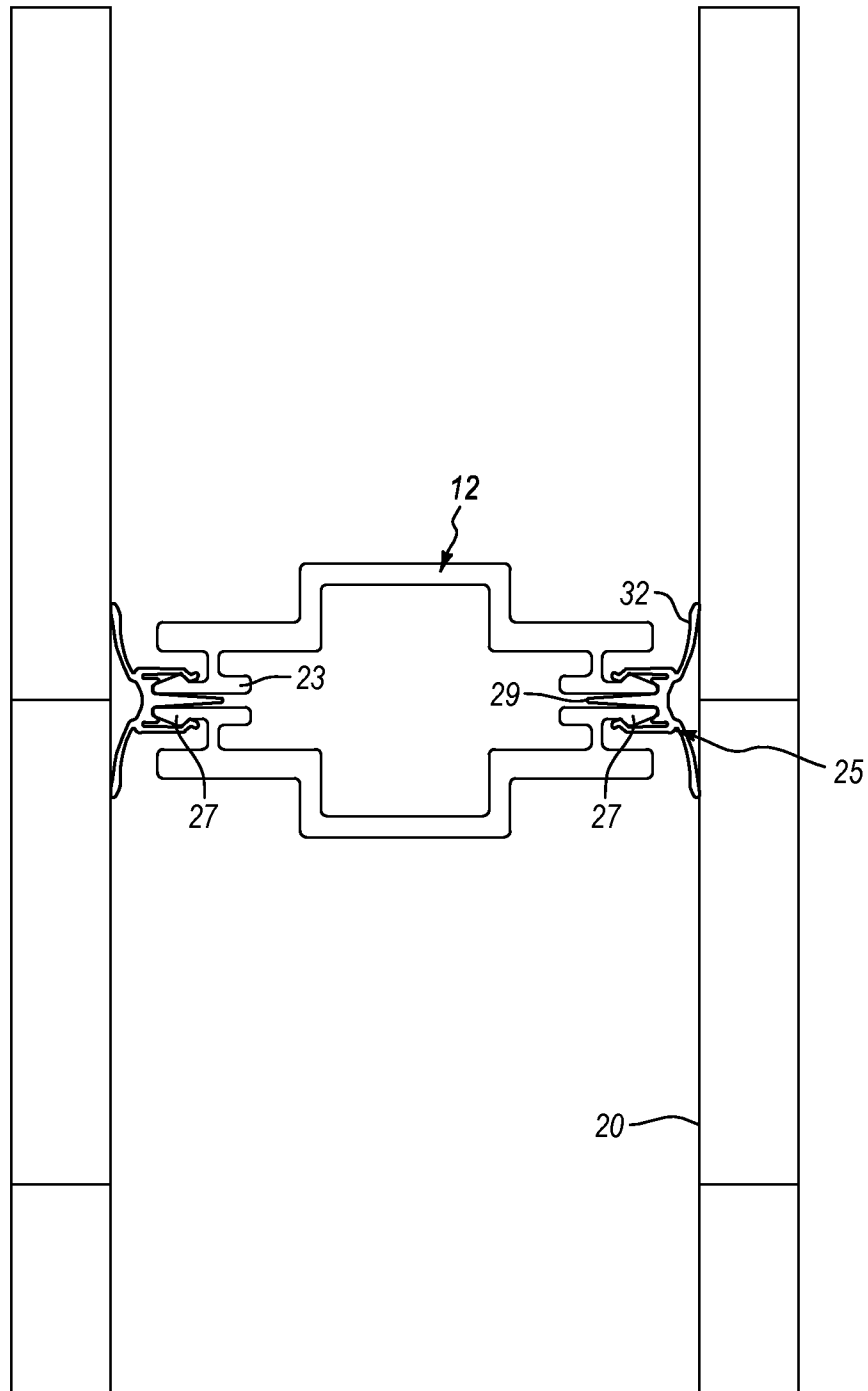


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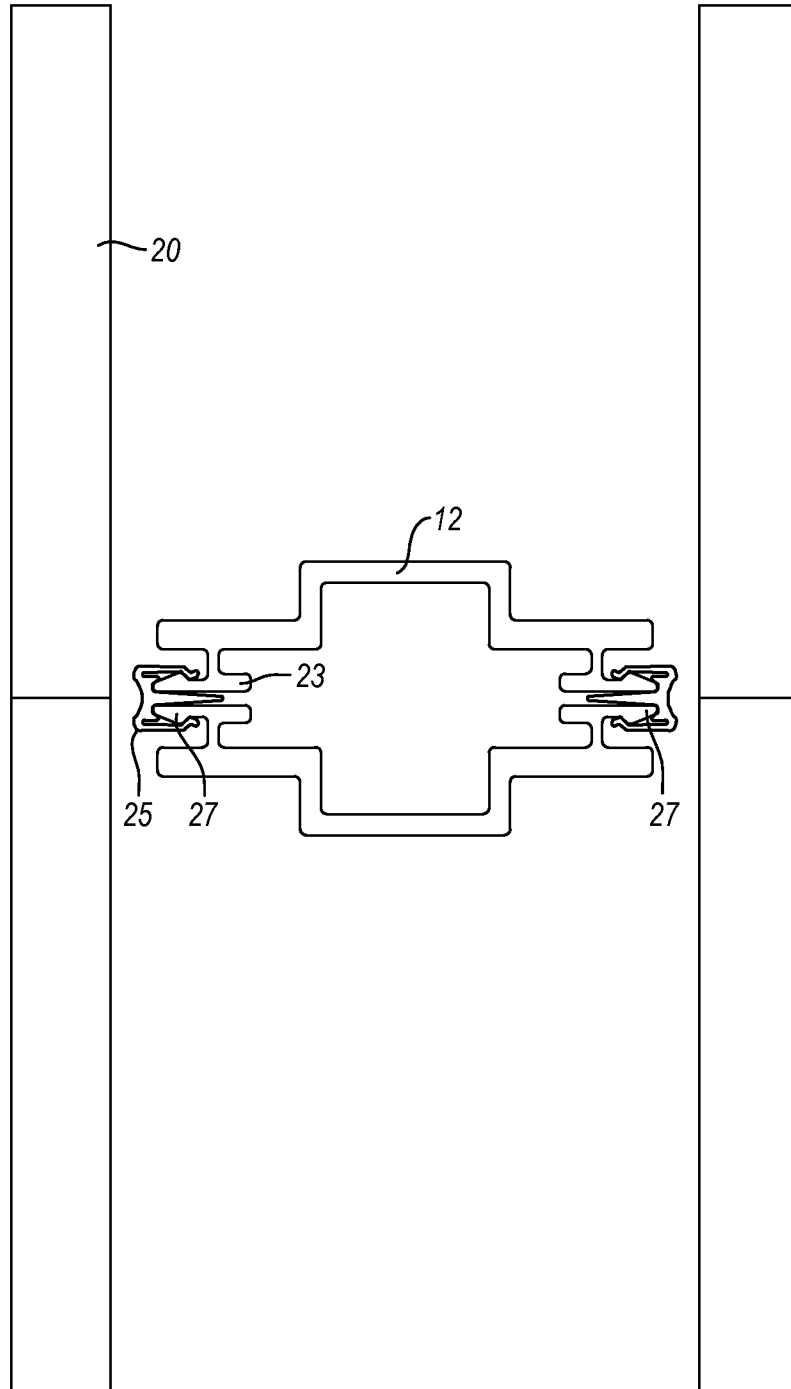


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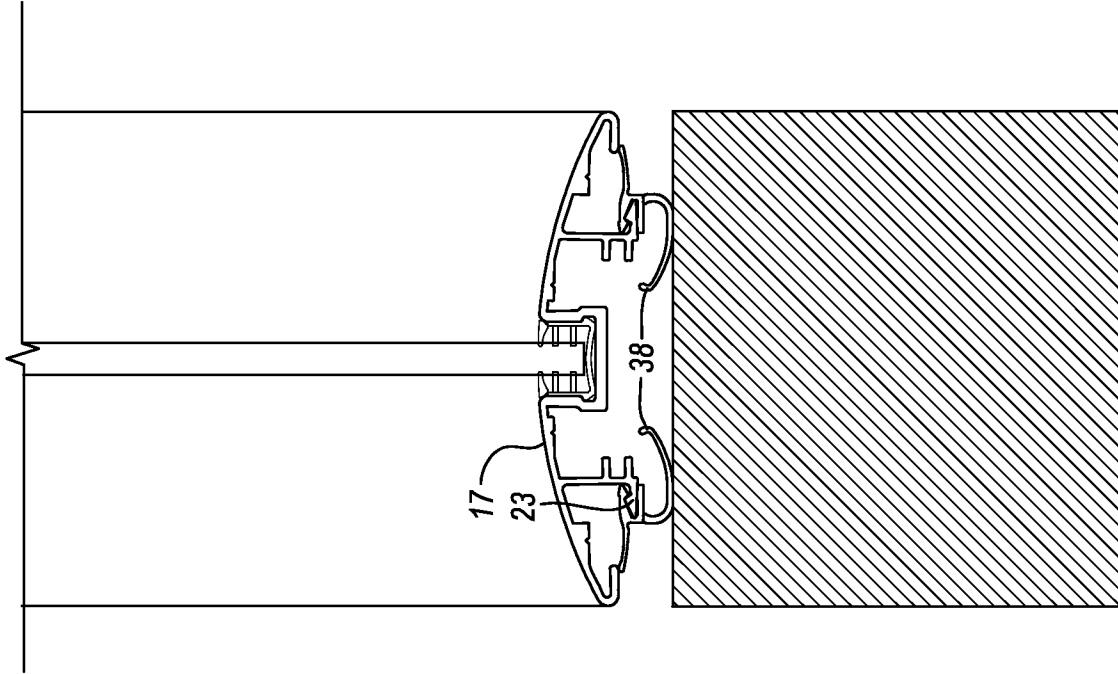


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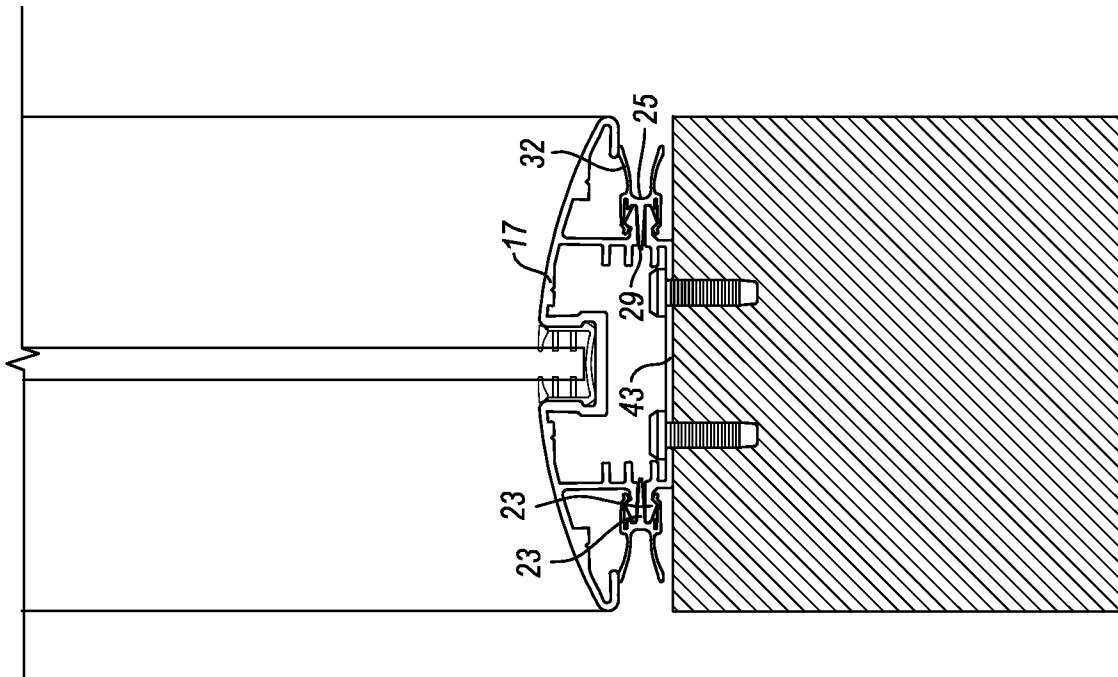


Figure 31

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Filer:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1

Filed as Large Entity

Reissue (Utility) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility Reissue Basic	1014	1	280	280
Design and Utility Reissue Basic	1114	1	600	600
Design and utility Reissue Basic	1314	1	2160	2160

Pages:

Claims:

Miscellaneous-Filing:

Petition:

Patent-Appeals-and-Interference:

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				3040

Electronic Acknowledgement Receipt

EFS ID:	16903174
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham/Ashlee Emig
Filer Authorized By:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1
Receipt Date:	20-SEP-2013
Filing Date:	
Time Stamp:	16:27:13
Application Type:	Reissue (Utility)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$3040
RAM confirmation Number	5739
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		US8024901_Patent.pdf	1926307 4b3afee6453f5c4baef500d130be339651ca8b7b	yes	28
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Abstract		1	1	
	Drawings-only black and white line drawings		2	22	
Specification		23	28		
Warnings:					
Information:					
2	Assignee showing of ownership per 37 CFR 3.73.	16196-6-1-1_3-73_b_Statement.PDF	521803 0eeb7512b2cbd02b60facf2bfffde0fe8831b494	no	2
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Information:					
3	Consent of Assignee accompanying the declaration	16196-6-1-1_Consent_to_Reissue.pdf	134163 51f7a650bb30834d9673f3dae0d116fd8c9052e8	no	1
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US008024901B2

(12) **United States Patent**
Gosling et al.

(10) **Patent No.:** **US 8,024,901 B2**
(45) **Date of Patent:** **Sep. 27, 2011**

(54) **INTEGRATED RECONFIGURABLE WALL SYSTEM**

(75) Inventors: **Geoff Gosling**, Calgary (CA); **Mogens Smed**, Dewinton (CA)

(73) Assignee: **Dirtt Environmental Solutions Ltd.**, Calgary, Alberta (CA)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1054 days.

(21) Appl. No.: **11/205,314**

(22) Filed: **Aug. 17, 2005**

(65) **Prior Publication Data**

US 2006/0059806 A1 Mar. 23, 2006

Related U.S. Application Data

(60) Provisional application No. 60/601,985, filed on Aug. 17, 2004.

(51) **Int. Cl.**

E04H 1/00 (2006.01)

E04B 1/00 (2006.01)

(52) **U.S. Cl.** **52/238.1; 52/481.2; 52/772**

(58) **Field of Classification Search** **52/238.1, 52/239, 242, 243, 243.1, 578, 582.1, 474, 52/476, 481.2, 482, 772, 773, 781.3, 126.3; 403/286, 297, 329, 397**

See application file for complete search history.

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* cited by examiner

Primary Examiner — Khoi Tran

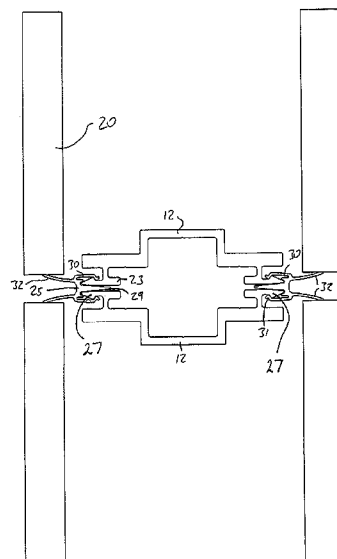
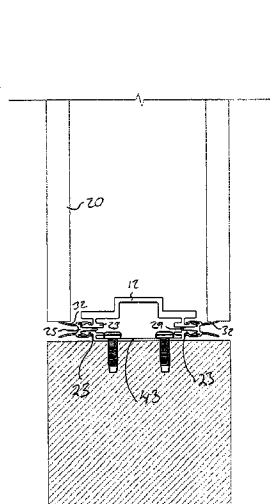
Assistant Examiner — Jason Holloway

(74) *Attorney, Agent, or Firm* — Welsh Flaxman & Gitler LLC

(57) **ABSTRACT**

A movable reconfigurable wall system having at least one module having a front and rear surface, the at least one module having: vertical end frames disposed at least at its side edges, each the vertical end frame having a vertically extending flange directed toward the front surface and a vertically extending flange directed toward the rear surface; a plurality of horizontal stringers affixed between the pair of vertical end frames; and an aesthetic surface affixed to the stringers; and a removable connecting strip, the connecting strip adapted to affix about one of the two flanges on one of the vertical end frames and join the one of the two flanges to a corresponding flange on one of a second module, a wall bracket, a finishing trim or a connection post.

25 Claims, 21 Drawing Sheets



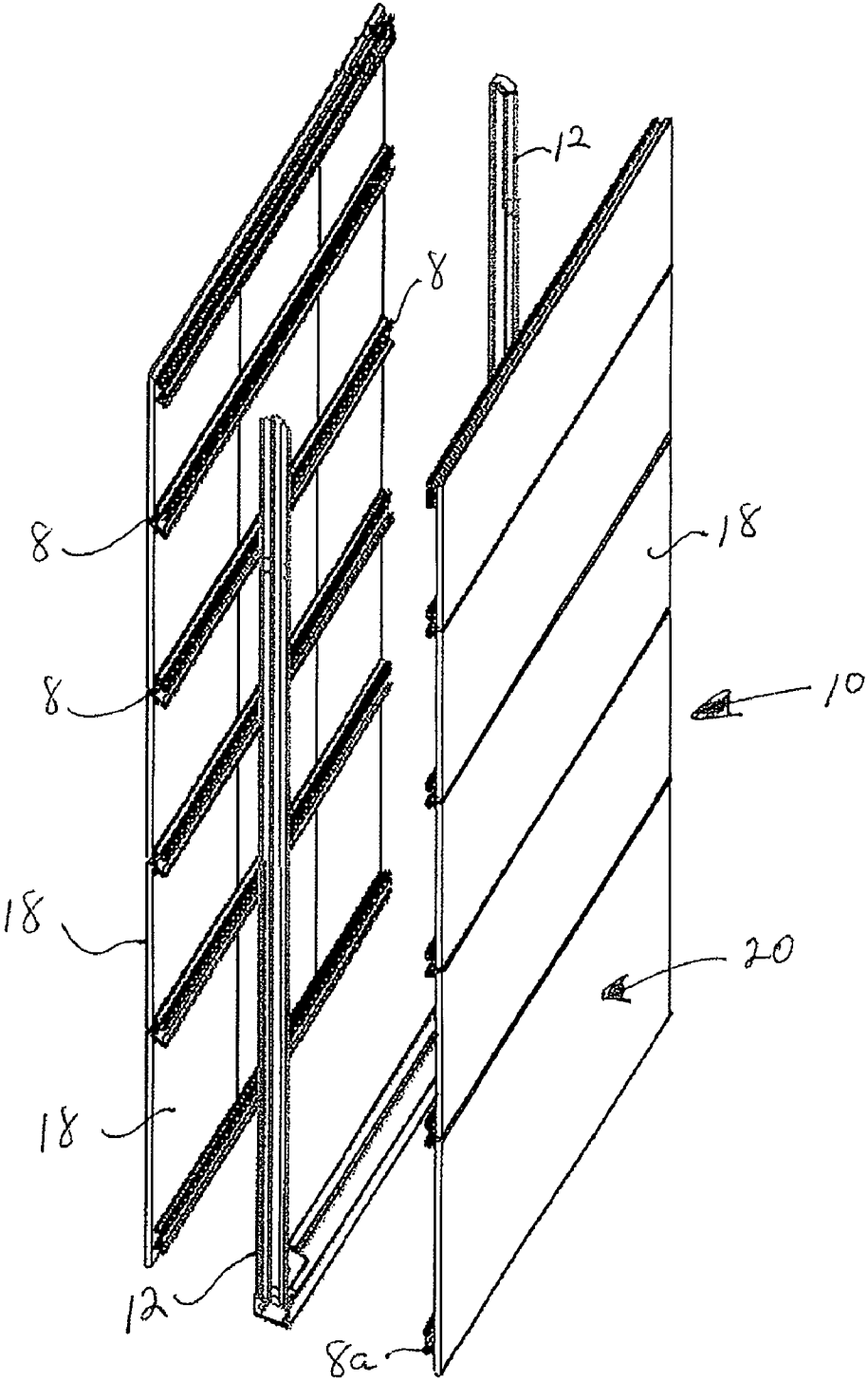


Figure 1

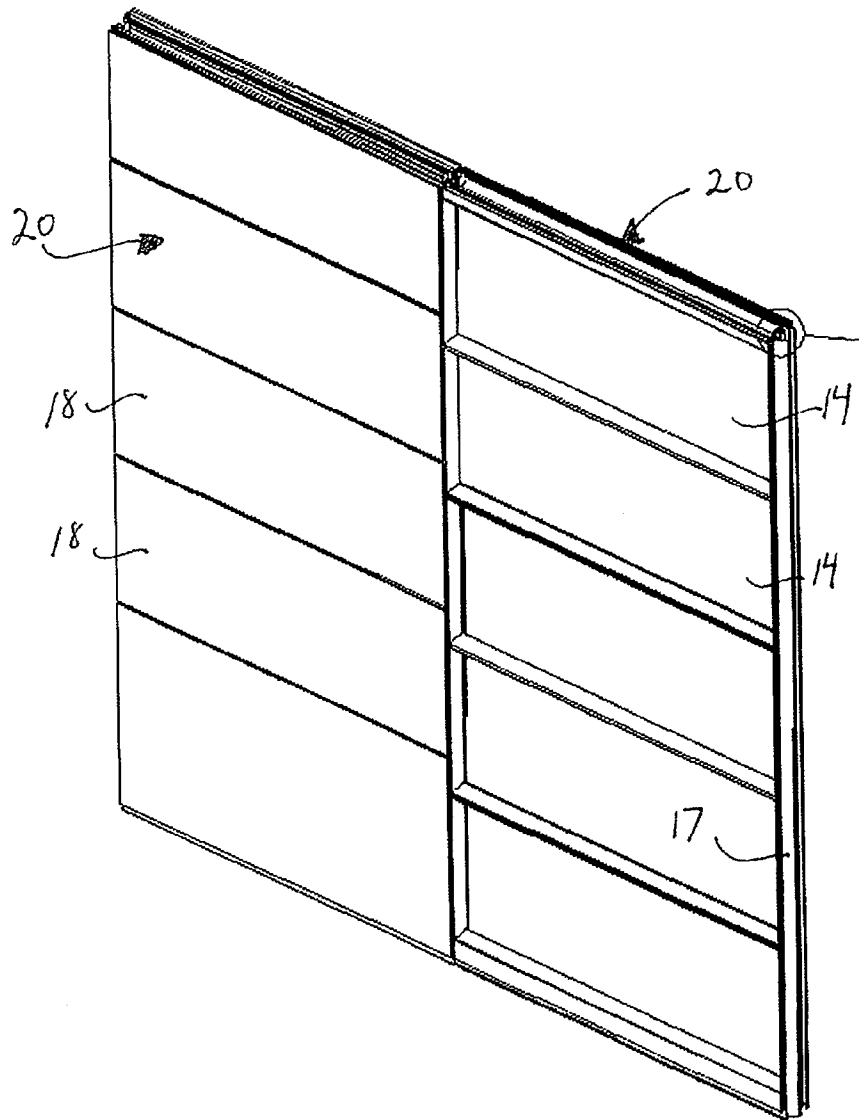


Figure 2

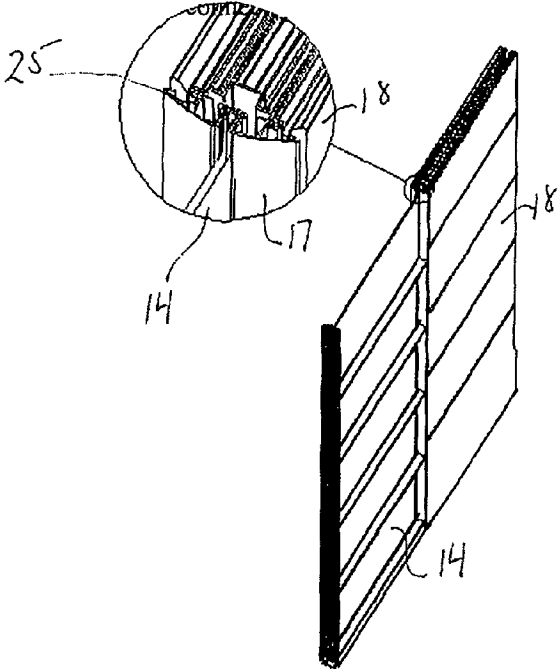


Figure 3

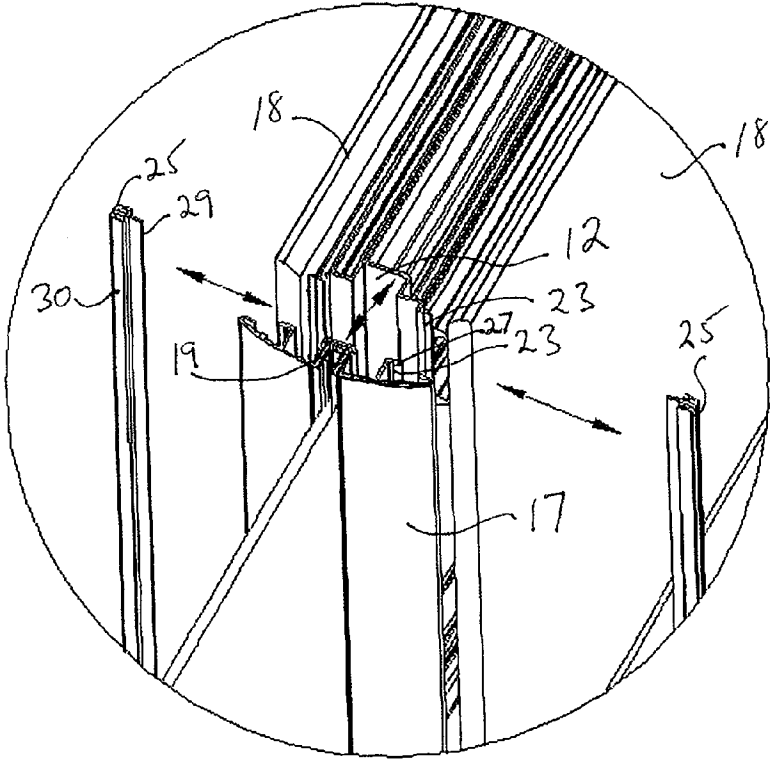


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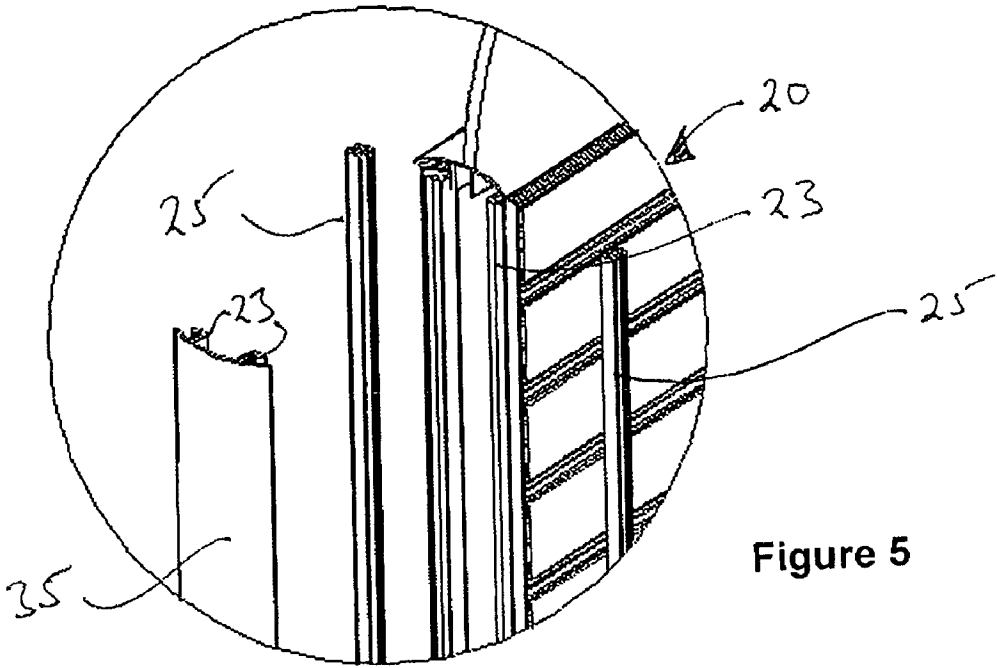


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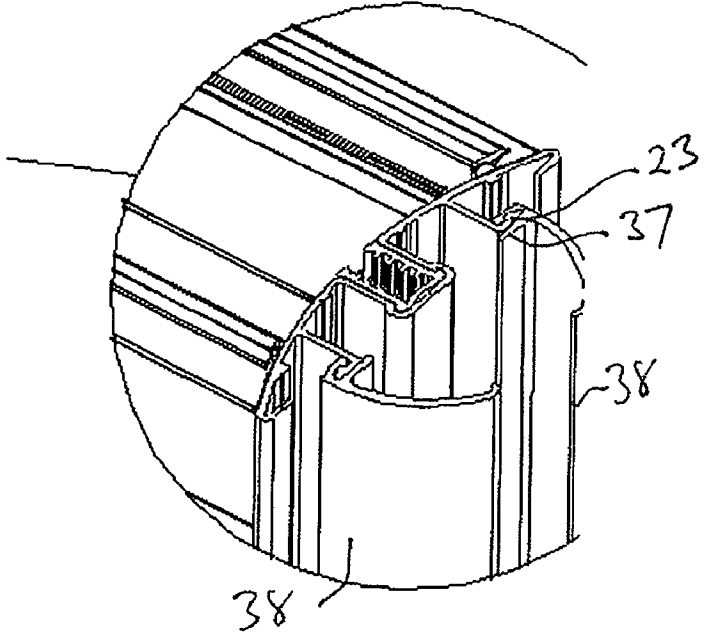


Figure 6

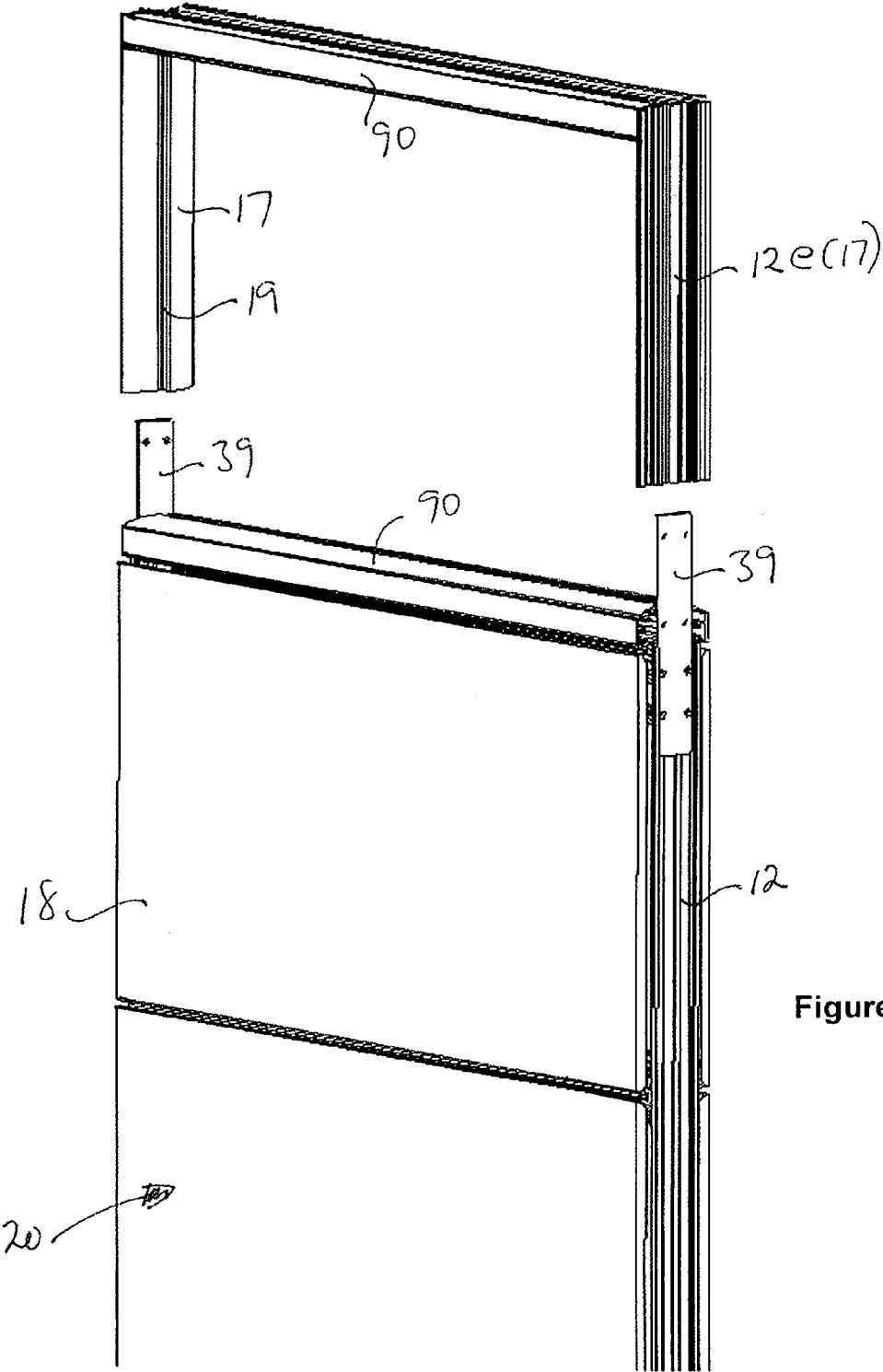


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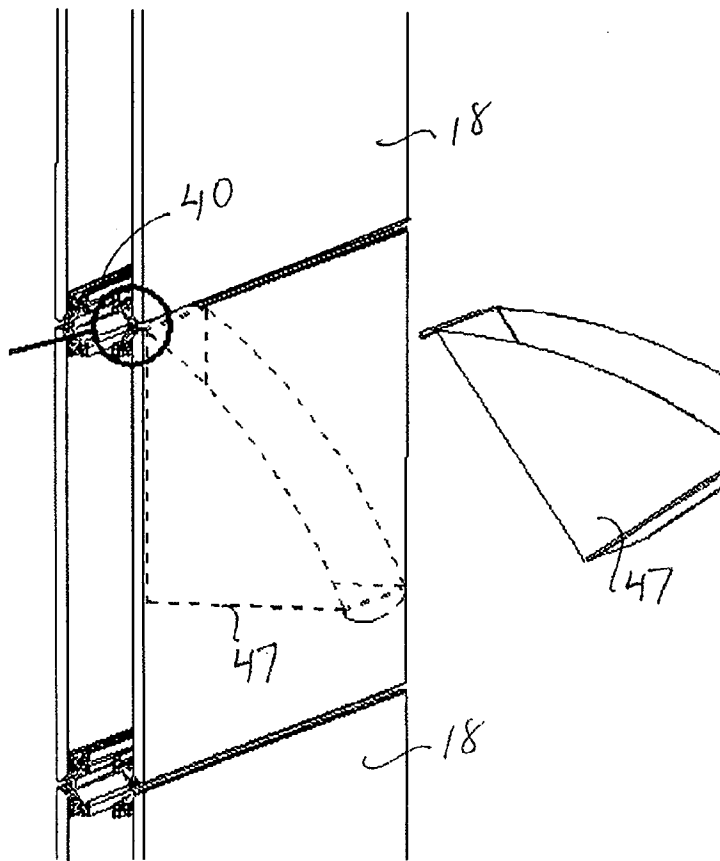


Figure 8

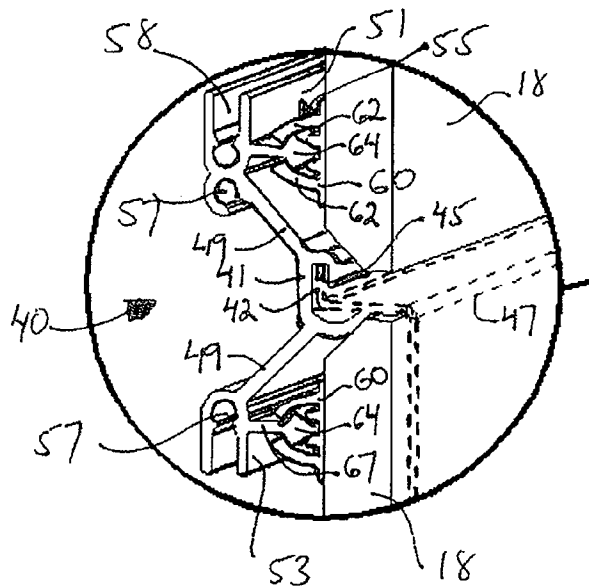


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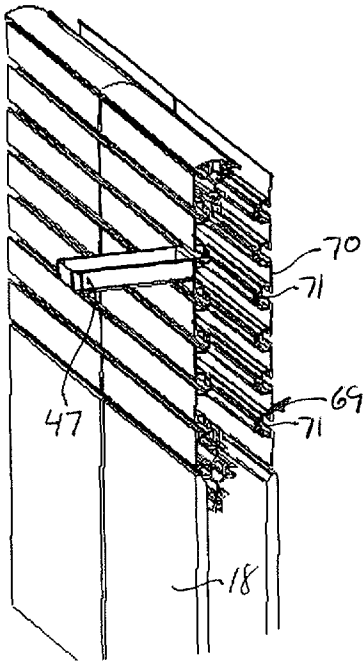


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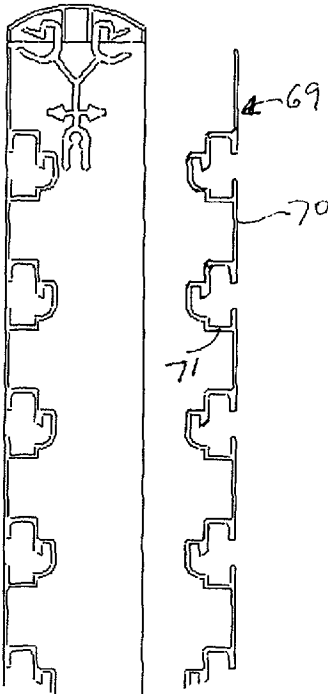


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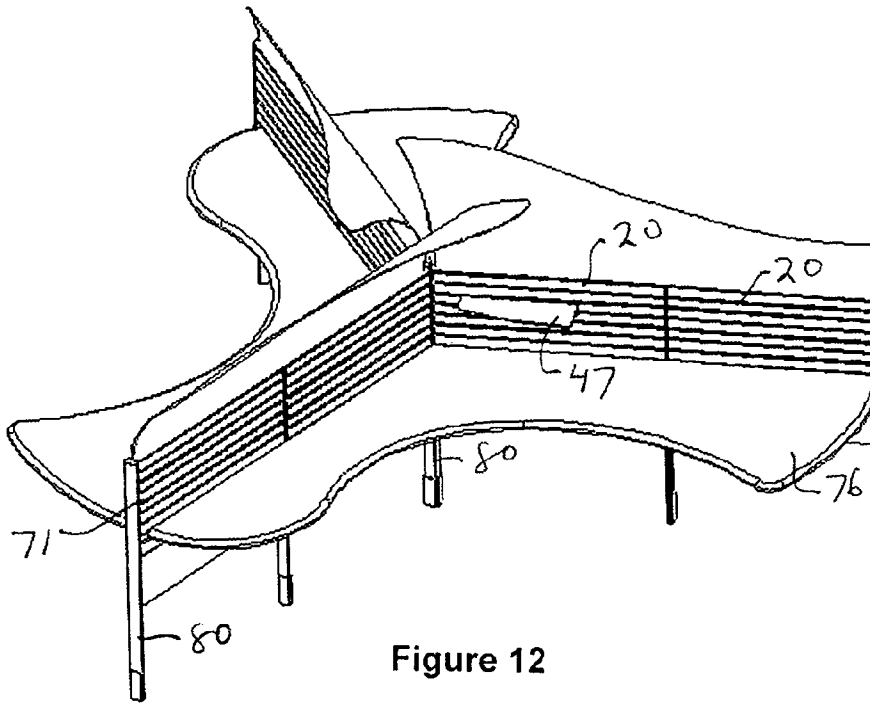


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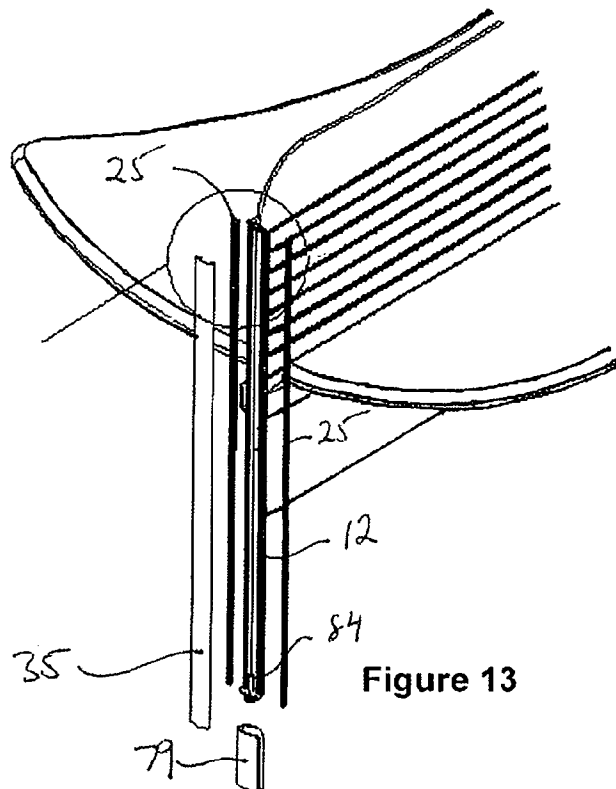


Figure 13

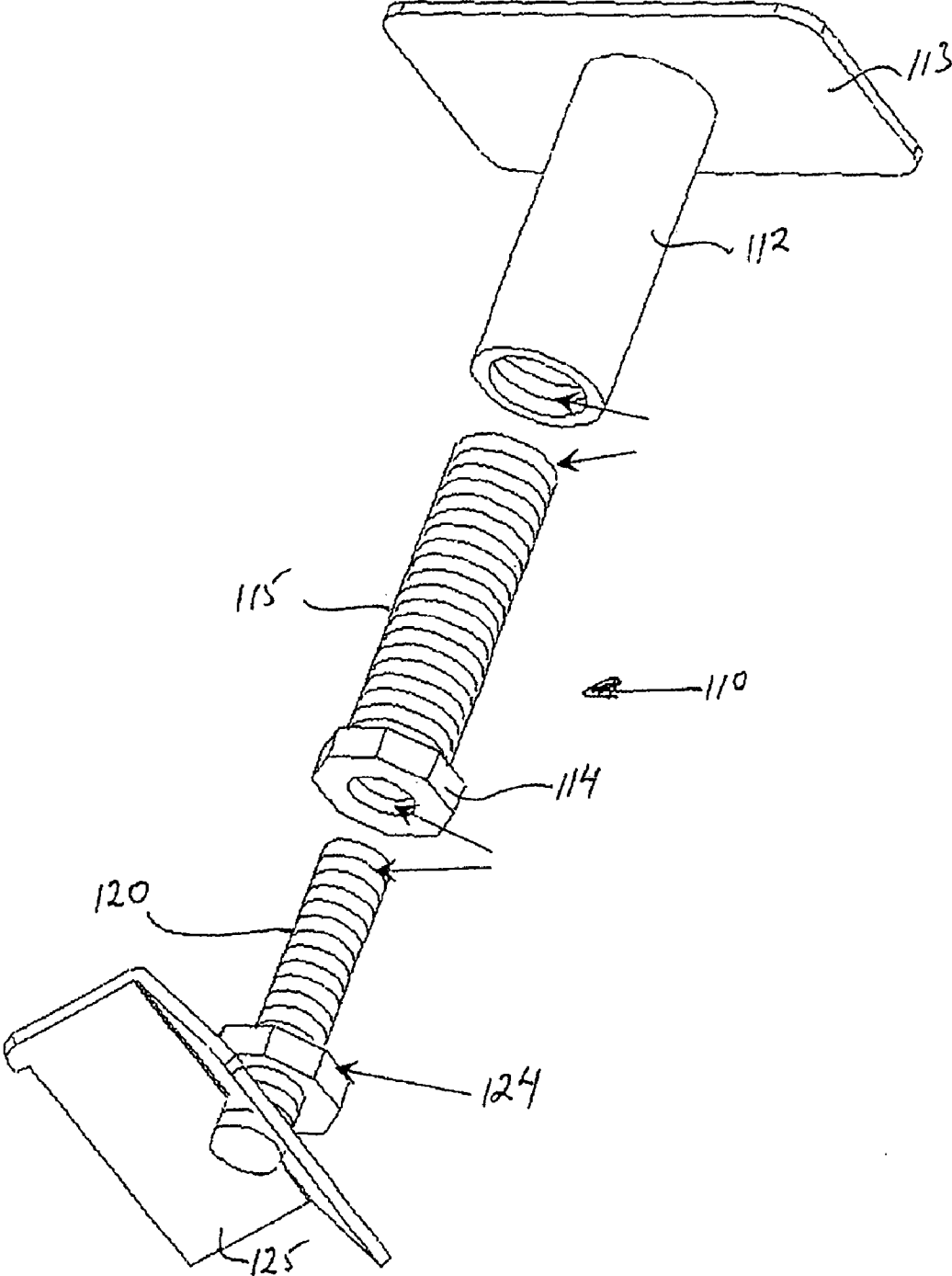


Figure 14

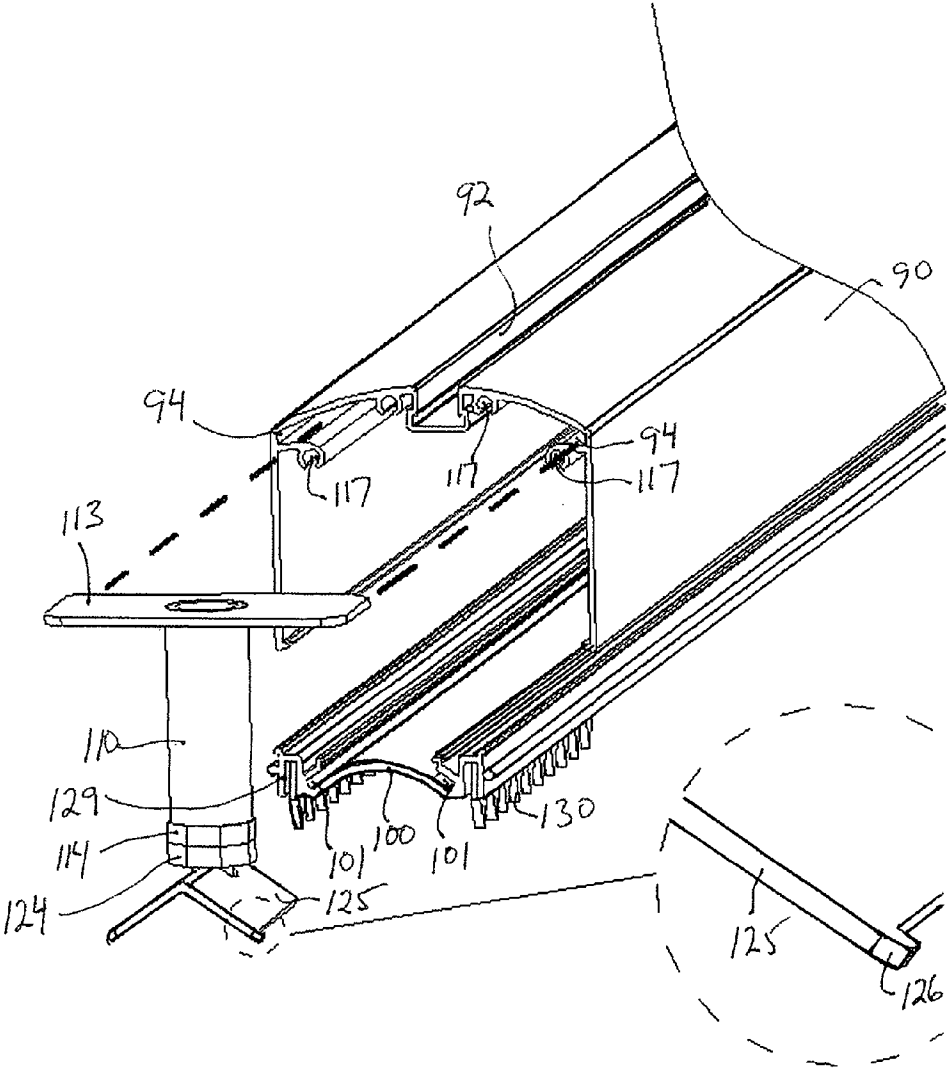


Figure 15

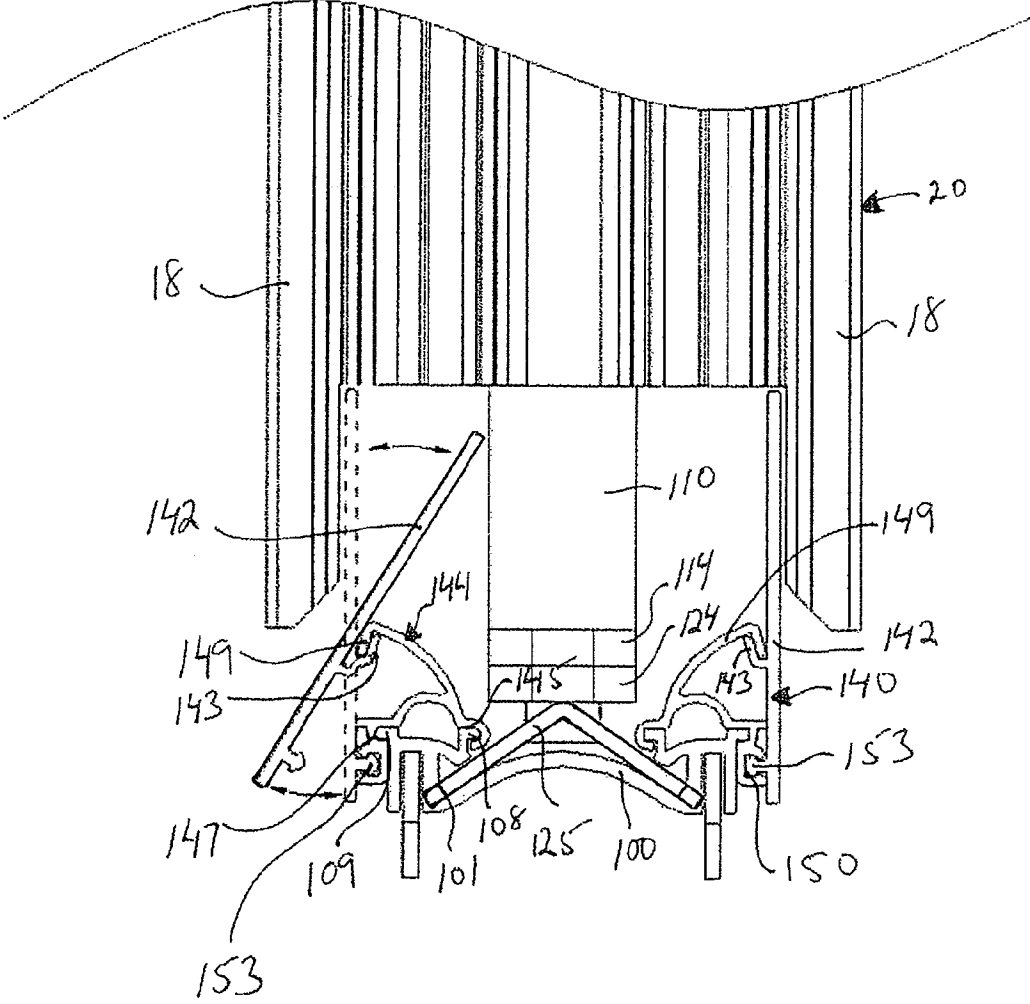


Figure 16

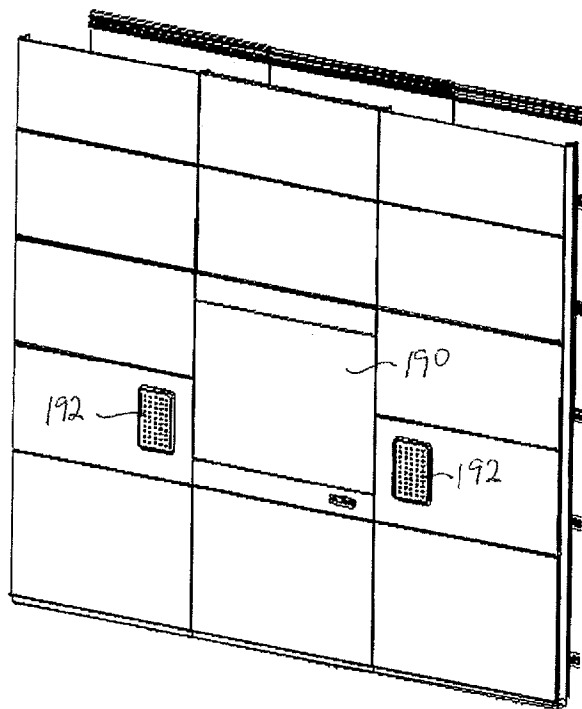


Figure 17

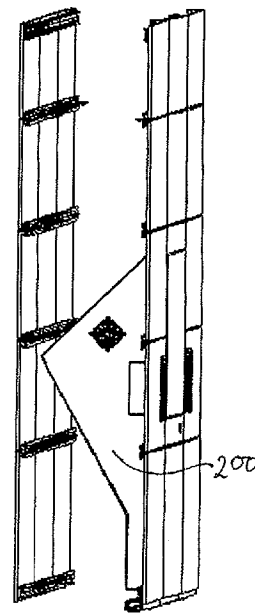


Figure 18

Figure 19

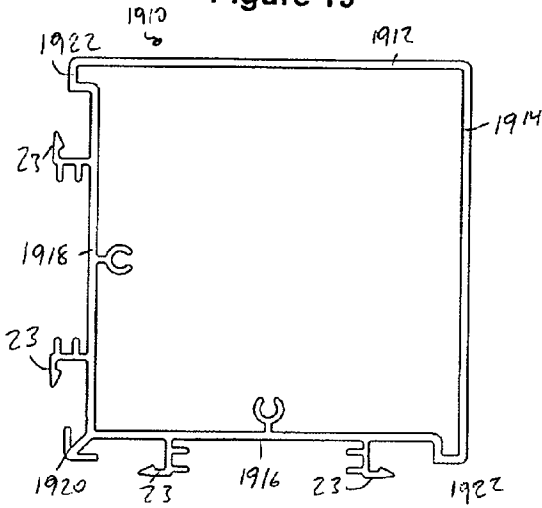


Figure 20

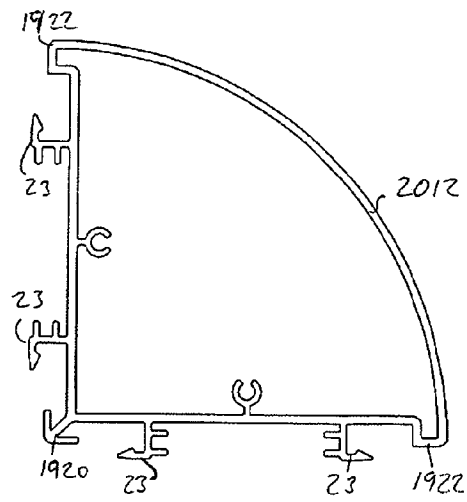


Figure 21

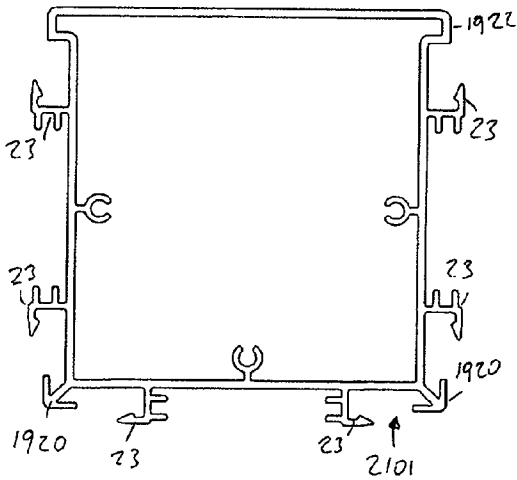
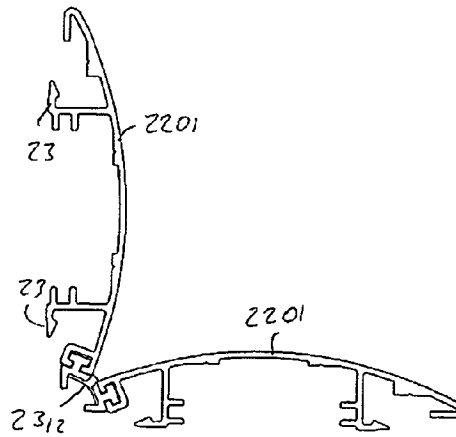


Figure 22



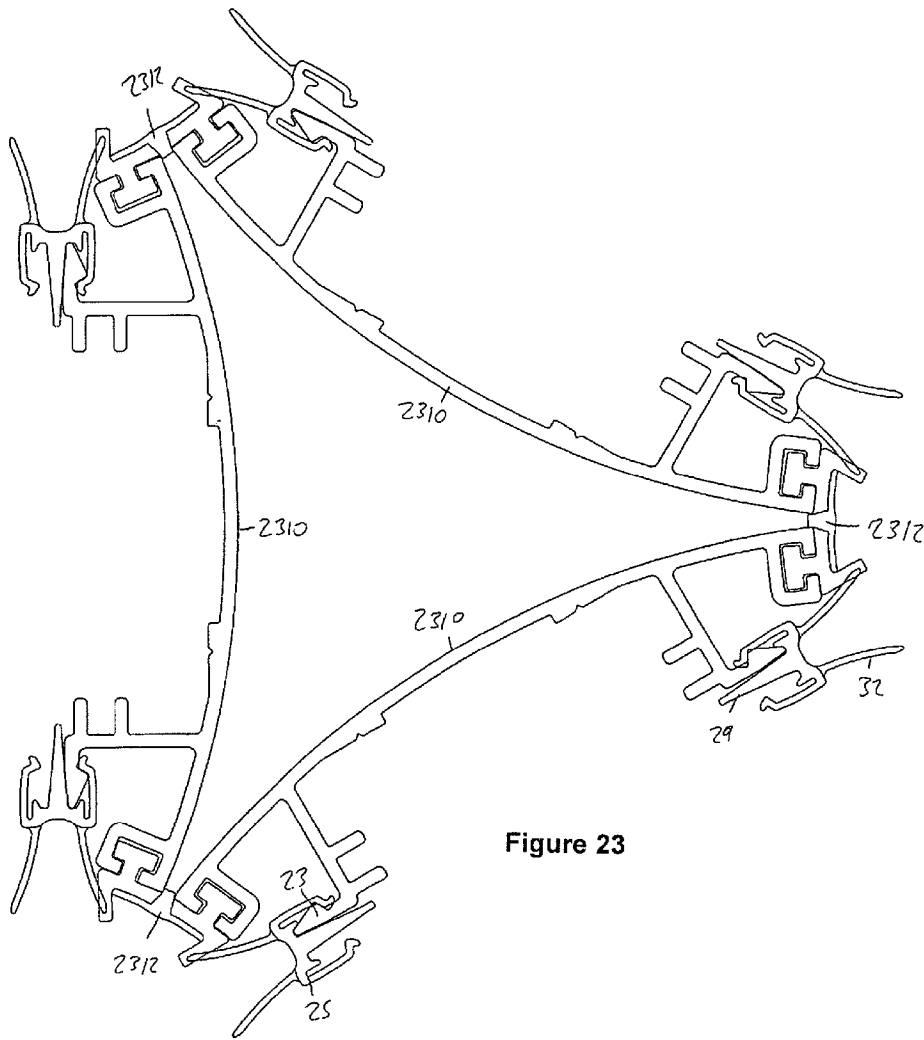


Figure 23

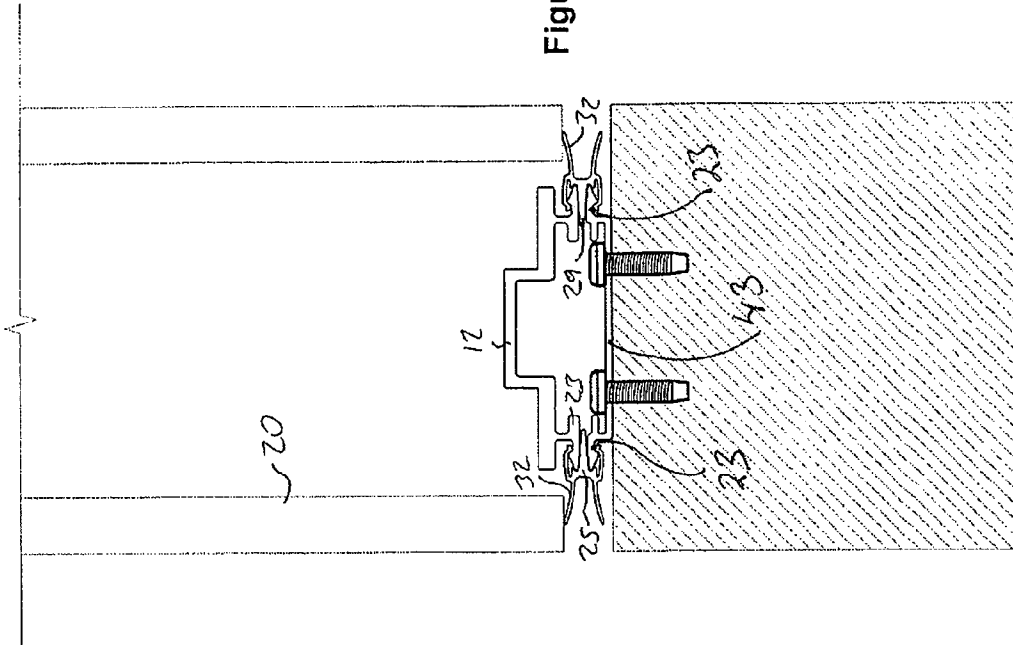


Figure 25

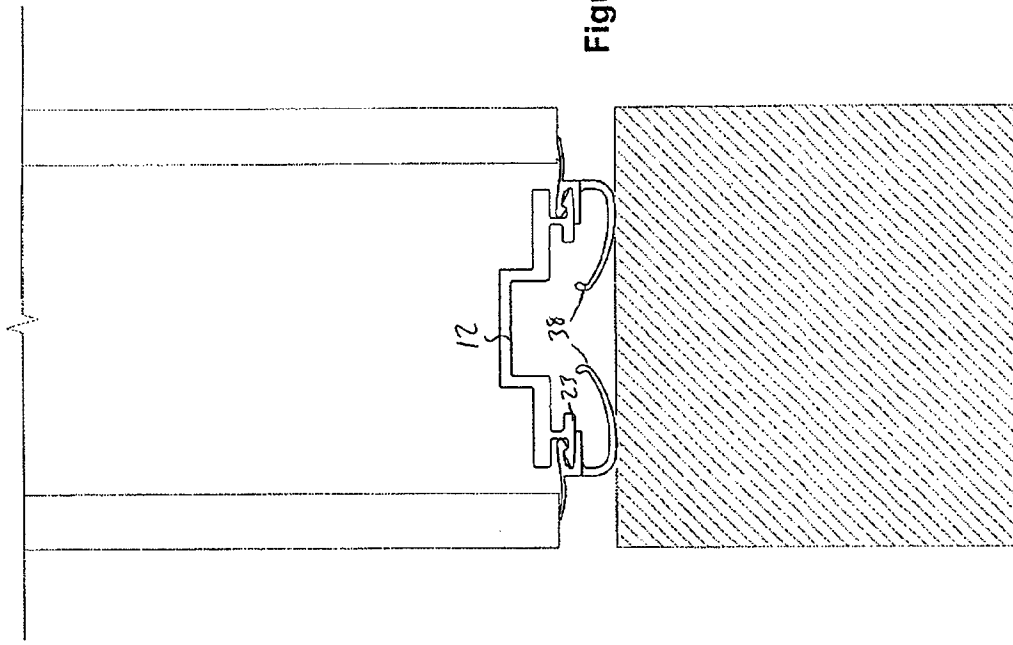


Figure 24

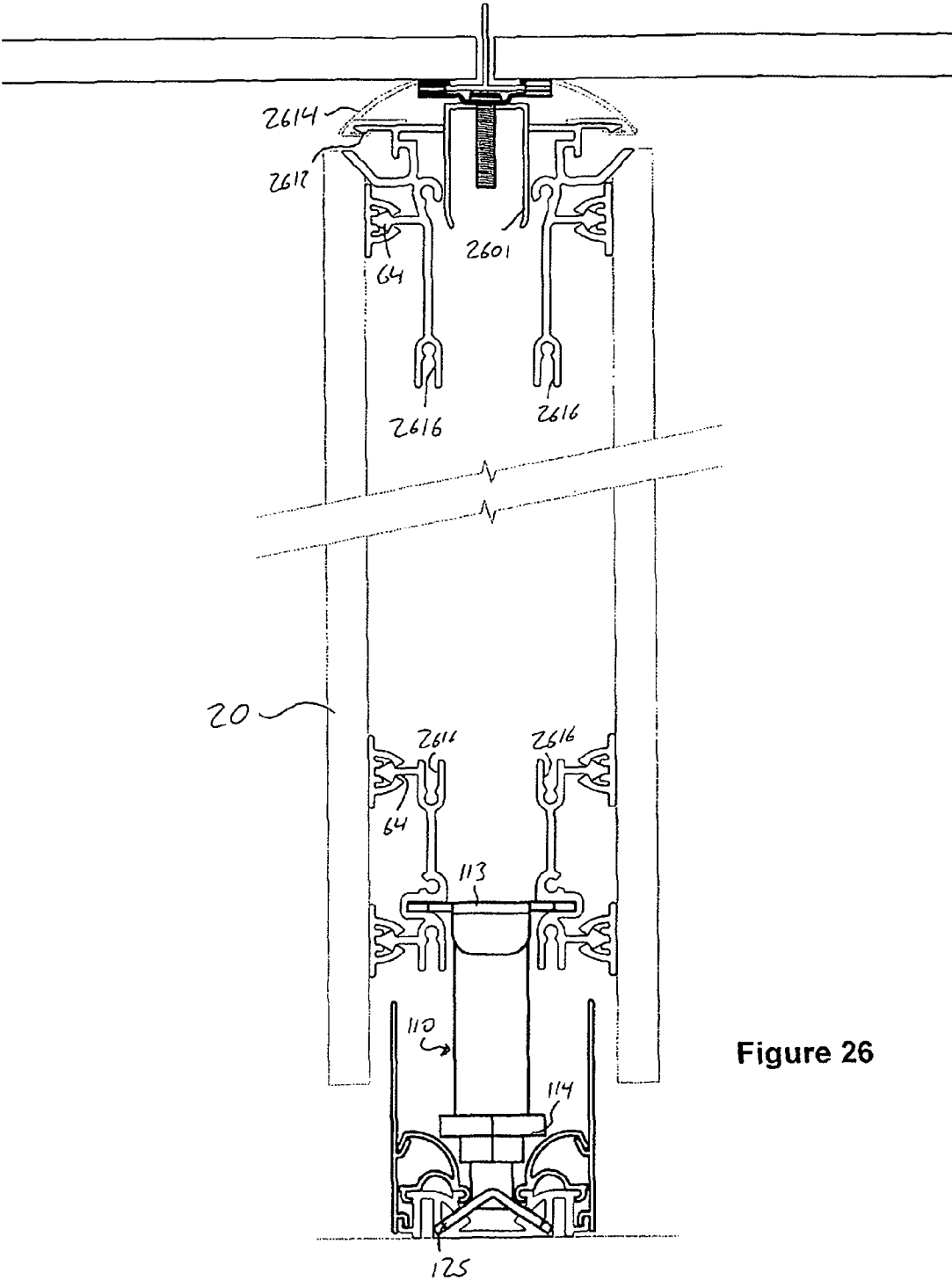


Figure 26

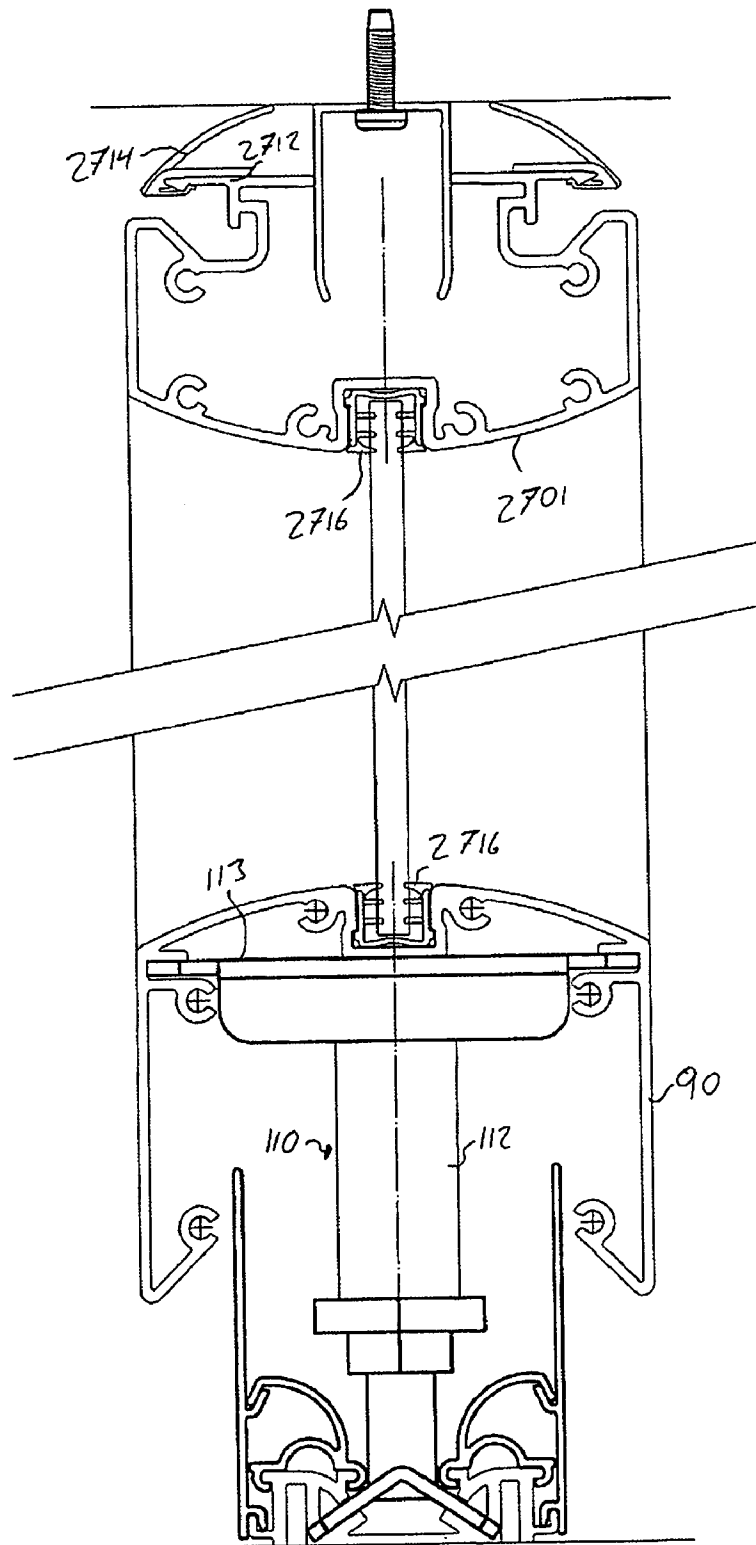


Figure 27

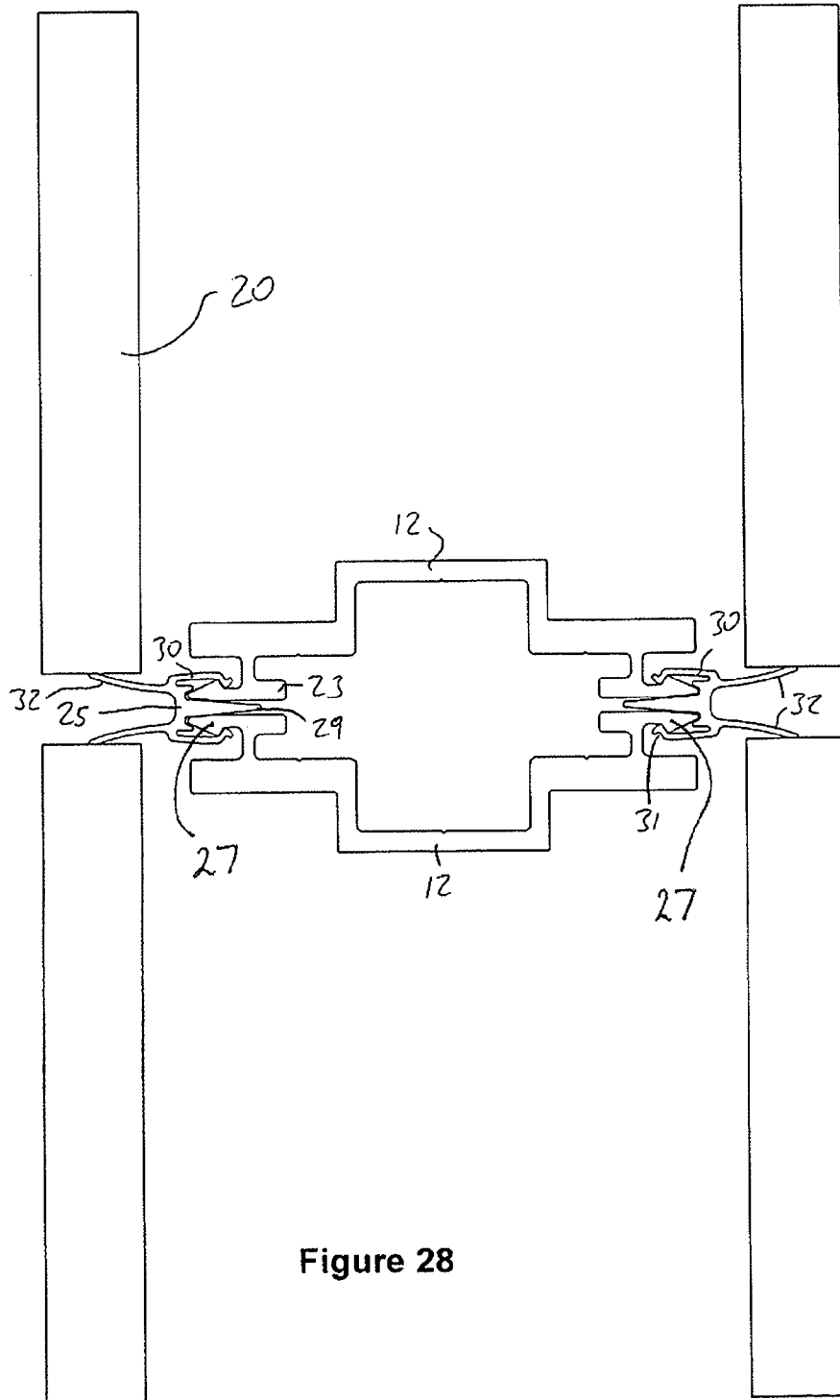


Figure 28

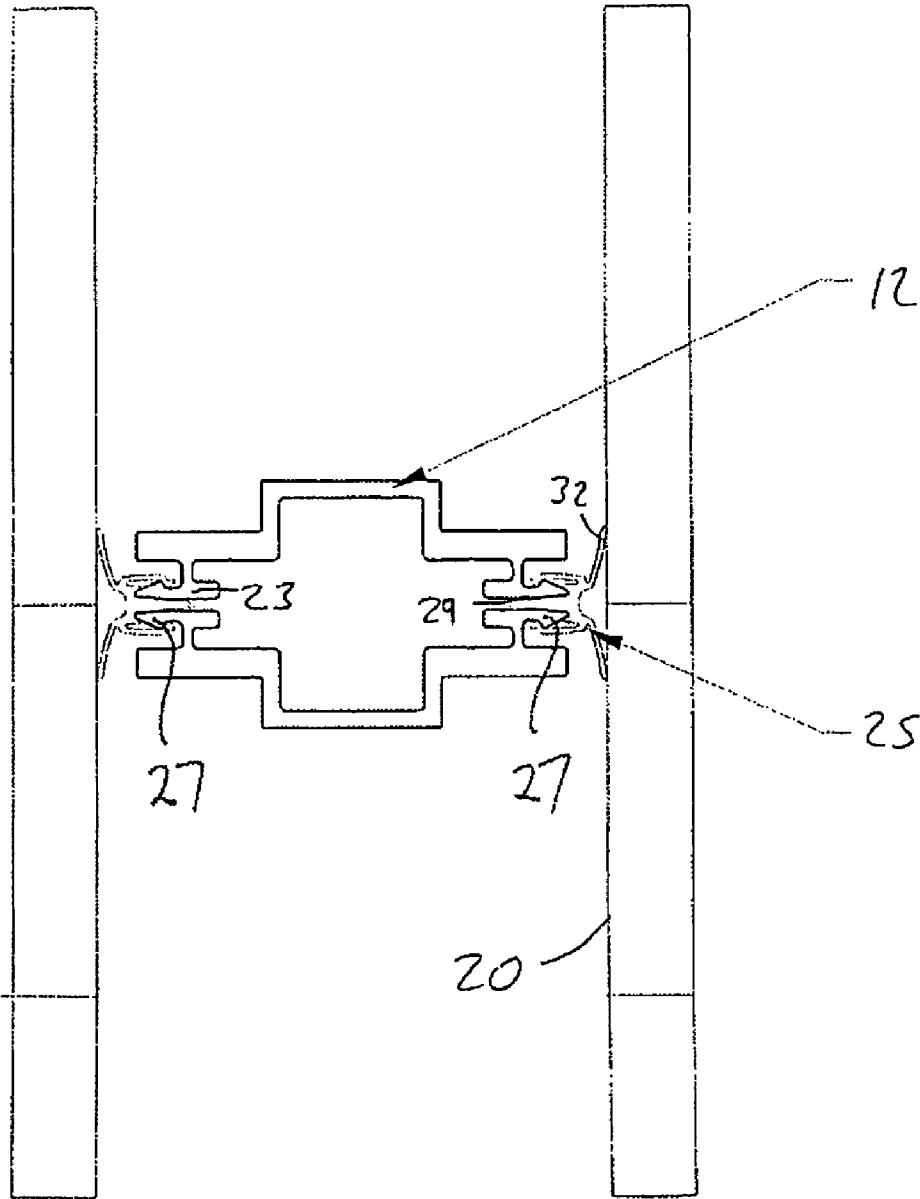


Figure 29

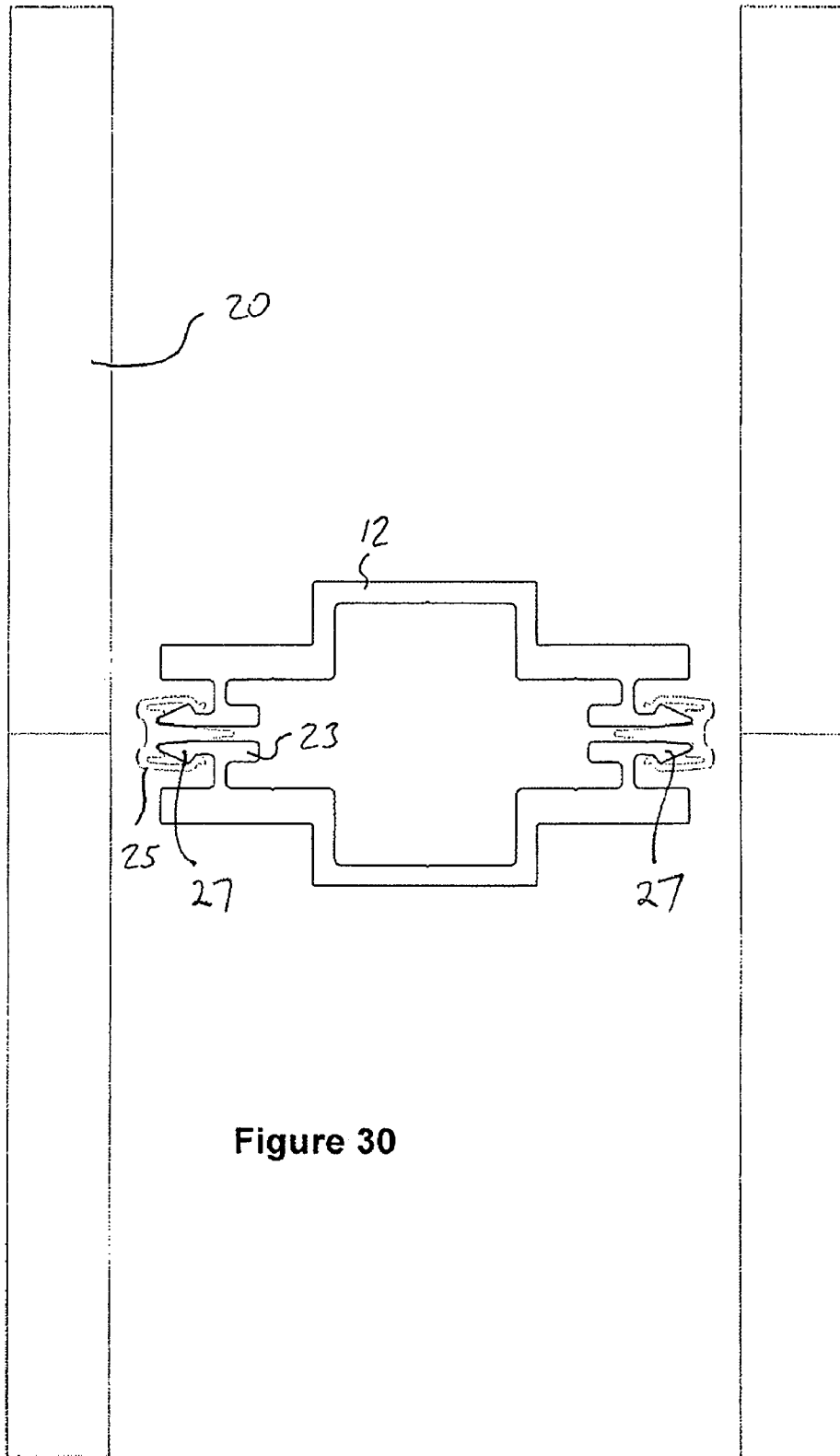


Figure 30

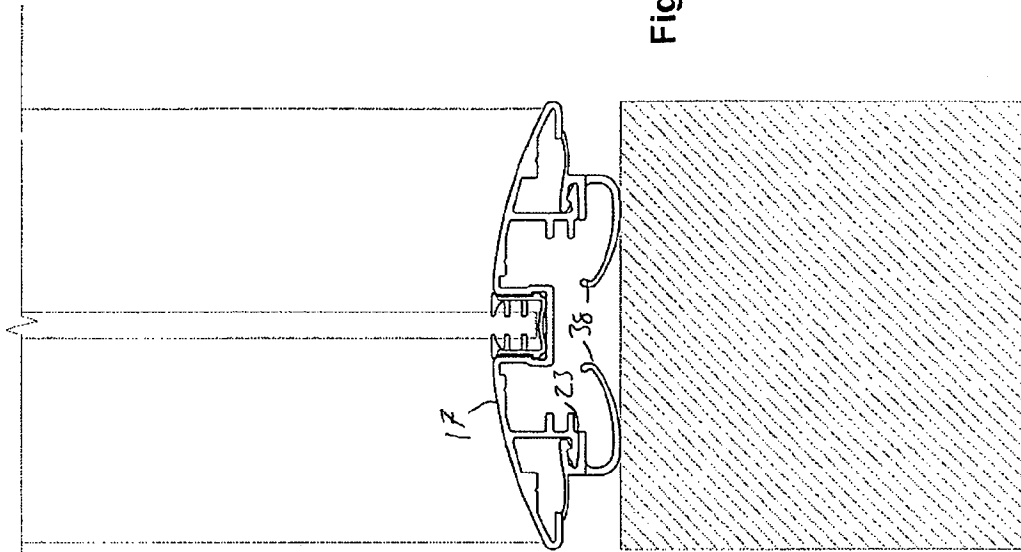


Figure 32

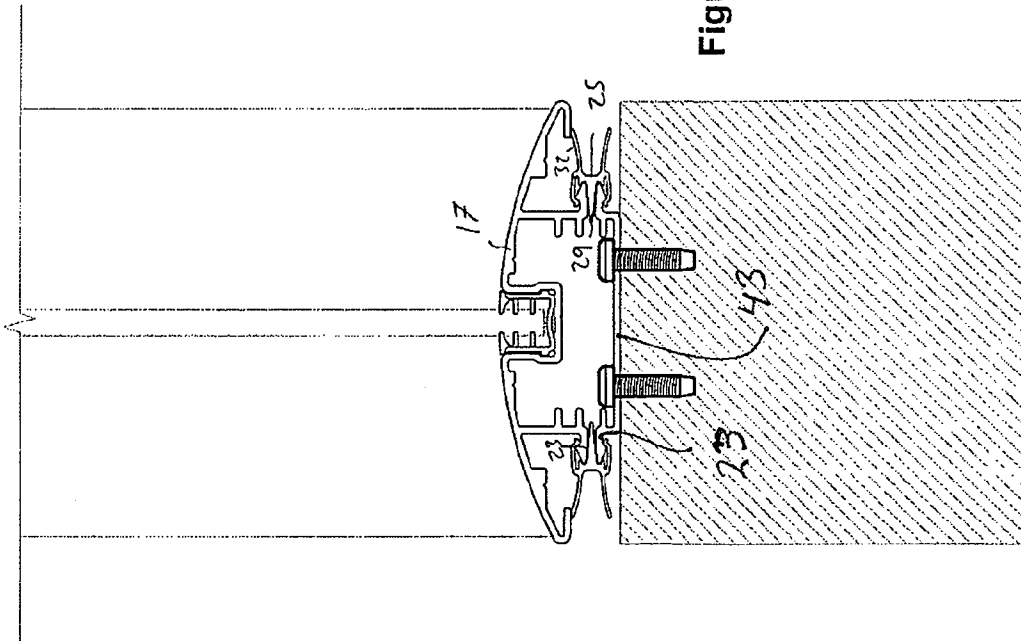


Figure 31

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INTEGRATED RECONFIGURABLE WALL SYSTEM

CROSS-REFERENCE TO RELATED APPLICATIONS

The present invention claims the benefit of the filing date of U.S. Provisional Patent Application Ser. No. 60/601,985, entitled "INTEGRATED RECONFIGURABLE WALL SYSTEM", filed Aug. 17, 2004.

FIELD OF THE INVENTION

The present invention relates to a wall moveable system, and more particularly to a reconfigurable moveable wall system comprising reconfigurable components and design elements.

BACKGROUND OF THE INVENTION

Wall systems, or dividers as they are sometimes called, are used most commonly in an office environment to separate work areas and to give people privacy where permanent walls are lacking. It is beneficial to have a wall system that is easily movable and easily reconfigured given the ever changing needs and requirements in these environments. Another important aspect in an office is to maximize available space. Aesthetics are also important, including the ability to provide the aesthetic element independently of underlying structural componentry.

Previous wall systems have lacked some or all of these attributes. Some are difficult to reconfigure or to move without significant amounts of labour and dislocation. Most systems lack the flexibility to quickly change the height of a wall, or to use or substitute different types of panels, or replace a module in the middle of a wall without taking apart the entire wall. There also is a need to be able to use the wall system against an existing wall as a curtain wall for an integrated look and to provide the design flexibility needed in those spaces bordered by permanent walls.

SUMMARY OF THE INVENTION

In a preferred embodiment, the present wall system comprises at least one module, where each module includes a frame and a plurality of tiles mounted to the frame by means of a tile clip system. Clips are attached to the rear surface of each tile and the tile is then pressed into place, aligning the clips with a capture detail on the horizontal frame stringers. Tiles can span adjacent frames where required. Horizontal frame stringers may include a cantilever channel detail where desired to allow objects to be hung along the width. A single frame comprised of two verticals frame members and a plurality of horizontal stringers mounted to an existing wall by connecting the horizontal members to brackets attached to the existing wall allows tiles to be mounted as a curtain wall on the existing wall. Two frames may be supported back to back within a framework for modules used to divide adjacent work spaces. A spline is attachable to the top of the frame to extend the frame and allow for additional tiles to be added on to increase a module's height if so desired. The spline is also used to connect a different style of frame above the existing frame if so desired. For example, this allows a framed glass module to be attached above a framed wood substrate module. Two adjacent modules are connected using a removable zipper interface. The zipper contains two flexible gasket components. Where tiles will span adjacent frames or meet one

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another without a gap, the gaskets bend back behind the tiles. Where tiles do not span adjacent frames and a gap is wanted, the gaskets point outward from the frame, between the tiles. At the edge of a module where no other module is to be connected, a starter strip may be placed, wherein the starter strip includes an integral flexible gasket which conforms to the shape of the surrounding environment while providing both light and sound baffling. The cantilever channel between tiles allows for various accessories or mill work to be supported from the outside of the module at convenient locations and to be adjusted as needed.

The present wall system also includes a glass wall module, where each module includes a frame and a plurality of glass tiles mounted within the frame. The glass may be center mounted, front mounted or rear mounted. A channel within each end frame extrusion holds a full length gasket extrusion or notch. The glass is retained within the gasket extrusion, around the full perimeter of the glass tile. Extra horizontal or vertical extrusions are attached within the frame to further divide the module into smaller areas.

The present wall system also includes levelers. Levelers include upper, middle and lower sections. The upper section includes a hollow cylinder which is threaded along the interior, and a flat upper plated perpendicular to the leveler. The middle section is a hollow cylinder where the interior and exterior surfaces are threaded in opposite directions, with a fixed nut at one end of the middle section for adjustment. The lower section includes a solid cylinder threaded to correspond with the middle section, a fixed lower nut and an inverted V-shaped lower plate. The leveler is used by having the flat plate in the upper section engage a continuous channel in an the lowermost extrusion of a module's frame, and the lower plate engaging a continuous universal foot, located beneath each module. The V-shape of the lower plate distributes the weight of the wall in the direction of the connection channels of continuous universal foot. A leveler can be placed at any location along the width of the module, allowing for a plurality of levelers to be used if needed. Along the base of the universal foot is a plurality of grippers, which can be adapted for either carpet or hard flooring surfaces. The attachment of the leveler to the module is secure and without extra fastener requirement of any sort. Sliding the leveler plates into the extrusion channels, followed by the attachment of subsequent vertical members, secures the levelers in place.

A base trim is provided which, in one embodiment, can be removably secured to the universal foot to provide access to the levelers when needed but which otherwise provides a finished look to the modules. The base trim can be modular, or span multiple frames.

Wall modules can be adapted to include integrated rear projection video systems or digital whiteboards. Front projection screens or whiteboards can be mounted within the frame confines, or spanning adjacent frames.

The present wall system provides for true curved walls. Curved wall frames are comprised of straight vertical extrusions and stretch formed horizontal extrusions which are curved to the required radius. Glass or other substrate tiles are curved to match the radius of the frame and mounted in the same manner as planar wall modules.

The present wall system can incorporate universal slat wall constructions which would accept all standard slat wall accessories. The slat wall component is a horizontal structural extrusion, interlocking above and below the cantilever channel horizontal member or other slat wall extrusions.

The present wall system can also support desktops and work surfaces using support brackets in the cantilever channel.

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The present wall system also integrates completely with a related furniture panel system. A furniture panel system is comprised of a frame and plurality of tiles attached to the frame. The furniture panel system is designed to serve as cubicle type dividers or desk type units, rather than full height walls. The integration to the furniture panel system is seamless, as the zipper connection detail, tile clip capture detail and cantilever detail are identical to the wall system connection details. All components used in or on the wall system can also be used in or on the furniture panel system.

According to the present invention then, there is provided a movable reconfigurable wall system comprising: at least one module having a front and rear surface, said at least one module having: vertical end frames disposed at least at its side edges, each said vertical end frame having a vertically extending flange directed toward said front surface and a vertically extending flange directed toward said rear surface; a plurality of horizontal stringers affixed between said pair of vertical end frames; and an aesthetic surface affixed to said stringers; and a removable connecting strip, said connecting strip adapted to affix about one of said two flanges on one of said vertical end frames and join said one of said two flanges to a corresponding flange on one of a second module, a wall bracket, a finishing trim or a connection post.

BRIEF DESCRIPTION OF THE DRAWINGS

Preferred embodiments of the applicant's integrated reconfigurable wall system will now be described in greater detail and will be better understood when read in conjunction with the following drawings in which:

FIG. 1 is an exploded perspective view of a module representative of the present tile clad wall system;

FIG. 2 is a perspective view of a wall system including two adjacent modules, one tile clad and one glass wall;

FIG. 3 is an enlarged view of a portion of the wall system of FIG. 3 showing the connection between adjacent modules;

FIG. 4 is an exploded view of FIG. 3;

FIG. 5 is a perspective view of a frame member including a finishing trim;

FIG. 6 is a perspective view of a frame member including a wall starter trim where a module meets an existing wall;

FIG. 7 is a perspective view of a height extension to an existing module;

FIG. 8 is a perspective view of a portion of a wall module showing the orientation of horizontal members with integrated cantilever channel;

FIG. 9 is an enlarged view of a portion of FIG. 8 showing cantilever bracket details and tile clip connection details;

FIG. 10 is a perspective view of a wall panel incorporating slat wall construction;

FIG. 11 is a side elevational view of the slat wall construction of FIG. 10;

FIG. 12 is a perspective view of the related panel furniture system utilizing the same connectors and slat wall extrusion to support a work surface;

FIG. 13 is a perspective, partially exploded view showing the assembly of a leg used to support the panel furniture system, utilizing the same connection zipper as the wall components of FIG. 12;

FIG. 14 is a perspective, exploded view of a leveller for use with the present wall system;

FIG. 15 is a perspective view of one embodiment of a leveller mounting system as it slides into the channel of a lower glass wall extrusion and universal foot extrusion;

FIG. 16 is a side elevational view of the base trim connection to the leveller assembly;

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FIG. 17 is a perspective, schematic view of the present wall system including integrated media panels and storage areas;

FIG. 18 is a perspective, schematic view of the present wall system incorporating an integrated media center;

FIG. 19 is a plan view of a two-way rectilinear connector for the present wall system;

FIG. 20 is a plan view of an alternative (radial) two-way connector for the present wall system;

FIG. 21 is a plan view of a three-way connector for the present wall system;

FIG. 22 is a plan view of a variance of a 90 degree connector for the present wall system;

FIG. 23 is a plan view of a 120 degree connector for three merging walls according to the present wall system;

FIG. 24 is a plan view of an end vertical and gasket for abutting existing walls with the present wall system;

FIG. 25 is a plan view of a connector for connecting to existing walls according to the present wall system;

FIG. 26 is a side elevational view of a floor leveller and ceiling connector for a solid (tile clad) wall;

FIG. 27 is a side elevational view of a floor leveller and ceiling connector for a glass wall;

FIG. 28 is a plan view of two wall panels having a gap between adjoining panels;

FIG. 29 is a plan view of two wall panels directly abutting each other and being sealed with a zipper;

FIG. 30 is a plan view of two wall panels directly abutting each other and having a zipper with no fins;

FIG. 31 is a plan view of an end vertical and gasket for abutting existing walls with the present glass wall system; and

FIG. 32 is a plan view of a connector for connecting to existing walls according to the present glass wall system.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

With reference to FIG. 1, the present invention is directed towards a wall system 10 made up of one or more modules 20. Each module comprises a pair of vertical end frames 12 that will be spaced apart by the desired width of each module. Modules 20 may be clad with tiles 18 and can be one or two sided with a finished wall surface on both sides or a finished wall surface on one side only. Tiles 18 can be made of wood, plastic, metal fabric glass or other material, and end frames 12 may be interconnected by a plurality of horizontal stringers 8 that will be described in greater detail below.

With reference to FIG. 2, the next adjacent module 20 can be identical to its neighbour, or, as shown in this figure, may consist of two vertical end frames 17 and one or more dividers 14 which can be, for example, glass or plastic if transparency is desired. End frames 17 used for such dividers are shaped as shown most clearly in FIG. 4 and include a notch 19 that receives and holds the divider's vertical edge.

Stringers 8 are horizontally spaced apart at intervals along the height of the module for strength and rigidity. To support objects, cantilever channel stringers 40, including a cantilever channel portion 41, are used, as shown in FIGS. 8 and 9. Stringers 8 that do not include channel portion 41 can be used anywhere structure is required but the channel portion is not required for supporting objects. For example, the lowest stringer 8a may not include cantilever channel portion 41. The stringers are connected to end frames 12 by fasteners, usually threaded screws, in a manner to be described below.

If the module will be visible from both sides, finishing tiles 18 can be connected to the stringers on both sides of module 20. It is not necessary that the tiles on one side of the wall be at all like the tiles on the other. They can be different materials

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or even aligned differently as shown in FIG. 1, in which the tiles on one side of the module are horizontally mounted and the tiles on the other side of the wall are vertically mounted for a different look. The tiles can also span adjacent modules, if required. If only one side of the module will be visible, which can be the case for example if the module is used as a curtain wall to cover an existing wall, its necessary to apply tiles 18 to only one side of the module as needed.

The depth or thickness of the module can be selected by varying the width of frame 12. For example, as will be described below, the modules can house a rear projection or digital video system and the greater depth is needed to enclose the componentry.

With reference to FIGS. 3, 4, 5 28 and 29, each end frame 12 and 17 includes a pair of rearwardly extending L-shaped flanges 23 that align vertically with correspondingly positioned and shaped flanges 23 on opposite end frame 12 or 17 so that frames 12 and 17 can be connected together by connecting strips ("zippers") 25. If the adjacent module 20 itself comprises an end frame 12 as shown in FIGS. 28 and 29, flanges 23 will abut and will be connected together in the same manner using zippers 25. As shown most clearly in FIG. 28, each of flanges 23 is formed with a bead 27. Each zipper 25 is generally T-shaped in cross-sectional shape and includes a central spine 29 that fits between flanges 23 and a pair of arms 30 on opposite sides of the spine. Each arm includes a bead 31 that snap fits with beads 27 on flanges 23 for a secure but releasable connection. When two adjacent modules are connected together in this way, there is enough of a gap between them that the zippers can be accessed for removal, allowing an individual module to be removed should the need arise.

As illustrated in FIGS. 28 and 29, each zipper can also include a pair of flexible extended fins 32 extending rearwardly from the spine 29. Depending on the application, a user may wish adjacent modules to be abutted together completely or to have a gap between them. In FIG. 28, a gap exists between the modules, and this gap is sealed using extending fins 32. As will be appreciated by those skilled in the art, the width of the gap is variable since extensions 32 are flexible and can accommodate various widths.

If no gap is desired, or if tiles span adjacent modules, FIG. 29 illustrates an embodiment having adjacent panels. In this case extensions 32 are behind each panel, and the force of extensions 32 against the rearward side of the module creates an acoustic seal for the wall.

In an alternative embodiment illustrated in FIG. 30, it is also possible to have a zipper 25 without extensions 32. This may be desirable when modules 20 abut and an acoustical seal is not required.

FIG. 5 shows an end piece 35 similar to end frame 17 but lacking notch 19. This end piece is therefore used to finish the vertical edge of module 20 using zippers 25 if no additional module is to be connected to it.

If either of frames 12 or 17 is to start, or end, at an existing wall, flexible starter strips 37 can snap-fit onto flanges 23 as shown most clearly in FIG. 6. Starter strips 37 include curved flexible gaskets 38 which will conform to the shape of the existing wall and will provide sound and light barriers. This can also be seen in FIGS. 24 and 32.

Alternatively, as illustrated in FIGS. 25 and 31, a wall start 43 can be mounted to an existing wall to provide a start to a module. Wall start 43 is preferably an aluminum extrusion mounted vertically to an existing wall using known mounting techniques. The mounting technique of screws shown in FIG. 25 is not meant to be limiting.

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Wall start 43 includes a flanges 23 and is connected to an end frame 12 or 17 using a zipper 25. As indicated above, extensions 32 can provide a seal against the wall and panel.

To increase the height of an existing module 20, or to combine a glass module above or below a tile-clad module, a spline 39 can be used to connect end frame 12 (or 17) to an extension frame 12e as shown most clearly in FIG. 7. Actually, as shown in this figure, extension frame 12e is a length of frame 17, which allows the lower portion of the wall to be hung with standard tiles and the upper extended portion of the wall to be finished in a glass or plastic divider 14 for a combination of finished looks. The upper and lower extrusions 90, which complete the framing of divider 14, will be described below in connection with a levelling system in which the same extrusion is used.

It is desirable that work surfaces, mill work and wall accessories such as trays or document holders be connectable to modules 20. This can be easily achieved in the present system by using cantilever channel stringers 40 with channel brackets horizontally disposed in the channel between adjacent tiles 18 as shown most clearly in FIGS. 8 and 9.

Each channel stringer 40 includes a central horizontally extending channel portion 41 with a generally L-shaped slot 42 formed along its length adapted to receive and engage a substantially L-shaped hook 45 formed on a wall accessory 47 such as the document holder shown in FIG. 8. A pair of diagonally extending webs 49 connects channel portion 41 to upper and lower portions 51 and 53 respectively. Each portion includes a tile support 55 that is the connection point for the tiles 18 that are mounted above and below channel portion 41. More specifically, the upper and lower edges of tiles 18 are provided with a connector strip 60 attached by means of screws, adhesive or any other suitable fastening. Each strip includes a pair of opposed flexible arms 62 to snap-fit with a generally arrow shaped bead 64 formed along the edge of flanges 67 that are formed on and extend the length of each upper and lower portion 51 and 53. This allows individual tiles 18 to be removed or replaced without having to disassemble the entire wall. The flanges 23 formed on vertical end frames 12 and 17 that are connected together by zippers 25 are located sufficiently inwardly that the zippers will not interfere with the continuity of slot 42 from one module to the next so that wall accessories, mill work or work surfaces can be connected or moved between modules without interference.

The upper and lower edges of tiles 18 that abut channel portion 41 of each channel bracket are camphored for clearance as seen most clearly in FIG. 9.

The upper and lower portions 51 and 53 of the channel stringer 40 are advantageously formed with longitudinally extended circular recesses 57 and inner channels 58. Recesses 57 are adapted to receive screws used to connect end frames 12 or 17 to channel stringers 40. Channels 58 can be used to support mounting hardware for audio-video equipment mounted within the modules, cable management clips or any other hardware to be housed or contained in the module's interior. Channels 58 are also used to connect a single-sided tile clad module to brackets attached to existing wall surfaces.

With reference to FIG. 10, another embodiment of the invention is shown incorporating a section of standard slat wall 69 including slats 70 and slat wall channels 71 for connection to all slat wall accessories 47. Slat wall panels can make up some or all of the panels incorporated into any one module 20 and the modules themselves are configured for use with end frames 12 and zippers 25 so that the modules themselves can be connected together in any desired combination. Slat wall modules can be one (FIG. 11) or two sided (FIG. 10) for use as either dividing or curtain walls.

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As shown in FIG. 12, in the applicant's related panel furniture system, a work surface or desktop 76 can be connected to modules 20. The desktop 76 can hook into either cantilevered channel stringers 40 or into slat wall channels 71 and otherwise the construction of the individual modules 20 is the same as described above for wall system 10. Furniture legs 80 shown in the example of FIG. 12 consist of a vertical frame 12 zipper connected to a finishing end extrusion 35 using zippers 25 as shown in FIG. 13, in the same manner as the wall system 10. The lower end of each furniture leg 80 is finished with a concentric sleeve 79 which conceals a threaded bolt 84 in the lower end of each leg which can be used for levelling.

As illustrated in FIG. 23, three vertical extrusions 2310 are connected to each other to create the connection point for the three wall systems, and each wall meets the others at an angle of 120 degrees.

In the case of modules having tiles that extend all the way down to the floor, applicant has developed a leveller mounting system that allows levellers to be placed anywhere along the length of a module and extra levellers to be added where needed. There are two variations of the leveller mounting system shown in FIGS. 15 and 16, one to be used with modules comprising tiles 18, and the other with modules using glass or plastic dividers.

Referring first to FIG. 15, this is the levelling system to be used with modules having glass or plastic dividers extending down to floor level. This system includes a structural extrusion 90, which is generally an inverted U-shaped channel with a notch 92 to engage the lower edge of the glass or plastic divider, and a universal foot 100.

Extrusion 90 and universal foot 100 are interconnected by means of dual threaded levellers 110, an example of which is shown in FIG. 14.

Leveller 110 has three distinct sections, an upper section 112, a middle section 115 and a lower section 120. Upper section 112 is cylindrical in shape and is internally left or right hand threaded. A plate 113 is connected to the section's upper end for a permanent connection thereto. Middle section 115 is both internally and externally threaded. The external threads will match the direction of the internal threads on upper section 112 while the internal threads will be in the opposite direction to match the external threading of lower portion 120. A fixed middle nut 114 is disposed at the lower end of middle section 115. Nut 114 can be used to turn middle section 115 relative to the upper and lower sections of the leveller.

As mentioned, the lower section 120 of the leveller is externally threaded and the threading will be in the opposite direction to the internal threading of upper section 112. In this way, each turn of nut 114 doubles the expansion or contraction of the leveller to halve the levelling time. The lower end of section 120 includes its own fixed adjustment nut 124 and an inverted V-shaped lower plate 125.

FIG. 15 shows how leveller 110 is installed. Plate 113 aligns with channels 94 in extrusion 90 to be slidable along the length of the channel to any desired location. The V-shaped lower plate 125 aligns with and slides into grooves 101 in foot 100. Those levellers that fit at the end of a foot are slightly modified to include tabs 126 at the outer corners of plate 125 which prevent the plate from moving inwardly. When vertical end frames 12 or 17 are attached to extrusion 90, plate 113 is prevented from moving outwardly so that the leveller is held in its position at the very end of foot 100. Frames 12 or 17 are connected to extrusion 90 by means of screws that thread into one or more of circular slots 117 in the extrusion.

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If modules 20 are situated atop carpet, toothed carpet grippers 130 are inserted into slots 129 in foot 100. If the modules are installed on hard surfaces, nonskid grippers can be inserted instead. The grippers can be placed precisely where needed to bear the modules weight and can be easily moved, replaced or switched over as needed.

FIG. 16 shows a leveller 110 installed on modules 20 and illustrates the installation of base trim 140 used to conceal the levellers 110 when they're not being adjusted. In this view, plate 113 is again slidably received into channels formed in the module's lowermost extrusion and plate 125 is received into grooves 101 in foot 100. The base trim 140 includes baseboards 142 and snap pieces 144 snap-fit onto foot 100 as shown with grooves 145 and 147 on the snap piece engaging flanges 108 and 109 on the foot. Each snap piece includes a longitudinally extending elevated hook 149 and a similarly longitudinally extending channel 150. Each baseboard includes a hook 143 to engage hook 149 on the snap piece, and a bead 153 that snap fits into channel 150 to retain the baseboards in a vertical position to provide a finished look. Because the baseboards are installed usually after the modules have been assembled together, the boards can span multiple modules for longer runs and fewer seams.

Reference is now made to FIGS. 26 and 27. As illustrated, besides the bottom connection with the leveller (as described with relation to FIGS. 15 and 16 above), a ceiling connection is also preferred.

FIG. 26 shows a ceiling connection for a solid wall, such as those described above having tile cladding. A ceiling track 2601 is affixed to the ceiling above the area for the desired wall. Each module includes two horizontal uppers 2610 abut thereto (on either side of the ceiling track), the horizontal upper including an upper flange 2612. A ceiling trim 2614 is affixed to upper flange 2612. Ceiling trim 2614 is flexible and allows variable spacing of the wall with the ceiling. Specifically, the trim 2614 will flex to allow the wall to move closer or further from the wall as required based on levelling needs.

Horizontal upper 2610 further includes a bead 64 as described above to attach a tile to the horizontal upper. Further, recesses 2616 are used to attach horizontal uppers to frames 12 or 17.

To affix a wall, an installer can first install ceiling track 2601 in the correct location. The wall is then created with levellers 110 in a lowermost position. The levellers 110 are then extended to level the wall and to further cause horizontal uppers 2610 to abut ceiling track 2601 on either side of ceiling track 2601, as illustrated in FIG. 26.

Alternatively, if a divider such as a glass panel is being used, a one piece upper 2701 can be used, as illustrated in FIG. 27. The one piece upper 2701 comprises a flange 2712 to connect a ceiling trim 2714 to. Ceiling trim 2714 is preferably the same as ceiling trim 2614. Upper 2701 further includes a channel 2716 for receiving a divider.

The present wall system 10 includes curved walls using curved aluminum stringers and extrusions and curved tiles 18. In conventional systems, curved walls are constructed of faceted panels rather than true, radii arcs. A curved wall is illustrated in FIG. 19.

With reference to FIG. 17, a module 20 is shown in which a couple of tiles 18 have been replaced with an integrated media panel 190. The panel can be a Fresnel lens, a plasma screen, an LCD screen or a digital whiteboard. Rear projection technology can be used to project images onto the Fresnel lens, or the digital whiteboard technology allows sketching, writing, layout or computer screen emulation. In the example

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shown, adjacent tiles **18** incorporate speakers **192** to provide sound. Tile **18** surrounding the screen area can be used for integrated storage areas.

With reference to FIG. **18**, there is shown schematically a module **20** with an integrated media center **200** suspended therein.

Various connectors are also provided to allow the present reconfigurable wall system to form corners. Reference is now made to FIGS. **19**, **20**, **21** and **22**.

FIG. **19** illustrates a two-way rectilinear connector **1910**. Connector **1910** includes a finished outer surface on sides **1912** and **1914**. Further, flanges **23** are provided on sides **1916** and **1918**. Flanges **23** can be used with zipper **25** to connect to end frames **12** or **17**. An extension **1920** extends between sides **1916** and **1918** to form a finished corner once modules **20** are connected to these sides. Further, sides **1912** and **1914** include an elongate end **1922** for hiding zipper **25** and creating a finished surface.

FIG. **20** is similar to FIG. **19**, with the principle difference being the radial finished outer surface **2012** replacing sides **1912** and **1914**. Otherwise similar reference numerals are used between FIGS. **19** and **20**.

FIG. **21** illustrates a three way connector for a "T" connection. Three modules **20** are connected to connector **2101**. Connector **2101** includes a finished outer surface **2112**. Flanges **23** are used to connect modules **20**. Extensions **1920** provide a finished look between adjacent modules **20**. Further, elongate end **1922** provides a finished look on the outside of the wall.

FIG. **22** illustrates an alternative 90 degree connector. In this case, an extrusion **2201** is affixed to the end of a module **20**. Two extrusions are connected using a connector **2312**. Since connector **2312** is flexible, an angle greater than or less than 90 degrees is possible. In a preferred embodiment, the swing on the connector is approximately 15 degrees.

The above-described embodiments of the present invention are meant to be illustrative of preferred embodiments and are not intended to limit the scope of the present invention. Various modifications, which would be readily apparent to one skilled in the art, are intended to be within the scope of the present invention. The only limitations to the scope of the present invention are set forth in the following claims appended hereto.

What is claimed is:

1. A movable reconfigurable wall system comprising:

a) at least one wall module having a front and rear surface and top, bottom, right side and left side edges, said at least one wall module having:

i) a vertical end frame disposed adjacent to each of said right and left side edges, each vertical end frame having a first vertically extending flange and a spaced apart second vertically extending flange thereon, each of said first vertically extending flange and said second vertically extending flange having a beaded portion, the beaded portion on one of said first vertically extending flange or said second vertically extending flange extending toward the front surface of the wall module and the beaded portion on the other of said first vertically extending flange or said second vertically extending flange extending toward the rear surface of the wall module;

ii) a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges; and

iii) an aesthetic surface affixed to said stringers; and

b) a removable connecting strip having a pair of spaced apart flexible arms, each arm having a beaded portion

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thereon, the beaded portion of one of said arms being adapted to connect releasably to the beaded portion of one of said first vertically extending flange or said second vertically extending flange on said vertical end frame and the beaded portion of the other of said arms being adapted to connect releasably to the beaded portion of a corresponding opposed vertically extending flange on a separate vertical end frame of a second wall module, a wall bracket, a finishing trim or a connection post to hold one of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together, the beaded portions of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange fitting inside the arms of said connecting strip to hold said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together thereby releasably connecting said at least one wall module to the other of said second wall module, wall bracket, finishing trim or connection post.

2. The movable reconfigurable wall system of claim 1, wherein said connecting strip includes a spine adapted to fit between said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange.

3. The movable reconfigurable wall system of claim 2, wherein said connecting strip further includes a pair of flexible fin extensions extending opposite to said flexible arms for providing a seal.

4. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface includes a tile panel on said front surface, said rear surface, or both said front surface and said rear surface.

5. The movable reconfigurable wall system of claim 4, wherein each said stringer includes one or more protrusions, said reconfigurable wall system further including tile clips for affixing tiles to said one or more protrusions.

6. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface is a single divider selected from a group consisting of substrates consisting of glass, plastic, or wood and metal.

7. The movable reconfigurable wall system of claim 6, wherein said stringers and end frames include a channel for receiving said divider.

8. The movable reconfigurable wall system of claim 1, wherein said stringers include a cantilever channel stringer, said cantilever channel stringer having: a central horizontally extending channel portion with a generally L-shaped slot, said L-shaped slot adapted to receive and engage a substantially L-shaped hook formed on a wall accessory; an upper portion having a tile support; a lower portion having a tile support; and a pair of extending webs connecting said channel portion to said upper and a lower portion.

9. The movable reconfigurable wall system of claim 1, wherein said system further comprises an extension frame, said extension frame including a pair of vertical extension end frames and at least one stringer, said extension frame being affixed atop of said at least one module with a spline on each end of said end frame.

10. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface includes a slat wall, said slat wall having slats and slat wall channels for connection to slat wall accessories.

11. The movable reconfigurable wall system of claim 1, said system further comprising a levelling system having: a universal foot; a leveller capable of engaging said universal

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foot; and a structural extrusion to engage surface of said at least one module, said structural extrusion connecting to said leveller, wherein said leveller provides the sole connection between said universal foot and said module.

12. The movable reconfigurable wall system of claim 11, wherein said leveller comprises: a cylindrical internally threaded upper section; an internally and externally threaded middle section, said external threads matching said internally threaded upper section; and an externally threaded lower section, said externally threaded lower section matching internal threads of said middle section, wherein said middle section can be twisted to extend or contract said leveller.

13. The movable reconfigurable wall unit of claim 11 further comprising a base trim, said base trim attaching to said universal foot.

14. The movable reconfigurable wall unit of claim 1 further comprising a ceiling connection, said ceiling connection including: a ceiling track affixed to a ceiling; a horizontal upper section affixed to said module, said horizontal upper section adapted to fit about said ceiling track; a flexible gasket affixed to said horizontal upper section and extending above said horizontal upper section to contact the ceiling.

15. The movable reconfigurable wall unit of claim 1, wherein said wall bracket comprises:
 an extrusion for connection to an existing wall in alignment with said end frame; and
 first and second flanges on said extrusion corresponding to said first vertically extending flange and said second vertically extending flange on said end frame and arranged in opposition thereto.

16. The movable reconfigurable wall unit of claim 1 further comprising a wall joint, said wall joint comprising a flexible gasket and a channel, said channel adapted to connect to a flange of said at least one module.

17. The movable reconfigurable wall unit of claim 1, wherein said at least one module includes curved stringers and curved aesthetic surfaces.

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18. The movable reconfigurable wall unit of claim 1, wherein said connection post includes at least two sides having vertically extending flanges thereon corresponding to and arranged in opposition to said first and second flanges on said end frame.

19. The movable reconfigurable wall unit of claim 1, wherein said aesthetic surface includes a multimedia component.

20. The movable reconfigurable wall unit of claim 19, wherein said multimedia component is a video monitor.

21. The movable reconfigurable wall unit of claim 1, wherein said vertical end frame depth is extended to provide a deeper wall.

22. The movable reconfigurable wall unit of claim 21, wherein said deeper wall is adapted to accommodate a rear-projection video system.

23. The movable reconfigurable wall unit of claim 21, wherein said deeper wall is adapted to accommodate an integrated storage system.

24. The movable reconfigurable wall unit of claim 1, further comprising a wall mounted module for mounting to an existing wall face, said wall mounted module having:

- a) vertical end brackets disposed at least at its side edges, each said vertical end frame having a vertically extending flange directed away from said existing wall face; b)
- a plurality of horizontal stringers affixed between said pair of vertical end brackets; and c) an aesthetic surface affixed to said stringers.

25. The movable reconfigurable wall unit of claim 1, further comprising a furniture system connectable to said at least one module, the furniture system having: a work surface, said work surface connectable to said stringers; and furniture legs, said furniture legs connecting to said work surface at a first end and connecting to a threaded bolt at a second end opposite said first end, said threaded bolt allowing levelling of said work surface.

* * * * *

STATEMENT UNDER 37 CFR 3.73(b)Applicant/Patent Owner: Geoff Gosling, et al.Application No./Patent No.: 8,024,901Filed/Issue Date: September 27, 2011Titled: INTEGRATED RECONFIGURABLE WALL SYSTEMDIRTT ENVIRONMENTAL SOLUTIONS LTD., a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. the assignee of the entire right, title, and interest in;
2. an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
3. the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

- A. An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 018197, Frame 0667, or for which a copy therefore is attached.

OR

- B. A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

 Additional documents in the chain of title are listed on a supplemental sheet(s).

- As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature

Date

Dale Sawyer

Printed or Typed Name

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ASSIGNEE CONSENT TO REISSUE FOR
U.S. PATENT NO. 8,024,901

TITLE OF INVENTION: Integrated Reconfigurable Wall System

Dirtt Environmental Solutions, Ltd, a Canada Corporation, assignee of U.S. Patent No. 8,024,901, consents to the filing of the present application for the reissue of U.S. Patent No. 8,024,901.

SIGNATURE

Authorized Representative of Assignee

	Dale <small>(GIVEN NAME)</small>	 <small>(MIDDLE INITIAL OR NAME)</small>	Sawyer <small>FAMILY (OR LAST NAME)</small>
Signature	<u><i>Dale</i></u>		<u><i>Sawyer</i></u>
Date			<u>SEPT. 18 / 2013</u>
Company Title	<u></u>		

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/032,931	Filing Date 09/20/2013	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	09/20/2013	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	* 45	Minus	** 45	= 0	X \$80 = 0
	Independent (37 CFR 1.16(h))	* 4	Minus	***4	= 0	X \$420 = 0
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total (37 CFR 1.16(i))	*	Minus	**	=	X \$ =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee (37 CFR 1.16(s))					
	<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/KAREN VESTAL/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

**REISSUE DECLARATION FOR
U.S. PATENT NO. 8,024,901**

TITLE OF INVENTION: Integrated Reconfigurable Wall System

As a below named inventor, I hereby declare that:

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the above-identified application.

I hereby state that I have reviewed and understand the contents of the above-identified patent application, including the claims as presented in the accompanying Preliminary Amendment.

I acknowledge the duty to disclose all information which is material to patentability as defined in 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

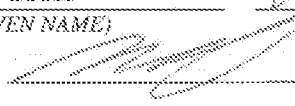
In compliance with 37 C.F.R. §1.175, I hereby state my belief that I believe the original patent to be wholly or partly inoperative or invalid by reason of the patentee claiming less than patentee had a right to claim in the patent. Specifically, and as a non-limiting example, one error that is being relied upon to support the reissue application is that the granted patent fails to claim electronics (e.g., a multimedia system) disposed within a modular wall without otherwise being associated with a "beaded portion." As an additional non-limiting example, another error that is being relied upon to support the reissue application is that the granted patent fails to broadly claim that the horizontal stringers can include a passageway that allows items, including panels, to span multiple wall modules. As a further non-limiting example, another error that is being relied upon to support the reissue application is that the original application failed to broadly claim that the connection details can comprise a continuous path. Further still, another non-limiting example of an error that is being relied upon is that claim 1 recites "a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges." I believe that this language unnecessarily requires that the horizontal stringers be placed "between" the vertical end frames, as opposed to "in front of the vertical end frames," "behind the vertical end frames," "above the vertical end frames," etc. Upon review of the patent in light of the cited prior art, I believe that the lack of claim support for these various embodiments unnecessarily limits the scope of the present invention.

All errors corrected in the present reissue application, including errors which are being corrected by the Preliminary Amendment which is being filed with this application and which correction of errors I have reviewed, arose without any deceptive intention on the part of the Applicant.

SIGNATURE(S)

Full name of first inventor:

Geoff _____ Gosling
(GIVEN NAME) (MIDDLE INITIAL OR NAME) (FAMILY (OR LAST NAME))

Signature  _____ Date Oct 23 2013

Residence Calgary _____ Canada _____
(city) (State or Country)

Mailing Address 32 Collingwood Place NW, Calgary, Alberta, Canada T2L 0P9

Full name of second joint inventor

Mogens Falk Smed
(GIVEN NAME) (MIDDLE INITIAL OR NAME) FAMILY (OR LAST NAME)
Signature _____ Date _____
Residence DeWinton _____ Canada _____
(city) (State or Country)
Mailing Address Site 8, Box 2 R.R.1, DeWinton, Alberta, Canada T0L 0X0

Electronic Patent Application Fee Transmittal

Application Number:	14032931
Filing Date:	
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Filer:	Michael J. Frodsham/Kelli Nakagama
Attorney Docket Number:	16196.6.1.1

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Late Filing Fee for Oath or Declaration	1051	1	140	140

Petition:

Patent-Appeals-and-Interference:

Post-Allowance-and-Post-Issuance:

Extension-of-Time:

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Total in USD (\$)				140

Electronic Acknowledgement Receipt

EFS ID:	17308737
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham/Kelli Nakagama
Filer Authorized By:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1
Receipt Date:	05-NOV-2013
Filing Date:	
Time Stamp:	12:39:25
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$140
RAM confirmation Number	11860
Deposit Account	233178
Authorized User	FRODSHAM, MICHAEL J.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	16196-6-1-1_Declaration.pdf	1103497 ec336514c7172c488de5382f523597cfa24f286f	no	3

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30034 9bff218042ce644285e0c77932f860604fa87372	no	2
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Warnings:

Information:

Total Files Size (in bytes): 1133531

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	14/032,931
Filing Date	September 27, 2011
First Named Inventor	Geoff Gosling
Title	INTEGRATED RECONFIGURABLE WALL SYSTEM
Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	16196.6.1.1

SIGNATURE of Applicant or Patent Practitioner

Signature	/Michael J. Frodsham/	Date (Optional)	
Name	Michael J. Frodsham	Registration Number	48,699
Title (if Applicant is a juristic entity)	Attorney of Record		
Applicant Name (if Applicant is a juristic entity)	Dirtt Environmental Solutions Ltd.		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.



*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
14/032,931	September 20, 2013

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

- I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 22913
- OR
- I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

- The address associated with the above-mentioned Customer Number
- OR
- The address associated with Customer Number: 22913
- OR

Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone	Email		

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Dirt Environmental Solutions Ltd.

- Inventor or Joint Inventor (title not required below)
- Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	Date (Optional)
	NOV 6 / 2013
Name	Date Sawyer
Title	Director of Business Development

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.331, 1.332, and 1.333. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 422 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1460, Alexandria, VA 22313-1460. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1460, Alexandria, VA 22313-1460.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt

EFS ID:	17335382
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham/Kelli Nakagama
Filer Authorized By:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1
Receipt Date:	06-NOV-2013
Filing Date:	
Time Stamp:	18:02:22
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	16196-6-1-1_Power-of-Attorney.pdf	1496927 <small>095fc0d42b6a21a396365695618062e2c5469523</small>	no	2

Warnings:

Information:

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Filer:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1

Filed as Large Entity

Reissue (Utility) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility Reissue Basic	1014	1	280	280
Design and Utility Reissue Basic	1114	1	600	600
Design and utility Reissue Basic	1314	1	2160	2160

Pages:

Claims:

Miscellaneous-Filing:

Petition:

Patent-Appeals-and-Interference:

12/11/2013 SDIRETAR 00000001 233178 14032931
 01 FC:1205 2000.00 DA
 02 FC:1204 420.00 DA

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931
	Filing Date		2013-09-20
	First Named Inventor	Geoff Gosling	
	Art Unit		3664
	Examiner Name		
	Attorney Docket Number		16196.6.1.1

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5600926		1997-02-11	Ehrlich	
	2	6250032		2001-06-26	Davis	
	3	6282854		2001-09-04	Vos	
	4	6341457		2002-01-29	Aerts	
	5	6481168		2002-11-19	Hodges	
	6	6920727		2005-07-26	Yu	
	7	6260321		2001-07-17	Rudduck	
If you wish to add additional U.S. Patent citation information please click the Add button.						Add
U.S.PATENT APPLICATION PUBLICATIONS						Remove

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	14032931
Filing Date	2013-09-20
First Named Inventor	Geoff Gosling
Art Unit	3664
Examiner Name	
Attorney Docket Number	16196.6.1.1

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20020108330		2002-08-15	Yu	
	2	20030089057		2003-05-15	Wiechecki	
	3	20040020137		2004-02-05	Batley	
	4	20040177573		2004-09-16	Newhouse	
	5	20020157335		2002-10-31	Vos	
	6	20030221384		2003-12-04	Burken	
	7	20040035074		2004-02-26	Stanescu	
	8	20060059806		2006-03-23	Gosling	
	9	20060185276		2006-08-24	Pai	

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FOREIGN PATENT DOCUMENTS

[Remove](#)

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3664	
	Examiner Name			
	Attorney Docket Number		16196.6.1.1	

Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² j	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button **Add**

NON-PATENT LITERATURE DOCUMENTS

Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	14032931
	Filing Date	2013-09-20
	First Named Inventor	Geoff Gosling
	Art Unit	3664
	Examiner Name	
	Attorney Docket Number	16196.6.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- See attached certification statement.
- The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Michael J. Frodsham/	Date (YYYY-MM-DD)	2013-12-11
Name/Print	Michael J. Frodsham	Registration Number	48699

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	17634484
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham/Lilly Johnson
Filer Authorized By:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1
Receipt Date:	13-DEC-2013
Filing Date:	
Time Stamp:	13:13:56
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	16196-6-1-1_IDS.pdf	613087 <small>fe9c2f73a30589c481699e49f650c2c3a07da3c9</small>	no	5

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Information:

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number
14/032,931

APPLICATION AS FILED - PART I

(Column 1) (Column 2)

SMALL ENTITY

OR OTHER THAN SMALL ENTITY

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A
TOTAL CLAIMS (37 CFR 1.16(j))	45	minus 20 = * 25
INDEPENDENT CLAIMS (37 CFR 1.16(h))	4	minus 3 = * 1
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))		

RATE(\$)	FEE(\$)
N/A	
N/A	
N/A	
TOTAL	

RATE(\$)	FEE(\$)
N/A	280
N/A	600
N/A	2160
x 80 =	2000
x 420 =	420
	0.00
	0.00
TOTAL	5460

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED - PART II

(Column 1) (Column 2) (Column 3)

SMALL ENTITY

OR OTHER THAN SMALL ENTITY

AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
Application Size Fee (37 CFR 1.16(s))					
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total (37 CFR 1.16(i))	*	Minus	**	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=
Application Size Fee (37 CFR 1.16(s))					
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

RATE(\$)	ADDITIONAL FEE(\$)
x =	
x =	
TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY. DOCKET NO, TOT CLAIMS, IND CLAIMS. Row 1: 14/032,931, 09/20/2013, 3664, 5600, 16196.6.1.1, 45, 4

CONFIRMATION NO. 5489

22913
Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

FILING RECEIPT



Date Mailed: 12/16/2013

Receipt is acknowledged of this reissue patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s)

Geoff Gosling, Calgary, CANADA;
Mogens F. Smed, DeWinton, CANADA;

Applicant(s)

DIRTT ENVIRONMENTAL SOLUTIONS LTD., Calgary, AB, CANADA

Power of Attorney: The patent practitioners associated with Customer Number 22913

Domestic Priority data as claimed by applicant

This application is a REI of 11/205,314 08/17/2005 PAT 8024901
which claims benefit of 60/601,985 08/17/2004

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.

Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access - A proper Authorization to Permit Access to Application by Participating Offices (PTO/SB/39 or its equivalent) has been received by the USPTO.

If Required, Foreign Filing License Granted: 12/13/2013

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 14/032,931

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No

Early Publication Request: No

Title

INTEGRATED RECONFIGURABLE WALL SYSTEM

Preliminary Class

052

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/032,931	09/20/2013	Geoff Gosling	16196.6.1.1

CONFIRMATION NO. 5489

POA ACCEPTANCE LETTER



22913
Workman Nydegger
60 East South Temple
Suite 1000
Salt Lake City, UT 84111

Date Mailed: 01/24/2014

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 11/06/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/dalyon/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



UNITED STATES PATENT AND TRADEMARK OFFICE

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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes details for application 14/032,931 and 22913, inventor Geoff Gosling, and examiner HERRING, BRENT W.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing@wnlaw.com

Office Action Summary	Application No. 14/032,931	Applicant(s) GOSLING ET AL.	
	Examiner BRENT W. HERRING	Art Unit 3633	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 12/13/2013.
 A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
- 4) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) Claim(s) 1-45 is/are pending in the application.
5a) Of the above claim(s) 26-32 is/are withdrawn from consideration.
- 6) Claim(s) _____ is/are allowed.
- 7) Claim(s) 1-25 and 33-45 is/are rejected.
- 8) Claim(s) _____ is/are objected to.
- 9) Claim(s) _____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) The specification is objected to by the Examiner.
- 11) The drawing(s) filed on 9/20/2013 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) All b) Some** c) None of the:
1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date 12/13/2013
- 3) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 4) Other: _____

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1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-25 and 33-45, drawn to a movable reconfigurable wall system, classified in 52/481.2.

II. Claims 26-32, drawn to a movable reconfigurable wall module, classified in 52/415.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because the combination does not require a plurality of end frames, one or more tiles mounted to stringers, and a multimedia center. The subcombination has separate utility such as a television.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all

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the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

4. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and/or examination burden if restriction were not required because one or more of the following reasons apply:

The inventions are separately classified requiring separate searches for the distinct features of each.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of an invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after

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the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 or pre-AIA 35 U.S.C. 103(a) of the other invention.

5. Newly submitted claims 26-32 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: refer to the preceding restriction.

Since applicant has received an action on the merits for the originally presented invention in the issued patent 8024901, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 26-32 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Information Disclosure Statement

6. The information disclosure statement (IDS) submitted on 12/13/2013 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

7. Claim 1 is objected to because of the following informalities: line 5 recites “each vertical end frame” suggesting a plurality of end frame. However, only a single vertical end frame is introduced in the line above. Appropriate correction is required.

Reissue Applications

8. For reissue applications filed before September 16, 2012, all references to 35 U.S.C. 251 and 37 CFR 1.172, 1.175, and 3.73 are to the law and rules in effect on September 15, 2012. Where specifically designated, these are “pre-AIA” provisions.

For reissue applications filed on or after September 16, 2012, all references to 35 U.S.C. 251 and 37 CFR 1.172, 1.175, and 3.73 are to the current provisions.

9. The reissue oath/declaration filed with this application is defective (see 37 CFR 1.175 and MPEP § 1414) because of the following:

The Reissue Declaration submitted 11/5/2013 does not specifically identify the application to which it is directed (37 CFR 1.63(a)(2)). It is suggested applicant submit the Reissue Oath/Declaration Form PTO/AIA/06).

10. Claims 1-25 and 33-45 are rejected as being based upon a defective reissue Declaration under 35 U.S.C. 251 as set forth above. See 37 CFR 1.175.

The nature of the defect(s) in the Declaration is set forth in the discussion above in this Office action.

11. Claims 33-45 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon

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which the present reissue is based. See *Greenliant Systems, Inc. et al v. Xicor LLC*, 692 F.3d 1261, 103 USPQ2d 1951 (Fed. Cir. 2012); *In re Shahram Mostafazadeh and Joseph O. Smith*, 643 F.3d 1353, 98 USPQ2d 1639 (Fed. Cir. 2011); *North American Container, Inc. v. Plastipak Packaging, Inc.*, 415 F.3d 1335, 75 USPQ2d 1545 (Fed. Cir. 2005); *Pannu v. Storz Instruments Inc.*, 258 F.3d 1366, 59 USPQ2d 1597 (Fed. Cir. 2001); *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp. v. United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984). A broadening aspect is present in the reissue which was not present in the application for patent. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to claimed subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope of claim subject matter surrendered in the application for the patent cannot be recaptured by the filing of the present reissue application.

With regards to independent claims 33 and 39, the vertically extending flanges having a beaded portion and the removable connecting strip having a pair of spaced apart flexible arms each having a beaded portion thereon was not included in the newly added claim. This subject matter was added and successfully argued in the amendment received 2/2/2011 in the parent application as overcoming the prior art. Subsequently application 11/205314 was allowed and issued. As such, these are surrender

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generating limitations comprising the surrendered subject matter and cannot be eliminated in the reissue claims.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of pre-AIA 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. Claims 33-45 are rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Edwards, US 5,813,178.

Regarding claims 33-45:

Edwards discloses a movable reconfigurable wall system (see Fig. 1) comprising:

at least one wall module having a vertical end frame (1) disposed at left and right edges thereof, each vertical end frame comprising opposing flanges having a connection detail (25, 118, 43) extending from the flange;

a plurality of horizontal stringers (2) interconnecting the left vertical end frame and the right vertical end frame;

a removable connecting strip (118) releasably connected to the connection detail extending from the flange of the end frames, and a connection detail of a flange extending from another vertical end frame, such that the removable connecting strip connects the wall modules;

an aesthetic surface(5) affixed to the stringers spanning two wall modules; and

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wherein the stringers have connection details (27) for mounting the aesthetic elements, the aesthetic elements including a wall tile comprising a complementary portion of the bead and snap connection detail, which is further a cantilever channel, and a multimedia center (outlet 8).

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRENT W. HERRING whose telephone number is (571)270-3661. The examiner can normally be reached on Monday-Thursday, 10:00AM-7:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on (571)272-6754. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BRENT W HERRING/
Primary Examiner, Art Unit 3633

Notice of References Cited	Application/Control No. 14/032,931	Applicant(s)/Patent Under Reexamination GOSLING ET AL.	
	Examiner BRENT W. HERRING	Art Unit 3633	Page 1 of 1

U.S. PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification	
*	A	US-5,642,593 A	07-1997	Shieh, Steven J.	52/239
*	B	US-5,813,178 A	09-1998	Edwards, John R.	52/239
*	C	US-5,839,240 A	11-1998	Elsholz et al.	52/242
*	D	US-5,913,787 A	06-1999	Edwards, John R.	52/220.7
*	E	US-6,158,179 A	12-2000	Ackerly et al.	52/220.7
*	F	US-6,735,908 B2	05-2004	Edwards, John R.	52/36.1
*	G	US-7,310,918 B1	12-2007	Reuter et al.	52/220.7
*	H	US-7,451,577 B2	11-2008	Little, Jr., W. Frank	52/481.2
*	I	US-7,661,237 B2	02-2010	Jakob-Bamberg et al.	52/506.08
*	J	US-7,908,805 B2	03-2011	Metcalfe et al.	52/239
*	K	US-8,534,021 B2	09-2013	Liu et al.	52/481.2
	L	US-			
	M	US-			


FOREIGN PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N				
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS

*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
	U				
	V				
	W				
	X				

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Index of Claims 	Application/Control No. 14032931	Applicant(s)/Patent Under Reexamination GOSLING ET AL.
	Examiner BRENT W HERRING	Art Unit 3633

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	05/29/2014							
	1	✓							
	2	✓							
	3	✓							
	4	✓							
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	28	N							
	29	N							
	30	N							
	31	N							
	32	N							
	33	✓							
	34	✓							
	35	✓							
	36	✓							

<i>Index of Claims</i> 	Application/Control No. 14032931	Applicant(s)/Patent Under Reexamination GOSLING ET AL.
	Examiner BRENT W HERRING	Art Unit 3633

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

N	Non-Elected
I	Interference

A	Appeal
O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	05/29/2014							
	37	✓							
	38	✓							
	39	✓							
	40	✓							
	41	✓							
	42	✓							
	43	✓							
	44	✓							
	45	✓							

Search Notes 	Application/Control No. 14032931	Applicant(s)/Patent Under Reexamination GOSLING ET AL.
	Examiner BRENT W HERRING	Art Unit 3633

CPC- SEARCHED		
Symbol	Date	Examiner

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
52	238.1, 239, 242, 243, 243.1, 578, 582.1, 474, 476, 481.2, 482, 772, 773, 781.3, 126.3	5/29/2014	bwh
403	286, 297, 329, 397	5/29/2014	bwh

SEARCH NOTES		
Search Notes	Date	Examiner
Refer to search history for search details.	5/29/2014	bwh

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/BRENT W HERRING/ Primary Examiner.Art Unit 3633
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EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	9723	((52/238.1,235,239,242,243,243.1,578,582.1,474,476,481.2,482,772,773,781.3,126.3) or (403/286,297,329,397)).CCLS.	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2014/05/29: 21:32
L2	40	(US-20030089057-\$ or US-20090293402-\$ or US-20060174572-\$).did. or (US-8024901-\$ or US-6260321-\$ or US-8544223-\$ or US-8522488-\$ or US-6993875-\$ or US-5644878-\$ or US-6481168-\$ or US-8033066-\$ or US-7849651-\$ or US-8534021-\$ or US-8230658-\$ or US-7797901-\$ or US-7712260-\$ or US-7644552-\$ or US-7571578-\$ or US-7451577-\$ or US-7310918-\$ or US-7185460-\$ or US-7055287-\$ or US-6883277-\$ or US-6668504-\$ or US-6612077-\$ or US-6230459-\$ or US-7908805-\$ or US-7661237-\$ or US-7051482-\$).did. or (US-6735908-\$ or US-6158180-\$ or US-5913787-\$ or US-5839240-\$ or US-5813178-\$ or US-5642593-\$ or US-5408796-\$ or US-5406760-\$ or US-6158179-\$ or US-4949519-\$ or US-3831330-\$).did.	US-PGPUB; USPAT	OR	ON	2014/05/29: 21:32
L3	16	("20020108330" "20020157335" "20030089057" "20030221384" "20040020137" "20040035074" "20040177573" "20060059806" "20060185276" "5600926" "6250032" "6260321" "6282854" "6341457" "6481168" "6920727").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2014/05/29: 21:33
L4	37	2 not 3	US-PGPUB; USPAT; USOCR	OR	ON	2014/05/29: 21:33
S1	2	(11/205314).APP.	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2014/05/24: 17:17
S4	2	(("6260321") or ("20030089057")).PN.	US-PGPUB; USPAT	OR	OFF	2014/05/29: 11:03
S5	15	("5042555" "5452557" "5638653" "5644878").PN. OR ("6260321").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2014/05/29: 13:50
S6	16	("20020108330" "20020157335" "20030089057" "20030221384" "20040020137" "20040035074" "20040177573" "20060059806" "20060185276" "5600926" "6250032" "6260321" "6282854" "6341457" "6481168" "6920727").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2014/05/29: 13:53
S7	177	(Brent and Herring).xa.	US-PGPUB; USPAT; USOCR	OR	ON	2014/05/29: 13:54
S8	133	(Brent and Herring).xa. and wall	US-PGPUB; USPAT; USOCR	OR	ON	2014/05/29: 13:55
S9	11	(Brent and Herring).xa. and wall and 52/235	US-PGPUB; USPAT; USOCR	OR	ON	2014/05/29: 13:55
S10	1163	(52/235).CCLS.	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2014/05/29: 13:57
S11	359	(52/481.2).CCLS.	US-PGPUB; USPAT; FPRS; EPO;	OR	OFF	2014/05/29: 14:00

			JPO			
S12	76	(geoff and gosling and mogens).in. and wall	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2014/05/29; 15:26
S13	26	(US-20030089057-\$ or US-20090293402-\$ or US-20060174572-\$).did. or (US-8024901-\$ or US-6260321-\$ or US-8544223-\$ or US-8522488-\$ or US-6993875-\$ or US-5644878-\$ or US-6481168-\$ or US-8033066-\$ or US-7849651-\$ or US-8534021-\$ or US-8230658-\$ or US-7797901-\$ or US-7712260-\$ or US-7644552-\$ or US-7571578-\$ or US-7451577-\$ or US-7310918-\$ or US-7185460-\$ or US-7055287-\$ or US-6883277-\$ or US-6668504-\$ or US-6612077-\$ or US-6230459-\$).did.	US-PGPUB; USPAT	OR	ON	2014/05/29; 15:26
S14	25	S13 not S12	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2014/05/29; 15:26
S15	33	("20040211127" "20080168734" "2904991" "4905428" "5233802" "5406760" "5408796" "5628853" "5638650" "5642593" "5715633" "5813178" "5839240" "5881518" "5913787" "6088981" "6158180" "6286275" "6457293" "6546684" "6612077" "6735908" "7051482" "7461484" "7661237" "7735939" "7902457" "7908805" "7975445" "8006440" "8042776" "8196365").PN. OR ("8534021").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2014/05/29; 15:26
S16	60	("3831330" "3885351" "3956861" "4043626" "4103463" "4269005" "4454690" "4642957" "4898285" "4918886" "4947601" "4949519" "5184441" "5195286" "5577363" "5642593").PN. OR ("5839240").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2014/05/29; 15:46
S17	55899406	@pd<"20030820"	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2014/05/29; 16:33
S18	40	(US-20030089057-\$ or US-20090293402-\$ or US-20060174572-\$).did. or (US-8024901-\$ or US-6260321-\$ or US-8544223-\$ or US-8522488-\$ or US-6993875-\$ or US-5644878-\$ or US-6481168-\$ or US-8033066-\$ or US-7849651-\$ or US-8534021-\$ or US-8230658-\$ or US-7797901-\$ or US-7712260-\$ or US-7644552-\$ or US-7571578-\$ or US-7451577-\$ or US-7310918-\$ or US-7185460-\$ or US-7055287-\$ or US-6883277-\$ or US-6668504-\$ or US-6612077-\$ or US-6230459-\$ or US-7908805-\$ or US-7661237-\$ or US-7051482-\$).did. or (US-6735908-\$ or US-6158180-\$ or US-5913787-\$ or US-5839240-\$ or US-5813178-\$ or US-5642593-\$ or US-5408796-\$ or US-5406760-\$ or US-6158179-\$ or US-4949519-\$ or US-3831330-\$).did.	US-PGPUB; USPAT	OR	ON	2014/05/29; 16:34
S19	15	S17 and S18	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2014/05/29; 16:34

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Receipt date: 12/13/2013

14032931 - GAI: 3633

Doc code: IDS

PTO/US 05/08 (01-10)

Doc description: Information Disclosure Statement (IDS) Filed

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931
	Filing Date		2013-09-20
	First Named Inventor	Geoff Gosling	
	Art Unit		3664
	Examiner Name		
	Attorney Docket Number		16196.6.1.1

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5600926		1997-02-11	Ehrlich	
	2	6250032		2001-06-26	Davis	
	3	6282854		2001-09-04	Vos	
	4	6341457		2002-01-29	Aerts	
	5	6481168		2002-11-19	Hodges	
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	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3664	
	Examiner Name			
	Attorney Docket Number		16196.6.1.1	

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20020108330		2002-08-15	Yu	
	2	20030089057		2003-05-15	Wiechecki	
	3	20040020137		2004-02-05	Batley	
	4	20040177573		2004-09-16	Newhouse	
	5	20020157335		2002-10-31	Vos	
	6	20030221384		2003-12-04	Burken	
	7	20040035074		2004-02-26	Stanescu	
	8	20060059806		2006-03-23	Gosling	
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	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3664	
	Examiner Name			
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931
	Filing Date		2013-09-20
	First Named Inventor	Geoff Gosling	
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	1	7051482		2006-05-30	MacDonald	
	2	5351452		1994-10-04	Gates	
	3	5592794		1997-01-14	Tundaun	
	4	6141926		2000-11-07	Rossiter	
	5	6341457		2002-01-29	Aerts	
	6	7461484		2008-12-09	Batley	
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(Not for submission under 37 CFR 1.99)

Application Number	14032931
Filing Date	2013-09-20
First Named Inventor	Geoff Gosling
Art Unit	3633
Examiner Name	Brent W. Herring
Attorney Docket Number	16196.6.1.1

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20090293406		2009-12-03	Gosling	
	2	20100192511		2010-08-05	Gosling	

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	1	KR 1020000049102	KR		2000-07-25	Rudduck		<input checked="" type="checkbox"/>
	2	KR 1020070077502	KR		2007-07-26	Shin		<input checked="" type="checkbox"/>
	3	JP 2003105908	JP		2003-04-09	Comany Inc.		<input checked="" type="checkbox"/>
	4	JP 2005155223	JP		2005-06-16	Comany Inc.		<input checked="" type="checkbox"/>

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	14032931
	Filing Date	2013-09-20
	First Named Inventor	Geoff Gosling
	Art Unit	3633
	Examiner Name	Brent W. Herring
	Attorney Docket Number	16196.6.1.1

1	International Search Report and Written Opinion for PCT/US2012/041906 mailed January 31, 2013.	<input type="checkbox"/>
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STATEMENT BY APPLICANT**
(Not for submission under 37 CFR 1.99)

Application Number	14032931		
Filing Date	2013-09-20		
First Named Inventor	Geoff Gosling		
Art Unit	3633		
Examiner Name	Brent W. Herring		
Attorney Docket Number	16196.6.1.1		

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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- See attached certification statement.
- The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Michael J. Frodsham/	Date (YYYY-MM-DD)	2014-07-02
Name/Print	Michael J. Frodsham	Registration Number	48699

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Electronic Patent Application Fee Transmittal

Application Number:	14032931
Filing Date:	20-Sep-2013
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Filer:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

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EFS ID:	19427642
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham
Filer Authorized By:	
Attorney Docket Number:	16196.6.1.1
Receipt Date:	02-JUL-2014
Filing Date:	20-SEP-2013
Time Stamp:	16:00:51
Application Type:	Utility under 35 USC 111(a)

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New International Application Filed with the USPTO as a Receiving Office

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(19) 日本国特許庁 (J P)

(12) 公開特許公報 (A)

(11) 特許出願公開番号
特開2003-105908
(P2003-105908A)

(43) 公開日 平成15年4月9日(2003.4.9)

(51) Int.Cl. ⁷	識別記号	F I	テーマコード*(参考)
E 0 4 B	2/78	E 0 4 B	2 E 0 1 6
	2/72		
E 0 6 B	3/64	E 0 6 B	A

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(21) 出願番号 特願2001-299002(P2001-299002)

(22) 出願日 平成13年9月28日(2001.9.28)

(71) 出願人 000103693

コマニー株式会社

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ニー株式会社内

(74) 代理人 10008/169

弁理士 平崎 彦治

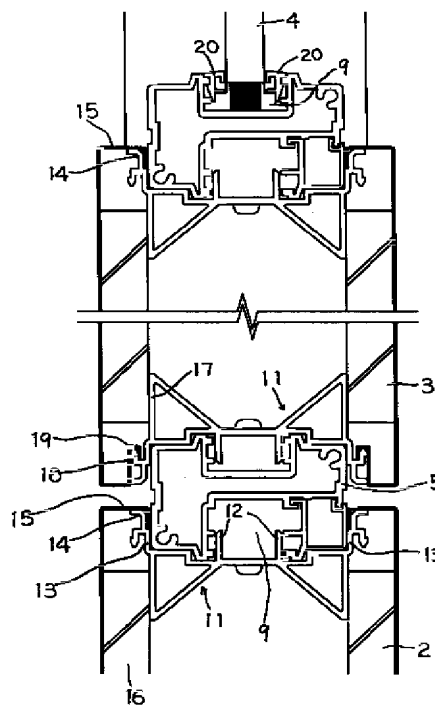
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(54) 【発明の名称】 間仕切り装置及びその横棧構造

(57) 【要約】

【課題】 間仕切り装置において、取付けるパネルがガラスパネルであっても、金属製の表面材を貼着したパネルであっても、共通する横棧を使用して部品点数の削減を図ることで、低コストとなる間仕切り装置の提供。

【解決手段】 スタッド間に掛架した横棧5は上面側及び下面側に嵌合溝9、9を設け、ガラスパネル4を取付ける場合には嵌合溝9に嵌め、パネル2、2を取付ける場合にはアタッチメント11を横棧5に取着すると共にアタッチメント11に形成した支持片に表面材に設けたカギ15を係止する。



【特許請求の範囲】

【請求項1】 垂直に起立したスタッド間に横棧を掛架し、該横棧にガラスパネル又は金属製の表面材を貼着したパネルの上端部又は下端部の少なくとも一方側を取付けて成る間仕切り装置において、上記横棧の上面側及び下面側には嵌合溝を設け、ガラスパネルを取付ける場合には上記嵌合溝にガasketを介して嵌め、又パネルを取付ける場合にはアタッチメントを横棧に取着すると共に該アタッチメントに形成している支持片に表面材に設けたカギを係止するものであり、上記アタッチメントは中央部に2本の脚を設けて嵌合溝に嵌合し、又両側にはアームを有して横棧を抱き、そしてアームと反対側にはパネル裏打ち材の裏面に当接する当りを形成し、さらにアーム先端にはL型をしてパネルの上カギが係止する支持片と、アームの中間部位にはパネルの下カギが係止する支持片を設けたことを特徴とする間仕切り装置。

【請求項2】 垂直に起立したスタッド間に掛架してガラスパネル又は金属製の表面材を貼着したパネルの上端部又は下端部の少なくとも一方側を支持する横棧構造において、該横棧は上面側及び下面側にはガラスパネルが嵌る嵌合溝を設け、そしてパネルを取付ける場合にはパネル表面材に形成しているカギを係止することが出来る支持片を設けたアタッチメントを着脱自在に取付け、上記アタッチメントは中央部に2本の脚を設けて嵌合溝に嵌合し、又両側にはアームを有して横棧を抱き、そしてアームと反対側にはパネル裏打ち材の裏面に当接する当りを形成し、さらにアーム先端にはL型をしてパネルの上カギが係止する支持片と、アームの中間部位にはパネルの下カギが係止する支持片を設けたことを特徴とする間仕切り装置の横棧構造。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は間仕切り装置において、仕様に応じてガラスパネルと金属パネルの使い分けが簡単に出来るようにした間仕切り装置、及びその横棧構造に関するものである。

【0002】

【従来の技術】間仕切り装置は垂直に起立したスタッドに金属板を表面材としたパネルを取付けて構成されるが、該パネルの取付け手段としては側端をネジ止めしたり、又はスタッドにスリット穴を形成してパネルに設けたツメをスリット穴に嵌めて係止することも出来る。逆にスタッド側にツメを設け、パネル側にスリット穴を形成することも出来る。又パネルの代わりにガラスパネルを取付ける場合も多い。

【0003】図4は従来の間仕切り装置の縦断面を示している具体例であり、下側にはパネル(イ)、(イ)が取付けられ、上側にはガラスパネル(ロ)が取着されている。該パネル(イ)、(イ)はスタッド(図示なし)に両側端に形成している止着片を金具を介してネジ止めし、ガラスパ

ネル(ロ)はパネル(イ)、(イ)の上端に載せた繋ぎ材(ハ)に載って取付けられている。

【0004】ところで、間仕切り装置において、パネル(イ)とガラスパネル(ロ)の組み合わせ形態は色々あり、例えば、同図の間仕切り装置においてガラスパネル(ロ)を取付けないで、上方にパネル(イ)、(イ)を積み上げて取付ける仕様の場合、上記繋ぎ材(ハ)は不要となり、別の繋ぎ材が用いられる。又、天井との連結構造もガラスパネル(ロ)とパネル(イ)、(イ)の場合では異なってしまう。

【0005】

【発明が解決しようとする課題】このように、間仕切りを構成するパネルの種類が異なることで、すなわち間仕切り装置の仕様が変わることで繋ぎ材は別のものとなり、装置全体としての構成部品の種類が多くなる。その結果、間仕切り装置の製造並びに据え付け作業に要す費用は高くなってしまふ。本発明が解決しようとする課題はこの問題点であり、パネル又はガラスパネルを取付ける場合、共通する横棧に使用することが出来る間仕切り装置、及びその横棧構造を提供する。

【0006】

【課題を解決する為の手段】本発明の間仕切り装置における横棧は概略四角形の中空材であって、その上面側と下面側には嵌合溝を形成している。そして嵌合溝が開口出来るように補助材を取付けていて、この嵌合溝にはガラスパネルの下端及び上端が嵌るようになっていふ。従って、上記補助材はガラスパネルを取付ける際には取外され、取付けた後で取着されて外れないようになる。

【0007】一方、金属製の表面材を貼着したパネルを取付ける場合には、上記横棧にアタッチメントを取着し、このアタッチメントにパネル表面材を屈曲して形成したカギが係止して取付けられる。アタッチメントの形状はパネル裏面が当接する当りを有し、そしてパネルのカギが係止する為の支持片を設けている。ここで、アタッチメントの具体的な形状は限定しないことにする。以下、本発明に係る実施例を図面に基づいて詳細に説明する。

【0008】

【実施例】図1は本発明の間仕切り装置の正面図を示している実施例である。この間仕切り装置は下側から、ガラスパネル1、パネル2、パネル3、及びガラスパネル4がそれぞれ取付けられている。ここでパネル2、3とは金属製の表面材を貼着して構成したパネルである。そして各ガラスパネル1、パネル2、パネル3、及びガラスパネル4との間には横棧5、5…が介在し、該横棧5、5…はガラスパネル1、パネル2、パネル3、及びガラスパネル4の両側に起立しているスタッドに掛架して取着されている。

【0009】図2は図1の縦断面拡大図を示しているが、最下端のガラスパネル1の下端部は巾木6に形成し

ている嵌合溝に嵌り、ガスケットを介して固定されている。巾木6は床レール7に被覆されてアジャスター8にて適当な高さに支えられ、ガラスパネル1の上端は横棧5の下面側に形成している嵌合溝9に嵌っている。該嵌合溝9には補助材10が取着されていて、ガラスパネル1を取付ける際には該補助材10は取外され、取付けた後で取着される。

【0010】そして、該横棧5の上方にはパネル2が取付けられているが、しかし直接取付けることが出来ない為に、アタッチメント11が横棧5に取着され、該アタッチメント11の支持片に表面材を屈曲して形成した下カギが係止して取着される。そしてパネル上端は上方の横棧5の下面側に取着しているアタッチメント11の支持片に係止している。

【0011】図3はパネル2、パネル3、及びガラスパネル4の連結構造を示している拡大図である。ガラスパネル1、4は上下横棧5、5…間で形成される区画に1枚が取付けられるが、パネル2、3の場合は各区画に2枚が対を成して取付けられている。アタッチメント11は横棧5を抱くように取着され、中央に設けた2本の脚12、12は嵌合溝9に嵌り、そして外側に設けている2本のアーム13、13は横棧5の両側面に接している。従ってアタッチメント11は上記脚12、12とアーム13、13にて位置決めされ、ネジ止めにて取着されている。

【0012】図3に示すように同じアタッチメント11、11が横棧5の下面側と上面側にそれぞれ取着され、アーム13の先端にL型を成して形成している支持片14にパネル2の表面材の上端部を屈曲して形成している上カギ15が係止している。そしてパネル2の裏打ち材16の裏面は当り17に当接している。当り17は強度を得る為に三角形断面を成し、該当り17の垂直面に裏打ち材16が当接することで、支持片14に係止したパネル2は安定して取付けられる。

【0013】パネル3は横棧5の上面側に取着しているアタッチメント11に取付けられる。すなわち、アーム13の中間位置にL型を成して形成している支持片18に表面材の下端部を屈曲して形成している下カギ19が係止して該パネル3を支え、そして裏打ち材16の裏面は当り17に当接して取付けられる。パネル3の上端はパネル2の場合と同じくアタッチメント11の支持片14に上カギ15が係止して取付けられる。

【0014】そして横棧5の上方にはガラスパネル4が取付けられている。ガラスパネル4を取付ける場合にはパネル3の場合とは異なり、アタッチメント11を必要とせず、横棧5の上側に設けている嵌合溝9に下端部が嵌っている。横棧5の上側及び下側には嵌合溝9が形成されているが、パネル2、3を取付けない場合はアタッチメント11にて嵌合溝9が塞がることはない。

【0015】ガラスパネル4の下端部は嵌合溝9に嵌

り、そしてガラスパネル4の両面側にはガスケット20、20が介在し、嵌合溝9に嵌っている下端部は位置ズレすることなく固定される。そしてガラスパネル4の上端部は天井に取付けている天井レール21の嵌合溝9に嵌り、両面側に介在したガスケット20、20によって固定されている。

【0016】実施例の間仕切り装置は床面と天井間に3本の横棧5、5…を設けて4区画を形成し、この区画にガラスパネル1、パネル2、パネル3、及びガラスパネル4を取付けた場合である。本発明では該横棧5の本数は限定せず、例えば間に1本の横棧5を設ける場合もある。又間仕切り装置は必ずしも天井まで届く場合に限らず、この横棧構造を用いてローパーティションを構成することもある。

【0017】以上述べたように、本発明の間仕切り装置の横棧は上下面側にはガラスパネルが嵌る嵌合溝を設け、又パネルを取付ける場合にはアタッチメントを取着して間仕切り装置を構成するものであり、次のような効果を得ることが出来る。

【0018】

【発明の効果】本発明の間仕切り装置はスタッドに横棧を掛架し、該横棧にガラスパネル及び金属製の表面材を貼着したパネルを取付け出来る。ガラスパネルの場合には、横棧の上面側と下面側に設けている嵌合溝に嵌めて取付け出来る。又パネルを取付けする場合には、該横棧にアタッチメントを取着し、アタッチメントの支持片に表面材を屈曲して形成したカギに係止することが出来る。このように、本発明の横棧はガラスパネルであっても、表面材を貼着したパネルであっても、間仕切りの仕様に応じて取付けできる為に、従来の間仕切り装置に比較して部品点数は少なく取付け作業は簡単となる。

【図面の簡単な説明】

【図1】間仕切り装置の外観を示す正面図。

【図2】図1の縦断面拡大図。

【図3】本発明の横棧構造。

【図4】従来の間仕切り装置。

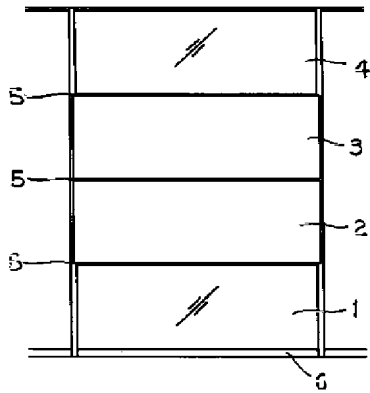
【符号の説明】

- 1 ガラスパネル
- 2 パネル
- 3 パネル
- 4 ガラスパネル
- 5 横棧
- 6 巾木
- 7 床レール
- 8 アジャスター
- 9 嵌合溝
- 10 補助材
- 11 アタッチメント
- 12 脚
- 13 アーム

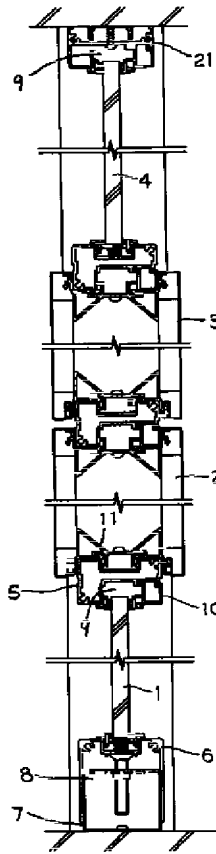
- 14 支持片
- 15 上カギ
- 16 裏打ち材
- 17 当り

- 18 支持片
- 19 下カギ
- 20 ガスケット

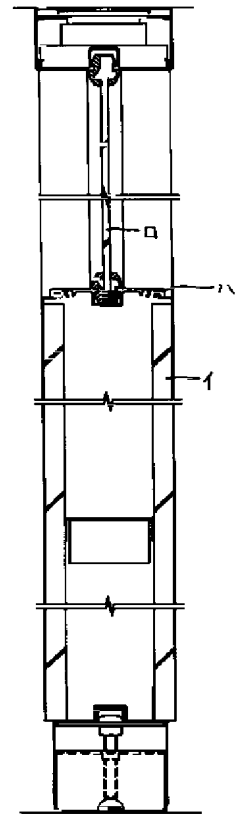
【図1】



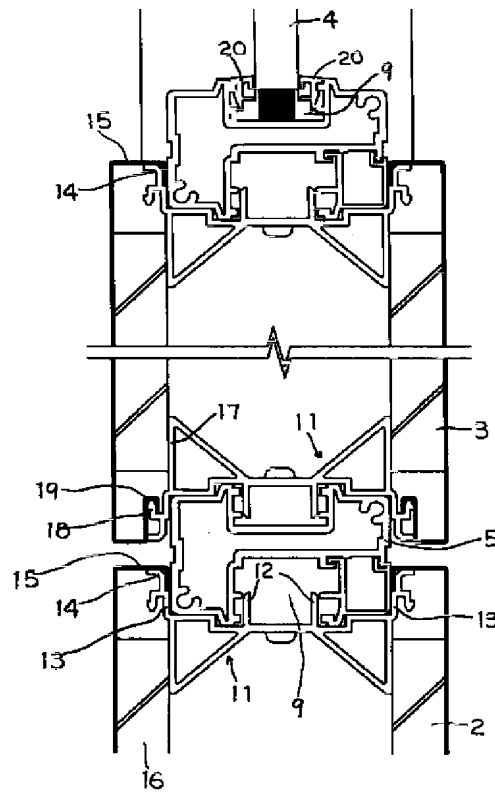
【図2】



【図4】



【図3】



フロントページの続き

Fターム(参考) 2E016 AA01 BA03 BA04 BA05 CA01
CB01 CB03 CC00 DA01 DB07
DC01 DD03

Abstract of JP2003105908 (A)

PROBLEM TO BE SOLVED: To provide a partition device whose cost is reduced by reducing the number of part items through the use of a common horizontal rail, regardless of whether a panel mounted to the partition device is a glass panel or a panel with a metallic surface member affixed thereto. **SOLUTION:** The horizontal rail 5 suspended between studs has fitting grooves 9 and 9 provided on the upper and lower surfaces thereof; when a glass panel 4 is mounted, it is fitted into the fitting groove 9; when panels 2 and 2 are mounted, an attachment 11 is attached to the horizontal rail 5 and a lock 15 provided on the surface member is locked to a support piece formed in the attachment 11.

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KB01 KB04 LA06 LB01

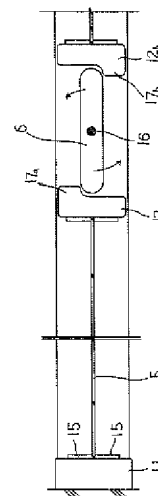
(54) 【発明の名称】 教室を構成する木造間仕切り装置

(57) 【要約】

【課題】 学校の教室を仕切る為の木製間仕切りであって、外部に金属部分が露出することなく、明かりを通すガラス窓と通気性を有す回転パネルを備えた教室を構成する木製間仕切り装置の提供。

【解決手段】 枠組みした開口にガラス5を嵌めて開くことが出来ないガラス窓を設け、ガラス窓の間には木製の回転パネル6を取付けると共に、軸16を介して回転することで開閉操作を可能としている。

【選択図】 図4



【特許請求の範囲】

【請求項1】

学校の教室を仕切る為の木製間仕切りにおいて、枠組みした開口にガラスを嵌めて開くことが出来ないガラス窓を配列して設け、ガラス窓の間には木製の回転パネルを取付けると共に、軸を介して回転することで開閉操作を可能としたことを特徴とする教室を構成する間仕切り装置。

【請求項2】

回転パネルを取付けた開口の縦棧に当たりを形成してストッパーとした請求項1記載の教室を構成する間仕切り装置。

【請求項3】

横棧を間にして上下に設けた開口に回転パネルを取付けると共に、上下の回転パネルを軸を介して互いに連動可能にした請求項1、又は請求項2記載の教室を構成する間仕切り装置。

【発明の詳細な説明】

【技術分野】

【0001】

本発明は、特に学校の校舎を仕切って教室を作る場合に据付ける木製の間仕切装置に関するものである。

【背景技術】

【0002】

図5は大きな部屋空間を仕切る金属製の間仕切り装置の断面を示しているが、その下端は床面に接し、上端は天井に達している。床面(イ)に固定した床レール(ロ)にはアジャスター(ハ)が配置され、このアジャスター(ハ)にて適当な高さに支持された巾木(ニ)にはパネル(ホ)、(ホ)が所定の間隔をおいて起立している。そしてパネル(ホ)、(ホ)の上端は天井パネル(ヘ)まで達し、天井パネル(ヘ)にネジ止めされた天井レール(ト)と該天井レール(ト)に取付けられたパネルガイド(チ)によって上端が支えられている。

【0003】

両パネル(ホ)、(ホ)にて床から天井までの空間が仕切られるが、上記天井レール(ト)は天井パネル(ヘ)を取付けている下地材(リ)にネジ止めされている。そして、隣り合う各パネル(ホ)、(ホ)間にはスタッド(ル)が介在してパネル側端に設けている止着片が該スタッド(ル)にネジ止めされている。又、壁面(ワ)にはエンドレール(オ)が取着されていて、パネル側端を固定すると共に、壁面間に生じる隙間を塞いでいる。

【0004】

ところで、このような構造の間仕切装置は、そのパネル(ホ)、スタッド(ル)、巾木(ニ)、天井レール(ト)等の構成部材は金属製であり、オフィス等で一般に使用されている。しかし、この種の間仕切装置を学校の教室を仕切る間仕切として使用するには、情操教育上好ましくないとされる。近年の校舎は鉄筋コンクリートで構成され、机や椅子にしても金属製が使用されるなど、幼い子供の情緒性を損ない、不安や疲れを増すとも言われる。

【0005】

その為に、授業への集中に欠け、構内暴力を誘発するなどの1つの原因に成っているとの見解も示されている。一方、金属製間仕切装置は湿気を吸収したり放出する機能は無く、教室の湿度が適度に保たれないことで生徒は咽を痛めたり、インフルエンザの繁殖を抑制することも出来ない。又、金属製パネルは紫外線の反射率が高くて、目を刺激して目に負担をかけることも多く、昔の木造校舎に比較して色々な問題がある。

【0006】

そこで、従来においては上記金属製間仕切装置でなく、木製の間仕切装置が開発されて一部で使用されている。例えば、特許第2560175号に係る「間仕切パネル」、特開2000-303595号に係る「間仕切パネル」、実公平6-34488号に係る「間

仕切パネル」、実公平6-23609号に係る「間仕切パネル」、実公平5-24787号に係る「間仕切パネル」が知られている。

【0007】

これら間仕切パネルを用いて間仕切り装置を構成する訳であるが、上記パネルを用いて構成される間仕切装置は、その他の一部主要構成部材として金属製部品が使用されている。スタッド等の主な箇所に金属製部品を用いることで間仕切装置全体としての強度は高くなり丈夫であるが、金属製部品と木製部品との組み合わせが容易でない。すなわち、硬い金属部品と比較的柔らかい木製部品を突き合わせる組み合わせ構造では、接合面に弛みが発生し易い為に、この点を考慮した構造としなくては成らない。

【0008】

一方、室内温度の変化に応じた収縮率が金属部品と木製部品とでは大きく違い、これが為に互いに接合して組み合わせても期間が経過するに従って、接合面に隙間が発生したり、ガタツキを招く。従って、引き戸や開き戸を間仕切装置の一部に装着する場合、スムーズな開閉操作に支障を来すこともある。

【0009】

図6(a)、(b)は木製間仕切りにガラス窓を設けた場合の概略図である。該ガラス窓は引戸にて構成され、対を成す2枚の引戸(カ)、(カ)及び(ヨ)、(ヨ)が装置されている。このように、アルミ製の枠にガラスを嵌めた引戸(カ)、(カ)、(ヨ)、(ヨ)を装着した場合、木製の間仕切りとの調和が崩れてしまう。また木製の間仕切りが乾燥して収縮することでアルミ製の引戸(カ)、(カ)及び(ヨ)、(ヨ)の開閉操作に支障を来すこともある。

【0010】

そこで、引戸を木製にするならば木製間仕切りとの調和を取ることは出来るが、木製の引戸の場合、引戸自体の収縮変形も加わり、開閉操作に更なる支障をもたらし、又閉じた場合には隙間を生じる事もある。一方、開口部に装着されて対を成す引戸(カ)、(カ)及び(ヨ)、(ヨ)は、開口した場合でも1/2の開口度しかなく、開口を全開することは出来ない。

【特許文献1】特許第2560175号に係る「間仕切パネル」

【特許文献2】特開2000-303595号に係る「間仕切パネル」

【特許文献3】実公平6-34488号に係る「間仕切パネル」

【特許文献4】実公平6-23609号に係る「間仕切パネル」

【特許文献5】実公平5-24787号に係る「間仕切パネル」

【発明の開示】

【発明が解決しようとする課題】

【0011】

このように、従来の木製間仕切り装置、特に該間仕切りに装着される引戸には上記のごとき問題がある。本発明が解決しようとする課題はこれら問題点であり、開口をほぼ全開することが出来ると共に、開閉操作に支障を来すことがない回転パネルを備えた教室を構成する木製の間仕切り装置を提供する。

【課題を解決するための手段】

【0012】

本発明に係る教室を構成する間仕切り装置は木製であり、この間仕切りにはガラス窓を設けている。ところが、このガラス窓は開くことが出来ず枠組みされた開口に嵌められている。そして、ガラス窓とは別に枠組みした開口を設け、この開口に木製の回転パネルを取付けている。回転パネルはその中心に回転軸を設け、該軸を介して自由に回転し、開口を開くことが出来る。

【0013】

開く場合には、回転パネルを如何なる向きに静止することも可能であるが、閉じた場合にはその位置を決める為のストッパーが設けられると共にロックされる。回転パネルの大きさは限定しないが、ガラス窓の間に設けられ、上下に分離している場合には、回転軸を連結して下側のパネルを回転することで上側パネルも連動させることが出来る。

【発明の効果】

【0014】

本発明では、木製間仕切り装置にガラス窓を設け、このガラス窓は開くことが出来ないように嵌っている。従ってガタ付くことはなく、ガラス窓を通して明かりを入れることは出来る。そして外部から空気の入出を行う場合には、別の木製回転パネルを回転させることで行われる。この回転パネルは開口が小さい割りに全開することが出来る。

【0015】

上記回転パネルは軸を中心として回転することで開口を開閉するように成っている為に、従来の引戸のごとき木製間仕切りの収縮に基づいて開閉操作に支障を来たすことはない。そして、本発明の間仕切り装置はガラスを木製枠に直接嵌める為に金属製の枠を使用せず、外部に金属部分が殆ど表面化しない構造となる。

【実施例】

【0016】

図1は本発明に係る間仕切り装置の外観を示す実施例であり、正面図を表している。この間仕切り装置は学校の教室と廊下が仕切られる。両側には木製のパネル1、1が取付けられ、該パネル1、1の上側にはガラス2、2が木製枠に嵌っている。該パネル1、1の隣には木製の引戸3、3が装着されて、教室へ入り出入口と成っている。又、引戸3、3の上側にもガラス2、2が嵌っている。そして、両引戸3、3の間には下側の木製パネル4、4・・・と上側のガラス5、5・・・とが対を成して配列されている。ここで、ガラス5は木製の枠に嵌って取付けられている。

【0017】

そして、ガラス5、5・・・の間には回転パネル6、6・・・が取付けられ、該回転パネル6、6・・・は軸を中心として回転することが出来、その結果、この部分は開口する。すなわち、ガラス2、2・・・及びガラス5、5・・・が嵌って構成されるガラス窓は開くことが出来ないが、明かりを通すことは出来る。しかし、通気性が損なわれる為に、上記回転パネル6、6・・・を回転することで開口される。該間仕切り装置にはガラス5、5・・・が嵌ったガラス窓を配列し、ガラス窓の間には開口することが出来る回転パネル6、6・・・を取付けている。

【0018】

図2は本発明の間仕切り装置を示す他の実施例である。該間仕切り装置はパネル4の代わりに枠に嵌ったガラス7が用いられ、ガラス5とガラス7との間には横棧8が介在している。そして、回転パネル6の下側には別の回転パネル9が取付けられ、該回転パネル9も回転して開口することが出来る。

【0019】

図3は本発明に係る間仕切り装置を示すさらに別の実施例である。この実施例の間仕切り装置は、ガラス5を分割して上側に小さなガラス2を取付けた構造と成っている。すなわち、ガラス5の下側にはガラス7が、上側にはガラス2が取付けられている。そして、これらガラス5、5・・・が嵌っているガラス窓の間には回転パネル6、6・・・が、ガラス7、7・・・が嵌っているガラス窓の間には回転パネル9、9・・・が、そしてガラス2、2・・・が嵌っているガラス窓の間には回転パネル10、10・・・が夫々取付けられている。

【0020】

このように、本発明の木製間仕切り装置にはガラス窓が設けられているが、該ガラス窓は開くことが出来ず、枠組みされた開口に嵌って取着されている。そして、ガラス窓の間に開閉窓を構成する回転パネルが設けられている。この回転パネルは木製であり、中心に設けている軸を基にして回転することで開閉することが出来る。すなわち、本発明では明かりを通すガラス窓は開くことなく、別に回転パネルによる開閉窓を設け、この回転パネルを回転することで通気性を確保することが出来る間仕切り構造と成っている。

【0021】

図4は本発明の木製間仕切り装置の断面を示している。ガラス5の取付け構造は限定しないが、横幅寸法は左右の縦棧11、12a間寸法より僅かに小さくなっている。そして

上棧13と下棧14には嵌合溝が形成されて、ガラス5の上端部と下端部が嵌っている。縦棧11、12aにはガラス押え15、15・・・が取着されて、ガラス5の側部を固定している。ガラス2及びガラス7の場合も同じ取付け構造である。

【0022】

又、木製の回転パネル6はその中心に軸16が設けられ、該軸16を基にして回転することが出来る。そして、回転パネル6の向きは自由であり、適度な方向で静止することが出来る。すなわち、ある程度の摩擦があって自由に回転しないように成っている。又、閉じた場合には、縦棧12a、12bとの間に隙間を残さないように、又所定の位置で停止する為に、当たり17a、17bを形成している。さらに、回転して開かないようにロックされる。ロック手段はフランス落としが一般的である。

【図面の簡単な説明】

【0023】

【図1】本発明に係る間仕切り装置の外観正面図。

【図2】本発明に係る間仕切り装置の外観正面図。

【図3】本発明に係る間仕切り装置の外観正面図。

【図4】間仕切り装置の縦断面図及び横断面図。

【図5】従来の金属製間仕切り装置。

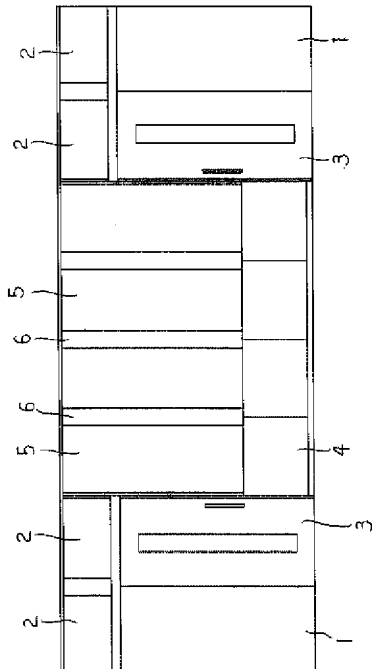
【図6】木製間仕切り装置にアルミ製引戸を装着している場合。

【符号の説明】

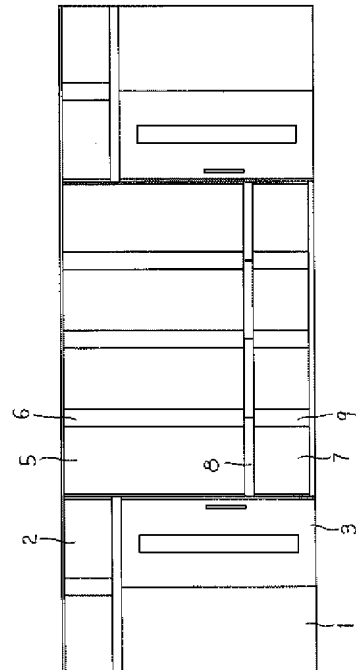
【0024】

- 1 パネル
- 2 ガラス
- 3 引戸
- 4 パネル
- 5 ガラス
- 6 回転パネル
- 7 ガラス
- 8 横棧
- 9 回転パネル
- 10 回転パネル
- 11 縦棧
- 12 縦棧
- 13 上棧
- 14 下棧
- 15 ガラス押え
- 16 軸
- 17 当り

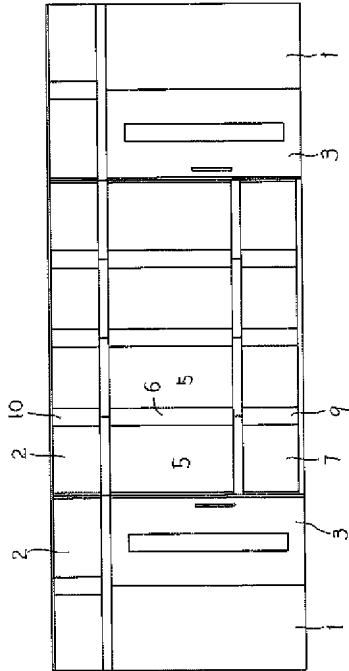
【図1】



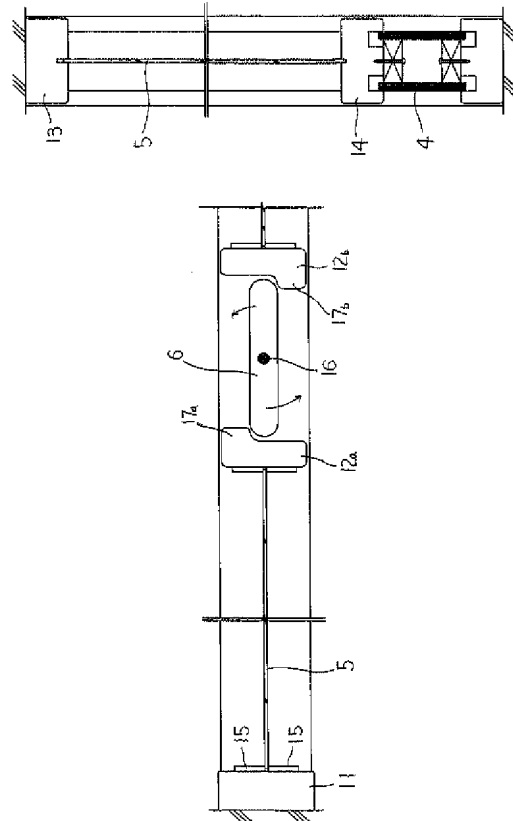
【図2】



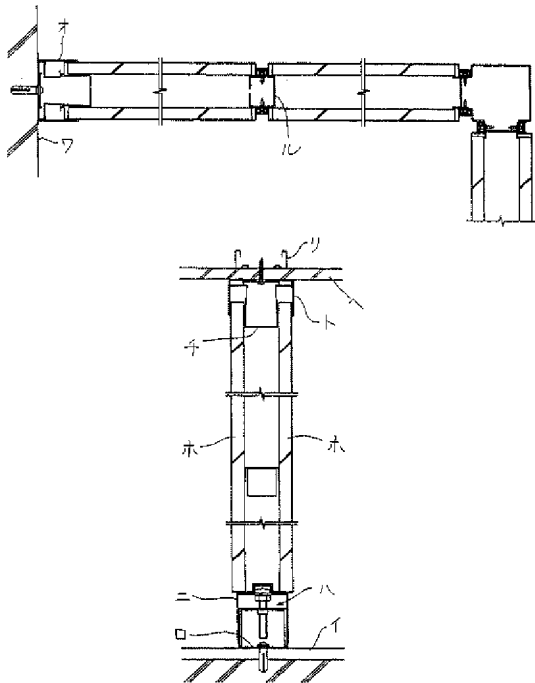
【図3】



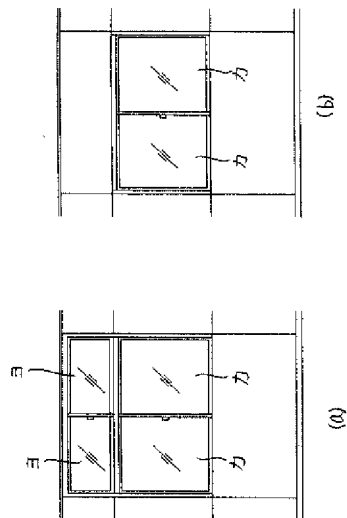
【図4】



【図5】



【図6】



Abstract of JP2005155223 (A)

PROBLEM TO BE SOLVED: To provide a wooden partition device composing a classroom equipped with a glass window as a light for the classroom and a rotary panel for ventilation without exposing metal portions to the outer surfaces in wooden partitions for building a school building into individual classrooms. ; SOLUTION: The wooden partition device is provided with a fixed glass window which cannot be opened after fitting a glass plate 5 into a framed opening, attaches a wooden rotary panel 6 between the glass windows, and enables opening and closing operation by turning the panel around a shaft 16. ; COPYRIGHT: (C)2005,JPO&NCIPI



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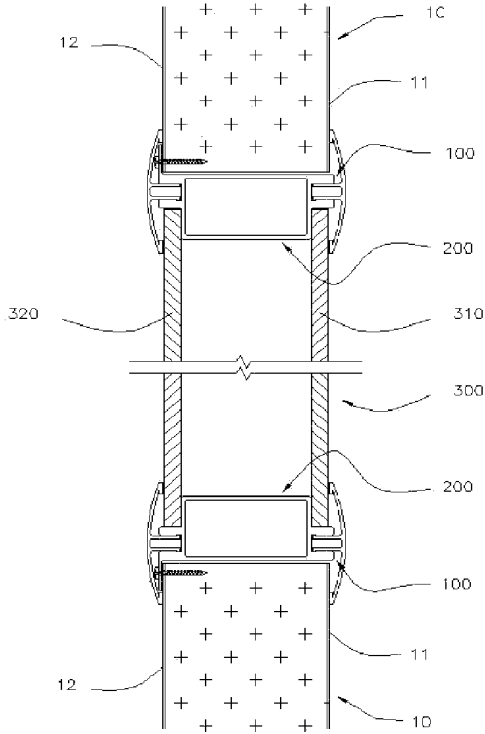
전체 청구항 수 : 총 5 항

(54) 조립식 패널용 관람창

(57) 요약

본 발명은 조립식 칸막이 및 판넬도어의 투명창 구조에 관한 것이다. 종래 조립식 칸막이를 이용하여 실간 구획을 하는 크린룸 및 실험실의 투명창 구조는 단층의 유리와 창틀 부재로 형성되기 때문에 창틀과 유리가 접하는 부분에 턱이 생겨 먼지가 쌓이는 오염원인이 되고, 단층의 유리는 단열 및 방음의 효과가 현저히 떨어지는 문제점이 있다. 본 발명은 이러한 문제점을 해소하기 위해 판넬의 전, 후면과 유리가 일치하도록 창틀을 고안했으며, 유리의 탈부착이 가능하도록 마감 창틀을 조립식으로 하여 유리의 파손 및 시공시 편리성과 미려함을 높였고, 이중 창이 구성되므로 단열, 차음 효과를 높여 크린룸 및 실험실의 조건을 충족시킬 수 있도록 한 것이다.

도면도



특허청구의 범위

청구항 1.

일면의 고정날개와 양쪽에 결합홈을 가진 유리 받침턱으로 두장의 유리를 끼울 수 있는 고정틀 부재와 탄성을 얻을수 있는 라운드 형상의 마감틀 부재 한쌍을 지닌 관람창 구조.

청구항 2.

제 1 항에 있어서, 좌,우 한쌍의 결합홈과, 일면의 결합날개가 있는 고정틀 부재와 라운드 형상에서 뺀어나온 두개의 결합 돌기가 결합돌기 유도면을 지나 결합홈에 끼워지는 마감틀 부재로 구성된 관람창 구조.

청구항 3.

제 2 항에 있어서, 두개의 결합돌기를 가진 라운드 형상의 마감틀 부재로 탄성을 얻을수있는 마감틀 부재를 가진 관람창 구조.

청구항 4.

제 2 항에 있어서, 고정틀 부재를 고정할 수 있는 고정날개와 마감틀 부재와 결합할 수 있는 결합홈을 가진 고정틀 부재를 가진 관람창 구조.

청구항 5.

제 2 항에 있어서, 결합돌기 유도 면을 지나 결합돌기가 결합홈에 끼워지는 구조를 하는 관람창 구조.

명세서

발명의 상세한 설명

기술분야

본 발명은 조립식 패널용 관람창 구조에 관한 것으로, 시공성이 우수하며, 관람창 후레임을 조립식 패널의 전, 후면과 일치시키는 복층 유리구조 이므로 먼지 쌓임 방지 및, 단열, 차음의 효과가 우수한 조립식 패널용 관람창 구조에 관한 것이다.

조립식 패널을 사용하여 구성되는 각종 크린룸 ICR(Industrial Clean Room), BCR(Bio Logical Clean Room)은 항상 일정 온,습도를 유지하며, 청정상태 유지 및기밀을 필요로 하므로, 불필요한 이동을 줄이기 위한 목적과, 실간 작업 사항을 볼수 있도록 관람창이 설치된다.

발명의 내용

해결 하고자하는 과제

종래의 관람창 설치는 도 4에 도시한 바와 같이, 조립식 패널 (1)에 창틀부재(2)을 이용하여 투명유리(4)를 고정하는 방식이다. 조립식 패널(T:50,75,100mm)과 한장의 투명유리(T:5mm)로 이루어 지므로 두께 차 만큼의 턱(3)이 생기므로 먼지 쌓임의 우려가 높으며, 창 틀 부재를 고정하기 위한 리벳사용은 리벳 홀로 인한 오염원 제공과 시공의 어려움, 또한 한장의 유리가 결합되는 구조는 단열, 차음, 기밀의 성능이 떨어져 크린룸 조건을 저하시키는 요인이 된다.

과제 해결수단

이에 본 발명은 상기한 바와 같은 문제점을 해결하기 위한 것으로서, 먼지 쌓임 방지 및 시공성, 단열, 차음,기밀의 성능을 높이기 위해 두장의 유리를 설치할 수 있는 창 틀 부재를 고안하여 위와 같은 문제를 해소했으며, 리벳 홀로 인한 오염원 제공과 복잡한 시공을 단조롭게 하기 위하여 고정날개를 직결 피스로 고정하고 고정된 직결 피스 머리는 라운드형 마감틀 부재로 마감하여 외간의 미려함까지 고려했다.

효과

상기와 같은 본 발명의 관람창 구조에 의하면 고정틀 부재(200)를 패널의 타공부위에 견고하게 고정한 뒤 마감틀 부재 (100)로 마감하는 구조로서 고정틀 부재(200)를고정하면서 쓰이는 직결 피스를 마감틀 부재(100)로 마감하여 외관의 미려함과 기존 관람창 구조의 시공에 비해 작업성이 우수하며, 이중 유리 마감을 함으로써, 단열, 차음, 기밀의 성능을 높일 수 있다. 또 하나, 기존 관람창에 비해 먼지 쌓임이 적으므로 크린룸에 적합한 구조이며, 창 크기의 변화에도 대응이 간편하다.

발명의 실시를 위한 구체적인 내용

상기한 바와 같은 목적을 달성하기 위한 본 발명에 따른 투명창은 유리 받침턱(260,261)을 지닌 패널고정틀 부재(200)와 유리(300)와 판넬(10)을 일치시킬 수 있는 마감틀 부재(100)로 이루어진다.

이하 본 발명의 실시 예를 첨부된 예시도면을 참조로 상세히 설명한다. 아울러 종래 기술의 설명에 대한 도면을 첨부하여 설명하기로 한다.

도 1은 본 발명에 의한 투명창이 적용된 패널의 정면도, 도 2는 도 1의 A'-A'단면과 B'-B'단면도, 도3은 도2의 분해 단면도, 도 4는 종래 투명창의 단면도이다.

본 발명에 의한 패널용 투명창 구조는 도 3에 도시한 바와 같이, 각각 패널(10)의 전후면(11,12)과 동일 평면상에 유리(300)가 위치할 수 있도록, 고정틀 부재(200)는 유리 받침 턱(260,261)을 가지며, 패널에 고정할 수 있도록 고정날개(290,291)을 두었고, 유리(310,320)면과 패널의 전후면(11,12)과 일치 시키는 마감틀 부재(100)를 결합할 수 있도록 결합홈(240,241)을 냈다. 고정틀 부재(200)와 마감틀 부재(100)의 결합이 일정한 깊이에서 형성되도록 고정틀 부재(200)의 결합홈(221,222)에 대응하는 마감틀 부재(100)의 결합돌기(121,122)를 형성한다.

마감틀 부재(100)가 고정틀 부재(200)에 결합할때 탄성력을 얻기 위해 마감틀 부재(100)의 (150,160)면과 같이 라운드로 형성하며, 라운드 형성(150,160)으로 생긴 공간은 리벳 머리를 감출수있는 공간으로 활용한다. 마감틀 부재(100)의 결합돌기(120)는 고정틀 부재(200)의 결합돌기 유도면(210)을 지나 결합홈(220)에 결합이 용이하고 견고하도록 두개의 결합돌기(110,111)로 형성된다.

상기한 바와 같이 구성된 본 발명에 의한 조립식 칸막이용 투명창 구조의 작용을 설치 과정과 같이 설명하면 다음과 같다.

칸막이 패널(10) 설치 후 투명유리창이 설치될 위치에 타공을 하고 타공된 부위에 고정틀 부재(200)의 고정날개(290,291)가 패널면(12)과 접하도록 하고, 직결 피스로 결속한다. 상기와 같은 결속은 투명창의 4면 후레임 모두 동일하게 시행되며, 고정틀부재(200)와 패널(10)의 결속이 끝나면 투명유리(320)을 유리 받침 턱(261)에 올려 유리 지지면부(232)에 밀착시킨다. 이때 유리 지지면부(232)에 양면테이를 활용하여 견고함을 높일 수 있다.

이 상태에서 마감틀부재(100)의 두개의 결합돌기(110,111)가 결합돌기 유도면(211,212)와 일치 하도록 하고 두둘려 결합시킨다. 이때 결합돌기(121,122)는 결합돌기 유도면(211,212)를 지나 결합홈(221,222)에 안착하게 되며, 두둘여 끼워진 라운드형의 마감틀 부재(100)는 탄성을 얻어 유리를 밀착하는 힘을 유지할 수 있는 구조이다.

도면의 간단한 설명

도 1은 본 발명에 의한 관람창이 설치된 패널의 정면도,

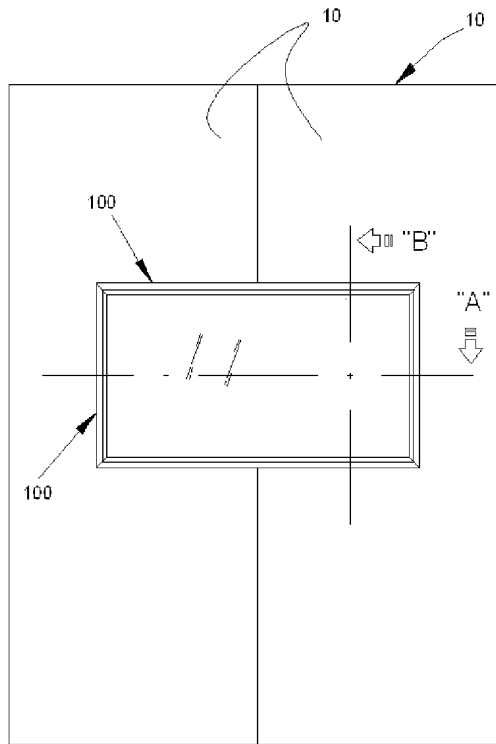
도 2는 도 1의 "A,B" 단면도,

도 3은 도 2의 분해 단면도,

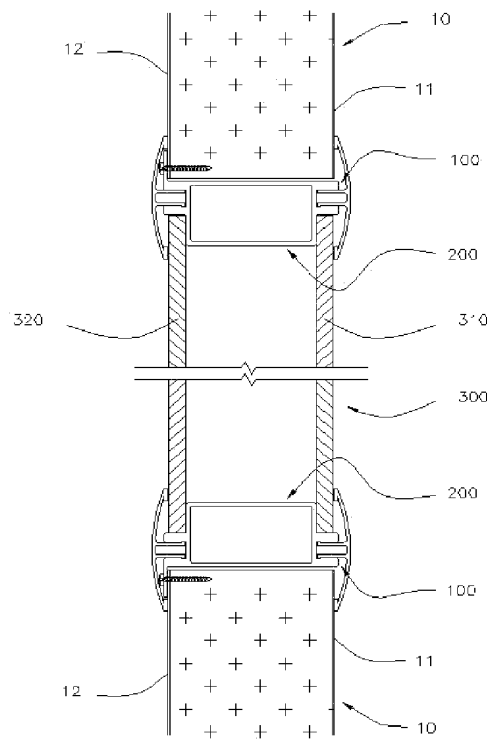
도 4는 종래 관람창 단면도,

도면

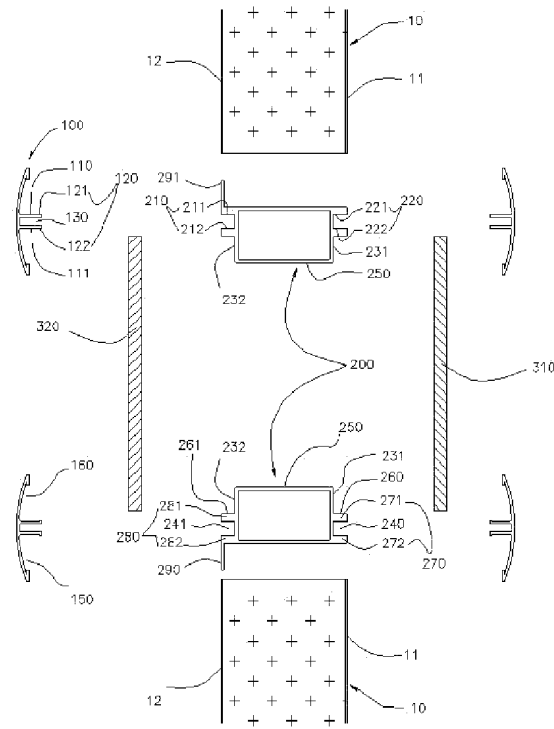
도면1



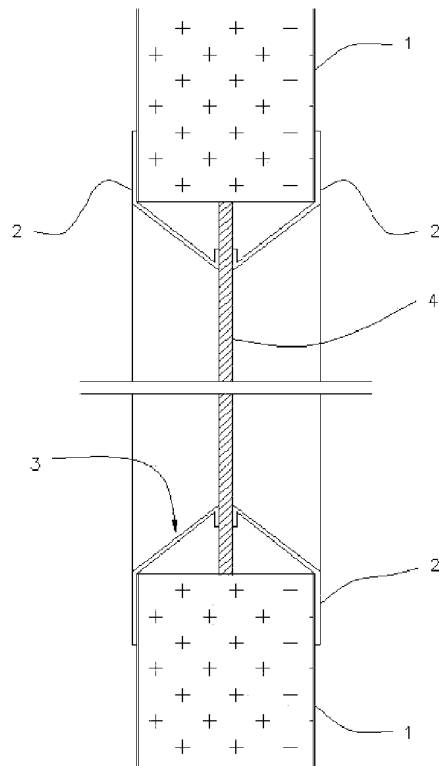
도면2



도면3



도면4



Abstract of KR20070077502 (A)

A view window for a panel is provided to improve the operational efficiency and to obtain aesthetic external appearance by finishing a self drill screw with a finish frame member. A view window for a panel comprises a fixing frame member(200) and a finish frame member(100). Two glasses(310,320) are inserted into the fixing frame member(200) by using glass support protrusions(260,261) having fixing wings(290,291) and engagement grooves(240,241). The finish frame member(100) has a round shape to obtain elasticity. The finish frame member(100) and the two engagement protrusions(121,122) are inserted into the engagement grooves(240,241) by passing through engagement protrusion guide surfaces(211,212). The fixing wings(290,291) fix the fixing frame member(200) and the engagement grooves(240,241) are engaged with the finish frame member(100).

No documents available for this priority number.



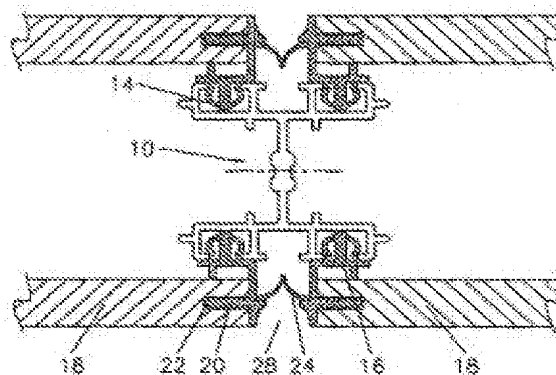
Espacenet

Bibliographic data: KR20000049102 (A) — 2000-07-25

BUILDING ELEMENTS

Inventor(s): RUDDUCK DICKORY [KR] ± (RUDDUCK,DICKORY)
 Applicant(s): RUDDUCK DICKORY [KR] ± (RUDDUCK,DICKORY)
 Classification: - international: E04B2/74; E04B2/78; E04B2/82; E04F19/02; E06B1/04; (IPC1-7): E04B2/78
 - cooperative: E04B2/7455; E04B2/7457; E04B2/7863; E04B2/82; E04F19/022; E06B1/045; E04B2002/7462
 Application number: KR19997003182 19990412
 Priority number (s): AU1996PO02912 19961011
 Also published as: KR100509293 (B1) WO9816699 (A1) US2001025463 (A1) US6260321 (B1) US2003110726 (A1) more

Abstract of KR20000049102 (A)



PURPOSE: A building element, a stud (10) is provided which has a number of channels (12) and each channel receives a cooperating means (14) which can be used to mount a panel or bracket on the stud and is a joining clip (16) which can be connected to a panel or bracket. CONSTITUTION: A joining clip includes the cooperating means (14) for mounting a panel or bracket on the stud. The invention also concerns a building element which is a joining element (42) which can connect one panel to another. The joining element is hinged (46). The invention also discloses two types of bracket for mounting in the stud. The first type has a screw-threaded shaft (71) and a sleeve (72) with cooperating means (73) at one end of the sleeve.; The cooperating means is shaped so that it can be inserted horizontally in a channel of the stud and rotated so that the cooperating means cannot be withdrawn horizontally from the channel. The bracket may thereafter be locked into position in the channel. The second type of bracket has two arms (81, 82) at an angle to each other (83). Cooperating means (84) are located at one end of one arm (81). The cooperating means is shaped so that it can be inserted horizontally in a channel of the stud and rotated so that the cooperating means cannot be withdrawn horizontally from the channel. The one arm of the bracket may thereafter be pushed into position in the channel.; A track (60) is adapted to be hung from a horizontal surface (61), the track having a gutter (59) adapted to receive a connecting clip (63) attached to an end of a panel (18), the track also having a channel (59) adapted to receive a masking clip (64) adapted to conceal the end of the channel.

Last updated: 13 03.2013 Worldwide Database 5.9.6.6; 92p

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
 BALLARD MICHAEL J.
 WORKMAN NYDEGGER 1000 EAGLE GATE TOWER 60
 E. SOUTH TEMPLE SALT LAKE CITY UT 84111 USA

Any **MDF** No. **16196.42A**
 By **MS** On **2/11/13**
 Action **Article 19 Amendments**
 Response Due **3/31/13**

PCT

NOTIFICATION OF TRANSMITTAL OF
 THE INTERNATIONAL SEARCH REPORT AND
 THE WRITTEN OPINION OF THE INTERNATIONAL
 SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)


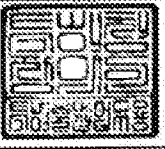
Date of mailing
 (day/month/year) 31 JANUARY 2013 (31.01.2013)

Applicant's or agent's file reference 16196.42A	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US2012/041906	International filing date (day/month/year) 11 JUNE 2012 (11.06.2012)

Applicant
DIRTT ENVIRONMENTAL SOLUTIONS INC. et al

Verified
 By: **JA** On: **3/12/13**

- The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.
Filing of amendments and statement under Article 19:
 The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):
When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.
Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70
For more detailed instructions, see PCT Applicant's Guide, International Phase, paragraphs 9.004, 9.011.
- The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
- With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
 the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.
 no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.
- Reminders**
 The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.
 Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90bis.1 and 90bis.3).
 Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise, the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.
 In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.
 For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the PCT Applicant's Guide, National Chapters.

Name and mailing address of the ISA/KR  Korean Intellectual Property Office 189 Cheongsa-ro, Seo-gu, Daejeon Metropolitan City, 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer COMMISSIONER Telephone No. 82-42-481-8753	
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 16196.42A	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2012/041906	International filing date (<i>day/month/year</i>) 11 JUNE 2012 (11.06.2012)	(Earliest) Priority Date (<i>day/month/year</i>) 11 JUNE 2011 (11.06.2011)
Applicant DIRTT ENVIRONMENTAL SOLUTIONS INC. et al		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

the international application in the language in which it was filed

a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box No. II)

3. **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

as suggested by the applicant.



as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figure is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/041906

A. CLASSIFICATION OF SUBJECT MATTER		
<i>E04B 2/72(2006.01)i, E04B 2/74(2006.01)i, E06B 1/56(2006.01)i</i>		
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) E04B 2/72; E06B 3/54; E06B 7/10; E04H 1/00; E04B 2/78; E04C 2/54; E04B 2/74		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean utility models and applications for utility models Japanese utility models and applications for utility models		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKOMPASS(KIPO internal) & Keywords : partition, nested wall module, support, center-mounted panel, face-mounted panel, nesting bracket, cinch assembly and similar terms		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	KR 10-2000-0049102 A (RUDDUCK, DICKORY) 25 July 2000 See abstract, pages 2, 7 and figures 12 - 16, 20.	10, 11, 13, 14 1-9, 12, 15-20
Y	KR 10-2007-0077502 A (SHIN, JUNG WON) 26 July 2007 See pages 3, 4 and figures 1, 4.	10, 11, 13, 14
A	JP 2003-105908 A (COMANY INC.) 9 April 2003 See paragraphs 0008, 0011 and figures 1, 2.	1-20
A	JP 2005-155223 A (COMANY INC.) 16 June 2005 See paragraphs 0017, 0018 and figures 4, 5.	1-20
A	US 7051482 B2 (MACDONALD, DOUGLAS B. et al.) 30 May 2006 See column 6, lines 14-30, column 10, lines 1- 27 and figures 1B, 18B.	1-20
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "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 30 JANUARY 2013 (30.01.2013)		Date of mailing of the international search report 31 JANUARY 2013 (31.01.2013)
Name and mailing address of the ISA/KR  Facsimile No. 82-42-472-7140		Authorized officer CHOI, Hyun Goo Telephone No. 82-42-481-8288 

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/041906

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-2000-0049102 A	25.07.2000	AU 1997-45432 B2	11.10.2001
		CA 2268410 C	17.02.2009
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KR 20-0442401 Y1	10.11.2008		
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US 7051482 B2	30.05.2006	AU 2003-219750 A1	09.09.2003
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		US 2004-0154756 A1	12.08.2004
		US 2006-0236625 A1	26.10.2006
		US 6684929 B2	03.02.2004
		US 7461484 B2	09.12.2008
		WO 03-071045 A2	28.08.2003
		WO 03-071045 A3	01.04.2004

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 16196.42A	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2012/041906	International filing date (<i>day/month/year</i>) 11 JUNE 2012 (11.06.2012)	(Earliest) Priority Date (<i>day/month/year</i>) 11 JUNE 2011 (11.06.2011)
Applicant DIRTT ENVIRONMENTAL SOLUTIONS INC. et al		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

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the international application in the language in which it was filed

a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box No. II)

3. **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

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the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figure is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/041906**A. CLASSIFICATION OF SUBJECT MATTER***E04B 2/72(2006.01)i, E04B 2/74(2006.01)i, E06B 1/56(2006.01)i*

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)

E04B 2/72; E06B 3/54; E06B 7/10; E04H 1/00; E04B 2/78; E04C 2/54; E04B 2/74

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

Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords : partition, nested wall module, support, center-mounted panel, face-mounted panel, nesting bracket, cinch assembly and similar terms

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	KR 10-2000-0049102 A (RUDDUCK, DICKORY) 25 July 2000 See abstract, pages 2, 7 and figures 12 - 16, 20.	10, 11, 13, 14 1-9, 12, 15-20
Y	KR 10-2007-0077502 A (SHIN, JUNG WON) 26 July 2007 See pages 3, 4 and figures 1, 4.	10, 11, 13, 14
A	JP 2003-105908 A (COMANY INC.) 9 April 2003 See paragraphs 0008, 0011 and figures 1, 2.	1-20
A	JP 2005-155223 A (COMANY INC.) 16 June 2005 See paragraphs 0017, 0018 and figures 4, 5.	1-20
A	US 7051482 B2 (MACDONALD, DOUGLAS B. et al.) 30 May 2006 See column 6, lines 14-30, column 10, lines 1- 27 and figures 1B, 18B.	1-20

 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
 "E" earlier application or patent but published on or after the international filing date
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
 "O" document referring to an oral disclosure, use, exhibition or other means
 "P" document published prior to the international filing date but later than the priority date claimed

"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

30 JANUARY 2013 (30.01.2013)

Date of mailing of the international search report

31 JANUARY 2013 (31.01.2013)

Name and mailing address of the ISA/KR



Facsimile No. 82-42-472-7140

Authorized officer

CHOI, Hyun Goo

Telephone No. 82-42-481-8288



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/041906

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 10-2000-0049102 A	25.07.2000	AU 1997-45432 B2	11.10.2001
		CA 2268410 C	17.02.2009
		CA 2615600 A1	23.04.1998
		CA 2615698 A1	23.04.1998
		CN 1100186 C	29.01.2003
		CN 1233306 A	27.10.1999
		CN 1233306 C0	27.10.1999
		EP 1012420 A1	28.06.2000
		EP 1012420 A4	14.08.2002
		EP 1012420 B1	18.06.2008
		US 2001-0025463 A1	04.10.2001
		US 2003-0110726 A1	19.06.2003
		US 6260321 B1	17.07.2001
		US 6993875 B2	07.02.2006
		WO 98-16699 A1	23.04.1998
KR 10-2007-0077502 A	26.07.2007	KR 10-2007-0099502 A	09.10.2007
		KR 20-0442401 Y1	10.11.2008
JP 2003-105908 A	09.04.2003	None	
JP 2005-155223 A	16.06.2005	None	
US 7051482 B2	30.05.2006	AU 2003-219750 A1	09.09.2003
		AU 2003-219750 A8	09.09.2003
		CA 2476310 A1	28.08.2003
		EP 1482822 A2	08.12.2004
		JP 2005-517841 A	16.06.2005
		US 2003-0155083 A1	21.08.2003
		US 2004-0020137 A1	05.02.2004
		US 2004-0154756 A1	12.08.2004
		US 2006-0236625 A1	26.10.2006
		US 6684929 B2	03.02.2004
		US 7461484 B2	09.12.2008
		WO 03-071045 A2	28.08.2003
		WO 03-071045 A3	01.04.2004

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
BALLARD MICHAEL J.

WORKMAN NYDEGGER 1000 EAGLE GATE TOWER 60
E. SOUTH TEMPLE SALT LAKE CITY UT 84111 USA

MJE No. 16196.42a
MS Date 2/11/13
Action Written opinion
Response Due 4/30/13

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 31 JANUARY 2013 (31.01.2013)

Applicant's or agent's file reference
16196.42A

FOR FURTHER ACTION
See paragraph 2 below

International application No. PCT/US2012/041906	International filing date (day/month/year) 11 JUNE 2012 (11.06.2012)	Priority date(day/month/year) 11 JUNE 2011 (11.06.2011)
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International Patent Classification (IPC) or both national classification and IPC

E04B 2/72(2006.01)i, E04B 2/74(2006.01)i, E06B 1/56(2006.01)i

Applicant

DIRTT ENVIRONMENTAL SOLUTIONS INC. et al



1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/KR  Facsimile No. 82-42-472-7140	Date of completion of this opinion 30 JANUARY 2013 (30.01.2013)	Authorized officer CHOI, Hyun Goo Telephone No. 82-42-481-8288 
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US2012/041906

Box No. 1 Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed
 - a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:
 - a. a sequence listing filed or furnished
 - on paper
 - in electronic form
 - b. time of filing or furnishing
 - contained in the international application as filed.
 - filed together with the international application in electronic form.
 - furnished subsequently to this Authority for the purposes of search.
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2012/041906

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	1-20	YES
	Claims	NONE	NO
Inventive step (IS)	Claims	1-9,12,15-20	YES
	Claims	10-11,13-14	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	NONE	NO

2. Citations and explanations :

Reference is made to the following documents:

- D1: KR 10-2000-0049102 A (RUDDUCK, DICKORY) 25 July 2000
- D2: KR 10-2007-0077502 A (SHIN, JUNG WON) 26 July 2007
- D3: JP 2003-105908 A (COMANY INC.) 9 April 2003
- D4: JP 2005-155223 A (COMANY INC.) 16 June 2005
- D5: US 7051482 B2 (MACDONALD, DOUGLAS B. et al.) 30 May 2006

1. Novelty and Inventive Step

1.1 Independent Claim 1

The subject matter of claim 1 differs from these prior art documents in that it comprises a pair of face-mounted panels nested within the center-mounted panel. And it is not obvious to a person skilled in the art by the documents, taken alone or in combination. Therefore, claim 1 meets the requirements of PCT Article 33(2) and (3) with respect to novelty and inventive step.

1.2 Dependent Claims 2-9

Claims 2-9 are directly or indirectly dependent on claim 1 and therefore meet the requirements of PCT Article 33(2) and (3).

Continued on Supplemental Box

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box V

1.3 Independent Claim 10

D1, which is considered to be the closest prior art to the subject matter of claim 10, discloses building elements for forming a wall system or a partition system comprising studs(10), panels(18) and a glass panel(34) (see abstract, pages 2, 7 and figures 12-16, 20).

Claim 10 differs from D1 in that a nested wall module comprises a center-mounted panel secured within a hole of a pair of face-mounted panels. However, D2 discloses a glass panel(4) secured within a panel(10) (see pages 3, 4 and figures 1, 4).

Accordingly, claim 10 would have been obvious over D1 in view of D2. Therefore, claim 10 lacks an inventive step under PCT Article 33(3).

1.4 Dependent Claims 11-14

1.4.1 Concerning Dependent Claim 11

The additional feature of claim 11 is substantially identical to studs(10) and decorative extrusions(32) in D1 (see page 7 and figures 12-16, 20). Accordingly, claim 11 would have been obvious over D1 in view of D2. Therefore, claim 11 lacks an inventive step under PCT Article 33(3).

Continued on Supplemental Box

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US2012/041906

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box V

1.4.2 Concerning Dependent Claim 12

The additional feature of claim 12 is not disclosed in any of the prior art documents, nor is it obvious to a person skilled in the art by the documents. Accordingly, claim 12 is novel and involves an inventive step under PCT Article 33(2) and (3).

1.4.3 Concerning Dependent Claim 13

The additional feature of claim 13 is substantially identical to the glass panel(4) secured within the panel(10) in D2 (see pages 3, 4 and figures 1, 4). Accordingly, claim 13 would have been obvious over D1 in view of D2. Therefore, claim 13 lacks an inventive step under PCT Article 33(3).

1.4.4 Concerning Dependent Claim 14

The additional feature of claim 14 is substantially identical to the decorative extrusions(32) in D1 (see page 7 and figures 12-16, 20). Accordingly, claim 14 would have been obvious over D1 in view of D2. Therefore, claim 14 lacks an inventive step under PCT Article 33(3).

Continued on Supplemental Box

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

Box V

1.5 Independent Claim 15

The subject matter of claim 15 differs from these prior art documents in that it comprises: a plurality of nesting brackets including one or more cinch channels; and one or more corner cinch assemblies sized and configured to couple two or more brackets of the plurality of nesting brackets together. And it is not obvious to a person skilled in the art by the documents, taken alone or in combination. Therefore, claim 15 meets the requirements of PCT Article 33(2) and (3) with respect to novelty and inventive step.

1.6 Dependent Claims 16-20

Claims 16-20 are directly or indirectly dependent on claim 15 and therefore meet the requirements of PCT Article 33(2) and (3).

2. Industrial Applicability

Claims 1-20 are industrially applicable under PCT Article 33(4).

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3633	
	Examiner Name	Herring, Brent W		
	Attorney Docket Number		16196.6.1.1	

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6530181		2003-03-11	Seiber	
	2	8683745		2014-04-01	Artwohl	

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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20080302054		2008-12-11	Gosling	
	2	20140102021		2014-04-17	Gosling	

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	1	686795	CH		1996-06-28	Schenk		<input type="checkbox"/>

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3633	
	Examiner Name	Herring, Brent W		
	Attorney Docket Number		16196.6.1.1	

	2	2221946	GB		1990-02-21	Keysan		<input type="checkbox"/>
	3	202004017808	DE		2005-01-13	Rheinhold		<input type="checkbox"/>

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NON-PATENT LITERATURE DOCUMENTS

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1	European Search Report, EP 12800672, Mailed October 10, 2014	<input type="checkbox"/>

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EXAMINER SIGNATURE

Examiner Signature	Date Considered
--------------------	-----------------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	14032931
	Filing Date	2013-09-20
	First Named Inventor	Geoff Gosling
	Art Unit	3633
	Examiner Name	Herring, Brent W
	Attorney Docket Number	16196.6.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- See attached certification statement.
- The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Michael J. Frodsham/	Date (YYYY-MM-DD)	2014-10-21
Name/Print	Michael J. Frodsham	Registration Number	48699

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

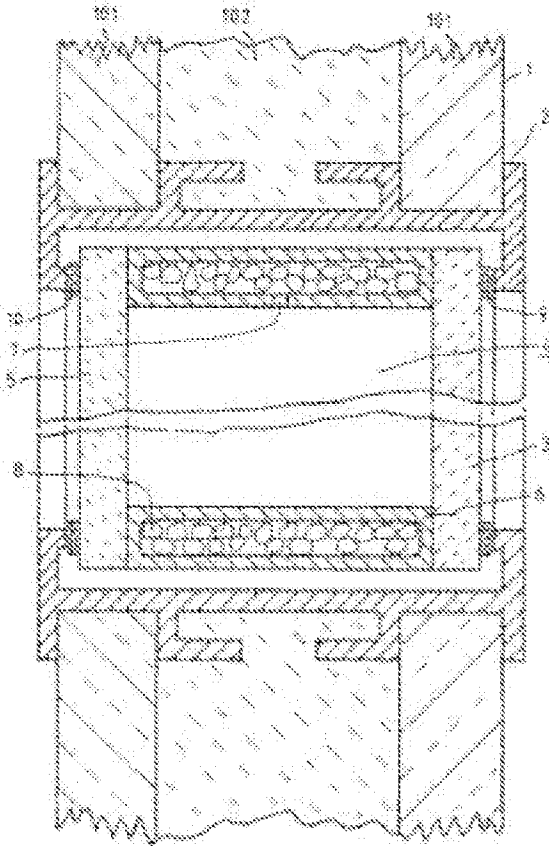
The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Abstract of CH686795 (A5)

The panes (3,5) are of the same size and sealed to the open sides of a closed rigid metal frame (6). The window unit so formed (4) is roughly flush on the outside with the partition surfaces. It can be at least 60 mm. thick, and can be secured via elastic seals (9,10) by two opposite enclosing frames (2) rigidly fixed to the partition (1). The metal frame (4) can be formed by a hollow profiled section. A drying agent (8) can have a connection to the space between the panes.





SCHWEIZERISCHE EIDGENOSSENSCHAFT
EIDGENÖSSISCHES INSTITUT FÜR GEISTIGES EIGENTUM

① **CH 686 795 A5**

⑤ Int. Cl.⁶: **E 06 B 007/14**
E 04 B 002/00
E 04 C 002/54

Erfindungspatent für die Schweiz und Liechtenstein
Schweizerisch-liechtensteinischer Patentschutzvertrag vom 22. Dezember 1978

⑫ **PATENTSCHRIFT A5**

⑲ Gesuchsnummer: 02507/93

⑳ Anmeldungsdatum: 23.08.1993

㉔ Patent erteilt: 28.06.1996

④⑤ Patentschrift veröffentlicht: 28.06.1996

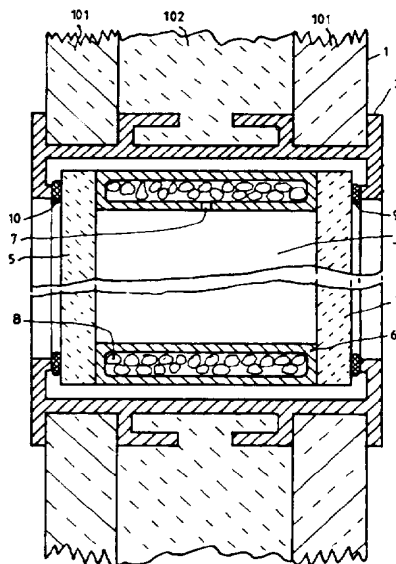
⑦③ Inhaber:
Hans Rudolf Schenk, Rombachtäli 23,
5022 Rombach (CH)

⑦② Erfinder:
Schenk, Hans Rudolf, Rombach (CH)

⑦④ Vertreter:
Morva Patentdienste, Hintere Vorstadt 34, Postfach,
5001 Aarau (CH)

⑤④ **Trennwand für Innenraum mit Fenster.**

⑤⑦ Die Trennwand (1) für Innenraum ist mit einem Fenster versehen. Das Fenster enthält eine Fenstereinheit (4), die aus zwei gleich grossen, parallelen Glasscheiben (3, 5) und aus einem diese Glasscheiben (3, 5) tragenden, geschlossenen, starren Metallrahmen (6) gebildet ist. Die beiden Glasscheiben (3, 5) sind an beiden offenen Seiten des Metallrahmens (6) dicht befestigt. Die staubdicht verschlossene Fenstereinheit (4) ist aussen mit den beiden einander abgekehrten Oberflächen der Trennwand (1) annähernd bündig. In die dicht abgeschlossene Fenstereinheit (4) kann kein Staub eindringen, der zur Trübung der Glasscheiben (3, 5) führen würde. Die mit der Trennwand (1) annähernd bündigen Glasscheiben (3, 5) wirken ästhetisch positiv.



Beschreibung

Die vorliegende Erfindung betrifft eine Trennwand für Innenraum mit Fenster.

Trennwände für Innenraum mit einem Fenster sind allgemein bekannt. Bei den bekannten Trennwänden besteht das Fenster entweder aus einer einfachen Glasscheibe, oder aus zwei voneinander beabstandeten, in Dichtungsrahmen eingesetzten, mit der Oberfläche der Trennwand mindestens annähernd bündigen Glasscheiben. Eine einfache Glasscheibe ist einerseits ästhetisch störend, weil sie von mindestens einer Oberfläche der Trennwand zwangsläufig zurücksteht und andererseits weil sie zu wenig schallisolierend wirkt. Bei einem Fenster mit zwei beabstandeten Glasscheiben kann insbesondere durch die Ecken des Dichtungsrahmens in den zwischen den beiden Glasscheiben liegenden Innenraum Staub eindringen, wodurch das Fenster trüb wird. Der zwischen den beiden Glasscheiben liegende Raum kann bei dieser Anordnung nur nach einer mit verhältnismässig grossem Aufwand verbundenen Demontage des Fensters gereinigt werden.

Aufgabe der vorliegenden Erfindung ist es, eine Trennwand der eingangs erwähnten Art zu schaffen, die ein mit den beiden Oberflächen der Trennwand mindestens annähernd bündiges Fenster mit zwei Glasscheiben aufweist und bei welcher das Fenster gegen das Eindringen von Staub zwischen die beiden Glasscheiben geschützt ist.

Die gestellte Aufgabe ist dadurch gelöst, dass das Fenster eine aus zwei gleich grossen, parallelen, an beiden offenen Seiten eines geschlossenen, starren Metallrahmens dicht befestigten Glasscheiben gebildete Fenstereinheit aufweist, wobei die Fenstereinheit aussen mit den beiden einander abgekehrten Oberflächen der Trennwand mindestens annähernd bündig ist. Die vorgefertigte, staubdicht abgeschlossene Fenstereinheit ist mindestens annähernd so dick wie die Trennwand selbst. Diese Massnahme ermöglicht die Schaffung einer wirtschaftlich vorteilhaften Trennwand mit mit den beiden Trennwandoberflächen mindestens annähernd bündigen Glasscheiben, wobei das Eindringen von Staub zwischen die beiden Glasscheiben verhindert ist.

Es sind zwar Fenstereinheiten mit zwei gleich grossen Glasscheiben und mit einem dazwischen liegenden starren Metallrahmen bekannt. Die beiden Glasscheiben sind bei dieser bekannten Anordnung auf den beiden einander abgekehrten Stirnseiten des Metallrahmens starr befestigt. Die Befestigung zwischen dem Metallrahmen und den Glasscheiben erfolgt entweder durch die Verwendung eines härtbaren Kunststoffes oder durch Zusammenschweissen der Randbereiche der Glasscheiben mit dem Metallrahmen. Aus herstellungstechnischen Gründen hat man bisher den Abstand zwischen den Glasscheiben relativ klein gehalten. Mit einer solchen verhältnismässig dünnen Fenstereinheit kann man in einer Trennwand, die eine Dicke von mindestens 72 mm aufweist, kein Fenster mit die Trennwand beidseitig bündig abschliessenden Glasscheiben verwirklichen.

Um die Dicke der Fenstereinheit der Dicke der Trennwand anzupassen, beträgt die Dicke der Fenstereinheit mit Vorteil mindestens 60 mm.

Die Fenstereinheit ist in einer Öffnung der Trennwand vorteilhafterweise mittels in den einander abgekehrten Randbereichen an den Glasscheiben und an zwei diese Glasscheiben umrahmenden, mit der Trennwand starr verbundenen Fensterrahmen anliegender, elastischer Dichtungen gehalten. Bei dieser elastischen Halterung der Fenstereinheit in der Trennwand erlaubt die elastische Dichtung das Schaffen der Holz enthaltenden Trennwand ohne in der eingesetzten Fenstereinheit Spannungen zu verursachen. Ausserdem lässt die elastische Dichtung die Erschütterungen und Schwingungen der Trennwand nur gedämpft auf die Fenstereinheit übertragen.

Der Metallrahmen der Fenstereinheit besteht mit Vorteil aus einem Hohlprofil. Das Hohlprofil ermöglicht eine Gewichtseinsparung am Metallrahmen. Im mit dem zwischen den beiden Glasscheiben eingeschlossenen Raum kommunizierenden Inneren des Hohlprofils ist bevorzugt ein Trockenmittel vorhanden. Das Trockenmittel bindet die zwischen den Glasscheiben möglicherweise vorhandene Feuchtigkeit und verhindert ein Anlaufen der Glasscheiben bei tiefen Temperaturen.

Im folgenden wird anhand der beiliegenden Zeichnungen ein Ausführungsbeispiel der Erfindung näher beschrieben. Es zeigen:

Fig. 1 eine Trennwand mit einem Fenster und
Fig. 2 einen Schnitt über einen Teil der Trennwand mit dem eingesetzten Fenster.

In Fig. 1 ist eine Trennwand 1 mit einer in einem Fensterrahmen 2 gehaltenen Glasscheibe 3 eines Fensters in Frontansicht sichtbar. In Fig. 2 ist ein Schnitt über einen Teil der Trennwand 1 und über eine in die Trennwand 1 eingesetzte Fenstereinheit 4 dargestellt. Die Trennwand 1 ist aus zwei Holzspanplatten 101 und aus einer dazwischen liegenden Isolationsschicht 102 zusammengebaut. Die Fenstereinheit 4 besteht aus zwei gleich grossen, parallelen Glasscheiben 3 und 5, die an den beiden offenen Seiten eines geschlossenen, starren Metallrahmens 6 dicht befestigt sind. Der Metallrahmen 6 ist aus einem Hohlprofil hergestellt. Das Innere dieses Hohlprofils kommuniziert über Durchbrüche 7 mit dem zwischen den beiden Glasscheiben 3 und 5 eingeschlossenen Raum. Das Innere des Hohlprofils ist mit einem Trockenmittel 8, beispielsweise mit Kieselgel gefüllt. Das Trockenmittel 8 bindet die zwischen den beiden Glasscheiben 3 und 5 eingeschlossene Feuchtigkeit und verhindert eine unerwünschte, eine Trübung der Glasscheiben 3 und 5 verursachende Kondensation dieser Feuchtigkeit bei tiefen Temperaturen. Durch geeignete Farbgebung wird der Metallrahmen 6 der Trennwand 1 optisch angepasst.

Der Metallrahmen 6 besteht entweder aus einer Leichtmetalllegierung oder aus einer Blei-Zinn-Legierung. Bei einer Leichtmetalllegierung sind die beiden Glasscheiben 3 und 5 am Metallrahmen 6 mit Hilfe eines härtbaren Kunststoffkitts dicht befe-

stigt. Wenn der Metallrahmen 6 aus einer Blei-Zinn-Legierung gefertigt ist, sind die beiden Glasscheiben 3 und 5 auf den Metallrahmen dicht aufgeschweisst. Das Innere der Fenstereinheit 4 ist dicht abgeschlossen und bleibt daher auch staubfrei. Die Glasscheiben 3 und 5 müssen nur an ihren nach aussen gekehrten Oberflächen einfacherweise gereinigt werden.

Die Dicke der Fenstereinheit 4 ist der Dicke der Trennwand 1 angepasst und beträgt bei den heute üblichen Trennwänden mindestens 50 mm. Die beiden einander abgekehrten äusseren Oberflächen der Fenstereinheit 4 sind mit den äusseren Oberflächen der Trennwand 1 annähernd bündig. Diese Anordnung wirkt ästhetisch positiv, wobei eine ausreichende Schallisolation des Fensters auch gegeben ist.

Die Fenstereinheit 4 ist in der Trennwand 1 elastisch gehalten. In den 3 Randbereichen der nach aussen gerichteten Oberflächen der beiden Glasscheiben 3 und 5 liegen rahmenförmige, elastische Dichtungen 9, 10 auf, die durch die mit der Trennwand 1 starr verbundenen Fensterrahmen 2 gehalten sind. Bei dieser elastischen Halterung der Fenstereinheit 4 kann das in der Trennwand 1 vorhandene Holz frei schaffen, ohne in der Fenstereinheit 4 Spannungen zu verursachen. Die zwischen der Fenstereinheit 4 und der Trennwand 1 vorhandenen elastischen Dichtungen 9, 10 verhindern im weiteren, dass Erschütterungen und Schwingungen der Trennwand ungedämpft auf die Fenstereinheit 4 übertragen werden. Diese Massnahme wirkt schonend auf die Fenstereinheit 4 und verlängert ihre Lebensdauer.

Patentansprüche

1. Trennwand für Innenraum mit einem Fenster, dadurch gekennzeichnet, dass das Fenster eine aus zwei gleich grossen, parallelen, an beiden offenen Seiten eines geschlossenen, starren Metallrahmens (6) dicht befestigten Glasscheiben (3, 5) gebildete Fenstereinheit (4) aufweist, wobei die Fenstereinheit (4) aussen mit den beiden einander abgekehrten Oberflächen der Trennwand (1) mindestens annähernd bündig ist.

2. Trennwand nach Anspruch 1, dadurch gekennzeichnet, dass die Dicke der Fenstereinheit (4) mindestens 60 mm beträgt.

3. Trennwand nach einem der Ansprüche 1 bis 2, dadurch gekennzeichnet, dass die Fenstereinheit (4) in einer Öffnung der Trennwand (1) mittels in den einander abgekehrten Randbereichen an den Glasscheiben (3, 5) und an zwei diese Glasscheiben (3, 5) umrahmenden, mit der Trennwand (1) starr verbundenen Fensterrahmen (2) anliegender, elastischer Dichtungen (9, 10) gehalten ist.

4. Trennwand nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, dass der Metallrahmen (6) der Fenstereinheit (4) aus einem Hohlprofil besteht.

5. Trennwand nach Anspruch 4, dadurch gekennzeichnet, dass im mit dem zwischen den beiden Glasscheiben (3, 5) eingeschlossenen Raum kommunizierenden Inneren des Hohlprofils ein Trockenmittel (8) vorhanden ist.

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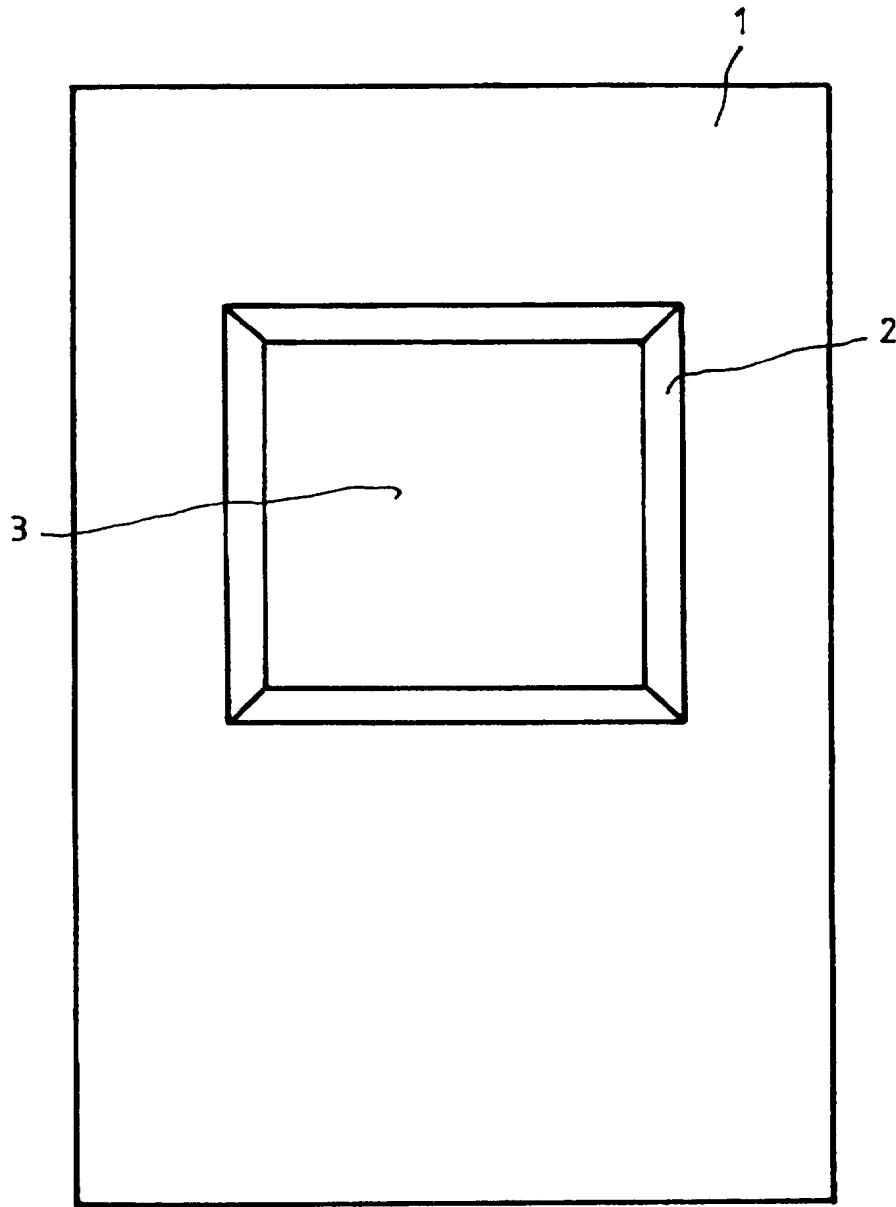


Fig.1

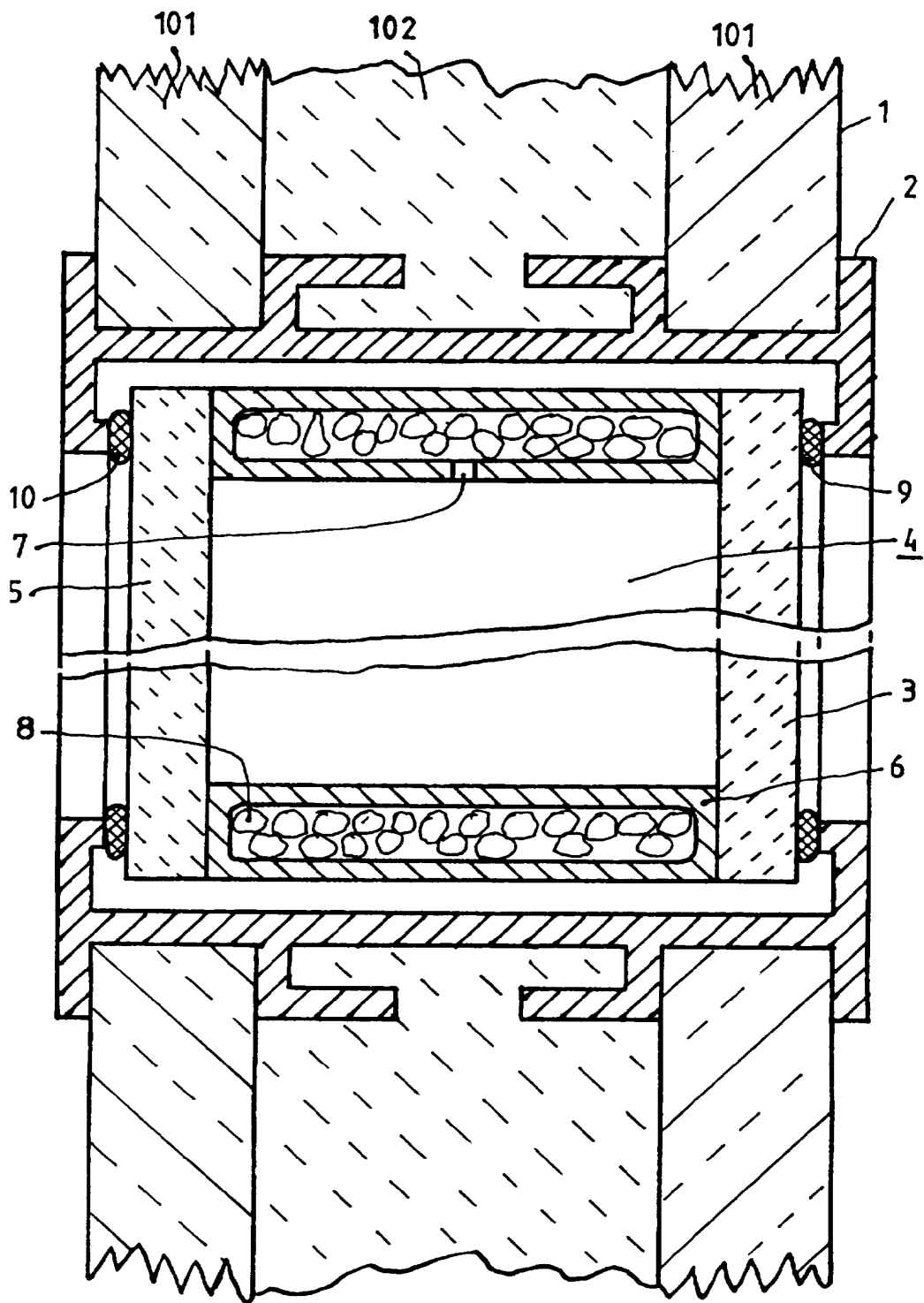


Fig. 2



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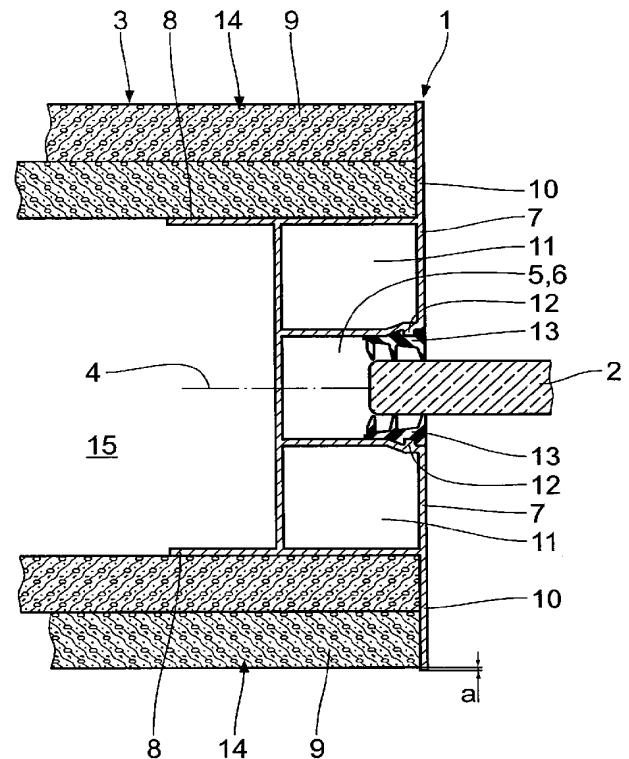
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Die folgenden Angaben sind den vom Anmelder eingereichten Unterlagen entnommen

(54) Bezeichnung: **Verbindungsprofil**

(57) Hauptanspruch: Verbindungsprofil (1) zur Verbindung einer Glasscheibe (2) mit einer mehrschichtigen Trockenbauwand (3)

- mit einer Glasaufnahme-Profilkammer (5), die zur Glasseite hin offen ist und eine Glasaufnahme Nut (6) bildet,
- mit einem sich beidseitig an die Glasaufnahme-Profilkammer (5) anschließenden, senkrecht zur Wandebene (4) verlaufenden Abschlussprofil (7) zum stirnseitigen Abschluss der Trockenbauwand (3),
- mit zwei beiderseits der Glasaufnahme-Profilkammer (5) und parallel zur Wandebene (4) verlaufenden Anlageprofilen (8) zur endseitigen Anlage der Trockenbauwand (3).



Beschreibung

[0001] Die Erfindung betrifft ein Verbindungsprofil zur Verbindung einer Glasscheibe mit einer mehrschichtigen Trockenbauwand.

[0002] An den Übergang zwischen einer Glasscheibe und einer Trockenbauwand werden stetig anspruchsvollere optische Anforderungen gestellt. Derzeit bekannte Verbindungssysteme werden oftmals als optisch wenig ansprechend angesehen, da sie insbesondere die zur Durchsicht nutzbare Glasfläche einschränken.

[0003] Es ist daher die Aufgabe der vorliegenden Erfindung, ein Verbindungsprofil der eingangs genannten Art derart weiterzubilden, dass der Übergangsbereich zwischen der Glasscheibe und der Trockenbauwand optisch ansprechender gestaltet ist.

[0004] Diese Aufgabe ist erfindungsgemäß gelöst durch ein Verbindungsprofil mit den im Anspruch 1 angegebenen Merkmalen.

[0005] Das erfindungsgemäße Verbindungsprofil gewährleistet eine Verbindung der Glasscheibe mit der Trockenbauwand, ohne dass ein sichtbarer Rahmen um die Glasscheibe verbleibt. Das Abschlussprofil sorgt für einen glatten stirnseitigen Abschluss der Trockenbauwand hin zur Glasscheibe. Es resultiert eine „rahmenlose“ Anmutung des Verbindungsbereiches. Gleichzeitig ist das Verbindungsprofil, da es insbesondere einteilig ausgeführt sein kann, einfach zu montieren und kann vor Ort zugeschnitten und an seine jeweilige Einbausituation angepasst werden. Mit der optisch klaren Gestaltung geht außerdem eine einfache Reinigung des Verbindungsprofils einher. Die Abschlussprofile können zudem zur endseitigen Aussteifung der Trockenbauwand dienen.

[0006] Der Überstand nach Anspruch 2 kann insbesondere so groß gewählt sein, dass die Trockenbauwand stirnseitig vollständig von den Abschlussprofilen überdeckt ist. Dies verbessert den optischen Gesamteindruck im Verbindungsbereich zusätzlich. Zum Ausgleich von Fertigungs- bzw. Montagetoleranzen kann der Überstand etwas größer als die Dicke der anliegenden Wandelemente gewählt sein.

[0007] Ein Mehrkammeraufbau nach Anspruch 3 verbessert die Steifigkeit des Verbindungsprofils. Zudem ist eine Dämmfunktion möglich.

[0008] Haltestege nach Anspruch 4 ermöglichen eine sichere Halterung der Dichtprofile.

[0009] Ein Ausführungsbeispiel der Erfindung wird nachfolgend anhand der Zeichnung näher erläutert. Die einzige Figur zeigt einen horizontalen Schnitt

durch einen Wandausschnitt im Übergangsbereich zwischen einer Trockenbauwand und einer Glasscheibe mit einem erfindungsgemäßen Verbindungsprofil.

[0010] Ein insgesamt mit **1** bezeichnetes Verbindungsprofil dient zur Verbindung einer Glasscheibe **2** mit einer mehrschichtigen Trockenbauwand **3**. Das Verbindungsprofil **1** ist zu einer Mittelebene **4** spiegelsymmetrisch, die mit der Glasscheibenebene zusammenfällt. Mittig weist das Verbindungsprofil **1** eine Glasaufnahme-Profilkammer **5** auf. Letztere ist zur Glasseite, also zur Glasscheibe **2** hin, offen und bildet eine Glasaufnahmenut **6**.

[0011] Beiderseits der Glasaufnahme-Profilkammer **5** schließt sich an dieses ein senkrecht zur Mittel- bzw. Wandebene **4** verlaufendes Abschlussprofil **7** an. Letzteres dient zum stirnseitigen Abschluss der Trockenbauwand **3** unter Bildung einer senkrecht zur Glasscheibe **2** verlaufenden planen Abschlußwand.

[0012] Beiderseits der Glasaufnahme-Profilkammer **5** verlaufen parallel zur Mittelebene **4** zwei Anlageprofile **8**. Letztere dienen zur Anlage von dem Verbindungsprofil **1** zugewandten Endabschnitten **9** der Trockenbauwand **3**. Mit Überstandsabschnitten **10** stehen die Abschlussprofile **7** senkrecht zur Mittelebene **4** von der Glasaufnahme-Profilkammer **5** weg über die Anlageprofile **8** über. Dieser Überstand der Überstandsabschnitte **10** ist so groß, dass die Endabschnitte **9** der Trockenbauwand **3** stirnseitig von den Überstandsabschnitten **10** vollständig überdeckt werden. Über die Außenflächen der Endabschnitte **9** stehen die Überstandsabschnitte **10** geringfügig über. Dieser geringfügige Überstand ist in der Figur mit **a** bezeichnet.

[0013] Zwischen der Glasaufnahme-Profilkammer **5** und den beiden Anlageprofilen **8** weist das Verbindungsprofil **1** jeweils eine im Wesentlichen rechteckige Hohlkammer **11** auf.

[0014] Den Seitenflächen der Glasscheibe **2** zugewandte Seitenwände der Glasaufnahme-Profilkammer **5** weisen senkrecht zur Zeichenebene der Figur verlaufende Haltestege **12** zur Halterung eines Dichtprofils **13** auf. Das Dichtprofil **13** liegt über drei zueinander versetzt angeordneten Dichtlippen an der Glasscheibe an und dichtet letztere zum Verbindungsprofil **1** hin ab.

[0015] Die mehrschichtige Trockenbauwand **3** weist zwei gegenüberliegende Wandelemente **14** auf. Diese sind zweilagig ausgeführt. Zwischen den Wandelementen **14** ist ein Zwischenraum **15**, in dem ein Dämmmaterial aufgenommen werden kann.

Schutzansprüche

1. Verbindungsprofil (1) zur Verbindung einer Glasscheibe (2) mit einer mehrschichtigen Trockenbauwand (3)

– mit einer Glasaufnahme-Profilkammer (5), die zur Glasseite hin offen ist und eine Glasaufnahmenut (6) bildet,

– mit einem sich beidseitig an die Glasaufnahme-Profilkammer (5) anschließenden, senkrecht zur Wandebene (4) verlaufenden Abschlussprofil (7) zum stirnseitigen Abschluss der Trockenbauwand (3),

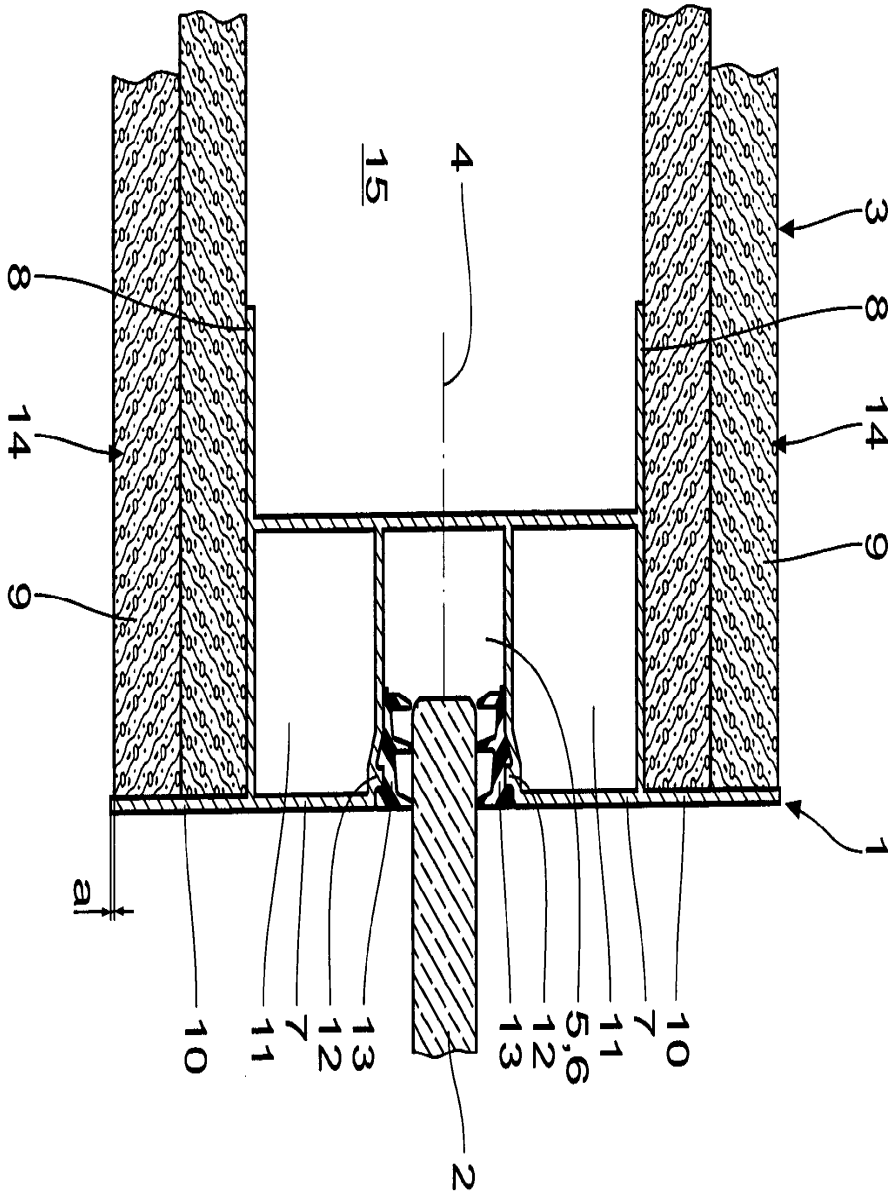
– mit zwei beiderseits der Glasaufnahme-Profilkammer (5) und parallel zur Wandebene (4) verlaufenden Anlageprofilen (8) zur endseitigen Anlage der Trockenbauwand (3).

2. Verbindungsprofil nach Anspruch 1, dadurch gekennzeichnet, dass die Abschlussprofile (7) senkrecht zur Wandebene (4) von der Glasaufnahme-Profilkammer (5) weg über die Anlageprofile (8) überstehen.

3. Verbindungsprofil nach Anspruch 1 oder 2, gekennzeichnet durch einen Mehrkammeraufbau, wobei beiderseits der Glasaufnahme-Profilkammer (5) zwischen dieser und den Anlageprofilen (8) jeweils eine Hohlkammer (11) angeordnet ist.

4. Verbindungsprofil nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, dass die Glasaufnahmenut (6) Haltestege (12) zur Halterung von beiderseits der Glasscheibe (2) anordenbaren Dichtprofilen (13) aufweist.

Es folgt ein Blatt Zeichnungen



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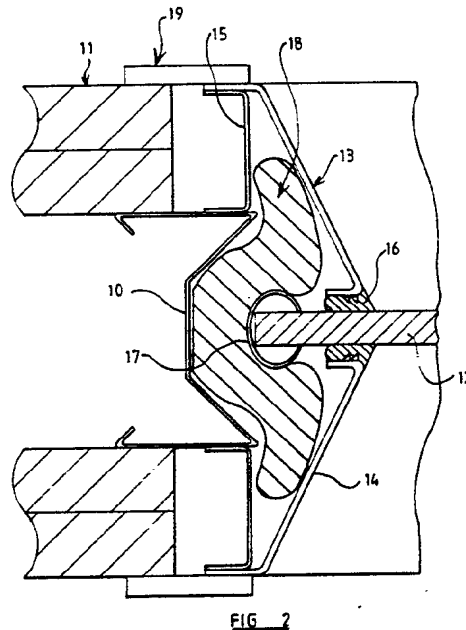
(52) UK CL (Edition J)
E1R R26B5B

(56) Documents cited
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(58) Field of search
**UK CL (Edition J) E1R
INT CL⁴ E06B**

(54) Glazing

(57) A glazing panel (12) in a stud (10) and panel (11) partition held between front and rear frames (13, 14) is provided along at least one edge with an elongate, or series of, spring steel clips (17) gripping its lateral edge to increase locally the thickness of the marginal portions and prevent withdrawal of the panel in the event of fire. Insulating material 18 is arranged between the stud and the panel.



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

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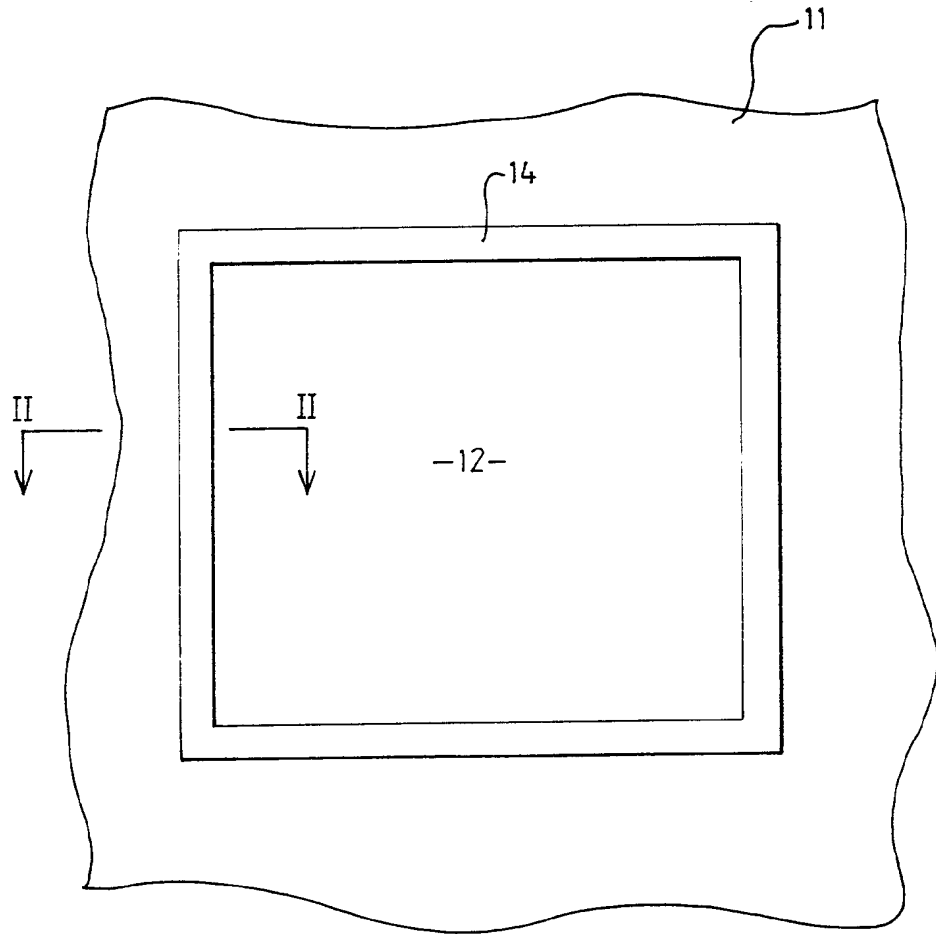
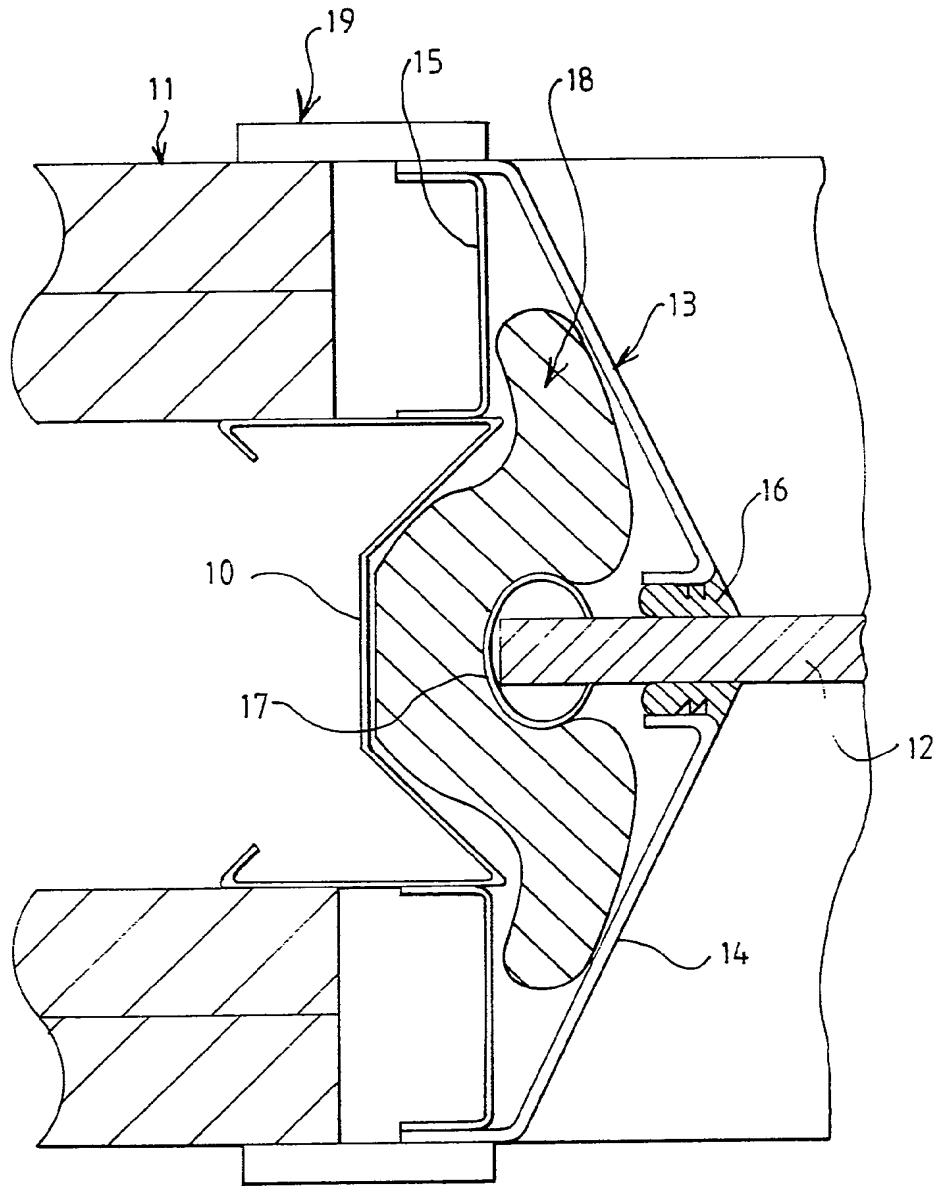


FIG 1



Title: "Structure incorporating a glazing panel and method of glazing the structure"

Description of Invention

The present invention relates to a structure incorporating a glazing panel. The panel may be formed of glass or of other light-transmitting material. The invention has been developed primarily for use in internal walls within buildings, for example in demountable partitions.

The presence of a glazing panel in a partition represents a potential weakness, in the event of a fire, because the materials of which glazing panels are formed soften when heated to temperatures at which some opaque materials used in partitioning retain their strength. It is common for a large pressure differential to be established across a partition in the event of a fire becoming established at one side of the partition. The effect of this pressure differential on a glazing panel which has softened may be to cause the glazing panel to bend towards the region of low pressure and to withdraw marginal portions of the glazing panel from a proper relation with other components of the structure. In the case of severe deformation of the glazing panel, this could result in a gap opening up between a margin of the glazing panel and the other structure, so that hot gas is able to pass through the gap and promote the spread of the fire.

According to a first aspect of the present invention, there is provided a structure incorporating a glazing panel wherein first and second frames lie at respective faces of the panel, each frame overlapping marginal portions of the panel, the frames are spaced apart by a gap through which the panel extends and the panel has adjacent to at least one margin at least one formation which has a thickness exceeding the corresponding dimension of the gap so that the formation cannot pass through the gap.

The frames may be formed of metal or other material which has a better resistance to fire than does the glazing panel and which maintains its strength and rigidity when heated to a temperature at which the glazing panel softens.

The formation is most advantageously provided at a vertical margin of the glazing panel. In a partition, there is usually an upright stud adjacent to each vertical margin of each glazing panel. The presence of the studs restricts the degree to which the glazing panels can extend laterally outwardly beyond the inner periphery of the frames. It is usually possible to provide that an upper marginal portion extends upwardly beyond the inner periphery of the frames for a considerably larger distance so that the risk of the upper marginal portion being drawn from between the frames, in the event of fire, is less than the corresponding risk in relation to lateral marginal portions.

The formation is preferably a pre-formed element which is mounted on the glazing panel. For example, the formation may be a metal element capable of retaining its strength when heated to a temperature at which the glazing panel softens. The element may be arranged to grip the marginal portion of the panel resiliently and to be capable of maintaining its grip in the event of the marginal portion of the panel becoming thinner, owing to plastic deformation of the panel.

According to a second aspect of the invention, there is provided a method of glazing a structure wherein a first frame defining a central opening is mounted around the perimeter of an opening in the structure, there is placed in the structure to close the central opening a glazing panel having major dimensions exceeding those of the inner periphery of the frame and having, at least in the completed structure, adjacent to opposite margins of the glazing panel respective formations which locally increase the thickness of the glazing panel and wherein a second frame is mounted in the structure at a face of the glazing panel remote from the first frame to overlap the marginal portions of the panel, the second frame being fixed with respect to the first frame in a position such that a gap between the frames is less than the corresponding dimension of said formations of the panel.

The glazing panel is preferably provided with said formations prior to closing of the opening in the first frame by the glazing panel. However, it would be within the scope of the invention, in a case where access can be gained to one or more marginal portions of the glazing panel after the first

and second frames have been fixed, to provide the glazing panels with the formations after the two frames and the glazing panel have been assembled together in the structure.

An example of a structure embodying the invention and which is assembled by a method in accordance with the invention will now be described, with reference to the accompanying drawings, wherein:-

FIGURE 1 shows a part of a front elevation of a partition; and

FIGURE 2 shows, on an enlarged scale, a cross-section on the line II-II of Figure 1.

The partition comprises a number of vertical studs, one of which is shown at 10 in Figure 2, and to which are fixed vertical boards 11. The studs are typically rolled steel sections and the boards are typically plasterboard with a decorative finish on exposed faces. Boards may be fixed on opposite faces of the studs, so that there is between the boards a gap and this gap may be filled with fibrous material. Structures of this kind are well known and commonly used for partitioning inside buildings. Joints between adjacent boards generally overlie the studs and are covered with trim strips.

The structure further comprises a rectangular glazing panel 12 which is disposed between a pair of adjacent studs. Marginal portions of the glazing panel are covered by rectangular front and rear frames 13 and 14 respectively. The frames are fabricated from steel and are fixed with respect to the studs, spacers 15 being interposed between the frames and the studs, as shown in Figure 2. The studs which are adjacent to opposite lateral margins of the glazing panel 12 may also support upper and lower transomes disposed above and below the glazing panel respectively.

The front and rear frames 13 and 14 are spaced apart by a gap through which marginal portions of the glazing panel 12 extend. Resiliently flexible glazing gaskets 16 are preferably interposed between the faces of the glazing panel and the frames to seal the gap. The glazing gaskets are maintained under compression and prevent forwards and rearwards movement of the glazing panel relative to the studs, under normal conditions of use. In the event of the partition being subjected to a fire, at least one of the glazing gaskets is likely to be heated to a temperature at which it softens or is substantially destroyed. Thus, the glazing gaskets are not adequate to hold the glazing panel in position in the event of a fire.

There are provided on the lateral marginal portions of the glazing panel 12 which is shown in Figure 2 a number of formations which effectively increase locally the thickness of the glazing panel to a value exceeding the width of the gap between the frames 13 and 14. In the example illustrated in the drawings, these formations are elements which are preformed separately from the panel 12 and applied thereto prior to mounting of the glazing panel in the structure. The element 17 shown in Figure 2 is a C-shaped clip formed in steel. The clip embraces a marginal portion of the glazing panel and has sharp edges which grip the glazing panel at a position spaced somewhat from the edge of the panel. At these edges, the clip exerts substantial pressure on the glazing panel.

In the event of the glazing panel becoming softened by a rise in temperature, the clip is able to bite into the panel at the position spaced from the lateral edge of the panel, thereby improving the grip of the clip 17 on the panel.

The clip 17 may extend along substantially the entire length of one edge of the glazing panel 12. Alternatively, a number of relatively short clips may be provided at spaced positions along the lateral margin of the panel. A corresponding clip or a corresponding set of clips is provided along the opposite lateral margin of the panel 12 and the structure adjacent to that margin corresponds to the structure illustrated in Figure 2. The structure along the upper margin of the panel also may be similar and this margin also may be provided with one or more clips similar to the clip 17.

As shown in Figure 2, a body of fibrous thermal insulating material 18 is provided in the cavity between the frames 13 and 14, the stud 10 and the spacers 15. In the event of fire, the lateral marginal portion of the glazing panel 12 is protected by the frames 13 and 14 from direct impingement of flames or hot gases. The insulating material 18 inhibits the transmission of heat to the marginal portion of the glazing panel on which the clip 17 is provided. Accordingly, this marginal portion is unlikely to soften to the same degree as a central portion of the glazing panel may soften.

When the structure is assembled, the studs are usually fixed first in position, upper and lower ends of a row of studs being held in tracks on the ceiling and the floor respectively. The spacers 15 are fixed to the studs at opposite sides of the opening which is to be glazed. The rear frame 14 is then secured to the corresponding spacers so that the position of the rear frame is fixed with respect to the studs. The clip 17 and other clips are fitted to

marginal portions of the glazing panel and the glazing panel is then introduced into the opening between the studs to lie adjacent to the forwardly facing edge of the rear frame. It will be noted that the width of the glazing panel, together with the clips thereon, is just sufficiently small for the glazing panel to pass between the studs. Once the glazing panel has been set in the required position, the front frame 13 is applied to overlap marginal portions of the glazing panel and is fixed to the corresponding spacers. The thermally insulating material 18 is either introduced immediately before the front frame is applied or is introduced prior to the glazing panel 12.

The boards 11 may be applied either before or after the glazing panel is incorporated in the structure. Trimstrips 19 may be applied over the joints between the boards and the frames 13 and 14. The glazing gaskets 16 will generally be introduced after the front frame has been fixed with respect to the studs.

In the event of the glazing panel 12 being softened by fire and being caused to bow towards the space at one side of the partition, the lateral marginal portions of the glazing panel may be drawn through the gap between the frames 13 and 14. However, such movement of the lateral marginal portions of the glazing panel will be arrested by engagement of the clip 17 and other clips with the frames, since the dimension of the clips corresponding to the thickness of the glazing panel is substantially in excess of the width of the gap between the frames. We have found that a glazing panel of six millimetre glass can be held in position for a period well in excess of one hour whilst the partition is subjected to conditions normally applied during a fire test.

The features disclosed in the foregoing description, or the following claims, or the accompanying drawings, expressed in their specific forms or in terms of a means for performing the disclosed function, or a method or process for attaining the disclosed result, as appropriate, may, separately or in any combination of such features, be utilised for realising the invention in diverse forms thereof.

CLAIMS:-

1. A structure incorporating a glazing panel wherein first and second frames lie at respective faces of the panel, each frame overlapping marginal portions of the panel, the frames are spaced apart by a gap through which the panel extends and the panel has adjacent to at least one margin at least one formation which has a thickness exceeding the corresponding dimension of the gap so that the formation can pass through the gap.
2. A structure according to Claim 1 wherein said formation is an element preformed separately from the glazing panel.
3. A structure according to Claim 2 wherein the element grips the marginal portion of the panel.
4. A structure according to Claim 3 wherein the element grips the marginal portion of the panel at a position spaced from an adjacent edge of the panel.
5. A structure according to Claim 3 or Claim 4 wherein the element grips the marginal portion of the panel at a position which lies directly between said frames.
6. A method of glazing a structure wherein a first frame defining a central opening is mounted around the perimeter of an opening in the structure, there is placed in the structure to close the central opening a glazing panel having major dimensions exceeding those of the inner periphery of the frame and having, at least in the completed structure, adjacent to opposite margins respective formations which locally increase the thickness of the glazing panel and wherein a second frame is mounted in the structure at a face of the glazing panel remote from the first frame to overlap marginal portions of the panel, the second frame being fixed with respect to the first frame in a position such that a gap between two frames is less than the corresponding dimension of said formations of the panel.

7. A method according to Claim 6 wherein the glazing panel is provided with said formations prior to closing of the opening in the first frame by the glazing panel.
8. A method according to Claim 7 wherein said formations are provided by applying to the glazing panel elements which are preformed separately from the glazing panel.
9. A method according to Claim 8 wherein said elements grip the glazing panel.
10. Any novel feature or novel combination of features disclosed herein or in the accompanying drawings.
11. A partition structure substantially as herein described with reference to and as shown in the accompanying drawing.

Electronic Acknowledgement Receipt

EFS ID:	20479936
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham/Anthony Oyler
Filer Authorized By:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1
Receipt Date:	24-OCT-2014
Filing Date:	20-SEP-2013
Time Stamp:	18:09:07
Application Type:	Utility under 35 USC 111(a)

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Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	16196-6-1-1_2014-10-21_IDS.pdf	612669 <small>a9fa8f489990d77c5b8f6d886846715564a9ceaf</small>	no	4

Warnings:

Information:

2	Foreign Reference	CH686795A5.pdf	449834	no	6
			755b2b714615ee87c9f5ba7389509c743e003338		
Warnings:					
Information:					
3	Foreign Reference	DE202004017808U1.pdf	192855	no	4
			7c1df3c0c510ae9ad50ab9f61b20f4a10167b789		
Warnings:					
Information:					
4	Foreign Reference	GB2221946.pdf	355305	no	10
			34e674afce157d172b91bf70275f314e6cfa410		
Warnings:					
Information:					
5	Non Patent Literature	EESR_12800672.pdf	1622808	no	7
			61a3548a3a0972f7116c4ce453e75710602415c1		
Warnings:					
Information:					
Total Files Size (in bytes):			3233471		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

VIA eFILE

REISSUE APPLICATION
Docket No. 16196.6.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
	Geoff Gosling)
)
U.S. Patent No.:	8,024,901)
)
Serial No.:	14/032,931) Art Unit
) 3633
Filed:	September 20, 2013)
)
Conf. No.:	5489)
)
For:	INTEGRATED RECONFIGURABLE WALL SYSTEM)
)
Examiner:	Brent W. Herring)
)
Customer No.:	22913)

AMENDMENT "A" AND RESPONSE
AFTER NON-FINAL

VIA eFILE AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Non-Final Office action mailed June 5, 2014, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 21 of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application and shows changes relative to the patent for which reissue is sought pursuant to 37 C.F.R. § 1.173(d):

Listing of Claims:

1. (Twice Amended) A movable reconfigurable wall system comprising:
 - a) at least one wall module having a front and rear surface and top, bottom, right side and left side edges, said at least one wall module having:
 - i) a first vertical end frame disposed adjacent to [each of said] the right side edge and a second vertical end frame disposed adjacent to the left side [edges]edge, each of the first and the second vertical end frames having a first vertically extending flange and a spaced apart second vertically extending flange thereon, each of said first vertically extending flange and said second vertically extending flange having a beaded portion, the beaded portion on one of said first vertically extending flange or said second vertically extending flange extending toward the front surface of the wall module and the beaded portion on the other of said first vertically extending flange or said second vertically extending flange extending toward the rear surface of the wall module;
 - ii) a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges; and
 - iii) an aesthetic surface affixed to said stringers; and
 - b) a removable connecting strip having a pair of spaced apart flexible arms, each arm having a beaded portion thereon, the beaded portion of one of said arms being adapted to connect releasably to the beaded portion of one of said first vertically extending flange or said second vertically extending flange on said first or second vertical end frame and the beaded portion of the other of said arms being adapted to connect releasably to the beaded portion of a corresponding opposed vertically extending flange on a separate vertical end frame of a second wall module, a wall bracket, a finishing trim,

or a connection post to hold one of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together, the beaded portions of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange fitting inside the arms of said connecting strip to hold said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together thereby releasably connecting said at least one wall module to the other of said second wall module, wall bracket, finishing trim or connection post.

2. The movable reconfigurable wall system of claim 1, wherein said connecting strip includes a spine adapted to fit between said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange.

3. The movable reconfigurable wall system of claim 1, wherein said connecting strip further includes a pair of flexible fin extensions extending opposite to said flexible arms for providing a seal.

4. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface includes a tile panel on said front surface, said rear surface, or both said front surface and said rear surface.

5. The movable reconfigurable wall system of claim 4, wherein each said stringer includes one or more protrusions, said reconfigurable wall system further including tile clips for affixing tiles to said one or more protrusions.

6. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface is a single divider selected from a group consisting of substrates consisting of glass, plastic, or wood and metal.

7. (Amended) The movable reconfigurable wall system of claim 6, wherein said stringers and the first and second vertical end frames include a channel for receiving said divider.

8. The movable reconfigurable wall system of claim 1, wherein said stringers include a cantilever channel stringer, said cantilever channel stringer having:

a central horizontally extending channel portion with a generally L-shaped slot, said L-shaped slot adapted to receive and engage a substantially L-shaped hook formed on a wall accessory;

an upper portion having a tile support;

a lower portion having a tile support; and

a pair of extending webs connecting said channel portion to said upper and a lower portion.

9. (Amended) The movable reconfigurable wall system of claim 1, wherein said system further comprises an extension frame, said extension frame including a pair of vertical extension end frames and at least one stringer, said extension frame being affixed atop of said at least one wall module with a spline [on each end of said end frame]affixed adjacent to a first side and a second side of the at least one wall module.

10. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface includes a slat wall, said slat wall having slats and slat wall channels for connection to slat wall accessories.

11. (Amended) The movable reconfigurable wall system of claim 1, said system further comprising a levelling system having:

a universal foot;

a leveller capable of engaging said universal foot; and

a structural extrusion to engage a surface of said at least one wall module, said structural extrusion connecting to said leveller, wherein said leveller provides the sole connection between said universal foot and said module.

12. The movable reconfigurable wall system of claim 11, wherein said leveller comprises:

a cylindrical internally threaded upper section;

an internally and externally threaded middle section, said external threads matching said internally threaded upper section; and

an externally threaded lower section, said externally threaded lower section matching internal threads of said middle section, wherein said middle section can be twisted to extend or contract said leveller.

13. The movable reconfigurable wall unit of claim 11, further comprising a base trim, said base trim attaching to said universal foot.

14. (Amended) The movable reconfigurable wall unit of claim 1 further comprising a ceiling connection, said ceiling connection including:

a ceiling track affixed to a ceiling;

a horizontal upper section affixed to said module, said horizontal upper section adapted to fit about said ceiling track; and

a flexible gasket affixed to said horizontal upper section and extending above said horizontal upper section to contact the ceiling.

15. (Amended) The movable reconfigurable wall unit of claim 1, wherein said wall bracket comprises:

an extrusion for connection to an existing wall in alignment with [said] at least one of the two vertical end frames; and

first and second flanges on said extrusion corresponding to said first vertically extending flange and said second vertically extending flange on said at least one of the two vertical end frames and arranged in opposition thereto.

16. The movable reconfigurable wall unit of claim 1, further comprising a wall joint, said wall joint comprising a flexible gasket and a channel, said channel adapted to connect to a flange of said at least one module.

17. The movable reconfigurable wall unit of claim 1, wherein said at least one module includes curved stringers and curved aesthetic surfaces.

18. (Amended) The movable reconfigurable wall unit of claim 1, wherein said connection post includes at least two sides having vertically extending flanges thereon corresponding to and arranged in opposition to said first and second flanges on [said] at least one of the two vertical end frames.

19. The movable reconfigurable wall unit of claim 1, wherein said aesthetic surface includes a multimedia component.

20. The movable reconfigurable wall unit of claim 19, wherein said multimedia component is a video monitor.

21. (Amended) The movable reconfigurable wall unit of claim 1, wherein [said] a depth associated with at least one of the vertical end frames [depth] is extended to provide a deeper wall.

22. The movable reconfigurable wall unit of claim 21, wherein said deeper wall is adapted to accommodate a rear-projection video system.

23. The movable reconfigurable wall unit of claim 21, wherein said deeper wall is adapted to accommodate an integrated storage system.

24. (Amended) The movable reconfigurable wall unit of claim 1, further comprising a wall mounted module for mounting to an existing wall face, said wall mounted module having: a) vertical end brackets disposed at least at its side edges, each of said vertical end frames having a vertically extending flange directed away from said existing wall face; b) a plurality of horizontal stringers affixed between said pair of vertical end brackets; and c) an aesthetic surface affixed to said stringers.

25. The movable reconfigurable wall unit of claim 1, further comprising a furniture system connectable to said at least one module, the furniture system having: a work surface, said work surface connectable to said stringers; and furniture legs, said furniture legs connecting to said work surface at a first end and connecting to a threaded bolt at a second end opposite said first end, said threaded bolt allowing levelling of said work surface.

26. (Withdrawn)
27. (Withdrawn)
28. (Withdrawn)
29. (Withdrawn)
30. (Withdrawn)
31. (Withdrawn)
32. (Withdrawn)

33. (New, Amended) A movable reconfigurable wall system comprising:

a first wall module having a first vertical end frame disposed adjacent a left edge of the first wall module and a second vertical end frame disposed adjacent a right edge of the first wall module, the second vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a first plurality of horizontal stringers interconnecting the first vertical end frame of the first wall module and the second vertical end frame of the first wall module, the first plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the first wall module;

a second wall module having a first vertical end frame disposed adjacent a left edge of the second wall module and a second vertical end frame disposed adjacent a right edge of the second wall module, said first vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a second plurality of horizontal stringers interconnecting the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, the second plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the second wall module;

a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon, the connecting strip releasably connected to the beaded portion extending from the flange of the second vertical end frame of the first wall module and releasably connected to the beaded portion extending from the flange of the first vertical end frame of the second wall module, such that the removable connecting strip connects the first wall module to the second wall module; and

an aesthetic surface affixed to one or more of the first plurality of horizontal stringers and to one or more of the second plurality of horizontal stringers, such that the aesthetic surface spans at least a portion of both the first wall module and the second wall module.

34. (New, Amended) The movable reconfigurable wall system as recited in claim 33, wherein the points of affixation between the aesthetic surface and said one or more of the first plurality of horizontal stringers and between the aesthetic surface and said one or more of the second plurality of horizontal stringers are located in front of a first plane defined by the forward-most portions of the first vertical end frame of the first wall module and the second vertical end frame of the first wall module and in front of a second plane defined by the forward-most portions of the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, so that the aesthetic surface is positioned in front of said first and second planes.

35. (New, Amended) The movable reconfigurable wall system as recited in claim 33, wherein at least one of said first plurality of horizontal stringers has a first connector that extends along said at least one of said first plurality of horizontal stringers, said first connector having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

at least one of said second plurality of horizontal stringers has a second connector that extends along said at least one of said second plurality of horizontal stringers, said second connector having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module;

the right edge of the first connector substantially abuts the left edge of the second connector to form a substantially continuous connector when the first wall module is connected to the second wall module.

36. (New, Amended) The movable reconfigurable wall system as recited in claim 35, wherein the first connector is a first snap-fit connector and wherein the second connector is a second snap-fit connector.

37. (New, Amended) The movable reconfigurable wall system as recited in claim 36, wherein the aesthetic surface comprises a connector strip with a pair of opposed flexible arms, the first snap-fit connector comprises a first bead, the second snap-fit connector comprises a second bead, and the first bead and the second bead are both snap-fit within the flexible arms of the connector strip.

38. (New, Amended) The movable reconfigurable wall system as recited in claim 33, comprising a multimedia center suspended within the first wall module or within the second wall module, wherein a front face of the multimedia center is within the same plane as the aesthetic surface.

39. (New, Amended) A movable reconfigurable wall system comprising:

a first wall module having a first vertical end frame disposed adjacent a left edge of the first wall module and a second vertical end frame disposed adjacent a right edge of the first wall module, the second vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a first plurality of horizontal stringers interconnecting the first vertical end frame of the first wall module and the second vertical end frame of the first wall module, the first plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the first wall module;

a second wall module having a first vertical end frame disposed adjacent a left edge of the second wall module and a second vertical end frame disposed adjacent a right edge of the second wall module, said first vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a second plurality of horizontal stringers interconnecting the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, the second plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the second wall module;

a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon, the connecting strip releasably connected to the beaded portion extending from the flange of the second vertical end frame of the first wall module and releasably connected to the beaded portion extending from the flange of the first vertical end frame of the second wall module, such that the removable connecting strip connects the first wall module to the second wall module;

at least one of said first plurality of horizontal stringers having a first connector, said first connector having a right edge adjacent the right edge of the first wall module;

at least one of said second plurality of horizontal stringers having a second connector, said second connector having a left edge adjacent the left edge of the second wall module;

the right edge of the first connector substantially abutting the left edge of the second connector to form a substantially continuous connector when the first wall module is connected to the second wall module;

an aesthetic surface mounted to said at least one of said first plurality of horizontal stringers with said first connector or mounted to said at least one of said second plurality of horizontal stringers with said second connector.

40. (New, Amended) The modular wall system as recited in claim 39, wherein said first connector is a first snap-fit connector and wherein said second connector is a second snap-fit connector.

41. (New, Amended) The modular wall system as recited in claim 47, wherein:

the aesthetic surface comprises a wall tile having a third snap-fit connector; and

the third snap-fit connector is engaged with the first snap-fit connector and with the second snap-fit connector so that the wall tile is affixed to said at least one of said first plurality of horizontal stringers and to said at least one of said second plurality of horizontal stringers.

42. (New, Amended) The modular wall system as recited in claim 48, wherein:

said first snap-fit connector extends along said at least one of said first plurality of horizontal stringers, said first snap-fit connector having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

said second snap-fit connector extends along said at least one of said second plurality of horizontal stringers, said second snap-fit connector having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module; and

the right edge of the first snap-fit connector substantially abuts the left edge of the second snap-fit connector to form a substantially continuous snap-fit connector when the first wall module is connected to the second wall module.

43. (New, Amended) The modular wall system as recited in claim 49, wherein the first snap-fit connector is configured to allow a wall tile to be slid along the length of the portion of the first snap-fit connector and onto the second snap-fit connector.

44. (New, Amended) The modular wall system as recited in claim 39, wherein said aesthetic surface is a wall tile, wherein said at least one of said first plurality of horizontal stringers has a first channel that is configured for mounting one or more wall accessories, wherein said at least one of said second plurality of horizontal stringers has a second channel that is configured for mounting one or more wall accessories, and wherein a wall accessory is mounted in said first channel or said second channel and on the front of said wall tile.

45. (New, Amended) The modular wall system as recited in claim 44 wherein:

said first channel extends along said at least one of said first plurality of horizontal stringers, said first channel having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

said second channel extends along said at least one of said second plurality of horizontal stringers, said second channel having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module;
and

the right edge of the first channel substantially abuts the left edge of the second channel to form a substantially continuous channel when the first wall module is connected to the second wall module.

46. (New) A movable reconfigurable wall system comprising:

a first wall module having a first vertical end frame disposed adjacent a left edge of the first wall module and a second vertical end frame disposed adjacent a right edge of the first wall module, the second vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a first plurality of horizontal stringers interconnecting the first vertical end frame of the first wall module and the second vertical end frame of the first wall module, the first plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the first wall module;

a second wall module having a first vertical end frame disposed adjacent a left edge of the second wall module and a second vertical end frame disposed adjacent a right edge of the second wall module, said first vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a second plurality of horizontal stringers interconnecting the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, the second plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the second wall module;

a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon, the connecting strip releasably connected to the beaded portion extending from the flange of the second vertical end frame of the first wall module and releasably connected to the beaded portion extending from the flange of the first vertical end frame of the second wall module, such that the removable connecting strip connects the first wall module to the second wall module;

at least one of said first plurality of horizontal stringers having a first channel that is configured for mounting one or more wall accessories, said first channel having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

at least one of said second plurality of horizontal stringers having a second channel that is configured for mounting one or more wall accessories, said second channel having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module; and

the right edge of the first channel substantially abutting the left edge of the second channel to form a substantially continuous channel when the first wall module is connected to the second wall module;

an aesthetic surface being affixed to said at least one of said first plurality of horizontal stringers or to said at least one of said second plurality of horizontal stringers.

47. (New) The modular wall system as recited in claim 46, wherein

said at least one of said first plurality of horizontal stringers has a first snap-fit connector; and

said at least one of said second plurality of horizontal stringers has a second snap-fit connector.

48. (New) The modular wall system as recited in claim 47, wherein:

the aesthetic surface comprises a wall tile having a third snap-fit connector; and

the third snap-fit connector is engaged with the first snap-fit connector and with the second snap-fit connector so that the wall tile is affixed to said at least one of said first plurality of horizontal stringers and to said at least one of said second plurality of horizontal stringers.

49. (New) The modular wall system as recited in claim 48, wherein:

said first snap-fit connector extends along said at least one of said first plurality of horizontal stringers, said first snap-fit connector having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

said second snap-fit connector extends along said at least one of said second plurality of horizontal stringers, said second snap-fit connector having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module; and

the right edge of the first snap-fit connector substantially abuts the left edge of the second snap-fit connector to form a substantially continuous snap-fit connector when the first wall module is connected to the second wall module.

50. (New) The modular wall system as recited in claim 49, wherein the first snap-fit connector is configured to allow a wall tile to be slid along the length of the portion of the first snap-fit connector and onto the second snap-fit connector.

51. (New) The modular wall system as recited in claim 46, wherein said aesthetic surface is a wall tile and wherein a wall accessory is mounted within said first channel or said second channel and on the front of said wall tile.

52. (New) The modular wall system as recited in claim 48 wherein the third snap-fit connector comprises a connector strip with a pair of opposed flexible arms, the first snap-fit connector comprises a first bead, the second snap-fit connector comprises a second bead, and the first bead and the second bead are both snap-fit within the flexible arms of the connector strip.

53. (New) A movable reconfigurable wall system comprising:

a first wall module having a first vertical end frame disposed adjacent a left edge of the first wall module and a second vertical end frame disposed adjacent a right edge of the first wall module, the second vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a first plurality of horizontal stringers interconnecting the first vertical end frame of the first wall module and the second vertical end frame of the first wall module, the first plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the first wall module;

a second wall module having a first vertical end frame disposed adjacent a left edge of the second wall module and a second vertical end frame disposed adjacent a right edge of the second wall module, said first vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a second plurality of horizontal stringers interconnecting the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, the second plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the second wall module;

a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon, the connecting strip releasably connected to the beaded portion extending from the flange of the second vertical end frame of the first wall module and releasably connected to the beaded portion extending from the flange of the first vertical end frame of the second wall module, such that the removable connecting strip connects the first wall module to the second wall module; and

an aesthetic surface affixed to one or more of the first plurality of horizontal stringers or to one or more of the second plurality of horizontal stringers.

54. (New) The movable reconfigurable wall system as recited in claim 53, comprising a multimedia center suspended within the first wall module or within the second wall module.

55. (New) The movable reconfigurable wall system as recited in claim 54, wherein a front face of the multimedia center is within the same plane as the aesthetic surface.

56. (New) The movable reconfigurable wall system as recited in claim 54, wherein the multimedia center comprises a video monitor.

57. (New) The movable reconfigurable wall system as recited in claim 56, wherein a front face of the multimedia center is within the same plane as the aesthetic surface.

REMARKS

The Non-Final Office Action, mailed June 5, 2014, considered claims 1-45. The Non-Final Office Action set forth a restriction requirement and stated that Applicant had constructively elected claims 1-25 and 33-45 and that claims 26-32 were withdrawn.

This paper (a) amends original claims 1, 7, 9, 11, 15, 18, 21, and 24; (b) amends new claims 33-45; (c) adds new claims 46-57; and (c) withdraws new claims 26-32. As a result, original claims 7, 9, 11, 14, 15, 18, 21, and 24 have now been once amended, original claim 1 has been twice amended, new claims 33-57 have been added, new claims 33-45 have been amended, and new claims 26-32 have been withdrawn from consideration. Accordingly, claims 1-25 and 33-57 are now pending, of which claims 1, 33, 39, 46, and 53 are the only independent claims at issue.

Election/Restrictions

The Examiner has classified the claimed inventions as follows:

- I. Claims 1-25 and 33-45, drawn to a movable reconfigurable wall system, classified in 52/481.2;
- II. Claims 26-32, drawn to a movable reconfigurable wall module, classified in 52/415;

The Applicant hereby elects without traverse Group I, containing Claims 1-25 and 33-45. Claims 26-32 are hereby withdrawn from consideration.

Claim Objections

Claim 1 is objected to for informalities. Claim 1 has been amended to recite both a first vertical end frame and a second vertical end frame. These amendments have not changed the scope of claim 1. Applicants respectfully submit that in view of the amendments, Claim 1 is now in a condition for allowance.

Oath/Declaration

The Examiner has rejected claims 1-25 and 33-45 on grounds that the oath/declaration is defective. In particular, the Examiner asserts that "[t]he Reissue Declaration submitted 11/5/2013

does not specifically identify the application to which it is directed (37 CFR 1.63(a)(2)).” Additionally, the Examiner suggests that Applicant submit the Reissue Oath/Declaration using the USPTO Form PTO/AIA/05.

Applicant, however, respectfully traverses the rejection of the oath/declaration as filed. In particular, Applicant submits that the declaration as filed is entitled “REISSUE DECLARATION FOR U.S. PATENT NO. 8,024,901.” Although 37 CFR 1.63(a)(2) does request that the oath/declaration “[i]dentify the application to which it is directed” (emphasis added), Applicant respectfully submits that at the time of filing, an application number for the reissue application had yet to be assigned. Accordingly, it was not possible to identify the reissue application by number at the time of filing.

Additionally, Applicant refers to the REISSUE APPLICATION DECLARATION BY THE INVENTOR form provided by the USPTO (form PTO/AIA/05). Applicant respectfully points out that this form only requests the Patent Number of the patent to be reissued. Additionally, the form refers to this patent number as being the “above-identified application.” The information requested by this form and much of the language within the form is found within the declaration as filed. Accordingly, Applicant respectfully requests that this rejection be withdrawn.

35 U.S.C. § 251 Rejection

Claims 33-45 were rejected under 35 U.S.C § 251 for improper recapture of broadened claimed subject matter. Applicant has amended independent claims 33 and 39 to require that the second vertical end frame comprises a “vertically extending flange, said flange having a beaded portion extending therefrom” and to require that the removable connecting strip comprises “a pair of spaced apart flexible arms each having a beaded portion thereon.” Accordingly, Applicant respectfully submits that the 35 U.S.C. § 251 rejection has been overcome.

35 U.S.C. § 102 Rejections

Claims 33-45 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,813,178 to Edwards (“Edwards”).

Applicant submits that Edwards fails to teach each and every limitation of independent claims 33 and 39. In particular, Edwards fails to teach "an aesthetic surface affixed...such that the aesthetic surface spans at least a portion of both the first wall module and the second wall module," as recited in independent claim 33. In contrast, the panels (5) of Edwards only span between a first and a second vertical post (1). *See, e.g., Edwards*, Figure 2.

Additionally, Edwards fails to teach horizontal stringers that have a first connector "having a right edge adjacent the right edge of the first wall module," a second connector "having a left edge adjacent the left edge of the second wall module," with "the right edge of the first connector substantially abutting the left edge of the second connector to form a substantially continuous connector when the first wall module is connected to the second wall module," as recited in independent claim 39. In contrast, Edwards appears to only teach a single connection detail (27) that does not substantially abut any other connection detail (27) to form a substantially continuous connector. *See, e.g., Edwards*, Figure 9.

As such, Applicant respectfully submits that Edwards fails to teach the limitations recited in independent claims 33 and 39. Additionally, because dependent claims 34-38 and 40-45 each depend from either independent claim 33 or 39, Applicant also submits that the art of record fails to teach the limitations of the various dependent claims. Accordingly, Applicant respectfully request that these claims be promptly allowed.

New independent claims 46 and 53 recite limitations also not found in Edwards. For example, claim 46 requires that the horizontal stringers have "a first channel that is configured for mounting one or more wall accessories, said first channel having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module," a "a second channel that is configured for mounting one or more wall accessories, said second channel having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module," where "the right edge of the first channel substantially abutting the left edge of the second channel to form a substantially continuous channel when the first wall module is connected to the second wall module." Claim 53, like claims 33, 39, and 45, requires "a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon." Element 118 identified by the Examiner as a removable connecting strip does not comprise "a pair of spaced apart flexible arms."

Status of Claims and Support for Claim Amendments (37 C.F.R. § 1.173(c))

The following chart sets forth the status of the claims and the support for the claims as amended herein:

Claim	Status of Claim	Exemplary Support for Claim Amendments/New Claims
1	Twice Amended	<i>See, e.g.</i> , Figures 1, 2, and 28-30; col. 4, ll. 37-53 and col. 5, ll. 14-51.
2	Not Amended	N/A
3	Not Amended	N/A
4	Not Amended	N/A
5	Not Amended	N/A
6	Not Amended	N/A
7	Amended	<i>See</i> exemplary support for claim 1, above; Figures 4, 15; col. 7, lines 26-31.
8	Not Amended	N/A
9	Amended	<i>See</i> exemplary support for claim 1, above; Figure 7; col. 6, lines 4-15.
10	Not Amended	N/A
11	Amended	<i>See</i> exemplary support for claim 1, above; Figure 15.
12	Not Amended	N/A
13	Not Amended	N/A
14	Amended	The amendments are directed toward formalities and support is found within the original claim as filed. <i>See</i> also Figure 26.
15	Amended	<i>See</i> exemplary support for claim 1, above; Figures 24-25.
16	Not Amended	N/A
17	Not Amended	N/A
18	Amended	<i>See</i> exemplary support for claim 1, above; Figure 19.
19	Not Amended	N/A
20	Not Amended	N/A
21	Amended	<i>See</i> exemplary support for claim 1, above; col. 5, lines 9-13.
22	Not Amended	N/A
23	Not Amended	N/A
24	Amended	<i>See</i> exemplary support for claim 1, above.
25	Not Amended	N/A
26	Withdrawn	N/A
27	Withdrawn	N/A
28	Withdrawn	N/A

29	Withdrawn	N/A
30	Withdrawn	N/A
31	Withdrawn	N/A
32	Withdrawn	N/A
33	New, Amended	<i>See</i> exemplary support for claim 1, above; col. 5, ll. 4-5 (“The tiles can also span adjacent modules...”).
34	New, Amended	<i>See</i> exemplary support for claim 33, above. <i>See, e.g.</i> , Figures 8, 9, and 28-30; col. 4, lines 62-63; col. 6, lines 50-52; col. 6, lines 39-44 (front-most portion of end frame (12) is positioned behind wall tiles (18) due to the position of the points of affixation (62/64) being in front of the front-most portion of end frame (12)).
35	New, Amended	<i>See</i> exemplary support for claim 33, above; col. 6, lines 21-57. Stringers (40) have connectors (64) that extend a length of the stringer (40). When a first wall module is positioned adjacent a second wall module, as depicted in Figures 28-30, the connector (64) will substantially abut an adjacent connector (64) in an adjacent wall module, forming a substantially continuous connector. (See col. 6, lines 42-44 explaining that this occurs for adjacent slots 42)
36	New, Amended	<i>See</i> exemplary support for claim 35, above; Figure 9 (snap-fit connector 64).
37	New, Amended	<i>See</i> exemplary support for claim 36, above; Figure 9 (connector strip 60, flexible arms 62, bead 64).
38	New, Amended	<i>See</i> exemplary support for claim 33, above; Figure 17, col. 8 ll. 61-67 and col. 9 ll. 1-6.
39	New, Amended	<i>See</i> exemplary support for claim 35, above.
40	New, Amended	<i>See</i> exemplary support for claims 39, 36, above.
41	New, Amended	<i>See</i> exemplary support for claim 40, above; Figure 9 (third snap-fit connector 62, wall tile 18, col. 5, lines 4-5 (“The tiles can also span adjacent modules...”))
42	New, Amended	<i>See</i> exemplary support for claim 40, above; col. 6, lines 36-37 (bead 64 is “formed along the edge of flanges 67 that are formed on and extend the length of each upper and lower portion 51 and 53.”).
43	New, Amended	<i>See</i> exemplary support for claim 40, above.
44	New, Amended	<i>See</i> exemplary support for claim 40, above; Figures 8 and 9 (horizontal stringer (40) comprises a first channel (41/42) for receiving a wall accessory (47)).
45	New, Amended	<i>See</i> exemplary support for claim 44, above; col. 6, lines 39-44 (“The flanges 23 formed on vertical end frames 12 and 17 that are connected together by

		zippers 25 are located sufficiently inwardly that the zippers will not interfere with the continuity of slot 42 from one module to the next so that wall accessories, mill work or work surfaces can be connected or moved between modules without interference.”)
46	New	<i>See</i> exemplary support for claims 1 and 45, above; col. 6, lines 21-57. Stringers (40) have channels (41/42). When a first wall module is positioned adjacent a second wall module, as depicted in Figures 28-30, the channel will substantially abut an adjacent channel in an adjacent wall module, forming a substantially continuous channel.
47	New	<i>See</i> exemplary support for claims 36, 46, above.
48	New	<i>See</i> exemplary support for claims 41, 47, above
49	New	<i>See</i> exemplary support for claims 42, 47, above.
50	New	<i>See</i> exemplary support for claim 49, above.
51	New	<i>See</i> exemplary support for claims 44, 46, above.
52	New	<i>See</i> exemplary support for claims 37, 48, above.
53	New	<i>See</i> exemplary support for claim 1, above.
54	New	<i>See</i> exemplary support for claims 33, 38, 53 above.
55	New	<i>See</i> exemplary support for claim 54, above.
56	New	<i>See</i> exemplary support for claim 54, above.
57	New	<i>See</i> exemplary support for claim 54, above.

Conclusion

The foregoing remarks herein have primarily focused on some of the differences between the independent claims and the references of record. This does not mean, however, that by so doing these are necessarily the only differences between the claimed invention and the references of record. Applicant, thus, does not acquiesce to any asserted rejections that have not been specifically traversed at this time, particularly with regard to the dependent claims and reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at 801-533-9800.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to **Deposit Account**

No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to **Deposit Account No. 23-3178**.

Dated this 1st day of December, 2014.

Respectfully submitted,

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W. BRAD BARGER
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Registration No. 41,348
WORKMAN | NYDEGGER
Attorneys for Applicant
Customer No. 22913

MJF:WBB:ckk
1386033_1

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)	Docket Number (Optional) 16196.6.1.1
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Application Number 14/032,931	Filed Sept. 20, 2013
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For **Integrated Reconfigurable Wall System**

Art Unit 3633	Examiner Brent W. Herring
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This is a request under the provisions of 37 CFR 1.136(a) to extend the period for filing a reply in the above-identified application.

The requested extension and fee are as follows (check time period desired and enter the appropriate fee below):

	Fee	Small Entity Fee	Micro Entity Fee		
<input type="checkbox"/> One month (37 CFR 1.17(a)(1))	\$200	\$100	\$50	\$	_____
<input type="checkbox"/> Two months (37 CFR 1.17(a)(2))	\$600	\$300	\$150	\$	_____
<input checked="" type="checkbox"/> Three months (37 CFR 1.17(a)(3))	\$1,400	\$700	\$350	\$	1400
<input type="checkbox"/> Four months (37 CFR 1.17(a)(4))	\$2,200	\$1,100	\$550	\$	_____
<input type="checkbox"/> Five months (37 CFR 1.17(a)(5))	\$3,000	\$1,500	\$750	\$	_____

- Applicant asserts small entity status. See 37 CFR 1.27.
- Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously.
- A check in the amount of the fee is enclosed.
- Payment by credit card. Form PTO-2038 is attached.
- The Director has already been authorized to charge fees in this application to a Deposit Account.
- The Director is hereby authorized to charge any fees which may be required, or credit any overpayment, to
Deposit Account Number 233178
- Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

- applicant.
- attorney or agent of record. Registration number 48699
- attorney or agent acting under 37 CFR 1.34. Registration number _____.

<u>/Michael J. Frodsham/</u>	<u>12/01/2014</u>
Signature	Date

<u>Michael J. Frodsham</u>	<u>801-533-9800</u>
Typed or printed name	Telephone Number

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.

* Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.136(a). The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14032931
Filing Date:	20-Sep-2013
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Filer:	Michael J. Frodsham/Kelsea Morgan
Attorney Docket Number:	16196.6.1.1

Filed as Large Entity

Utility under 35 USC 111(a) Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Claims in Excess of 20	1202	12	80	960
Independent claims in excess of 3	1201	1	420	420

Miscellaneous-Filing:

Petition:

Patent-Appeals-and-Interference:

Post-Allowance-and-Post-Issuance:

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Extension - 3 months with \$0 paid	1253	1	1400	1400
Miscellaneous:				
Total in USD (\$)				2780

Electronic Acknowledgement Receipt

EFS ID:	20825534
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham/Kelsea Morgan
Filer Authorized By:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1
Receipt Date:	01-DEC-2014
Filing Date:	20-SEP-2013
Time Stamp:	17:52:01
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$2780
RAM confirmation Number	5314
Deposit Account	233178
Authorized User	FRODSHAM, MICHAEL J.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		16196-6-1-1_2014-12-01_Amendment_A.pdf	131203 688519f71b71be4f63a6d74ddea218551eb4dfaa	yes	27
Multipart Description/PDF files in .zip description					
	Document Description		Start		End
	Amendment/Req. Reconsideration-After Non-Final Reject		1		1
	Claims		2		20
	Applicant Arguments/Remarks Made in an Amendment		21		27
Warnings:					
Information:					
2	Extension of Time	16196-6-1-1_2014-12-01_3mo_Extension_of_Time.pdf	163162 32ac3124a2b12ccfa66b212034705164204ac4e	no	2
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	33899 7f0483e38ef6aa9c501f3d4b8ec288b3e17335b4	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			328264		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/032,931	Filing Date 09/20/2013	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	12/01/2014	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	* 50	Minus	** 45	= 5	X \$80 = 400
	Independent <small>(37 CFR 1.16(h))</small>	* 5	Minus	***4	= 1	X \$420 = 420
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE	820

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/TAMMY L. ACREE/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

VIA eFILE

REISSUE APPLICATION
Docket No. 16196.6.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
	Geoff Gosling)
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U.S. Patent No.:	8,024,901)
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Serial No.:	14/032,931) Art Unit
) 3633
Filed:	September 20, 2013)
)
Conf. No.:	5489)
)
For:	INTEGRATED RECONFIGURABLE WALL SYSTEM)
)
Examiner:	Brent W. Herring)
)
Customer No.:	22913)

SUPPLEMENTAL AMENDMENT "A" AND RESPONSE
AFTER NON-FINAL

VIA eFILE AMENDMENT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Non-Final Office action mailed June 5, 2014, please amend the above-identified application as follows:

Amendments to the Claims are reflected in the listing of claims which begins on page 2 of this paper.

Remarks/Arguments begin on page 21 of this paper.

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application and shows changes relative to the patent for which reissue is sought pursuant to 37 C.F.R. § 1.173(d):

Listing of Claims:

1. (Twice Amended) A movable reconfigurable wall system comprising:

a) at least one wall module having a front and rear surface and top, bottom, right side and left side edges, said at least one wall module having:

i) a first vertical end frame disposed adjacent to [each of said]the right side edge and a second vertical end frame disposed adjacent to the left side [edges]edge, each of the first and the second vertical end frames having a first vertically extending flange and a spaced apart second vertically extending flange thereon, each of said first vertically extending flange and said second vertically extending flange having a beaded portion, the beaded portion on one of said first vertically extending flange or said second vertically extending flange extending toward the front surface of the wall module and the beaded portion on the other of said first vertically extending flange or said second vertically extending flange extending toward the rear surface of the wall module;

ii) a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges; and

iii) an aesthetic surface affixed to said stringers; and

b) a removable connecting strip having a pair of spaced apart flexible arms, each arm having a beaded portion thereon, the beaded portion of one of said arms being adapted to connect releasably to the beaded portion of one of said first vertically extending flange or said second vertically extending flange on said first or second vertical end frame and the beaded portion of the other of said arms being adapted to connect releasably to the beaded portion of a corresponding opposed vertically extending flange on a separate vertical end frame of a second wall module, a wall bracket, a finishing trim,

or a connection post to hold one of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together, the beaded portions of said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange fitting inside the arms of said connecting strip to hold said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange together thereby releasably connecting said at least one wall module to the other of said second wall module, wall bracket, finishing trim or connection post.

2. The movable reconfigurable wall system of claim 1, wherein said connecting strip includes a spine adapted to fit between said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange.

3. The movable reconfigurable wall system of claim 1, wherein said connecting strip further includes a pair of flexible fin extensions extending opposite to said flexible arms for providing a seal.

4. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface includes a tile panel on said front surface, said rear surface, or both said front surface and said rear surface.

5. The movable reconfigurable wall system of claim 4, wherein each said stringer includes one or more protrusions, said reconfigurable wall system further including tile clips for affixing tiles to said one or more protrusions.

6. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface is a single divider selected from a group consisting of substrates consisting of glass, plastic, or wood and metal.

7. (Amended) The movable reconfigurable wall system of claim 6, wherein said stringers and the first and second vertical end frames include a channel for receiving said divider.

8. The movable reconfigurable wall system of claim 1, wherein said stringers include a cantilever channel stringer, said cantilever channel stringer having:

a central horizontally extending channel portion with a generally L-shaped slot, said L-shaped slot adapted to receive and engage a substantially L-shaped hook formed on a wall accessory;

an upper portion having a tile support;

a lower portion having a tile support; and

a pair of extending webs connecting said channel portion to said upper and a lower portion.

9. (Amended) The movable reconfigurable wall system of claim 1, wherein said system further comprises an extension frame, said extension frame including a pair of vertical extension end frames and at least one stringer, said extension frame being affixed atop of said at least one wall module with a spline [on each end of said end frame]affixed adjacent to a first side and a second side of the at least one wall module.

10. The movable reconfigurable wall system of claim 1, wherein said aesthetic surface includes a slat wall, said slat wall having slats and slat wall channels for connection to slat wall accessories.

11. (Amended) The movable reconfigurable wall system of claim 1, said system further comprising a levelling system having:

a universal foot;

a leveller capable of engaging said universal foot; and

a structural extrusion to engage a surface of said at least one wall module, said structural extrusion connecting to said leveller, wherein said leveller provides the sole connection between said universal foot and said module.

12. The movable reconfigurable wall system of claim 11, wherein said leveller comprises:

a cylindrical internally threaded upper section;

an internally and externally threaded middle section, said external threads matching said internally threaded upper section; and

an externally threaded lower section, said externally threaded lower section matching internal threads of said middle section, wherein said middle section can be twisted to extend or contract said leveller.

13. The movable reconfigurable wall unit of claim 11, further comprising a base trim, said base trim attaching to said universal foot.

14. (Amended) The movable reconfigurable wall unit of claim 1 further comprising a ceiling connection, said ceiling connection including:

a ceiling track affixed to a ceiling;

a horizontal upper section affixed to said module, said horizontal upper section adapted to fit about said ceiling track; and

a flexible gasket affixed to said horizontal upper section and extending above said horizontal upper section to contact the ceiling.

15. (Amended) The movable reconfigurable wall unit of claim 1, wherein said wall bracket comprises:

an extrusion for connection to an existing wall in alignment with [said] at least one of the two vertical end frames; and

first and second flanges on said extrusion corresponding to said first vertically extending flange and said second vertically extending flange on said at least one of the two vertical end frames and arranged in opposition thereto.

16. The movable reconfigurable wall unit of claim 1, further comprising a wall joint, said wall joint comprising a flexible gasket and a channel, said channel adapted to connect to a flange of said at least one module.

17. The movable reconfigurable wall unit of claim 1, wherein said at least one module includes curved stringers and curved aesthetic surfaces.

18. (Amended) The movable reconfigurable wall unit of claim 1, wherein said connection post includes at least two sides having vertically extending flanges thereon corresponding to and arranged in opposition to said first and second flanges on [said] at least one of the two vertical end frames.

19. The movable reconfigurable wall unit of claim 1, wherein said aesthetic surface includes a multimedia component.

20. The movable reconfigurable wall unit of claim 19, wherein said multimedia component is a video monitor.

21. (Amended) The movable reconfigurable wall unit of claim 1, wherein [said] a depth associated with at least one of the vertical end frames [depth] is extended to provide a deeper wall.

22. The movable reconfigurable wall unit of claim 21, wherein said deeper wall is adapted to accommodate a rear-projection video system.

23. The movable reconfigurable wall unit of claim 21, wherein said deeper wall is adapted to accommodate an integrated storage system.

24. (Amended) The movable reconfigurable wall unit of claim 1, further comprising a wall mounted module for mounting to an existing wall face, said wall mounted module having: a) vertical end brackets disposed at least at its side edges, each of said vertical end frames having a vertically extending flange directed away from said existing wall face; b) a plurality of horizontal stringers affixed between said pair of vertical end brackets; and c) an aesthetic surface affixed to said stringers.

25. The movable reconfigurable wall unit of claim 1, further comprising a furniture system connectable to said at least one module, the furniture system having: a work surface, said work surface connectable to said stringers; and furniture legs, said furniture legs connecting to said work surface at a first end and connecting to a threaded bolt at a second end opposite said first end, said threaded bolt allowing levelling of said work surface.

- 26. (Withdrawn)
- 27. (Withdrawn)
- 28. (Withdrawn)
- 29. (Withdrawn)
- 30. (Withdrawn)
- 31. (Withdrawn)
- 32. (Withdrawn)

33. (New, Amended) A movable reconfigurable wall system comprising:

a first wall module having a first vertical end frame disposed adjacent a left edge of the first wall module and a second vertical end frame disposed adjacent a right edge of the first wall module, the second vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a first plurality of horizontal stringers interconnecting the first vertical end frame of the first wall module and the second vertical end frame of the first wall module, the first plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the first wall module;

a second wall module having a first vertical end frame disposed adjacent a left edge of the second wall module and a second vertical end frame disposed adjacent a right edge of the second wall module, said first vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a second plurality of horizontal stringers interconnecting the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, the second plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the second wall module;

a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon, the connecting strip releasably connected to the beaded portion extending from the flange of the second vertical end frame of the first wall module and releasably connected to the beaded portion extending from the flange of the first vertical end frame of the second wall module, such that the removable connecting strip connects the first wall module to the second wall module; and

an aesthetic surface affixed to one or more of the first plurality of horizontal stringers and to one or more of the second plurality of horizontal stringers, such that the aesthetic surface spans at least a portion of both the first wall module and the second wall module.

34. (New, Amended) The movable reconfigurable wall system as recited in claim 33, wherein the points of affixation between the aesthetic surface and said one or more of the first plurality of horizontal stringers and between the aesthetic surface and said one or more of the second plurality of horizontal stringers are located in front of a first plane defined by the forward-most portions of the first vertical end frame of the first wall module and the second vertical end frame of the first wall module and in front of a second plane defined by the forward-most portions of the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, so that the aesthetic surface is positioned in front of said first and second planes.

35. (New, Amended) The movable reconfigurable wall system as recited in claim 33, wherein at least one of said first plurality of horizontal stringers has a first connector that extends along said at least one of said first plurality of horizontal stringers, said first connector having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

at least one of said second plurality of horizontal stringers has a second connector that extends along said at least one of said second plurality of horizontal stringers, said second connector having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module;

the right edge of the first connector substantially abuts the left edge of the second connector to form a substantially continuous connector when the first wall module is connected to the second wall module.

36. (New, Amended) The movable reconfigurable wall system as recited in claim 35, wherein the first connector is a first snap-fit connector and wherein the second connector is a second snap-fit connector.

37. (New, Amended) The movable reconfigurable wall system as recited in claim 36, wherein the aesthetic surface comprises a connector strip with a pair of opposed flexible arms, the first snap-fit connector comprises a first bead, the second snap-fit connector comprises a second bead, and the first bead and the second bead are both snap-fit within the flexible arms of the connector strip.

38. (New, Amended) The movable reconfigurable wall system as recited in claim 33, comprising a multimedia center suspended within the first wall module or within the second wall module, wherein a front face of the multimedia center is within the same plane as the aesthetic surface.

39. (New, Amended) A movable reconfigurable wall system comprising:

a first wall module having a first vertical end frame disposed adjacent a left edge of the first wall module and a second vertical end frame disposed adjacent a right edge of the first wall module, the second vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a first plurality of horizontal stringers interconnecting the first vertical end frame of the first wall module and the second vertical end frame of the first wall module, the first plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the first wall module;

a second wall module having a first vertical end frame disposed adjacent a left edge of the second wall module and a second vertical end frame disposed adjacent a right edge of the second wall module, said first vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a second plurality of horizontal stringers interconnecting the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, the second plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the second wall module;

a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon, the connecting strip releasably connected to the beaded portion extending from the flange of the second vertical end frame of the first wall module and releasably connected to the beaded portion extending from the flange of the first vertical end frame of the second wall module, such that the removable connecting strip connects the first wall module to the second wall module;

at least one of said first plurality of horizontal stringers having a first connector, said first connector having a right edge adjacent the right edge of the first wall module;

at least one of said second plurality of horizontal stringers having a second connector, said second connector having a left edge adjacent the left edge of the second wall module;

the right edge of the first connector substantially abutting the left edge of the second connector to form a substantially continuous connector when the first wall module is connected to the second wall module;

an aesthetic surface mounted to said at least one of said first plurality of horizontal stringers with said first connector or mounted to said at least one of said second plurality of horizontal stringers with said second connector.

40. (New, Amended) The modular wall system as recited in claim 39, wherein said first connector is a first snap-fit connector and wherein said second connector is a second snap-fit connector.

41. (New, Amended) The modular wall system as recited in claim 47, wherein:

the aesthetic surface comprises a wall tile having a third snap-fit connector; and

the third snap-fit connector is engaged with the first snap-fit connector and with the second snap-fit connector so that the wall tile is affixed to said at least one of said first plurality of horizontal stringers and to said at least one of said second plurality of horizontal stringers.

42. (New, Amended) The modular wall system as recited in claim 48, wherein:

said first snap-fit connector extends along said at least one of said first plurality of horizontal stringers, said first snap-fit connector having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

said second snap-fit connector extends along said at least one of said second plurality of horizontal stringers, said second snap-fit connector having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module; and

the right edge of the first snap-fit connector substantially abuts the left edge of the second snap-fit connector to form a substantially continuous snap-fit connector when the first wall module is connected to the second wall module.

43. (New, Amended) The modular wall system as recited in claim 49, wherein the first snap-fit connector is configured to allow a wall tile to be slid along the length of the portion of the first snap-fit connector and onto the second snap-fit connector.

44. (New, Amended) The modular wall system as recited in claim 39, wherein said aesthetic surface is a wall tile, wherein said at least one of said first plurality of horizontal stringers has a first channel that is configured for mounting one or more wall accessories, wherein said at least one of said second plurality of horizontal stringers has a second channel that is configured for mounting one or more wall accessories, and wherein a wall accessory is mounted in said first channel or said second channel and on the front of said wall tile.

45. (New, Amended) The modular wall system as recited in claim 44 wherein:

said first channel extends along said at least one of said first plurality of horizontal stringers, said first channel having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

said second channel extends along said at least one of said second plurality of horizontal stringers, said second channel having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module;
and

the right edge of the first channel substantially abuts the left edge of the second channel to form a substantially continuous channel when the first wall module is connected to the second wall module.

46. (New) A movable reconfigurable wall system comprising:

a first wall module having a first vertical end frame disposed adjacent a left edge of the first wall module and a second vertical end frame disposed adjacent a right edge of the first wall module, the second vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a first plurality of horizontal stringers interconnecting the first vertical end frame of the first wall module and the second vertical end frame of the first wall module, the first plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the first wall module;

a second wall module having a first vertical end frame disposed adjacent a left edge of the second wall module and a second vertical end frame disposed adjacent a right edge of the second wall module, said first vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a second plurality of horizontal stringers interconnecting the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, the second plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the second wall module;

a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon, the connecting strip releasably connected to the beaded portion extending from the flange of the second vertical end frame of the first wall module and releasably connected to the beaded portion extending from the flange of the first vertical end frame of the second wall module, such that the removable connecting strip connects the first wall module to the second wall module;

at least one of said first plurality of horizontal stringers having a first channel that is configured for mounting one or more wall accessories, said first channel having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

at least one of said second plurality of horizontal stringers having a second channel that is configured for mounting one or more wall accessories, said second channel having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module; and

the right edge of the first channel substantially abutting the left edge of the second channel to form a substantially continuous channel when the first wall module is connected to the second wall module;

an aesthetic surface being affixed to said at least one of said first plurality of horizontal stringers or to said at least one of said second plurality of horizontal stringers.

47. (New) The modular wall system as recited in claim 46, wherein

said at least one of said first plurality of horizontal stringers has a first snap-fit connector; and

said at least one of said second plurality of horizontal stringers has a second snap-fit connector.

48. (New) The modular wall system as recited in claim 47, wherein:

the aesthetic surface comprises a wall tile having a third snap-fit connector; and

the third snap-fit connector is engaged with the first snap-fit connector and with the second snap-fit connector so that the wall tile is affixed to said at least one of said first plurality of horizontal stringers and to said at least one of said second plurality of horizontal stringers.

49. (New) The modular wall system as recited in claim 48, wherein:

said first snap-fit connector extends along said at least one of said first plurality of horizontal stringers, said first snap-fit connector having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module;

said second snap-fit connector extends along said at least one of said second plurality of horizontal stringers, said second snap-fit connector having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module; and

the right edge of the first snap-fit connector substantially abuts the left edge of the second snap-fit connector to form a substantially continuous snap-fit connector when the first wall module is connected to the second wall module.

50. (New) The modular wall system as recited in claim 49, wherein the first snap-fit connector is configured to allow a wall tile to be slid along the length of the portion of the first snap-fit connector and onto the second snap-fit connector.

51. (New) The modular wall system as recited in claim 46, wherein said aesthetic surface is a wall tile and wherein a wall accessory is mounted within said first channel or said second channel and on the front of said wall tile.

52. (New) The modular wall system as recited in claim 48 wherein the third snap-fit connector comprises a connector strip with a pair of opposed flexible arms, the first snap-fit connector comprises a first bead, the second snap-fit connector comprises a second bead, and the first bead and the second bead are both snap-fit within the flexible arms of the connector strip.

53. (New) A movable reconfigurable wall system comprising:

a first wall module having a first vertical end frame disposed adjacent a left edge of the first wall module and a second vertical end frame disposed adjacent a right edge of the first wall module, the second vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a first plurality of horizontal stringers interconnecting the first vertical end frame of the first wall module and the second vertical end frame of the first wall module, the first plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the first wall module;

a second wall module having a first vertical end frame disposed adjacent a left edge of the second wall module and a second vertical end frame disposed adjacent a right edge of the second wall module, said first vertical end frame comprising at least one vertically extending flange, said flange having a beaded portion extending therefrom;

a second plurality of horizontal stringers interconnecting the first vertical end frame of the second wall module and the second vertical end frame of the second wall module, the second plurality of horizontal stringers being positioned along the height of the first and second vertical end frames of the second wall module;

a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon, the connecting strip releasably connected to the beaded portion extending from the flange of the second vertical end frame of the first wall module and releasably connected to the beaded portion extending from the flange of the first vertical end frame of the second wall module, such that the removable connecting strip connects the first wall module to the second wall module; and

an aesthetic surface affixed to one or more of the first plurality of horizontal stringers or to one or more of the second plurality of horizontal stringers.

54. (New) The movable reconfigurable wall system as recited in claim 53, comprising a multimedia center suspended within the first wall module or within the second wall module.

55. (New) The movable reconfigurable wall system as recited in claim 54, wherein a front face of the multimedia center is within the same plane as the aesthetic surface.

56. (New) The movable reconfigurable wall system as recited in claim 54, wherein the multimedia center comprises a video monitor.

57. (New) The movable reconfigurable wall system as recited in claim 56, wherein a front face of the multimedia center is within the same plane as the aesthetic surface.

REMARKS

The Non-Final Office Action, mailed June 5, 2014, considered claims 1-45. The Non-Final Office Action set forth a restriction requirement and stated that Applicant had constructively elected claims 1-25 and 33-45 and that claims 26-32 were withdrawn.

This paper (a) amends original claims 1, 7, 9, 11, 15, 18, 21, and 24; (b) amends new claims 33-45; (c) adds new claims 46-57; and (c) withdraws new claims 26-32. As a result, original claims 7, 9, 11, 14, 15, 18, 21, and 24 have now been once amended, original claim 1 has been twice amended, new claims 33-57 have been added, new claims 33-45 have been amended, and new claims 26-32 have been withdrawn from consideration. Accordingly, claims 1-25 and 33-57 are now pending, of which claims 1, 33, 39, 46, and 53 are the only independent claims at issue.

Election/Restrictions

The Examiner has classified the claimed inventions as follows:

- I. Claims 1-25 and 33-45, drawn to a movable reconfigurable wall system, classified in 52/481.2;
- II. Claims 26-32, drawn to a movable reconfigurable wall module, classified in 52/415;

The Applicant hereby elects without traverse Group I, containing Claims 1-25 and 33-45. Claims 26-32 are hereby withdrawn from consideration.

Claim Objections

Claim 1 is objected to for informalities. Claim 1 has been amended to recite both a first vertical end frame and a second vertical end frame. As they now stand, the amendments to claim 1 do not change the scope of claim 1 compared to its scope as issued. Applicants respectfully submit that in view of the amendments, Claim 1 is now in a condition for allowance.

Oath/Declaration

The Examiner has rejected claims 1-25 and 33-45 on grounds that the oath/declaration is defective. In particular, the Examiner asserts that "[t]he Reissue Declaration submitted 11/5/2013

does not specifically identify the application to which it is directed (37 CFR 1.63(a)(2)).” Additionally, the Examiner suggests that Applicant submit the Reissue Oath/Declaration using the USPTO Form PTO/AIA/05.

Applicant, however, respectfully traverses the rejection of the oath/declaration as filed. In particular, Applicant submits that the declaration as filed is entitled “REISSUE DECLARATION FOR U.S. PATENT NO. 8,024,901.” Although 37 CFR 1.63(a)(2) does request that the oath/declaration “[i]dentify the application to which it is directed” (emphasis added), Applicant respectfully submits that at the time of filing, an application number for the reissue application had yet to be assigned. Accordingly, it was not possible to identify the reissue application by number at the time of filing.

Additionally, Applicant refers to the REISSUE APPLICATION DECLARATION BY THE INVENTOR form provided by the USPTO (form PTO/AIA/05). Applicant respectfully points out that this form only requests the Patent Number of the patent to be reissued. Additionally, the form refers to this patent number as being the “above-identified application.” The information requested by this form and much of the language within the form is found within the declaration as filed. Accordingly, Applicant respectfully requests that this rejection be withdrawn.

35 U.S.C. § 251 Rejection

Claims 33-45 were rejected under 35 U.S.C § 251 for improper recapture of broadened claimed subject matter. Applicant has amended independent claims 33 and 39 to require that the second vertical end frame comprises a “vertically extending flange, said flange having a beaded portion extending therefrom” and to require that the removable connecting strip comprises “a pair of spaced apart flexible arms each having a beaded portion thereon.” Accordingly, Applicant respectfully submits that the 35 U.S.C. § 251 rejection has been overcome.

35 U.S.C. § 102 Rejections

Claims 33-45 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,813,178 to Edwards (“Edwards”).

Applicant submits that Edwards fails to teach each and every limitation of independent claims 33 and 39. In particular, Edwards fails to teach "an aesthetic surface affixed...such that the aesthetic surface spans at least a portion of both the first wall module and the second wall module," as recited in independent claim 33. In contrast, the panels (5) of Edwards only span between a first and a second vertical post (1). *See, e.g., Edwards*, Figure 2.

Additionally, Edwards fails to teach horizontal stringers that have a first connector "having a right edge adjacent the right edge of the first wall module," a second connector "having a left edge adjacent the left edge of the second wall module," with "the right edge of the first connector substantially abutting the left edge of the second connector to form a substantially continuous connector when the first wall module is connected to the second wall module," as recited in independent claim 39. In contrast, Edwards appears to only teach a single connection detail (27) that does not substantially abut any other connection detail (27) to form a substantially continuous connector. *See, e.g., Edwards*, Figure 9.

As such, Applicant respectfully submits that Edwards fails to teach the limitations recited in independent claims 33 and 39. Additionally, because dependent claims 34-38 and 40-45 each depend from either independent claim 33 or 39, Applicant also submits that the art of record fails to teach the limitations of the various dependent claims. Accordingly, Applicant respectfully request that these claims be promptly allowed.

New independent claims 46 and 53 recite limitations also not found in Edwards. For example, claim 46 requires that the horizontal stringers have "a first channel that is configured for mounting one or more wall accessories, said first channel having a left edge adjacent the left edge of the first wall module and a right edge adjacent the right edge of the first wall module," a "a second channel that is configured for mounting one or more wall accessories, said second channel having a left edge adjacent the left edge of the second wall module and a right edge adjacent the right edge of the second wall module," where "the right edge of the first channel substantially abutting the left edge of the second channel to form a substantially continuous channel when the first wall module is connected to the second wall module." Claim 53, like claims 33, 39, and 45, requires "a removable connecting strip comprising a pair of spaced apart flexible arms each having a beaded portion thereon." Element 118 identified by the Examiner as a removable connecting strip does not comprise "a pair of spaced apart flexible arms."

Status of Claims and Support for Claim Amendments (37 C.F.R. § 1.173(e))

The following chart sets forth the status of the claims and the support for the claims as amended herein:

Claim	Status of Claim	Exemplary Support for Claim Amendments/New Claims
1	Twice Amended	<i>See, e.g.,</i> Figures 1, 2, and 28-30; col. 4, ll. 37-53 and col. 5, ll. 14-51.
2	Not Amended	N/A
3	Not Amended	N/A
4	Not Amended	N/A
5	Not Amended	N/A
6	Not Amended	N/A
7	Amended	<i>See</i> exemplary support for claim 1, above; Figures 4, 15; col. 7, lines 26-31.
8	Not Amended	N/A
9	Amended	<i>See</i> exemplary support for claim 1, above; Figure 7; col. 6, lines 4-15.
10	Not Amended	N/A
11	Amended	<i>See</i> exemplary support for claim 1, above; Figure 15.
12	Not Amended	N/A
13	Not Amended	N/A
14	Amended	The amendments are directed toward formalities and support is found within the original claim as filed. <i>See</i> also Figure 26.
15	Amended	<i>See</i> exemplary support for claim 1, above; Figures 24-25.
16	Not Amended	N/A
17	Not Amended	N/A
18	Amended	<i>See</i> exemplary support for claim 1, above; Figure 19.
19	Not Amended	N/A
20	Not Amended	N/A
21	Amended	<i>See</i> exemplary support for claim 1, above; col. 5, lines 9-13.
22	Not Amended	N/A
23	Not Amended	N/A
24	Amended	<i>See</i> exemplary support for claim 1, above.
25	Not Amended	N/A
26	Withdrawn	N/A
27	Withdrawn	N/A
28	Withdrawn	N/A

29	Withdrawn	N/A
30	Withdrawn	N/A
31	Withdrawn	N/A
32	Withdrawn	N/A
33	New, Amended	<i>See</i> exemplary support for claim 1, above; col. 5, ll. 4-5 ("The tiles can also span adjacent modules...").
34	New, Amended	<i>See</i> exemplary support for claim 33, above. <i>See, e.g.</i> , Figures 8, 9, and 28-30; col. 4, lines 62-63; col. 6, lines 50-52; col. 6, lines 39-44 (front-most portion of end frame (12) is positioned behind wall tiles (18) due to the position of the points of affixation (62/64) being in front of the front-most portion of end frame (12)).
35	New, Amended	<i>See</i> exemplary support for claim 33, above; col. 6, lines 21-57. Stringers (40) have connectors (64) that extend a length of the stringer (40). When a first wall module is positioned adjacent a second wall module, as depicted in Figures 28-30, the connector (64) will substantially abut an adjacent connector (64) in an adjacent wall module, forming a substantially continuous connector. (See col. 6, lines 42-44 explaining that this occurs for adjacent slots 42)
36	New, Amended	<i>See</i> exemplary support for claim 35, above; Figure 9 (snap-fit connector 64).
37	New, Amended	<i>See</i> exemplary support for claim 36, above; Figure 9 (connector strip 60, flexible arms 62, bead 64).
38	New, Amended	<i>See</i> exemplary support for claim 33, above; Figure 17, col. 8 ll. 61-67 and col. 9 ll. 1-6.
39	New, Amended	<i>See</i> exemplary support for claim 35, above.
40	New, Amended	<i>See</i> exemplary support for claims 39, 36, above.
41	New, Amended	<i>See</i> exemplary support for claim 40, above; Figure 9 (third snap-fit connector 62, wall tile 18, col. 5, lines 4-5 ("The tiles can also span adjacent modules..."))
42	New, Amended	<i>See</i> exemplary support for claim 40, above; col. 6, lines 36-37 (bead 64 is "formed along the edge of flanges 67 that are formed on and extend the length of each upper and lower portion 51 and 53.").
43	New, Amended	<i>See</i> exemplary support for claim 40, above.
44	New, Amended	<i>See</i> exemplary support for claim 40, above; Figures 8 and 9 (horizontal stringer (40) comprises a first channel (41/42) for receiving a wall accessory (47)).
45	New, Amended	<i>See</i> exemplary support for claim 44, above; col. 6, lines 39-44 ("The flanges 23 formed on vertical end frames 12 and 17 that are connected together by

		zippers 25 are located sufficiently inwardly that the zippers will not interfere with the continuity of slot 42 from one module to the next so that wall accessories, mill work or work surfaces can be connected or moved between modules without interference.”)
46	New	<i>See</i> exemplary support for claims 1 and 45, above; col. 6, lines 21-57. Stringers (40) have channels (41/42). When a first wall module is positioned adjacent a second wall module, as depicted in Figures 28-30, the channel will substantially abut an adjacent channel in an adjacent wall module, forming a substantially continuous channel.
47	New	<i>See</i> exemplary support for claims 36, 46, above.
48	New	<i>See</i> exemplary support for claims 41, 47, above
49	New	<i>See</i> exemplary support for claims 42, 47, above.
50	New	<i>See</i> exemplary support for claim 49, above.
51	New	<i>See</i> exemplary support for claims 44, 46, above.
52	New	<i>See</i> exemplary support for claims 37, 48, above.
53	New	<i>See</i> exemplary support for claim 1, above.
54	New	<i>See</i> exemplary support for claims 33, 38, 53 above.
55	New	<i>See</i> exemplary support for claim 54, above.
56	New	<i>See</i> exemplary support for claim 54, above.
57	New	<i>See</i> exemplary support for claim 54, above.

Conclusion

The foregoing remarks herein have primarily focused on some of the differences between the independent claims and the references of record. This does not mean, however, that by so doing these are necessarily the only differences between the claimed invention and the references of record. Applicant, thus, does not acquiesce to any asserted rejections that have not been specifically traversed at this time, particularly with regard to the dependent claims and reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at 801-533-9800.

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to **Deposit Account**

No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefore and charge any additional fees that may be required to **Deposit Account No. 23-3178**.

Dated this 4th day of December, 2014.

Respectfully submitted,

/Michael J. Frodsham/

MICHAEL J. FRODSHAM

Registration No. 48,699

W. BRAD BARGER

Registration No. 69,566

DAVID R. TODD

Registration No. 41,348

WORKMAN | NYDEGGER

Attorneys for Applicant

Customer No. 22913

MJF:WBB:ckk
4874723_1

Electronic Acknowledgement Receipt

EFS ID:	20865859
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	William Brad Barger/Christy Koy
Filer Authorized By:	William Brad Barger
Attorney Docket Number:	16196.6.1.1
Receipt Date:	04-DEC-2014
Filing Date:	20-SEP-2013
Time Stamp:	14:56:13
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	16196-6-1-1_2014-12-04_Transmittal_SuppAmendmentA.pdf	65870 5a88b9ebe04760510629aa0d69993e6ce0c8ad29	no	2

Warnings:

Information:

2		16196-6-1-1_2014-12-04_Supp AmendmentA.pdf	197289	yes	27
			a12847320a08eea76e047fed120dc4180dd d4593		

Multipart Description/PDF files in .zip description			
Document Description		Start	End
Supplemental Response or Supplemental Amendment		1	1
Claims		2	20
Applicant Arguments/Remarks Made in an Amendment		21	27

Warnings:

Information:

Total Files Size (in bytes):	263159
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

W. BRAD BARGER
OFFICE DIRECT: 801-533-9800
EMAIL: BBARGER@WNLAW.COM

VIA eFILE

REISSUE APPLICATION
Docket No. 16196.6.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
	Geoff Gosling)
)
U.S. Patent No.:	8,024,901)
)
Serial No.:	14/032,931) Art Unit
) 3633
Filed:	September 20, 2013)
)
Conf. No.:	5489)
)
For:	INTEGRATED RECONFIGURABLE WALL)
	SYSTEM)
)
Examiner:	Brent W. Herring)
)
Customer No.:	22913)

TRANSMITTAL FOR SUPPLEMENTAL AMENDMENT

VIA eFILE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Transmitted herewith is a Supplemental Amendment for entry in the above-identified application.

This Supplemental Amendment includes the signature of the undersigned attorney which was inadvertently omitted from the Amendment filing on December 1, 2014. No new matter has been added.

No fee is believed to be due in connection with this request. The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

Dated this 4th day of December, 2014.

Respectfully submitted,

/Michael J. Frodsham/

MICHAEL J. FRODSHAM

Registration No. 48,699

W. BRAD BARGER

Registration No. 69,566

DAVID R. TODD

Registration No. 41,348

WORKMAN | NYDEGGER

Attorneys for Applicant

Customer No. 22913

MJF:WBB:ckk
4882425_1

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/032,931	Filing Date 09/20/2013	<input type="checkbox"/> To be Mailed
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ENTITY: LARGE SMALL MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
<input type="checkbox"/> BASIC FEE <small>(37 CFR 1.16(a), (b), or (c))</small>	N/A	N/A	N/A	
<input type="checkbox"/> SEARCH FEE <small>(37 CFR 1.16(k), (l), or (m))</small>	N/A	N/A	N/A	
<input type="checkbox"/> EXAMINATION FEE <small>(37 CFR 1.16(o), (p), or (q))</small>	N/A	N/A	N/A	
TOTAL CLAIMS <small>(37 CFR 1.16(i))</small>	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS <small>(37 CFR 1.16(h))</small>	minus 3 =	*	X \$ =	
<input type="checkbox"/> APPLICATION SIZE FEE <small>(37 CFR 1.16(s))</small>	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
<input type="checkbox"/> MULTIPLE DEPENDENT CLAIM PRESENT <small>(37 CFR 1.16(j))</small>				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	12/04/2014	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	* 50	Minus	** 50	= 0	X \$80 = 0
	Independent <small>(37 CFR 1.16(h))</small>	* 5	Minus	***5	= 0	X \$420 = 0
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE	0

	(Column 1)	(Column 2)	(Column 3)	PRESENT EXTRA	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR			
	Total <small>(37 CFR 1.16(i))</small>	*	Minus	**	=	X \$ =
	Independent <small>(37 CFR 1.16(h))</small>	*	Minus	***	=	X \$ =
	<input type="checkbox"/> Application Size Fee <small>(37 CFR 1.16(s))</small>					
<input type="checkbox"/> FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM <small>(37 CFR 1.16(j))</small>						
					TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
 The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/CAROLYN COFER/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3633	
	Examiner Name	Brent W Herring		
	Attorney Docket Number		16196.6.1.1	

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5950386		1999-09-14	Shipman	
	2	6363663		2002-04-02	Kane	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

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Examiner Initial*	Cite No	Foreign Document Number ³	Country Code ² j	Kind Code ⁴	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T ⁵
	1							<input type="checkbox"/>

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS								Remove
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931
	Filing Date		2013-09-20
	First Named Inventor	Geoff Gosling	
	Art Unit		3633
	Examiner Name	Brent W Herring	
	Attorney Docket Number		16196.6.1.1

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T ⁵
	1		<input type="checkbox"/>

If you wish to add additional non-patent literature document citation information please click the Add button **Add**

EXAMINER SIGNATURE

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	14032931
	Filing Date	2013-09-20
	First Named Inventor	Geoff Gosling
	Art Unit	3633
	Examiner Name	Brent W Herring
	Attorney Docket Number	16196.6.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Michael J. Frodsham/	Date (YYYY-MM-DD)	2014-12-10
Name/Print	Michael J. Frodsham	Registration Number	48699

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	14032931			
Filing Date:	20-Sep-2013			
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM			
First Named Inventor/Applicant Name:	Geoff Gosling			
Filer:	Michael J. Frodsham/Kelsea Morgan			
Attorney Docket Number:	16196.6.1.1			
Filed as Large Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt

EFS ID:	20923583
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham/Kelsea Morgan
Filer Authorized By:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1
Receipt Date:	11-DEC-2014
Filing Date:	20-SEP-2013
Time Stamp:	10:38:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$180
RAM confirmation Number	9419
Deposit Account	233178
Authorized User	FRODSHAM, MICHAEL J.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)
 Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)
 Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	16196-6-1-1_2014-12-10_IDS.pdf	612349 f307bc87e264f8c7f4b7364fed70ae5321a57	no	4

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	30762 19c7c1b9e90858a529daacdc39665a5e7bcb3e86	no	2
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Warnings:

Information:

Total Files Size (in bytes):			643111		
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

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New International Application Filed with the USPTO as a Receiving Office

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W. BRAD BARGER
OFFICE DIRECT: 801-533-9800
EMAIL: BBARGER@WNLAW.COM

VIA eFILE

REISSUE APPLICATION
Docket No. 16196.6.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
	Geoff Gosling)
)
U.S. Patent No.:	8,024,901)
)
Serial No.:	14/032,931) Art Unit
) 3993
Filed:	September 20, 2013)
)
Conf. No.:	5489)
)
For:	INTEGRATED RECONFIGURABLE WALL)
	SYSTEM)
)
Examiner:	Jeffrey L. Gellner)
)
Customer No.:	22913)

TRANSMITTAL FOR SUPPLEMENTAL REISSUE DECLARATION

VIA eFILE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Transmitted herewith is a Supplemental Reissue Declaration for entry in the above-identified application.

This Supplemental Declaration replaces the Reissue Declaration filed on November 5, 2013 (“Original Declaration”). The Original Declaration declared, in relevant part:

Further still, another non-limiting example of an error that is being relied upon is that claim 1 recites ‘a plurality of horizontal stringers affixed between said vertical end frames at said right and left side edges.’ I believe that this language unnecessarily requires that the horizontal stringers be placed “between” the vertical end frames, as opposed to ‘in front of the vertical end frames,’ ‘behind the vertical end frames,’ ‘above the vertical end frames,’ etc.

Applicants wish to clarify their statement in the Original Declaration. Depictions of the horizontal stringers in the Patent show that in some embodiments, a stringer extends between the vertical end frames while a portion of the stringer simultaneously intersects a plane located wholly in front of the vertical end frames. (*See, e.g.*, Figures 1, 8, and 9). The disclosure of these embodiments in the Patent suggests that “between” would be interpreted not to preclude “partially in front of.” Applicants did not mean to imply in the Original Declaration that such embodiments are outside the scope of claim 1.

Nevertheless, Applicants continue to believe that the issued patent is unduly limited by requiring the horizontal stringers to be “affixed between” the end frames. Applicants believe that the invention includes (and the specification discloses) horizontal stringers that “interconnect” the vertical end frames, which does not require any particular relative position between the end frames and the horizontal stringers. (*See, e.g.*, col. 4, lines 44-45.) In other words, there could be some stringers that “interconnect” vertical end frames that may not be considered to be “affixed between” them.

No fee is believed to be due in connection with this request. The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 23-3178: (1) any filing fees required under 37 CFR § 1.16; or (2) any patent application and reexamination processing fees under 37 CFR § 1.17.

Dated this 14th day of April, 2015.

Respectfully submitted,
/W. Brad Barger/

MICHAEL J. FRODSHAM
Registration No. 48,699
W. BRAD BARGER
Registration No. 69,566
DAVID R. TODD
Registration No. 41,348
WORKMAN | NYDEGGER
Attorneys for Applicant
Customer No. 22913

MJF:WBB:ckk
5086570_1

Electronic Acknowledgement Receipt

EFS ID:	22054606
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	William Brad Barger/Christy Koy
Filer Authorized By:	William Brad Barger
Attorney Docket Number:	16196.6.1.1
Receipt Date:	14-APR-2015
Filing Date:	20-SEP-2013
Time Stamp:	15:47:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Reissue dec filed in accordance with MPEP 1414	16196-6-1-1_2015-04-14_ReissueDec.pdf	612168 <small>e413b100940ed752089efa255c5e619ffe3d925d</small>	no	4

Warnings:

Information:

2	Consent of Assignee accompanying the declaration	16196-6-1-1_2015-04-14_Signed373c.pdf	477177 2cc1ca6bfd5a812946ec4a74bb2e18046de214bf	no	3
Warnings:					
Information:					
3	Consent of Assignee accompanying the declaration	16196-6-1-1_2015-04-14_Conse-entofAssignee.pdf	449928 ceebec128787f581f7503e31cedbe7221d46f9d7	no	2
Warnings:					
Information:					
4	Notice of concurrent proceedings / decisions	16196-6-1-1_2015-04-14_NoticeofProceedings.pdf	90761 8c9eeb92f3113bd8736cb90a702f09a68ddcac53	no	2
Warnings:					
Information:					
5	Transmittal Letter	16196-6-1-1_2015-04-14_TransmittalDec.pdf	91715 ca500fd592e65394f84af27ddaf08fd9ed393e6e	no	3
Warnings:					
Information:					
Total Files Size (in bytes):			1721749		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

REISSUE APPLICATION DECLARATION BY THE INVENTOR	Docket Number (Optional) 16196.6.1.1
--	--

I hereby declare that:

Each inventor's residence and mailing address are stated below next to their name.

I believe I am the original inventor or an original joint inventor of the subject matter which is described and claimed in patent number 8 024 901, granted 27 September 2011 and for which a reissue patent is sought on the invention titled _____,

INTEGRATED RECONFIGURABLE WALL SYSTEM

the specification of which

is attached hereto.

was filed on 20 September 2013 as reissue application number 14/032,901.

The above-identified application was made or authorized to be made by me.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

I believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)

by reason of a defective specification or drawing.

by reason of the patentee claiming more or less than he had the right to claim in the patent.

by reason of other errors.

At least one error upon which reissue is based is described below. If the reissue is a broadening reissue, a claim that the application seeks to broaden must be identified:


Specifically, and as as non-limiting example, one error that is relied upon to support the reissue application is that independent claim 1 requires that the plurality of horizontal stringers be "affixed between" the vertical end frames. Upon review of the issued patent, I believe that claim 1 unduly limits the claims by requiring the horizontal stringers to be "affixed between" the vertical end frames, instead of "interconnecting" the vertical end frames. There could be stringers that "interconnect" vertical end frames that may not be considered to be "affixed between" them.

[Page 1 of 2]

This collection of information is required by 37 CFR 1.175. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

(REISSUE APPLICATION DECLARATION BY THE INVENTOR, page 2)		Docket Number (Optional) 16196.6.1.1	
Note: To appoint a power of attorney, use form PTO/AIA/81.			
Correspondence Address: Direct all communications about the application to:			
<input checked="" type="checkbox"/> The address associated with Customer Number:		22913	
OR			
<input type="checkbox"/> Firm or Individual Name			
Address			
City	State	Zip	
Country			
Telephone		Email	
WARNING:			
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.			
Legal name of sole or first inventor (<i>E.g.</i> , Given Name (first and middle (if any) and Family Name or Surname) Geoff Gosling			
Inventor's Signature 		Date (Optional)	
Residence: City Calgary	State	Country Canada	
Mailing Address 32 Collingwood Place NW			
City Calgary	State	Zip T2L 0P9	Country Canada
<input checked="" type="checkbox"/> Additional joint inventors are named on the _____ supplemental sheet(s) PTO/AIA/10 attached hereto.			

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL SHEET FOR DECLARATION**ADDITIONAL INVENTOR(S)**

Supplemental Sheet (for PTO/AIA/08,09)

1

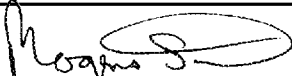
1

Page _____ of _____

Legal Name of Additional Joint Inventor, if any:

(E.g., Given Name (first and middle (if any)) and Family Name or Surname)

Mogens Smed

Inventor's
Signature

Date (Optional)

Residence: City

DeWinton

State

Country

Canada

Mailing Address

Site 8, Box 2 RR1

City

DeWinton

State

Zip

T0L 0X0

Country

Canada

Legal Name of Additional Joint Inventor, if any:

(E.g., Given Name (first and middle (if any)) and Family Name or Surname)

Inventor's
Signature

Date (Optional)

Residence: City

State

Country

Mailing Address

City

State

Zip

Country

Legal Name of Additional Joint Inventor, if any:

(E.g., Given Name (first and middle (if any)) and Family Name or Surname)

Inventor's
Signature

Date (Optional)

Residence: City

State

Country

Mailing Address

City

State

Zip

Country

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Geoff Gosling, et al.

Application No./Patent No.: 8,024,901 Filed/Issue Date: September 27, 2011

Titled: INTEGRATED RECONFIGURABLE WALL SYSTEM

Dirr Environmental Solutions, LTD, a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. The assignee of the entire right, title, and interest.

2. An assignee of less than the entire right, title, and interest (check applicable box):

The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest **must be submitted** to account for 100% of the ownership interest.

There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest **must be submitted** to account for the entire right, title, and interest.

3. The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest **must be submitted** to account for the entire right, title, and interest.

4. The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 018197, Frame 0667, or for which a copy thereof is attached.

B. A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet(s).

As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature

Dale Sawyer

Printed or Typed Name

Date

Director

Title or Registration Number

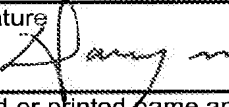
MARCH 5 / 2015

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

REISSUE APPLICATION; CONSENT OF ASSIGNEE; STATEMENT OF NON-ASSIGNMENT		Docket Number (Optional) 16196.6.1.1
This is part of the application for a reissue patent based on the original patent identified below.		
Name of Patentee(s) Geoff Gosling; Mogens Smed		
Patent Number 8,024,901	Date Patent Issued Sep. 27, 2011	
Title of Invention INTEGRATED RECONFIGURABLE WALL SYSTEM		
<p>1. <input checked="" type="checkbox"/> Filed herein is a statement under 37 CFR 3.73(c). (Form PTO/AIA/96)</p> <p>2. <input type="checkbox"/> Ownership of the patent is in the inventor(s), and no assignment of the patent is in effect.</p> <p>One of boxes 1 or 2 above must be checked. If multiple assignees, complete this form for each assignee. If box 2 is checked, skip the next entry and go directly to "Name of Assignee."</p> <p>The written consent of all assignees and inventors owning an undivided interest in the original patent is included in this application for reissue.</p>		
The assignee(s) owning an undivided interest in said original patent is/are <u>Dirt Environmental Solutions, LTD,</u> and the assignee(s) consents to the accompanying application for reissue.		
Name of assignee/inventor (if not assigned)		
Signature 	Date MARCH 5/2015	
Typed or printed name and title of person signing for assignee (if assigned) Dale Sawyer, Director of Business Development		

This collection of information is required by 37 CFR 1.172. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 6 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
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VIA eFILE

REISSUE APPLICATION
Attorney Docket No.: 16196.6.1.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of)
)
	Geoff Gosling)
)
U.S. Patent No.:	8,024,901)
)
Serial No.:	14/032,931) Art Unit
) 3993
Filed:	September 20, 2013)
)
Conf. No.:	5489)
)
For:	INTEGRATED RECONFIGURABLE WALL)
	SYSTEM)
)
Examiner:	Jeffrey L. Gellner)
)
Customer No.:	22913)

NOTICE OF PRIOR AND CONCURRENT PROCEEDINGS

VIA eFILE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Patentee submits herewith the following notice of prior and concurrent proceedings which involve the above-identified patent.

1. DIRT Environmental Solutions Ltd. v. Allsteel Inc. (D. Utah 2:15-CV-123)

U.S. District Court, District of Utah, Northern Division

Status: Complaint was filed on February 25, 2015 and served on April 6, 2015.

In accordance with MPEP 1442.02, Applicants indicate their desire that the examination of this reissue application continue at this time.

Dated: April 14, 2015

Respectfully submitted,

/W. Brad Barger/

MICHAEL J. FRODSHAM
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WORKMAN | NYDEGGER
Attorneys for Applicant
Customer No. 22913

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	14032931
	Filing Date	2013-09-20
	First Named Inventor	Geoff Gosling
	Art Unit	3993
	Examiner Name	Jeffrey Gellner
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Application Number	14032931
Filing Date	2013-09-20
First Named Inventor	Geoff Gosling
Art Unit	3993
Examiner Name	Jeffrey Gellner
Attorney Docket Number	16196.6.1.1

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	14032931
	Filing Date	2013-09-20
	First Named Inventor	Geoff Gosling
	Art Unit	3993
	Examiner Name	Jeffrey Gellner
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CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

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See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Michael J. Frodsham/	Date (YYYY-MM-DD)	2015-04-15
Name/Print	Michael J. Frodsham	Registration Number	48699

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,

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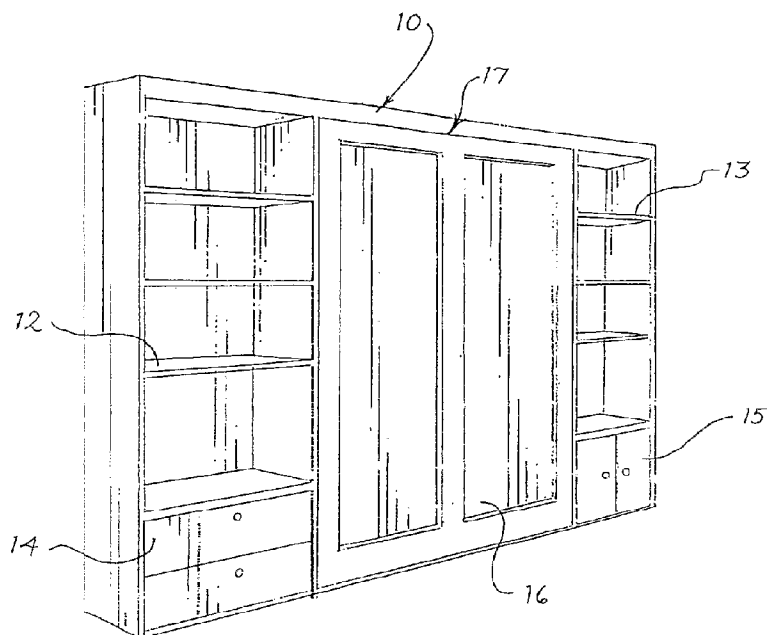
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(54) Title: TILTING FURNITURE SYSTEM AND INFINITELY VARIABLE LIFT TENSIONING MECHANISM THEREFOR



(57) Abstract: A tension mechanism for use with existing conventional bed platforms in the well known Murphy bed system in which the bed platform may be connected to the tension mechanism when the tension is at a low level by only a single installer, and the tension thereafter increased in infinite increments to any desired level by a remotely operated tool, a combination of said tension mechanism and a bed platform, and a combination desk and bed in which the bed is operated by the tension mechanism.

WO 2006/127804 A2

**TILTING FURNITURE SYSTEM AND INFINITELY VARIABLE
LIFT TENSIONING MECHANISM THEREFOR**

[0001] This invention relates generally to multi-purpose furniture and specifically to a tilting furniture system and, individually or in combination therewith, an infinitely variable lift tensioning mechanism therefor. It is particularly suited for a tilting bed system of the type known generically as a Murphy bed, but it is also adapted for use with auxiliary furniture elements, such as a desk in combination with a Murphy, or tilting, bed.

BACKGROUND OF THE INVENTION

[0002] There has been a trend for some years in many metropolitan areas to increase population density in both new and rehabbed buildings. In areas having building codes which permit increased density, a given floor space is more and more frequently required to serve dual purposes: daytime living and/or working space followed by nighttime sleeping space. The Murphy bed concept, which was commercially introduced over a century ago, is ideally suited to this new trend since the floor space occupied by a bed at night is available as working space during the daytime, the bed being tilted upwardly to a vertical position in which it is in abutting contact with, or received in a recess in, an adjacent wall at night.

[0003] In recent years auxiliary furniture has been combined with the bed, such as a desk, the desk being arranged to be in an open working position during the day when the bed is in its out of use upright position, and then at night the desk being in a non-usable, out of the way position when the bed is in its horizontal, use position.

[0004] Although the general concept has been known for some time, certain difficulties have persisted over the years. One such difficulty is associated with the spring mechanism which is employed to raise and lower the bed, and auxiliary furniture if present. Specifically, many of the spring mechanisms in existing systems are very difficult to operate over portions of the operating cycle, such as the first portion of movement of the bed from its open, use position (when it is parallel to the floor) as it begins its upward movement toward its associated wall. In some cases as much as about fifty pounds of force may be required to initiate the upward tilting movement of the bed and this degree of force is difficult to apply for elderly people, or people of slight stature such as a woman who may weigh only about 110 pounds or less. There is therefore a need for a spring tilting mechanism which can be activated with only a few pounds of force over its entire range of movement including the commencement of bed movement from a horizontal to a vertical position.

[0005] A further drawback to many existing tilting mechanisms is that installation of a bed platform to a spring mechanism requires two installers.

[0006] It has also been thought that many existing tilting mechanisms could advantageously be made more user friendly and safer in operation.

SUMMARY OF THE INVENTION

[0007] The invention includes, in an initial configuration, a spring tilting mechanism

which the necessity of inserting the hand or fingers of an installer into close proximity to the tilting mechanism next to the wall is eliminated during connection of a conventional bed platform to the tilting mechanism.

[0008] The invention has the further advantage that no change is necessary to the conventional configuration of the means for assembling and locking the conventional bed platform to the tilting mechanism whereby redesign of the bed platform and the support structure for the spring mechanism is avoided.

[0009] In addition, the invention has the advantage that the lift tensioning mechanism for actuating the load, such as a bed, may be infinitely variable using only a simple hand tool.

[0010] The invention also contemplates, in an expanded configuration, a bed and an associated piece of furniture, such as a desk, which includes the aforementioned spring mechanism so that the bed may still be tilted upwardly to an inoperative position or downwardly to an operative position by application of only the modest force earlier described, the desk remaining level at all times.

BRIEF DESCRIPTION OF THE DRAWING

[0011] The invention is illustrated more or less diagrammatically in the accompanying drawing in which

[0012] Figure 1 is a perspective view of a bed assembly of the invention in an upright,

out of use, stored position, here stored in a piece of furniture having a recess which is flanked by bookshelves;

[0013] Figure 2 is a perspective view of the bed assembly of Figure 1, with parts broken away for clarity, in a position part way downward towards its in use position on the floor;

[0014] Figure 3 is a perspective view of the bed assembly of Figures 1 and 2 in a use position;

[0015] Figure 4 is a perspective view of a common current type of spring mechanism used to connect a bed platform to a spring tilting mechanisms;

[0016] Figure 5 is a side view of the spring mechanism of the present invention in its condition when a bed platform has been engaged to the spring lever prior to locking;

[0017] Figure 6 is a side view of the bed platform locked to the spring lever of the spring mechanism of the invention;

[0018] Figure 7 is a perspective view of another embodiment of the invention showing a bed and associated desk in a position intermediate the stored and in use positions of the bed;

[0019] Figure 8 is a sectional view of the bed and desk system of Figure 7 with parts broken away and others in phantom for purposes of clarity;

[0020] Figure 9 is a sectional view of the bed and desk system of Figure 7 about midway in its travel from a position in which the bed is in use to the position in which the

bed is stored, taken substantially along the line 9-9 of Figure 7; and

[0021] Figure 10 is a sectional view of the bed and desk system of Figure 7 in which the bed is in its stored position and the desk is in its use position.

DESCRIPTION OF A SPECIFIC EMBODIMENT

[0022] Like reference numerals will be used to refer to like or similar parts from Figure to Figure in the drawings.

[0023] Referring first to Figure 1, a tiltable bed assembly is indicated generally at 10 in its vertical, out of use position, the bed assembly being received within a recess 11 which is shown best in Figure 2. In this instance a plurality of shelves are indicated at 12 and 13 and drawers or doors at 14 and 15 flanking the bed assembly 10. It will be understood that the underside 16 of the bed platform, which is indicated generally at 17, may be flush with a wall surface, or the unit may be a stand alone assemblage whose backside butts against an associated wall.

[0024] The bed assembly 10 includes, in addition to the bed platform 17, a mattress, indicated in phantom at 18 in Figures 2 and 3, and a support leg 19 which pivots around pivot pins 20 located near the outer extremity of side rails 22 and 23 of bed platform 17. The support leg 19 is shown in its stored, mattress restraining position in Figure 2, and in its fully pivoted, in use position in Figure 3. The bed platform includes head rail 24 and foot rail 25, the entire assembly being pivotable about a pivot, later described, associated with a spring

mechanism indicated generally at 27 in Figure 2. Spring mechanism 27 is secured to right and left side support members 28, 29.

[0025] Referring now to Figure 4 a widely used prior art spring mechanism is indicated generally at 30. It includes a base plate 31 secured to, here, a right vertical side support member 29 by bolts 32, 33, 34 and 35. The rear of spring mechanism 30 includes a flange 36 which is perpendicular to the plane of the base plate 31, the flange 36 having a plurality of holes, here eight, to receive the hook 37 at the inner end of each of eight springs 38. A T-shaped tension bar is indicated generally at 40, the tension bar 40 having a base section 41 which is integral with a connector bar 42. The left or inner end of tension bar 40 has a plurality, here eight, holes, not numbered for the sake of clarity, each of which receives a hook 43 at the outer end of an associated spring 38.

[0026] A connector for connecting the spring mechanism 27 to the bed platform 17 is indicated generally at 45, the connector being pivotally connected to right side support member 29 at 46. The connector bar 42 is pivotally connected at 47 to the connector 45 so that as connector 45 rotates clockwise and counterclockwise about pivot 46, the springs 38 will be extended or tensioned, and relaxed, respectively.

[0027] The upwardly projecting bed platform lever 49 is received within a short length of pipe 50 which provides leverage for rotating the connector 45 clockwise about pivot 46 against the increasing tension of spring 38 by hand applied pressure generated by a first installer indicated generally at 51.

[0028] It is necessary in this conventional prior art construction to rotate the connector 45 to the illustrated position in order to enable the temporary locking arm 53, which is pivotally connected to the level 49 at 54, to be swung in a generally horizontal plane by the second installer 48 until the slotted end of the temporary locking arm 53 slips over bolt 34 to hold the platform connector arm 45 in the illustrated position preparatory to receiving the inner end of the bed platform 17.

[0029] Swinging the temporary locking arm 53 in a generally horizontal plane to cause it to engage bolt 34 can only be done by a second installer 48 pressing his finger 55 against the temporary locking arm 53, since the first installer 51 must hold the lever 49 in the illustrated position. As a consequence, in this currently used system, two installers are an absolute necessity.

[0030] Referring now to Figures 5 and 6 a new and unique, infinitely variable tensioning mechanism for moving a load about a fixed axis, here embodied in a spring mechanism and bed platform connector system is illustrated in which all danger to a bed platform installer is eliminated, and, with practice, only one installer is required to assemble a bed platform to the spring mechanism and connector system. Further, a single installer can adjust the tension in the spring mechanism by infinite gradations without regard to the orientation of the spring mechanism with respect to the bed platform connector, and without regard to whether a bed platform is, or is not, connected to the bed platform connector.

[0031] The new and improved spring mechanism of the present invention is indicated

generally at 60 mounted on a vertical side support member 29. The spring mechanism 60 includes a backing plate 61 which is secured to the side support member 29 by recessed bolts 62, 63, 64 and 65. A plurality of conventional coil springs, here ten in number, are indicated at 38. The left end of each spring terminates in a hook 37 which passes through an associated hole 66 in backing plate 61 and curves around the left end of the backing plate 61.

[0032] A tensioning yoke is indicated generally at 68, the yoke having a flat left portion 69 which lies in sliding contact with the adjacent surface of backing plate 61. Left portion 69 has a plurality of holes 70, here ten, each of which receives the yoke hook 71 at the right end of each spring 38.

[0033] The right portion 73 of yoke 65 carries two generally aligned bosses 74, 75 which have coaxial threaded bores therein of identical diameter and thread size. A threaded member, here a threaded eye-bolt is indicated at 77, the threaded shank of the eye-bolt being received in the coaxial threaded bores in bosses 74, 75. In Figure 5 the eye-bolt 77 is shown spaced arcuately away from its retracted position and in Figure 6 the eye-bolt is shown in its retracted position. It will be understood that the Figure 5 position illustrates a convenient spacing of the parts suitable for installing the bed platform to the spring mechanism. The eye-bolt is also threaded through a hex head nut 78 which is received in the aperture 79 in the right portion 73 of yoke 68, the shank of the eye-bolt being threaded through the internal thread of the nut 78. The aperture 79 is extended radially outwardly from the aligned axes of the bosses 74, 75 to provide easy access for an adjusting tool, such as a crescent wrench, to rotate nut 78, which is spatially confined with respect to the yoke 65, and thereby move

the eye-bolt inwardly toward the left end 66 of backing plate 61, or outwardly toward the right end 80 of backing plate 61.

[0034] The connector 45 of this embodiment has the same configuration as the connector 45 of the embodiment of Figure 3. Thus no reconfiguration of the conventional connector is required.

[0035] Connector 45 is pivotally connected as at 81 to the threaded eye-bolt 77. Since the yoke 68 is not secured to the backing plate 61, the yoke merely slides upwardly, as shown in Figure 5, or downwardly, as shown in Figure 6, as the pivotal connection 81 of the eye-bolt 77 moves upwardly and downwardly following movement of lever 49.

[0036] The side of bed platform 23 carries an upper seating pin 83 which is proportioned to be received in vertical seat 84 in the upper end of lever 49. A lower seating pin 85 is carried by the lower end of the bed platform side rail and so spaced from upper seating pin 84 that when the bed platform is swung from the partially engaged position of Figure 5 to the fully engaged position of Figure 6, the lower seating pin 85 will seat in the notch 86 at the lower end of connector 45. Once the pins 84 and 85 are in their seated positions of Figure 6, a locking pin 87 is passed through aligned holes 88 in lever 49 and 89 in side rail 22 to lock the bed platform 17 to the spring mechanism.

[0037] By virtue of the infinitely variable relationship between the fixed spring backing plate 61 and the adjustably positioned connector 45, the spring tension may be so precisely adjusted that only a few pounds of force, less than 10, is all that is required to pull

the bed platform 17 and mattress 18 down, or lift them up.

[0038] Referring now to the embodiment of Figures 7 through 10, a combination tiltable bed and desk assembly is illustrated generally at 92. The assembly is mounted in a rigid support frame consisting of left side wall 93, right side wall 94, top wall 95 and rear-bottom base member 96, see Figures 8-10.

[0039] The combination tiltable bed and desk assembly includes a bed assembly indicated generally at 98, and a desk assembly indicated generally at 99.

[0040] The bed assembly includes a bed platform 100 having a base 101 and upstanding side edge walls 102, only the right side edge wall appearing in the drawing. A front wall is indicated at 103 and rear wall at 104, see Figure 9, said walls receiving and confining a mattress 105. The spring mechanism 60 of Figures 5 and 6 are secured to the left and right side walls 93 and 94, each spring mechanism including a connector 45 which is pivoted at 46, see Figure 8, to the backing plate 61 and hence to the left and right side support walls 93 and 94. The connector 45 is secured to the bed platform 100 as indicated in Figure 6.

[0041] The desk assembly 99 includes the flat working surface member 108 having upstanding left and right side walls 109, 110 and rear wall 112.

[0042] Left and right support members 113 and 114 extend downwardly from end portions of the bed platform base 101, the support members in this instance being rigid box frames having a top 115 secured to the outer end portions of bed platform 101, legs 116 and

117 which extend perpendicularly outwardly from the ends of top 115, and base member 118. When the bed platform base 101 is in its horizontal bed use position of Figure 8 the base members 118 of the rigid box frames 113 and 114 are aligned with, and rest upon, the upper edges of their associated left and right side walls 109 and 110 of the flat working surface member 108 as best seen in Figure 8. The box frames 113 and 114 are connected to the flat surface member 108 by a bracket 120, see Figure 8, which is pivoted to a side wall, such as right side wall 110 of Figure 8, by a pivot 121.

[0043] The desk top 108 moves with the bed base 101 as the bed moves from its in use position of Figure 8 through an arc of movement represented by arrow 122 of Figure 9 and into the bed stored position of Figure 10.

[0044] The desk top 108 is maintained horizontal throughout the entire path of travel from the Figure 8 to the Figure 10 position, and in the reverse movement, by the bed-desk linkage system indicated generally at 124, see Figure 10.

[0045] The bed-desk linkage system 124 includes a link 126. The link 126 is pivotally connected at its inner end to the right side wall 94 at 127 and its outer end is pivotally connected to the outside of side wall 110 at 128. From a comparison of Figures 8, 9 and 10 it will be seen that the distance between pivots 127 and 128 of link 126 equals the distance between pivot 46 and pivot 121, and that the geometrical lines formed by said distances are parallel. By the same token, the distance between pivot 46 and pivot 127, firstly, and the distance between pivot 121 and pivot 128, secondly, are equal. In other

words, pivots 46, 121, 128 and 127 form a parallelogram linkage so that as the desk 108 moves from the daytime use position of Figure 10 to the nighttime out of use position of Figure 8, and vice versa, the desk will remain flat so that round objects as well as flat objects may remain on the desk throughout the 24 hours of the day.

[0046] In the embodiments of both Figure 1 and Figure 7 the force required to move the bed platforms 17 and 100 may be regulated by spring mechanism 60 so that only a modest force, such sufficient to overcome inertia, need be applied to move the embodiments between their extreme positions so that the structures can be easily operated by a person of very modest strength.

[0047] Although several embodiments of the invention have been illustrated and described, it should be understood that the invention should not be limited to the precise structure shown but rather only by the appended claims when interpreted in light of the relevant prior art.

CLAIMS

1. An infinitely variable tensioning mechanism for moving a load about a fixed swing axis, said tensioning mechanism including

a fixed base

a connector,

means for pivoting the connector about a common pivot axis located on the base and the connector,

first means on the connector for connecting a load to the connector so as to move with the connector,

spring means,

one end portion of said spring means engaging the fixed base,

the other end portion of said spring means being connected to a spring tensioning member which is movable with respect to the fixed base,

means for connecting the spring tensioning member to the connector about a second pivot axis on the connector, and

means for adjusting in infinite increments the distance between the spring tensioning member and the second pivot axis

whereby the tension of the spring means may be increased or decreased in consonance with variations in load on the connector.

2. The tensioning mechanism of claim 1 further characterized in that

the means for connecting the spring tensioning member to the connector is a threaded member,

one end of the threaded member being pivotally connected to the connector at the second pivot axis,

the other end of the threaded member being threadably received in a threaded passage on the spring tensioning member.

3. The tensioning mechanism of claim 2 further characterized by and including a nut spatially fixed with respect to the spring tensioning member, said nut being in threaded engagement with the threaded member and rotatable around the axis of the threaded member.

4. The tensioning mechanism of claim 3 further characterized in that the spring means consists of a plurality of individual springs.

5. The tensioning mechanism of claim 4 further characterized in that the connector includes means for pivotally receiving a load on the connector and means for locking the load to the connector whereby pivotable movement of the locked together load and connector imparts an extending or contracting motion to the springs.

6. A lift mechanism for moving a bed platform from a horizontal to a vertical position, and vice versa, said lift mechanism including a base plate and means for fixedly connecting the base plate to a fixed support

structure,

a yoke,

a plurality of springs, said springs having one end of each spring connected to the base plate and the other end of each spring connected to the yoke,

said yoke being movable with respect to the base plate and toward and away from the base plate

whereby tension in the springs will be decreased or increased,

a connecting arm pivotally connected to the base plate,

said connecting arm having locking mechanism for locking a bed platform to the connecting arm,

a yoke tensioning member pivotally connected at one end portion to the connecting arm and threadably connected to the yoke tensioning member at its other end portion, and

a nut axially fixed with respect to the yoke but rotatable with respect to the yoke about the axis of the threaded connection of the yoke tensioning member

whereby rotation of the nut causes movement of the yoke tensioning member toward and away from the pivotal connection of the yoke tensioning member to the connecting arm in infinite increments.

7. A tilting bed system, said system including

a bed platform,

a left mechanism for tilting the bed platform about a rigid support structure, said lift mechanism including

a base fixed to the support structure

a connector,

means for pivoting the connector about a common pivot axis located on the base, and
the connector,

first means on the connector for connecting a load to the connector so as to move with
the connector,

spring means,

one end portion of said spring means engaging the fixed base,

the other end portion of said spring means being connected to a spring tensioning
member which is movable with respect to the base,

means for connecting the spring tensioning member to the connector about a pivot
axis on the connector, and

means for adjusting in infinite increments the distance between the spring tensioning
member and the second pivot axis

whereby the tension of the spring means may be increased or decreased with
consonance with variations in load on the connector.

8. The tilting bed system of claim 7

the means for connecting the spring tensioning member to the connector is a threaded
member,

one end of the threaded member being pivotally connected to the connector at the
second pivot axis,

the other end of the threaded member being threadably received in a threaded passage on the spring tensioning member.

9. The tilting bed system of claim 8

further characterized by and including a nut spatially fixed with respect to the spring tensioning member,

said nut being in threaded engagement with the threaded member and rotatable around the axis of the threaded member.

10. The tilting bed system of claim 9 further characterized in that the spring means consists of a plurality of individual springs.

11. The tilting bed system of claim 10 further characterized in that the connector includes

means for pivotally receiving a load on the connector and

means for locking the load to the connector,

whereby pivotable movement of the locked together load and connector imparts an extending or contracting motion to the springs.

12. A tiltable bed and desk furniture system, said furniture system including

a rigid system support structure,

a bed platform,

a lift mechanism for connecting the bed platform to, and tilting the bed platform about, the rigid system support structure,

a desk,

linkage means pivotally connecting the support structure to the desk,

a desk support structure fixed to each end of the underside of the bed platform and depending downwardly therefrom,

the lower end portion of each of said downwardly depending desk support structures being pivotally connected to an associated end portion of the desk,

the pivotal connection of the lower end portion of each desk support structures to its associated end portion of the desk being located above

the pivotal connection of the linkage to the desk to thereby form a parallelogram linkage system.

13. The tiltable bed and desk furniture system of claim 12 further characterized in that

the desk has short upwardly extending side walls at each end thereof, and

the bottom of each of the downwardly depending support structures comes to rest in load bearing contact with the side walls of the desk when the bed platform is in a horizontal, in use position.

14. The tiltable bed and desk furniture system of claim 13 further characterized in that

the bottom of reach of the downwardly extending desk support structures is an elongated member which is in contact with the upper surface of its associated desk side wall whereby the load of the bed platform is transferred to an elongated area on each of the desk side walls.

15. The tiltable bed and desk furniture system of claim 12 further characterized in that

the lift mechanism includes

a connector,

means for pivoting the connector about a common pivot axis located on the rigid system support structure, and the connector,

first means on the connector for connecting a load to the connector so as to move with the connector,

spring means,

one end portion of said spring means engaging the fixed base,

the other end portion of said spring means being connected to a spring tensioning member which is movable with respect to the base,

means for connecting the spring tensioning member to the connector about a second pivot axis on the connector, and

means for adjusting in infinite increments the distance between the spring tensioning member and the second pivot axis

whereby the tension of the spring means may be increased or decreased in consonance with variations in load on the connector.

16. The tiltable bed and desk furniture system of claim 15 further characterized in that

the means for connecting the spring tensioning member to the connector is a threaded

member,

one end of the threaded member being pivotally connected to the connector at the second pivot axis,

the other end of the threaded member being threadably received in a threaded passage on the spring tensioning member.

17. The tiltable bed and desk furniture system of claim 16 further characterized by and including

a nut spatially fixed with respect to the spring tensioning member,

said nut being in threaded engagement with the threaded member and rotatable around the axis of the threaded member.

18. The tiltable bed and desk furniture system of claim 17 further characterized in that

the spring means consists of a plurality of individual springs.

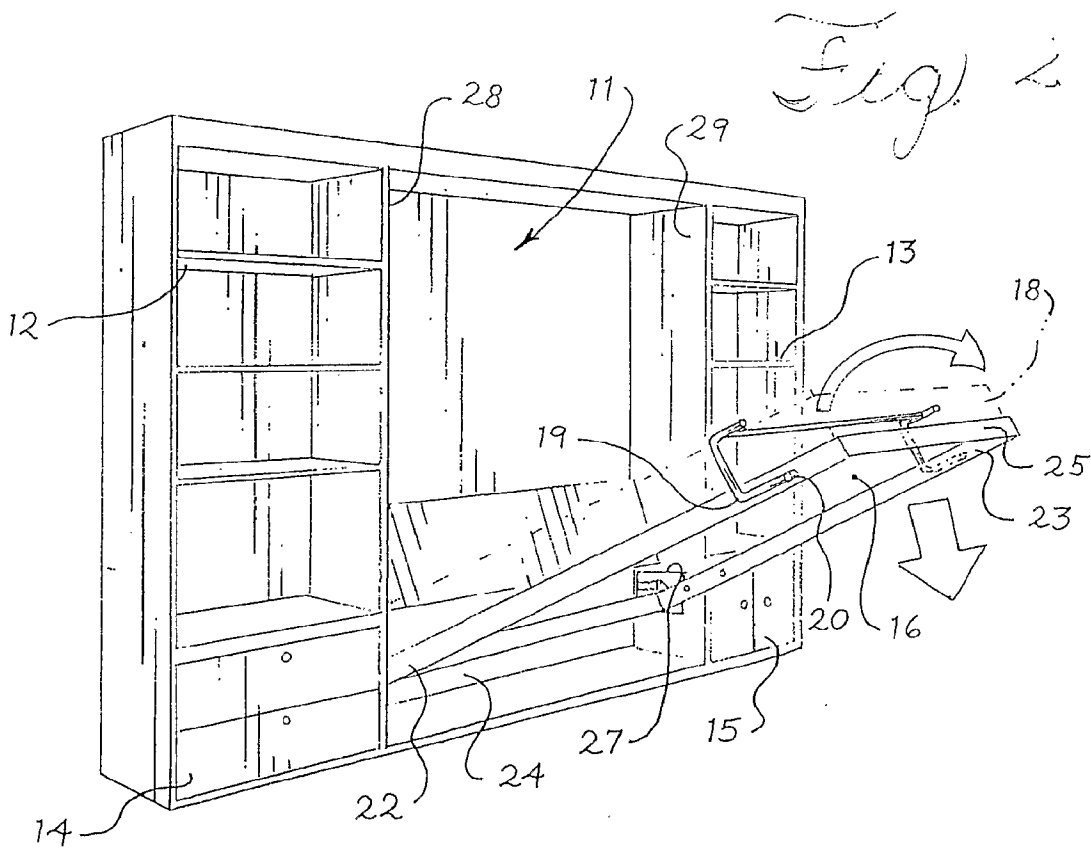
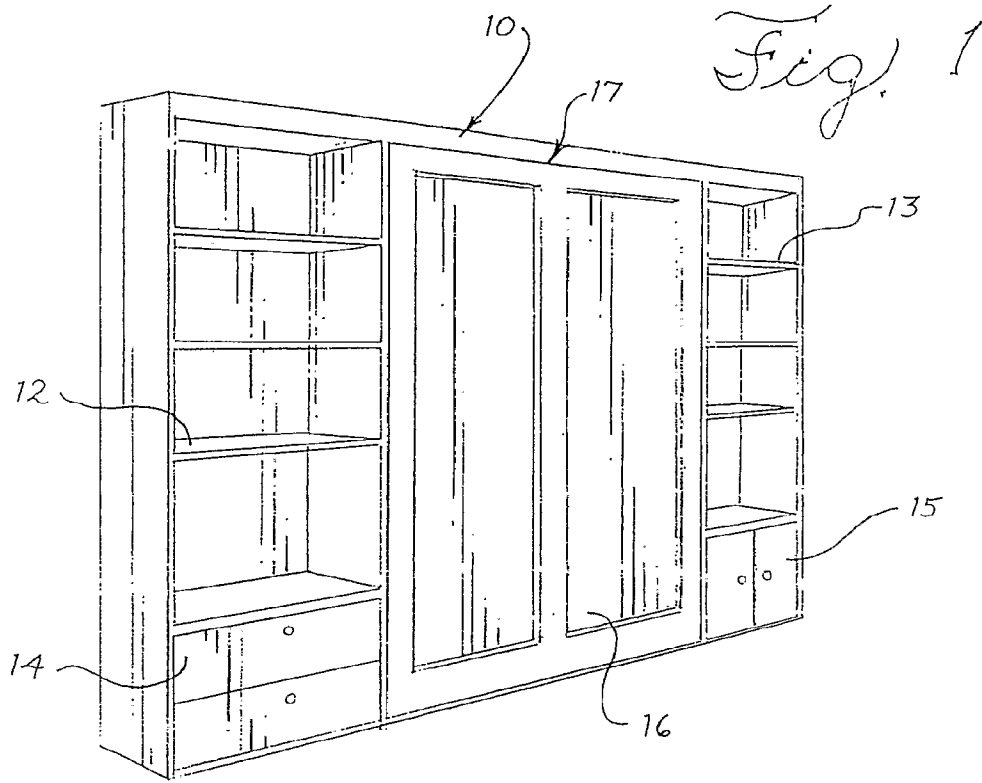
19. The tiltable bed and desk furniture system of claim 18 further characterized in that

the connector includes

means for pivotally receiving a load on the connector and

means for locking the load to the connector

whereby pivotable movement of the locked together load and connector imparts an extending or contracting motion to the springs.



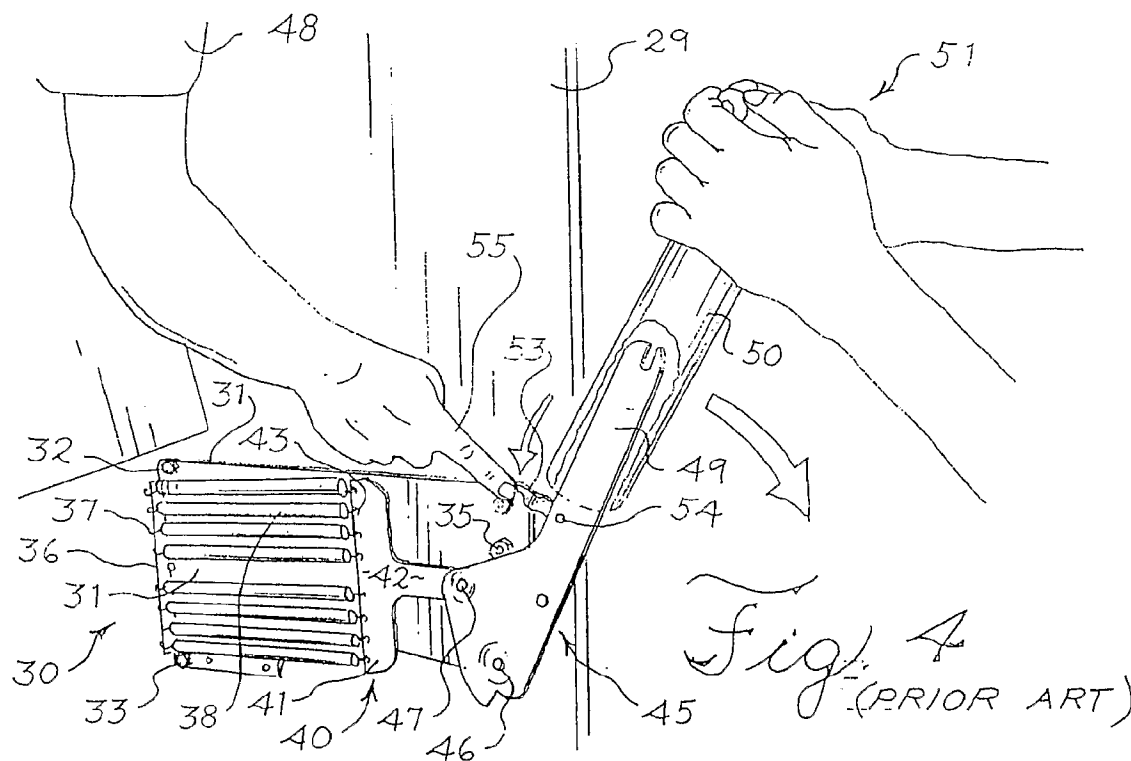
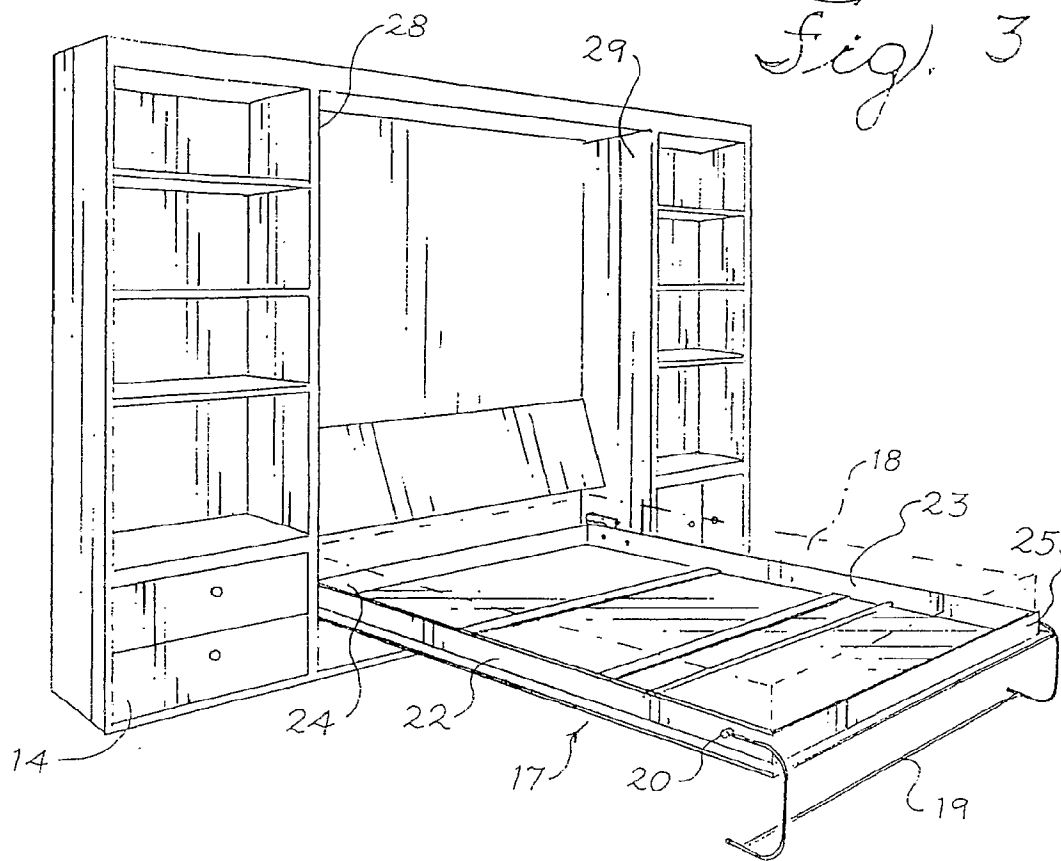


Fig. 5

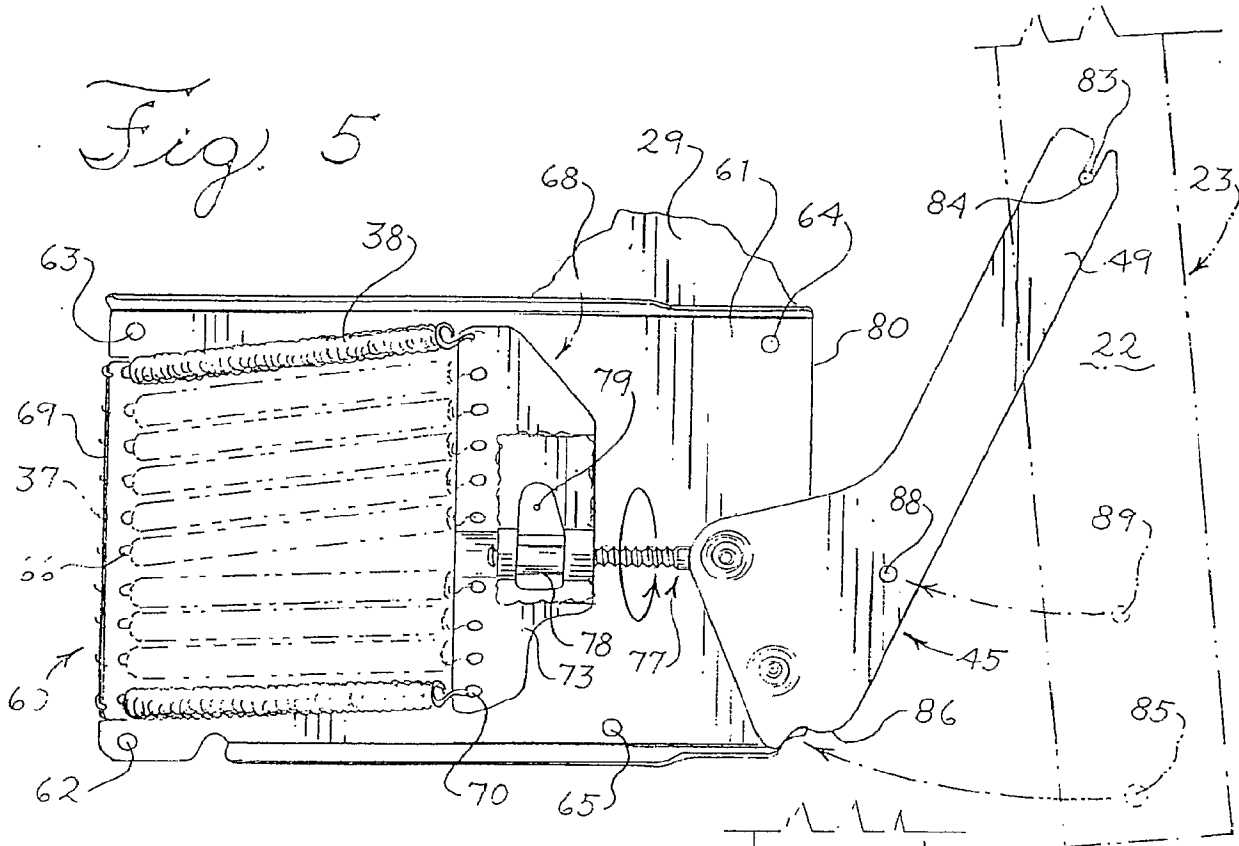
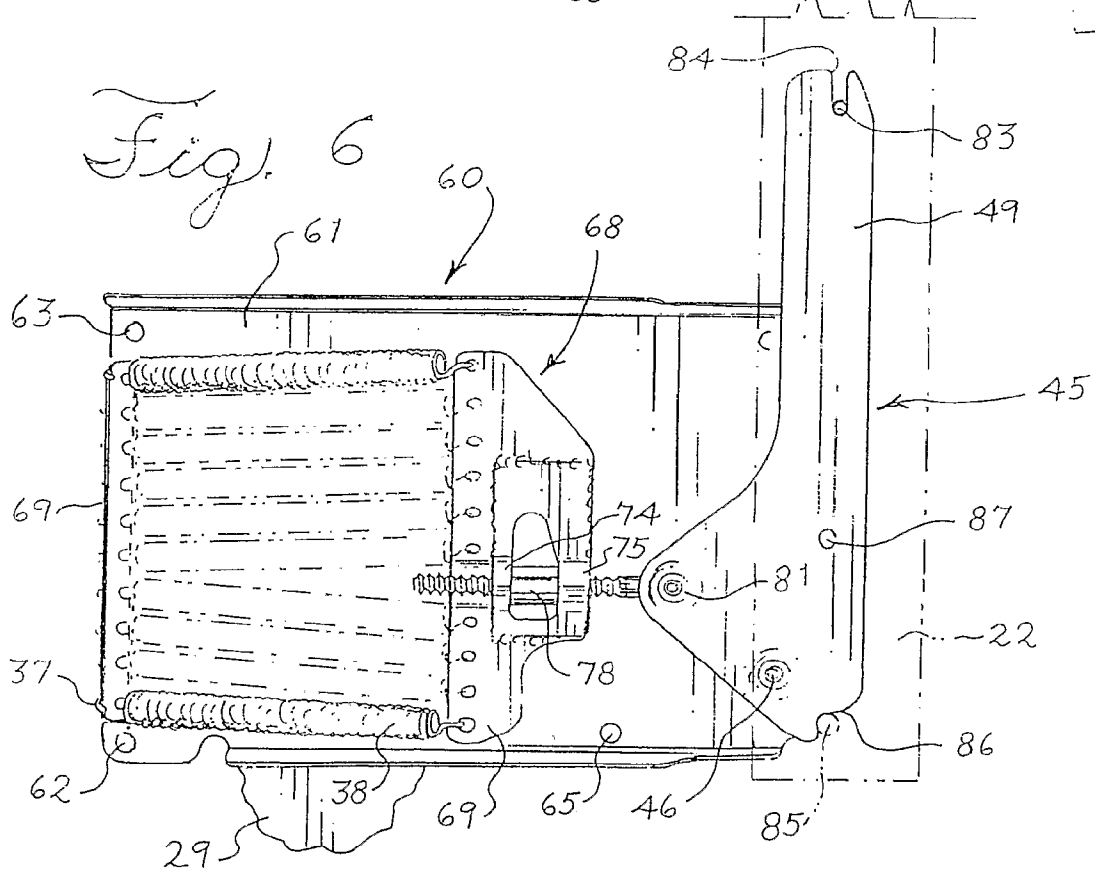


Fig. 6



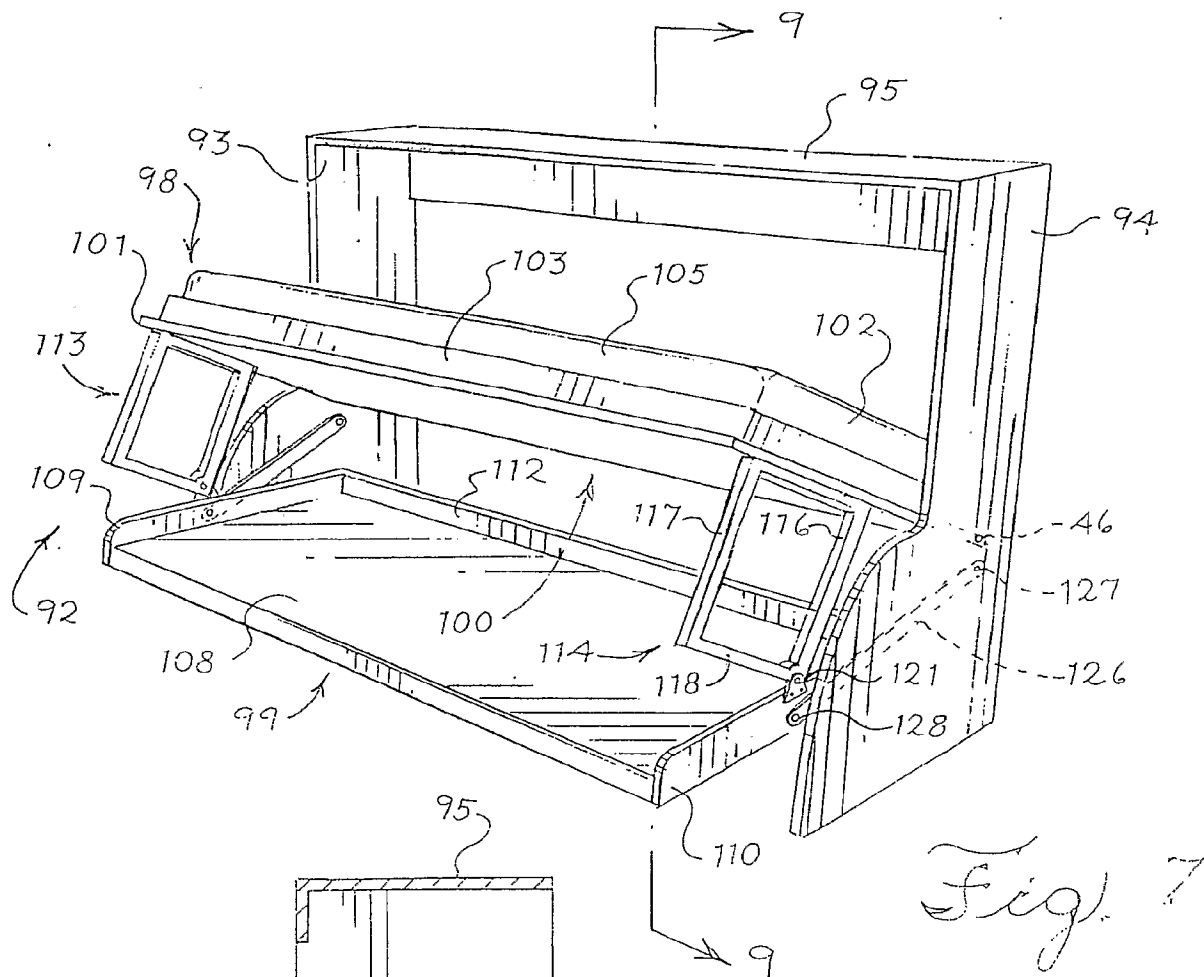


Fig. 7

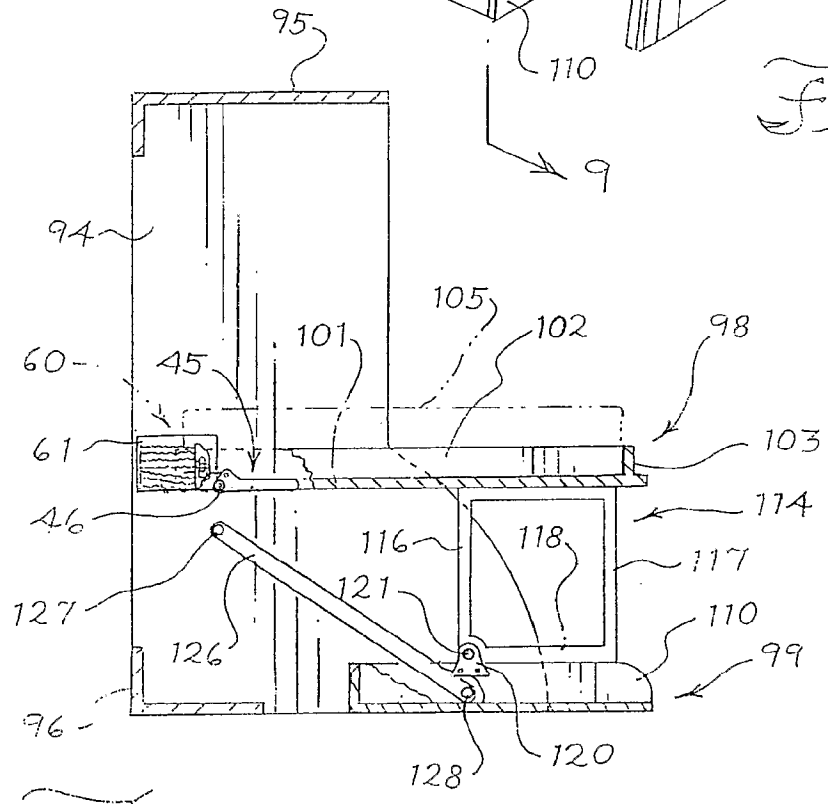
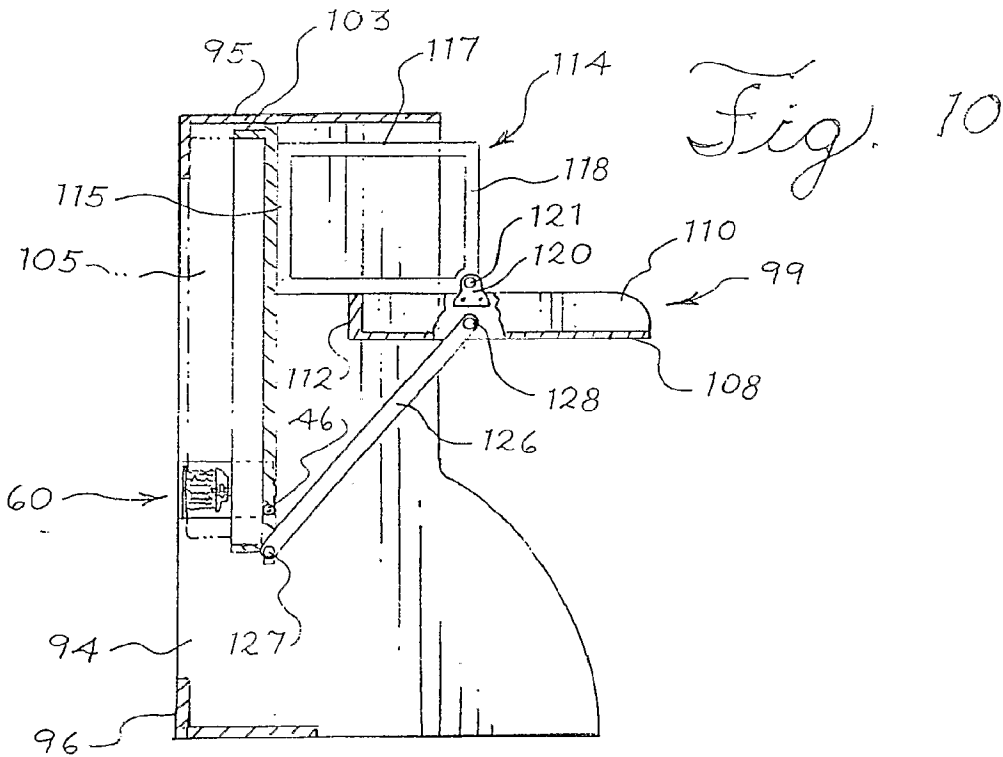
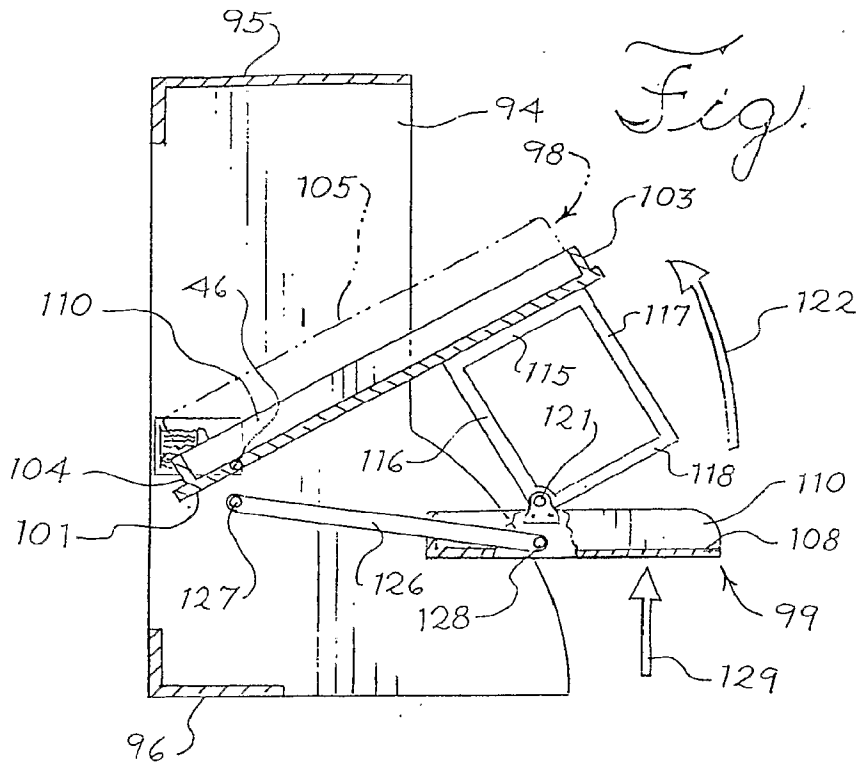


Fig. 8



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International Bureau



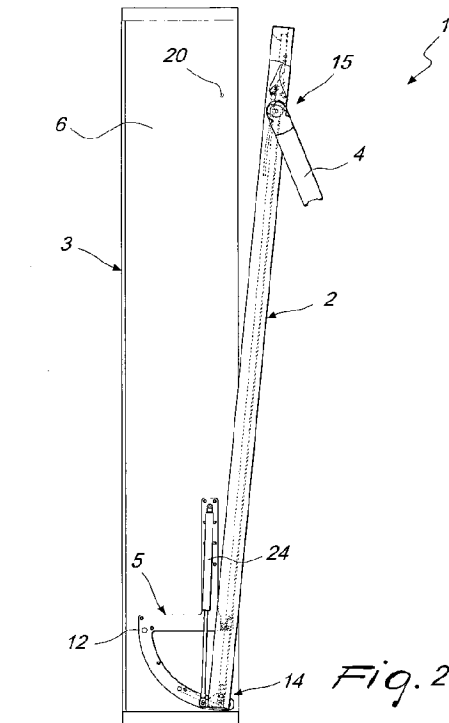
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[Continued on next page]

(54) Title: PULL DOWN BED WITH AUTOMATIC LOCKING DEVICE



(57) Abstract: A pull down bed with automatic locking device has a movable framework, which constitutes a mattress frame, and is hinged to a container body, which constitutes a piece of furniture, so as to define a closed position, in which the mattress frame is substantially inside the piece of furniture, and an open position, for use as a bed, in which the mattress frame is in a horizontal position and rests on the ground by means of two feet. The mattress frame is hinged to the piece of furniture at one end and has its feet at the opposite end. The pull down bed includes a device for locking the mattress frame in the closed or horizontal position, which is actuated by an actuation device, which includes the feet.

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PULL DOWN BED WITH AUTOMATIC LOCKING DEVICE

The present invention relates to a pull down bed with automatic locking device.

A pull down bed, or "Murphy" bed, is a piece of furniture containing a tilting framework, which constitutes the mattress frame.

5 The mattress frame is generally constituted by a structure made of welded steel tubes, which includes rotation pivots provided with springs which can be adjusted as a function of the load.

The mattress frame generally has two feet, which can retract when the frame is pulled up, and brackets for fastening a wood closure panel.

10 The mattress frame also has a mattress holder and normally a spring system made of laminated wood slats inserted in receptacles of the longitudinal members of the mattress frame.

Murphy beds have been commercially available since the early 1900s and numerous and disparate structures with constructive and functional improvements have
15 been proposed.

An important requirement of a pull down bed is that it is constructively strong and reliable and its locking must be ensured both in the horizontal position, for use as a bed, and when it is closed in the vertical position.

Another important requirement of a pull down bed is to ensure a simple and easy
20 actuation, which does not require excessive efforts of the user.

Another fundamental feature of a pull down bed is that it should occupy as little space as possible because it is generally used where the space available is limited.

It is difficult to provide a structure which is at the same time compact, easy to operate, strong and reliable.

25 Commercially available pull down beds in fact do not simultaneously and fully provide all the requirements listed above.

The aim of the present invention is to provide a pull down bed with automatic locking device that is improved with respect to conventional pull down beds in every constructive and functional aspect.

30 An object of the invention is to provide a pull down bed that has a system for

automatic locking in both vertical and horizontal positions that is safe and reliable.

A further object of the invention is to provide a pull down bed that can be released from one position and moved into the other position simply and easily.

A further object is to provide a pull down bed that is aesthetically pleasant and
5 compact.

A further object of the present invention is to provide a pull down bed which, by virtue of its particular constructive characteristics, is capable of giving the greatest assurances of reliability and safety in use.

A further object of the present invention is to provide a pull down bed that can be
10 manufactured easily by using commonly commercially available elements and materials and is also competitive from an economic standpoint.

This aim and these objects, as well as others which will become better apparent hereinafter, are achieved by a pull down bed, with automatic locking device, comprising a movable framework, which constitutes a mattress frame, and is hinged to a container
15 body, which constitutes a piece of furniture, so as to define a closed position, in which said mattress frame is substantially inside said piece of furniture, and an open position, for use as a bed, in which said mattress frame is in a horizontal position and rests on the ground by means of feet; said mattress frame is hinged to said piece of furniture at one end and has said feet at the other end; said structure is characterized in that it comprises
20 a device for locking said mattress frame in said closed and horizontal position, said locking device is actuated by an actuation device, said actuation device comprises said feet.

Further characteristics and advantages will become better apparent from the description of preferred but not exclusive embodiments of the invention, illustrated by
25 way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a side view of a pull down bed according to the present invention, illustrated in the closed position at the beginning of the opening action;

Figure 2 is a view, similar to the preceding one, illustrating the mattress frame in an intermediate position in the opening step;

30 Figure 3 is a side view of the pull down bed shown in the open position, for use as

a bed;

Figure 4 is a plan view of the pull down bed shown in the open position, for use as a bed;

Figure 5 is an enlarged side view of the pull down bed in the open position, for
5 use as a bed;

Figure 6 is a view, similar to the preceding one, illustrating the structure in an intermediate position in the opening step;

Figure 7 is a side view, enlarged with respect to Figure 1, illustrating the mattress frame in the closed position at the beginning of the opening action;

10 Figure 8 is a plan view of the pull down bed shown in the open position, for use as a bed, with the locking device inserted;

Figure 9 is a view, similar to the preceding one, in which the device is shown in the release step.

With reference to the cited figures, a pull down bed according to the invention,
15 generally designated by the reference numeral 1, comprises a movable framework 2, which constitutes the mattress frame, and is hinged to a container body 3, which constitutes a piece of furniture, so as to define a closed position, visible in Figure 1, in which the framework 2 is substantially inside the container body 3, and an open position, for use as a bed, which is visible in Figure 3 and in which the framework is in the
20 horizontal position and rests on the ground by means of feet 4.

The framework 2 is hinged to the piece of furniture 3 by means of a pair of mounting plates 5 applied to the inner sides of the shoulders 6 of the piece of furniture 3.

Each plate 5 can be inserted in a recess, which is formed in the respective shoulder 6, so that the plate is flush with the surface of the shoulder.

25 Each mounting plate 5 is constituted by an upright 7, a horizontal crossmember 8 and a curved portion 9.

The horizontal crossmember 8 has a seat 10 that accommodates a rotation pivot 11 which is jointly connected to the framework 2.

The rotation pivots 11 allow the rotation of the framework 2 about the axis that
30 passes through the pivots.

The two pivots 11 engage in the seat 10 of the plates 5, which are recessed in the shoulders of the piece of furniture.

After engagement, a screw is inserted for safety and prevents the pivot 11 from exiting from its seat 10 during rotation. This operation is quick and with limited risk of error.

The plate 5 has two holes provided in the curved portion 9, an upper hole 12 and a lower hole 13, which allow to lock the frame 2 in its positions of maximum opening, when the bed is completely open in the horizontal position, and maximum closure, when the bed is completely closed in a vertical position.

10 The mattress frame is locked by means of a locking device, generally designated by the reference numeral 14, which is actuated by an actuation device 15.

The actuation device comprises the foot 4, which is arranged on each side of the mattress frame 2 and has three functions: a support of the mattress frame in a horizontal position, a lever for the actuation of the upper and lower hooks for fastening the mattress frame in the vertical position, and a handle for lowering the mattress frame.

Each foot 4 can include a height adjustment system, which is not visible in the figures.

The portion of the foot 4 that is hinged to the mattress frame 2 has three radial slots, designated respectively by the reference numerals 16, 17 and 18, which are adapted to lock the foot in the various positions for use.

The actuation device 15 comprises a hook 19, which is hinged to the mattress frame 2 and is adapted to engage the slots of the foot in order to lock it in the various positions. The foot 4 acts as a lever for the actuation of the hook 19.

The hook 19 is adapted to lock the mattress frame 2 in the closure position, by engaging a pin 20 provided on each shoulder 6 of the piece of furniture 3.

The hook 19 is designed to transmit the various movements to the locking device 14 through a transmission cable 21.

The locking device 14 prevents any movement of the mattress frame in the fully open and fully closed positions.

30 The locking device 14 comprises a pin with a rack 22, which in its inactive position

is inserted in the lower hole 13 or upper hole 12 of the plate 5, depending on whether the mattress frame is in the closed or open position respectively.

The rack of the pin 22 is engaged by a gear 23, which is connected to the transmission cable 21, so that when one acts on the foot 4 the hook 19 is turned and, by rotating, pulls the transmission cable 21, which in turn moves the gear 23 of the pin 22. The gear 23 moves the locking pin 22, which by retracting in contrast with a contrast spring 25 exits from the hole 12 or 13 of the plate 5 and releases the mattress frame 2.

The mattress frame also comprises a gas spring 24, which has one end hinged to the upright 7 of the plate 5 and the other end hinged to the mattress frame 2 in a position that is proximate to the locking device 14.

Figure 1-3 illustrate in sequence the steps of the opening of the mattress frame, while Figures 5-7 illustrate in sequence the steps for closing the mattress frame.

The opening sequence of the bed includes the following steps.

In the closed position, the foot 4 is in a vertical position, arranged between the lateral longitudinal member of the mattress frame 2 and the shoulder 6 of the piece of furniture 3, the hook 19 engages the slot 17 of the foot 4 and keeps it locked in position; the locking pin 22 is inserted in the lower locking hole 13 of the plate 5.

The foot 4 is manually extracted and its rotation causes the hook 19 to lift and disengage the locking pin 20 as can be seen in Figure 1.

The rotation of the hook 19 pulls the transmission cable 21, which turns the gear 23, causing the retraction of the locking pin 22, which exits from the lower hole 13, allowing the free rotation of the mattress frame 2.

By gripping the foot 4 with one's hands and pulling toward oneself, overcoming the slight contrast force produced by the gas springs 24 that support the weight of the mattress frame and the mattress, as visible in Figure 2, the mattress frame 2 is moved almost to its point of maximum opening.

At this point is sufficient to push the mattress frame downward in the fully horizontal position in order to allow the foot to lock.

Locking occurs by the hook 19 engaging the slot 18 of the foot 4 while at the same time the locking pin 22 enters the upper hole 12 of the plate 5.

The mattress frame 2 is in the maximum opening position, which is completely horizontal.

The closure operation of the bed includes the following steps.

One acts on the hook 19 with a slight pressure to release the foot 4 and by pulling
5 the transmission cable 21, which actuates the gear 23 of the locking device 14, which causes the retraction of the locking pin 22, releasing the mattress frame.

At this point, the mattress frame is slightly lifted because of the action of the gas springs 24.

The user can place himself in front of the bed and, with one hand, can move the
10 mattress frame 2 to its position of maximum closure (which is completely vertical), as shown schematically in Figures 6 and 7.

The foot 4 is automatically arranged vertically automatically by gravity and the hook 19 resets the foot 4, engaging the slot 17.

While the hook 19 engages the locking pin 20, the locking pin 22 enters the lower
15 hole 13 of the plate 5.

In practice it has been found that the invention achieves the intended aim and objects, providing a pull down mattress frame with self-locking feet and pins.

A further advantage of the invention is that the pull down mattress frame 2 is constituted by a folded sheet metal and this allows to fasten a covering panel to the
20 frame without the aid of screws or bolts.

The cross-section of the framework of the mattress frame has been designed as if it were an extruded element, but in practice it is obtained by folding a sheet metal.

The particular cross-section of the frame has a curl on which a covering panel is inserted which constitutes the face.

25 The mattress frame according to the present invention allows to use covering panels that have a reduced thickness, for example 10 mm, with the result of having a considerable external aesthetic cleanliness; indeed, approximately 3 mm of wood are visible flush to the profile.

Of course, the mattress frame allows to fit thicker covering panels, with the
30 appropriate dimensional modifications of other components such as for example the gas

springs.

On the inner side also, when the mattress is lifted, no elements for anchoring between the face and the frame can be seen and no screws or bolts are visible.

Since there are no fasteners, assembly is facilitated considerably and is faster,
5 because the cross-section of the framework is suitable to accommodate slats and supports directly in the profile of the framework.

Each foot 4 is made of a flat metallic element, with a reduced lateral dimension, such that in the closed position it is included completely between the mattress frame and the shoulder of the piece of furniture.

10 The foot acts as a handle for the movement of the mattress frame.

The automatic locking pin 22 allows to position the mattress frame in full safety, both in the vertical closed position and in the horizontal open position.

The foot constitutes in practice the only actuation element for the entire movement of the mattress frame and of the locking devices.

15 To position the mattress frame it is in fact sufficient to extract the foot with one finger and pull it toward oneself in order to make the mattress frame descend.

By means of this simple gesture, all the release mechanisms of the mattress frame are actuated.

When the mattress frame is closed, the automatic foot is pivoted to the mattress
20 frame and is locked by the hook 19.

By extracting the foot from the closed position, one acts both on the hook 23, which constitutes the upper block, and on the pin 22, which constitutes the lower block, releasing the mattress frame.

During its stroke, the foot always remains in the vertical position, by gravity, and
25 reengages the hook 19 when the mattress frame is in the fully horizontal position.

In the horizontal position of the mattress frame, the foot is locked completely and supports the mattress frame.

The automatic locking of the mattress frame in the horizontal position is thus achieved.

30 Another advantageous characteristic of the present invention is constituted by the

locking system, which is provided by the interaction of the pin 22 with the holes 12 and 13 of the plate 5.

This locking system is actuated simply by moving the foot 4.

Its function is extremely advantageous, because it allows fully safe positioning of the mattress frame both in the vertical position, because it prevents, together with the hook 19, its sudden opening, and in a horizontal position, because it prevents its lifting.

The present system in fact allows to use gas springs 24 that are slightly more powerful and allow the mattress frame to make its descent very soft and not to strike the floor, if it is let go, preventing dangerous situations.

Once the mattress frame has been released from the closure position, it descends until it reaches complete balancing of the gas springs, remaining raised from the ground. Then the mattress frame is pushed downward until it reaches its fully horizontal position.

The automatic locking system is indeed designed to stop the mattress frame in this position.

The plate 5 is directly fastened to the shoulder of the piece of furniture and is used to move and lock the slatted mattress frame of the bed.

This application claims the priority of Italian Patent Application No. MI2009A000656, filed on April 21, 2009, the subject matter of which is incorporated herein by reference.

CLAIMS

1. A pull down bed, with automatic locking device, comprising a movable framework, which constitutes a mattress frame and is hinged to a container body, which constitutes a piece of furniture, so as to define a closed position, in which said mattress
5 frame is substantially inside said piece of furniture, and an open position, for use as a bed, in which said mattress frame is in a horizontal position and rests on the ground by means of feet; said mattress frame is hinged to said piece of furniture at one end and has said feet at the other end; said structure is characterized in that it comprises a device for locking said mattress frame in said closed and horizontal position, said locking device
10 is actuated by an actuation device, said actuation device comprises said feet.

2. The pull down bed according to claim 1, characterized in that said mattress frame is hinged to said piece of furniture by means of a pair of mounting plates which are applied to the internal sides of shoulders of said piece of furniture; each plate is inserted in a contoured recess, which is provided in a respective shoulder; said plate is flush with
15 the surface of said shoulder.

3. The pull down bed according to claim 2, characterized in that each mounting plate is constituted by an upright, a horizontal crossmember and a curved portion; said horizontal crossmember has a seat that accommodates a rotation pivot which is jointly connected to said mattress frame.

20 4. The pull down bed according to one or more of the preceding claims, characterized in that said locking device comprises two holes provided in said plate, an upper hole and a lower hole, which allow the locking of said mattress frame in said horizontal and closed position; said locking device comprises a pin with a rack which is associated with said mattress frame, said pin with rack is inserted, in its inactive position,
25 in one of said holes, the lower one or the upper one, depending on whether the mattress frame is respectively in the closed or open position; said pin being actuatable by said actuation device in order to clear said holes and allow the passage of said mattress frame from one position to the other.

5. The pull down bed according to one or more of the preceding claims,
30 characterized in that the rack of said pin with rack is engaged by a gear, which is

connected to said actuation device by means of a transmission cable.

6. The pull down bed according to one or more of the preceding claims, characterized in that said actuation device comprises said foot, said foot acts as an actuation lever for a hook and as a handle for folding said mattress frame; a portion of
5 said foot pivoted to said mattress frame has three radial slots for locking said foot in the various positions for use; said hook is hinged to said mattress frame and is adapted to engage said slots of the foot in order to lock it in the various positions; said hook transmits the movement to said locking device through said transmission cable; when one acts on said foot, said hook is turned, said hook rotates and pulls said transmission
10 cable, said transmission cable moves said gear of said pivot with rack; said gear moves said pivot with rack which, by retracting in contrast with a contrast spring, exits from said hole of said plate and releases the mattress frame.

7. The pull down bed according to one or more of the preceding claims, characterized in that each foot comprises a height adjustment system.

15 8. The pull down bed according to one or more of the preceding claims, characterized in that said hook is designed to lock in the closure position said mattress frame by engaging a pin that is present on each shoulder of said piece of furniture.

9. The pull down bed according to one or more of the preceding claims, characterized in that it comprises a gas spring, which has one end hinged to said plate
20 and the other end hinged to said mattress frame in a position that is proximate to the locking device; said gas spring supports the weight of said mattress frame and of the mattress that is associated therewith.

10. The pull down bed according to one or more of the preceding claims, characterized in that said mattress frame is formed from a folded sheet metal.

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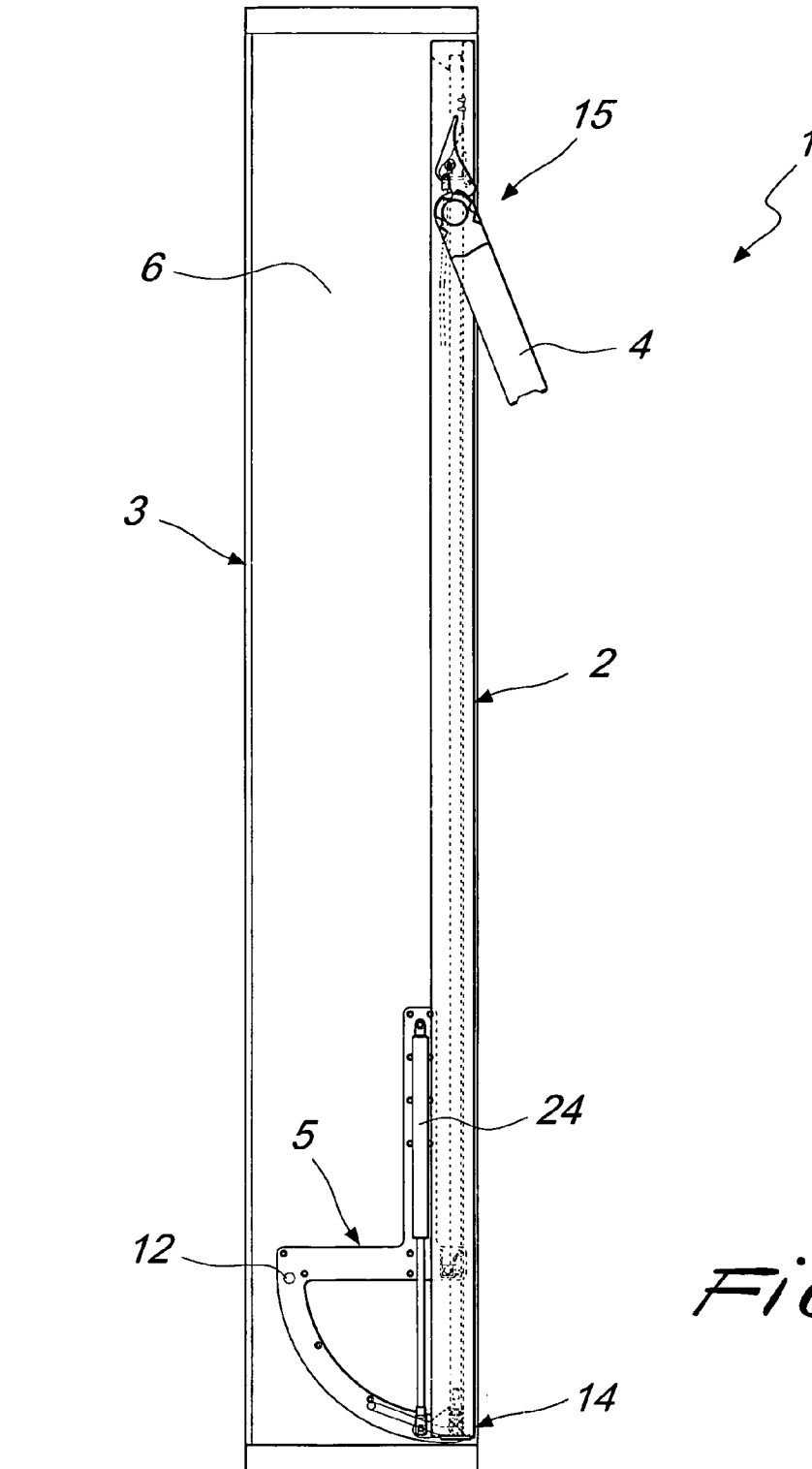


Fig. 1

2 / 9

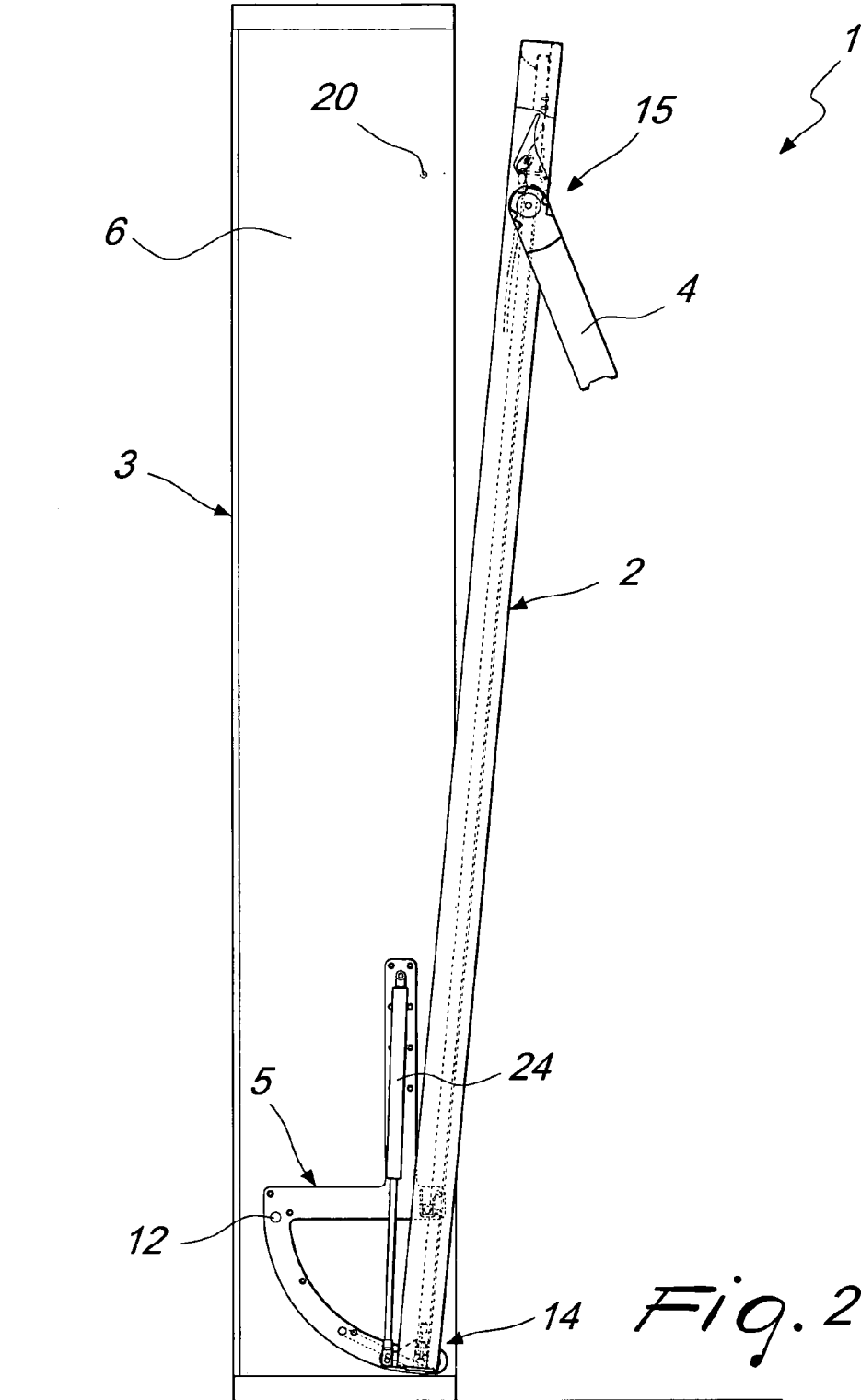
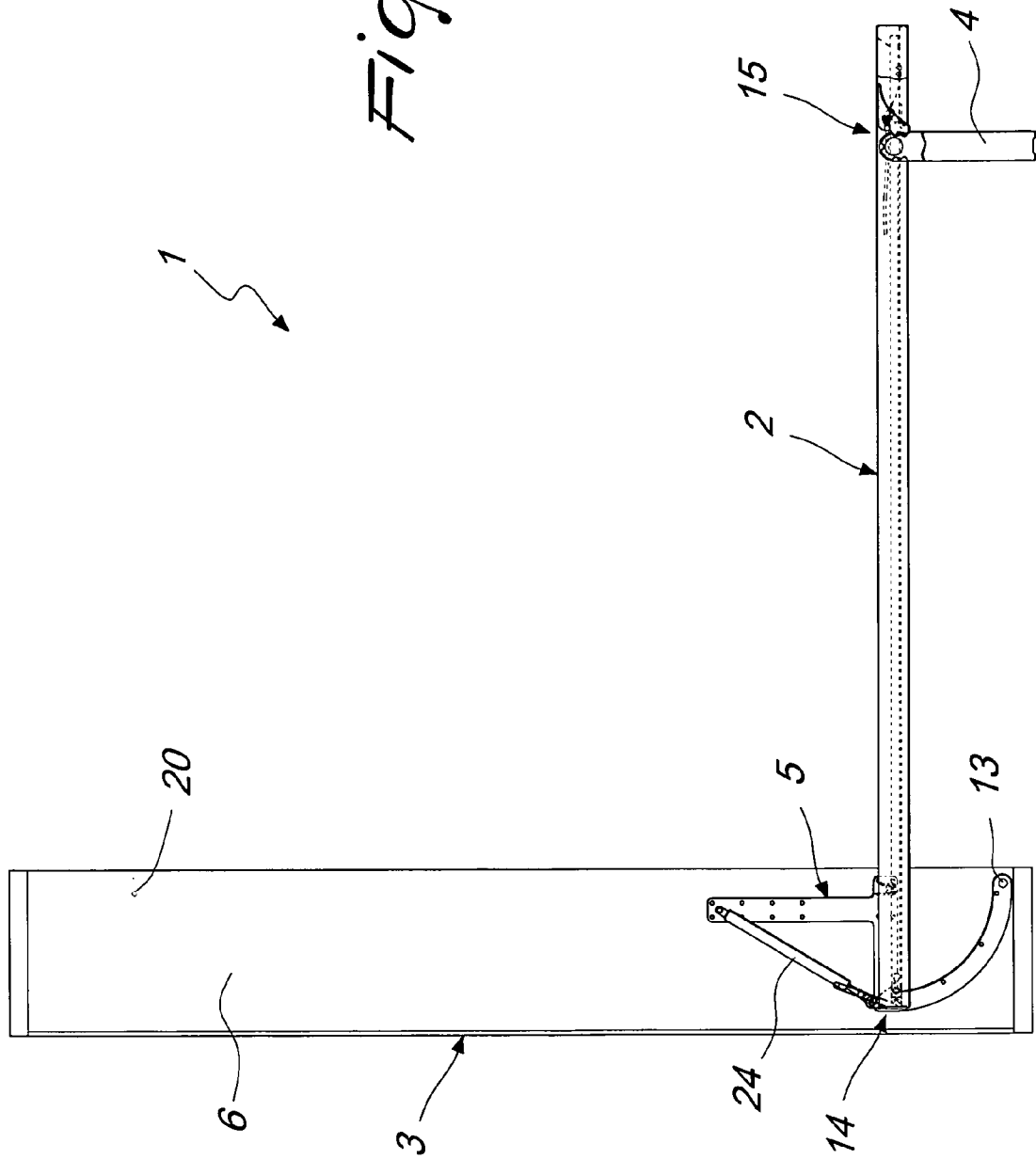


Fig. 3



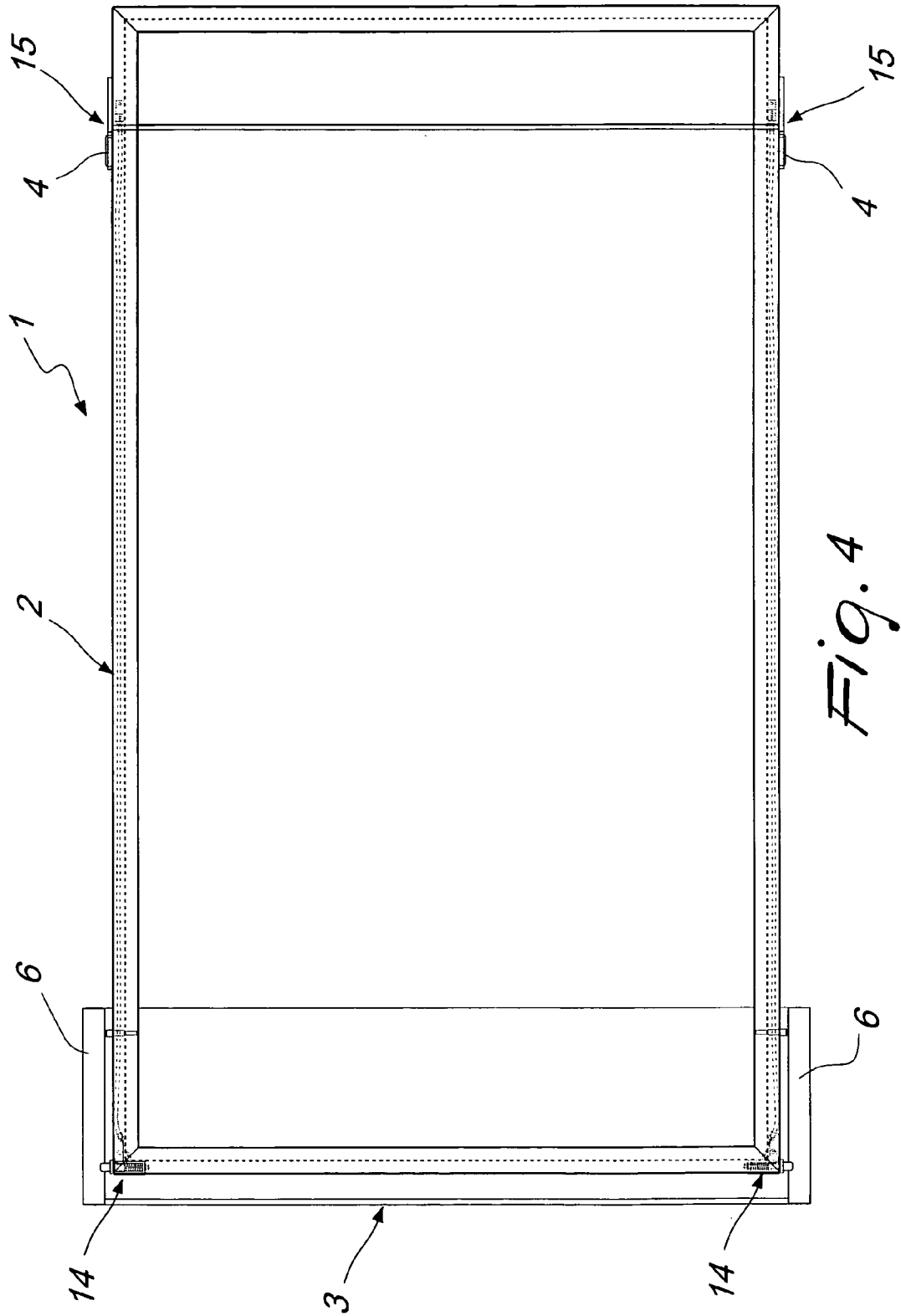


Fig. 4

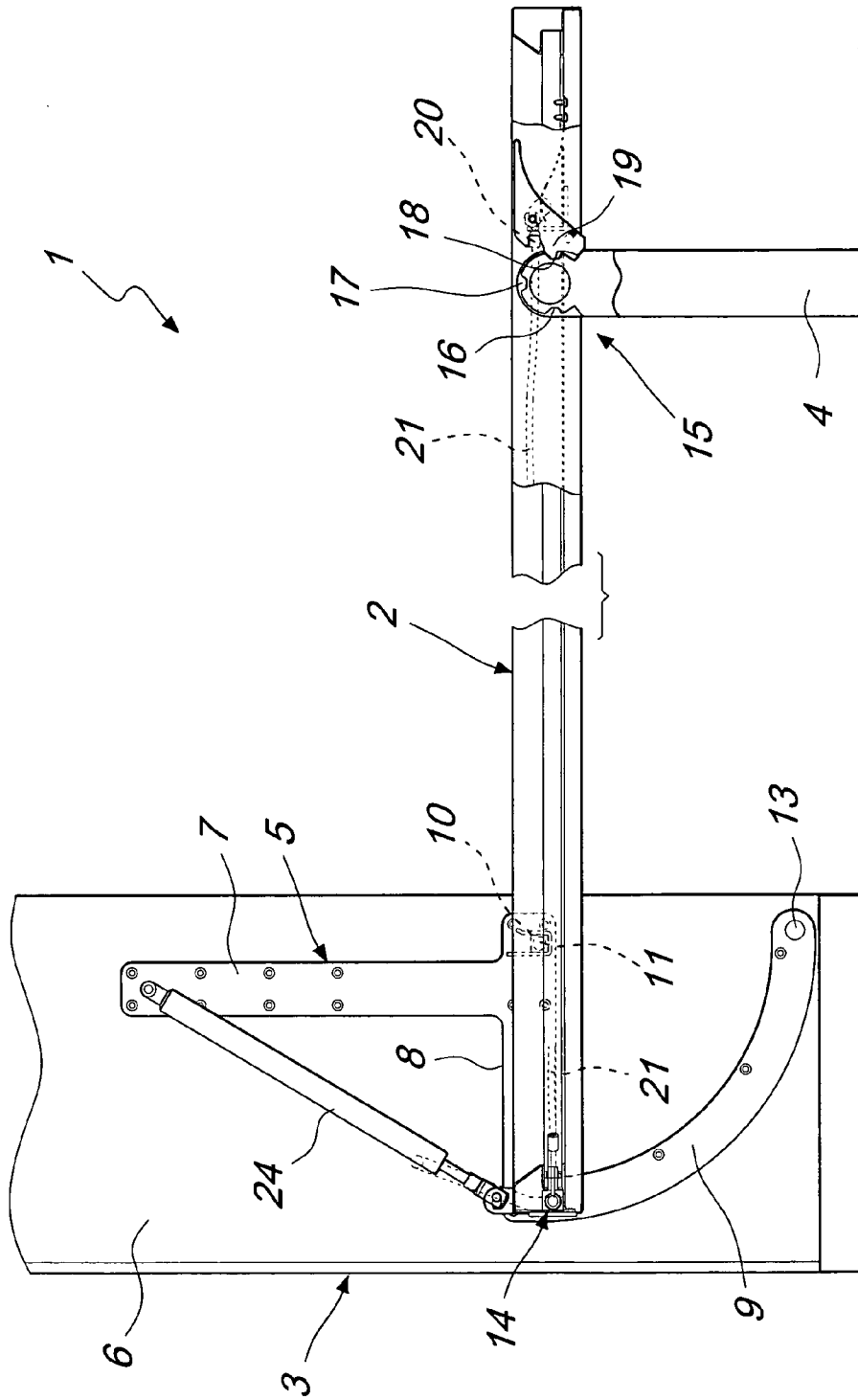
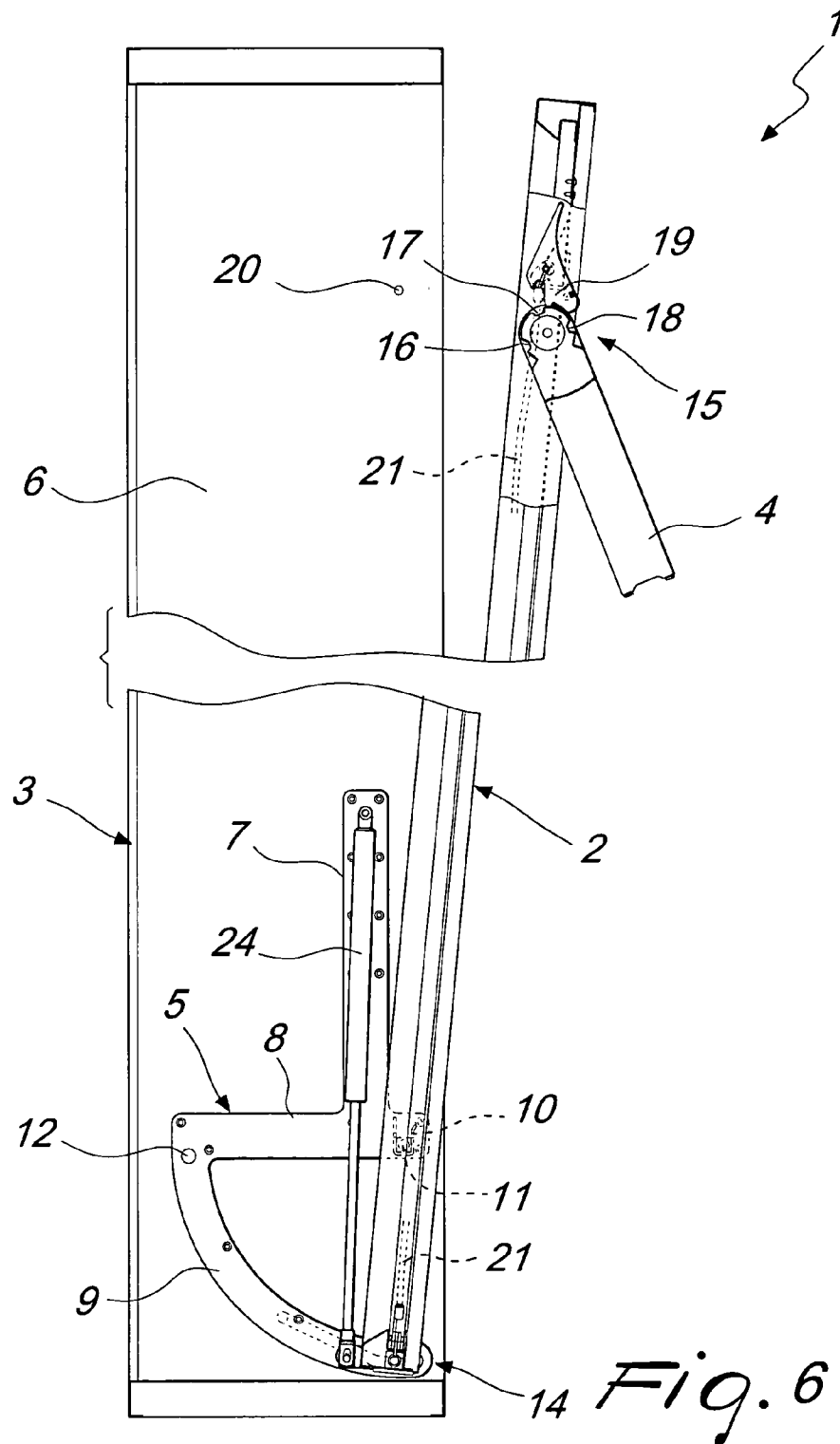
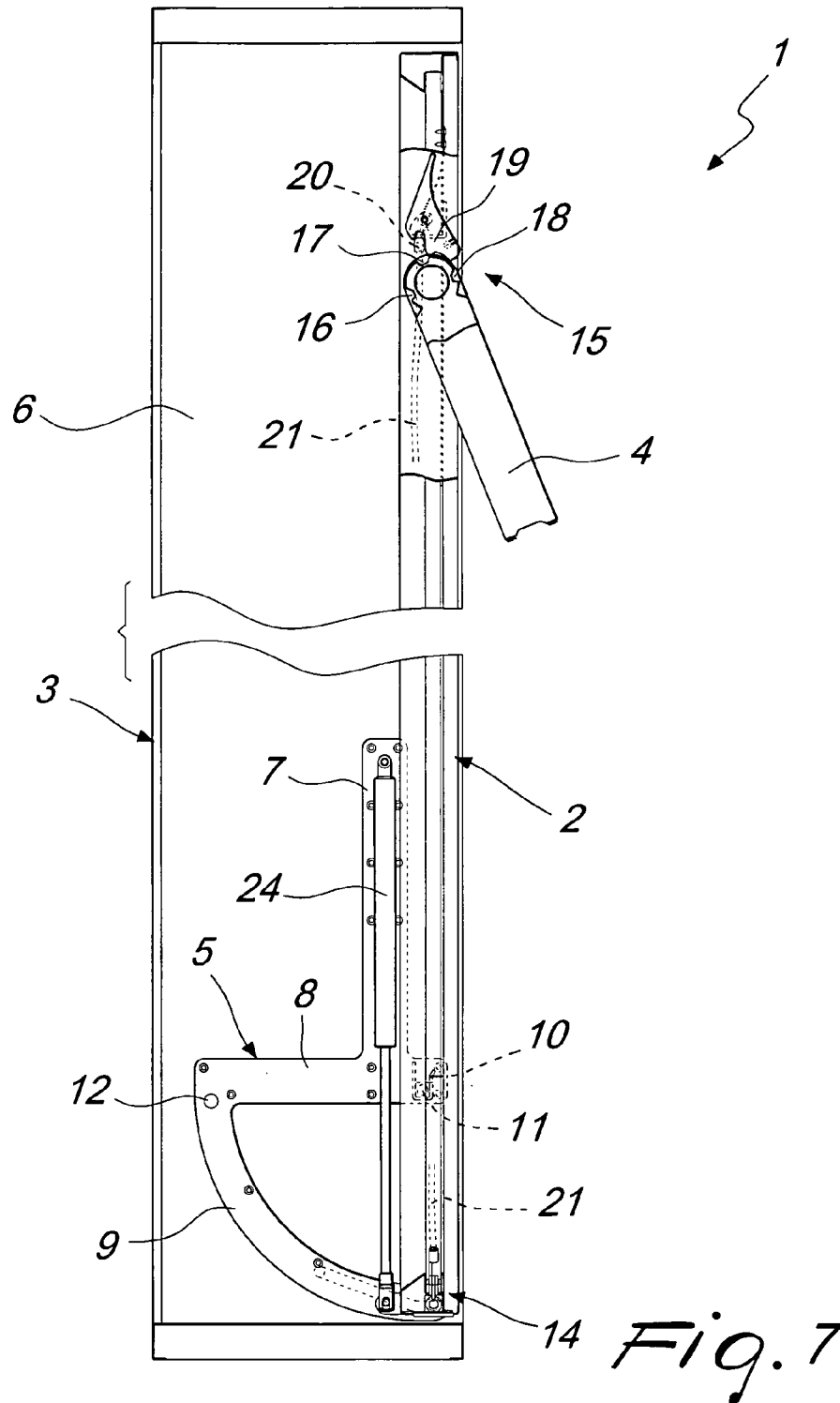


Fig. 5



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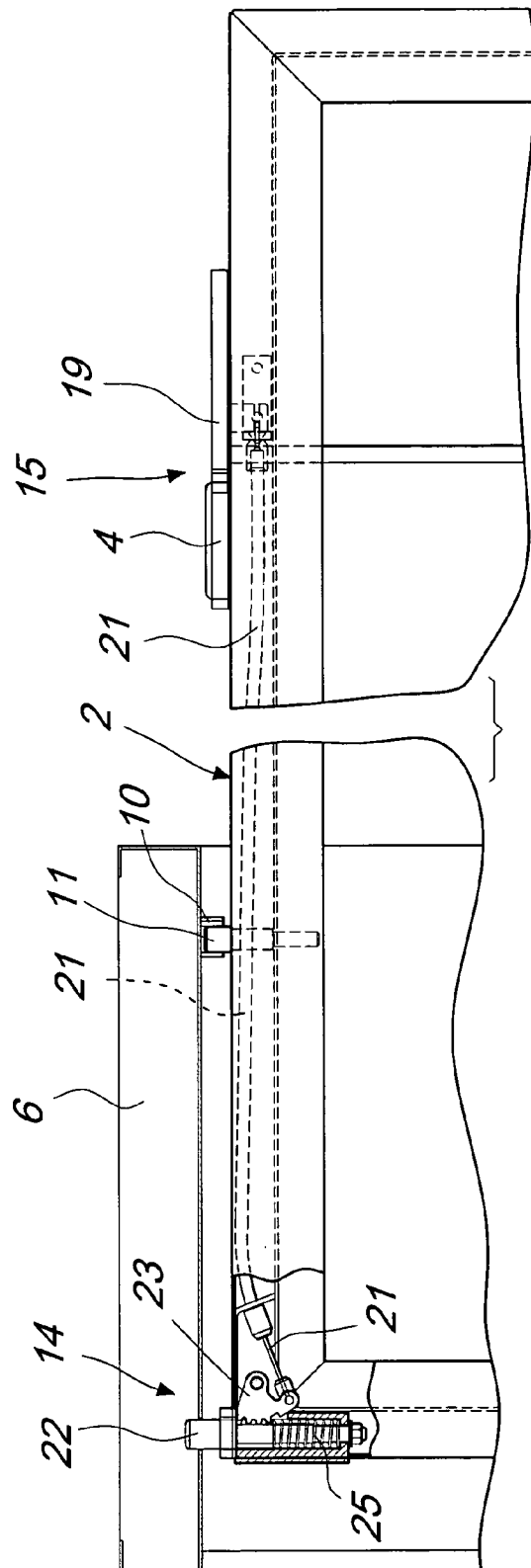


Fig. 8

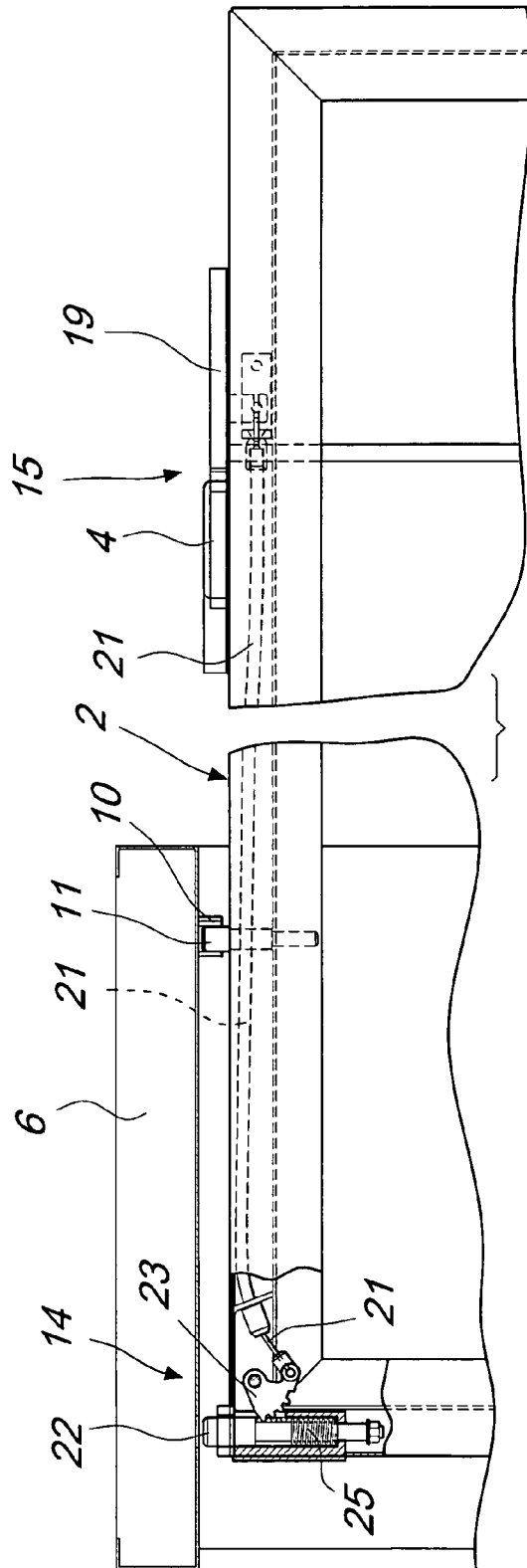


Fig. 9

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2010/002422

A. CLASSIFICATION OF SUBJECT MATTER
 INV. A47C17/52
 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)
 A47C
 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 practical, search terms used)
 EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	AT 301 090 B (ALOIS DRYJAK ING) 25 August 1972 (1972-08-25) page 2, line 14 - page 2, line 29 page 3, line 39 - page 4, line 10 figures 1-4	1
A	DE 199 50 815 A1 (HOPPE KG HODRY METALLFAB [AT]) 21 June 2000 (2000-06-21) * abstract; figures	1-10
A	DE 298 00 911 U1 (HOPPE KG HODRY METALLFAB [AT]) 23 April 1998 (1998-04-23) figures	1-10
A	DE 20 2004 000698 U1 (RUDOLF KARL FRIEDRICH [DE]) 6 May 2004 (2004-05-06) * abstract; figures	1-10

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	*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
E earlier document but published on or after the international filing date	*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
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*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.
O document referring to an oral disclosure, use, exhibition or other means	*G* document member of the same patent family
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 10 June 2010	Date of mailing of the international search report 17/06/2010
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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 MacCormick, Duncan
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2010/002422

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
AT 301090 B	25-08-1972	YU 19771 A1	31-05-1982
DE 19950815 A1	21-06-2000	AT 3099 U1	25-10-1999
DE 29800911 U1	23-04-1998	AT 1810 U1	29-12-1997
DE 202004000698 U1	06-05-2004	DE 102004052311 A1	11-08-2005

**Espacenet****Bibliographic data: JPH0317333 (A) — 1991-01-25**

PARTITIONING METHOD FOR LIVING SPACE

Inventor(s): HIRAYAMA TERUYASU; SHAMOTO YASUHIRO; HANE TADASHI; FUJII HARUYUKI; MATSUMOTO YOICHI ± (HIRAYAMA TERUYASU, ; SHAMOTO YASUHIRO, ; HANE TADASHI, ; FUJII HARUYUKI, ; MATSUMOTO YOICHI)

Applicant(s): SHIMIZU CONSTRUCTION CO LTD ± (SHIMIZU CORP)

Classification: - **international:** **A47B81/00; E04B2/74;** (IPC1-7): A47B81/00; E04B2/74

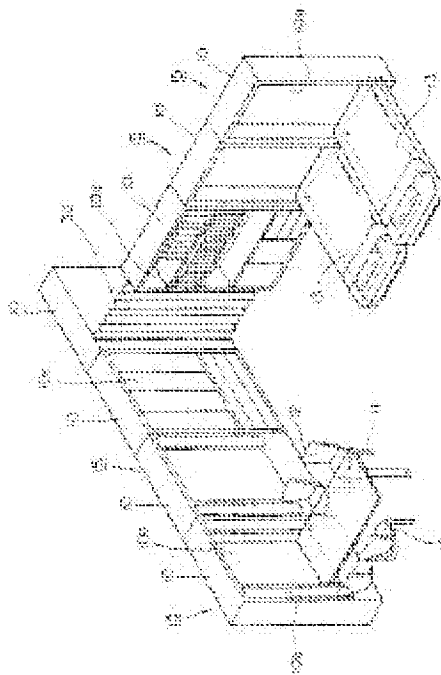
- **cooperative:**

Application number: JP19890150708 19890614

Priority number(s): JP19890150708 19890614

Abstract of JPH0317333 (A)

PURPOSE:To contrive to realize effective use of a living space by providing moving devices to each of individual storing unit bodies that individually stores such furnitures as chairs, a table or the like, and by laying a plurality of the units in free arrangement for partitioning the living space. **CONSTITUTION:**A device partitioning a living space is composed of a plurality of storing units 15, each of which consists of an individual storing unit 10, capable of moving over a floor surface 2, that individually stores such furnitures as a table 11, chairs 12 or a bed 13. The individual storing unit body 10 is made from a rectangular box-shaped member and rotary members acting as moving devices are provided thereto at a plurality of positions making the unit body capable of moving back and forth and right and left. At the lower part of the recessed portion at the inside 10a of each of the storing units, the furnitures such as the table 11, the chairs 12 or the bed 13 are connected so that they can swing freely and be taken in and out. Thereby the storing unit bodies 10 can be laid in free arrangement, making optional partitioning of the living space available.



⑫ 公開特許公報 (A) 平3-17333

⑬ Int. Cl.⁵

E 04 B 2/74
A 47 B 81/00

識別記号

5 4 1 C
A

庁内整理番号

6951-2E
8812-3B

⑭ 公開 平成 3 年 (1991) 1 月 25 日

審査請求 未請求 請求項の数 1 (全 7 頁)

⑮ 発明の名称 居住空間区画方法

⑯ 特 願 平1-150708

⑰ 出 願 平1(1989)6月14日

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⑳ 代 理 人	弁理士 志賀 正武		外 2 名	

明 細 書

1. 発明の名称

居住空間区画方法

2. 特許請求の範囲

建屋の固定壁部で囲まれた居住空間の床面上を移動可能な移動機構が設けられた複数の収納ユニット本体と、これら各収納ユニット本体内に収納される家具とを備えてなる複数種類の収納ユニットを用い、これら各収納ユニットを床面の任意の位置に配置して収納ユニット本体部分により居住空間を区画することを特徴とする居住空間区画方法。

3. 発明の詳細な説明

「産業上の利用分野」

本発明は、一般住宅やオフィス等における居住空間の有効利用を図るために好適な居住空間区画方法に関する。

「従来の技術およびその課題」

従来の住宅では、プライバシーの確保等の見地から、その居住空間は固定壁のみによって囲まれ

ており、その一例は、たとえば第 9 図に示すような構成のものである。図中、固定壁部 1 で囲まれた床面 2 上は、さらに、間仕切り壁としての固定壁 3 によってリビングルーム 4、ベッドルーム 5、ダイニングルーム 6、サンタリースペース 7、子供部屋 8 等に区画されている。また、符号 3 a は出入り口としてのドア、3 b、3 c は採光用の窓、K はキッチンをそれぞれ示している。

そして、このようにして固定式の間仕切り壁 3 によって、居住空間は細分化され、固定化されたものとなっている。そのため、生活行為が内部の空間により規制されて非常に利用しづらいものとなっている。

また、生活用品や家具により居住空間が専有されるために空間の自由度が小さい。さらに、子供の成長や家族人数の変化といったライフステージの変化に対応した空間を作ることが難しい。

さらに、居住空間の内部空間を変化させるものとして、たとえば、ふすまや障子の取り外しによる空間の拡大、アコーディオンカーテンや可動パネ

ル等の手段による空間の拡大により、居住空間を可変する方法があるが、いずれも次のような解決すべき課題が残されている。

① すでに配置された固定式の家具や、その他の付帯設備等によって前記ふすま等の移動範囲が規制され、空間の構成パターンが限定されること。

② ふすま、障子を用いて居住空間を区画する場合には、これらふすま等を取り外す手間がかかること。

③ 家具の位置により、空間を拡大できない場合があること。

そこで本発明は、居住空間を容易に変化させることができるとともに、一般住宅やオフィス等における居住空間の有効利用を図るために好適な居住空間の区画方法を提供することを目的としている。

「課題を解決するための手段」

本発明は、建屋の固定壁部で囲まれた居住空間の床面上を移動可能な移動機構が設けられた複数の収納ユニット本体と、これら各収納ユニット本

本実施例の設備は、建屋の固定壁に囲まれた居住空間の床面2上を移動可能な移動機構(図示略)が設けられた収納ユニット本体10と、この収納ユニット本体に収納される複数種類の家具、たとえばテーブル11、いす12、ベッド13等を備えた収納ユニット15とを用いた構成となっている。

建屋の固定壁に囲まれた床面2は、床パネル等によって面一に形成された連続面であって、その上面に敷物を敷いてもよい構成となっている。

収納ユニット本体10は、外観矩形形状に形成された箱形部材であって、第1図および第2図に示すように、ベッドやテーブル等の家具を収納するための収納凹所10aが形成され、収納ユニット本体10の下面には、移動機構としての回転体(図示略)が回転自在に複数個設けられ、これら回転体によって収納ユニット本体10は前後左右に移動可能に構成されている。

収納ユニット本体10a内に収納されるテーブル11、ベッド13等の家具は、第2図に示すよ

体内に収納される家具とを備えてなる複数種類の収納ユニットを用い、これら各収納ユニットを床面の任意の位置に配置して収納ユニット本体部分により居住空間を区画することを特徴としている。

「作用」

本発明の部屋の構造は、移動機構を有するとともに家具を収納する収納ユニット本体が部屋の床面上を移動自在なので、この収納ユニット本体を任意の位置に配置すれば多種多様な間仕切り壁を構成することができ、部屋の居住空間を有効に利用することができる。

「実施例」

以下、本発明の実施例を図面を参照して説明する。なお、前記従来例で説明した部分と共通の構成となる部分には、共通の符号を付してその説明を省略する。

第1図ないし第2図は、本発明の居住空間区画方法を実現するのに好適な設備の一実施例を示す図であって第1図は設備の全体を示す斜視図、第2図は第1図における各設備の斜視図である。

うに、その下端部において回転自在に結合され出し入れ自在の構成となっている。ベッド13は、第2図(イ)に示すように、その一端において回転軸13aを介して収納ユニット本体10aの下端部に回転自在に取り付けられており、ベッド13を引き出した状態で使用に供される。このベッドを収納するには、ベッド13の自由端を持って収納ユニット本体10の収納凹所10aに向かって回転させ、図示されない手段によって固定する。また、テーブル11およびいす12と一体のいす用脚部12aは、第2図(ロ)に示すように、収納凹所10a、10bの下端部において回転自在に連結された構成となっており、テーブル11の自由端側には脚部11aが回転軸11bを介して回転自在に連結されている。

そして、これらテーブル11およびいす12はベッド13と同様に、その一端において収納ユニット本体10の収納凹所10aおよび10bから引き出した状態で使用に供される。

第3図(イ)および(ロ)は、これらベッド13お

よびテーブル11、いす12を収納ユニット本体10内に収納した状態を示す状態図である。

次に、本発明の居住空間区画方法を第4図ないし第8図を参照して説明する。

第4図は、建屋の居住空間の基本構成を示す図であって、符号3は床面2に立設された間仕切り壁としての固定壁、3aは出入り口としてのドア、3b、3cは採光用の窓、Kはキッチンをそれぞれ示すものとする。

この居住空間内に、前記第1図ないし第3図で示したような収納ユニットを配置して、第5図に示すような間仕切り壁を構成する。この間仕切り壁は、複数個の収納ユニット15の収納ユニット本体部分を連続して配置することによって構成されている。

この配置例によると、キッチン空間の他に、部屋が2つ作ることができ、その他固定壁3によって区画されるサニタリースペースを有する構成となっている。

第6図に示すような配置例にすると、比較的広防虫等の収納物の適切な収納管理をすることができる。

「発明の効果」

本発明の居住空間調整方法は、建屋の固定壁部で囲まれた居住空間の床面上を移動可能な移動機構が設けられた複数の収納ユニット本体と、これら各収納ユニット本体内に収納される家具とを備えてなる複数種類の収納ユニットを用い、これら各収納ユニットを床面の任意の位置に配置して収納ユニット本体部分により居住空間を区画することとしたので、以下のような効果を奏することができる。

収納ユニット本体を任意に配置することによって、部屋の居住空間を変化させることができるので、1日の生活パターンに合わせた居住空間を自由に、かつ、容易に作り出すことができ、居住空間の自由度が増す。

収納ユニット全体を居住空間の隅に移動させることによって、大空間を構成ことができ、近年日本人の生活習慣にも浸透しつつあるホームパ

いキッチン空間を構成することができる。

第7図および第8図に示すような配置例にすると、ホームパーティ用の広い居住空間を構成することができる。

収納ユニット本体10を任意に配置することによって、部屋の居住空間を変化させることができるので、1日の生活パターンに合わせた居住空間を自由に、かつ、容易に作り出すことができ、居住空間の自由度が増す。

収納ユニット本体10全体を居住空間の隅に移動させることによって、大空間を構成ことができ、近年日本人の生活習慣にも浸透しつつあるホームパーティを行ったり、居住空間全体の大掃除を容易に行うことができる。

また、収納ユニット15の数を増減することによって、子供の成長や家族の人数変化に対応した居住空間作りが可能となる。

各収納ユニット15に、収納物に適した収納環境を与える設備たとえば乾燥機、防虫剤等を取り付けることにより、布団の乾燥、殺菌や、衣類の

パーティを行ったり、居住空間全体の大掃除を容易に行うことができる。

収納ユニットの数を増減することによって、子供の成長や家族の人数変化に対応した居住空間作りが可能となる。

各収納ユニットに、収納物に適した収納環境を与える設備を取り付けることにより、ふとんの乾燥、殺菌や、衣類の防虫など、収納物の適切な収納管理をすることができる。

4. 図面の簡単な説明

第1図ないし第3図は本発明の居住空間区画方法を実現するための設備を示す図であって、第1図は設備全体の斜視図、第2図は各収納ユニットの使用状態を示す斜視図、第3図は第2図における収納状態を示す斜視図、第4図ないし第8図は本発明の使用例を示す図である。

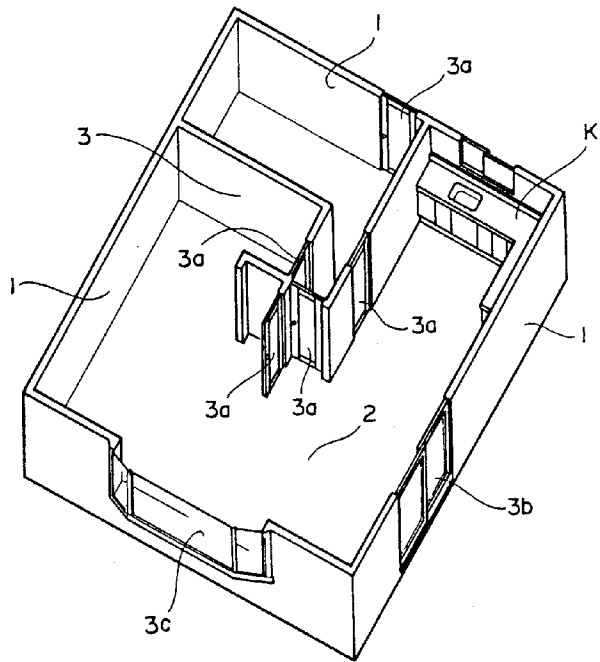
第9図は居住空間区画方法の一従来例を示す斜視図である。

1 …… 固定壁、

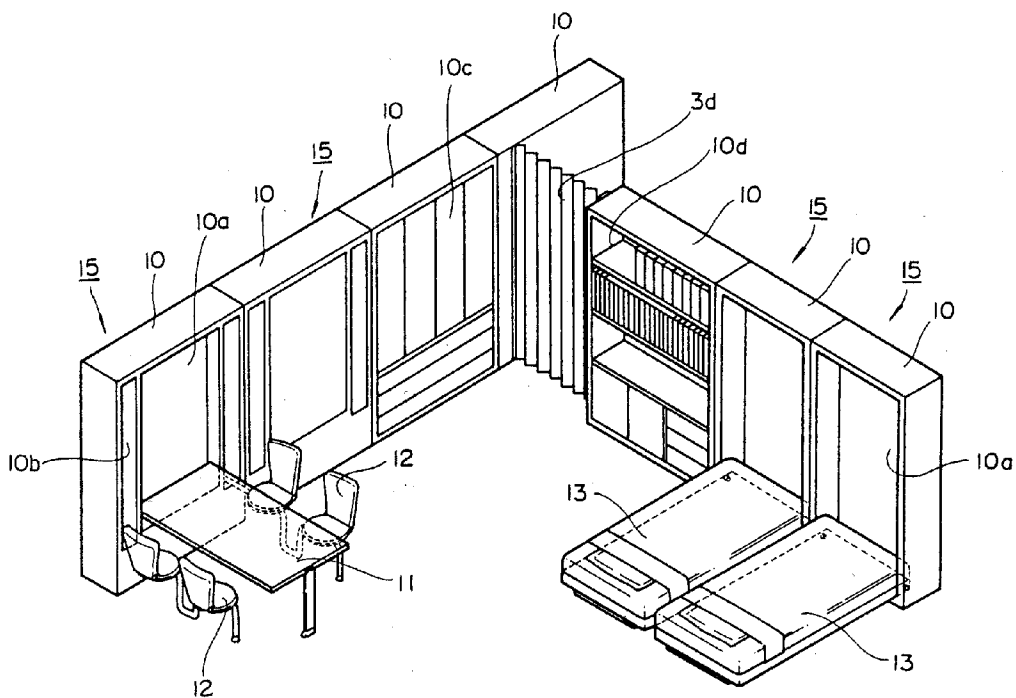
- 2 …… 床面、
- 3 …… 固定壁(間仕切り壁)
- 10 …… 収納ユニット本体、
- 10a …… 収納凹所、
- 11 …… テーブル、
- 12 …… いす、
- 13 …… ベッド、
- 15 …… 収納ユニット、

出願人 清水建設株式会社

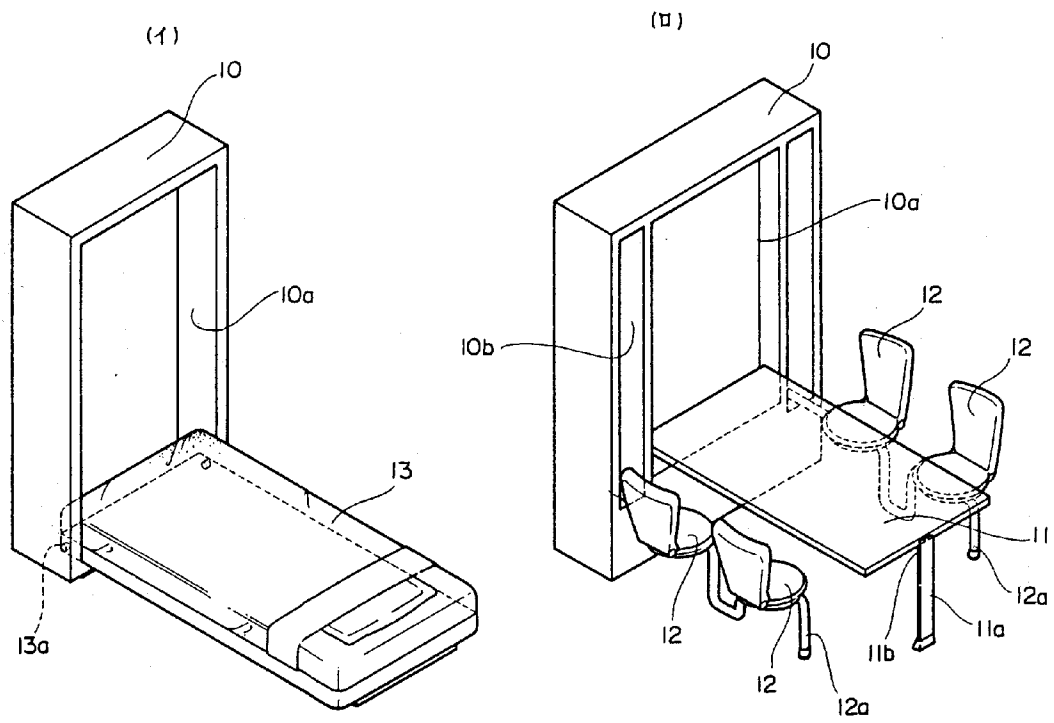
第4図



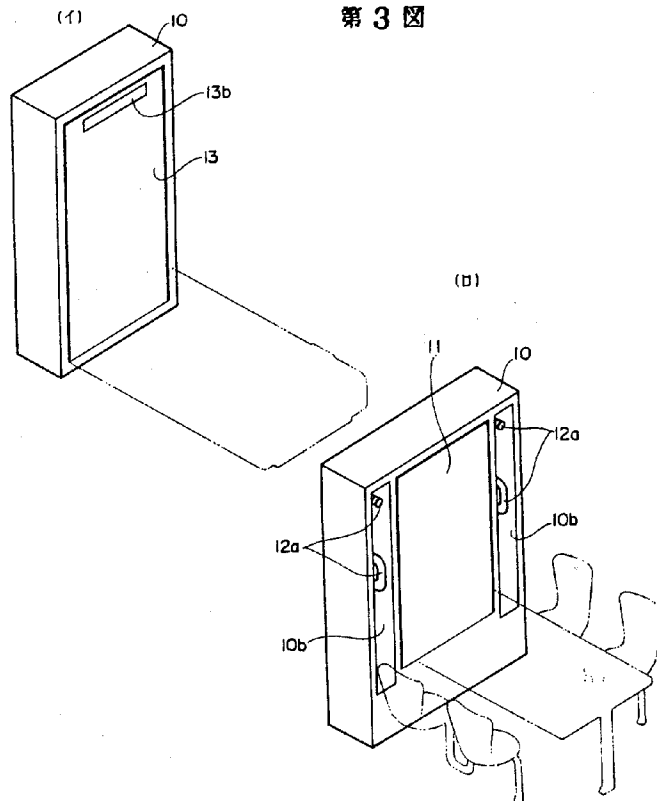
第1図



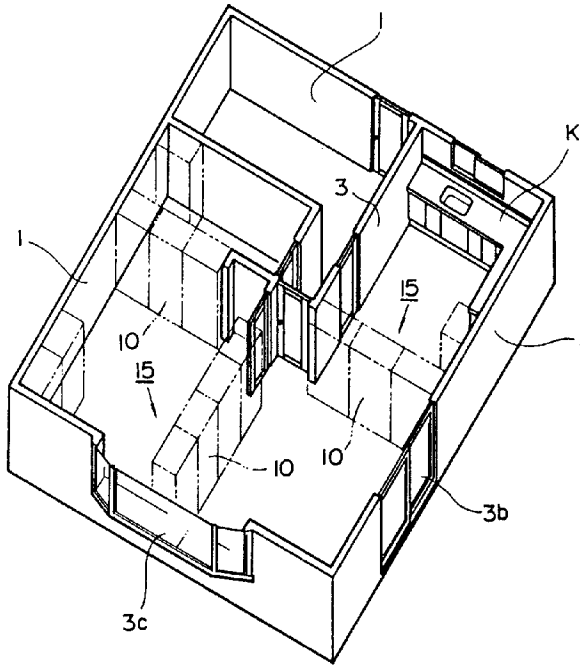
第 2 図



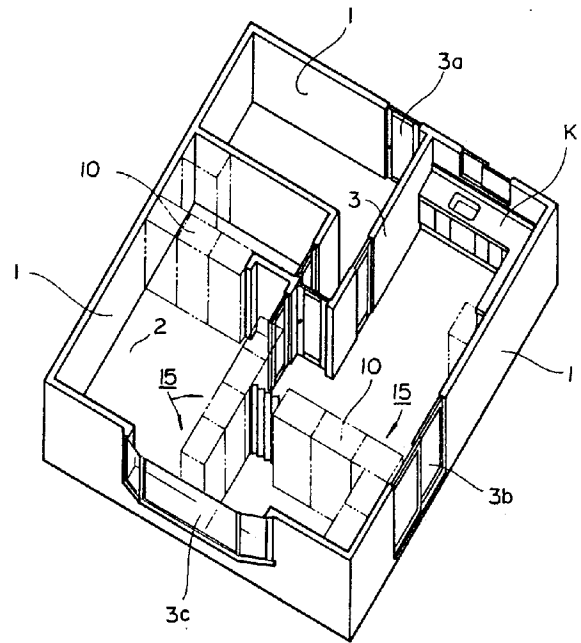
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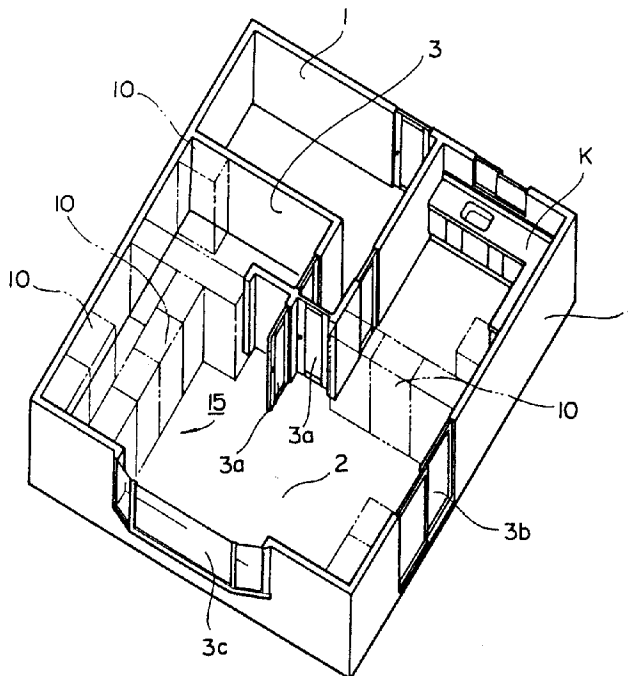
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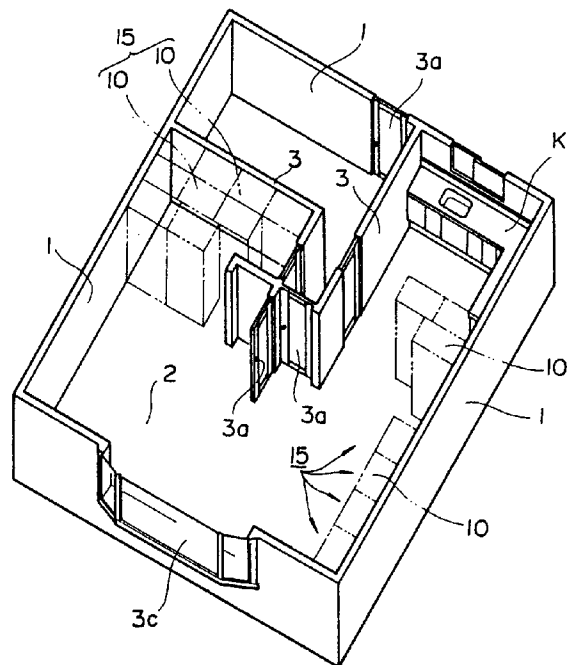
第 6 図



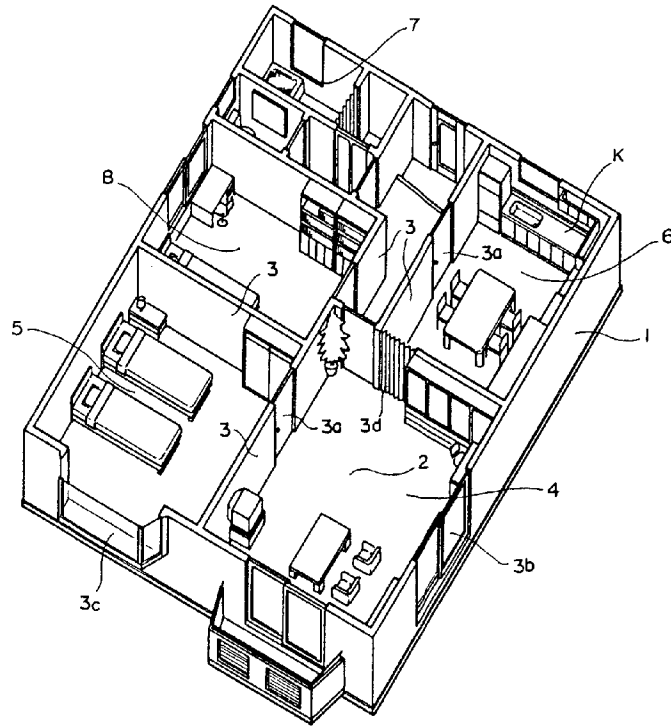
第 7 図



第 8 図



第9図



**Espacenet****Bibliographic data: CN202069245 (U) — 2011-12-14**

Double-layer wall cabinet bed

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Classification: - **international:** A47C17/52; A47C19/20; A47C19/22
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Application number: CN20112153683U 20110516
Priority number(s): CN20112153683U 20110516

Abstract of CN202069245 (U)

The utility model discloses a double-layer wall cabinet bed, which comprises a wall cabinet, an upper bed body and a lower bed body, wherein the two bed bodies are arranged in the wall cabinet. Each bed body comprises a frame type bedstead and a bed board arranged on the upper surface of the bedstead, and the bed board is composed of a plurality of lathes. Installing boards for installing the bedsteads are respectively fixed on the inner surfaces of the left and right side walls of the wall cabinet, and the rear parts of the left and right side parts of the bedsteads are respectively pivoted with the lower ends of the installing boards. The two ends of two bedstead boosting gas springs are respectively hinged with the upper ends of the installing boards and the rear end parts of the left and right side edges of the bedsteads. Bed legs for supporting the bed bodies which are put down for use are arranged on the lower bed body, and escalators for supporting the bed bodies which are put down for use are arranged on the upper bed body. The double-layer wall cabinet bed is a combined body of the bed and the wall cabinet, reasonably utilizes the space, and is convenient, easy and safe for operation. After the bed is unfolded, the bed does not need to be moved. The purpose of convenience for sleeping and relaxation is achieved.



(12) 实用新型专利

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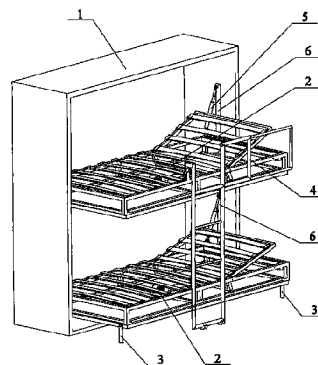
权利要求书 1 页 说明书 4 页 附图 8 页

(54) 实用新型名称

双层壁柜床

(57) 摘要

本实用新型公开了一种双层壁柜床,包括壁柜和上、下设置在壁柜内的两个床体,所述床体包括框架式的床架和设置在床架上表面上的床板,所述床板由多条板条组成,所述壁柜左、右侧壁的内表面上分别固定有用于安装床架的安装板,床架左、右侧边的后部分别与安装板的下端枢接,两根床架助力气弹簧的两端分别与安装板的上端和床架左、右侧边的后端部铰接,设置在下方的床体上设有用于将该床体放下使用时起支撑作用的床腿,设置在上方的床体上设有用于将该床体放下使用时起支撑作用的扶梯。本实用新型提供的双层壁柜床,是床与壁柜的组合物,合理利用空间,操作简便、省力、安全,收折后无需搬移,达到睡眠、休闲两便的目的。



1. 双层壁柜床,包括壁柜和上、下设置在壁柜内的两个床体,其特征在于,所述床体包括框架式的床架和设置在床架上表面上的床板,所述床板由多条板条组成,所述壁柜左、右侧壁的内表面上分别固定有用于安装床架的安装板,床架左、右侧边的后部分别与安装板的下端枢接,两根床架助力气弹簧的两端分别与安装板的上端和床架左、右侧边的后端部铰接,设置在下方的床体上设有用于将该床体放下使用时起支撑作用的床腿,设置在上方的床体上设有用于将该床体放下使用时起支撑作用的扶梯。

2. 如权利要求 1 所述的双层壁柜床,其特征在于,所述床架上设有活动床架,所述活动床架整体呈由水平部和垂直部组成的直角弯板状框架结构,垂直部设置在床架的中部,直角处枢接在床架前、后侧边的内侧面上,所述床架的中部固定设有沿其左右方向设置的电动推杆,电动推杆的活动端与活动床架的垂直部的下端铰接。

3. 如权利要求 1 所述的双层壁柜床,其特征在于,所述板条通过床板固定座固定在所述床架上,所述床板固定座的侧面具有一个与所述板条的端部相适配的凹槽,床板固定座的底面上设有至少两个凸柱,所述床架前、后侧边的上表面上设有多个安装孔,板条的两端分别插装在床板固定座上的凹槽内,且床板固定座上的凸柱插装在床架上的安装孔内。

4. 如权利要求 1 所述的双层壁柜床,其特征在于,所述扶梯由梯子和床栏组成,梯子包括左、右两根立柱以及连接左、右两根立柱的多根横梁,床栏由上、下水平管和左、右立管组成,下水平管的一端与梯子的左立柱焊接,左、右立管的下端分别焊接在下水平管上,且左立管与左立柱同轴,上水平管焊接在左、右立管的上端,开口向左的 U 形扶手架自右向左插装在上、下水平管内。

5. 如权利要求 4 所述的双层壁柜床,其特征在于,所述梯子上的最下端的横梁上嵌装有橡胶垫。

6. 如权利要求 5 所述的双层壁柜床,其特征在于,所述梯子上的最下端的横梁圆管制成,所述橡胶垫为半圆环状。

7. 如权利要求 4 所述的双层壁柜床,其特征在于,所述扶梯通过扶梯连接座连接在设置在上方的床体上,床体的床架的前侧边上表面上设有扶梯支架,扶梯支架由前、后立板并排设置而成,扶梯连接座的中部铰接在前、后立板之间,扶梯连接座的上部具有转轴,扶梯连接块的一端设有与左立柱外圆周面相适配的卡口,另一端插装在扶梯连接座的上部的轴上,左立柱卡装在扶梯连接块的卡口上,扶梯连接座的下端设有向右倾斜的折弯部,折弯部的端部通过弹簧连接到床架的前侧边上。

8. 如权利要求 4 所述的双层壁柜床,其特征在于,设置在上方的床体的床架的前侧边前表面上设有向前凸出的扶梯挡柱,当梯子转动到垂直位置时,右立柱与扶梯挡柱的端部相抵。

9. 如权利要求 8 所述的双层壁柜床,其特征在于,所述扶梯挡柱由柱体和端盖组成,柱体内固定设有弹簧,且弹簧的自由端与端盖固定。

双层壁柜床

技术领域

[0001] 本实用新型涉及折叠式床具，具体涉及双层壁柜床。

背景技术

[0002] 随着社会上房价的日益高涨，居住空间也日益狭窄，所以如何合理利用空间，使家具布置、安放更紧凑以腾出更大的空间，已成为居住者、装修人士、家具业者梦寐以求的目标。

[0003] 床在居家中占据了极大的空间，而床又只在睡眠休息时才需铺开使用，其余时间又嫌它占据很大位置成为累赘，因此在将床收折以扩大使用空间方面，人们提出了折叠床的解决方案，但折叠床的收折和展开过程比较繁琐，且收折后还需搬移才能减少其占据的空间，使用不便。

实用新型内容

[0004] 本实用新型所要解决的技术问题是解决折叠床收折和展开过程比较繁琐，使用不便的问题。

[0005] 为了解决上述技术问题，本实用新型所采用的技术方案是提供一种双层壁柜床，包括壁柜和上、下设置在壁柜内的两个床体，所述床体包括框架式的床架和设置在床架上表面上的床板，所述床板由多条板条组成，所述壁柜左、右侧壁的内表面上分别固定有用于安装床架的安装板，床架左、右侧边的后部分别与安装板的下端枢接，两根床架助力气弹簧的两端分别与安装板的上端和床架左、右侧边的后端部铰接，设置在下方的床体上设有用于将该床体放下使用时起支撑作用的床腿，设置在上方的床体上设有用于将该床体放下使用时起支撑作用的扶梯。

[0006] 在上述方案中，所述床架上设有活动床架，所述活动床架整体呈由水平部和垂直部组成的直角弯板状框架结构，垂直部设置在床架的中部，直角处枢接在床架前、后侧边的内侧面上，所述床架的中部固定设有沿其左右方向设置的电动推杆，电动推杆的活动端与活动床架的垂直部的下端铰接。

[0007] 在上述方案中，所述板条通过床板固定座固定在所述床架上，所述床板固定座的侧面具有一个与所述板条的端部相适配的凹槽，床板固定座的底面上设有至少两个凸柱，所述床架前、后侧边的上表面上设有至少两组安装孔，板条的两端分别插装在床板固定座上的凹槽内，且床板固定座上的凸柱插装在床架上的安装孔内。

[0008] 在上述方案中，所述扶梯由梯子和床栏组成。梯子包括左、右两根立柱以及连接左、右两根立柱的多根横梁，床栏由上、下水平管和左、右立管组成，下水平管的一端与梯子的左立柱焊接，左、右立管的下端分别焊接在下水平管上，且左立管与左立柱同轴，上水平管焊接在左、右立管的上端，开口向左的 U 形扶手架自右向左插装在上、下水平管内。

[0009] 在上述方案中，所述梯子上的最下端的横梁上嵌装有橡胶垫。

[0010] 在上述方案中，所述梯子上的最下端的横梁圆管制成，所述橡胶垫为半圆环状。

[0011] 在上述方案中,所述扶梯通过扶梯连接座连接在设置在上方的床体上,床体的床架的前侧边上表面上设有扶梯支架,扶梯支架由前、后立板并排设置而成,扶梯连接座的中部铰接在前、后立板之间,扶梯连接座的上部具有转轴,扶梯连接块的一端设有与左立柱外圆周面相适配的卡口,另一端插装在扶梯连接座的上部的轴上,左立柱卡装在扶梯连接块的卡口上,扶梯连接座的下端设有向右倾斜的折弯部,折弯部的端部通过弹簧连接到床架的前侧边上。

[0012] 在上述方案中,设置在上方的床体的床架的前侧边前表面上设有向前凸出的扶梯挡柱,当梯子转动到垂直位置时,右立柱与扶梯挡柱的端部相抵。

[0013] 在上述方案中,所述扶梯挡柱由柱体和端盖组成,柱体内固定设有弹簧,且弹簧的自由端与端盖固定。

[0014] 本实用新型提供的双层壁柜床,是床与壁柜的组合物,合理利用空间,操作简便、省力、安全,收折后无需搬移,达到睡眠、休闲两便的目的。

附图说明

[0015] 图 1 为本实用新型提供的双层壁柜床收纳时的示意图;

[0016] 图 2 为本实用新型提供的双层壁柜床打开时的示意图;

[0017] 图 3 为床体结构示意图;

[0018] 图 4 为床架结构示意图;

[0019] 图 5 为扶梯收纳在床体上的示意图;

[0020] 图 6 为扶梯打开后的示意图;

[0021] 图 7 为床板固定座结构示意图;

[0022] 图 8 为扶梯结构示意图;

[0023] 图 9 为扶梯连接块结构示意图;

[0024] 图 10- 图 17 本实用新型的打开步骤示意图。

具体实施方式

[0025] 下面结合附图对本实用新型作出详细的说明。

[0026] 图 1 为本实用新型提供的双层壁柜床收纳后的示意图,图 2 为本实用新型提供的双层壁柜床打开后的示意图。如图 1、图 2 所示,本实用新型提供的双层壁柜床包括壁柜 1 和设置在壁柜 1 内的两个床体 2,两个床体 2 上、下设置。壁柜 1 的前侧面上设有上、下柜门 11、12,上、下柜门 11、12 分别固定在两个床体 2 的底面上,当两个床体 2 分别收纳进壁柜 1 内后,上、下柜门 11、12 将两个床体 2 封闭在壁柜 1 内。本实用新型也可以仅打开一个设置在下方或上方的床体 2 使用。

[0027] 床体 2 的结构如图 3 所示,床体 2 包括框架式的床架 21 和由多条板条 22 组成的床板,板条 22 的两端通过床板固定座 23 固定在床架 21 前、后侧边的上表面上。床板固定座 23 的结构如图 7 所示,床板固定座 23 的侧面具有一个与板条 22 的端部相适配的凹槽 231,床板固定座 23 的底面上设有至少两个凸柱 232。

[0028] 床架 21 的结构如图 4 所示,床架 21 前、后侧边的上表面上设有多组安装孔 211,首先将板条 22 的两端分别插装在床板固定座 23 上的凹槽 231 内,然后将床板固定座 23 上的

凸柱 232 插在床架 21 上的安装孔 211 内,使板条 22 固定在床架 21 上,形成床板。

[0029] 参见图 3,床架 21 通过安装板 6 固定在壁柜 1 左、右侧壁的内表面上,床架 21 左、右侧边的后部分别通过床架销轴 24 与安装板 6 的下端枢接,两根床架助力气弹簧 5 的两端分别与安装板 6 的上端和床架 21 左、右侧边的后端部铰接,随床架助力气弹簧 5 的伸缩,床架 21 绕床架销轴 24 转动,实现床体 2 的收纳与打开。通过床架助力气弹簧 5 可以减轻打开床体 2 时所耗的体力,同时避免冲击。

[0030] 本实用新型中,通过设置活动床架 25 可以使床体 2 的床头部位向上倾斜,使在床上看书时更加舒适。具体实现结构请参见图 4,活动床架 25 整体呈由水平部和垂直部组成的直角弯板状框架结构,垂直部设置在床架 21 的中部,直角处通过销轴 26 枢接在床架 21 前、后侧边的内侧面上。床架 21 的中部固定设有沿其左右方向设置的电动推杆 27,电动推杆 27 的活动端与活动床架 25 的垂直部的下端铰接,通过摇控器控制电动推杆 27 伸缩,带动活动床架 25 绕销轴 26 转动,使活动床架 25 的水平部向上翘起形成斜面。

[0031] 参见图 2,设置在下方的床体 2 上设有两根床腿 3,用于在该床体放下时起支撑作用,床腿 3 分别铰接在床架 21 左、后侧边的前部。设置在上方的床体 2 上设有扶梯 4,用于将该床体 2 放下使用时起支撑作用。

[0032] 扶梯的结构如图 8 所示,扶梯收纳在床体上的示意图如图 5 所示,扶梯打开后的示意图如图 6 所示,扶梯 4 由梯子 41 和床栏 42 组成。梯子 41 包括左、右两根立柱 411、412 以及连接左、右两根立柱 411、412 的多根横梁,其中最下端的横梁 413 上嵌装有橡胶垫 414,用于保护地面。本实施例中,橡胶垫 414 有两个,横梁 413 由圆管制成,橡胶垫 414 为半圆环状。

[0033] 床栏 42 由上、下水平管 421、422 和左、右立管 423、424 组成,下水平管 422 的一端与梯子 41 的左立柱 411 焊接,左、右立管 423、424 的下端分别焊接在下水平管 422 上,且左立管 423 与左立柱 411 同轴,上水平管 421 焊接在左、右立管 423、424 的上端,开口向左的 U 形扶手架 425 自右向左插装在上、下水平管 421、422 内,并可沿左右方向拉出或推入,使用时将 U 形扶手架 425 向右拉出,收纳时,将 U 形扶手架 425 向左推入上、下水平管 421、422 内。

[0034] 本实施例中,扶梯 4 通过扶梯连接座 43 连接在设置在上方的床体 2 上。具体地说,床体 2 的床架 21 的前侧边上表面上设有扶梯支架 48,扶梯支架 48 由前、后立板并排设置而成,扶梯连接座 43 的中部铰接在前、后立板之间,扶梯连接座 43 的上部具有转轴 44,扶梯连接块 45 的一端设有与左立柱 411 外圆周面相适配的卡口 451(见图 9),另一端插装在扶梯连接座 43 的上部的轴 44 上,左立柱 411 卡装在扶梯连接块 45 的卡口 451 上。扶梯连接座 43 的下端设有向右倾斜的折弯部 46,折弯部 46 的端部通过弹簧 47 连接到床架 21 的前侧边上。

[0035] 如图 5 所示,设置在上方的床体 2 的床架 21 的前侧边前表面上设有向前凸出的扶梯挡柱 28,扶梯挡柱 28 由柱体和端盖组成,柱体内固定设有弹簧,且弹簧的自由端与端盖固定,当梯子 81 转动到垂直位置时,右立柱 412 抵靠在扶梯挡柱 28 的端盖上。

[0036] 下面结合图 10-图 17 描述本实用新型的打开使用过程。

[0037] 图 10 为本实用新型收纳后的示意图。

[0038] 步骤 (1)、打开下层柜门,搬动设置在下方的床体使其左、右侧边绕其与壁柜左、右

内侧壁上的枢轴向下转动,并放置于水平位置,然后,向下转动床腿,使其处于垂直状态,支撑住床架,至此,设置在下方的床体放置完成,如图 11 所示。

[0039] 步骤 (2)、打开电动推杆的开关,使其收缩,拉动活动床架绕铰接点转动,使活动床架的右端向上翘起形成斜面,如图 12 所示。

[0040] 步骤 (3)、打开上层柜门,搬动设置在上方的床体使其左、右侧边绕其与壁柜左、右内侧壁上的枢轴向下转动,并放置于水平位置,如图 13 所示。

[0041] 步骤 (4)、转动扶梯 8,使转动至垂直状态,如图 14 所示。

[0042] 步骤 (5)、使梯子在垂直平面内向下转动至垂直状态,支撑住床体,如图 15 所示。

[0043] 步骤 (6)、将 U 形扶手架向右拉出至壁柜的侧板位置,在休息时起到防护作用,如图 16 所示。

[0044] 步骤 (7)、打开设在上方的床体的电动推杆开关,使其收缩,拉动活动床架绕铰接点转动,使设置在上方的床体的活动床架的右端向上翘起形成斜面,如图 17 所示。

[0045] 本实用新型不局限于上述最佳实施方式,任何人应该得知在本实用新型的启示下作出的结构变化,凡是与本实用新型具有相同或相近的技术方案,均落入本实用新型的保护范围之内。

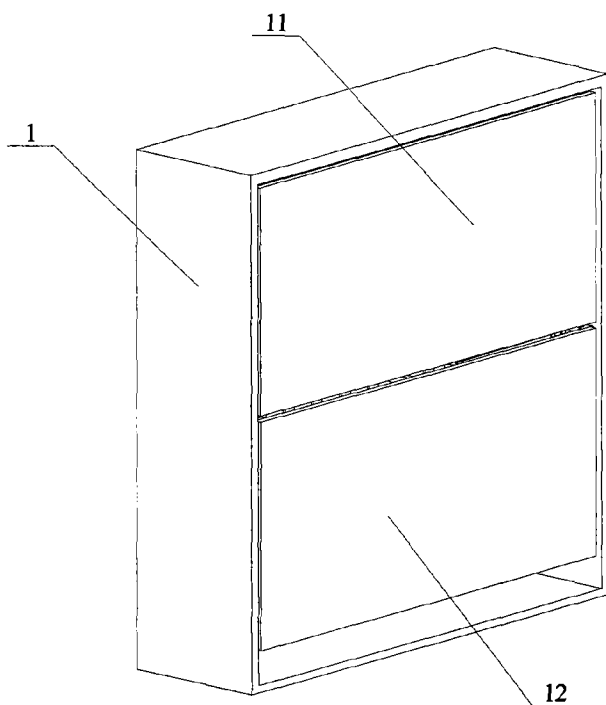


图 1

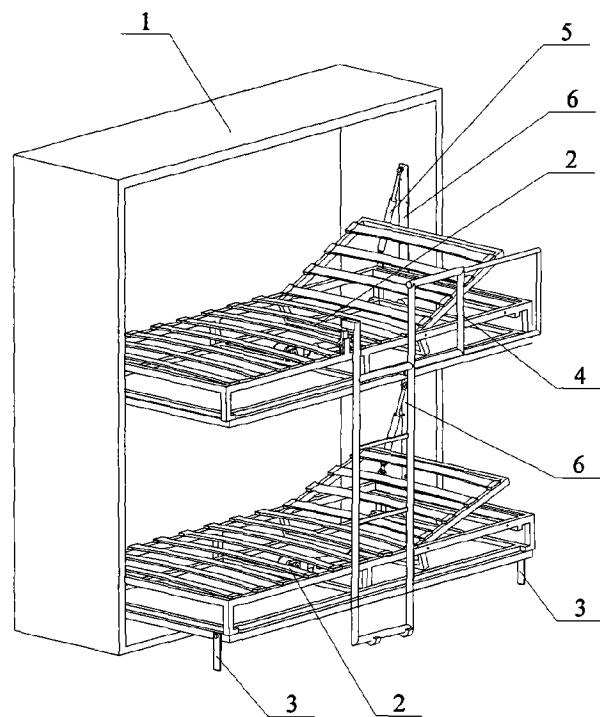


图 2

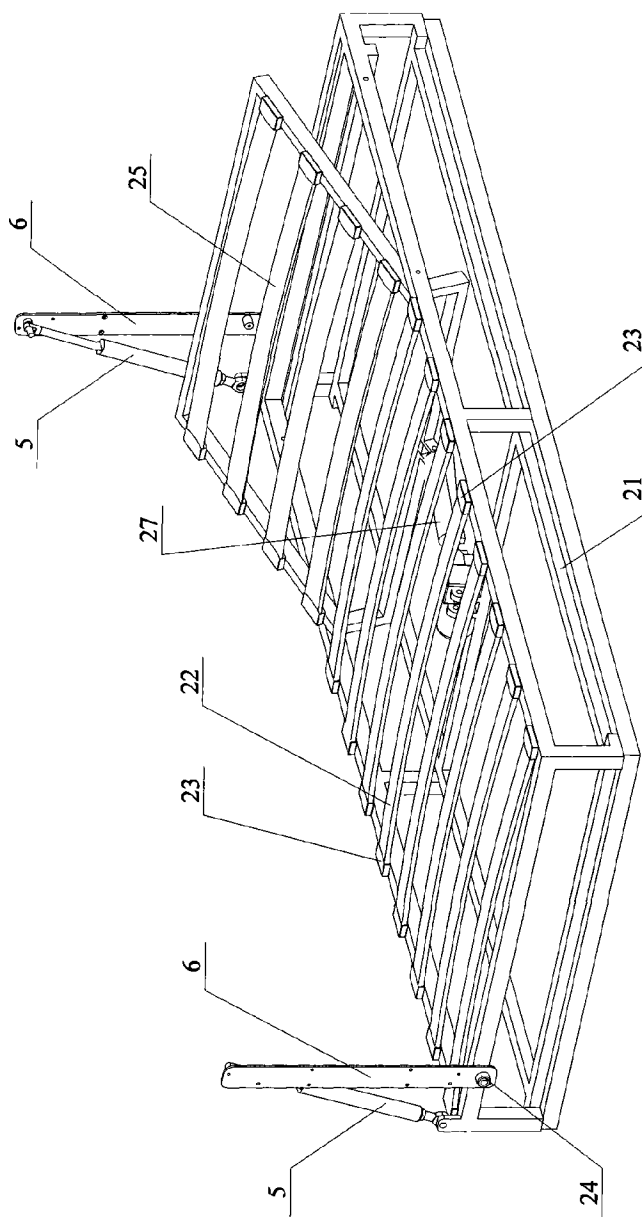


图 3

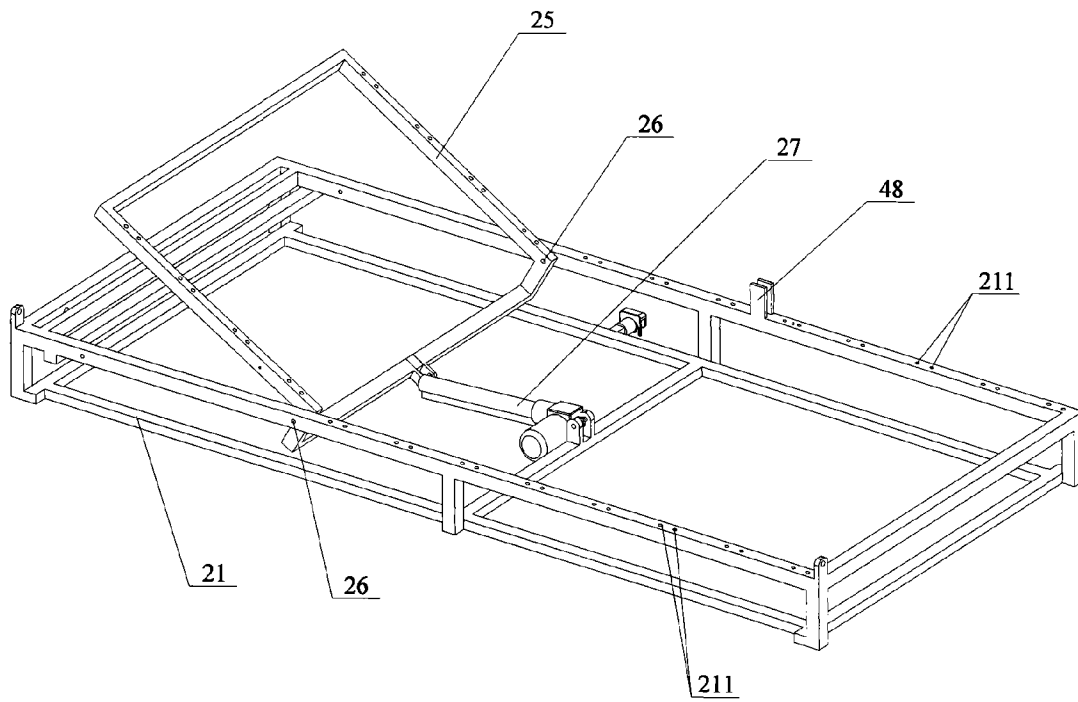


图 4

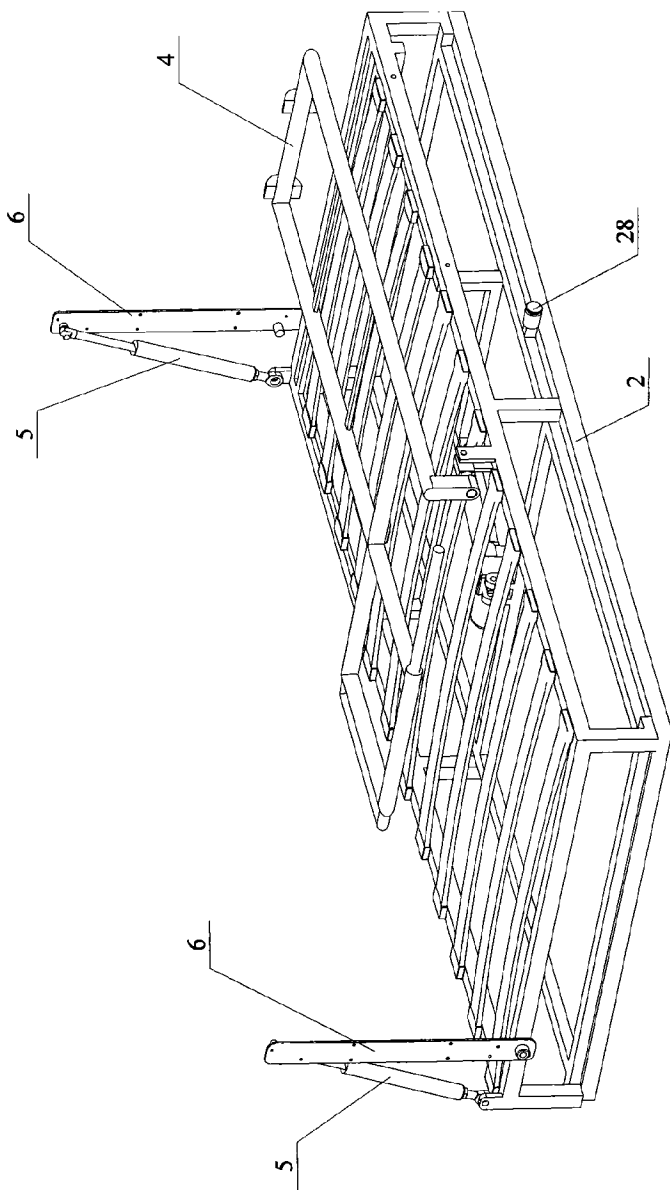


图 5

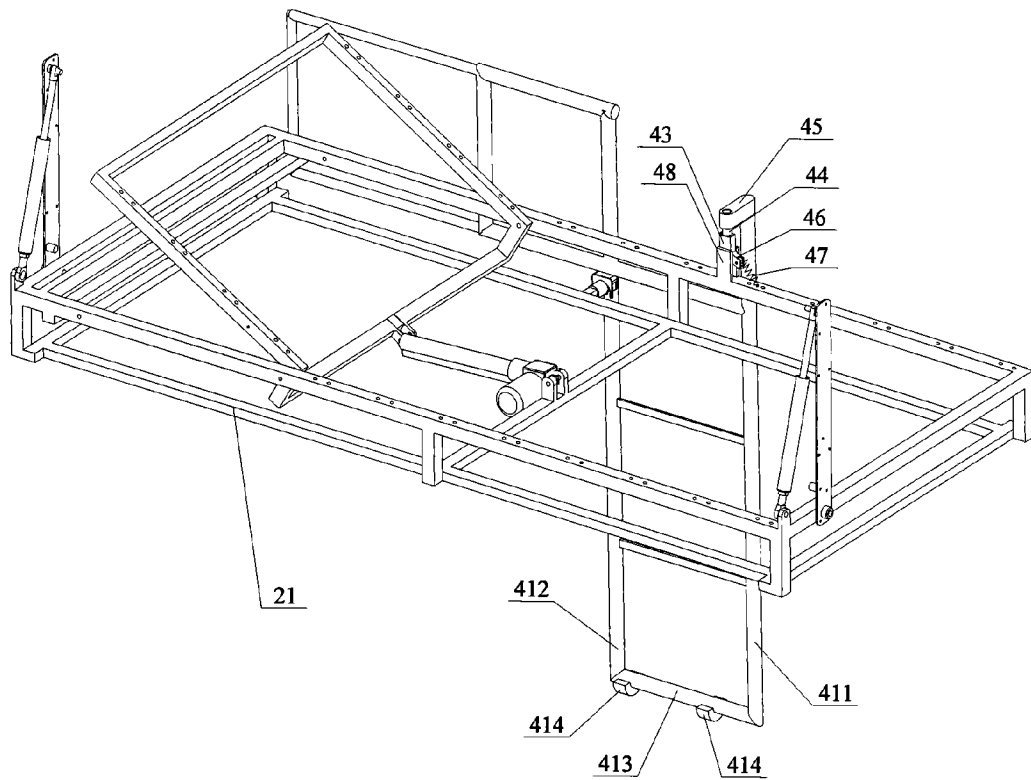


图 6

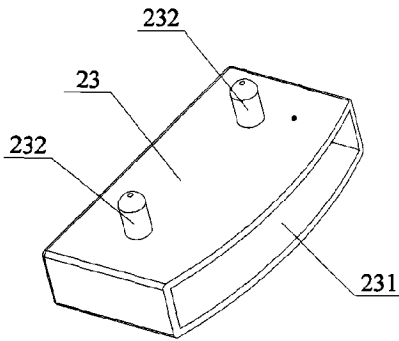


图 7

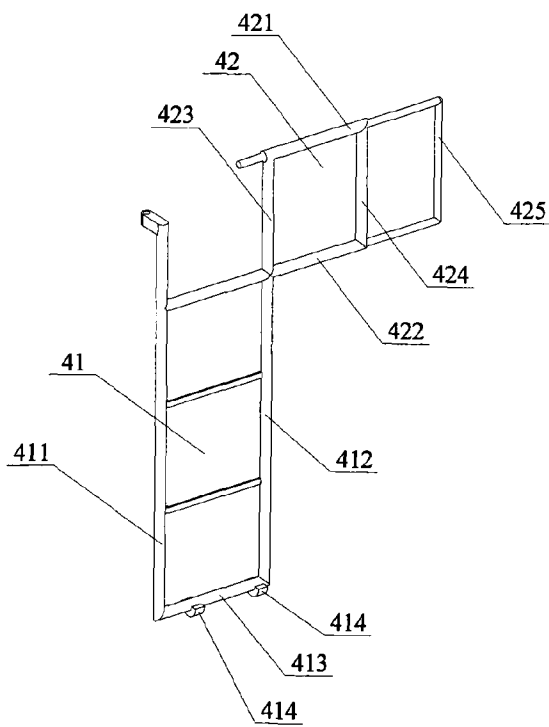


图 8

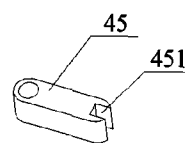


图 9

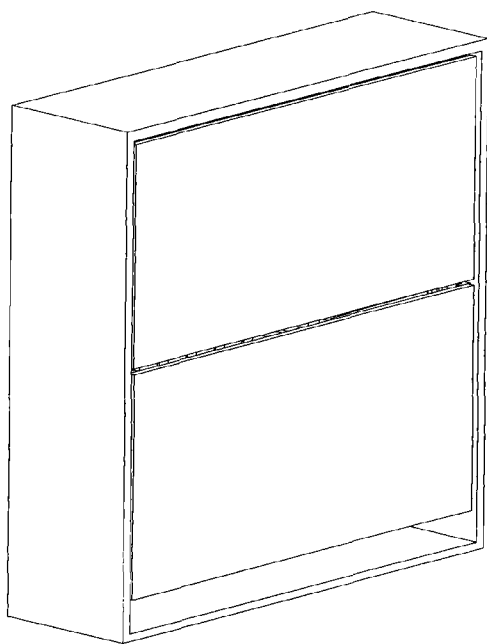


图 10

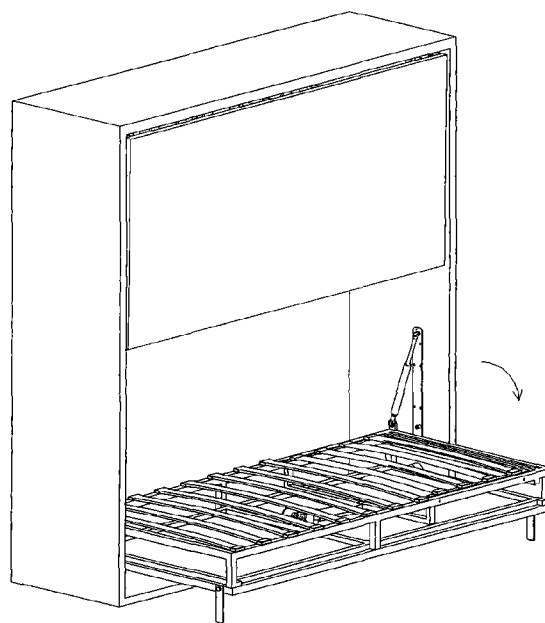


图 11

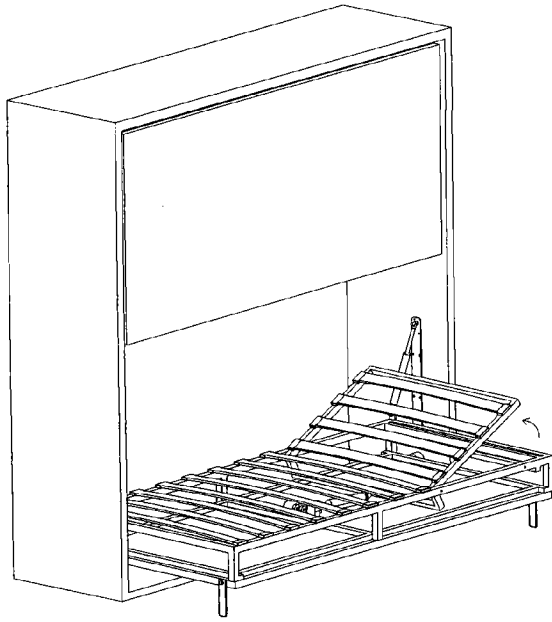


图 12

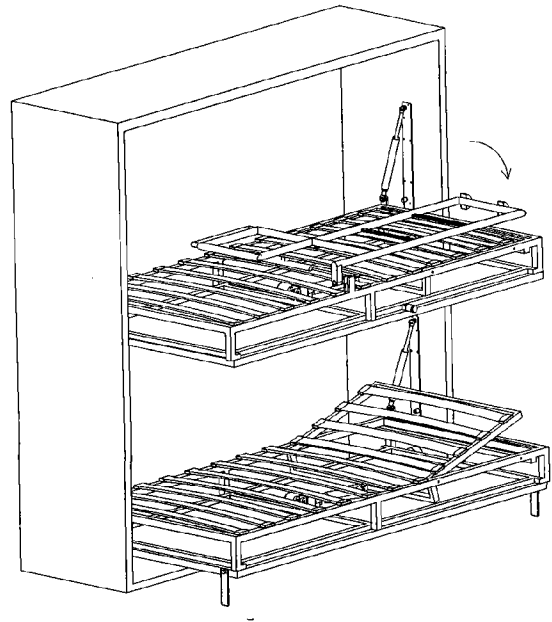


图 13

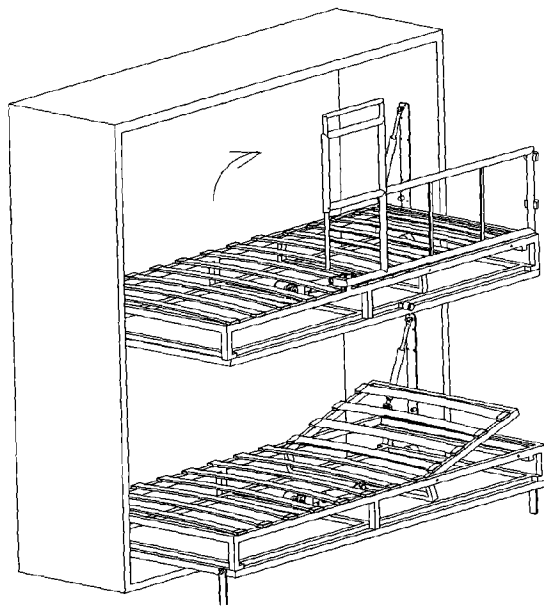


图 14

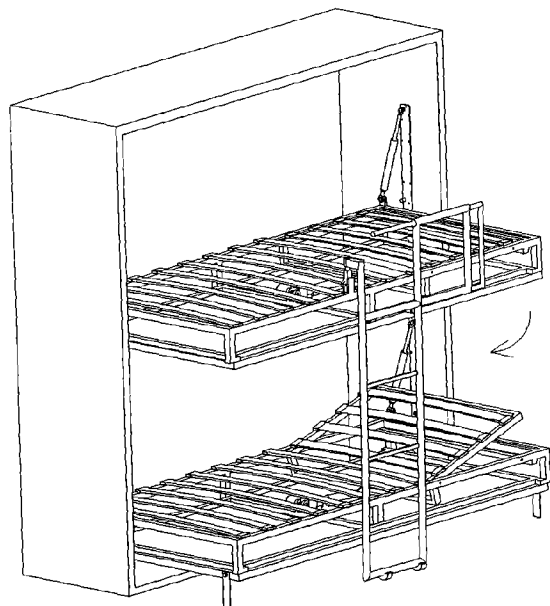


图 15

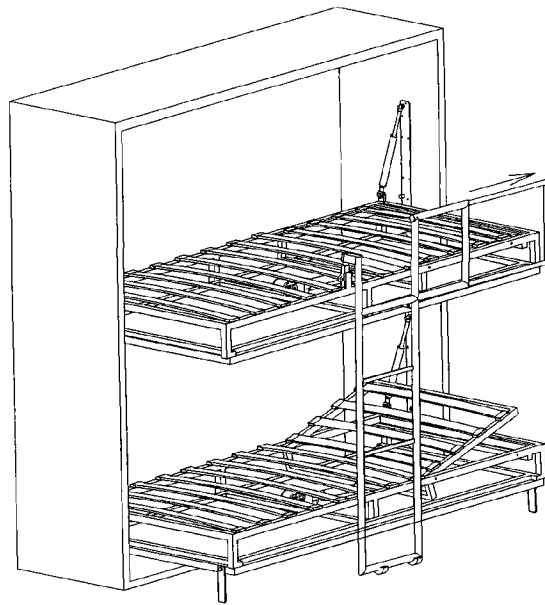


图 16

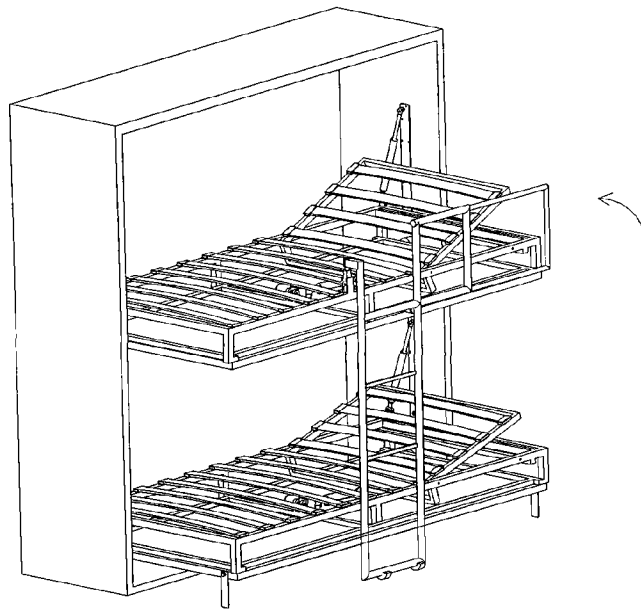


图 17

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
FRODSHAM MICHAEL J.
 WORKMAN NYDEGGER 60 E. SOUTH TEMPLE SUITE
 1000 SALT LAKE CITY UT 84111 USA
 MSF 16196.45A
 MS 3/11/13
 Article 19 Amendments
 Received Date 4/20/13

PCT

**NOTIFICATION OF TRANSMITTAL OF
 THE INTERNATIONAL SEARCH REPORT AND
 THE WRITTEN OPINION OF THE INTERNATIONAL
 SEARCHING AUTHORITY, OR THE DECLARATION**

(PCT Rule 44.1)

Date of mailing (day/month/year) 28 FEBRUARY 2013 (28.02.2013)	
Applicant's or agent's file reference 16196.45A	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US2012/042314	International filing date (day/month/year) 13 JUNE 2012 (13.06.2012)
Applicant DIRTT ENVIRONMENTAL SOLUTIONS INC. et al	

1. The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
 1211 Geneva 20, Switzerland, Facsimile No.: +41 22 338 82 70

For more detailed instructions, see *PCT Applicant's Guide*, International Phase, paragraphs 9.004 - 9.011.

2. The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.

3. **With regard to any protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
 the protest together with the decision thereon has been transmitted to the International Bureau together with any request to forward the texts of both the protest and the decision thereon to the designated Offices.

no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders


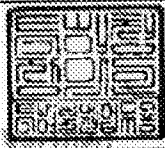
The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. Following the expiration of 30 months from the priority date, these comments will also be made available to the public.

Shortly after the expiration of **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau before the completion of the technical preparations for international publication (Rules 90bis.1 and 90bis.3).

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until **30 months** from the priority date (in some Offices even later); otherwise, the applicant must, within **20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

For details about the applicable time limits, Office by Office, see www.wipo.int/pct/en/texts/time_limits.html and the PCT Applicant's Guide, National Chapters.

Name and mailing address of the ISA/KR  Korean Intellectual Property Office 189 Cheongsa-ro, Seo-gu, Daejeon Metropolitan City, 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer COMMISSIONER Telephone No. 82-42-481-8753	
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* Attention

Copies of the documents cited in the international search report can be searched in the following Korean Intellectual Property Office English website for three months from the date of mailing of the international search report.

<http://www.kipo.go.kr/en/> => PCT Services => PCT Services

ID : PCT international application number

PW : **YGDHMYVB**

Inquiries related to PCT International Search Report or Written Opinion prepared by KIPO as an International Searching Authority can be answered not only by KIPO but also through IPKC (Intellectual Property Korea Center), located in Vienna, VA, which functions as a PCT Help Desk for PCT applicants.

Homepage: <http://www.ipkcenter.com>

Email: ipkc@ipkcenter.com

Phone: +1 703 388 1066

Fax: +1 703 388 1084

PATENT COOPERATION TREATY

PCT 

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 16196.45A	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2012/042314	International filing date (<i>day/month/year</i>) 13 JUNE 2012 (13.06.2012)	(Earliest) Priority Date (<i>day/month/year</i>) 28 DECEMBER 2011 (28.12.2011)
Applicant DIRTT ENVIRONMENTAL SOLUTIONS INC. et al		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

the international application in the language in which it was filed

a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box No. II)

3. **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1B

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figure is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/042314**A. CLASSIFICATION OF SUBJECT MATTER***A47C 17/38(2006.01)i, A47B 5/04(2006.01)i*

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)

A47C 17/38; A47C 17/40; F16B 9/00; E04H 1/00; A47B 77/00

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

Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: wall, module, furniture, foldable, bracket, pivot

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	US 2008-0069632 A1 (GOSLING, GEOFF et al.) 20 March 2008 See paragraphs [0011],[0025] and figure 1B.	1,2,4,6-9,11,12 3,5,10,13-20
Y	US 2010-0043142 A1 (WHITFORD, PETER D.) 25 February 2010 See paragraphs [0026],[0037]-[0040],[0042], claim 1, and figures 1, 2, 9, 10.	1,2,4,6-9,11,12
A	US 2007-0289225 A1 (KERN, JULIE A et al.) 20 December 2007 See abstract, claims 1, 8, 11, 12, 14, 17, and figures 1, 3.	1-20
A	WO 2006-127804 A2 (STONIER, RUSSELL, W.) 30 November 2006 See abstract and claim 1.	1-20
A	US 2009-0021122 A1 (GREEN, JOHN M. et al.) 22 January 2009 See abstract, paragraphs [0007],[0009],[0034],[0044], and claim 1.	1-20

 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

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

27 FEBRUARY 2013 (27.02.2013)

Date of mailing of the international search report

28 FEBRUARY 2013 (28.02.2013)

Name and mailing address of the ISA/KR



Facsimile No. 82-42-472-7140

Authorized officer

KIM, Jin Ho

Telephone No. 82-42-481-8699



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/042314

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		CA 2602669 C	13.03.2012
		CA 2602897 A1	18.03.2008
		CA 2602897 C	10.07.2012
		CA 2777577 A1	18.03.2008
		US 2008-0066413 A1	20.03.2008
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		US 2007-0199262 A1	30.08.2007
		US 2007-0199263 A1	30.08.2007
		US 2007-0204524 A1	06.09.2007
		US 2007-0228692 A1	04.10.2007
		US 2007-0251165 A1	01.11.2007
		US 7540546 B2	02.06.2009
		WO 2005-075575 A1	18.08.2005
		WO 2005-120294 A2	22.12.2005
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WO 2005-120300 A2	22.12.2005		
WO 2005-120301 A2	22.12.2005		
WO 2005-120301 A3	04.01.2007		

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/042314

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
		WO 2005-120896 A2	22.12.2005
WO 2006-127804 A2	30.11.2006	US 2006-0260045 A1	23.11.2006
		US 2008-0163421 A1	10.07.2008
		US 7921487 B2	12.04.2011
		WO 2006-127804 A3	30.11.2006
US 2009-0021122 A1	22.01.2009	CA 2638110 A1	19.01.2009

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:
FRODSHAM MICHAEL J.
WORKMAN NYDEGGER 60 E. SOUTH TEMPLE SUITE
1000 SALT LAKE CITY UT 84111 USA
Atty MJE File # 16196-45a
By MS On 3/11/13
Action Written opinion
Response Due 2/28/13

Date of mailing
(day/month/year) **28 FEBRUARY 2013 (28.02.2013)**

Applicant's or agent's file reference
16196.45A **FOR FURTHER ACTION**
See paragraph 2 below

International application No. PCT/US2012/042314	International filing date (day/month/year) 13 JUNE 2012 (13.06.2012)	Priority date(day/month/year) 28 DECEMBER 2011 (28.12.2011)
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International Patent Classification (IPC) or both national classification and IPC
A47C 17/38(2006.01)I, A47B 5/04(2006.01)I

Applicant
DIRTT ENVIRONMENTAL SOLUTIONS INC. et al

1. This opinion contains indications relating to the following items:
- Box No. I Basis of the opinion
 - Box No. II Priority
 - Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - Box No. IV Lack of unity of invention
 - Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - Box No. VI Certain documents cited
 - Box No. VII Certain defects in the international application
 - Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**
If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/KR  Facsimile No. 82-42-472-7140	Date of completion of this opinion 27 FEBRUARY 2013 (27.02.2013)	Authorized officer KIM, Jin Ho Telephone No. 82-42-481-8699 
---	---	--

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2012/042314

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of :
 - the international application in the language in which it was filed
 - a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:
 - a. a sequence listing filed or furnished
 - on paper
 - in electronic form
 - b. time of filing or furnishing
 - contained in the international application as filed.
 - filed together with the international application in electronic form.
 - furnished subsequently to this Authority for the purposes of search.
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/US2012/042314

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>1-20</u>	YES
	Claims	<u>NONE</u>	NO
Inventive step (IS)	Claims	<u>3,5,10,13-20</u>	YES
	Claims	<u>1-2,4,6-9,11-12</u>	NO
Industrial applicability (IA)	Claims	<u>1-20</u>	YES
	Claims	<u>NONE</u>	NO

2. Citations and explanations :

Reference is made to the following documents:

- D1: US 2008-0069632 A1 (GOSLING, GEOFF et al.) 20 March 2008
- D2: US 2010-0043142 A1 (WHITFORD, PETER D.) 25 February 2010
- D3: US 2007-0289225 A1 (KERN, JULIE A et al.) 20 December 2007
- D4: WO 2006-127804 A2 (STONIER, RUSSELL, W.) 30 November 2006
- D5: US 2009-0021122 A1 (GREEN, JOHN M. et al.) 22 January 2009

1. Novelty and Inventive step

1.1. Independent claim 1

D1 discloses wall modules comprising a connector interface (5a, 5b) (paragraph [0025], figure 1B), and an interior space (paragraph [0011]). Claim 1 differs from D1 in that a wall module comprises a pair of vertical frame brackets and a recessed, extendable piece of furniture. However, vertical frame brackets are merely matters of design option when the general technical knowledge about the state of the art is used. Moreover, D2 provides a wall bed assembly comprising a convertible bed frame (10) (paragraph [0025], figure 1). Accordingly, claim 1 would have been obvious over D1 in view of D2. Therefore, claim 1 lacks an inventive step under PCT Article 33(3).

1.2. Dependent claim 2

The additional feature of claim 2 is identical to the feature of D2 that it comprises an anterior panel (11) for aesthetic appearance (paragraph [0026], figure 2). Therefore, claim 2 lacks an inventive step under PCT Article 33(3).

<Continued on Supplemental Box.>

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US2012/042314

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

<Box No.V>

1.3. Dependent claim 3

The additional feature of dependent claim 3 is not disclosed in any of the documents, nor is it obvious to a person skilled in the art. Accordingly, claim 3 is novel and involves an inventive step under PCT Article 33(2) and (3).

1.4. Dependent claim 4

The additional feature of claim 4 is identical to the feature of D2 that it comprises an upper bracket (72) and a pivot bracket (64) (paragraph [0037], figures 1, 9). Therefore, claim 4 lacks an inventive step under PCT Article 33(3).

1.5. Dependent claim 5

The additional feature of claim 5 regarding a pivot hub is not disclosed in any of the documents, nor is it obvious to a person skilled in the art. Therefore, claim 5 is novel and involves an inventive step under PCT Article 33(2) and (3).

1.6. Dependent claims 6, 7

The additional features of claims 6, 7 are identical to the features of D2 in that it comprises a piston arm (62), wherein the piston arm is pivotally connected to a wall cabinet (5) and secured to the bed frame (10) (paragraphs [0038]-[0040], figure 9). Therefore, claims 6, 7 lack an inventive step under PCT Article 33(3).

<Continued on the Next Supplemental Box.>

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US2012/042314

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:

<The Previous Sheet.>

1.7. Dependent claims 8, 9

The additional features of claims 8, 9 are identical to the features of D2 in that they comprise legs (78) including a perpendicularly extending pivoting means (84) (paragraph [0042], figures 1, 10). Therefore, claims 8, 9 lack an inventive step under PCT Article 33(3).

1.8. Dependent claim 10

The additional feature of dependent claim 10 is not disclosed in any of the documents, nor is it obvious to a person skilled in the art. Accordingly, claim 10 is novel and involves an inventive step under PCT Article 33(2) and (3).

1.9. Dependent claim 11

The additional feature of claim 11 is identical to the feature of D2 in a wall bed assembly (abstract). Therefore, claim 11 lacks an inventive step under PCT Article 33(3).

1.10. Dependent claim 12

The additional feature of claim 12 regarding a sort of the recessed, extendable piece of furniture is merely matters of design option when the general technical knowledge about the state of the art is used. Therefore, claim 12 lacks an inventive step under PCT Article 33(3).

<Continued on the Next Supplemental Box.>

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US2012/042314

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

<The Previous Sheet.>

1.11. Independent claim 13

The subject matter of claim 13 differs from these prior art documents in that the wall module comprises one or more horizontal frame brackets and the extendable piece of furniture extends horizontally from the at least one wall module. And it is not obvious to a skilled person in the art by the documents, taken alone or in combination. Therefore, claim 13 meets the requirements of PCT Article 33(2) and (3) with respect to novelty and inventive step.

1.12. Dependent claims 14-18

Claims 14-18 are dependent on claim 13. Therefore, claims 14-18 meet the requirements of PCT Article 33(2) and (3) with respect to novelty and inventive step.

1.13. Independent claim 19

The subject matter of claim 19 differs from these prior art documents in that the wall module comprises one or more exterior tiles removably coupled to the interior frame and the recessed, extendable piece of furniture extends horizontally from the wall module. And it is not obvious to a skilled person in the art by the documents, taken alone or in combination. Therefore, claim 19 meets the requirements of PCT Article 33(2) and (3) with respect to novelty and inventive step.

1.14. Dependent claim 20

Claim 20 is dependent on claim 19. Therefore, claim 20 meets the requirements of PCT Article 33(2) and (3) with respect to novelty and inventive step.

2. Industrial Applicability

Claims 1-20 are industrially applicable under PCT Article 33(4).

Electronic Patent Application Fee Transmittal

Application Number:	14032931
Filing Date:	20-Sep-2013
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Filer:	Michael J. Frodsham/Kelsea Morgan
Attorney Docket Number:	16196.6.1.1

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Miscellaneous:				
Submission- Information Disclosure Stmt	1806	1	180	180
Total in USD (\$)				180

Electronic Acknowledgement Receipt

EFS ID:	22058549
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham/Kelsea Morgan
Filer Authorized By:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1
Receipt Date:	15-APR-2015
Filing Date:	20-SEP-2013
Time Stamp:	10:49:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$180
RAM confirmation Number	8579
Deposit Account	233178
Authorized User	FRODSHAM, MICHAEL J.

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	16196-6-1-1_2015-04-15_IDS. pdf	613064	no	5
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Warnings:					
Information:					
2	Foreign Reference	WO2006127804.pdf	2936664	no	26
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Warnings:					
Information:					
3	Foreign Reference	WO2010121788.pdf	2181560	no	23
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Warnings:					
Information:					
4	Foreign Reference	JPH0317333.pdf	1226983	no	9
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Warnings:					
Information:					
5	Foreign Reference	CN202069245.pdf	1716192	no	15
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Warnings:					
Information:					
6	Non Patent Literature	ISR-PCTUS2012042314.pdf	1655788	no	12
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Warnings:					
Information:					
7	Non Patent Literature	ESR-PCTUS2012042314.pdf	1371365	no	8
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Warnings:					
Information:					

8	Fee Worksheet (SB06)	fee-info.pdf	30762 <small>7e0b781d46e979f55705ff272028910bd225b59a</small>	no	2
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Total Files Size (in bytes):	11732378
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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3993	
	Examiner Name	Jeffrey L Gellner		
	Attorney Docket Number		16196.6.1.1	

U.S.PATENTS						Remove
Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6134845		2000-10-24	Shipman	
	2	6928785		2005-08-16	Shipman	
	3	9003731		2015-04-14	Gosling	

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Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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	1							<input type="checkbox"/>

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	14032931
	Filing Date	2013-09-20
	First Named Inventor	Geoff Gosling
	Art Unit	3993
	Examiner Name	Jeffrey L Gellner
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EXAMINER SIGNATURE

Examiner Signature	Date Considered
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. ² Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). ³ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁴ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁵ Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number	14032931
	Filing Date	2013-09-20
	First Named Inventor	Geoff Gosling
	Art Unit	3993
	Examiner Name	Jeffrey L Gellner
	Attorney Docket Number	16196.6.1.1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

- See attached certification statement.
- The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.
- A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Michael J. Frodsham/	Date (YYYY-MM-DD)	2015-04-30
Name/Print	Michael J. Frodsham	Registration Number	48699

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	22209107
Application Number:	14032931
International Application Number:	
Confirmation Number:	5489
Title of Invention:	INTEGRATED RECONFIGURABLE WALL SYSTEM
First Named Inventor/Applicant Name:	Geoff Gosling
Customer Number:	22913
Filer:	Michael J. Frodsham/Kelsea Morgan
Filer Authorized By:	Michael J. Frodsham
Attorney Docket Number:	16196.6.1.1
Receipt Date:	30-APR-2015
Filing Date:	20-SEP-2013
Time Stamp:	10:39:34
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	16196-6-1-1_2015-04-30_IDS.pdf	612529 <small>4a5cd5fd8ad3bef3832a0b469d023a5d96c57656</small>	no	4

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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Table with columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO., EXAMINER, ART UNIT, PAPER NUMBER, NOTIFICATION DATE, DELIVERY MODE. Includes application details for Geoff Gosling and examiner GELLNER, JEFFREY L.

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing@wnlaw.com

Art Unit: 3993

The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

This office action is in response to the Supplemental Amendment “A” received 4 December 2014 since it is considered a duplicate of the Amendment “A” received 1 December 2014.

IDS

The IDSs received 30 April 2015, 15 April 2015, 11 December 2014, 24 October 2014, and 2 July 2014 have been considered by the examiner.

Claim Objections

Claims 41-43 are objected to because of the following informalities:

The claims have dependencies of claims 47-49 which are dependent on claim 46. Since claims 41-43 are with other claims dependent upon claim 39, Examiner considers claims 41-43 to be dependent on claim 40 which in turn is dependent on claim 39.

Appropriate correction is required.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore:

- a) the connection post of claim 1,
- b) the connection post with at least two sides of claim 18,

Art Unit: 3993

c) the aesthetic surface spanning vertical ends of claims 33 and 34, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Patent Owner is reminded that in reissue replacement, or corrected, drawing sheets must comply with MPEP 1413 and 37 CFR 1.173.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 11-13, 17, 33-35, 39, and 53 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Shipman et al. (US 5,950,386; 1st patent on IDS of 11 Dec. 2014; “Shipman”) in view of Jones (US 4,493,172).

As to claim 1, Shipman discloses a movable reconfigurable wall system (Fig. 4) comprising:

at least one wall module (5 of Fig. 4) with vertical end frames (9, 10 of Fig. 4), a plurality of horizontal stringers (12, 13 of Fig. 4) affixed between the vertical end frames, and aesthetic surfaces (62 of Fig. 4) affixed to the stringers.

Not disclosed are flanges with beads on the vertical end frames and a removable connecting strip with beads.

Art Unit: 3993

Jones, however, discloses a connecting strip (1 of Fig. 8) with pair of space apart flexible arms (locking tongues surrounding 9 of Fig. 8), the arms having a beaded portion (shown in Fig. 8). Jones also discloses an engaging member (2 of Fig. 8), capable of being connected to the vertical end frames, with flanges (tongues of 2 shown in Fig. 8 that interconnect with strip (9)) having beaded portions (shown in Fig. 8). The beaded portions are capable of being releasably connected to any one of a second wall module, a wall bracket, a finishing trim, and a connection post. The beaded portions of the vertical flanges fitting inside the arms of the connecting strip thereby releasably connecting the at least one wall module to a second wall module, etc.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the wall system of Shipman by adding the removable connecting strip of Jones so as to have a system that can be connected either with or without use of tools (Jones at col. 1, lines 13-18).

As to claim 2, Shipman and Jones further disclose wherein said connecting strip includes a spine (1 of Jones) adapted to fit between said first vertically extending flange or said second vertically extending flange and said opposed vertically extending flange.

As to claim 3, Shipman and Jones further disclose wherein said connecting strip further includes a pair of flexible fin extensions (other locking tongues of Fig. 10 of Jones) extending opposite to said flexible arms for providing a seal.

As to claim 4, Shipman and Jones further disclose wherein said aesthetic surface includes a tile panel (60, 62 of Fig. 4 of Shipman) on said front surface, said rear surface, or both said front surface and said rear surface.

Art Unit: 3993

As to claim 5, Shipman and Jones further disclose wherein each said stringer includes one or more protrusions (50 of Fig. 4 of Shipman), said reconfigurable wall system further including tile clips (65, 68 of Fig. 4 of Shipman) for affixing tiles to said one or more protrusions.

As to claim 6, Shipman and Jones further disclose wherein said aesthetic surface is a single divider selected from a group consisting of substrates consisting of glass, plastic, or wood and metal (for example “wood veneer” of col. 7, line 64 to col. 8, line 1, of Shipman).

As to claim 7, Shipman and Jones further disclose wherein said stringers and the first and second vertical end frames include a channel for receiving said divider (shown for example in Fig. 4) of Shipman.

As to claims 11, 12, and 13, Shipman and Jones further disclose a universal foot (33 of Fig. 10) capable of leveling the module that engages the module (shown in Fig. 10) which are threaded (col. 7, line 7) and a trim (region below base panel (16) of Fig. 2).

As to claim 17, it is not disclosed that the module being curved. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the wall system of Shipman and Jones by having curved modules to allow for required workspaces.

As to claims 33 and 53, Shipman discloses a movable reconfigurable wall system (Fig. 4) comprising:

first and second wall modules (5 of Fig. 4 in that the modules can be connected together as implied from Fig. 1) with vertical end frames (9, 10 of Fig. 4), a plurality of horizontal

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stringers (12, 13 of Fig. 4) interconnecting the vertical end frames, and aesthetic surfaces (62 of Fig. 4) affixed to the stringers.

Not disclosed are flanges with beads on the vertical end frames, removable connecting strip with beads, and aesthetic surfaces spanning modules.

Jones, however, discloses a connecting strip (1 of Fig. 8) with pair of space apart flexible arms (locking tongues surrounding 9 of Fig. 8), the arms having a beaded portion (shown in Fig. 8). Jones also discloses an engaging member (2 of Fig. 8), capable of being connected to the vertical end frames, with flanges (tongues of 2 shown in Fig. 8 that interconnect with strip (9)) having beaded portions (shown in Fig. 8). The beaded portions are capable of being releasably connected to any one of a second wall module, a wall bracket, a finishing trim, and a connection post. The beaded portions of the vertical flanges fitting inside the arms of the connecting strip thereby releasably connecting the at least one wall module to a second wall module, etc.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the wall system of Shipman by adding the removable connecting strip of Jones so as to have a system that can be connected either with or without use of tools (Jones at col. 1, lines 13-18) and to have the aesthetic surfaces span modules depending size and use of the modules and aesthetic surfaces.

As to claim 34, Shipman and Jones further disclose that the aesthetic surface that spans modules would be positioned in front of the vertical end frames (from Figs. 1 and 4 of Shipman in that the aesthetic surfaces are shown in front of vertical end frames).

As to claim 35, Shipman and Jones further disclose connectors (50 of Fig. 4) on the stringers

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As to claim 39, Shipman discloses a movable reconfigurable wall system (Fig. 4) comprising:

first and second wall modules (5 of Fig. 4 in that the modules can be connected together as implied from Fig. 1) with vertical end frames (9, 10 of Fig. 4), a plurality of horizontal stringers (12, 13 of Fig. 4) with connectors (50 of Fig. 4) and interconnecting the vertical end frames, and aesthetic surfaces (62 of Fig. 4) affixed to the stringers.

Not disclosed are flanges with beads on the vertical end frames, removable connecting strip with beads, and aesthetic surfaces spanning modules.

Jones, however, discloses a connecting strip (1 of Fig. 8) with pair of space apart flexible arms (locking tongues surrounding 9 of Fig. 8), the arms having a beaded portion (shown in Fig. 8). Jones also discloses an engaging member (2 of Fig. 8), capable of being connected to the vertical end frames, with flanges (tongues of 2 shown in Fig. 8 that interconnect with strip (9)) having beaded portions (shown in Fig. 8). The beaded portions are capable of being releasably connected to any one of a second wall module, a wall bracket, a finishing trim, and a connection post. The beaded portions of the vertical flanges fitting inside the arms of the connecting strip thereby releasably connecting the at least one wall module to a second wall module, etc.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the wall system of Shipman by adding the removable connecting strip of Jones so as to have a system that can be connected either with or without use of tools (Jones at col. 1, lines 13-18) and to have the aesthetic surfaces span modules depending size and use of the modules and aesthetic surfaces.

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Claim 9 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Shipman in view of Jones in further view of Barmak (US 2002/0053174).

As to claim 9, the limitations of claim 1 are disclosed as described above. Not disclosed is an extension frame with a spline. Barmak discloses extensions (Fig. 1) with splines (16 of Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the wall system of Shipman and Jones by adding an extension with spline as disclosed by Barmak depending upon use of the module. It would be obvious to add stringers and aesthetic surfaces to the extension so as to conform with the other modules.

Claims 10, 19-23, 38, and 54-57 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Shipman in view of Jones and in further view of Kelley et al. (US 5,038,539; “Kelley”).

As to claim 10, the limitations of claim 1 are disclosed as described above. Not disclosed is a slat wall with connections for accessories. Kelley, however, discloses a modular slat wall for accessories (150 of Fig. 1, 2; col. 38-42). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the wall system of Shipman and Jones by adding a slat wall as disclosed by Kelley so as to have the wall perform different functions (Kelley at col. 11, lines 59-60).

As to claims 19, 20, 38, 54, and 56, not disclosed is the aesthetic surface being a multimedia component, a video monitor. Kelley, however, discloses the surface used for multimedia, video monitor (for example, “screen for internal information” of col. 11, lines 59-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to

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further modify the wall system of Shipman and Jones by adding a multimedia component, video monitor, as disclosed by Kelley so as to have the wall perform different functions (Kelley at col. 11, lines 59-60).

As to claim 21, not disclosed is the depth associated with one of the end frames extended to provide a deeper wall. Kelley, however, discloses a wall module with greater depth (Figs. 14-16; col. 13, lines 16-37). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the wall system of Shipman and Jones by having a module with greater depth so as to allow for a mail storage area (Kelly at col. 16, lines 16-37).

As to claim 22, Shipman, Jones, and Kelley further disclose the deeper wall adapted to accommodate a rear-projection video system (Kelly module capable of this function).

As to claim 23, Shipman, Jones, and Kelley further disclose the deeper wall adapted to accommodate an integrated storage system (Kelly module capable of this function).

As to claims 55 and 57, it would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the wall system of Shipman, Jones, and Kelley by having the multimedia center within the same plane as the aesthetic surface depending upon the type of multimedia device used.

Claim 25 is rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Shipman in view of Jones in further view of Gresham et al. (US 5,352,033; "Gresham").

As to claim 25, the limitations of claim 1 are disclosed as described above. Not disclosed is a furniture system with a work surface and furniture leg. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the wall system of Shipman

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and Jones by adding furniture with a work surface and leg as disclosed by Gresham (Fig. 1). It would have been obvious to one of ordinary skill to add furniture as disclosed by Gresham to efficiently provide a work surface. It would be obvious to attach by threaded bolts and to allow for leveling.

Claims 8, 44-46, and 51 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Shipman in view of Jones in further view of Hornberger et al. (US 6,397,533 B1; "Hornberger").

As to claim 8, the limitations of claim 1 are disclosed as described above. Not disclosed are the stringers having generally L-shaped channel for mounting wall accessories. Hornberger, however, discloses a wall module with stringers (72 of Figs. 3 and 4) having generally L-shaped channels (194 of Fig. 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the wall system of Shipman and Jones by using stringers with channels as disclosed by Hornberger so as to allow for the mounting of shelves or cabinets (Hornberger at col. 19, line 60 to col. 20, line 2).

As to claim 44, the limitations of claim 39 are disclosed as described above. Not disclosed are the stringers having a channel for mounting wall accessories. Hornberger, however, discloses a wall module with stringers (72 of Figs. 3 and 4) having channels (194 of Fig. 4). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the wall system of Shipman and Jones by using stringers with channels as disclosed by Hornberger so as to allow for the mounting of shelves or cabinets (Hornberger at col. 19, line 60 to col. 20, line 2).

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As to claim 45, it would be obvious to make the stringers and channels continuous to allow for efficient and effective placement of the mounted objects.

As to claim 46, Shipman discloses a movable reconfigurable wall system (Fig. 4) comprising:

first and second wall modules (5 of Fig. 4 in that the modules can be connected together as implied from Fig. 1) with vertical end frames (9, 10 of Fig. 4), a plurality of horizontal stringers (12, 13 of Fig. 4) and interconnecting the vertical end frames, and aesthetic surfaces (62 of Fig. 4) affixed to the stringers.

Not disclosed are flanges with beads on the vertical end frames and the stringers with channels.

Jones, however, discloses a connecting strip (1 of Fig. 8) with pair of space apart flexible arms (locking tongues surrounding 9 of Fig. 8), the arms having a beaded portion (shown in Fig. 8). Jones also discloses an engaging member (2 of Fig. 8), capable of being connected to the vertical end frames, with flanges (tongues of 2 shown in Fig. 8 that interconnect with strip (9)) having beaded portions (shown in Fig. 8). The beaded portions are capable of being releasably connected to any one of a second wall module, a wall bracket, a finishing trim, and a connection post. The beaded portions of the vertical flanges fitting inside the arms of the connecting strip thereby releasably connecting the at least one wall module to a second wall module, etc.

Hornberger discloses a wall module with stringers (72 of Figs. 3 and 4) having channels (194 of Fig. 4).

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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the wall system of Shipman by adding the removable connecting strip of Jones so as to have a system that can be connected either with or without use of tools (Jones at col. 1, lines 13-18) and to use stringers with channels as disclosed by Hornberger so as to allow for the mounting of shelves or cabinets (Hornberger at col. 19, line 60 to col. 20, line 2).

As to claim 51, Shipman, Jones, and Hornberger further disclose an accessory mounted on the channel (Hornberger at col. 19, line 60 to col. 20, line 2).

Allowable Subject Matter over Prior Art

Claims 14-16, 18, 24, 36, 37, 40-43, 47-50, and 52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and the withdrawal of rejections and/or objections.

Examiner's Response to Arguments received 4 December 2014

In the Amendment received 4 December 2014 Patent Owner argued the following:

1. Claim objection to claim 1 is corrected. Amendment at 21.
2. The declaration is proper. Amendment at 21-22.
3. Claims under a broadening rejection have been amended. Amendment at 22.
4. Edwards fails to disclose the claimed invention.

As to argument (1), the objection is withdrawn.

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As to argument (2), the forms submitted 14 April 2015 (Declaration of Inventors (PTO AIA/05), Consent of Assignee, and Statement under 37 CFR 3.73(c)) have been reviewed and the rejection withdrawn.

As to argument (3), the broadening rejections are withdrawn.

As to argument (4), the rejections with Edwards are withdrawn and new art applied.

Remarks

Any inquiry concerning this communication should be directed to Jeffrey L. Gellner at telephone number 571.272.6887. The Examiner can normally be reached on Monday through Friday from 8:30 to 4:30. If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Gay Ann Spahn, can be reached at 571.272.7731.

Applicant is reminded of the continuing obligation under 37 CFR 1.178(b), to timely apprise the Office of any prior or concurrent proceeding in which in the instant patent is or was involved. These proceedings would include interferences, reissues, reexaminations, and litigation.

Applicant is further reminded of the continuing obligation under 37 CFR 1.56, to timely apprise the Office of any information which is material to patentability of the claims under consideration in this reissue application.

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These obligations rest with each individual associated with the filing and prosecution of this application for reissue. See also MPEP §§ 1404, 1442.01 and 1442.04.

/Jeffrey L. Gellner/
Jeffrey L. Gellner
AU 3993, Central Reexamination Unit
(571) 272-6887

Conferees: /JGF/ and /GAS/

Notice of References Cited	Application/Control No. 14/032,931	Applicant(s)/Patent Under Reexamination GOSLING ET AL.	
	Examiner JEFFREY L. GELLNER	Art Unit 3993	Page 1 of 1

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*	Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
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*	B US-2002/0053174	05-2002	Barmak, Jack	52/220.7
*	C US-5,038,539	08-1991	Kelley et al.	52/239
*	D US-5,352,033	10-1994	Gresham et al.	312/312
*	E US-6,397,533	06-2002	Hornberger et al.	52/239
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	H US-			
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	J US-			
	K US-			
	L US-			
	M US-			

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	Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)				
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	V				
	W				
	X				

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	1	"8024901".pn. and (wall same bracket)	US-PGPUB; USPAT	OR	ON	2015/06/18 14:26
S2	1	"8024901".pn. and (interconnect or interconnecting or interconnected)	US-PGPUB; USPAT	OR	ON	2015/06/18 14:29
S3	12	((("5950386") or ("5642593") or ("5813178") or ("5839240") or ("5913787") or ("6158179") or ("6735908") or ("7310918") or ("7451577") or ("7661237") or ("7908805") or ("8534021")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/18 14:53
S4	26	("1997581" "20020134033" "3037590" "3453794" "3686810" "3753325" "4667579" "4685255" "5481839" "5644878" "5845447" "5899035" "6397533" "6446396" "6968661" "7055287" "7168213").PN. OR ("7661237").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2015/06/18 14:56
S5	1	("8024901").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2015/06/18 15:35
S6	190	E04B2/74.cpc.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2015/06/18 16:23
S7	437	E04B2/7425.cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2015/07/01 09:58
S8	182	E04B2/7416.cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2015/07/01 11:33
S9	80	E04B2002/742.cpc.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2015/07/01 13:38
S10	76	E04B2/7424.cpc.	US-PGPUB; USPAT; USOCR;	OR	ON	2015/07/01 13:47

			EPO; JPO; DERWENT			
S11	786	E04B2002/7483.cpc.	US- PGPUB; USPAT; USOCR; EPO; JPO; DERWENT	OR	ON	2015/07/01 13:53
S12	1	("4021973").PN.	US- PGPUB; USPAT; USOCR	OR	OFF	2015/07/01 15:45
S13	78	("3086627" "3374597" "3462110" "3841042" "3871153" "3886698" "3949827").PN. OR ("4021973").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2015/07/01 15:45
S14	1	("5537795").PN.	US- PGPUB; USPAT; USOCR	OR	OFF	2015/07/01 15:52
S15	49	("3019486" "3460860" "3512819" "3517467" "3713257" "3862524" "3990204" "4011706" "4084366" "4084367" "4144924" "4199206" "4213493" "4241965" "4277123" "4344475" "4356672" "4367370" "4370008" "4377724" "4596098" "4601137" "4638606" "4666223" "4703985" "4731960" "4881349" "4962805" "4979554" "4993205" "4996811" "5033526" "5054255" "5092385").PN. OR ("5537795").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2015/07/01 15:53
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S17	57	("3267631" "3512819" "3570205" "4435935" "4712352" "4936069" "4953333" "5007222" "5058347" "5325649").PN. OR ("5592794").URPN.	US- PGPUB; USPAT; USOCR	OR	ON	2015/07/01 15:57
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S21	347	E04B2002/7483.cpc. and (fastener)	US- PGPUB; USPAT; FPRS	OR	ON	2015/07/06 14:09
S22	737	E04B2/74.cpc.	FPRS	OR	ON	2015/07/07 15:09
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S24	1	E04B2/7425.cpc. and (bead or beaded or detent)	FPRS	OR	ON	2015/07/07 16:02
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S27	106	E04B2002/742.cpc.	FPRS	OR	ON	2015/07/07 16:05

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S31	4	((("6134845") or ("6928785") or ("9003731") or ("20120186163"))).PN.	US- PGPUB; USPAT; USOCR	OR	OFF	2015/07/08 10:01
S32	6	((("5601348") or ("4103373") or ("20080069632") or ("20100043142") or ("20070289225") or ("20090021122"))).PN.	US- PGPUB; USPAT; USOCR	OR	OFF	2015/07/08 10:14
S33	2	((("5950386") or ("6363663"))).PN.	US- PGPUB; USPAT; USOCR	OR	OFF	2015/07/08 10:18
S34	4	((("6530181") or ("8683745") or ("20080302054") or ("20140102021"))).PN.	US- PGPUB; USPAT; USOCR	OR	OFF	2015/07/08 10:22
S35	9	((("7051482") or ("5351452") or ("5592794") or ("6141926") or ("6341457") or ("7461484") or ("7984598") or ("20090293406") or ("20100192511"))).PN.	US- PGPUB; USPAT; USOCR	OR	OFF	2015/07/08 10:27
S36	1	"8024901".pn. and slat	US- PGPUB; USPAT	OR	ON	2015/07/08 15:36
S37	1	"8024901".pn. and gasket	US- PGPUB; USPAT	OR	ON	2015/07/08 16:25
S38	1	"8024901".pn. and (wall with bracket)	US- PGPUB; USPAT	OR	ON	2015/07/09 15:48
S39	1	"8024901".pn. and (gasket)	US- PGPUB; USPAT	OR	ON	2015/07/09 16:09
S40	1	"8024901".pn. and (extrusion)	US- PGPUB; USPAT	OR	ON	2015/07/09 16:10
S41	1	"8024901".pn. and (post)	US- PGPUB; USPAT	OR	ON	2015/07/09 16:17

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit	3993		
	Examiner Name	Jeffrey Gellner		
	Attorney Docket Number	16196.6.1.1		

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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	Filing Date	2013-09-20	
	First Named Inventor	Geoff Gosling	
	Art Unit	3993	
	Examiner Name	Jeffrey Gellner	
	Attorney Docket Number	16196.6.1.1	

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	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3993	
	Examiner Name	Jeffrey L Gellner		
	Attorney Docket Number		16196.6.1.1	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	14032931 - GAU: 3993
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3993	
	Examiner Name	Jeffrey L Gellner		
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Receipt date: 07/02/2014

14032931 - GAI: 3993

Doc code: IDS

Pat. Sec. 101-10

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931
	Filing Date		2013-09-20
	First Named Inventor	Geoff Gosling	
	Art Unit		3633
	Examiner Name	Brent W. Herring	
	Attorney Docket Number		16196.6.1.1

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7051482		2006-05-30	MacDonald	
	2	5351452		1994-10-04	Gates	
	3	5592794		1997-01-14	Tundaun	
	4	6141926		2000-11-07	Rossiter	
	5	6341457		2002-01-29	Aerts	
	6	7461484		2008-12-09	Batley	
	7	7984598		2011-07-26	Gosling	
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	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3633	
	Examiner Name	Brent W. Herring		
	Attorney Docket Number		16196.6.1.1	

Examiner Initial*	Cite No	Publication Number	Kind Code ¹	Publication Date	Name of Patentee or Applicant of cited Document	Pages, Columns, Lines where Relevant Passages or Relevant Figures Appear
	1	20090293406		2009-12-03	Gosling	
	2	20100192511		2010-08-05	Gosling	

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	1	KR 1020000049102	KR		2000-07-25	Rudduck		<input checked="" type="checkbox"/>
	2	KR 1020070077502	KR		2007-07-26	Shin		<input checked="" type="checkbox"/>
	3	JP 2003105908	JP		2003-04-09	Comany Inc.		<input checked="" type="checkbox"/>
	4	JP 2005155223	JP		2005-06-16	Comany Inc.		<input checked="" type="checkbox"/>

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	14032931 - GAU: 3993
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3633	
	Examiner Name	Brent W. Herring		
	Attorney Docket Number		16196.6.1.1	

	1	International Search Report and Written Opinion for PCT/US2012/041906 mailed January 31, 2013.	<input type="checkbox"/>
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14032931 - GAI: 3993

Doc code: IDS
 Doc description: Information Disclosure Statement (IDS) Filed

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	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3633	
	Examiner Name	Brent W Herring		
	Attorney Docket Number		16196.6.1.1	

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	1	5950386		1999-09-14	Shipman	
	2	6363663		2002-04-02	Kane	

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	Filing Date	2013-09-20	
	First Named Inventor	Geoff Gosling	
	Art Unit	3633	
	Examiner Name	Brent W Herring	
	Attorney Docket Number	16196.6.1.1	

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Receipt date: 10/24/2014

14032931 - GAI: 3993

Doc code: IDS

Doc description: Information Disclosure Statement (IDS) Filed

Approved for use through 07/31/2012. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3633	
	Examiner Name	Herring, Brent W		
	Attorney Docket Number		16196.6.1.1	

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Examiner Initial*	Cite No	Patent Number	Kind Code ¹	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	6530181		2003-03-11	Seiber	
	2	8683745		2014-04-01	Artwohl	

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	1	20080302054		2008-12-11	Gosling	
	2	20140102021		2014-04-17	Gosling	

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	1	686795	CH		1996-06-28	Schenk		<input type="checkbox"/>

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.G./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)	Application Number		14032931	14032931 - GAU: 3993
	Filing Date		2013-09-20	
	First Named Inventor	Geoff Gosling		
	Art Unit		3633	
	Examiner Name	Herring, Brent W		
	Attorney Docket Number		16196.6.1.1	

2	2221946	GB		1990-02-21	Keysan	<input type="checkbox"/>
3	202004017808	DE		2005-01-13	Rheinhold	<input type="checkbox"/>

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	1	European Search Report, EP 12800672, Mailed October 10, 2014	<input type="checkbox"/>


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Index of Claims 	Application/Control No. 14032931	Applicant(s)/Patent Under Reexamination GOSLING ET AL.
	Examiner Jeffrey L. Gellner	Art Unit 33993

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

Claims renumbered in the same order as presented by applicant
 CPA
 T.D.
 R.1.47

CLAIM		DATE							
Final	Original	05/29/2014	07/10/2015						
	1	✓	✓						
	2	✓	✓						
	3	✓	✓						
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	28	N	N						
	29	N	N						
	30	N	N						
	31	N	N						
	32	N	N						
	33	✓	✓						
	34	✓	✓						
	35	✓	✓						
	36	✓	○						

<i>Index of Claims</i> 	Application/Control No. 14032931	Applicant(s)/Patent Under Reexamination GOSLING ET AL.
	Examiner Jeffrey L. Gellner	Art Unit 33993

✓	Rejected
=	Allowed


-	Cancelled
÷	Restricted

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I	Interference

A	Appeal
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Claims renumbered in the same order as presented by applicant
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 R.1.47

CLAIM		DATE							
Final	Original	05/29/2014	07/10/2015						
	37	✓	○						
	38	✓	✓						
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	55		✓						
	56		✓						
	57		✓						

Search Notes 	Application/Control No. 14032931	Applicant(s)/Patent Under Reexamination GOSLING ET AL.
	Examiner Jeffrey L. Gellner	Art Unit 3993

CPC- SEARCHED		
Symbol	Date	Examiner
E04B2/7424	7/10/15	JLG
E04B002/742	7/10/15	JLG
E04B2/7416	7/10/15	JLG
E04B2/7425	7/10/15	JLG

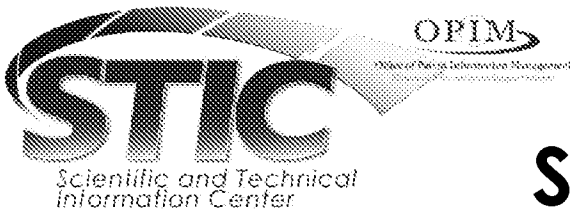
CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner

SEARCH NOTES		
Search Notes	Date	Examiner
text serch	7/10/15	JLG

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

	/JEFFREY L GELLNER/ Primary Examiner.Art Unit 3993
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SEARCH REPORT

STIC Database Tracking Number: 488182

To: Jeffrey Gellner
Location: MDE-4B07
Art Unit: N/A
Wednesday, June 17, 2015
Case Serial Number: 14/681874

From: Janice Burns
Location: EIC3600
KNX-4A70
Phone: (571)272-3518
Janice.Burns@uspto.gov

Search Notes

Dear Examiner Gellner:

Please find attached the search results for 8,024,901.

Databases Searched:

Lexis/Nexis

CourtLink

ProQuest Dialog – LitAlert

Janice Burns, MLS

Team Leader/Patent Searcher

US Patent & Trademark Office

Scientific & Technical Information Center

Electronic Information Center 2300 / Knox 4A58

571-272-3518

205314 (11) 8024901 September 27, 2011

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

8024901

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September 27, 2011

Integrated reconfigurable wall system

REEXAM-LITIGATE:

NOTICE OF LITIGATION

Dirtt Environmental Solutions v. Allsteel, Filed February 25, 2015, D.C. Utah, Doc. No. 2:15cv123

REISSUE:

September 20, 2013 - Reissue Application filed, Ex. Gp.: 3664; , (O.G. January 14, 2014)
June 16, 2014 - Reissue Application filed, Ex. Gp.: 3664; Re. S.N. 14/305,819 , (O.G. July 29, 2014)
April 8, 2015 - Reissue Application filed, Ex. Gp.: 3633; Re. S.N.: 14/681,874 , (O.G. May 12, 2015)

APPL-NO: 205314 (11)

FILED-DATE: August 17, 2005

GRANTED-DATE: September 27, 2011

ASSIGNEE-PRE-ISSUE:

August 31, 2006 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., DIRTT ENVIRONMENTAL SOLUTIONS LTD., 7303 30TH STREET S.E., CALGARY, ALBERTA, CANADA (), T2C 1N6, Reel and Frame Number: 018197/0667

ASSIGNEE-AT-ISSUE:

Dirtt Environmental Solutions Ltd., Calgary, Alberta, Canada (CA), Foreign company or corporation (03)

ASSIGNEE-AFTER-ISSUE:

December 11, 2012 - SECURITY AGREEMENT, COMERICA BANK, A TEXAS BANKING ASSOCIATION AND AUTHORIZED FOREIGN BANK UNDER THE BANK ACT (CANADA), SOUTH TOWER, ROYAL BANK PLAZA, PO BOX 61, 200 BAY STREET, SUITE 2210, TORONTO, ONTARIO, CANADA (), M5J 2J2, Reel and Frame Number: 029443/0009

LEGAL-STATUS:

August 31, 2006 - ASSIGNMENT

August 31, 2006 - ASSIGNMENT

December 11, 2012 - ASSIGNMENT

January 14, 2014 - REISSUE APPLICATION FILED

July 29, 2014 - REISSUE APPLICATION FILED

CORE TERMS: module, tile, channel, flange, extrusion, stringer, zipper, horizontal, leveller, panel, glass, finished, ceiling, foot, divider, trim, connector, strip, slat, leveler, curved, cantilever, flexible, threaded, rear, furniture, connect, gap, reconfigurable, vertically

ENGLISH-ABST:

A movable reconfigurable wall system having at least one module having a front and rear surface, the at least one module having: vertical end frames disposed at least at its side edges, each the vertical end frame having a vertically extending flange directed toward the front surface and a vertically extending flange directed toward the rear surface; a plurality of horizontal stringers affixed between the pair of vertical end frames; and an aesthetic surface affixed to the stringers; and a removable connecting strip, the connecting strip adapted to affix about one of the two flanges on one of the vertical end frames and join the one of the two flanges to a corresponding flange on one of a second module, a wall bracket, a finishing trim or a connection post.

Source: [Command Searching > Utility, Design and Plant Patents](#) ⓘ

Terms: **8024901** ([Suggest Terms for My Search](#))

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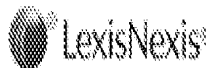
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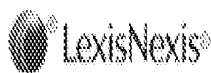
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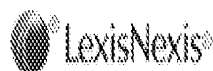
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US Patent Issued to Dirtt Environmental Solutions on Sept. 27 for "Integrated Reconfigurable Wall System" (Canadian Inventors) US Fed News October 2, 2011 Sunday 9:09 AM EST

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US Fed News

October 2, 2011 Sunday 9:09 AM EST

LENGTH: 257 words

HEADLINE: US Patent Issued to Dirtt Environmental Solutions on Sept. 27 for "Integrated Reconfigurable Wall System" (Canadian Inventors)


DATELINE: ALEXANDRIA, Va.

BODY:

ALEXANDRIA, Va., Oct. 2 -- United States Patent no. **8,024,901**, issued on Sept. 27, was assigned to Dirtt Environmental Solutions Ltd. (Calgary, Alberta, Canada). "Integrated Reconfigurable Wall System" was invented by Geoff Gosling (Calgary, Canada) and Mogens Smed (Dewinton, Canada). According to the abstract released by the U.S. Patent & Trademark Office: "A movable reconfigurable wall system having at least one module having a front and rear surface, the at least one module having: vertical end frames disposed at least at its side edges, each the vertical end frame having a vertically extending flange directed toward the front surface and a vertically extending flange directed toward the rear surface; a plurality of horizontal stringers affixed between the pair of vertical end frames; and an aesthetic surface affixed to the stringers; and a removable connecting strip, the connecting strip adapted to affix about one of the two flanges on one of the vertical end frames and join the one of the two flanges to a corresponding flange on one of a second module, a wall bracket, a finishing trim or a connection post." The patent was filed on Aug. 17, 2005, under Application No. 11/205,314. For further information please visit:

<http://patft.uspto.gov/netaagi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetahm1%2FFPTO%2Fsearch-bool.html&r=1&i=G&l=50&co1=AND&d=PTXT&st=8024901&OS=8024901&RS=8024901> For any query with respect to this article or any other content requirement, please contact Editor at htsyndication@hindustantimes.com

LOAD-DATE: October 2, 2011

Source: [Command Searching > All English Language News](#) 

Terms: **8024901** or "**8,024,901**" (Suggest Terms for My Search | Feedback on Your Search)

View: Full

Date/Time: Wednesday, June 17, 2015 - 10:07 AM EDT



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Dirtt Environmental Solutions Assigned Patent Targeted News Service October 4, 2011 Tuesday 8:09 PM EST

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October 4, 2011 Tuesday 8:09 PM EST

LENGTH: 272 words

HEADLINE: Dirtt Environmental Solutions Assigned Patent

BYLINE: Targeted News Service

DATELINE: Alexandria, Va.

BODY:

ALEXANDRIA, Va., Oct. 4 -- Dirtt Environmental Solutions, Calgary, Alberta, Canada, has been assigned a patent (**8,024,901**) developed by Geoff Gosling, Calgary, Canada, and Mogens Smed, Dewinton, Canada, for an "integrated reconfigurable wall system."

The abstract of the patent published by the U.S. Patent and Trademark Office states: "A movable reconfigurable wall system having at least one module having a front and rear surface, the at least one module having: vertical end frames disposed at least at its side edges, each the vertical end frame having a vertically extending flange directed toward the front surface and a vertically extending flange directed toward the rear surface; a plurality of horizontal stringers affixed between the pair of vertical end frames; and an aesthetic surface affixed to the stringers; and a removable connecting strip, the connecting strip adapted to affix about one of the two flanges on one of the vertical end frames and join the one of the two flanges to a corresponding flange on one of a second module, a wall bracket, a finishing trim or a connection post."


The patent application was filed on Aug. 17, 2005 (11/205,314). The full-text of the patent can be found at <http://patft.uspto.gov/netaagi/nph-Parser?Sec1=PTO2&Sec2=HITOFF&p=1&u=%2Fnetahml%2FFPTO%2Fsearch-bool.html&r=1&t=G&l=50&co1=AND&d=PTXT&s1=80,24,901.PN.&OS=PN/80,24,901&RS=PN/80,24,901>

Written by Arpi Sharma; edited by Jaya Anand.

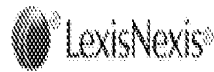
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Terms: **8024901** or "**8,024,901**" (Suggest Terms for My Search | Feedback on Your Search)



US District Court Civil Docket

U.S. District - Illinois Northern
(Chicago)

1:15cv4874

Allsteel Inc. v. Dirt Environmental Solutions Ltd.

This case was retrieved from the court on Wednesday, June 17, 2015

Date Filed: 06/02/2015	Class Code: OPEN
Assigned To: Honorable Matthew F. Kennelly	Closed:
Referred To:	Statute: 28:2201
Nature of suit: Patent (830)	Jury Demand: Plaintiff
Cause: Declaratory Judgement	Demand Amount: \$0
Lead Docket: None	NOS Description: Patent
Other Docket: None	
Jurisdiction: Federal Question	

Litigants

Attorneys

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Dirt Environmental Solutions Ltd.
A Canadian corporation
Defendant

Date	#	Proceeding Text	Source
06/02/2015	1	COMPLAINT for Declaratory Judgment filed by Allsteel Inc.; Jury Demand. Filing fee \$ 400, receipt number 0752-10707792. (Attachments: # 1 Exhibit 1, # 2 Exhibit 2)(Kingsbury, Colby) (Entered: 06/02/2015)	
06/02/2015	2	CIVIL Cover Sheet (Kingsbury, Colby) (Entered: 06/02/2015)	

- 06/02/2015 3 ATTORNEY Appearance for Plaintiff Allsteel Inc. by Colby Anne Kingsbury (Kingsbury, Colby) (Entered: 06/02/2015)
- 06/02/2015 4 NOTIFICATION of Affiliates pursuant to Local Rule 3.2 by Allsteel Inc. (Kingsbury, Colby) (Entered: 06/02/2015)
- 06/03/2015 CASE ASSIGNED to the Honorable Jorge L. Alonso. Designated as Magistrate Judge the Honorable Michael Mason. (daj,) (Entered: 06/03/2015)
- 06/03/2015 5 MINUTE entry before the Honorable Jorge L. Alonso: The Clerk of Court is to arrange for this case to be transferred to the Patent Case Pilot Program. Notice mailed by judge's staff (ntf,) (Entered: 06/03/2015)
- 06/03/2015 6 MAILED patent report to Patent Trademark Office, Alexandria VA. (sxn,) (Entered: 06/03/2015)
- 06/03/2015 7 EXECUTIVE COMMITTEE ORDER: It appearing that 15 C 4874, Allsteel Inc. v. DIRTT Environmental Solutions Ltd. pending before the Hon. Jorge L. Alonso, has been identified for transfer to the Patent Case Pilot Program in which this Court is participating, therefore It is hereby ordered that 15 C 4874, Allsteel Inc. v. DIRTT Environmental Solutions Ltd. is to be reassigned by lot to one of the district judges participating in the pilot program. Case reassigned to the Honorable Matthew F. Kennelly for all further proceedings. Signed by Executive Committee on 06/03/2015.(rm,) (Entered: 06/03/2015)
- 06/03/2015 SUMMONS Issued as to Defendant DIRTT Environmental Solutions Ltd. (pg,) (Entered: 06/03/2015)
- 06/15/2015 8 AFFIDAVIT of Service filed by Plaintiff Allsteel Inc. regarding Summons, Complaint, Notification of Affiliates served on DIRTT Environmental Solutions Ltd. on 6/5/2015, answer due 6/26/2015 (Kingsbury, Colby) (Docket Text Modified on 6/16/2015, by the Cler's Office, answer due date entered) (sxn,). (Entered: 06/15/2015)

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US District Court Civil Docket

U.S. District - Utah
(Central)

2:15cv123

Dirtt Environmental Solutions v. Allsteel

This case was retrieved from the court on Wednesday, June 17, 2015

Date Filed: **02/25/2015**
Assigned To: **Judge Clark Waddoups** Class Code: **OPEN**
Referred To: **Magistrate Judge Evelyn J. Furse** Closed:
Nature of suit: **Patent (830)** Statute: **35:0271**
Cause: **Patent Infringement** Jury Demand: **Plaintiff**
Lead Docket: **None** Demand Amount: **\$0**
Other Docket: **None** NOS Description: **Patent**
Jurisdiction: **Federal Question**

Litigants

Attorneys

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Date	#	Proceeding Text	Source
02/25/2015	1	Case has been indexed and assigned to Magistrate Judge Paul M. Warner. Plaintiff Dirtt Environmental Solutions is directed to E-File the Complaint and cover sheet (found under Complaints and Other Initiating Documents) and pay the filing fee of \$400.00 by the end of the business day.NOTE: The court will not have jurisdiction until the opening document is electronically filed and the filing fee paid in the CM/ECF system. Civil Summons may be issued electronically. Prepare the summons using the courts PDF version and email it to utdecf_clerk@utd.uscourts.gov for issuance. (bdr) (Entered: 02/25/2015)	
02/25/2015	2	COMPLAINT against Allsteel (Filing fee \$ 400, receipt number 1088-2215735), filed by Dirtt Environmental Solutions. (Attachments: # 1 Exhibit Exhibit Index, # 2 Exhibit A - U.S. Patent, # 3 Civil Cover Sheet) Assigned to Magistrate Judge Paul M. Warner (Nydegger, Chad) (Entered: 02/25/2015)	
02/26/2015	3	Report on the Filing of an action sent to the Director of the U.S. Patent and Trademark Office. (bdr) (Entered: 02/26/2015)	
04/01/2015	4	** RESTRICTED DOCUMENT** Summons Issued Electronically as to Allsteel. Instructions to Counsel:1. Click on the document number.2. If you are prompted for an ECF login, enter your 'Attorney' login to CM/ECF.3. Print the issued summons for service. (mms) (Entered: 04/01/2015)	
04/02/2015	5	CORPORATE DISCLOSURE STATEMENT under FRCP 7.1 filed by Plaintiff Dirtt Environmental Solutions. (Nydegger, Chad) (Entered: 04/02/2015)	
04/17/2015	6	NOTICE of Appearance by R. Willis Orton on behalf of Allsteel (Orton, R.) (Entered: 04/17/2015)	
04/17/2015	7	NOTICE of Appearance by Joshua S. Rupp on behalf of Allsteel (Rupp, Joshua) (Entered: 04/17/2015)	
04/17/2015	8	MOTION for Extension of Time to File Answer re 2 Complaint, and Memorandum in Support filed by Defendant Allsteel. (Attachments: # 1 Exhibit 1 - 4/16/15 Email Correspondence between J. Rupp and C. Nydegger, # 2 Text of Proposed Order 2 - Proposed Order)(Orton, R.) (Entered: 04/17/2015)	
04/17/2015	9	Ex Parte (Not Sealed) MOTION to Expedite Defendant's Motion for Extension of Time and Memorandum in Support filed by Defendant Allsteel. (Attachments: # 1 Text of Proposed Order)(Rupp, Joshua) (Entered: 04/17/2015)	
04/20/2015	10	NOTICE - This case is assigned to a magistrate judge. To consent or request reassignment, use the form on this link or use the included form for non-efilers and send it toconsents@utd.uscourts.govwithin 15 days or mail to the court with Attention: Consent Clerk on the envelope. Notice e-mailed or mailed to Defendant Allsteel, Plaintiff Dirtt Environmental Solutions. Form due by 5/5/2015. (las) (Entered: 04/20/2015)	
04/20/2015	11	** RESTRICTED DOCUMENT** SUMMONS Returned Executed by Dirtt Environmental Solutions as to Allsteel served on 4/6/2015, answer due 4/27/2015. (Nydegger, Chad) (Entered: 04/20/2015)	
04/20/2015	12	RECEIVED Consent/Reassignment Form from Defendant Allsteel. (las) (Entered: 04/20/2015)	

- 04/21/2015 13 RESPONSE to Motion re 8 MOTION for Extension of Time to File Answer re 2 Complaint, and Memorandum in Support (Opposition to Motion) filed by Plaintiff Dirtt Environmental Solutions. (Attachments: # 1 Exhibit Exhibit Index, # 2 Exhibit A - Letter to Allsteel dated 02-25-2015, # 3 Exhibit B - Letter to DIRTT dated 02-27-2015, # 4 Exhibit C - Letter to Allsteel dated 03-05-2015, # 5 Exhibit D - Letter to DIRTT dated 03-26-2015, # 6 Exhibit E - Letter to Allsteel dated 04-01-2015)(Nydegger, Chad) (Entered: 04/21/2015)
- 04/21/2015 14 REQUEST to Submit for Decision re 9 Ex Parte (Not Sealed) MOTION to Expedite Defendant's Motion for Extension of Time and Memorandum in Support , 8 MOTION for Extension of Time to File Answer re 2 Complaint, and Memorandum in Support filed by Defendant Allsteel. (Rupp, Joshua) (Entered: 04/21/2015)
- 04/22/2015 15 MEMORANDUM DECISION granting 8 Motion for Extension of Time to Answer; finding as moot 9 Motion to Expedite. Answer deadline updated for Allsteel answer due 5/27/2015. Signed by Magistrate Judge Paul M. Warner on 4/22/2015. (jwt) (Entered: 04/22/2015)
- 04/22/2015 16 RECEIVED Consent/Reassignment Form from Plaintiff Dirtt Environmental Solutions. (las) (Entered: 04/22/2015)
- 04/22/2015 17 All Consent/Reassignment Forms have now been received. After review of all forms, Case Reassigned to District Judge per request of one or more party(s). Case randomly assigned to Judge Clark Waddoups. Magistrate Judge Paul M. Warner no longer assigned to the case. (las) (Entered: 04/22/2015)
- 04/23/2015 18 DOCKET TEXT ORDER REFERRING CASE to Magistrate Judge Evelyn J. Furse under 28:636 (b)(1)(A), Magistrate to hear and determine all nondispositive pretrial matters. No attached document. Signed by Judge Clark Waddoups on 4/23/2015. (aw) (Entered: 04/23/2015)
- 05/22/2015 19 MOTION for Admission Pro Hac Vice of Trevor Carter , Registration fee \$ 15, receipt number 1088-2269931, filed by Defendant Allsteel. (Attachments: # 1 Text of Proposed Order Proposed Order)(Rupp, Joshua) (Entered: 05/22/2015)
- 05/22/2015 20 MOTION for Admission Pro Hac Vice of Timothy Sullivan , Registration fee \$ 15, receipt number 1088-2269934, filed by Defendant Allsteel. (Attachments: # 1 Text of Proposed Order Proposed Order)(Rupp, Joshua) (Entered: 05/22/2015)
- 05/27/2015 21 MOTION to Dismiss and Memorandum in Support filed by Defendant Allsteel. (Attachments: # 1 Exhibit A - Declaration, # 2 Text of Proposed Order Order)(Rupp, Joshua) (Entered: 05/27/2015)
- 05/28/2015 22 *** ENTRY ERROR - Proposed order filed as motion. MOTION to Dismiss and Memorandum in Support filed by Defendant Allsteel. (Rupp, Joshua) Modified by adding error text on 5/28/2015 (blh). (Entered: 05/28/2015)
- 05/28/2015 23 Modification of Docket re 22 MOTION to Dismiss: Error: Amended Proposed Order was filed as a Motion to Dismiss. Correction: Motion was terminated and docket text struck. (blh) (Entered: 05/28/2015)
- 06/08/2015 24 STIPULATION of Dismissal Without Prejudice by Dirtt Environmental Solutions. (Attachments: # 1 Text of Proposed Order)(Nydegger, Chad) (Entered: 06/08/2015)

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Databases: LitAlert®

Set#	Searched for	Results
S1	8024901 or 8,024,901	2

Integrated reconfigurable wall system

Assignee: Dirtt Environmental Solutions Ltd

Inventor: Gosling, Geoff Smed, Mogens

Publication info: Gosling, Geoff; Smed, Mogens (Inventors). Dirtt Environmental Solutions Ltd (Assignee). US 8024901 . (Published 27 Sep 2011).

[ProQuest document link](#)

Publication number: US 8024901 (27 September 2011, Utility)

US classification: 52/238.1: Static structures (e.g., buildings)

Plaintiff: ALLSTEEL INC

Defendant: DIRTT ENVIRONMENTAL SOLUTIONS LTD

Court and docket number: Illinois, Northern Dist(Docket: 1:15CV04874)

Court filing date: 02 June 2015

Action: CAUSE - 28 USC 2201 - COMPLAINT FOR PATENT INFRINGEMENT

Language: English

Document type: Patent

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Accession number: P2015-23-55

Document URL: <http://search.proquest.com/professional/docview/1686373136?accountid=131444>

First available: 2015-06-08

Database: LitAlert® (1973 - current)

Integrated reconfigurable wall system

Assignee: Dirtt Environmental Solutions Ltd

Inventor: Gosling, Geoff Smed, Mogens

Publication info: Gosling, Geoff; Smed, Mogens (Inventors). Dirtt Environmental Solutions Ltd (Assignee). US 8024901 . (Published 27 Sep 2011).

ProQuest document link

Publication number: US 8024901 (27 September 2011, Utility)

US classification: 52/238.1: Static structures (e.g., buildings)

Plaintiff: DIRTT ENVIRONMENTAL SOLUTIONS

Defendant: ALLSTEEL

Court and docket number: Utah(Docket: 2:15CV00123)

Court filing date: 25 February 2015

Action: CAUSE - 35 USC 271 - COMPLAINT FOR PATENT INFRINGEMENT

Language: English

Document type: Patent

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Accession number: P2015-09-112

Document URL: <http://search.proquest.com/professional/docview/1659059575?accountid=131444>

First available: 2015-03-02

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