



(11) **EP 3 011 881 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
27.04.2016 Bulletin 2016/17

(51) Int Cl.:
A47K 3/30 (2006.01) E06B 3/96 (2006.01)

(21) Application number: **15191353.0**

(22) Date of filing: **23.10.2015**

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
MA

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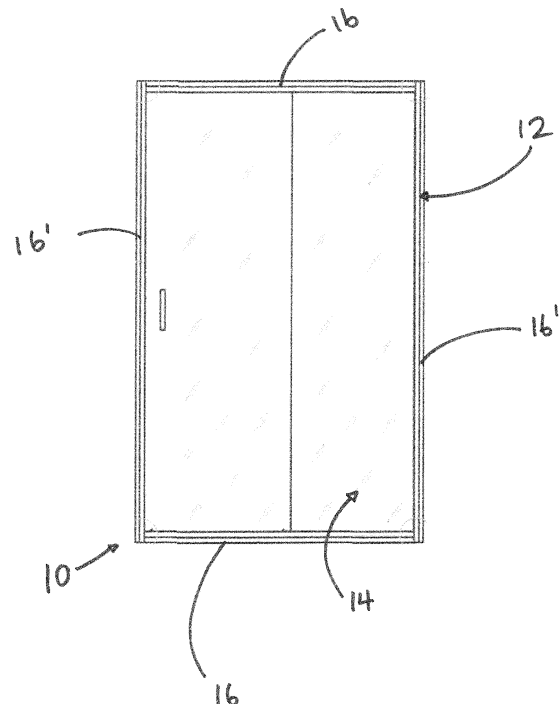
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(30) Priority: **24.10.2014 GB 201418913**

(54) **A MODULAR SHOWER PANEL**

(57) The present invention relates to a shower panel to facilitate ease of storage, transport, installation. Specifically, the invention relates to a shower panel comprising a frame and a fluid-impermeable barrier, wherein the frame comprises at least two engageable members; wherein a first member comprises engaging means and a second member comprises coupling means; wherein the engaging means of the first member and the coupling means of the second member together form a coupling to engage the first and second members, such that the first and second members together form at least part of the frame. Also disclosed is a method of assembling a shower panel and a kit for assembling a shower panel.

Figure 1



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Description

Field of the Invention

[0001] This invention relates to a shower panel to facilitate ease of storage, transport, installation. Specifically, the invention relates to a shower panel comprising a frame and a fluid-impermeable barrier. Also disclosed is a method of assembling a shower panel and a kit for assembling a shower panel.

Background to the Invention

[0002] The use of showers has increased in the latter half of the twentieth century as personal hygiene has become a primary concern, and bathing every day or multiple times a day is common among Western cultures. Showering is generally faster than bathing and can use less water.

[0003] Designs for shower facilities vary by location and purpose. Domestic showers are most commonly installed over, and integrated with, a bathtub or are fitted as stall showers. A stall shower is a dedicated, free-standing shower area, which is defined by at least one watertight barrier, such as a shower curtain or shower panel, to contain water spray from, for example, an overhead shower head.

[0004] A shower panel can be used as an alternative to a shower curtain; and is a panel, which can be generally planar or curved in shape, and which is used to define shower area and retain water spray from a shower head. The shower panel can be fixedly mounted to a wall or adjacent panel, or can be pivotably mounted to a wall or adjacent panel in order to form a pivoting door. Alternatively, the shower panel can be slidably mounted to a wall or adjacent panel to form a sliding door. A water-impermeable lining, for example a plastic lining, is often provided at or adjacent the terminal edges of the shower panel to protect against water leakage. The shower panel can be formed from a water-impermeable material such as aluminium, glass (usually toughened or tempered), or poly(methyl methacrylate; PMMA). A shower panel can come in many different hardware finishes and glass patterns that can match other bathroom hardware such as taps, basins, and shower heads.

[0005] Although the installation requirements of each of shower differ, the installation of a shower generally requires laying water transportation pipes, including a pipe for hot water and for cold water, and a drainage pipe. Showers may be provided in different forms of installation system. For example, showers may be provided as complete and integrated shower units, which include a shower tray, a shower head, and at least one shower curtain or panel. More often, each of the components of the installation system are provided separately to facilitate storage, transport, and installation process.

[0006] Accordingly, it is an object of the present invention to provide a shower panel to facilitate ease of stor-

age, transport, installation.

Summary of the Invention

[0007] In a first aspect of the present invention, there is provided a shower panel comprising a frame and a fluid-impermeable barrier.

[0008] Optionally, the fluid-impermeable barrier is a liquid-impermeable barrier.

[0009] Optionally, the fluid-impermeable barrier, optionally the liquid-impermeable barrier, is generally planar in shape. Further optionally, the fluid-impermeable barrier, optionally the liquid-impermeable barrier, is generally planar in shape and extends across the space defined by the frame of the shower panel.

[0010] Optionally, the frame comprises at least two members. Further optionally, the frame comprises at least two elongate members.

[0011] Optionally, the at least two members are engageable. Further optionally, the at least two members are reversibly engageable. Still further optionally, the at least two members are reversibly engageable and together form at least part of the frame.

[0012] Optionally, the at least two members are slidably engageable. Further optionally, the at least two members are reversibly slidably engageable. Still further optionally, the at least two members are reversibly relatively slidably engageable. Still further optionally, the at least two members are reversibly relatively slidably engageable and together form at least part of the frame.

[0013] Optionally, the frame comprises first and second members. Further optionally, the frame comprises first and second elongate members. Optionally, the first and second members are engageable. Further optionally, the first and second members are reversibly engageable. Still further optionally, the first and second members are reversibly engageable and together form at least part of the frame. Optionally, the first and second members are slidably engageable. Further optionally, the first and second members are reversibly slidably engageable. Still further optionally, the first and second members are reversibly relatively slidably engageable. Still further optionally, the first and second members are reversibly relatively slidably engageable and together form at least part of the frame.

[0014] Optionally, the first member comprises engaging means.

[0015] Additionally, the second member comprises coupling means.

[0016] Optionally, the engaging means of the first member and the coupling means of the second member together form a coupling. Further optionally, the engaging means of the first member and the coupling means of the second member together form a coupling, which engages the first and second members, which together form at least part of the frame.

[0017] Optionally, the engaging means are located at or adjacent the end of the first member. Further optionally

or additionally, the engaging means extend from the end of the first member. Still further optionally or additionally, the engaging means extend from the end of the first member and are coaxial with the longitudinal axis of the first member.

[0018] Optionally, the coupling means are located at or adjacent the end of the second member. Further optionally or additionally, the coupling means are located at a side of the second member.

[0019] Optionally, the engaging means comprise at least one fixing. Further optionally, the at least one fixing comprises a head and a shaft.

[0020] Optionally, the at least one fixing is engagable with the first member. Further optionally, the shaft of the at least one fixing is engagable with the first member. Still further optionally, the shaft of the at least one fixing is reversibly engagable with the first member.

[0021] Optionally, the first member is adapted to receive the at least one fixing. Further optionally, the first member is adapted to receive the shaft of the at least one fixing.

[0022] Optionally, the first member comprises an aperture to receive the at least one fixing. Optionally, the aperture is a threaded aperture.

[0023] Optionally, the shaft of the at least one fixing comprises a threaded shaft. Optionally, the shaft of the at least one fixing comprises a threaded shaft corresponding to the threaded aperture of the first member.

[0024] Optionally, the coupling means is adapted to receive the at least one fixing. Further optionally, the second member is adapted to receive the shaft of the at least one fixing.

[0025] Optionally, the second member comprises a channel to receive the at least one fixing. Optionally, the channel has an open end. Still further optionally, the channel opens at a terminal edge of the second member.

[0026] Optionally, the channel is adapted to allow the passage of the shaft of the engaging means therethrough. Further optionally, the channel is shaped and dimensioned to allow the passage of the shaft of the engaging means therethrough. Still further optionally, the transverse width of the channel is substantially the same as or greater than the diameter of the shaft of the engaging means. Optionally, the channel is adapted to restrict the passage of the head of the engaging means therethrough. Further optionally, the channel is shaped and dimensioned to restrict the passage of the head of the engaging means therethrough. Still further optionally, the transverse width of the channel is substantially less than the diameter of the head of the engaging means. Still further optionally, the transverse width of the channel is substantially the same as or greater than the diameter of the shaft of the engaging means; and is substantially less than the diameter of the head of the engaging means.

[0027] Optionally, the first and second members are each generally elongate cuboidal in shape. Further optionally, the first and second members are each generally

elongate cuboidal in shape, each having side walls and end walls. Still further optionally, the first and second members are each generally elongate cuboidal in shape and substantially hollow.

5 **[0028]** Optionally, the first member is generally elongate cuboidal in shape and substantially hollow, and has side walls and at least one end wall.

[0029] Optionally, the second member is generally elongate cuboidal in shape and substantially hollow, and has side walls and at least one open end.

10 **[0030]** Optionally, the engaging means are located at or adjacent the end wall of the first member. Further optionally or additionally, the engaging means extend from the end wall of the first member. Still further optionally or additionally, the engaging means extend from the end wall of the first member and are coaxial with the longitudinal axis of the first member.

15 **[0031]** Optionally, the coupling means are located at or adjacent a side wall of the second member. Further optionally or additionally, the coupling means are located at a side wall of the second member.

[0032] Optionally, the channel of the second member has an open end. Further optionally, the channel opens at a terminal edge of a side wall of the second member. Still further optionally, the channel opens at an open end of the second member.

25 **[0033]** Optionally, the second member comprises means to access the at least one fixing of the first member once received at the open end of the channel of the second member. Further optionally, the second member comprises means to access the head of the at least one fixing of the first member once received at the open end of the channel of the second member.

30 **[0034]** Optionally, the second member comprises an aperture through which to access the at least one fixing of the first member once received at the open end of the channel of the second member. Further optionally, the second member comprises an aperture through which to access the head of the at least one fixing of the first member once received at the open end of the channel of the second member.

35 **[0035]** Optionally, the aperture through which to access the at least one fixing is opposing the channel of the second member.

40 **[0036]** Optionally, in use, the shaft of the at least one fixing of the first member is received at the open end of the channel of the second member.

45 **[0037]** Optionally, in use, the shaft of the at least one fixing of the first member is moveable relative to the open end of the channel of the second member. Further optionally, in use, the shaft of the at least one fixing of the first member is moveable relative to the channel of the second member.

50 **[0038]** Optionally or additionally, in use, engagement of the at least one fixing with the first member forms a coupling between the at least one fixing of the first member and the channel of the second member, such that the engaging means of the first member and the coupling

means of the second member together form a coupling, whereby the first and second members together form at least part of the frame.

[0039] According to a second aspect of the present invention, there is provided a method of assembling a shower panel according to a first aspect of the present invention, the method comprising the steps of:

- (a) providing a first member comprising engaging means;
- (b) providing a second member comprising coupling means;
- (c) engaging the engaging means with the coupling means to form a coupling; and
- (d) engaging the first member and the second member to form at least part of the frame.

[0040] Optionally, the method comprises the further step of providing a fluid-impermeable barrier. Further optionally, the method comprises the further step of engaging the fluid-impermeable barrier with the at least part of the frame to form a shower panel.

[0041] According to a third aspect of the present invention, there is provided a kit for assembling a shower panel according to a first aspect of the present invention, the kit comprising a first member comprising engaging means; a second member comprising coupling means; and instructions for use.

[0042] Optionally, the kit further comprises a fluid-impermeable barrier.

Brief Description of the Drawings

[0043] Non-limiting embodiments of the present invention will now be described with reference to the accompanying drawings, in which:

Figure 1 is an elevation of an assembled shower panel according to a first aspect of the present invention;

Figure 2A is a perspective view of a first member comprising engaging means of the shower panel of Figure 1;

Figure 2B is a perspective view of a second member comprising coupling means of the shower panel of Figure 1; and

Figure 3 is a perspective view of at least part of the frame of the shower panel of Figure 1 formed by the first and second members.

Detailed Description of the Invention

[0044] Referring to Figure 1, there is shown an elevation of an assembled shower panel 10 according to a first aspect of the present invention. The shower panel 10

comprises a frame 12 and a fluid-impermeable barrier 14.

[0045] The fluid-impermeable barrier 14 is preferably a liquid-impermeable barrier. In a preferred embodiment, the fluid-impermeable barrier 14 is a water-impermeable barrier. The fluid-impermeable barrier 14 can be a generally planar barrier formed from a fluid-impermeable material, such as aluminium, glass (usually toughened or tempered), or poly(methyl methacrylate; PMMA). The fluid-impermeable barrier 14 is generally planar in shape and extends across the space defined by the frame 12 of the shower panel 10. The purpose of the fluid-impermeable barrier 14 is to retain water spray from a shower head within a shower area defined by the shower panel 10.

[0046] The frame 12 is normally cuboidal, for example rectangular, in shape and formed from four elongate members 16. In a preferred embodiment, the frame 12 of the shower panel 10 can comprise at least two members 16. Each of the members 16 can be elongate members. For the purposes of this specification, the frame 12 of the shower panel 10 will be described as comprising at two elongate members. However, it is understood that the frame 12 can comprise two or more members 16. For example, the frame 12 may comprise two members, which together form part of the frame and the fluid-impermeable barrier 14 can extend across the space defined by the frame 12 and, for example, a wall and a floor.

[0047] The two members 16 can be engageable. In certain embodiments, the two members 16 are reversibly engageable to allow assembly and disassembly of the frame 12 of the shower panel 10. As described above herein, the two members 16 are reversibly engageable and can together form at least part of the frame 12. The two members 16 can be slidably engageable, optionally reversibly slidably engageable. Each of the two members 16 can be reversibly slidably engageable relative to the other member 16, and can together form at least part of the frame 12.

[0048] In an embodiment, the frame 12 comprises first 16 and second 16' members, optionally first 16 and second 16' elongate members. The first 16 and second 16' members can be engageable, optionally reversibly engageable, and can together form at least part of the frame 12 as described above herein. In a certain embodiment, the first 16 and second 16' members can be slidably engageable, optionally reversibly slidably engageable.

[0049] Referring now to Figure 2A, there is shown a perspective view of a first member 16 comprising engaging means 18. In a preferred embodiment, the engaging means 18 are located at or adjacent the end of the first member 16, and can extend from the end of the first member 16, and are coaxial with the longitudinal axis of the first member 16. With reference to Figure 2B, there is shown a perspective view of a second member 16' comprising coupling means 20. The coupling means 20 can be located at or adjacent the end of the second member 16'. In a certain preferred embodiment, the coupling means 20 are located at a side of the second member

16'. The engaging means 18 of the first member 16 and the coupling means 20 of the second member 16' together form a coupling, which can engage the first 16 and second 16' members, which together form at least part of the frame 12.

[0050] In a preferred embodiment, the first 16 and second 16' members are each generally elongate cuboidal in shape. Each of the first 16 and second 16' members can have side walls and end walls. Optionally, the first 16 and second 16' members are each generally elongate cuboidal in shape and substantially hollow. The first member 16 can be generally elongate cuboidal in shape and substantially hollow, and have side walls and at least one end wall. The engaging means 18 can be located at or adjacent the end wall of the first member 16. Further optionally or additionally, the engaging means 18 can extend from the end wall of the first member 16 and can be coaxial with the longitudinal axis of the first member 16. According to such an embodiment, the second member 16' is generally elongate cuboidal in shape and substantially hollow, and has side walls and at least one open end. The coupling means 20 can be located at or adjacent a side wall of the second member 16'.

[0051] Referring again to Figure 2A, the engaging means comprise at least one fixing 18. The at least one fixing 18 comprises a head 22 and a shaft 24. The at least one fixing 18 can be engagable with the first member 16. Optionally, the shaft 24 of the at least one fixing 18 is engagable with the first member 16. In a preferred embodiment, the shaft 24 of the at least one fixing 18 is reversibly engagable with the first member 16 to facilitate assembly and disassembly of the frame 12 of the shower panel 10.

[0052] The first member 16 can be adapted to receive the at least one fixing 18, optionally to receive the shaft 24 of the at least one fixing 18. In such an embodiment, the first member 16 can comprise an aperture 26 to receive the at least one fixing 18. The aperture 26 can be, for example, a threaded aperture. The shaft 24 of the at least one fixing 18 can comprise a threaded shaft corresponding to the threaded aperture 26 of the first member 16. It is understood that any engagement means that facilitate engagement, optionally reversible engagement, of the engaging means 18 with the first member 16 may be employed. For example, the first member 16 can comprise an aperture 26 to receive the at least one fixing 18 and to retain the at least one fixing 18 by forming an interference fit.

[0053] Referring again to Figure 2B, the coupling means 20 is adapted to receive the at least one fixing 18, optionally the shaft 24 of the at least one fixing 18. In a preferred embodiment, the second member 16' comprises a channel 20 to receive the at least one fixing 18. The channel 20 can have an open end 28, and so opens at a terminal edge of the second member 16'. The channel 20 can be adapted to allow the passage of the shaft 24 of the engaging means 18 therethrough. For example, the channel 20 can be shaped and dimensioned to allow

the passage of the shaft 24 of the engaging means 18 therethrough. In such an embodiment, the transverse width of the channel 20 is substantially the same as or greater than (optionally marginally greater than) the diameter of the shaft 24 of the engaging means 18. In such an arrangement, the shaft 24 of the engaging means 18 can enter the open mouth 28 of the channel 20 and can move reciprocally along the channel 20.

[0054] The channel 20 can be adapted to restrict the passage of the head 22 of the engaging means 18 therethrough. For example, the channel 20 can be shaped and dimensioned to restrict the passage of the head 22 of the engaging means 18 therethrough. In such embodiments, the transverse width of the channel 20 can be substantially less than the diameter of the head 22 of the engaging means 18, and can be substantially the same as or greater than the diameter of the shaft 24 of the engaging means 18. The channel 20 of the second member 16' has an open end 28 to allow passage of the engaging means 18, preferably passage of the shaft 24 of the engaging means 18, through the channel 20. Further optionally, the channel opens at a terminal edge of a side wall of the second member 16'. Still further optionally, the channel 20 opens at an open end of the second member 16'.

[0055] Referring now to Figure 3, in use, the shaft 24 of the at least one fixing 18 is located within the aperture 26 of the first member 16. In a preferred embodiment, the aperture 26 is a threaded aperture, and the shaft 24 of the at least one fixing 18 comprises a threaded shaft corresponding to the threaded aperture 26. The shaft 24 of the at least one fixing 18 of the first member 16 is received at the open end 28 of the channel 20 of the second member 16'. The shaft 24 of the at least one fixing 18 of the first member 16 is moveable relative to the channel 20 of the second member 16'. During such use, an end wall of the first member 16 is in a contiguous, side-by-side relationship with a side wall of the second member 16'. The head 22 and the shaft 24 of the at least one fixing 18 are located at opposing sides of the channel 20 of the second member 16'. The head 22 of the at least one fixing 18 is located within the lumen of the second member 16'. The engagement of the at least one fixing 18 with the first member 16 forms a coupling between the at least one fixing 18 of the first member 16 and the channel 20 of the second member 16', such that the engaging means 18 of the first member 16 and the coupling means 20 of the second member 16' together form a coupling, whereby the first 16 and second members 16' together form at least part of the frame 12. The engaging means 18 can be engaged with the aperture 26 of the first member 16, for example, by rotation of the threaded shaft 24 within the threaded aperture 26 to form a fixed but reversible coupling.

[0056] The second member 16' can also comprise means 30 to access the at least one fixing 18 of the first member 16 once received at the open end 28 of the channel 20 of the second member 16'. The second member

16' can comprise means to access the head 22 of the at least one fixing 18 of the first member 16 once received at the open end 28 of the channel 20 of the second member 16'. In a certain embodiment, the second member 16' comprises an aperture 30 through which to access the at least one fixing 18 of the first member 16 once received at the open end 28 of the channel 22 of the second member 16'. The aperture 30 through which to access the at least one fixing 18 can be located on or at the side of the second member 16' opposing the channel 20.

[0057] The present invention also provides a method of assembling a shower panel 10, the method comprising the steps of providing a first member 16 comprising engaging means 18; providing a second member 16' comprising coupling means 20; engaging the engaging means 18 with the coupling means 20 to form a coupling; and engaging the first member 16 and the second member 16' to form at least part of the frame 12. The method can comprise the further step of providing a fluid-impermeable barrier 14, and optionally engaging the fluid-impermeable barrier 14 with the at least part of the frame 12 to form a shower panel 10.

[0058] Also disclosed is a kit for assembling a shower panel 10. The kit can comprise a first member 16 comprising engaging means 18; a second member 16' comprising coupling means 20; and instructions for use. The kit can further comprise a fluid-impermeable barrier 14.

[0059] Accordingly the present invention provides a shower panel 10 to facilitate ease of storage, transport, installation.

Claims

1. A shower panel comprising a frame and a fluid-impermeable barrier, wherein the frame comprises at least two engageable members; wherein a first member comprises engaging means and a second member comprises coupling means; wherein the engaging means of the first member and the coupling means of the second member together form a coupling to engage the first and second members, such that the first and second members together form at least part of the frame.
2. The shower panel according to Claim 1, wherein the at least two members are slidably engageable.
3. The shower panel according to Claim 1 or 2, wherein the engaging means comprise at least one fixing having a head and a shaft.
4. The shower panel according to Claim 3, wherein the shaft of the at least one fixing is engagable with the first member.
5. The shower panel according to Claim 3 or 4, wherein

the first member comprises a threaded aperture and the shaft of the at least one fixing comprises a threaded shaft corresponding to the threaded aperture.

6. The shower panel according to any preceding claim, wherein the coupling means is adapted to receive the shaft of the at least one fixing.
7. The shower panel according to Claim 6, wherein the second member comprises a channel having an open end to receive the shaft of the at least one fixing.
8. The shower panel according to Claim 7, wherein the channel is adapted to allow the passage of the shaft of the at least one fixing therethrough and is adapted to restrict the passage of the head of the at least one fixing therethrough.
9. The shower panel according to Claim 8, wherein the transverse width of the channel is substantially the same as or greater than the diameter of the shaft of the at least one fixing; and is substantially less than the diameter of the head of the at least one fixing.
10. The shower panel according to any preceding claim, wherein the second member comprises means to access the at least one fixing of the first member once received at the open end of the channel of the second member.
11. The shower panel according to Claim 10, wherein the second member comprises an aperture through which to access the at least one fixing of the first member once received at the open end of the channel of the second member.
12. A method of assembling a shower panel according to any one of Claims 1-11, the method comprising the steps of:
 - (a) providing a first member comprising engaging means;
 - (b) providing a second member comprising coupling means;
 - (c) engaging the engaging means with the coupling means to form a coupling; and
 - (d) engaging the first member and the second member to form at least part of the frame.
13. The method according to Claim 12 comprising the further step (e) of providing a fluid-impermeable barrier.
14. The method according to Claim 13 comprising the further step of engaging the fluid-impermeable barrier with the at least part of the frame to form a shower panel.

15. A kit for assembling a shower panel according to any one of Claims 1-11, the kit comprising a first member comprising engaging means; a second member comprising coupling means; and instructions for use.

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Figure 1

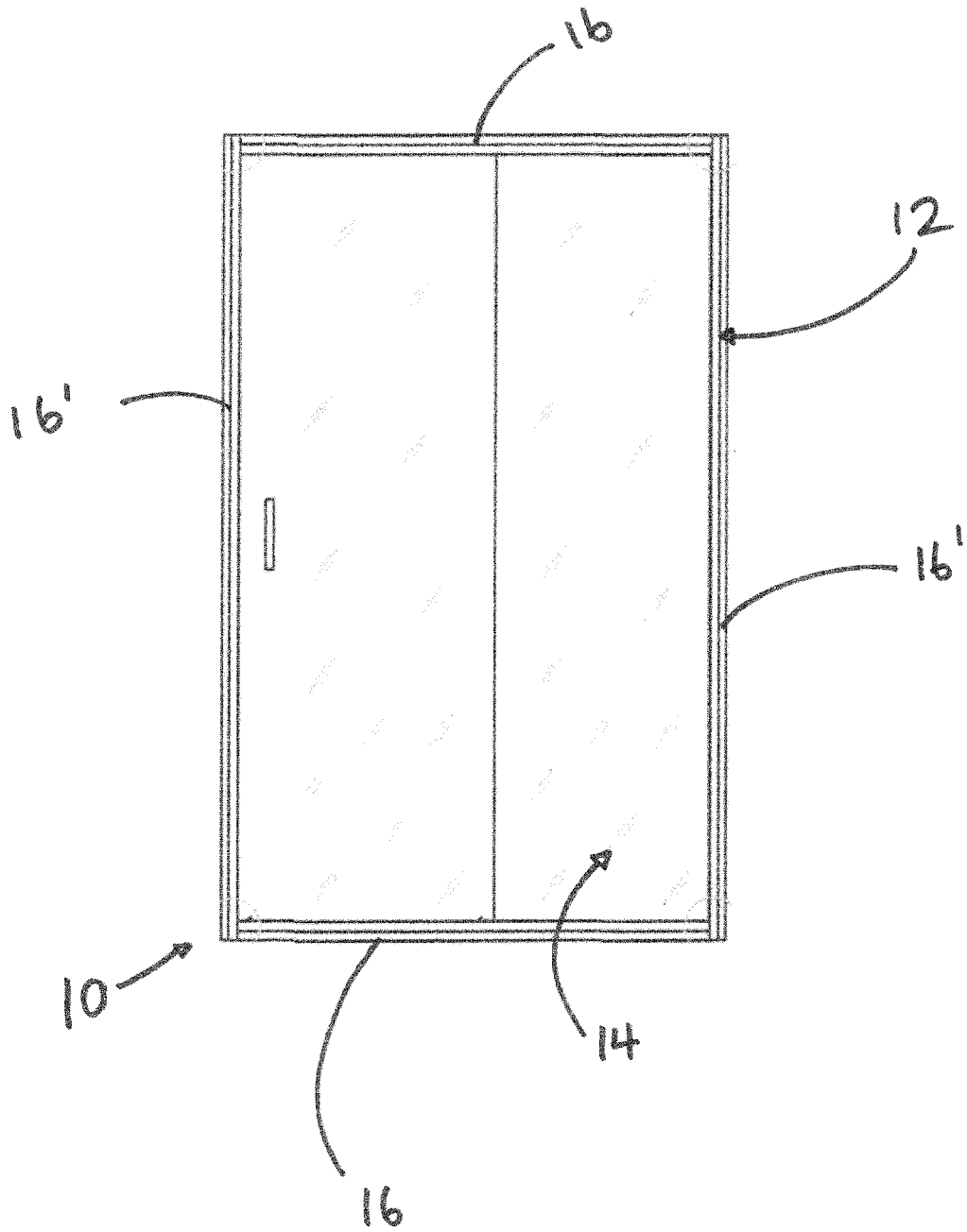


Figure 2A

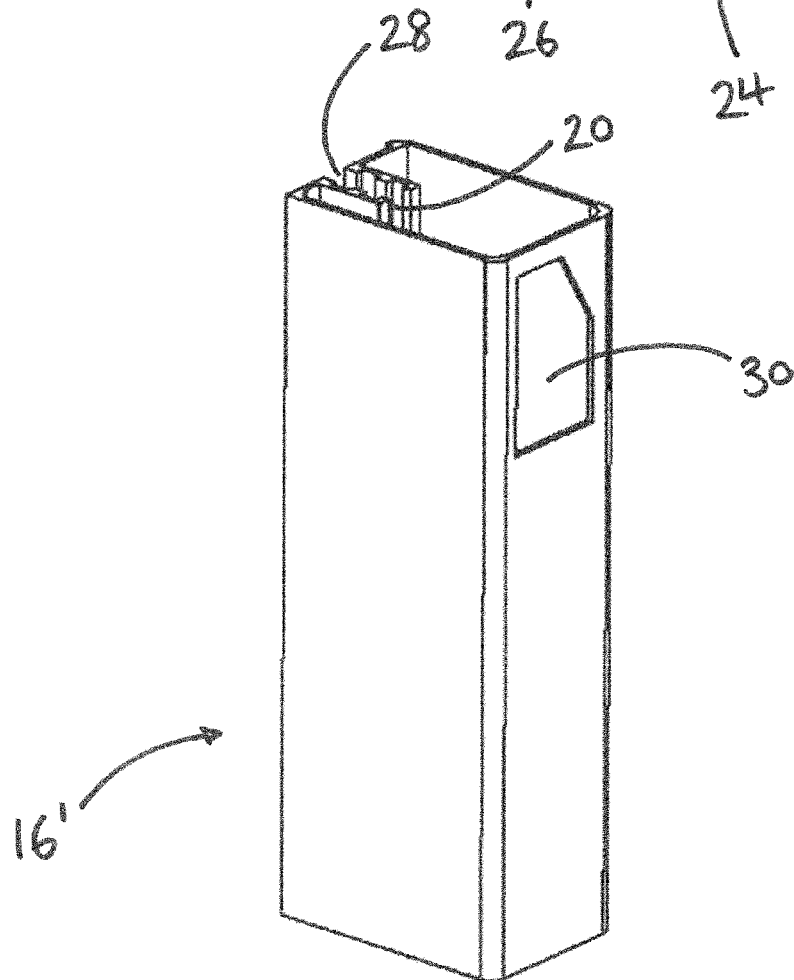
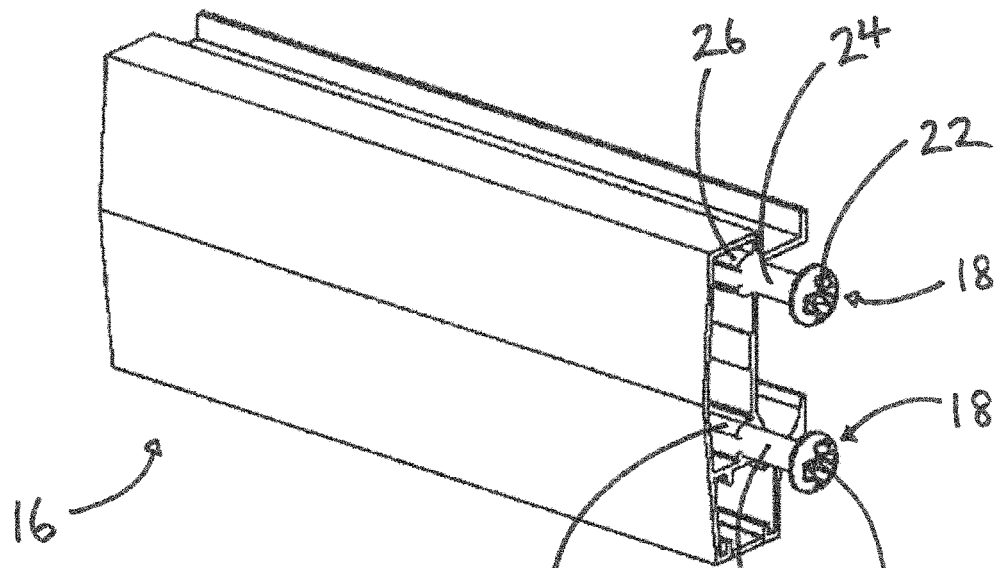
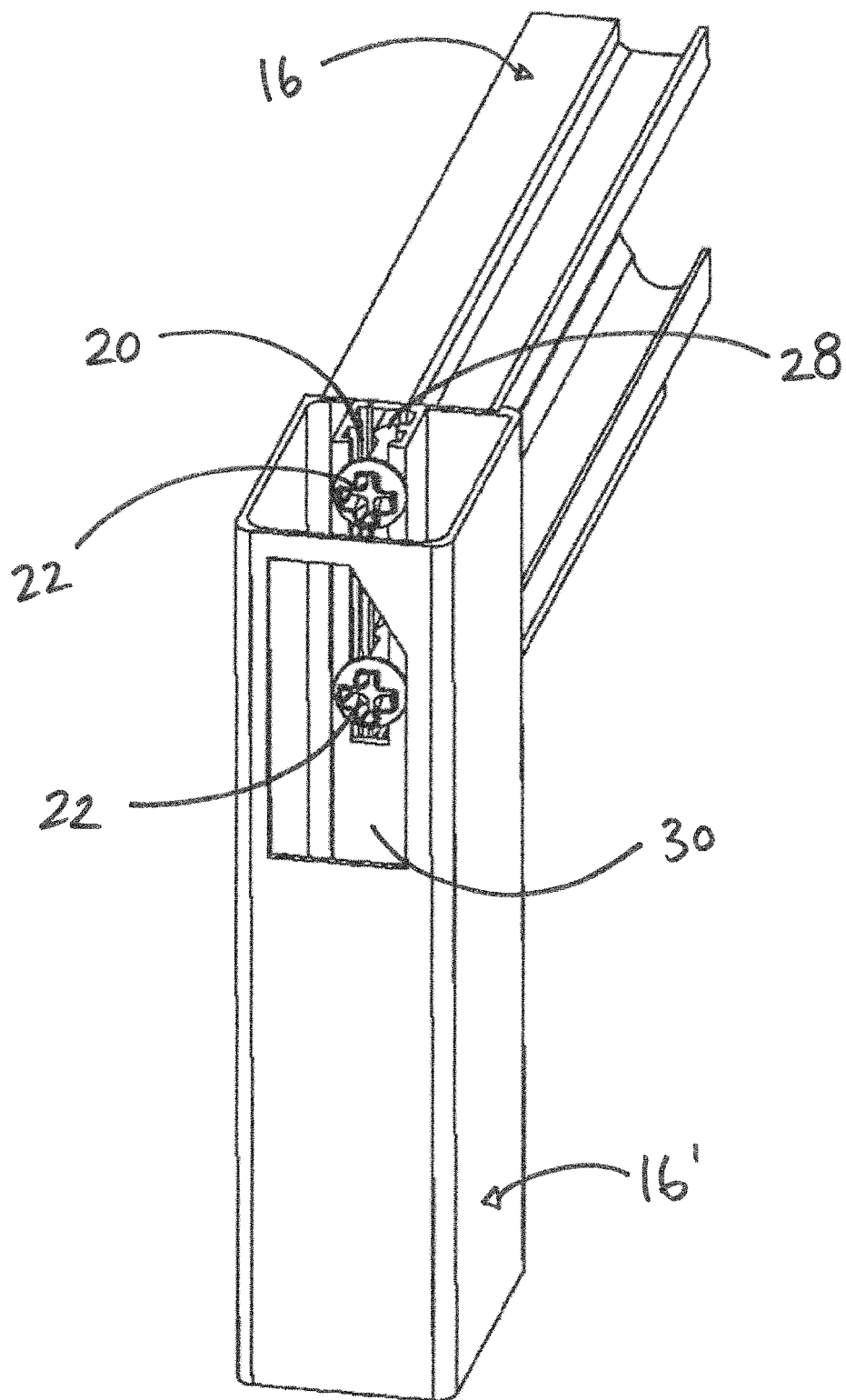


Figure 2B

Figure 3





EUROPEAN SEARCH REPORT

Application Number
EP 15 19 1353

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 18 December 2015	Examiner van de Beek-Duijker
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 15 19 1353

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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