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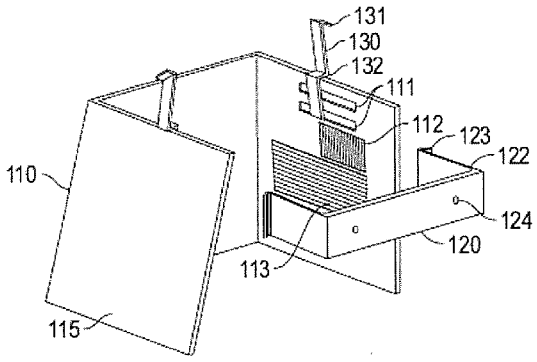

FIG. 3

(57) Abstract: The present invention provides a capping member configured to be fastened to an external surface, the capping member comprising one or more walls and one or more positioning formations provided on the one or more walls configured to facilitate engagement with another adjacent capping member and/or the external surface.

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Capping System

TECHNICAL FIELD OF THE INVENTION

The present invention relates to a fixing mechanism for securing pieces of material to a surface of interest. In particular, but not exclusively, the present invention is directed to a capping apparatus and fixing mechanism that may be utilised to secure capping members to exterior surfaces of buildings, such as cladding. The present invention may also be applied in other applications in relation to fencing, screens, roofing and the like.

BACKGROUND OF THE INVENTION

Cladding is typically used to provide a degree of desirable appearance but may also be used for insulation and weather resistance for structures such as buildings and the like. However, some external objects (e.g. pipes, electrical wiring etc.) are typically installed after the cladding and therefore tend to be situated on the outside of the cladding. As well as adversely affecting the physical appearance provided by the cladding, these external objects are also not provided with any protection by the cladding. Further, some arrangements such as junctions (e.g. return corners and mitre joints) can prove to be unsuitable and inconvenient for cladding due to their small surface areas, varying angles and dimensions etc.

While cladding systems have been previously proposed for resolving such issues, it can be appreciated that such solutions are not adaptable to different cladding designs and fail to offer a solution that is simple and easy to use. Accordingly, it would be desirable to have a capping apparatus and fixing mechanism that provides a desirable and aesthetic appearance, as well as providing a simple, removable and adaptable barrier for external objects of interest.

OBJECTS OF THE INVENTION

It is an object of the invention to provide a capping apparatus which at least goes some way toward overcoming the above disadvantages or which at least provides the public with a useful choice.

It is another object of the invention to provide a capping apparatus that is simple to install and provides a desirable and aesthetic appearance.

It is a further object of the invention to provide a capping apparatus that is, at least in part, easily or efficiently adjustable.

It is yet another object of the invention to provide a capping apparatus that is, at least in part, easily or efficiently removable.

Further objects of the invention will become apparent from the following description.

BRIEF DESCRIPTION OF THE INVENTION

In a first aspect the present invention may be said to broadly consist in a **capping member configured to be fastened to an external surface, the capping member** comprising one or more walls, and one or more positioning formations provided on the one or more walls configured to facilitate engagement with another adjacent capping member and/or the external surface.

In an embodiment of the present invention, the external surface comprises cladding.

In another embodiment of the present invention, the cladding comprises one or more weatherboards.

In one embodiment the external surface may comprise a feature that the capping member is intended to conceal, such as a downpipe or a corner or gap.

In a further embodiment of the present invention, the capping member is configured to be fastened to the external surface using one or more fixing members.

In yet another embodiment of the present invention, the capping member comprises one or more adjusting members.

In yet another embodiment of the present invention, the one or more adjusting members comprise a main body, a lower end and/or an upper end, the lower end and/or the upper end comprising a flange.

In yet another embodiment of the present invention, the flange forms an acute angle with the main body of the adjusting member.

In yet another embodiment of the present invention, the one or more positioning formations are configured to cooperate with the flange at the lower and/or upper end of the adjusting member.

In yet another embodiment of the present invention, the one or more positioning formations comprise one or more recesses.

In yet another embodiment of the present invention, the flange can be positioned within the one or more recesses of the one or more positioning formations to vary the position of the capping member.

In yet another embodiment of the present invention, the one or more fixing members comprise one or more side members.

In yet another embodiment of the present invention, the one or more fixing members comprise two side members.

In yet another embodiment of the present invention, the side members are deflectable inwardly and/or outwardly.

In yet another embodiment of the present invention, each side member comprises an engagement member at a distal end.

In yet another embodiment of the present invention, each engagement member forms an acute angle with the side member.

In yet another embodiment of the present invention, each engagement member is configured to cooperate with the one or more recesses of the one or more positioning formations to vary the position of the capping member.

In yet another embodiment of the present invention, the one or more fixing members comprise one or more openings configured to provide fastening means.

In yet another embodiment of the present invention, a capping apparatus comprises one or more of the capping members.

In another aspect the present invention may be said to broadly consist in a **capping apparatus configured to be fastened to an external surface and** comprising one or more capping members, each capping member comprising:

one or more positioning formations;

one or more fixing members; and

one or more adjusting members,

wherein any one of the one or more positioning formations, one or more fixing members and/or the one or more adjusting members are configured to facilitate engagement of the capping member with an adjacent capping member and/or the external surface.

In an embodiment of the present invention, the external surface comprises cladding.

In another embodiment of the present invention, the cladding comprises one or more weatherboards.

In one embodiment the external surface may comprise a feature that the capping member is intended to conceal, such as a downpipe or a corner or gap.

In a further embodiment of the present invention, the capping member is configured to be fastened to the external surface using the one or more fixing members.

In yet another embodiment of the present invention, the one or more adjusting members comprise a main body, a lower end and/or an upper end, the lower end and/or the upper end comprising a flange.

In yet another embodiment of the present invention, the flange forms an acute angle with the main body of the adjusting member.

In yet another embodiment of the present invention, the one or more positioning formations are configured to cooperate with the flange at the lower and/or upper end of the adjusting member.

In yet another embodiment of the present invention, the one or more positioning formations comprise one or more recesses.

In yet another embodiment of the present invention, the flange can be positioned within the one or more recesses of the one or more positioning formations to vary the position of the capping member.

In yet another embodiment of the present invention, the one or more fixing members comprise one or more side members.

In yet another embodiment of the present invention, the one or more fixing members comprise two side members.

In yet another embodiment of the present invention, the side members are deflectable inwardly and/or outwardly.

In yet another embodiment of the present invention, each side member comprises an engagement member at a distal end.

In yet another embodiment of the present invention, each engagement member forms an acute angle with the side member.

In yet another embodiment of the present invention, each engagement member is configured to cooperate with the one or more recesses of the one or more positioning formations to vary the position of the capping member.

In yet another embodiment of the present invention, the one or more fixing members comprise one or more openings configured to provide fastening means.

In another aspect the present invention may be said to broadly consist in a **capping member** as described herein with reference to any one or more of the accompanying drawings.

In another aspect the present invention may be said to broadly consist in a **capping apparatus** comprising one or more capping members as described herein with reference to any one or more of the accompanying drawings.

This invention may also be said broadly to consist in the parts, elements and features referred to or indicated in the specification of the application, individually or collectively, and any or all combinations of any two or more of said parts, elements and features, and

where specific integers are mentioned herein which have known equivalents in the art to which this invention relates, such known equivalents are deemed to be incorporated herein as if individually set forth.

Other aspects of the invention may become apparent from the following description which is given by way of example only and with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

A number of embodiments of the present invention will now be described with reference to the accompanying drawings in which:

Figure 1 is an isometric view of a capping apparatus, installed using the system and mechanism in accordance with an embodiment of the present invention;

Figure 2 is an isometric front view of a capping member in accordance with a particular embodiment of the present invention;

Figure 3 is an isometric rear view of the capping member of Fig. 2;

Figure 4 is a front view of the capping member of Figs. 2-3;

Figure 5 is a rear view of the capping member of Figs. 2-4;

Figure 6 is a top view of the capping member of Figs. 2-5;

Figure 7 is a sectional view of the capping member of Figs. 2-6;

Figure 8 is a front view of a fixing member of the capping member of Figs. 2-7;

Figure 9 is a top view of the fixing member of Fig. 8;

Figure 10 is a front view of another embodiment of the capping member;

Figure 11 is a side view of the capping member of Fig. 11;

Figure 12 is a front view of multiple capping members of Figs.10-11 installed against weatherboards;

Figure 13 is a side view of the multiple capping members of Fig. 12.

DETAILED DESCRIPTION OF THE INVENTION

In the following description, numerous specific details are set forth in order to provide a thorough understanding of the various principles of the present invention. However, those skilled in the art will appreciate that not all these details are necessarily always required for practising the present invention.

Fig. 1 shows an embodiment of a capping apparatus comprising one or more capping members 100 installed against one or more cladding members 300 used on an exterior surface of a structure (e.g. building or house). External surfaces may comprise various

arrangements and embodiments, particularly surfaces which comprise external objects such as pipes and electrical wiring which may comprise different configurations (e.g. shape, size, angles etc.) and/or varying surface arrangements such as return corners and mitre joints. Therefore those skilled in the art would appreciate that the ability to produce a desirable and aesthetic appearance to varying configurations, without requiring substantive reconstruction and/or rearrangements, would be advantageous. Those skilled in the art would also appreciate that the capping members 100 of the present invention may be applied to several types of cladding including exterior cladding or structures such as buildings and are not limited to weatherboards. For example, if the cladding 300 comprises bricks or mortar, then capping members 100 which have an external appearance substantially the same as, or similar to, the bricks or mortar may be provided. The term weatherboards, as used in this document includes cladding that has a weatherboard appearance.

Reference is now made to Figs. 2-9 which show an embodiment of the one or more capping members 100 of Fig. 1. The capping member 100 may comprise a capping unit 110 configured to cooperate with a fixing member 120 (e.g. a bracket) used to fasten the capping unit 110 to the cladding and/or external surface and an adjusting member 130 configured to retain adjacent capping units 110 in a desirable configuration relative to each other, such as that shown in Fig. 1.

In some examples, the capping unit 110 may comprise a front wall 114 and one or more side walls 115. In other embodiments the capping unit 110 may comprise a single wall, for example a curved wall. In the embodiments illustrated, each side wall 115 may comprise one or more first positioning formations 111, one or more second positioning formations 112 and/or one or more third positioning formations 113 which may be provided on one or more internal surfaces of the wall or walls. In some embodiments, the one or more first positioning formations 111 and/or the one or more second positioning formations 112 may comprise a horizontal configuration. In some embodiments, the one or more third positioning formations 113 may comprise a vertical configuration. In some embodiments, the capping unit 110 may comprise a height of 150mm and a width of 200mm. Those skilled in the art would appreciate that other arrangements of the capping unit 110, one or more first positioning formations 111 and/or one or more second and third positioning formations 112, 113, such as size and shape, are possible. In some embodiments, the formations 111 and 113 may be substantially the same, and may comprise a single extent of projections or recesses. Similarly in some embodiments, the formations 112 may be incorporated into formations 111 and 113.

In some examples, each capping unit 110 may form an open cavity (i.e. does not comprise a rear side) and may be configured to receive a fixing member 120 at a rear end. In some embodiments, the capping unit 110 is positioned so that the open cavity receives the object of interest which is to be capped (e.g. an external wall pipe or a return corner), in between the capping unit 110 and the fixing member 120. The fixing member 120 may have a bracket arrangement comprising a rear surface 121 and side members 122. Each side member 122 may comprise an engagement member 123 such as a projection positioned at an end distal from the rear surface 121. The engagement member 123 may be configured to be positioned to engage with the one or more second positioning formations 112. Each engagement member 123 may be slanted (see Fig. 9) to provide an acute angle (less than 90º) with an outer surface of its respective side member 122. This provides a "hook" arrangement that allows the engagement member 123 to be securably positioned within one of recesses provided by the one or more second positioning formations 112 and not be easily removed from the one or more recesses when exposed to reasonable external forces which may be encountered in use.

In some examples, each side member 122 is flexible such that they can deflected inwards toward each other to allow the engagement member 123 to be positioned within the one or more recesses of the second positioning formations 112 and/or the engagement member 123 to be removed from the one or more recesses of the second positioning formations 112. The side members 122 may also be deflectable outwards away from each other once the engagement member 123 is placed within the one or more recesses of the second positioning formations 112, to secure the position of the fixing member 120 by abutting an outer surface of the side member 122 against an inner surface of the side wall 115 of the capping unit 110. Alternatively, rather than the side members 122 being flexible, one or more of the walls of the capping unit 110 may be flexible. In other embodiments both the side members 122 and the walls may be flexible i.e. be resiliently deformable in order to facilitate engagement or disengagement.

In some examples, each side member 122 of the fixing member 120 may form a right angle (i.e. 90º) with the rear surface 121. Alternatively, one or more of the side members 122 may form an acute or obtuse angle with the rear surface 121.

In some examples, the fixing member 120 may comprise one or more apertures 124 configured to provide means for fastening the fixing member 120 (and therefore the capping member 100) to the cladding and/or the external surface by using fastening

means such as screws, nails etc. Alternatively, adhesive substances such as glue may be used.

Even though every capping member 100 can comprise a fixing member 120, those skilled in the art would appreciate that this is not a necessity and a reduced number of fixing members 120 relative to the number of capping units 110 may be used. For example, for every three or four capping units 110, one fixing member 120 may be used. Further, those skilled in the art would understand that other arrangements of the fixing member 120, its side members 122 and engagement member 123 are possible.

For installing purposes, each capping unit 110 may be kept in a fixed position relative to its adjacent capping units 110. This can be done by using the adjusting members 130 to maintain a desirable distance between adjacent capping units 110. The adjusting member 130 may comprise a flange 131 at one or both ends that may be configured to be placed within one or more recesses of the one or more first positioning formations 111 and/or the one or more third positioning formations 113. In some embodiments, the adjusting member 130 comprises a bend 132 in a transverse direction that may be configured to rest on a top side of a respective side wall 115. Each flange 131 may be slanted (see Figs. 4 and 5) to provide an acute angle (less than 90º) with the main body of the adjusting member 130. This provides a "hook" arrangement that allows the flange 131 to be securably positioned within a recess and not be easily removed from the recess when exposed to reasonable external forces which may be encountered in use. In other embodiments, the adjusting member 130 or other members described herein may be provided integrally with the wall or walls, and can be snapped off if not required, e.g. on the top-most unit.

Reference is now made to Figs. 10-13 which show another example of the capping apparatus comprising one or more capping members 200 installed against one or more cladding members 300 used on an exterior surface of a structure (e.g. building or house). Each capping member 200 may comprises a front wall 204 and side walls 205. Each side wall 205 may comprise a protrusion 210 (e.g. inwardly extending pin) and upwardly extending member 201. Each protrusion 210 may be configured to be positioned within a recess or opening 220 of the upwardly extending member 201 of an adjacent and lower capping member 200. The recess or opening 220 provides an angled slot which accommodates the protrusion 210 in varying arrangements to allow for the vertical arrangement of the capping members 200 to be desirably varied (see Figs. 12-13), for

example by functional engagement, or by co-operating formations on one or both of the projection 210 and recess or opening 220.

In some examples, the one or more capping members 200 may be fastened to the cladding using fixing members such as those explained above.

Unless the context clearly requires otherwise, throughout the description, the words "comprise", "comprising", and the like, are to be construed in an inclusive sense as opposed to an exclusive or exhaustive sense, that is to say, in the sense of "including, but not limited to".

Although this invention has been described by way of example and with reference to possible embodiments thereof, it is to be understood that modifications or improvements may be made thereto without departing from the scope of the invention. The invention may also be said broadly to consist in the parts, elements and features referred to or indicated in the specification of the application, individually or collectively, in any or all combinations of two or more of said parts, elements or features. Furthermore, where reference has been made to specific components or integers of the invention having known equivalents, then such equivalents are herein incorporated as if individually set forth.

Any discussion of the prior art throughout the specification should in no way be considered as an admission that such prior art is widely known or forms part of common general knowledge in the field.

Claims

1. A capping member configured to be fastened to an external surface, the capping member comprising:

one or more walls; and

one or more positioning formations provided on the one or more walls configured to facilitate engagement with another adjacent capping member and/or the external surface.

2. The capping member of claim 1, wherein the external surface comprises cladding.

3. The capping member of claim 2, wherein the cladding comprises exterior cladding, such as one or more weatherboards.

4. The capping member of any one of the preceding claims, wherein the capping member is configured to be fastened to the external surface using one or more fixing members.

5. The capping member of any one of the preceding claims, comprising one or more adjusting members.

6. The capping member of claim 5, wherein the one or more adjusting members comprise a main body, a lower end and/or an upper end, the lower end and/or the upper end comprising a flange.

7. The capping member of claim 6, wherein the flange forms an acute angle with the main body of the adjusting member.

8. The capping member of claim 6 or 7, wherein the one or more positioning formations are configured to cooperate with the flange at the lower and/or upper end of the adjusting member.

9. The capping member of any one of claims 6-8, wherein the one or more positioning formations comprise one or more recesses.

10. The capping member of claim 9, wherein the flange can be positioned within the one or more recesses of the one or more positioning formations to vary the position of the capping member.

11. The capping member of any one of claims 4-11, wherein the one or more fixing members comprise one or more side members.

12. The capping member of any one of claims 11, wherein the one or more side members are deflectable inwardly and/or outwardly.

13. The capping member of claim 11 or 12, wherein each side member comprises an engagement member at a distal end.

14. The capping member of claim 13, wherein each engagement member is configured to cooperate with the one or more recesses of the one or more positioning formations to vary the position of the capping member.

15. The capping member of any one of claims 4-14, wherein the one or more fixing members comprise one or more openings configured to provide fastening means.

16. A capping apparatus comprising one or more of the capping members of any one of the preceding claims.

17. A capping apparatus configured to be fastened to an external surface and comprising one or more capping members, each capping member comprising:
one or more positioning formations;
one or more fixing members; and
one or more adjusting members,
wherein any one of the one or more positioning formations, one or more fixing members and/or the one or more adjusting members are configured to facilitate engagement of the capping member with an adjacent capping member and/or the external surface.

18. The capping member of claim 17, wherein the external surface comprises cladding.

19. The capping member of claim 18, wherein the cladding comprises exterior cladding, such as one or more weatherboards.

20. The capping member of any one of claims 17-19, wherein the capping member is configured to be fastened to the external surface using one or more fixing members.

21. The capping member of any one of claims 17-20, wherein the one or more adjusting members comprise a main body, a lower end and/or an upper end, the lower end and/or the upper end comprising a flange.

22. The capping member of any one of claims 17-21, the one or more positioning formations comprise one or more recesses.

23. The capping member of claim 22, wherein the flange can be positioned within the one or more recesses of the one or more positioning formations to vary the position of the capping member.

24. The capping member of claim 22 or 23, wherein the one or more fixing members comprise one or more side members.

25. The capping member of claim 24, wherein the one or more side members are deflectable inwardly and/or outwardly.

26. The capping member or claim 24 or 25, wherein each side member comprises an engagement member at a distal end.

27. The capping member of claim 26, wherein each engagement member is configured to cooperate with the one or more recesses of the one or more positioning formations to vary the position of the capping member.

28. The capping member of any one of claims 17-27, wherein the one or more fixing members comprise one or more openings configured to provide fastening means.

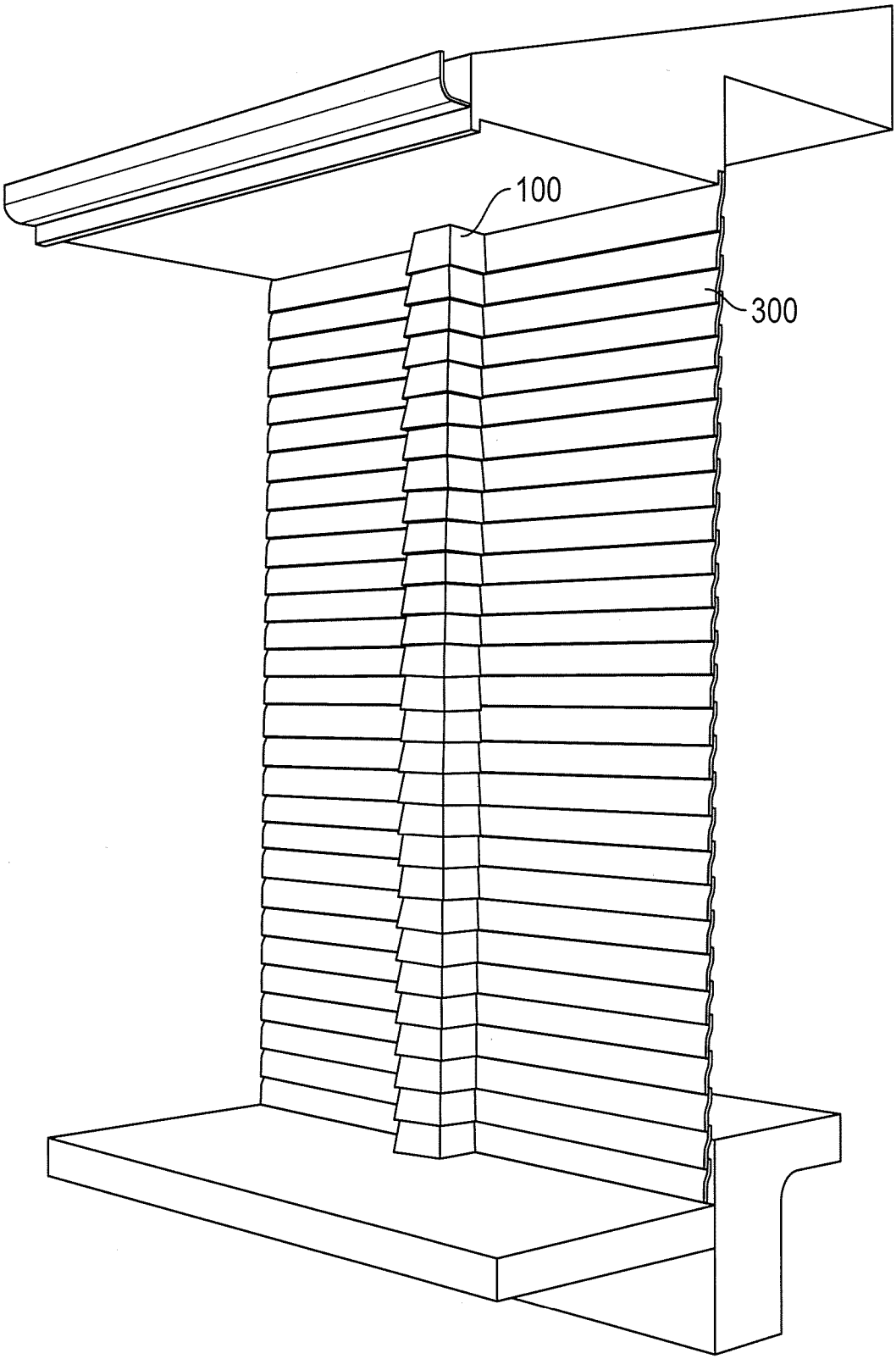

FIG. 1

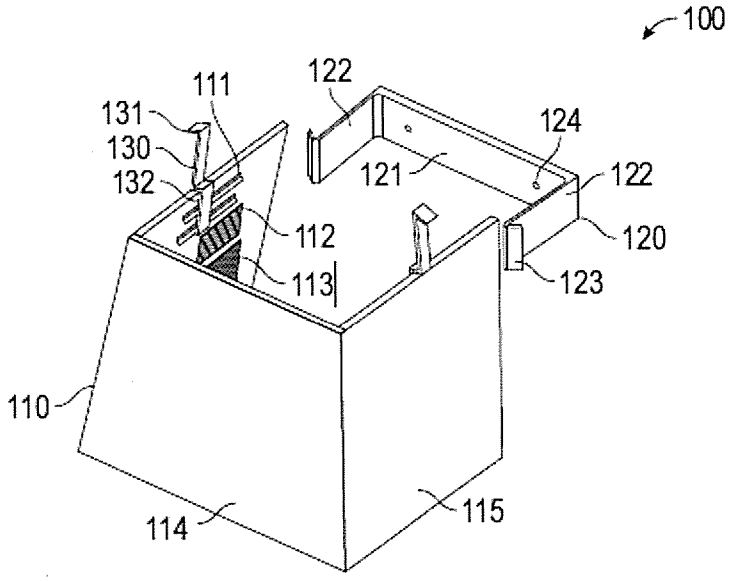
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FIG. 2

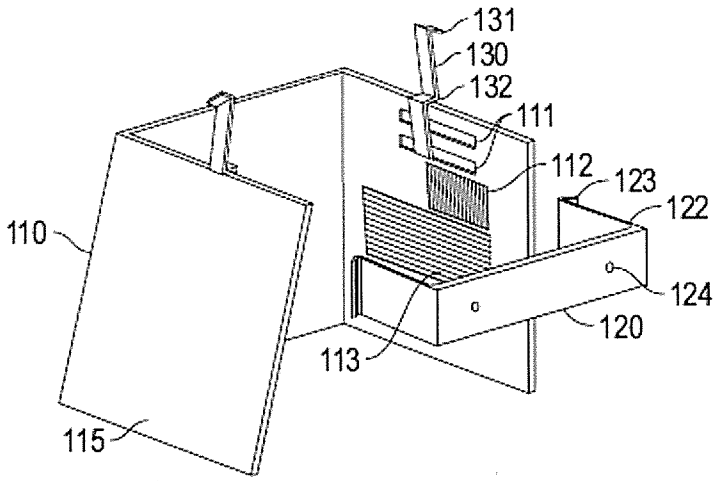
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FIG. 3

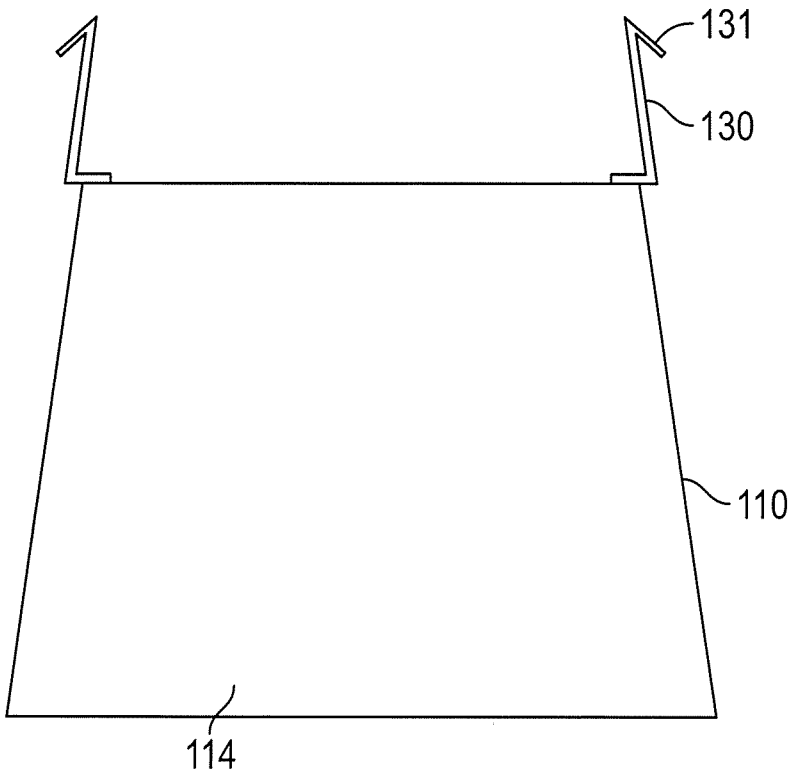

FIG. 4

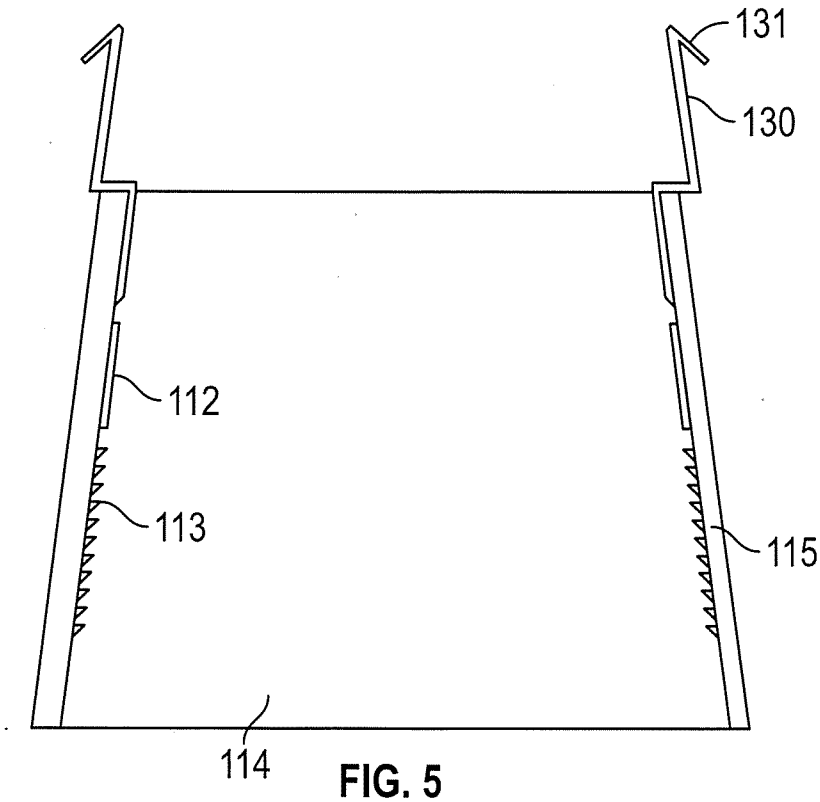

FIG. 5

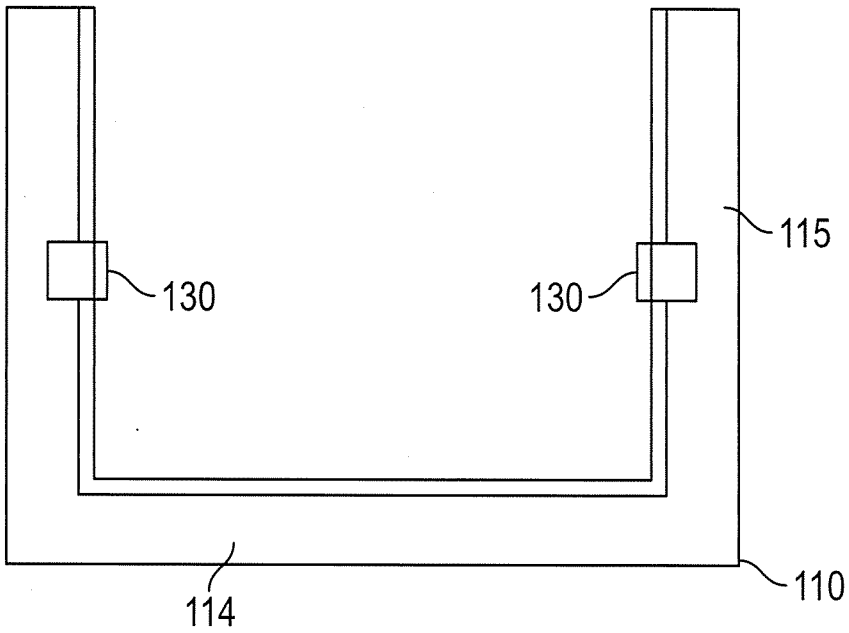

FIG. 6

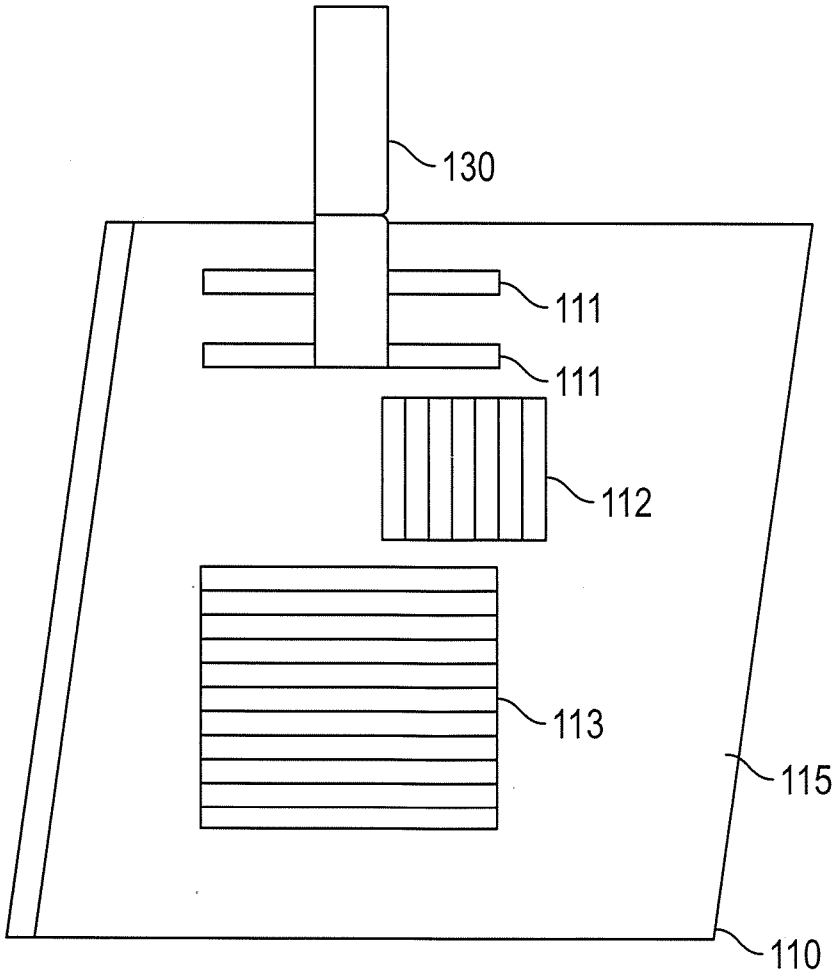

FIG. 7

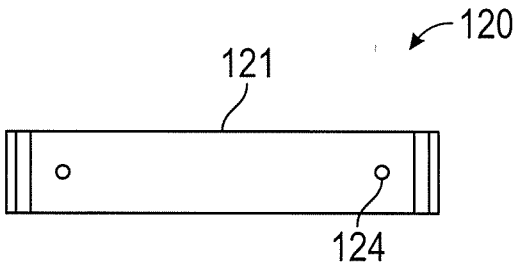

FIG. 8

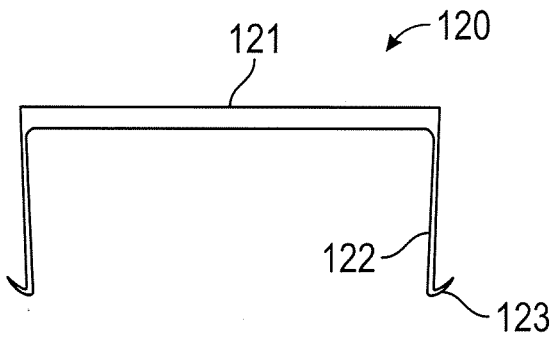

FIG. 9

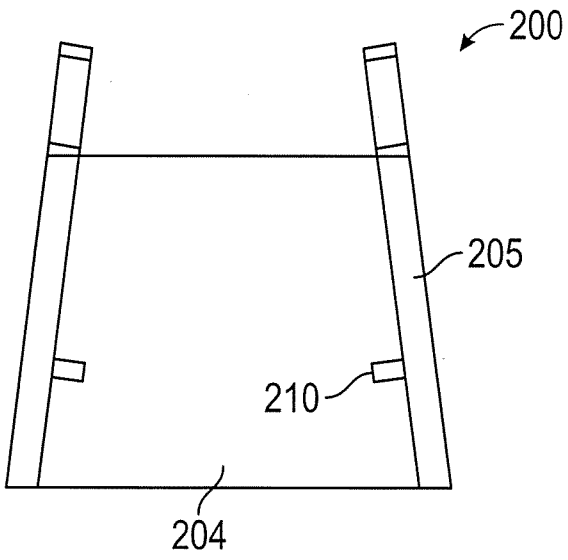

FIG. 10

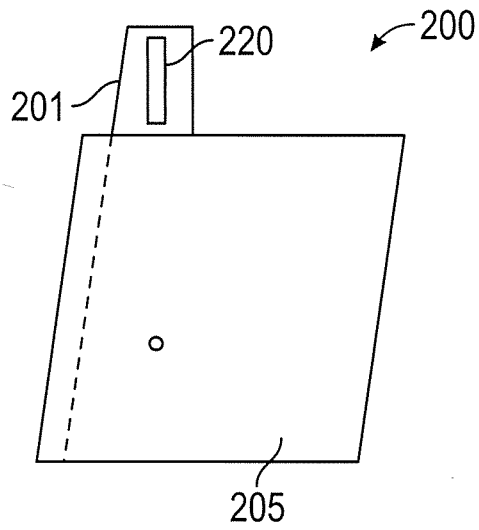

FIG. 11

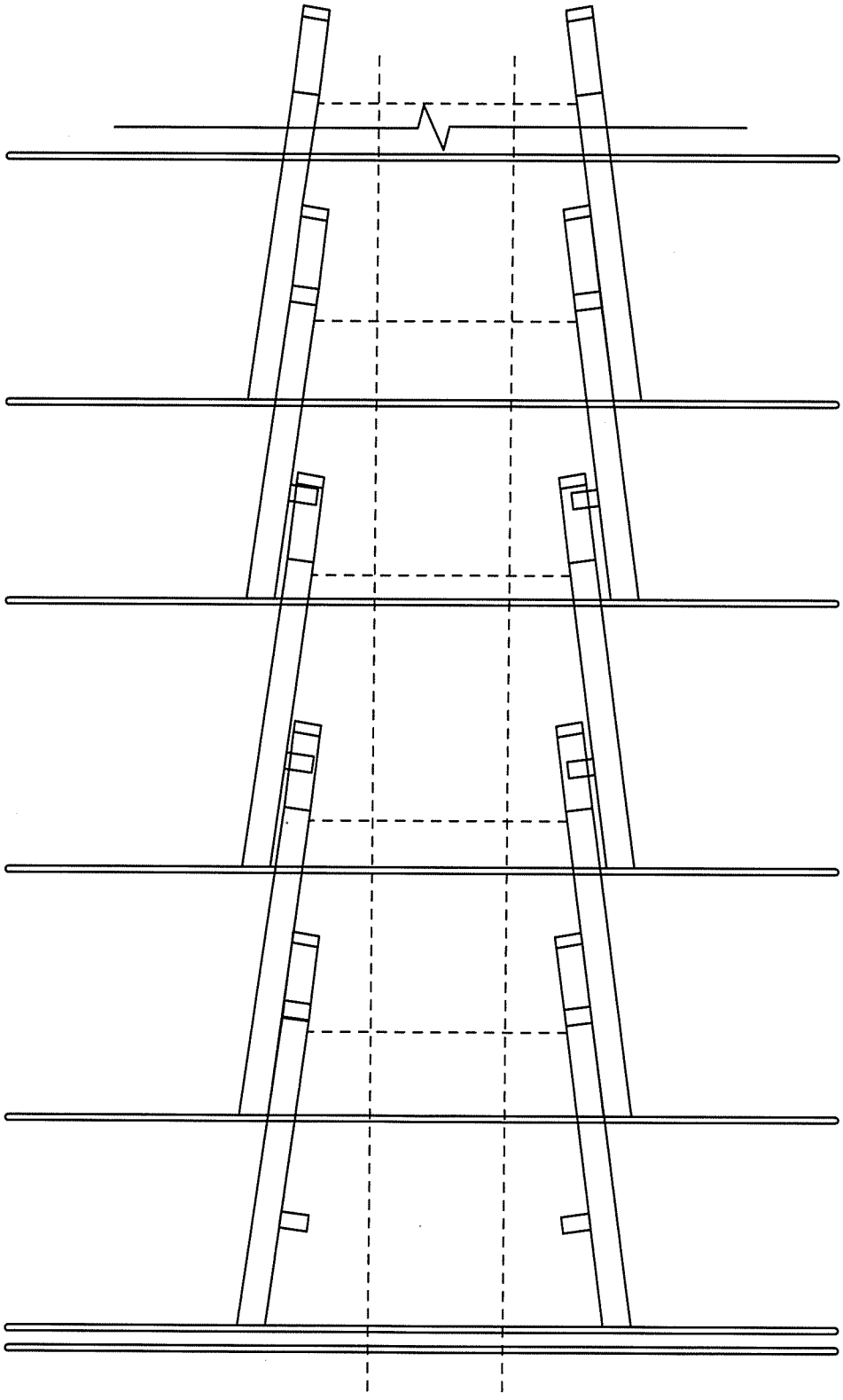

FIG. 12

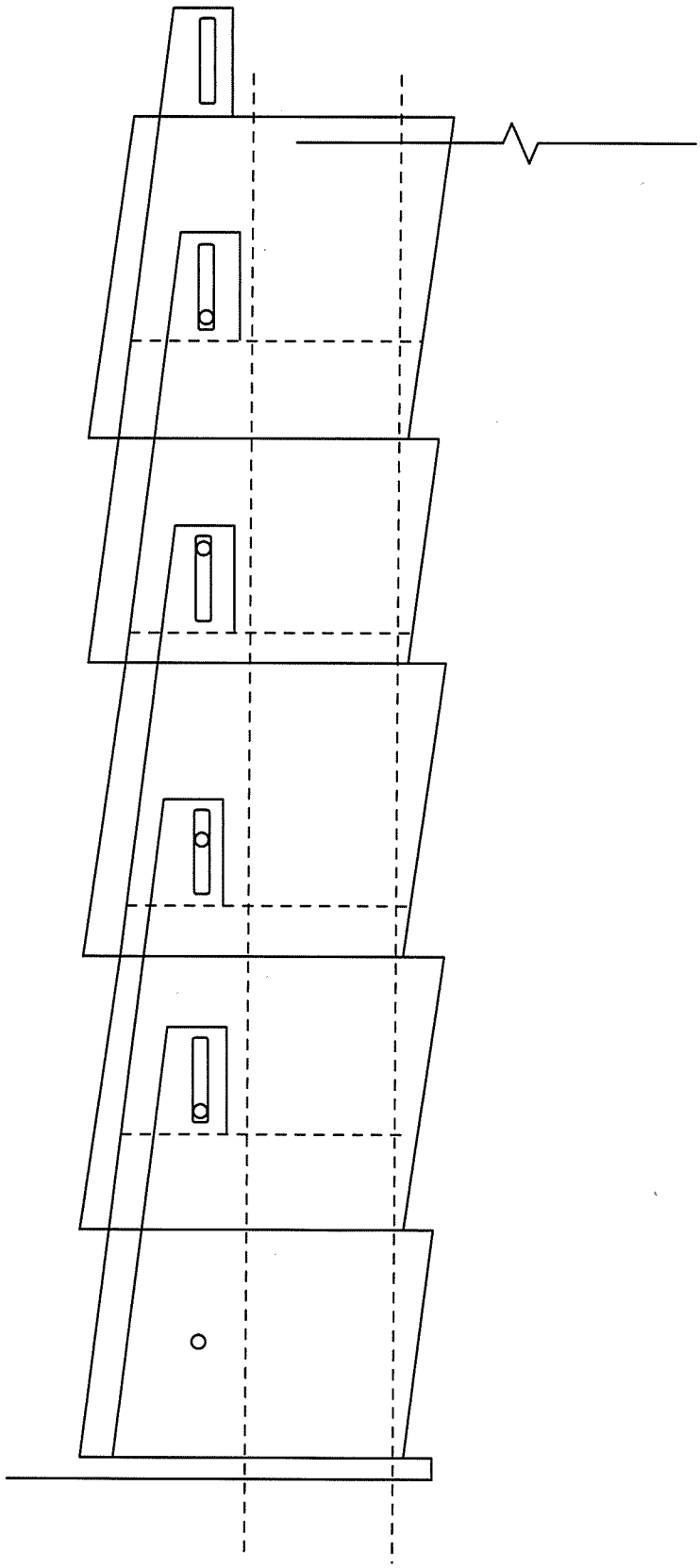

FIG. 13

INTERNATIONAL SEARCH REPORT

International application No.
PCT/NZ2018/050139

A. CLASSIFICATION OF SUBJECT MATTER

E04F 13/08 (2006.01) ***E04F 13/074 (2006.01)*** ***E04F 13/076 (2006.01)*** ***E04F 13/23 (2006.01)*** ***E04F 13/25 (2006.01)***

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)

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

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

Database : PATENW; IPC and CPC: E04F13/0855, E04F13/0864, E04F13/074, E04F13/076, E04F2290/02, E04F13/0853/LOW, E04F13/23, E04F13/25, E04F13/0821, E04F13/0851, E04F17/08, E04F2019/044, E04F2201/01, E04F2201/05 using keywords such as: adjust, slot, formation, cover and their similar keywords. AusPat, Google Patents, Espacenet, AU Designs, YouTube, and Google Image were searched using keywords such as: cladding, cover, hide, pipe, adjust, capping, decorative and their similar keywords. AusPat, USPTO, Espacenet and in internal databases provided by IP Australia were searched for applicant/inventors.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	Documents are listed in the continuation of Box C	

[X] Further documents are listed in the continuation of Box C [X] 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 another 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	Date of mailing of the international search report
16 January 2019	16 January 2019
Name and mailing address of the ISA/AU	**Authorised officer**
AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA Email address: pct@ipaustralia.gov.au	Abdulla Al-Motin AUSTRALIAN PATENT OFFICE (ISO 9001 Quality Certified Service) Telephone No. +61262837965

INTERNATIONAL SEARCH REPORT C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		International application No. **PCT/NZ2018/050139**
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5243800 A (OLBRICH)) 14 September 1993 (Abstract; column 1, line 64 – column 2, line 66; figures 1-5)	1-28
X	CA 2154119 A1 (DESJARDINS MARC) 19 January 1997 (Page 9, line 1 – page 13, line 4; figures 1-8)	1-5, 11-20 and 22-28

INTERNATIONAL SEARCH REPORT Information on patent family members	International application No. **PCT/NZ2018/050139**

This Annex lists known patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document/s Cited in Search Report		Patent Family Member/s	
Publication Number	**Publication Date**	**Publication Number**	**Publication Date**
US 5243800 A	14 September 1993	US 5243800 A	14 Sep 1993
		CA 2063222 A1	19 Sep 1992
		EP 0504493 A1	23 Sep 1992
		EP 0504493 B1	07 Dec 1994
		PT 100248 A	29 Apr 1994
		PT 100248 B	30 Apr 1999
CA 2154119 A1	19 January 1997	CA 2154119 A1	19 Jan 1997

End of Annex

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.