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(54) **Window frame**

(57) The invention relates to a window frame, comprising:

- a base profile, comprising a window receiving space, for receiving an edge of a window, and a first wall receiving space part;
- a cover profile, comprising a second wall receiving space part, wherein the cover profile is connectable to

the base profile, and wherein the first wall receiving space part and the second wall receiving space part form a wall receiving space for receiving a wall and thereby connect the window frame to the wall;

- locking means, for locking the cover profile to the base profile; and
- release means for releasing the locking means.

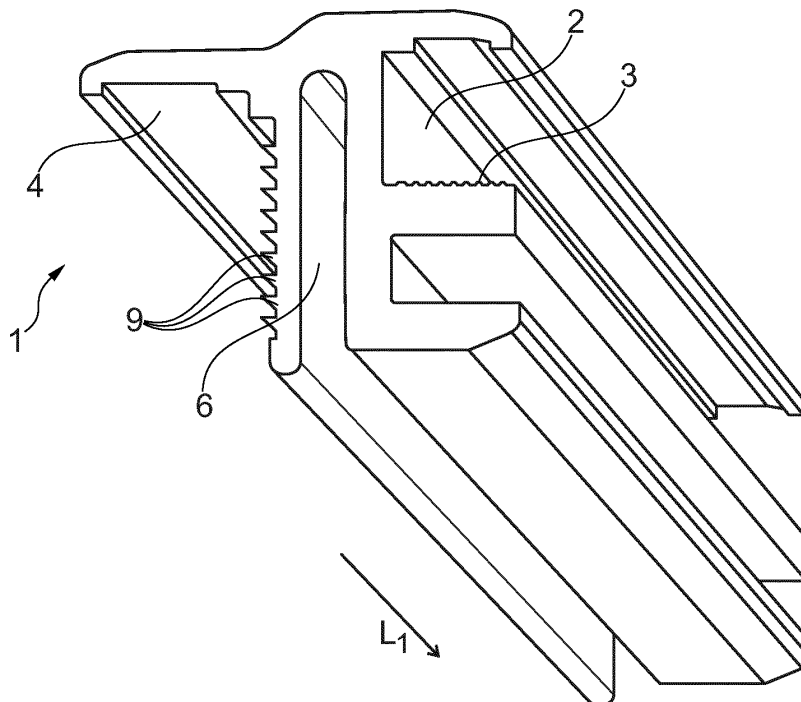


Fig. 1

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Description

[0001] The invention relates to a window frame.

[0002] Window frames are used in a wide area of applications, for instance for securing a window to a wall, such as in ship building, house-building and construction work in general.

[0003] When using a window frame for securing a window to a wall, it is desired to achieve a secure connection between the window and the wall. Especially in the area of ship building, wind and water may influence the integrity of the window frame. Thus, a window frame in this area has to fulfill certain requirements to achieve the required secureness of the connection.

[0004] In order to achieve such a connection between the window and the wall, prior art window frames often require the use of screws or other separate fixtures. This may complicate the assembly of the window to the wall, as separate parts are required, which may get lost, may not be provided when installing a window frame or require the use of additional tools such as drills, screw drivers, et cetera.

[0005] In addition, it may be desired to disassemble such window frames, for instance when parts of the construction in which the frame is applied reaches end of life, in order to allow the window frame to be recycled or reused. Since prior art devices are often fixed using separate fixtures, disassembly may be complicated or may hamper recycling or reuse.

[0006] It is now an object of the invention to provide a window frame wherein the above-stated drawbacks are reduced or even obviated.

[0007] This object is achieved with a window frame, comprising:

- a base profile, comprising a window receiving space, for receiving an edge of a window, and a first wall receiving space part;
- a cover profile, comprising a second wall receiving space part, wherein the cover profile is connectable to the base profile, and wherein the first wall receiving space part and the second wall receiving space part form a wall receiving space for receiving a wall and thereby connect the window frame to the wall;
- locking means, for locking the cover profile to the base profile; and
- release means for releasing the locking means.

[0008] Since the window frame comprises a base profile and the cover profile that provides both a window receiving space and a wall receiving space, but also comprises locking means and release means, the window frame according to the invention allows easy assembly of a window to a wall, as well as disassembly when required. The use of separate tools is no longer necessary, since both the locking means and the release means are a part of the window frame.

[0009] The first wall receiving space and the second wall receiving space may for instance be formed by wall flanges on any or both of the profiles, wherein the connection of the base profile and the cover profile forms a wall receiving part between the flanges for receiving a wall.

[0010] The window receiving space may for instance also be formed by two window flanges. In order to install a window in the window flanges, the window flanges may be spaced apart such a distance to allow substantially diagonal insertion of the window relative to the base profile, after which the window may be secured to the base profile by the application of an appropriate filler or clamp. In the base profile, a gripping layer may be provided, for instance on one of the window flanges, to allow secure locking of the window to the base profile.

[0011] The base profile and cover profile may be of any shape useful for the opening of the wall in which the window is to be secured, for instance rectangular, rectangular with curved edges or circular.

[0012] It is highly preferred that any or both of the profiles is/are made of a plastic, for instance polyvinylchloride (PVC). Plastics are readily available with a wide variety of (mechanical) properties. Plastics also allow the profile to be reshaped to adjust the profile to the dimensions of the opening in the wall. In addition, many plastics are generally cheap.

[0013] In an embodiment of the window frame according to the invention, the locking means comprise a toothed surface arranged on one of the base profile and the cover profile and an interlocking hook arranged on the other one of the base profile and the cover profile for interlocking with the toothed surface.

[0014] By providing one of the profiles with a toothed surface and the other profile with an interlocking hook, a secure connection between the base profile and the cover profile is obtained. When a toothed surface is used for connecting an interlocking hook it may also be possible to adjust the position of the cover profile to the base profile when locked, such to accommodate changes in the thickness of a wall.

[0015] Preferably, the interlocking hook is arranged on the cover profile and the toothed surface is arranged on the base profile. Such may increase the ease of disassembly, since disassembly generally occurs by removing the cover profile from the base profile. Removing an interlocking hook from a toothed surface may be easier than the removal of a toothed surface from an interlocking hook, for instance because of the friction in removing the toothed surface in the latter approach.

[0016] It is highly preferred that the toothed surface is only located on one surface of the one of the base profile and the cover profile. When the toothed surface is located on multiple surfaces of the one of the base profile and the cover profile, the removal of the cover profile from the base profile by the release means may be impeded since the disengagement of the interlocking hook from a first surface may further engage the interlocking hook

with a second surface on the other side of the profile.

[0017] In a preferred embodiment of the window frame according to the invention, the release means comprise a lever arranged to the interlocking hook for urging the interlocking hook out of connection with the toothed surface.

[0018] By providing the window frame with a lever, the interlocking hook can be urged out of connection easily, thereby releasing the connecting between the base profile and the cover profile.

[0019] Preferably, the lever is a part of the cover profile laying against the wall and has a flexibility such that it can be bend from the neutral position to a bent position in order to urge the interlocking hook out of connection with the toothed surface, while still maintaining a stable fixture of the window to the wall when the lever is in a neutral position.

[0020] In another preferred embodiment of the window frame according to the invention, one of the base profile and the cover profile comprises a tongue and groove joint.

[0021] When connecting the cover profile to the base profile, the tongue and the groove joint may serve to guide the cover profile in the base profile in a proper way, thereby preventing errors when installing the window frame.

[0022] In another preferred embodiment of the window frame according to the invention, the groove is formed by a U-shaped section and the tongue is formed by a straight guiding flange.

[0023] Providing the window frame with a U-shaped section and a straight guiding flange is an easy way to guide the cover profile when connecting the cover profile to the base profile since the U-shaped section preferably extends in the direction of movement of the cover profile with respect to the base profile.

[0024] In this embodiment, it is possible to use one base profile with different cover profiles, wherein each of the cover profiles is suitable for accommodating a certain range of wall thicknesses.

[0025] In another preferred embodiment of the window frame according to the invention, the base profile and the cover profile are extrusion profiles.

[0026] For obtaining a secure connection between the base profile and the cover profile, it is preferred that both profiles correspond to each other across the length direction of the profiles. In order to produce corresponding profiles with a high accuracy, it is highly preferred to produce the profiles by extrusion.

[0027] The profiles according to the invention may also be provided with a protective foil, preferably on their outer surfaces.

[0028] Window frames according to the invention may for instance be bent when using the window frame according to the invention for securing a window in a circular or partly circular wall. After bending the profile, the two ends of the respective profiles, e.g. the first end of the base profile and the second end of the base profile, may be connected to each other by welding, adhering or other

means of joining, in order to obtain a continuous profile.

[0029] These and other features of the invention are further elucidated with reference to the accompanying drawings.

Figure 1 shows a perspective view of a base profile according to the invention.

Figure 2 shows a perspective view of a cover profile according to the invention.

Figure 3 shows a cross-sectional view of the window frame according to the invention when mounted in a wall.

[0030] In figure 1, a part of the base profile 1 is shown. In the base profile, extending in a length direction L1, a window receiving space 2 is shown for receiving an edge of a window (not shown). The window receiving space 2 may be provided with surfaces for enhanced grip 3.

[0031] On the other side of the base profile 1, a first wall receiving part 4 is shown for receiving an edge of a wall 5. In between, the base profile 1 has a U-shaped groove joint 6 for receiving a tongue 7 of the cover profile 8 (see Figure 2 and 3). In addition, the base profile 1 is provided with a set of regularly spaced teeth 9 for receiving a hook 10 of the cover profile 8 (see Figure 2 and 3).

[0032] In figure 2, a part of the cover profile 8 is shown, extending in a length direction L2. The cover profile comprises a tongue 7 for connecting with the U-shaped groove joint 6 of the base profile and a hook 10 for connecting with one of the teeth 9 of base profile 1. By selecting one of the teeth 9, the depth of the cover profile 8 relative to the base profile 1 can be adjusted, such to accommodate differences in the thickness of the wall 5.

[0033] The cover profile 8 also has a lever 11. When the cover profile 8 is in connection with the base profile 1, bending of the lever 11 relative to the base profile 1 will release the hook 10 from the teeth 9, which allows removal of the cover profile 8 from the base profile 1, for instance by further pulling the lever 11.

[0034] In figure 3, the window frame is seen in cross-section as mounted to a wall. In this embodiment, fillers 12, 13, 14 are used in order to tightly secure the window frame.

Claims

1. Window frame, comprising:

- a base profile, comprising a window receiving space, for receiving an edge of a window, and a first wall receiving space part;
- a cover profile, comprising a second wall receiving space part, wherein the cover profile is connectable to the base profile, and wherein the first wall receiving space part and the second wall receiving space part form a wall receiving space for receiving a wall and thereby connect

the window frame to the wall; and

- locking means, for locking the cover profile to the base profile

characterized by

release means for releasing the locking means. 5

2. Window frame according to claim 1, wherein the locking means comprise a toothed surface arranged on one of the base profile and the cover profile and an interlocking hook arranged on the other one of the base profile and the cover profile for interlocking with the toothed surface. 10
3. Window frame according to claim 2, wherein the release means comprise a lever arranged to the interlocking hook for urging the interlocking hook out of connection with the toothed surface. 15
4. Window frame according to any of the preceding claims, wherein one of the base profile and the cover profile comprises a tongue and groove joint. 20
5. Window frame according to claim 4, wherein the groove is formed by a U-shaped section and the tongue is formed by a straight guiding flange. 25
6. Window frame according to any of the preceding claims, wherein the base profile and the cover profile are extrusion profiles. 30

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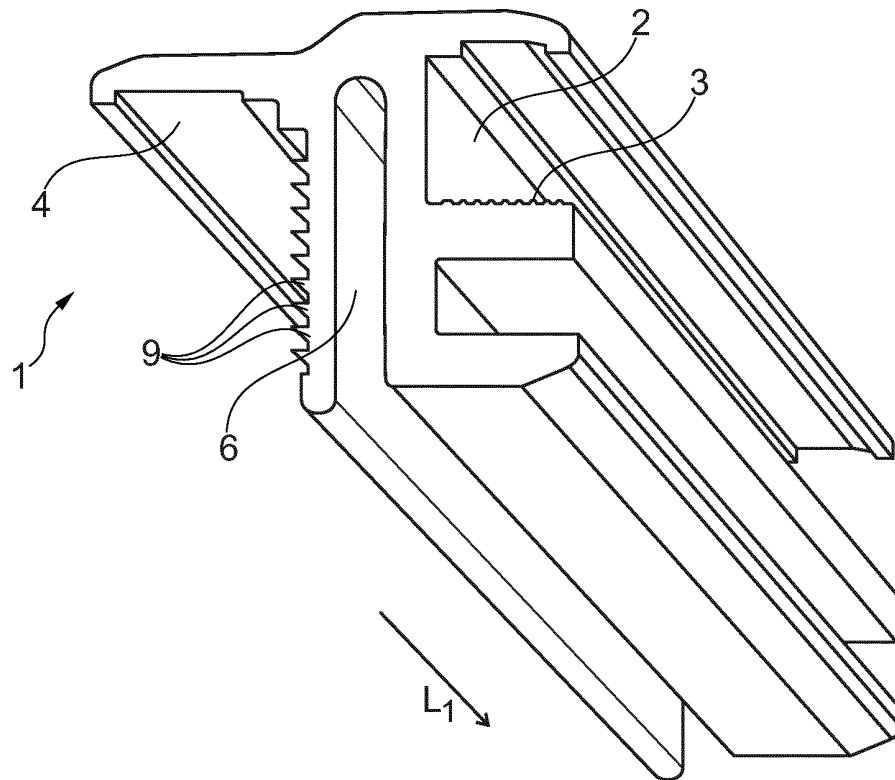


Fig. 1

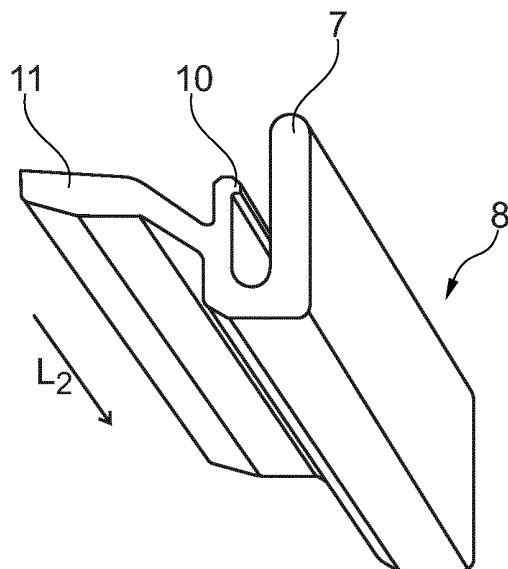


Fig. 2

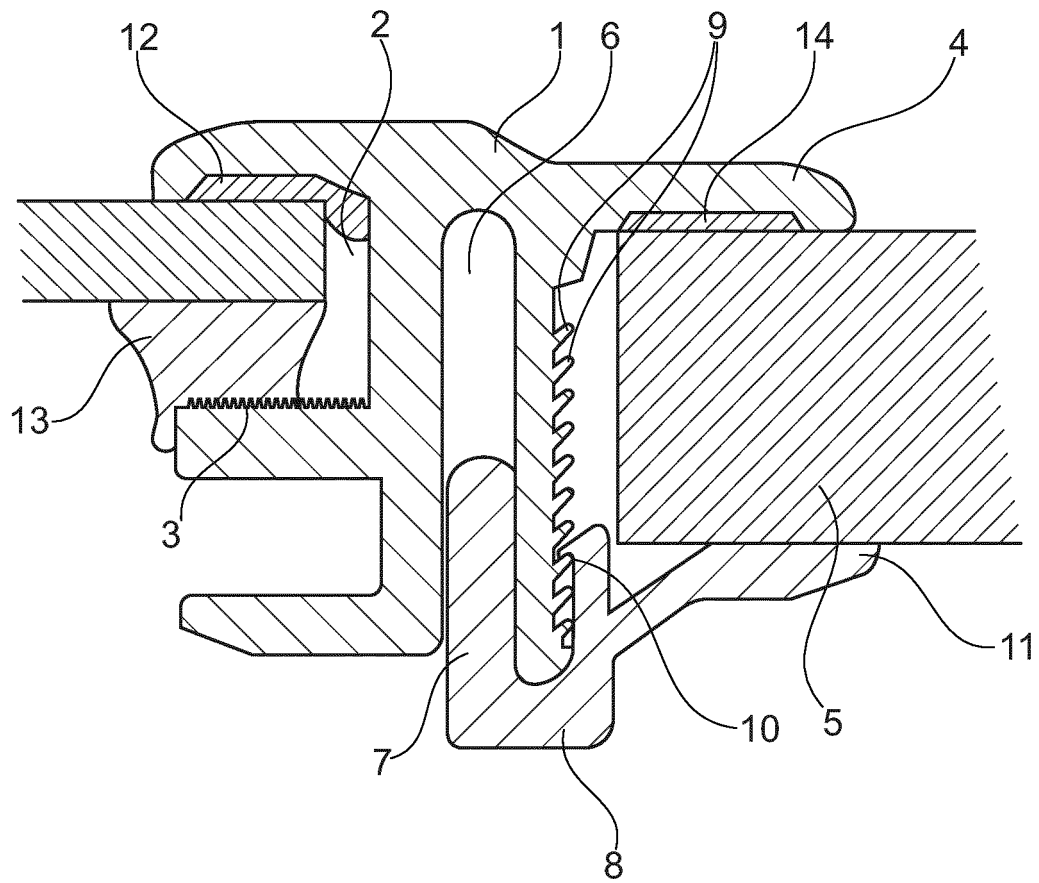


Fig. 3



EUROPEAN SEARCH REPORT

Application Number
EP 13 19 0135

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			TECHNICAL FIELDS SEARCHED (IPC)
			E06B B63B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		29 November 2013	Hellberg, Jan
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			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82