

MOUNTING ASSEMBLY FOR DOOR OR WINDOW AND DOOR OR WINDOW ASSEMBLY EMPLOYING SAME

Field of the Invention

5 The present invention relates, in general, to door and window systems and more particularly to a mounting assembly for a door or a window and a door or window assembly employing the same.

Background of the Invention

10 Door and window systems with concealed hinges are popular for safety and aesthetic reasons. However, these are typically not designed to accommodate thicker panels and when scaled up, become overly large and chunky, losing their aesthetic appeal. There is therefore a need for a mounting assembly for a door or a window and a door or window assembly that can accommodate thicker panels without losing aesthetic appeal.

Summary of the Invention

15 Accordingly, in a first aspect, the present invention provides a mounting assembly for a door or a window. The mounting assembly includes a stile member having a first member arranged to be coupled to a door or window leaf and a second member extending from the first member, the second member being arranged to at least partially conceal a hinged portion of a door or window
20 assembly when the door or the window is in an open position. A support structure is attached to the stile member, the support structure being arranged to provide a surface of attachment within a space defined by the first and second members of the stile member.

25 In a second aspect, the present invention provides a door or window assembly. The door or window assembly includes a mounting assembly in accordance with the first aspect and a door or window leaf coupled to the first

member of the stile member, the door or window leaf having a thickness of between about 50 millimetres (mm) and 70 mm.

Other aspects and advantages of the invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, illustrating by way of example the principles of the invention.

Brief Description of the Drawings

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

FIGS. 1A and 1B are schematic cutaway top plan views of a door or window assembly in accordance with an embodiment of the present invention;

FIGS. 2A through 2C are schematic cutaway top plan views of a door or window assembly in accordance with another embodiment of the present invention; and

FIGS. 3A and 3B are schematic cutaway top plan views of a door or window assembly in accordance with yet another embodiment of the present invention.

Detailed Description of Exemplary Embodiments

The detailed description set forth below in connection with the appended drawings is intended as a description of presently preferred embodiments of the invention, and is not intended to represent the only forms in which the present invention may be practiced. It is to be understood that the same or equivalent functions may be accomplished by different embodiments that are intended to be encompassed within the scope of the invention.

Referring now to FIGS. 1A and 1B, a door or window assembly 10 mounted to a wall 12 is shown. The door or window assembly 10 is shown in a closed position in FIG. 1A and in an open position in FIG. 1B.

The door or window assembly 10 includes a mounting assembly 14 for a door or a window. The mounting assembly 14 includes a stile member 16 having a first member 18 arranged to be coupled to a door or window leaf 20 and a second member 22 extending from the first member 18, the second member 22 being arranged to at least partially conceal a hinged portion 24 of the door or window assembly 10 when the door or the window is an open position. A support structure 26 is attached to the stile member 16, the support structure 26 being arranged to provide a surface of attachment 28 within a space defined by the first and second members 18 and 22 of the stile member 16.

In the embodiment shown, the support structure 26 includes a first support member 30 extending away from the second member 22 of the stile member 16, and a second support member 32 extending from the first support member 30 in a direction parallel to a plane of the second member 22 of the stile member 16 from which the first support member 30 extends.

In the present embodiment, the mounting assembly 14 includes a hinge 34 and a jamb 36. A first leaf 38 of the hinge 34 is attached to the second support member 32 of the support structure 26 and a second leaf 40 of the hinge 34 is attached to the jamb 36. The jamb 36 is mounted to the wall 12 and takes strength from the wall 12. As can be seen from FIG. 1A, a width W of the jamb 36 is less than a length L of the first member 18 of the stile member 16. Advantageously, this allows the door or window assembly 10 to be scaled up without becoming overly large and chunky, thereby preserving the aesthetic appeal of the door or window assembly 10 when applied to thicker doors and/or windows.

In the embodiment shown, a cover 42 is releasably attached to a first side 44 of the jamb 36. In the present embodiment, the cover 42 is provided with a plurality of clips 46 that are arranged to engage with a plurality of protrusions 48 on the first side 44 of the jamb 36. The cover 42 helps to
5 conceal the hinged portion 24 of the door or window assembly 10 and may be removed when access to the hinge 34 is required.

In the present embodiment, the jamb 36 includes an extended portion 50 at a second side 52 of the jamb 36, the extended portion 50 being arranged to at least partially conceal the hinged portion 24 of the door or window assembly
10 10.

One or more of the stile member 16, the jamb 36 and the cover 42 may be made of a metal such as, for example, aluminium or an alloy by, for example, extrusion.

In the embodiment shown, the door or window leaf 20 is received in a
15 recess 54 formed in the first member 18 of the stile member 16 and is in this manner coupled to the first member 18 of the stile member 16. In an alternative embodiment, the door or window leaf 20 may be attached to the first member 18 of the stile member 16 by, for example, a plurality of screws (not shown). The door or window leaf 20 may have a thickness T of between about 50
20 millimetres (mm) and 70 mm, making the door or window assembly 10 suitable for applications requiring thicker doors or windows, for example, for sound insulation and/or fire safety.

As can be seen from FIGS. 1A and 1B, the hinged portion 24 of the door or window assembly 10 is completely concealed when the door or the window is
25 in both open and closed positions, making the door or window assembly 10 both safe to use and aesthetically pleasing.

Referring now to FIGS. 2A through 2C, a door or window assembly 100 in accordance with another embodiment of the present invention is shown. The door or window assembly 100 is mounted to a wall 102 and is shown in a closed position in FIG. 2A and in an open position in FIG. 2B.

5 The door or window assembly 100 includes a mounting assembly 104 for a door or a window. The mounting assembly 104 includes a stile member 106 having a first member 108 arranged to be coupled to a door or window leaf 110 and a second member 112 extending from the first member 108, the second member 112 being arranged to at least partially conceal a hinged portion 114 of
10 the door or window assembly 100 when the door or the window is an open position. A support structure 116 attached to the stile member 106, the support structure 116 being arranged to provide a surface of attachment 118 within a space defined by the first and second members 108 and 112 of the stile member 106.

15 In the embodiment shown, the support structure 116 includes a first support member 120 extending away from the first member 108 of the stile member 106, and a second support member 122 extending from the first support member 120 in a direction parallel to a plane of the first member 108 of the stile member 106 from which the first support member 120 extends.

20 In the present embodiment, the mounting assembly 104 includes a hinge 124 and a jamb 126. A first leaf 128 of the hinge 124 is attached to the second support member 122 of the support structure 116 by a plurality of first screws 130 and a second leaf 132 of the hinge 124 is attached to the jamb 126 by a second screw 134. The jamb 126 is mounted to the wall 102 and takes strength
25 from the wall 102. As can be seen from FIG. 2A, a width W of the jamb 126 is less than a length L of the first member 108 of the stile member 106. Advantageously, this allows the door or window assembly 100 to be scaled up without becoming overly large and chunky, thereby preserving the aesthetic

appeal of the door or window assembly 100 when applied to thicker doors and/or windows.

In the embodiment shown, a cover 136 is rotatably attached to a first side 138 of the jamb 126. The cover 136 is shown in a closed position in FIGS. 2A and 2B and in an open position in FIG. 2C. In the present embodiment, the cover 136 is provided with a clip 140 that is arranged to engage with a protrusion 142 on the first side 138 of the jamb 36 when the cover 136 is in the closed position as shown in FIGS. 2A and 2B. The cover 136 of the present embodiment is further provided with a curved proximal end 144 that is arranged to be rotatably received in a curved groove 146 provided at the first side 138 of the jamb 36. As can be seen from FIGS. 2B and 2C, the cover 136 helps to conceal the hinged portion 114 of the door or window assembly 100 and may be released from engagement with the protrusion 142 on the first side 138 of the jamb 36 and rotated into the open position when access to the hinge 124 is required.

As shown in FIG. 2A, the second member 112 of the stile member 106 extends over the cover 136 when the door or the window is closed. Advantageously, this provides a double layer of protection against access to the first screws 130 and the second screw 134 securing the stile member 106 to the jamb 126, making unauthorised dismantling of the door or window assembly 100 difficult. As an additional security feature, the hinge 124 of the present embodiment is in a closed position when the door or the window is closed. Advantageously, this prevents unauthorised removal of the first screws 130 and the second screw 134 when the door or the window is closed.

Referring now to FIGS. 3A and 3B, an alternative embodiment of the cover 136 is shown. The cover 136 is shown in a closed position in FIG. 3A and in an open position in FIG. 3B. As the cover 136 shown in FIGS. 3A and 3B operates in the same manner as that shown in FIGS. 2A through 2C, a

detailed description of the cover 136 shown in FIGS. 3A and 3B is not required for a complete understanding of the present invention.

Referring again to FIGS. 2A through 2C, in the present embodiment, a groove or slot 148 is formed adjacent the first side 138 of the jamb 126 and a protrusion 150 is provided on the second leaf 132 of the hinge 124, the protrusion 150 being arranged to be received in the groove or slot 148 of the jamb 126. A third screw 152 may be provided to secure the protrusion 150 on the second leaf 132 of the hinge 124 in the groove or slot 148 of the jamb 126. Advantageously, this helps strengthen the attachment of the stile member 106 to the jamb 126, allowing the door or window assembly 100 to accommodate and be used for heavier doors or windows.

In the embodiment shown, the jamb 126 includes an extended portion 154 at a second side 156 of the jamb 126, the extended portion 154 being arranged to at least partially conceal the hinged portion 114 of the door or window assembly 100.

One or more of the stile member 106, the jamb 126 and the cover 136 may be made of a metal such as, for example, aluminium or an alloy by, for example, extrusion.

In the embodiment shown, the door or window leaf 110 is received in a recess 158 formed in the first member 108 of the stile member 106 and is in this manner coupled to the first member 108 of the stile member 106. In an alternative embodiment, the door or window leaf 110 may be attached to the first member 108 of the stile member 106 by, for example, a plurality of screws (not shown). The door or window leaf 100 may have a thickness T of between about 50 millimetres (mm) and 70 mm, making the door or window assembly 100 suitable for applications requiring thicker doors or windows, for example, for sound insulation and/or fire safety.

As can be seen from FIGS. 2A and 2B, the hinged portion 24 of the door or window assembly 10 may be completely concealed when the door or the window is in both open and closed positions, making the door or window assembly 10 both safe to use and aesthetically pleasing.

5 In the present embodiment, a panel 160 is attached to a surface 162 of the stile member 106, the surface 162 of the stile member 106 to which the panel 160 is attached being parallel to a plane of the second member 112 of the stile member 106. Advantageously, this reduces or eliminates any gap between the door or the window and the wall 102 when the door or the window is open.
10 Further advantageously, the panel 160 may also be used to increase the thickness of the door or the window.

As is evident from the foregoing discussion, the present invention provides a mounting assembly for a door or a window and a door or window assembly that can accommodate thicker doors or windows, for example, for
15 sound insulation and/or fire safety applications, without losing aesthetic appeal.

While preferred embodiments of the invention have been illustrated and described, it will be clear that the invention is not limited to these embodiments only. Numerous modifications, changes, variations, substitutions and equivalents will be apparent to those skilled in the art without departing from the
20 scope of the invention as described in the claims.

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

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CLAIMS

1. A mounting assembly for a door or a window, comprising:
 - a stile member having a first member arranged to be coupled to a door or
 - 5 window leaf and a second member extending from the first member, wherein the second member is arranged to at least partially conceal a hinged portion of a door or window assembly when the door or the window is an open position; and
 - a support structure attached to the stile member, wherein the support
 - 10 structure extends into a space defined by the first and second members of the stile member and is arranged to provide a surface of attachment for a hinge leaf within the space defined by the first and second members of the stile member.
2. The mounting assembly of claim 1, wherein the support structure
- 15 comprises:
 - a first support member extending away from one of the first and second members of the stile member; and
 - a second support member extending from the first support member in a direction parallel to a plane of the one of the first and second members of the
 - 20 stile member from which the first support member extends.
3. The mounting assembly of claim 2, further comprising:
 - a hinge; and
 - a jamb,
 - 25 wherein a first leaf of the hinge is attached to the second support member of the support structure and a second leaf of the hinge is attached to the jamb.
4. The mounting assembly of claim 3, wherein a width of the jamb is less
- 30 than a length of the first member of the stile member.

5. The mounting assembly of claim 3 or 4, wherein the hinge is in a closed position when the door or the window is closed.
- 5 6. The mounting assembly of any one of claims 3 to 5, further comprising a cover releasably or rotatably attached to a first side of the jamb.
7. The mounting assembly of claim 6, wherein the cover is provided with one or more clips that are arranged to engage one or more protrusions on the
10 first side of the jamb.
8. The mounting assembly of claim 6 or 7, wherein the cover is provided with a curved proximal end that is arranged to be rotatably received in a curved groove provided at the first side of the jamb.
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9. The mounting assembly of any one of claims 6 to 8, wherein the second member of the stile member extends over the cover when the door or the window is closed.
- 20 10. The mounting assembly of any one of claims 6 to 9, further comprising a groove formed adjacent the first side of the jamb and a protrusion provided on the second leaf of the hinge, wherein the protrusion is arranged to be received in the groove of the jamb.
- 25 11. The mounting assembly of any one of claims 6 to 10, wherein the jamb further comprises an extended portion at a second side of the jamb, wherein the extended portion is arranged to at least partially conceal the hinged portion of the door or window assembly.

12. The mounting assembly of any one of the preceding claims, further comprising a panel attached to a surface of the stile member, wherein the surface of the stile member to which the panel is attached is parallel to a plane of the second member of the stile member.

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13. A door or window assembly, comprising:
a mounting assembly according to any one of claims 3 to 8; and
a door or window leaf coupled to the first member of the stile member,
wherein the door or window leaf has a thickness of between 50 millimetres
10 (mm) and 70 mm.