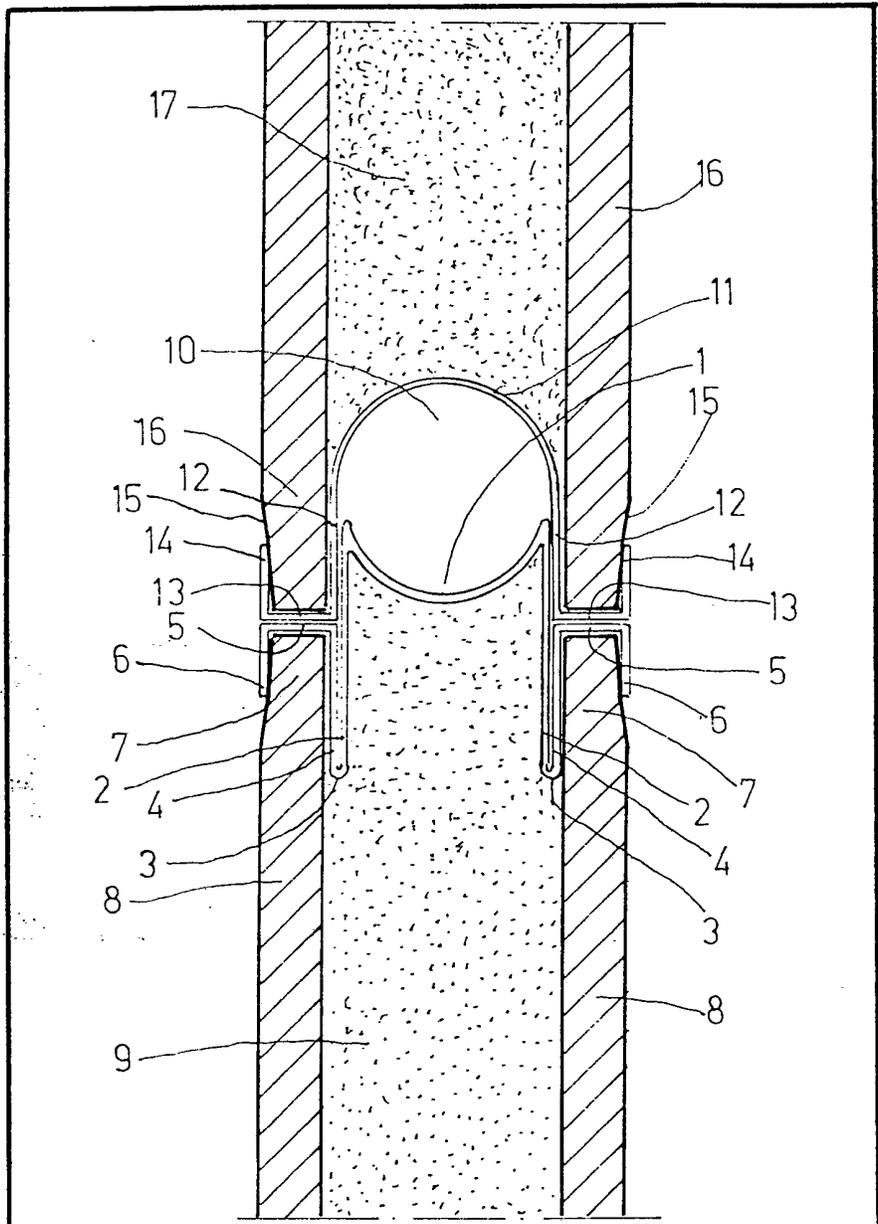


- (21) Application No 8308013
- (22) Date of filing 23 Mar 1983
- (30) Priority data
- (31) 32822
- (32) 2 Apr 1982
- (33) Italy (IT)
- (43) Application published 19 Oct 1983
- (51) INT CL<sup>3</sup>  
F16B 5/01
- (52) Domestic classification  
F2M 205 209 274 C2 E  
U1S 1700 F2M
- (56) Documents cited  
None
- (58) Field of search  
F2M
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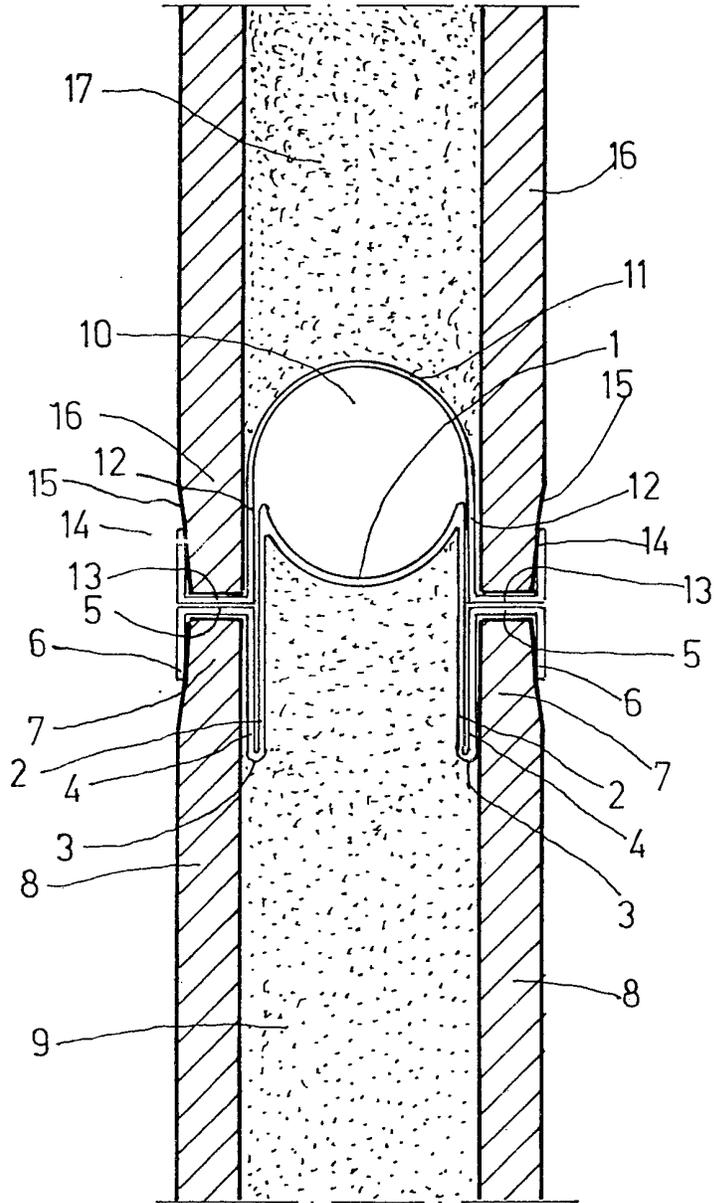
(54) Joint for prefabricated panels

(57) A joint for the assembly of prefabricated panels comprises a first profile of the male type and a second profile of the female type. The first profile comprises an arcuate central portion (1) terminating at its ends in straight portions (2, 4, 5 and 6) which form a pair of U-shaped channels facing in a direction opposite to the concave surface of the arcuate portion (1). The second profile likewise comprises an arcuate intermediate

portion (11) which is connected at each end to respective U-shaped channels formed by straight portions (12, 13 and 14). The intermediate portion (11) of the second profile is adapted to receive the arcuate portion (1) and adjoining sections of the first straight portions (2) of the first profile and the U-shaped channels of both profiles are adapted to receive, respectively, the edge regions (7, 15) of a pair of outer sheet members (8, 16) of a pair of prefabricated panels to connect said panels together.



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## SPECIFICATION

**Joint for prefabricated panels**

This invention relates to joints for the assembly of prefabricated panels.

5 Many joints are known to be suitable for assembling modular panels in the field of prefabricated building. However, the existing joints have not solved the numerous problems involved in the assembly of a series of pre-  
10 fabricated panels, e.g. thermal insulation, protecting the edges of the panels and the presence of easily breakable weak points among others.

The present invention aims to provide a joint for the assembly of prefabricated panels, in particular panels of the type which has two external supports or linings with an interposed filling, which overcomes the above-mentioned problems and which ensures, in particular, that  
20 the edges of the panels are protected.

According to the invention, there is provided a joint for the assembly of prefabricated panels which comprises a first profile of the male type and a second profile of the female type which are  
25 adapted to cooperate with one another, wherein the first profile comprises, in section, an arcuate central portion terminating at each end in a first straight portion extending substantially perpendicularly to the plane through the ends of  
30 the arcuate portion in the direction of the convex side of the arcuate portion, each said first straight portion terminating in an elbow bend and being followed by a second straight portion extending substantially parallel to the associated first  
35 straight portion but being shorter, a respective third straight portion connected to the end of each said second straight portion and extending perpendicular thereto and a respective fourth straight portion connected to each said third  
40 straight portion and extending substantially parallel to said second straight portion whereby said second, third and fourth straight portions form a pair of U-shaped channels facing in a direction opposite to the concave side of the  
45 arcuate portion, wherein the second profile comprises, in section, a pair of U-shaped channels, arranged to face in the opposite direction to that in which the face the U-shaped channels of said first profile, and an intermediate  
50 portion interconnecting said U-shaped channels, wherein the intermediate portion is adapted to receive the arcuate portion and adjoining sections of the said first straight portions of the first profile and wherein the U-shaped channels of  
55 both profiles are adapted to receive respectively, the edge regions of a pair of outer sheet members of a pair of prefabricated panels to connect said panels together.

60 Preferably, the intermediate section of the second profile is also arcuate whereby, when the two profiles are assembled together, a conduit of circular cross-section is formed between them. This conduit may serve, for example, to accommodate electric cables, telephone wires

65 and the like. The outer diameter of the conduit is desirably substantially equal to the width of the filling material between the said outer sheet members of the panels and projects into said filling material.

70 The edge regions of the panels are preferably tapered or recessed on the outer surfaces of the sheet members in order to receive the outer portions of the U-shaped channels of the first and second profiles of the joint according to the  
75 invention. By this measure it is possible to achieve a substantially flush surface between adjacent, connected panels.

By means of the joint according to the invention it is possible to provide self-support for the connected panels and to achieve a plane surface on both surfaces of the panel owing to the profiling of the external supports or the lining of the panel.

The thickness of the profiles may also be  
85 adjusted.

The joint according to the invention also eliminates the risk of breakage of the outer sheet members of the panels at the edge regions in the proximity of the joint.

90 The invention will now be further described, by way of example, with reference to the drawing, the single figure of which is a vertical cross-section through one embodiment of a joint according to the invention.

95 Referring to the drawing, the joint comprises a first profile of the male type having an arcuate central portion 1 terminating at each end in a first straight portion 2 extending perpendicularly to the plane through the ends of the arcuate portion 1 in the direction of the convex side of the arcuate  
100 portion. Each straight portion 2 terminates in an elbow bend 3 and is followed by a second straight portion 4 extending substantially parallel to the straight portions 2. The straight portions 4 are shorter than the straight portions 2 and terminate in respective third straight portions 5 extending  
105 perpendicular to the straight portions 4. A respective fourth straight portion 6 is connected to each straight portion 5 and the straight portions 6 extend substantially parallel to the straight portions 4 and in the same direction. The straight portions 4, 5 and 6 thus form a pair of U-shaped channels.

The joint further comprises a second profile of  
115 the female type having an arcuate portion 11 terminating at its ends in a pair of first straight portions 12 extending perpendicularly to the plane through the ends of the arcuate portion 11 in the direction of the concave side of the arcuate  
120 portion. Each straight portion 12 terminates in a second straight portion 13 extending perpendicularly to the associated straight portion 12. A respective straight portion 14 is connected to each straight portion 13 and the straight  
125 portions 14 extend substantially parallel to the straight portions 12 and in the same direction. The straight portions 12, 13 and 14 thus form a second pair of U-shaped channels which are

similar to the channels formed by the straight portions 4, 5 and 6.

The diameter of the arcuate portion 11 is slightly greater than that of the arcuate portion 1 whereby the straight portions 2 and the said arcuate portion 1 are receivable between the straight portions 12 of the second profile as shown in the drawing. The arrangement is such that the portions 5 and 13 of the first and second profiles respectively are designed to abut against one another with the arcuate portions 1 and 11 meeting to form a conduit 10 of substantially circular cross-section.

The U-shaped channels of the first profile are designed to receive tapered or chamfered edges 7 of the outer sheet members 8 of a first pre-fabricated panel and filling material 9 extends between the sheet members 8 and into the first profile as shown in the drawing. Similarly, the U-shaped channels of the second profile are designed to receive tapered or chamfered edges 15 of the outer sheet members 16 of a second pre-fabricated panel and filling material 17 extends between the sheet members 16 and surrounds the convex surface of the second profile.

The chamfers on the edges 7 and 15 are such that the outer surfaces of the sections 6 and 14 are substantially flush with the outer surfaces of the outer sheet members 8 and 16.

It will be found that the joint described above and illustrated in the drawing will overcome all of the above-mentioned disadvantages of the previously known joints and will provide a firm connection between prefabricated panels which does not break easily and is not unsightly.

The profiles are preferably extruded from aluminium or plastics material although other materials and methods of manufacture may be used if desired.

#### Claims

1. A joint for the assembly of prefabricated panels which comprises a first profile of the male type and a second profile of the female type which are adapted to co-operate with one another, wherein the first profile comprises, in section, an arcuate central portion terminating at each end in a first straight portion extending substantially perpendicularly to the plane through the ends of the arcuate portion in the direction of the convex side of the arcuate portion, each said first straight portion terminating in an elbow bend and

being followed by a second straight portion extending substantially parallel to the associated first straight portion but being shorter, a respective third straight portion connected to the end of each said third straight portion connected to the end of each said second straight portion and extending substantially perpendicular thereto and a respective fourth straight portion connected to each said third straight portion and extending substantially parallel to said second straight portion whereby said second, third and fourth straight portions form a pair of U-shaped channels facing in a direction opposite to the concave side of the arcuate portion, wherein the second profile comprises, in section, a pair of U-shaped channels, arranged to face in the opposite direction to that in which face the U-shaped channels of said first profile, and an intermediate portion interconnecting said U-shaped channels, wherein the intermediate portion is adapted to receive the arcuate portion and adjoining sections of the said first straight portions of the first profile and wherein the U-shaped channels of both profiles are adapted to receive, respectively, the edge regions of a pair of outer sheet members of a pair of prefabricated panels to connected said panels together.

2. A joint according to claim 1, wherein the intermediate section of the second profile is also arcuate whereby, when the two profiles are assembled together, a conduit of circular cross-section is formed between them.

3. A joint according to claim 2, wherein the outer diameter of the conduit is substantially equal to the width of filling material between the said outer sheet members of the panels and projects into said filling material.

4. A joint according to any preceding claim, wherein the outer limbs of the U-shaped channels of said first and second profiles are engageable in tapered or recessed edges of the panels.

5. A joint according to any preceding claim, wherein the first and second profiles are composed of extruded sections.

6. A joint according to any preceding claim, wherein the first and second profiles are made of aluminium.

7. A joint according to any preceding claim, wherein the first and second profiles are made of plastics material.

8. A joint for the assembly of prefabricated panels substantially as described herein with reference to the drawing.