

(19)



(11)

EP 2 657 422 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

30.10.2013 Bulletin 2013/44

(51) Int Cl.:

E04B 2/96 (2006.01)

(21) Application number: **12166045.0**

(22) Date of filing: **27.04.2012**

(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

(71) Applicant: **Cuhadaroglu Metal Sanayi Ve
Pazarlama A.S.
34900 Istanbul (TR)**

(72) Inventors:

- **Yilmaz, Metin
34900 Istanbul (TR)**
- **Gokdemir, Huseyin
34900 Istanbul (TR)**

(74) Representative: **Dericioglu Kurt, Ekin
Ankara Patent Bureau Limited
Bestekar Sokak No: 10
Kavaklidere
06680 Ankara (TR)**

(54) **A curtain wall system with micro condensate channel**

(57) The present invention relates to a curtain wall system which is comprised of profiles (1,2) which canalize the rain water entering inside the system by means of the waved inner surface geometry of the mullion/ transom profiles (1,2), and thus prevent the water from entering interior medium and direct the water to the drainage path; and which have screw slots enabling the connection member (11) such as screw etc. to progress and hold on during fixing the filling material such as glass etc. (10) via the connection member (11), and at the same time which have bridge (1.3, 2.3) preventing the screwed surfaces from moving away from each other, and which have inner tabs (1.4, 2.4) in which the reinforcement profile is slid and mounted.

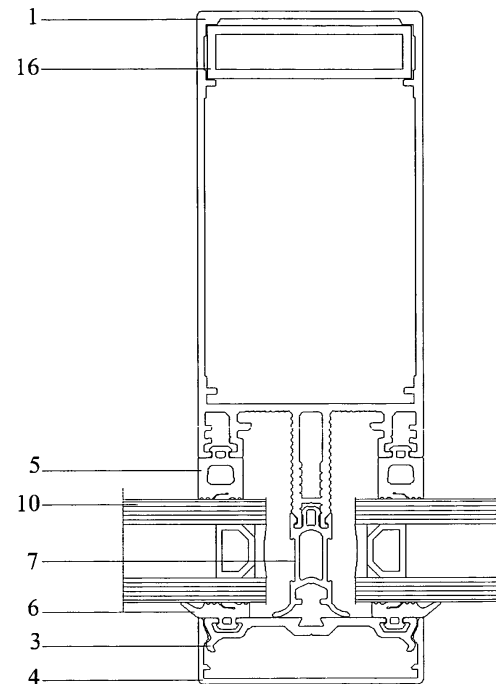


Figure 1

EP 2 657 422 A1

Description

in order for its configuration and advantages with the additional members are understood best.

Field of the Invention

[0001] The present invention relates to a curtain wall system which is comprised of profiles having special channels which prevent rain waters from entering indoor, slots which enable the screws to hold onto the profiles all along the screw and protrusions which enable to re-inforce with strengthening profile.

5

Figure 1 is the plan view of the curtain wall with micro condensate channels.

Figure 2 is the cross-section view of the curtain wall with micro condensate channels.

10

Figure -3 is the sectional view of the mullion profile.

Background of the Invention

Figure -4 is the sectional view of the transom profile.

[0002] In the state of the art, the condensate channel in the present stick wall systems, the water channel, is comprised of straight lines, and this cause the possible rain water problems and condensation water to suffuse on these surfaces and thus the water to reach easily into the critical parts that may cause leakage to the indoor.

15

Figure 5 is the mullion profile

Figure 6 is the derived mullion profile

Figure 7 is the derived mullion profile

[0003] When the current stick system profiles are screwed in order to fix the current stick system profiles after the surface member such as glass etc is placed, the part to which it is screwed is comprised of two long legs having directing channels which are hollow rectangle or compatible with the screw pitch. In the screwing process applied on the rectangular parts, the section which is screwed is not to be thick, and this requires pre-boring. And when the screwing is carried out between two long legs having directing channels compatible with the screw pitch, the two long legs extend sideways.

20

Figure 8 is the transom profile

Figure 9 is the derived transom profile

25

Figure 10 is the derived transom profile

Part numbers**[0009]**

1- Mullion Profile

- 1.1 Micro condensate channels
- 1.2 Screw channel
- 1.3 Bridge
- 1.4 Tab
- 1.5 Groove for Gasket

2- Transom Profile

- 2.1 Micro condensate channels
- 2.2 Screw channel
- 2.3 Bridge
- 2.4 Tab
- 2.5 - Groove for Gasket

Summary of the Invention

[0004] The objective of the present invention is to decrease the tendency of the rain water entering indoors by means of the waved (trapeze, zigzag etc.) present in the mullion and transom profiles and to direct to the drainage path.

35

[0005] Another objective of the present invention is to prevent the screw to be grazed by the screwed surfaced moving away from each other in screwing the filling material such as glass etc. to the mullion and/or transom profiles by means of pressure profile

40

[0006] A further objective of the present invention is to enable the screw to hold onto the profile not only as much as the wall thickness to which it is screwed but also all along the whole screw in process of screwing the filling material such as glass etc. to the mullion and/or transom profiles by means of the pressure profile.

45

3- Pressure profile

4- Cover profile

5- Inside glazing gasket

6- Outside glazing gasket

7- Thermal barrier

8- Mechanical Support

9- Setting block

10-Filling material (Glass, plate etc.)

11- Connection member

12-Derived mullion profile

13-Derived mullion profile

14-Derived transom profile

15-Derived transom profile

[0007] Yet another objective of the present invention is to mount strengthening reinforcing profile by sliding inside the mullion/transom profile by means of the tabs present on the mullion/transom profile.

50

Figures Illustrating the Invention

55

[0008] The present invention should be evaluated in conjunction with the figures which are described below,

16-Reinforcement profile

Detailed Description of the Invention

[0010] In this detailed description, preferred embodiments of the inventive curtain wall system with micro condensate channels are described only for better understanding of the subject and in such a manner that it will not produce any limiting effect.

[0011] The mullion profiles (1) are fixed to the building carrier system using anchorages at certain intervals. The transom profiles (2) are mounted on the mullion profiles (1) by using transom-mullion cleat profiles and/or without using transom-mullion cleat profiles. After the mounting of the transom profiles (2) is completed, inside glazing gaskets (5) are mounted into the groove for gaskets (1.5, 2.5) of the mullion and transom profiles (1,2). Thermal barriers (7) are mounted on the mullion and/or transom profiles (1,2) manually. The mechanical support members (8) are mounted on the transom profiles (2). The setting blocks (9) are placed on the mechanical support members (8). Filling materials such as glass etc. (10) are placed onto the setting blocks (9). Outside glazing gaskets (6) are mounted on the pressure profile (3), then the pressure profile (3) is mounted on the mullion and/or transom profiles (1,2) by using connection member (11). During mounting, connection member (11) such as screw etc. can be screwed with more infrequent intervals by means of the screw channel (1.2, 2.2) and can hold onto the surface along the all screw. At the same time, the screwed surfaces will not move away from each other by means of the bridge (1.3, 2.3) on the profile (1, 2). By this means, the screw is prevented from being grazed from its place. The cover profiles (4) are mounted on the pressure profiles (3) and the mounting is completed. Reinforcement profiles (16) used in order to compensate the high wind loads and static loads are mounted by being slid between the tabs (1.4, 2.4) present in the inner space of the mullion and/or transom profiles (1, 2).

moving away (extend) from each other, during fixing process.

2. A curtain wall system according to claim 1, comprising mullion and transom profiles (1, 2) which prevent water flow from entering inside of the building by canalizing the water entering inside the system, to the inner surfaces of the profiles (1, 2) by means of its micro condensate channels (1.1, 2.1) having waved (zigzag, trapeze, square, rectangular, triangle etc.) geometry and enable the water to be directed towards the drainage path.
3. A curtain wall system according to Claim 1, comprising mullion (1) and transom (2) profiles with screw channel (slot) (1.2, 2.2), in which connection member (11) such as screw etc are progressed, held onto the surfaces, in order that filling materials such as glass etc are fixed to the mullion or transom, and connections (bridge) (1.3, 2.3), which prevent the screwed surfaces (walls) from moving away (extend) from each other.
4. A curtain wall according to Claim 1, comprising mullion and transom profiles which are mounted by the reinforcement profile (16) being slid without using connection member (11) by means of the tabs (1.4, 2.4) it has.

Claims

1. A curtain wall system comprising mullion (1), transom (2) or angular profiles which prevent water flow from entering inside the indoor medium by canalizing the water entering inside the system inside the inner surfaces of the profiles (1, 2) and have condensate channels (1.1, 2.1) having waved (zigzag, trapeze, square, rectangular, triangle etc.) geometry and enable the water to be directed towards the drainage path, profiles (1, 2) which have screw channel (slot) (1.2, 2.2) enabling the connection member such as screw (11) to progress, hold onto the fixing surfaces during fixing the mounting screws (11), which fix the filling material such as glass etc. (10) to the profiles; and profiles with connection parts (bridges) (1.3, 2.3) which prevent the screwed surfaces (walls) from

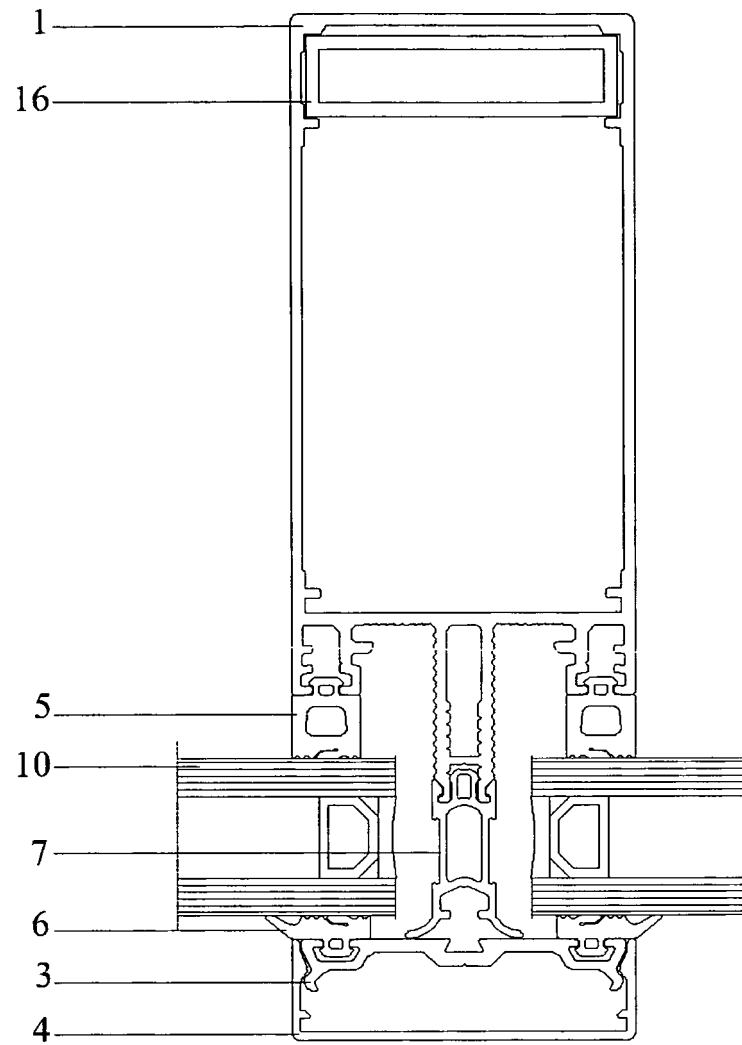


Figure 1

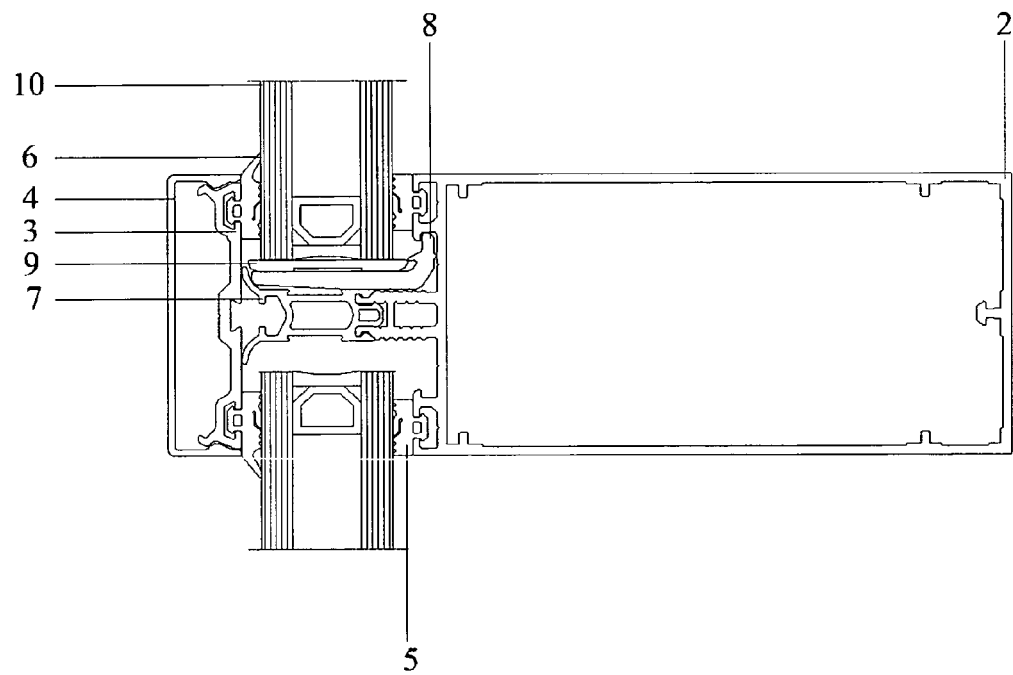


Figure 2

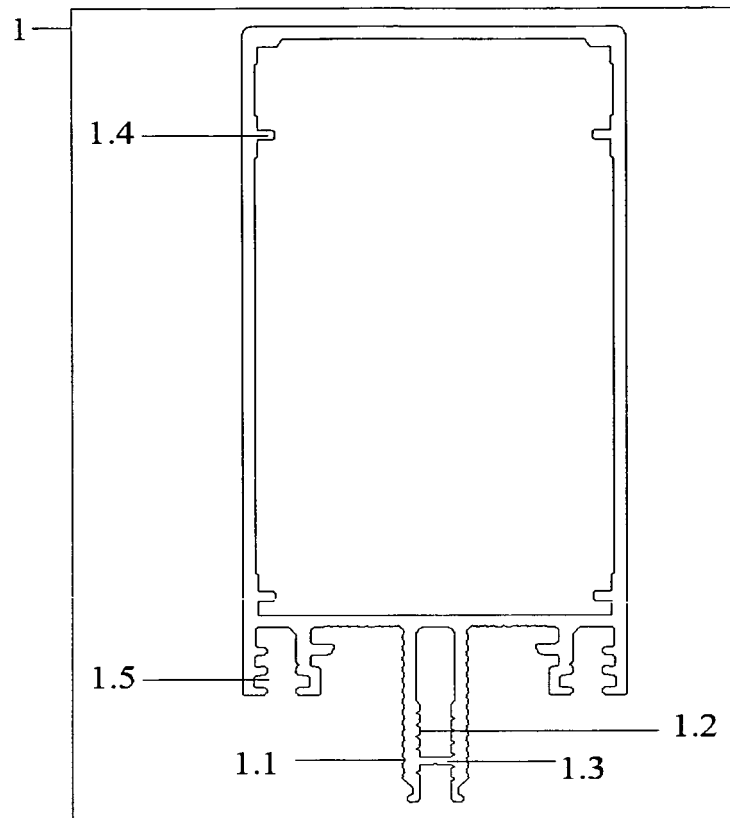


Figure 3

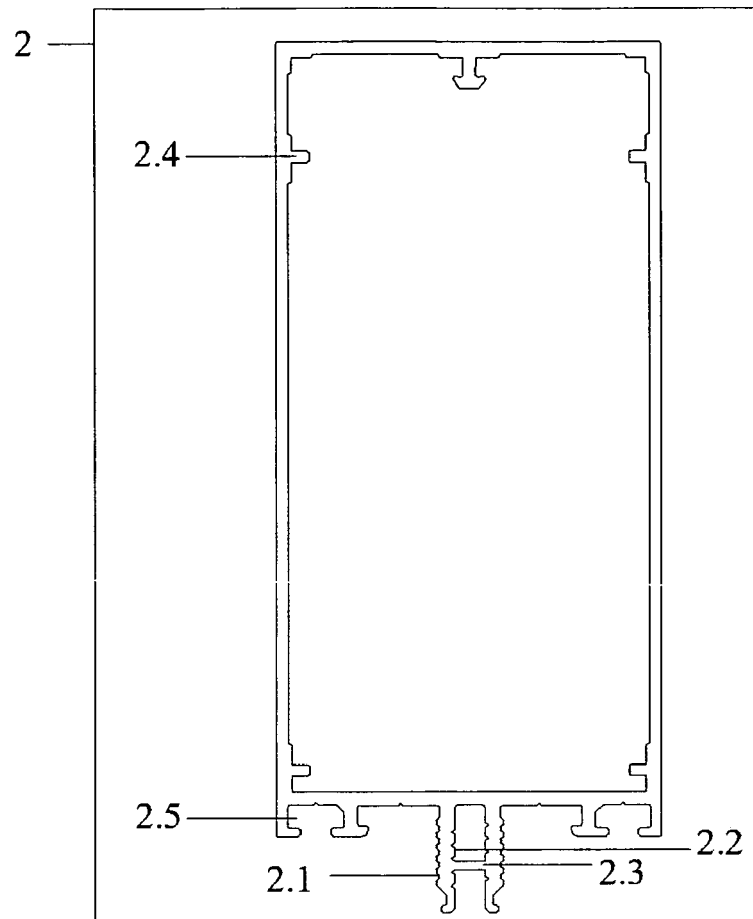


Figure 4

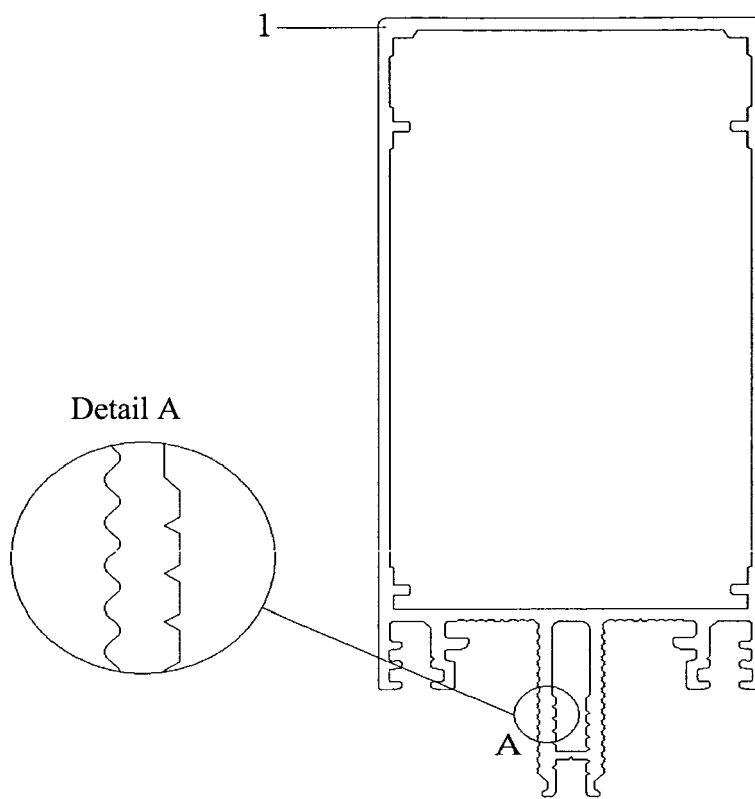


Figure 5

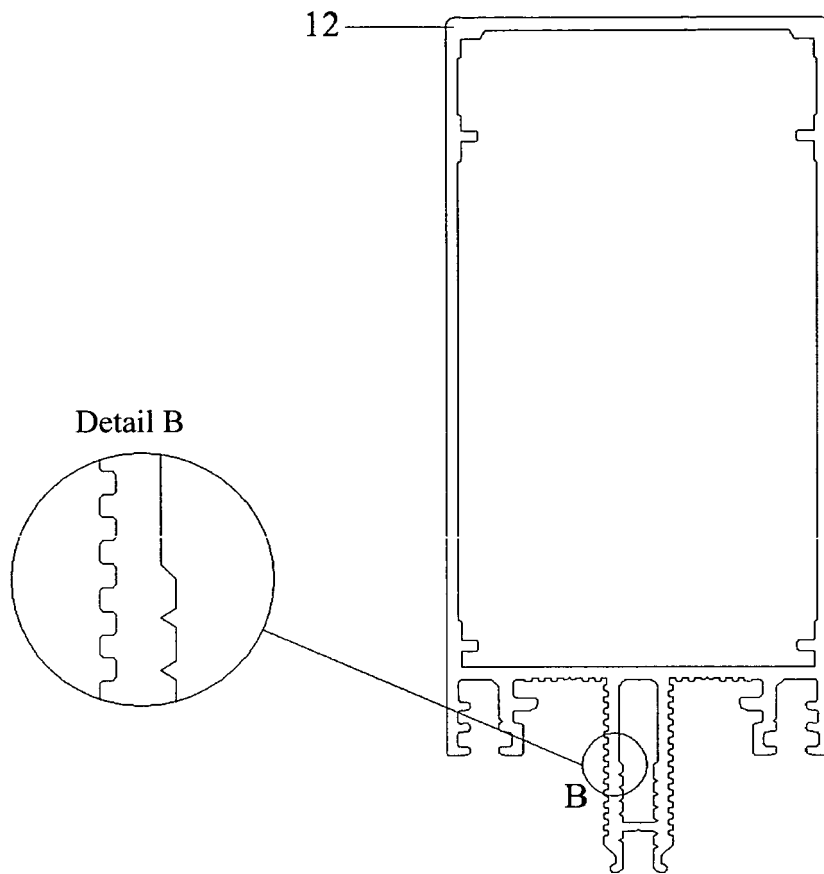


Figure 6

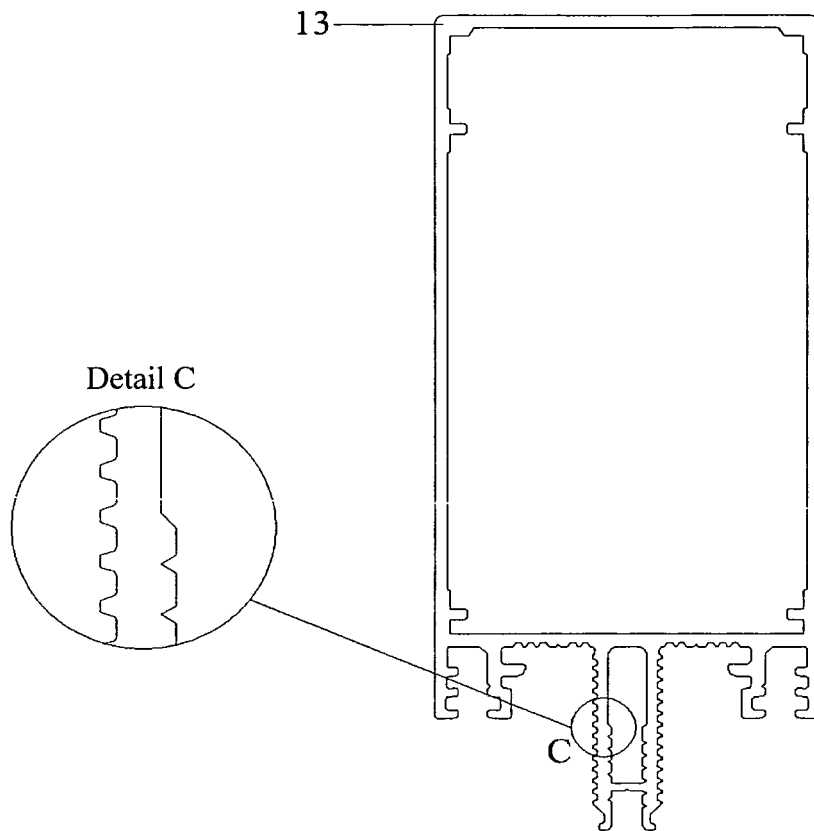


Figure 7

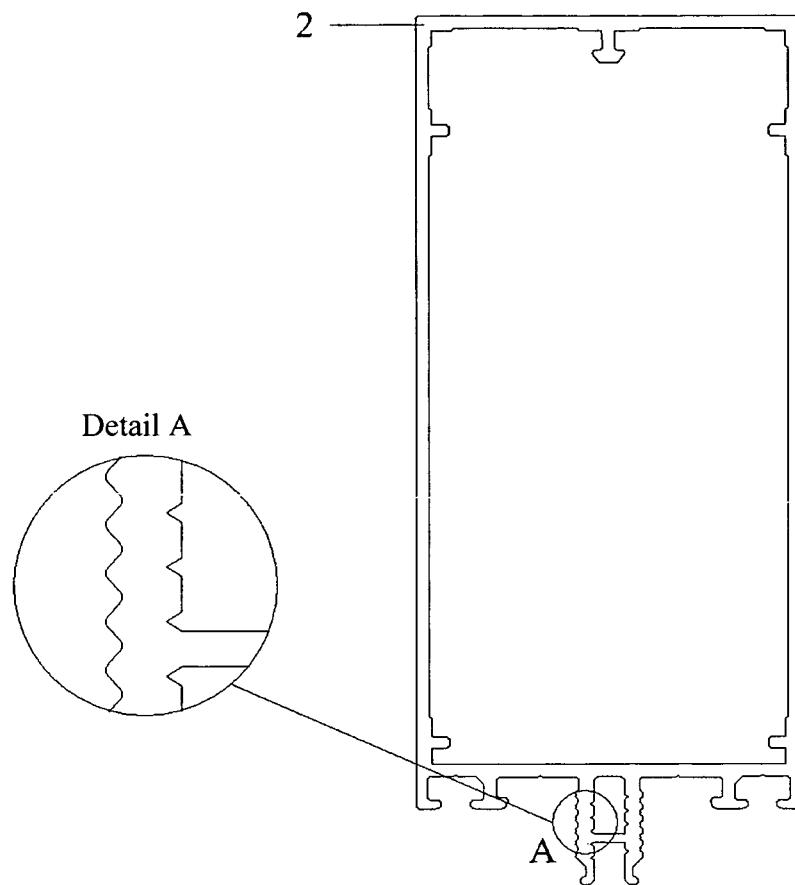


Figure 8

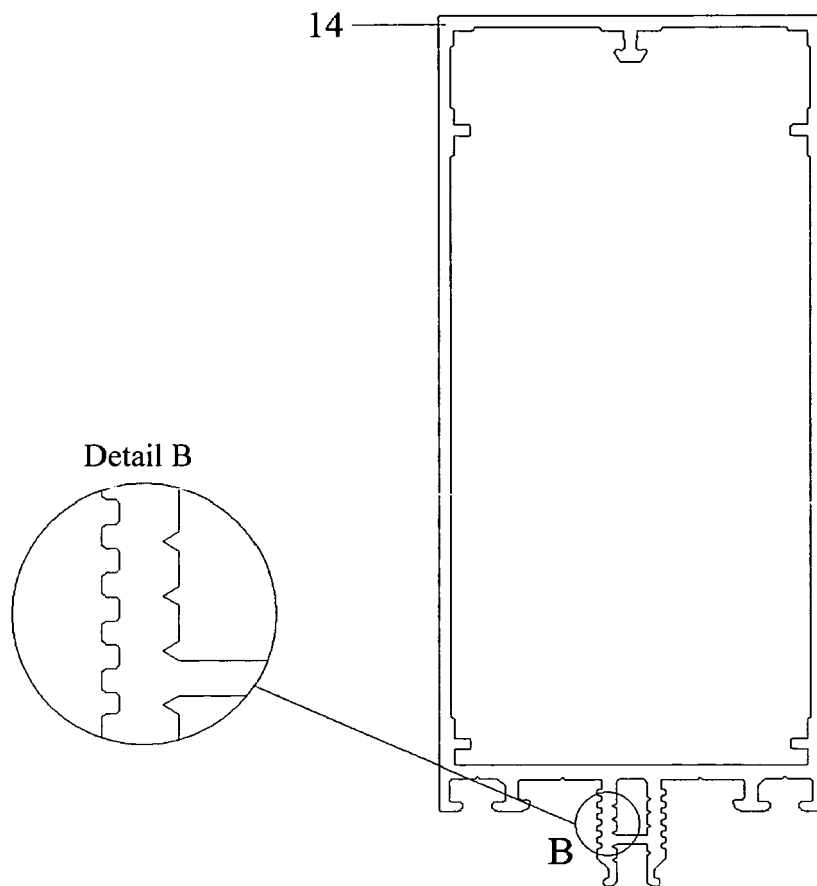


Figure 9

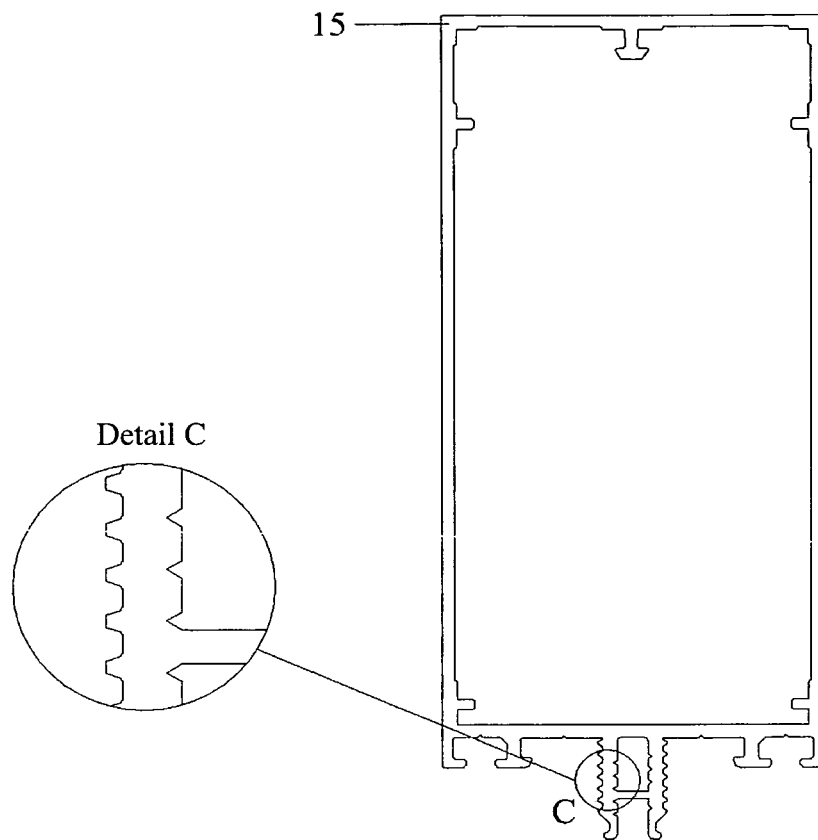


Figure 10



EUROPEAN SEARCH REPORT

Application Number
EP 12 16 6045

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 39 25 197 A1 (HARTMANN & CO W [DE]) 7 February 1991 (1991-02-07) * column 4, lines 39-46; claim 1; figures 2,3,4 * * column 1, lines 57-65 * -----	1-4	INV. E04B2/96
A	DE 196 17 182 A1 (KAESE GERHARD [DE]) 13 November 1997 (1997-11-13) * column 1, lines 54-59; claim 1; figure 2 * * column 2, lines 57-61 * -----	1-4	
A	DE 20 2005 003310 U1 (REHAU AG & CO [DE]) 13 July 2006 (2006-07-13) * claim 1; figure 1 * -----	4	
			TECHNICAL FIELDS SEARCHED (IPC)
			E04B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 19 December 2012	Examiner Rosborough, John
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			

1
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 12 16 6045

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
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

19-12-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 3925197 A1	07-02-1991	CH 682344 A5 DE 3925197 A1	31-08-1993 07-02-1991
DE 19617182 A1	13-11-1997	NONE	
DE 202005003310 U1	13-07-2006	NONE	