(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 3 382 120 A1**

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
03.10.2018 Bulletin 2018/40

(21) Application number: **18164048.3**

(22) Date of filing: **26.03.2018**

(51) Int Cl.:
E04B 2/74 *(2006.01)* ***E04B 2/82*** *(2006.01)*
E06B 3/58 *(2006.01)* ***E06B 3/66*** *(2006.01)*

(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
Designated Validation States:
KH MA MD TN

(30) Priority: **30.03.2017 IT 201700035356**

(71) Applicant: **Tecno S.p.A.**
20154 Milano (IT)

(72) Inventors:
- **MOSCONI, Giuliano**
  I-20154 MILANO (IT)
- **DE PIN, Mario**
  I-20154 MILANO (IT)
- **LAMBERTENGHI, Luca**
  I-20154 MILANO (IT)

(74) Representative: **Crippa, Paolo Ernesto**
Jacobacci & Partners S.p.A.
Via Senato, 8
20121 Milano (IT)

(54) PARTITION WALL ASSEMBLY AND MOUNTING METHOD

(57) A partition wall assembly (1) comprising at least one frame (2) and at least one pane (3); wherein said frame (2) comprises a first side assembly (4) to form at least one of the bottom side (6), or baseboard (5), of the frame (2), or the top side (5), or cross-member (5), of the frame (2); and wherein said first side assembly (4) comprises at least one track (7) adapted to be firmly connected to the ceiling (30) or to the floor (44) or to a support structure; and wherein said pane (3) comprises at least one male element (8) protruding in a cantilever manner from said pane (3), forming a male element free end (13) and a male element attachment root (14) associated with the pane (3); said male element free end (13) being rigid and not adapted to be elastically deformed when mounting the pane (3) to the frame (2); and wherein said first side assembly (4) comprises: - at least one seat profile (9), directly or indirectly connected to said track (7); - at least one hooking element (15), connected to said seat profile (9); said seat profile (9) and said hooking element (15) delimiting a first hooking seat (16) having a first seat opening (19), said first hooking seat (16) receives said male element free end (13) of the pane (3); and wherein said hooking element (15) comprises at least one elastically deformable hooking arm (24) to bias said male element free end (13) to approach said seat profile (9).

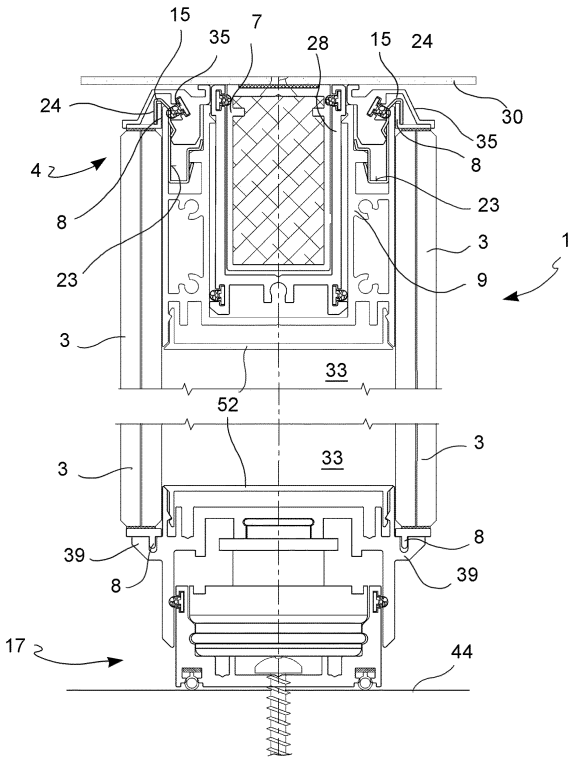

FIG. 4

EP 3 382 120 A1

Description

. Field of the invention

[0001] . The present invention relates to a partition wall.

[0002] . In particular, the present invention relates to a modular partition wall.

[0003] . Furthermore, the present invention relates to a method for mounting a partition wall.

. Background art

[0004] . Modular wall structures are generally known comprising a frame capable of firmly supporting the weight of a pane, for example made of glass or other pane material, to form a wall having an aesthetically pleasing appearance. Frames of the type described above may consist of fixtures or fixture profiles to which movable panes are connected by means of snap-fit devices in which the fastening elements may comprise deformable elements adapted to be engaged as undercut in special hooking seats.

[0005] . Frames of the type described above may be obtained by employing profiled structural elements, so as to reduce the weight of the structure and to conceal the fastening elements, thus making the frame structure aesthetically pleasing and simultaneously its installation quick.

[0006] . For example, patent application WO-2015-075586 of the same Applicant, shows a modular frame structure and a modular movable wall associable by means of a snap engagement device, in which in an hooking seat is obtained on the top cross-member of the frame and an hooking seat is obtained on the bottom baseboard of the frame, said seats having a shape and a material such as to allow an elastic deformation thereof to snap-fit a profiled element associated with the pane engaging as undercut in the seat.

[0007] . Such a solution offers satisfactory features in providing a snap engagement device comprising deformable elements inside the hooking seat which are concealed and therefore aesthetically pleasing but is not free of drawbacks. In fact, the mounting of such a solution forces the pane to be lifted and the top part of the pane to be inclined towards the cross-member to allow the profiled element associated with the pane to be inserted into the hooking seat of the top cross-member by snap engagement, which thus allows the bottom portion of the pane to be rested and engaged only after having engaged the top portion of the pane to the top cross-member.

[0008] . Furthermore, the cavity of the hooking seat obtained in the top cross-member develops above and vertically to the pane, and has a considerable depth so as to be adapted to entirely and firmly fit the engagement profile, forcing a top cross-member to be obtained, significantly exceeding in height the pane, which, thereby, makes this partition wall solution not adapted for applications in rooms having irregular or very low ceilings, or in any case ceilings just higher than the pane.

[0009] . For example, document GB-2520925 shows a glass partition wall solution in which a groove in the edge of the pane is provided, adapted to receive a male profiled element having a tooth projecting from the top cross-member of the frame to form a coupling of the male-female type with the pane.

[0010] . Although such a solution is advantageous from some points of view, it forces making panes of considerable thickness to allow the groove in the top edge of the pane to be obtained by milling.

[0011] . Furthermore, however, the mounting of such a pane forces to lift the pane, which may be heavy when made of glass, to incline the top portion of the pane to allow the tooth of the male profile to be locked in the pane groove, and then to push the pane upwards, which in turn lifts the male profile by a stroke set by the depth of the cavity inside the top cross-member which fits such a male profile. Therefore, such a solution does not solve the issue and forces the top cross-member of the frame to be made, which considerably exceeds in height the associated pane, which makes this partition wall solution not adapted for applications with irregular or very low ceilings, or in any case ceilings just higher than the pane.

[0012] . The need is strongly felt to provide a modular partition wall solution with improved flexibility and versatility of use, adapted for installations in rooms having ceilings which are irregular or slightly higher than the pane of the partition wall, while being pleasing to the eye.

[0013] . Therefore, the need is strongly felt to provide a modular partition wall solution made of glass or another pane material, with a simplified mounting as compared to known solutions, without however providing reduced engagement safety, while avoiding special machining operations from being required on the panes.

[0014] . The need is also felt to provide a fast and quick implementation method for mounting a modular partition wall, which is simultaneously capable of providing a firm and secure engagement of the pane to the frame.

[0015] . Simultaneously, the need is felt to provide an aesthetically pleasing partition wall solution, adapted to conceal the functional elements for engaging the pane to the frame.

[0016] . Furthermore, the need is felt to provide a versatile partition wall solution.

. Solution

[0017] . It is an object of the present invention to obviate the drawbacks of the background art and provide a solution to the needs mentioned so far with reference to the background art.

[0018] . These and other objects are achieved by means of a partition wall assembly according to claim 1 and by means of a method according to claim **10.**

[0019] . Some advantageous embodiments are the subject of the dependent claims.

[0020] . According to an aspect of the invention, a par-

tition wall assembly comprises at least one frame and at least one pane, in which said frame comprises at least a first side assembly to form at least one of the top side, or cross-member, of the frame, or the bottom side, or baseboard, of the frame, said first side assembly comprising at least one track, adapted to be firmly connected to the ceiling or to the floor or to a support structure, and in which said pane comprises at least one male element protruding in a cantilever manner from said pane, forming a male element free end and a male element attachment root associated with the pane.

[0021] . According to an aspect of the invention, said male element free end is rigid and not adapted to be elastically deformed when mounting the pane to the frame.

[0022] . According to an aspect of the invention, said first side assembly comprises at least one seat profile, directly or indirectly connected to said track, and at least one hooking element, connected to said seat profile, in which said seat profile and said hooking element delimit a first hooking seat having a first seat opening, said first hooking seat receiving said pane male element free end, and in which said hooking element comprises at least one elastically deformable hooking arm to bias said male element free end to approach said seat profile.

[0023] . According to an aspect of the invention, said seat profile at least partially delimits a second hooking seat having a second seat opening, preferably opposite to said first seat opening with respect to said hooking element, said second hooking seat receiving a portion of said hooking element.

[0024] . According to an aspect of the invention, said hooking element comprises at least one elastically deformable snap engagement fin snap engaging with an hooking portion of the seat profile arranged as an undercut with respect to the second seat opening.

[0025] . According to an aspect of the invention, said hooking element comprises an hooking foot extending at least laterally to said hooking arm.

[0026] . According to an aspect of the invention, said second hooking seat receives said hooking foot hooked to said hooking portion of the seat profile arranged as an undercut with respect to said second seat opening.

[0027] . According to an aspect of the invention, said hooking foot extends laterally to and below said hooking arm so as to be, when the pane is hooked to the cross-member of the frame, adjacent to said pane.

[0028] . According to an aspect of the invention, said male element extends substantially in axis with the pane.

[0029] . According to an aspect of the invention, said first side assembly forms the top side, or cross-member, of the frame.

[0030] . According to an aspect of the invention, said pane is made of glass.

. Drawings

[0031] . Further features and advantages of the assembly and method in accordance with the invention will become apparent from the following description of preferred embodiments thereof, given by way of indication and not by way of limitation, with reference to the accompanying drawings, in which:

- figure 1 shows a sectional view of a partition wall assembly, in accordance with an embodiment;
- figure 2 shows an enlarged view of a detail of the partition wall assembly shown in Figure 1;
- figure 3 shows an enlarged view of a detail of the partition wall assembly shown in Figure 1;
- figure 4 shows a sectional view of a partition wall assembly, in accordance with an embodiment, installed in a room having a ceiling slightly higher than the pane of the partition wall;
- figure 5 shows a sectional view of a portion of a partition wall assembly, in accordance with an embodiment;
- figure 6 shows a sectional view of a portion of a partition wall assembly, in accordance with an embodiment;
- figures 7 and 8 show sectional views showing some possible steps of a method for mounting a partition wall assembly, in accordance with a possible operating mode;
- figures 9, 10, and 11 show axonometric views of a partition wall assembly, in accordance with some embodiments;
- figure 12 shows a sectional view of a portion of a partition wall assembly, in accordance with an embodiment;
- figure 13 shows a sectional view of a portion of a partition wall assembly, in accordance with an embodiment.

. Description of some preferred embodiments

[0032] . In accordance with a general embodiment, a partition wall assembly 1 is provided, comprising at least one frame 2 and at least one pane 3.

[0033] . In accordance with a preferred embodiment, said pane 3 is made of glass, for example tempered glass or laminated glass or the like.

[0034] . In accordance with an embodiment, said pane 3 is made of transparent or translucent material for panes, such as, for example, polymeric material for panes. In accordance with an alternative embodiment, said pane 3 is made of panel material.

[0035] . Said frame 2 comprises a first side assembly 4 to form at least one of the bottom side 6, or baseboard 5, of the frame 2, or the top side 5, or cross-member 5, of the frame 2. Preferably, said first side assembly 4 forms the top side 5, or cross-member 5, of the frame 2.

[0036] . In accordance with a preferred embodiment, said frame 2 further comprises a second side assembly 17 to form the other between the bottom side 6, or baseboard 6, of the frame 1, or the top side 5, or cross-member

5, of the frame 2. Preferably, said second side assembly 17 forms the bottom side 6, or baseboard 6, of the frame 2.

[0037] . Said first side assembly 4 comprises at least one track 7 adapted to be firmly connected to the ceiling or to the floor or to a support structure.

[0038] . Said pane 3 comprises at least one male element 8 protruding in a cantilever manner from said pane 3, forming a male element free end 13 and a male element attachment root 14 associated with the pane 3. The provision of said male element 8 forms a prominence projecting from said pane 3. In accordance with an embodiment, said male element 8 extends substantially in axis with the pane 3.

[0039] . Said male element free end 13 is rigid and not adapted to be elastically deformed when mounting the pane 3 to the frame 2. Preferably, said male element free end 13 is not adapted to be elastically deformed in case of bending when mounting the pane 3 to the frame 2. In accordance with an embodiment, said male element free end 13 is not adapted to be plastically deformed when mounting the pane to the frame.

[0040] . Said first side assembly 4 comprises at least one seat profile 9, directly or indirectly connected to said track 7.

[0041] . In accordance with an embodiment, said first side assembly 4 comprises a telescopic profile 28 fitted on said track 7 and adapted to telescopically extend with respect to said track 7. In other words, said telescopic profile 28 and said track 7 form a telescopically extensible device, preferably telescopically extensible in the vertical or subvertical direction. Preferably, an adjustment jack is provided, adapted to telescopically extend said telescopic profile 28 with respect to said track 7.

[0042] . By virtue of the provision of said telescopically extensible device formed by said track 7 and by said telescopic profile 28, the height of the partition wall assembly 1 may be adjusted, making it adapted for applications in rooms in which the ceiling 30 is high or very high. In accordance with an embodiment, said seat profile 8 is fitted on said telescopic profile 28 of said first side assembly 4. In accordance with an embodiment, said seat profile 8 is telescopically extensible with respect to said telescopic profile 28. Preferably, an adjustment jack is provided, adapted to telescopically extend said seat profile 8 with respect to said telescopic profile 28.

[0043] . Said first side assembly 4 further comprises at least one hooking element 15, connected to said seat profile 9. Preferably, said hooking element 15 is made in one piece or monobloc. For example, said hooking element 15 is obtained starting from a cut and folded sheet metal sheet.

[0044] . Said seat profile 9 and said hooking element 15 delimit a first hooking seat 16 having a first seat opening 19, said first hooking seat 16 receives said male element free end 13 of the pane 3.

[0045] . In accordance with a preferred embodiment, said hooking element 15 comprises at least one elastically deformable hooking arm 24 to bias said male element free end 13 to approach said seat profile 9.

[0046] . In accordance with a preferred embodiment, said hooking arm 24 elastically biases said male element 8 to approach said seat profile 9. In accordance with a preferred embodiment, said hooking arm 24 is elastically preloaded to bias said male element 8 to approach said seat profile 9.

[0047] . Thereby, the action of said elastically deformable hooking arm 24 biases the pane 3 to remain in the assembled position at the first side assembly 4.

[0048] . By virtue of the provision of said elastically deformable hooking arm 24 to bias said male element free end 13 to approach said seat profile 9, said male element 8 of the pane 3 may be firmly engaged to the first side assembly 4.

[0049] . By virtue of the provision of such an hooking element 15 having said hooking arm 24, said male element 8 may be firmly engaged, while keeping said pane 3 in the nominal position engaged to the frame 2.

[0050] . In accordance with an embodiment, said hooking arm 24 forms at least one arm free end 25 protruding in a cantilever manner towards said pane 3. In accordance with an embodiment, said arm free end 25 is directed in the vertical or subvertical direction, and said male element free end 13 is directed in the vertical or subvertical direction.

[0051] . In accordance with an embodiment, said hooking arm 24 of the hooking element 15 delimits with said seat profile 9 at least a second hooking seat 18.

[0052] . In accordance with a preferred embodiment, said seat profile 9 at least partially delimits a second hooking seat 18 receiving a portion of said hooking element 15.

[0053] . In accordance with a preferred embodiment, said second hooking seat 18 has a second seat opening 20 which is opposite to said first seat opening 19 with respect to said hooking element 15.

[0054] . Preferably, said second hooking seat 18 is appreciably narrower than said first hooking seat 20.

[0055] . In accordance with an embodiment, said seat profile 9 delimits said second hooking seat 18 developing adjacent to said pane 3, when said pane 3 is engaged to said cross-member 5 of the frame 2. Thereby, the vertical extension of said partition wall assembly 1 may be reduced, by virtue of the second hooking seat 18, which receives said hooking element 15, extending adjacent to the pane 3 of the partition wall assembly 1, avoiding said second hooking seat 18 from extending above the pane 3.

[0056] . In accordance with a preferred embodiment, said hooking element 15 comprises at least one elastically deformable snap engagement fin 21 snap engaging with at least one hooking portion 22 of the seat profile 9 arranged as an undercut with respect to the second seat opening 20. Thereby, a firm and quick snap engagement between the hooking element 15 and the seat profile 9 is allowed, avoiding fastening device in separate pieces

from being employed.

[0057] . In accordance with an embodiment, said hooking element 9 comprises at least one hooking foot 23 extending substantially laterally to said hooking arm 24.

[0058] . In accordance with an embodiment, said seat profile 9 delimits said second hooking seat 18 developing substantially in the horizontal direction, avoiding it from developing in the vertical direction above the top portion 34 of the pane 3. In accordance with an embodiment, said at least one hooking foot 23 extends substantially horizontally and laterally to said hooking arm 24, avoiding it from developing above and vertically to said hooking arm 24.

[0059] . In accordance with an embodiment, said at least one hooking foot 23 is connected by means of fastening device 54, for example threaded fastening device, to said seat profile 9.

[0060] . In accordance with a preferred embodiment, said hooking element 9 comprises at least one hooking foot 23 extending at least laterally to said hooking arm 24, so as to be, when the hooking element is engaged in said second hooking seat 16, entirely levelled with said hooking arm 24. Thereby, an hooking element 15 may be obtained, having a reduced vertical encumbrance as compared to known solutions, and having hover a vertical encumbrance such as to allow said partition wall assembly 1 to be particularly adapted to be mounted in rooms having low ceilings or ceilings just higher than the size of the pane 3.

[0061] . In accordance with a preferred embodiment, said hooking foot 23 extends laterally to and below said hooking arm 24 so as to be, when the pane 3 is hooked to the cross-member 5 of the frame 3, adjacent to said pane 3. Thereby, an hooking element 15 may be obtained, having a reduced vertical encumbrance as compared to known solutions, and however having a vertical encumbrance such as to allow the pane 3 to be easily engaged to the cross-member 5 of the frame 2 even in rooms having low ceilings or ceilings just higher than the height of the pane 3.

[0062] . In accordance with an embodiment, at least one portion of said hooking foot 23 extends below the free end of the hooking arm, when said first side assembly 4 forms said cross-member 5.

[0063] . In accordance with a preferred embodiment, said second hooking seat 18 receives said hooking foot 23 of said hooking element 15 hooked to said hooking portion 22 of the seat profile arranged as an undercut with respect to said second seat opening 20.

[0064] . In accordance with an embodiment, said hooking foot 23 of said hooking element 15 comprises said elastically deformable snap engagement fin 21 snap engaging with an hooking portion 22 of the seat profile 9 arranged as an undercut with respect to the second seat opening 20.

[0065] . In accordance with a preferred embodiment, said snap engagement fin 21 comprises a first insertion slide 26 adapted to aid the insertion of the hooking element 15 in said second hooking seat 18 abutting against portions of said seat profile 9 delimiting said second seat opening 20 or said second hooking seat 18.

[0066] . In accordance with a preferred embodiment, said snap engagement fin 21 comprises a second extraction slide 29, inclined opposite to said first insertion slide 26, said second extraction slide 29, when abutting against said hooking portion 22 of the seat profile 9 is adapted to aid the extraction of said hooking foot 23 of the hooking element 15 from the second hooking seat 18. Thereby, the engagement of said hooking element 15 to said second hooking seat 18 may be reversed.

[0067] . By virtue of the provision of such an hooking foot 23, the fastening of the hooking element by means of screws or other fastening device in separate pieces with respect to the hooking element 15 may be avoided, while however allowing to obtain a firm engagement of the hooking element 15 to the seat profile 9, and thus of the pane 3 in the first hooking seat 16. Thereby, the number of pieces of the partition wall assembly is reduced and the mounting of the pane 3 to the frame 2 is simplified and made quicker, without however reducing the safety of the engagement of the pane 3 to the frame 2.

[0068] . In accordance with an embodiment, said hooking element 15 comprises a locking tab 53 cooperating with said snap engagement fin 21, to keep a firm engagement of the hooking element to seat profile 9. Preferably, said locking tab 53 abuts against a face of the seat profile 15 facing towards said second seat opening 20.

[0069] . In accordance with an embodiment, said pane 3 of said partition wall assembly 1 comprises a top portion 34 of the pane 3, adapted to face the cross-member 5 of the frame 2, and a bottom portion 36 of the pane 3, adapted to face the baseboard 6 of the frame 2.

[0070] . In accordance with an embodiment, said pane 3 comprises a first pane face 11 and an opposite second pane face 12, separated from one another by a set pane thickness 10. In accordance with an embodiment, said pane 3 comprises a pane edge 31 forming the edge of the top portion 34 of the pane 3 or the edge of the bottom portion 36 of the pane 3 in which said male element 8 protrudes in a cantilever manner from said pane edge 31.

[0071] . In accordance with an embodiment, said male element 8 is made in one piece with said pane 3. For example, said male element 8 forms a single bloc with said pane 3.

[0072] . In accordance with an embodiment, said male element 8 is made in a separate piece with respect to said pane 3 and is then assembled thereto.

[0073] . In accordance with an embodiment, said male element 8 is made in a separate piece with respect to said pane 3 and is then glued thereto, for example, by means of the employment of an adhesive product 32, for example, a double-sided adhesive tape.

[0074] . Preferably, said male element 8 is glued by means of an adhesive product 32 in said male element attachment root 14 to said pane edge 31. Thereby, said adhesive product 32 may be stressed by shearing, when

the pane 3 is assembled on the frame 2, allowing the adhesive product to offer greater resistance than when it is stressed by traction.

[0075] . In accordance with an embodiment, said male element 8 is made as an angular profile, having said male element attachment root 14 glued to said pane edge 31 and said male element free end 11 protruding in a cantilever manner from said pane edge 31.

[0076] . In accordance with an embodiment, said male element 8 is made as a T-shaped profile, having said male element attachment root 14 glued to said pane edge 31 and said male element free end 11 protruding in a cantilever manner from said pane edge 31.

[0077] . In accordance with an embodiment, said male element free end 13 extends substantially rectilinear, avoiding the formation of a curved path. Thereby, the action of said arm 24, biasing the male element free end 13 to approach said seat profile 9, is promoted.

[0078] . In accordance with an embodiment, said male element 8 is made as an angular profile having said male element free end 13 substantially flush with one of said opposite pane faces 11, 12. Preferably, said male element free end 13 is substantially flush with the face of said opposite pane faces 11, 12 nearer to said seat profile 9, when the pane 3 is engaged to the frame 2.

[0079] . In accordance with an embodiment, said partition wall assembly 1 is a single-pane partition wall comprising a single pane 3.

[0080] . In accordance with an embodiment, said partition wall assembly 1 comprises two panes 3 separated by a gap 33.

[0081] . In accordance with an embodiment, said first side assembly 4 comprises at least one covering profile 35 adapted to conceal the functional hooking elements of said partition wall assembly 1 and adapted to inhibit the elastic deformation of the hooking element 15.

[0082] . In accordance with an embodiment, said covering profile 35 makes said second hooking seat 18 inaccessible by means of said second seat opening 20.

[0083] . In accordance with an embodiment, said covering profile 35 snap engages with a snap-fit tab 46 of the hooking element 15. In accordance with an embodiment, said snap-fit tab 46 is obtained on a portion of said hooking foot 23.

[0084] . In accordance with an embodiment, said covering profile 35 comprises an engagement body 49 adapted to rest on said hooking element 15 to prevent the elastic deformation of said hooking element 15, and a covering profile top 51, adapted to conceal said hooking element 15 and said male element 8 of the pane 3. Preferably, said covering profile top 51 has a sloping shape.

[0085] . In accordance with an embodiment, said covering profile top 51 comprises at least one locking portion 27 adapted to lock with a mutually shaped portion of the pane 3, for example of the male element attachment root 14, or of the hooking element 15, so as to prevent the movement of the pane 3 or the elastic deformation of the hooking element 15, when the pane 3 is engaged to the frame 2.

[0086] . In accordance with an embodiment, said hooking foot 23 substantially has a U-shape, defining with a third hooking seat 48, having a third seat opening 50, said third hooking seat 48 being adapted to receive an engagement body 49 of said covering profile 35.

[0087] . In accordance with an embodiment, between said covering profile 35 and said hooking element 15 at least one acoustic seal 45 is interposed.

[0088] . In accordance with an embodiment, said third hooking seat 48 is at least partially compenetrated with said second hooking seat 18. In accordance with an embodiment, said second hooking seat 18 emerges, by means of said second seat opening 20, in said third hooking seat 48.

[0089] . In accordance with an embodiment, said snap-fit tab 46 of the hooking element 15 is arranged as an undercut with respect to the third seat opening 50.

[0090] . In accordance with an embodiment, said covering profile 35 comprises an abutment surface of the covering profile 47, adapted to abut against a portion of said snap-fit tab 46 of the hooking element 15 arranged as an undercut with respect to said third seat opening 50.

[0091] . In accordance with an embodiment, said hooking element 15 comprises a clip spring simultaneously straddling said male element 8 and the seat profile portion 9 partially delimiting said first hooking seat 16.

[0092] . In accordance with an embodiment, said hooking element 15 consists of a clip spring.

[0093] . In accordance with an embodiment, said first side assembly 4 comprises a closing flat profile 52 connected to said seat profile 8 and adapted to make said first side assembly 4 substantially a box profile. In accordance with an embodiment, said second side assembly 17 comprises a closing flat profile 52 connected to said second side assembly profile 37 and adapted to make said second side assembly 17 substantially a profile box.

[0094] . In accordance with an embodiment, the closing flat profile 52 of the first side assembly 4 faces and is opposite to the closing profile of the second side assembly 17.

[0095] . In accordance with an embodiment, said second side assembly 17 comprises a second side assembly track 37, adapted to be firmly connected to the floor 44 or to the ceiling 30 or to a support structure, and a second side assembly profile 38, directly or indirectly connected to said second side assembly track 37. Preferably, said second side assembly profile 38 is fitted on said second side assembly track 37. Preferably, said second side assembly profile 38 is telescopically associated with said second side assembly track 37, so that said second side assembly profile 38 and said second side assembly track 37 form a telescopically extensible device. Preferably, an adjustment jack is provided, adapted to telescopically extend said second side assembly profile 38 with respect to said second side assembly track 37.

[0096] . In accordance with an embodiment, said sec-

ond side assembly profile 38 comprises a resting portion 39 forming a resting surface 40 for at least one portion of a pane edge 31 of said pane 3.

[0097] . In accordance with an embodiment, said resting surface 40 of said resting portion 39 delimits a groove 41 receiving a male element 8 associated with said pane 3. In accordance with an embodiment, said resting portion 39 protrudes in a cantilever manner from the body of said second side assembly profile 38.

[0098] . In accordance with a preferred embodiment, said first side assembly 4 forms the top side 5, or cross-member 5, of the frame 2 and said second side assembly 17 forms the bottom side 6, or baseboard 6, of the frame 2, in which said pane 3 comprises said male element 8 associated with the pane edge 31 of the top pane portion 34 which is received in said first hooking seat 16 in accordance with any of the embodiments previously described, and in which said pane 3 comprises a further male element 8 associated with the pane edge 31 of the bottom portion of said pane 36, and in which said groove 41 of the resting portion 39 receives said further male element 8 associated with the pane edge 31 of the bottom portion of said pane 36.

[0099] . In accordance with an embodiment, said further male element 8 associated with the pane edge 31 of the bottom portion of said pane 36 is made in a separate piece with respect to said pane 3 and is then assembled thereto. In accordance with an embodiment, said further male element 8 associated with the pane edge 31 of the bottom portion of said pane 36 is made in a separate piece with respect to said pane 3 and is then glued thereto.

[0100] . In accordance with an embodiment, said further male element 8 associated with the pane edge 31 of the bottom portion of said pane 36 protrudes in a cantilever manner from said pane, and preferably from the pane edge 31 of the bottom portion of said pane 36, forming a free end of the further male element 42, and an attachment root of the further male element 43, associated, and preferably glued, to said pane.

[0101] . In accordance with an embodiment, said further male element 8 associated with the pane edge 31 of the bottom portion of said pane 36 is made in one piece with said pane 3.

[0102] . In accordance with an embodiment, said track 7 of said first side assembly 4 has a prevalent extension in the longitudinal direction X-X. In accordance with an embodiment, said hooking element 15 has an extension in the longitudinal direction X-X shorter than said track 7.

[0103] . In accordance with an embodiment, said seat profile 9 of said first side assembly 4 has a prevalent extension in the longitudinal direction X-X. In accordance with an embodiment, said hooking element 15 has an extension in the longitudinal direction X-X shorter than said seat profile 9.

[0104] . In accordance with an embodiment, said partition wall assembly 1 comprises a plurality of hooking elements 15 associated with detached longitudinally separated portions of said seat profile 9.

[0105] . In accordance with an embodiment, said pane 3 prevalently extends in the longitudinal direction X-X and in the vertical Y-Y or subvertical direction Y-Y.

[0106] . In accordance with an embodiment, between said male element 8 associated with the pane 3 and said seat profile 9 an acoustic seal 45 is interposed.

[0107] . In accordance with an embodiment, between said male element 8 associated with the pane 3 and said seat profile 9 an adhesive product 32 is interposed.

[0108] . In accordance with an embodiment, said partition wall assembly 1 is a modular unit, or module, of a modular partition wall assembly.

[0109] . A method for mounting a partition wall assembly 1 is described below.

[0110] . A method for mounting a partition wall assembly 1 comprising at least one frame 2 and at least one pane 3, comprises the following steps:

-A- providing at least one pane 3 comprising at least one male element 8 protruding in a cantilever manner from said pane 3, forming a male element free end 13 and a male element attachment root 14 associated with the pane 3, said male element free end 13 being rigid and not adapted to be elastically deformed when mounting the pane 3 to the frame 2;

-B- providing a first side assembly 4 to form the top side 5, or cross-member 5, of the frame 2, in which said first side assembly 4 comprises at least one track 7 firmly connected to the ceiling 30 or to a support structure connected to the ceiling 30 and at least one seat profile 9 directly or indirectly connected to said track 7;

-C- providing a second side assembly 17 to form the bottom side 6, or baseboard 6, of the frame 2, in which said second side assembly 17 comprises a resting portion 39, forming a resting surface 40 for at least one portion of a pane edge 31 of said pane 3, and preferably a pane edge 31 of a bottom pane portion 36;

-D- resting said pane 3 on said resting portion 39 of the baseboard 6 of the frame 2;

-E- putting said male element free end 13 of the pane 3 side by side with said seat profile 9 of the cross-member 5 of the frame 2;

-F- connecting, and preferably engaging, at least one hooking element 15 comprising at least one elastically deformable hooking arm 25 to said seat profile 9 so that said hooking element 15 and said seat profile 9 delimit a first hooking seat 16 receiving said male element free end 13 of the pane 3, and so that said hooking arm 25 influences said male element free end 13 approaching said seat profile 9.

[0111] . In accordance with a preferred operating mode, said steps -D-, -E- and -F- are to be provided in succession, in the order indicated.

[0112] . In accordance with a possible operating mode,

said step -F- comprises the further substep of snap engaging said at least one hooking element 15 to said seat profile 9.

[0113] . in accordance with a possible operating mode, said step -D- comprises the further substep of inserting a further male element 8 associated with the pane edge 31 of the bottom portion 36 of the pane 3 into a groove 41 obtained on said resting portion 39 of the baseboard 6 of the frame 2.

[0114] . In accordance with a possible operating mode, said method comprises, following step -F-, the further step of associating, preferably engaging, and preferably snap engaging, a covering profile 35 to said hooking element 15 engaged to the seat profile 9.

[0115] . By virtue of the features described above, provided mutually separate or together, where applicable in particular embodiments, a solution to the - sometimes conflicting - needs above-listed may be provided, producing the aforementioned advantages, and in particular:

- an aesthetically pleasing partition wall assembly 1 may be obtained, in which the functional hooking elements are concealed;
- a partition wall assembly 1 is provided, adapted for applications in rooms with low or irregular ceiling, without however reducing the safety of the engagement between the pane and the frame;
- a partition wall solution is provided having a covering profile simply snap-engageable and adapted to conceal the functional elements, while being adapted to reinforce the engagement of the pane to the frame, inhibiting the elastic deformation of the hooking element;
- a method for mounting a partition wall assembly is proposed, which is extremely simple and quick and simultaneously capable of offering a firm and secure engagement of the pane to the frame;
- a method for mounting a partition wall assembly is proposed, which is quick but not laborious for one or more operators;
- a partition wall assembly 1 is provided in which special machining operations on the pane are avoided, thus reducing the manufacturing time of the components of the partition wall;
- a partition wall solution is provided in which the frame is capable of exerting an engagement preload on a portion of said pane, increasing the engagement and operation safety;
- if need be, the engagement of the pane to the frame may be obtained without employing screws or other fastening device in separate pieces with respect to the frame or pane.

[0116] . Those skilled in the art can make modifications and adaptations to the embodiments described above and can replace several elements with others which are functionally equivalent in order to meet contingent and specific needs, without however departing from the scope of the following claims.

LIST OF REFERENCES

[0117]

1) partition wall assembly
2) frame
3) pane
4) first side assembly
5) cross-member
6) baseboard
7) first side assembly track
8) male element
9) seat profile
10) pane thickness
11) first pane face
12) second opposite pane face
13) male element free end
14) male element attachment root
15) hooking element
16) first hooking seat
17) second side assembly
18) second hooking seat
19) first seat opening
20) second seat opening
21) snap engagement fin
22) hooking portion of the seat profile
23) hooking element hooking foot
24) hooking element hooking arm
25) arm free end
26) first insertion slide of the snap engagement fin
27) locking portion of the covering profile top
28) telescopic profile
29) second extraction slide of the snap engagement fin
30) ceiling
31) pane edge
32) adhesive product
33) gap
34) top pane portion
35) covering profile
36) bottom pane portion
37) second side assembly track
38) second side assembly profile
39) second side assembly profile resting portion
40) resting surface of the resting portion
41) resting portion groove
42) free end of the further male element
43) attachment root of the further male element
44) floor
45) acoustic seal
46) snap-fit tab of the hooking element
47) seat profile abutment surface
48) third hooking seat
49) covering profile engagement body
50) third hooking seat opening
51) covering profile top

52) closing flat profile
53) locking tab
54) fastening device
X-X) longitudinal direction
Y-Y) vertical or subvertical direction

Claims

1. A partition wall assembly (1) comprising at least one frame (2) and at least one pane (3);
wherein said frame (2) comprises at least one first side assembly (4) to form at least one between the top side (5), or cross-member (5), of the frame (2), or the bottom side (6), or baseboard (6), of the frame (2);
and wherein said first side assembly (4) comprises at least one track (7) adapted to be firmly connected to the ceiling (30) or to the floor (44) or to a support structure;
and wherein said pane (3) comprises at least one male element (8) protruding in a cantilever manner from said pane (3), forming a male element free end (13) and a male element attachment root (14) associated with the pane (3);
said male element free end (13) being rigid and unsuitable to elastically deform during the mounting of the pane (3) to the frame (2);
and wherein said first side assembly (4) comprises:

- at least one seat profile (9), directly or indirectly connected to said track (7);
- at least one hooking element (15), connected to said seat profile (9);

said seat profile (9) and said hooking element (15) delimiting a first hooking seat (16) having a first seat opening (19), said first hooking seat (16) receives said male element free end (13) of the pane (3);
and wherein said hooking element (15) comprises at least one elastically deformable hooking arm (24) to bias said male element free end (13) in approach to said seat profile (9).

2. A partition wall assembly (1) according to claim **1,** wherein said seat profile (9) at least partially delimits a second hooking seat (18) receiving a portion of said hooking element (15); and/or wherein said second hooking seat (18) has a second seat opening (20) opposite to said first seat opening (19) with respect to said hooking element (15).

3. A partition wall assembly (1) according to claim **1** or **2,** wherein said hooking element (15) comprises at least one elastically deformable snap engagement fin (21) snap fitting against at least one hooking portion (22) of the seat profile (9) arranged as undercut with respect to the second seat opening (20).

4. A partition wall assembly (1) according to any one of the preceding claims, wherein said hooking element (15) comprises an hooking foot (23) extending at least laterally with respect to said hooking arm (24); and/or wherein
said second hooking seat (18) receives said hooking foot (23) hooked to said hooking portion (22) of the seat profile arranged as undercut with respect to said second seat opening (20).

5. A partition wall assembly (1) according to any one of the preceding claims, wherein said hooking foot (23) extends laterally and below with respect to said hooking arm (24) so as to result, when the pane (3) is hooked to the cross-member (5) of the frame (3), adjacent to said pane (3).

6. A partition wall assembly (1) according to any one of the preceding claims, wherein said first side assembly (4) forms the top side (5), or cross-member (5), of the frame (2).

7. A partition wall assembly (1) according to any one of the preceding claims, wherein said pane (3) is made of glass.

8. A partition wall assembly (1) according to any one of the preceding claims, wherein said male element (8) extends substantially in axis with the pane (3); and/or wherein
said male element (8) is glued by means of an adhesive product (32) in said male element attachment root (14) to said pane edge (31); and/or wherein
said male element (8) is made as an angular profile having said male element free end (13) substantially flush with a pane face (11 or 12) of said opposite pane faces (11, 12).

9. A partition wall assembly (1) according to any one of the preceding claims, wherein said second side assembly (17) comprises a second side assembly track (37), adapted to be firmly connected to the floor (44) or to the ceiling (30) or to a support structure, and a second side assembly profile (38), directly or indirectly connected to said second side assembly track (37); and/or wherein
said second side assembly profile (38) comprises a resting portion (39) forming a resting surface (40) for at least one portion of a pane edge (31) of said pane (3); and/or wherein
said resting surface (40) delimits a groove (41) receiving a male element (8) associated with said pane (3); and/or wherein
said hooking arm (24) forms an arm free end (25) protruding in a cantilever manner towards said pane (3); and/or wherein
said hooking arm (24) of the hooking element (15) delimits with said seat profile (9) said second hooking

seat (18); and/or wherein
said arm free end (25) is directed in a vertical or subvertical direction, and said male element free end (13) is directed in a vertical or subvertical direction; and/or wherein
said snap engagement fin (21) comprises a first insertion slide (26) adapted to aid the insertion of the hooking element (15) in said second hooking seat (18) abutting against portions of said seat profile (9) delimiting said second seat opening (20) or said second hooking seat (18); and/or wherein
said snap engagement fin (21) comprises a second extraction slide (29), inclined opposite with respect to said first insertion slide (26), said second extraction slide (29), when abutting against said hooking portion (22) of the seat profile (9) is adapted to aid the extraction of said hooking foot (23) of the hooking element (15) from the second hooking seat (18); and/or wherein
said first side assembly (4) comprises a telescopic profile (28) fitted on said track (7) and adapted to telescopically extend with respect to said track (7); and/or wherein
said first side assembly (4) comprises at least one covering profile (35) adapted to conceal the functional hooking elements of said partition wall assembly (1) and adapted to inhibit the elastic deformation of the hooking element (15); and/or wherein
said covering profile (35) makes said second hooking seat (18) inaccessible by means of said second seat opening (20); and/or wherein
said covering profile (35) snap hook with a snap fit tab (46) of the hooking element (15); and/or wherein
said covering profile (35) comprises an engagement body (49) adapted to rest on said hooking element (15) to prevent the elastic deformation of said hooking element (15), and a covering profile top (51), adapted to conceal said hooking element (15) and said male element (8) of the pane (3); and/or wherein
said male element free end (13) extends substantially rectilinear; and/or wherein
said male element (8) is made in one piece with said pane (3); and/or wherein
said hooking element (15) comprises a clip spring simultaneously straddling said male element (8) and the seat profile portion (9) partially delimiting said first hooking seat (16); and/or wherein
said partition wall assembly (1) is a modular unit, or module, of a modular partition wall assembly.

10. A method for mounting a partition wall assembly (1), said partition wall assembly comprising at least one frame (2) and at least one pane (3), comprises the following steps:

- providing at least one pane (3) comprising at least one male element (8) protruding in a cantilever manner from said pane (3), forming a male element free end (13) and a male element attachment root (14) associated with the pane (3), said male element free end (13) being rigid and not adapted to elastically deform during the mounting of the pane (3) to the frame (2);
- providing at least one first side assembly (4) to form the top side (5), or cross-member (5), of the frame (2), wherein said first side assembly (4) comprises at least one track (7) firmly connected to the ceiling (30) or to a support structure connected to the ceiling (30) and at least one seat profile (9) directly or indirectly connected to said track (7);
- providing at least one second side assembly (17) to form the bottom side (6), or baseboard (6), of the frame (2), wherein said second side assembly (17) comprises a resting portion (39), forming a resting surface (40) for at least one portion of a pane edge (31) of said pane (3), and preferably a pane edge (31) of a bottom pane portion (36);
- resting said pane (3) on said resting portion (39) of the baseboard (6) of the frame (2);
- putting said male element free end (13) of the pane (3) side by side with said seat profile (9) of the cross-member (5) of the frame (2);
- connecting, and preferably engaging, at least one hooking element (15) comprising at least one elastically deformable hooking arm (25) to said seat profile (9) so that said hooking element (15) and said seat profile (9) delimit a first hooking seat (16) receiving said male element free end (13) of the pane (3), and so that said hooking arm (25) influences said male element free end (13) approaching said seat profile (9).

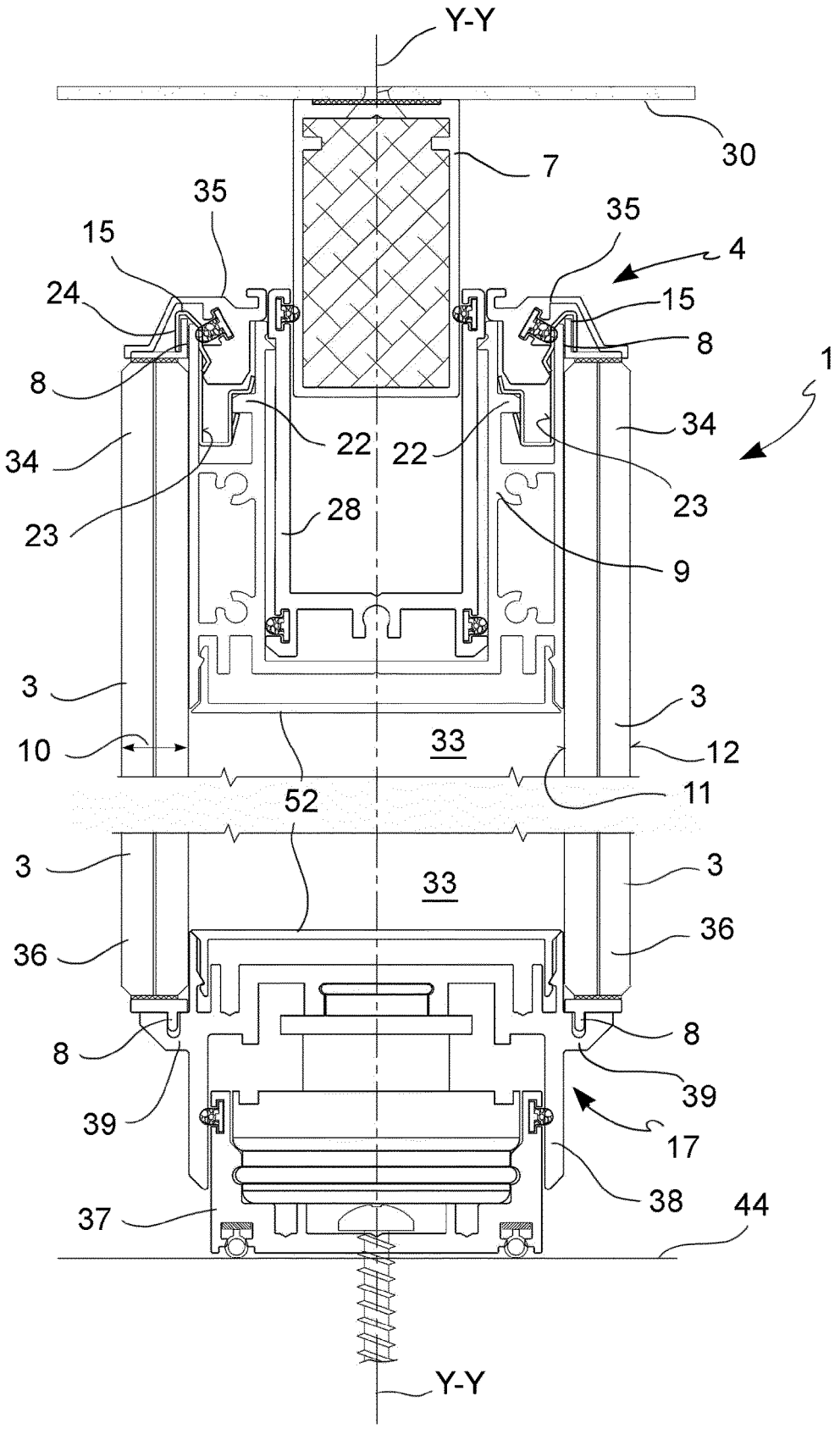
Y-Y
30
7
35
35
15
4
24
15
8
8
1
34
22
22
34
23
23
28
9
3
3
10
33
12
52
11
3
3
33
36
36
8
8
39
39
17
38
37
44
Y-Y

FIG. 1

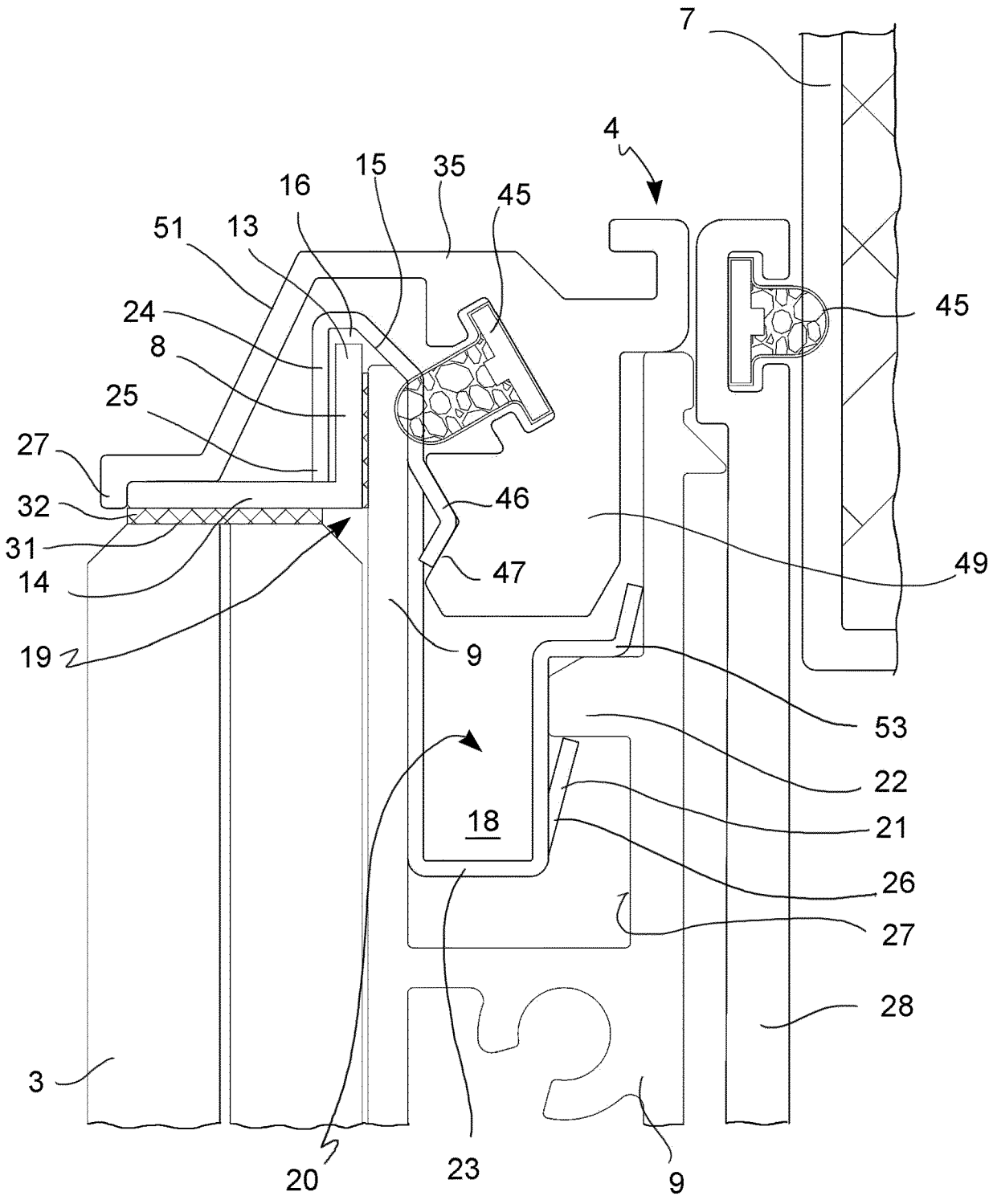
7
4
15
35
16
45
51
13
24
8
25
27
32
31
14
19
46
47
49
9
53
22
18
21
26
27
28
3
20
23
9
45

FIG. 2

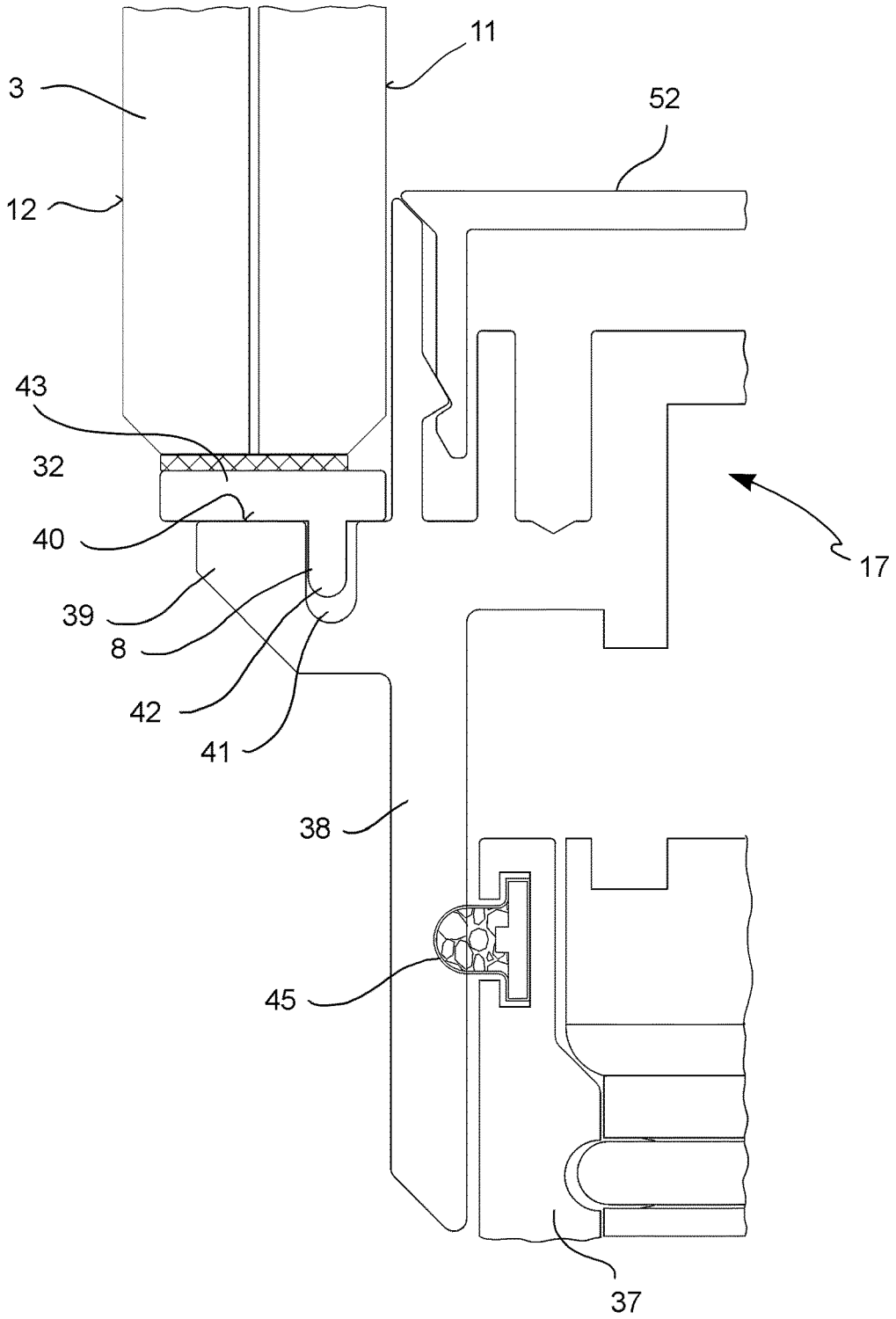

FIG. 3

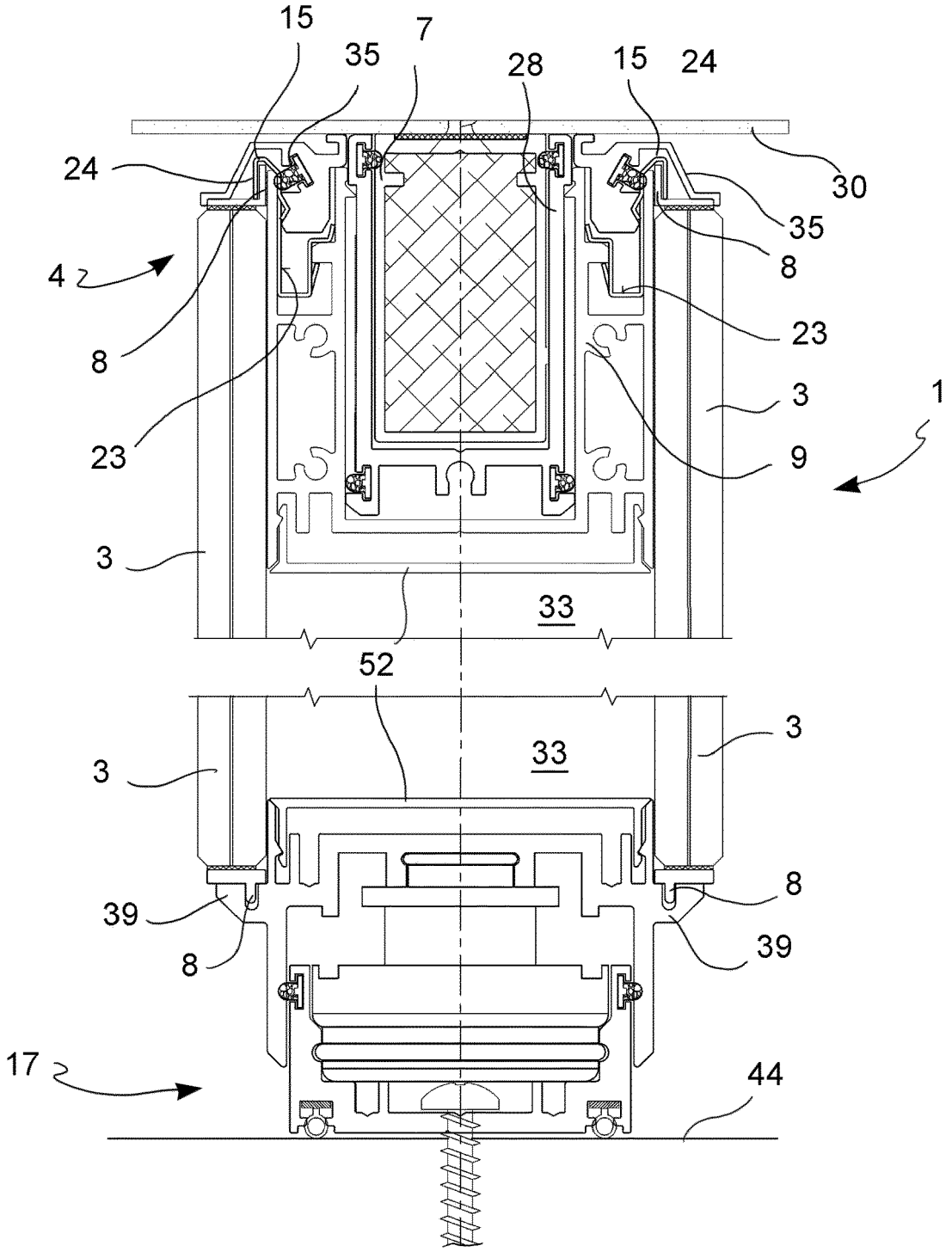

FIG. 4

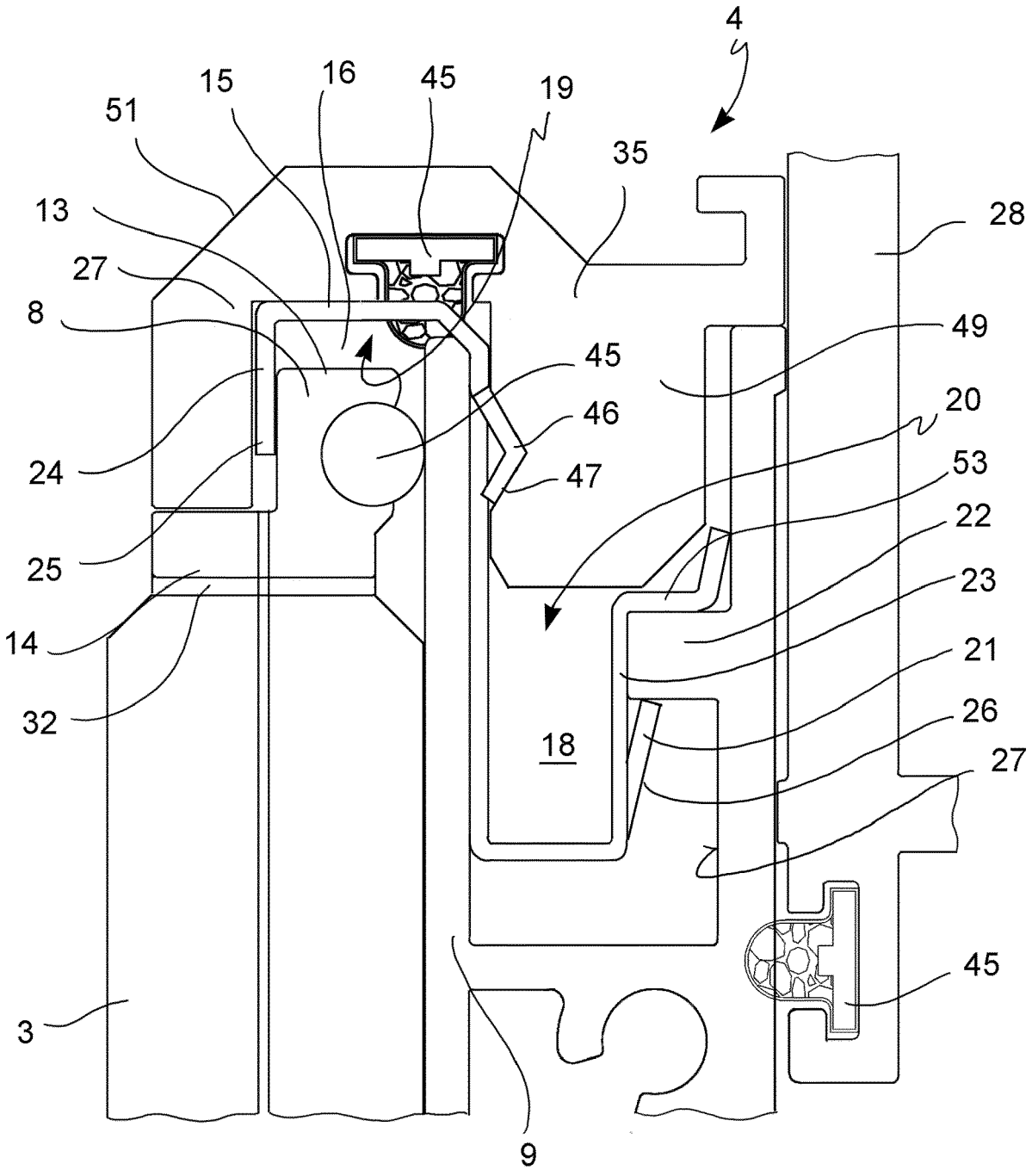
4
15
16
45
19
51
35
13
28
27
8
49
45
20
46
24
53
47
22
25
23
14
21
32
18
26
27
45
3
9

FIG. 5

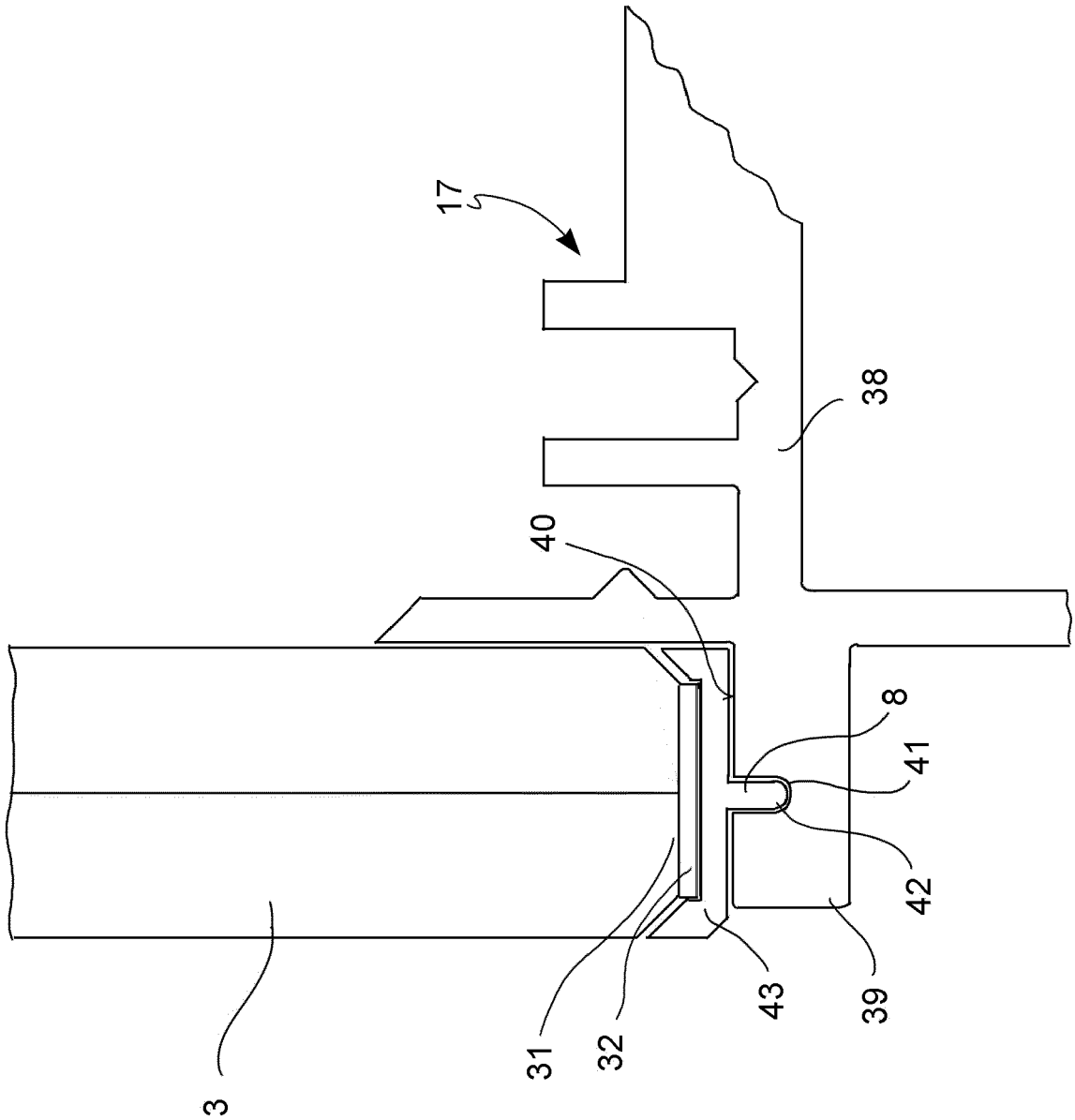

FIG. 6

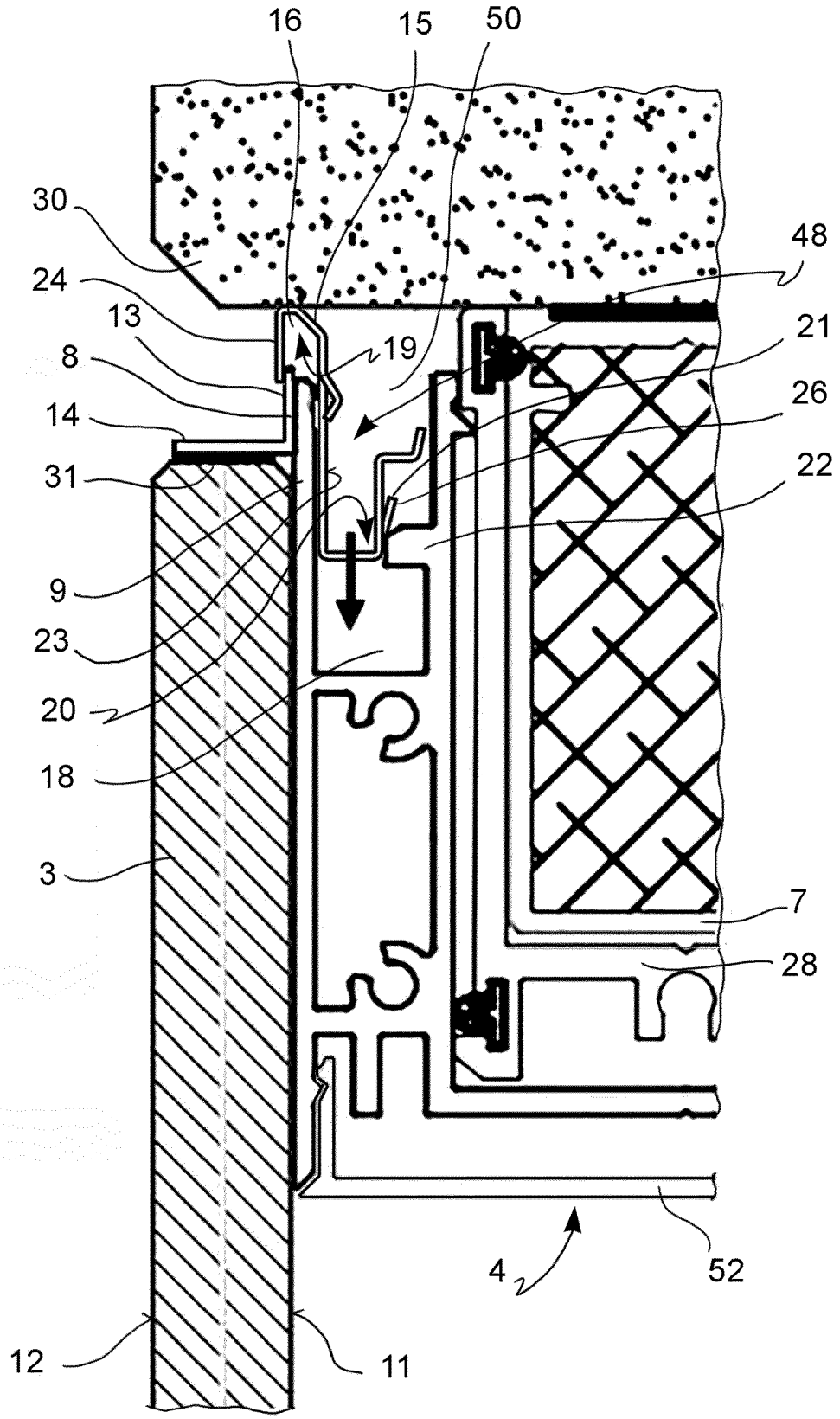

FIG. 7

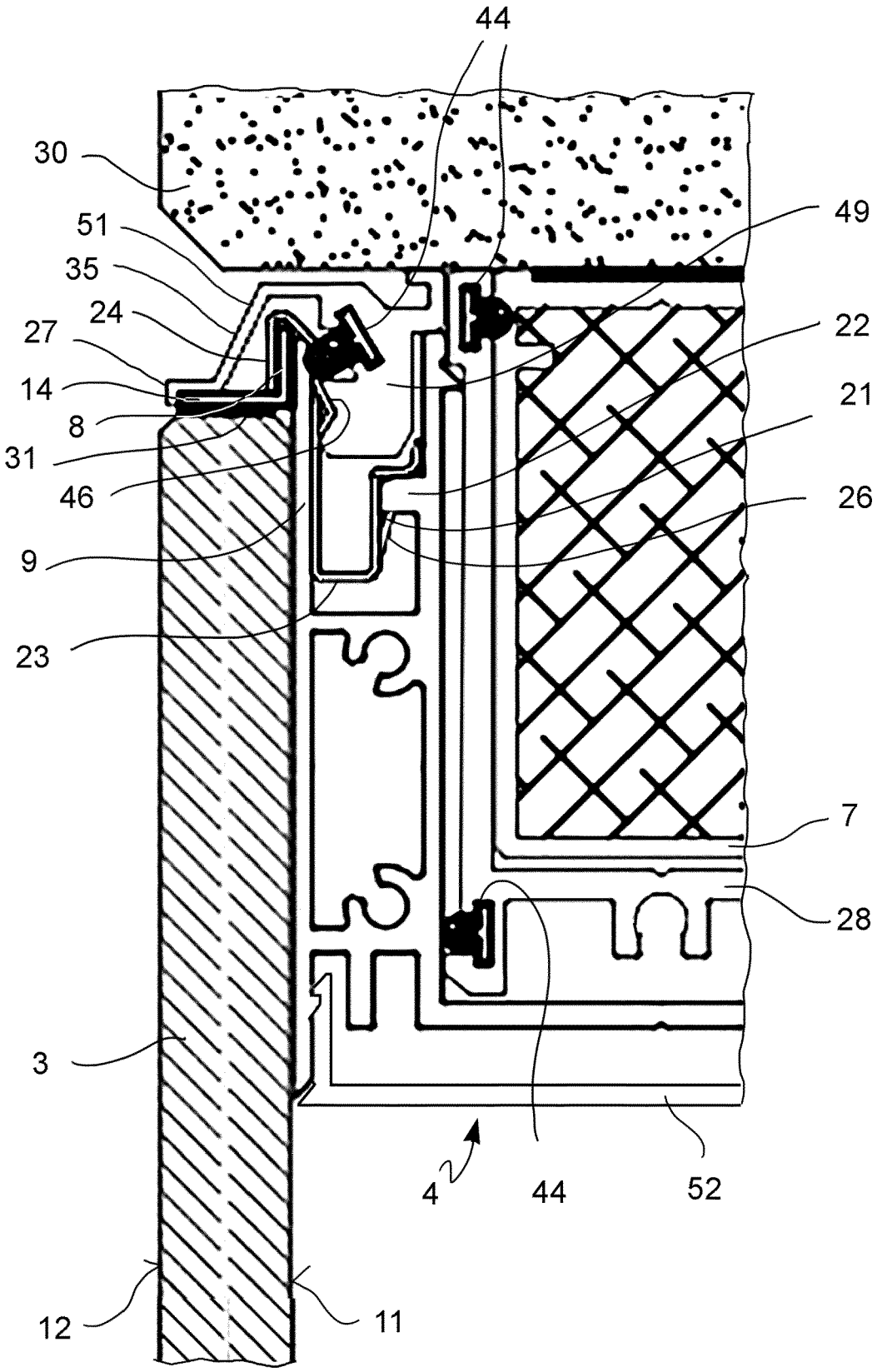

FIG. 8

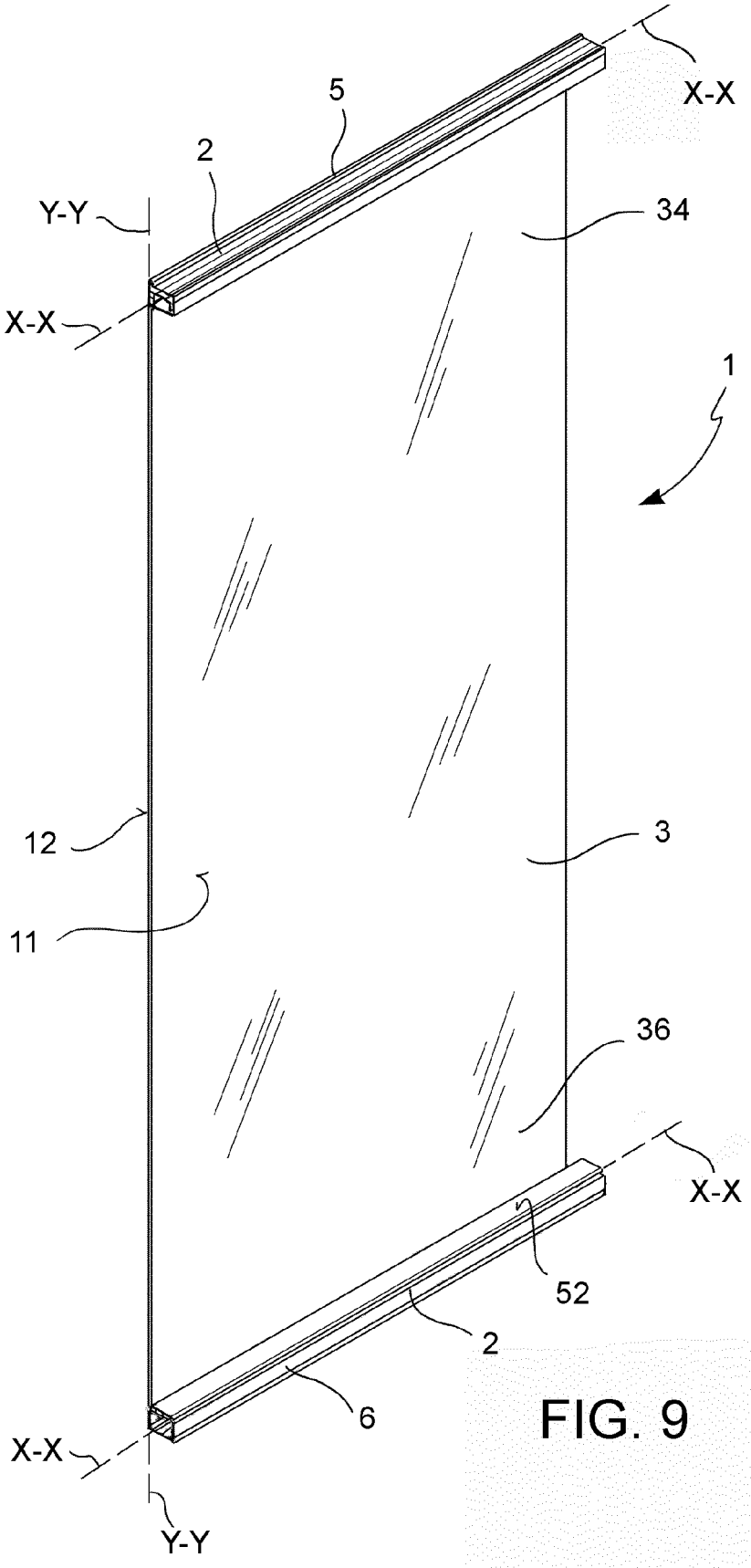

FIG. 9

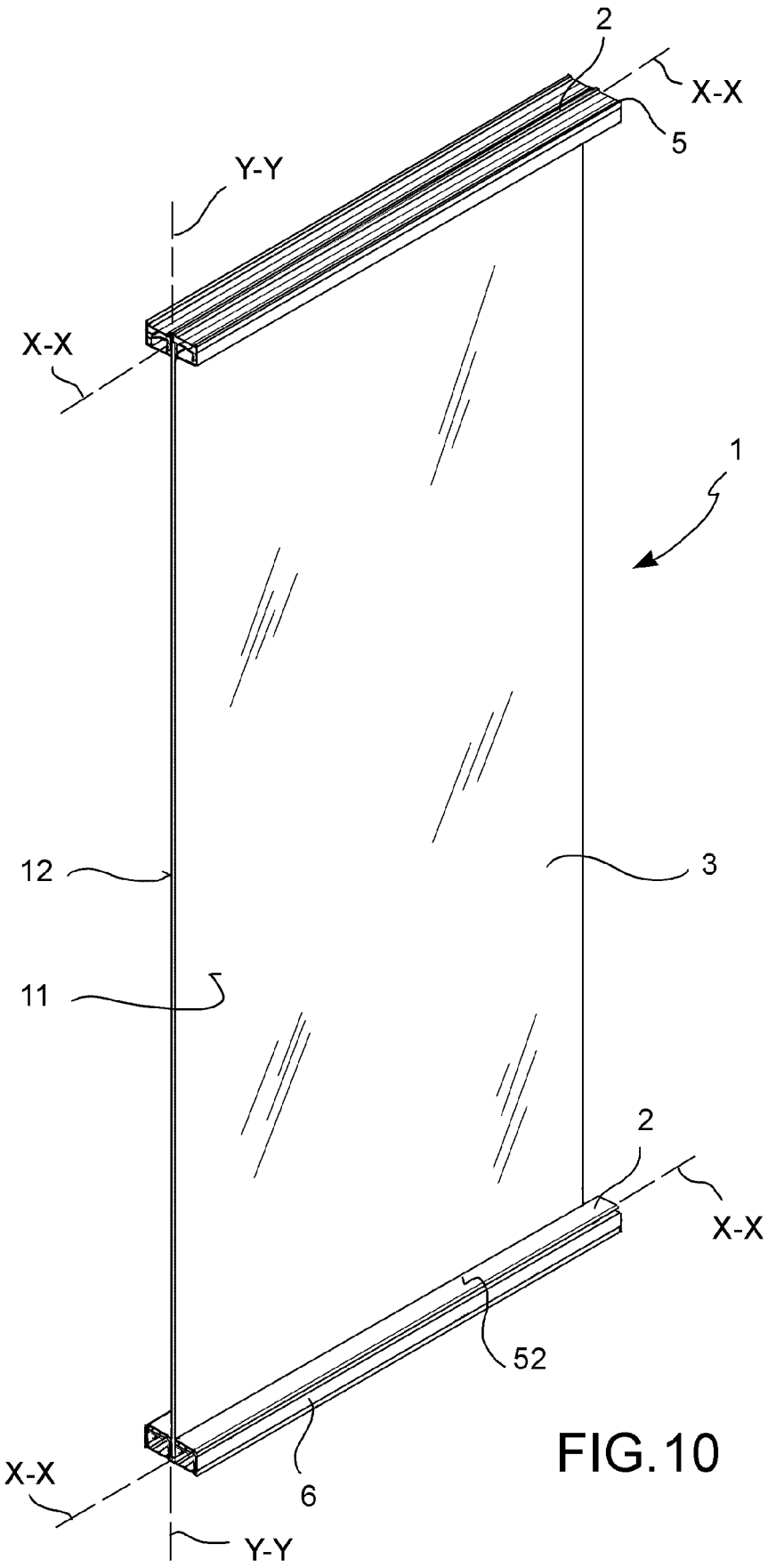

FIG.10

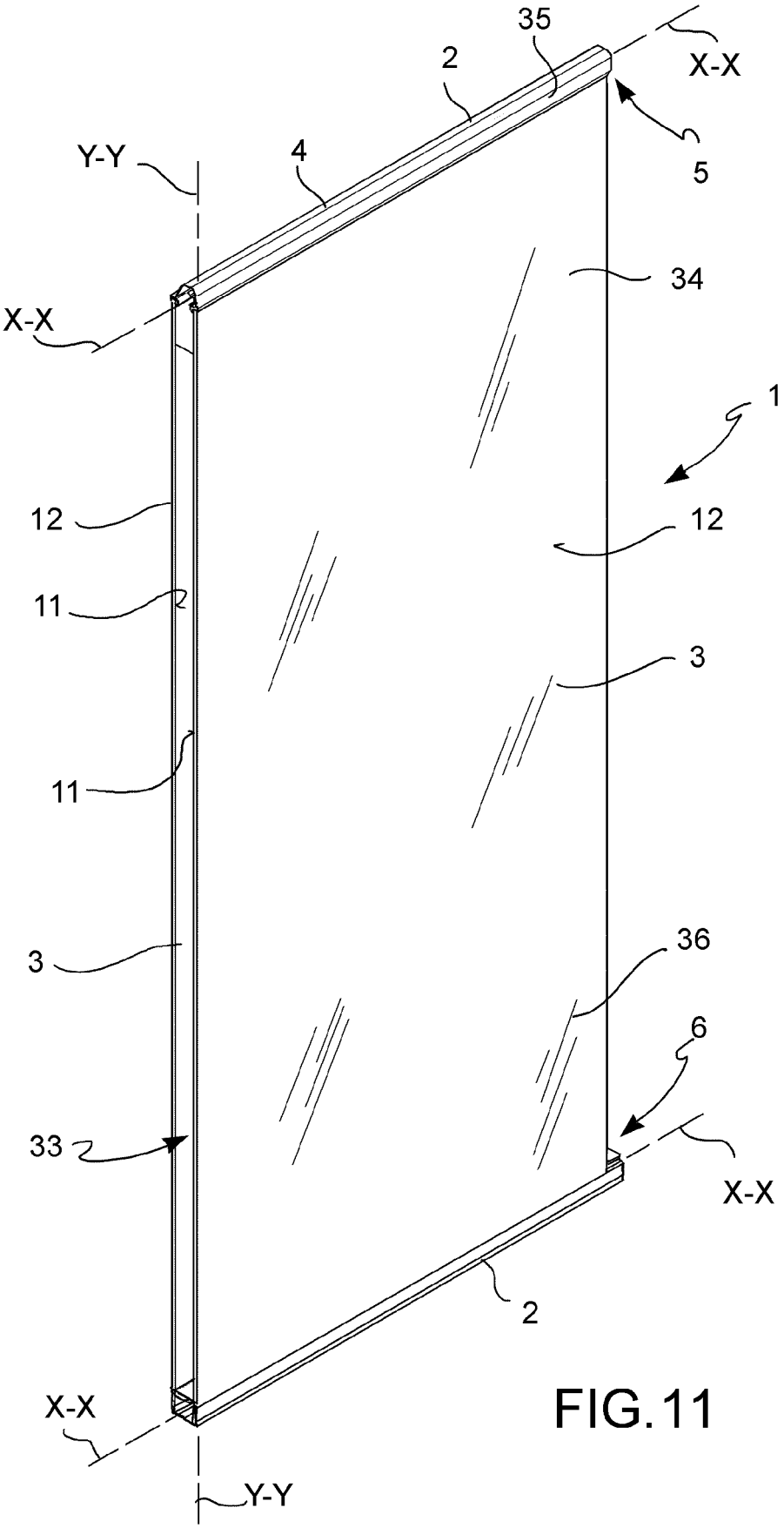

FIG.11

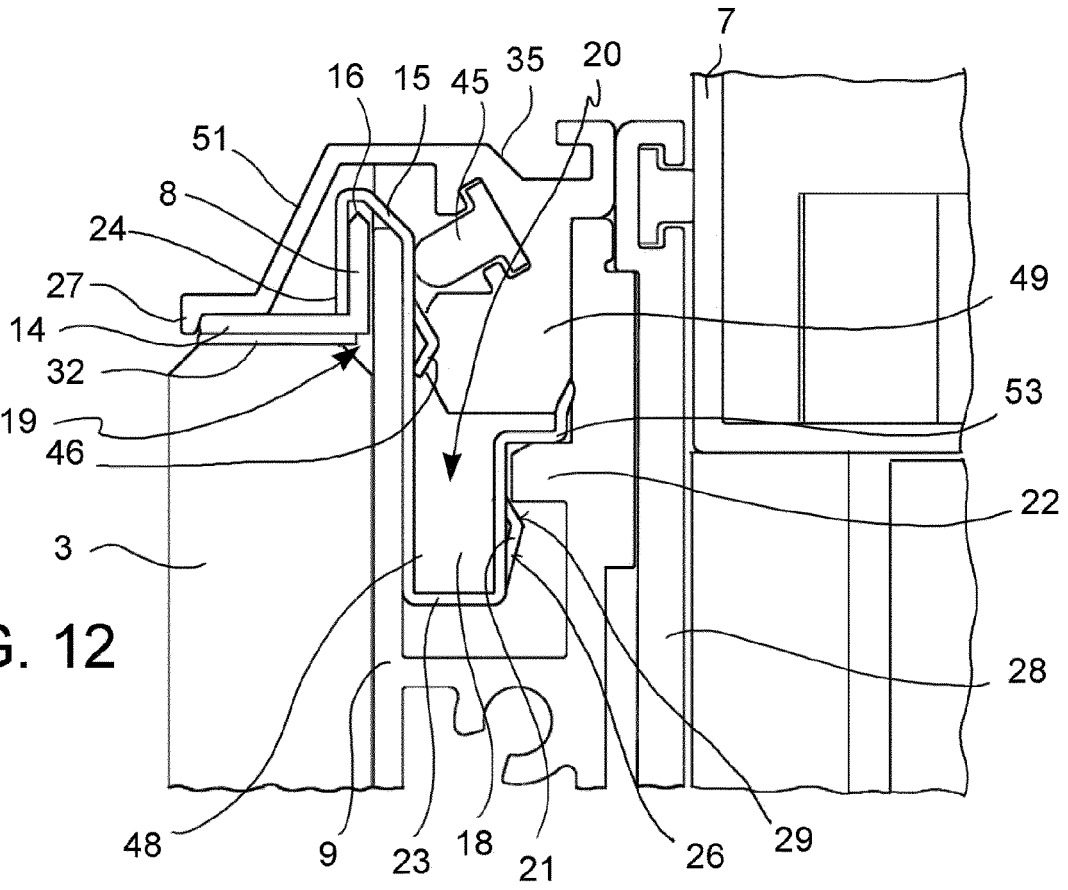
7
16
15
45
35
20
51
8
24
27
14
32
19
46
3
49
53
22
28
48
9
23
18
21
26
29

FIG. 12

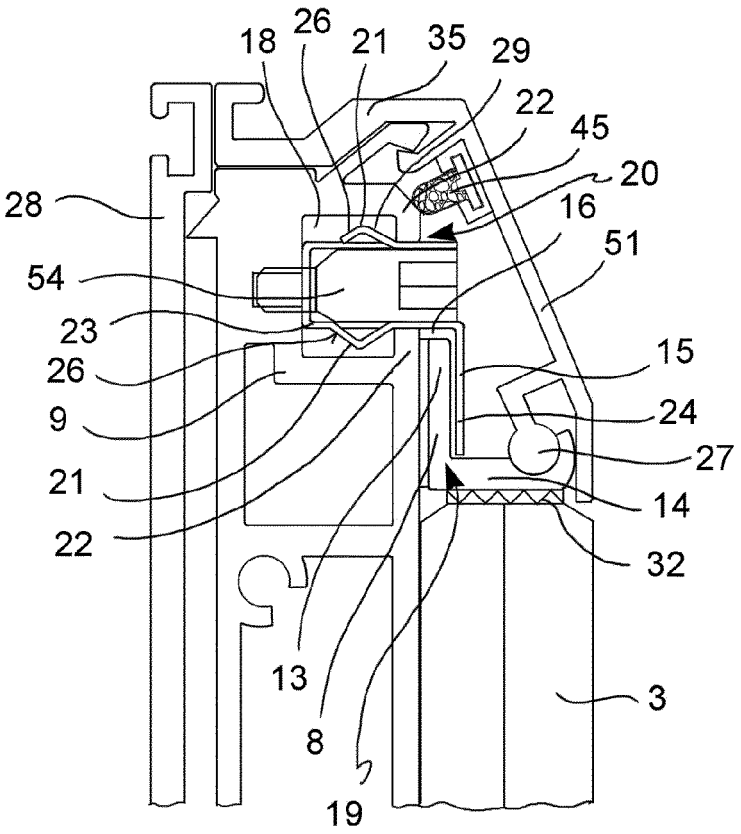
18
26
21
35
29
22
45
20
16
51
28
54
23
26
9
21
22
15
24
27
14
32
13
8
19
3

FIG. 13

Europäisches Patentamt
European Patent Office
Office européen des brevets

EUROPEAN SEARCH REPORT

Application Number
EP 18 16 4048

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2014/133388 A1 (MAARS HOLDING BV [NL]) 4 September 2014 (2014-09-04) * page 7, line 25 - page 10, line 5; figures 2A,3-9 * -----	1-10	INV. E04B2/74 E04B2/82 E06B3/58 E06B3/66

TECHNICAL FIELDS SEARCHED (IPC)

E04B
E06B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	3 May 2018	Melhem, Charbel

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

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 18 16 4048

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.

03-05-2018

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2014133388 A1	04-09-2014	CA 2900242 A1	04-09-2014
		CN 105074115 A	18-11-2015
		EP 2961906 A1	06-01-2016
		NL 2010367 C	28-08-2014
		US 2015376900 A1	31-12-2015
		WO 2014133388 A1	04-09-2014

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- WO 2015075586 A **[0006]**
- GB 2520925 A **[0009]**