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(71) Applicant: **Piva Group S.P.A.**
37122 Verona (IT)

(72) Inventor: **Piva Alessandro**
37060 Sona (VR) (IT)

(74) Representative: **Modiano, Micaela Nadia**
Modiano & Partners
Via Meravigli, 16
20123 Milano (IT)

(54) **Frame for casings or the like**

(57) A frame (1) for casings or the like, comprising a framework (2) which has a closed extension and can be fixed around the edge of an opening (3) which is formed in a wall (4) of a building and is provided with sealing means (6) designed to operate between the framework (2) and the outer side of the wall (4). In the upper part (2a) of the framework (2), there is at least one port (7) for draining the water that has penetrated through the sealing means (6), the at least one draining port (7) being connected to at least one water conveyance channel (8), which extends inside the framework (2) and opens into at least one discharge port (9), which is formed in the lower part (2b) of the framework (2) and is connected to the outside.

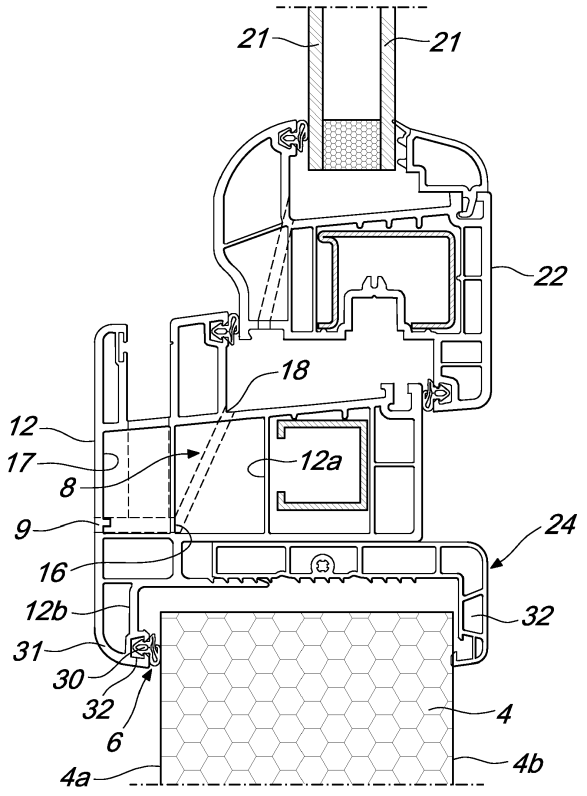

Fig. 4

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Description

[0001] The present invention relates to a frame for casings or the like.

[0002] As is known, casings for windows and doors or the like are constituted by a frame which is associated with the structure of the building and is made from profiles that are connected to each other, at opposite ends, so as to define a closed frame.

[0003] Normally on the profiles of the frame there are protruding wings which are designed to overlap the outer side of the fixed wall of the building, so as to cover the edge of the opening in which the frame is encased.

[0004] In particular, in known solutions for prefabricated buildings, such as containers or the like, seats are formed on these wings for the insertion of gasket seals which thus operate between the frame and the fixed wall of the building.

[0005] This structural arrangement, although widely used, has the drawback of not ensuring a sufficiently watertight seal between the frame and the fixed wall, and so it is possible that rainwater can infiltrate through the gaskets placed on the upper part of the frame and collect in the space between the frame and the edge of the opening in which the frame is accommodated, with the risk of causing a deterioration of the wall of the building.

[0006] In order to overcome this problem, frames have been made which are structured so as to allow any water that may have infiltrated through the gaskets to flow on the outer surface of the frame until it reaches drainage openings, which are formed in the lower part of the frame, so as to allow the exit of the water from the space between the frame and the edge of the opening which is formed in the wall.

[0007] This solution does not, however, eliminate the possibility that water can still come into contact with the wall and thus cause infiltrations of damp which are damaging to the structure of the wall.

[0008] The aim of the present invention is to provide a solution to the above-mentioned problems, by devising a frame for casings or the like which is capable of safeguarding the walls of the building from infiltrations of water.

[0009] Within this aim, an object of the invention is to provide a frame for casings or the like that makes it possible to prevent any contact between the water which may have penetrated the gaskets and the wall on which it is installed.

[0010] Another object of the present invention is to provide a frame for casings or the like which is capable of offering the highest guarantees for reliability and safety of use.

[0011] A further object of the invention is to provide a frame the structure of which is extremely simple and low-cost, so as to be competitive also from a purely economic viewpoint.

[0012] This aim, as well as these and other objects which will become better apparent hereinafter, are achieved by a frame for casings or the like, according to the invention, as defined in claim 1.

[0013] Further characteristics and advantages of the invention will become more apparent from the detailed description that follows of a preferred, but not exclusive, embodiment of the frame according to the invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a front elevation view of a window provided with a frame according to the invention;
Figure 2 is a partially sectional view of the window of Figure 1, taken along a vertical plane;
Figure 3 is an enlarged detail of the sectional view of Figure 2, for showing the upper part of the frame according to the invention;
Figure 4 is an enlarged sectional view of the lower part of the frame according to the invention.

[0014] With reference to the figures, a frame for casings or the like, according to the invention, indicated generally by the reference numeral 1, comprises a closed framework 2, which can be fixed around the edge 3a of an opening 3, formed in a wall 4 of a building, such as, for example, a traditional concrete building or a prefabricated structure, such as a container or the like.

[0015] The framework 2 constitutes, in practice, at least one part of the fixed frame of an architrave fitting 20, which can be, for example, a door or more preferably a window and which can have glass panes 21 mounted directly on the framework 2 or on one or more movable frames 22, which are rotatably or slidingly supported by the framework 2, so as to provide one or more movable leaves of the door or window fitting 20, as in the example shown, in particular, in Figures 1 and 2.

[0016] On the framework 2 there are sealing means 6 which extend, advantageously, along all of the perimeter of the framework 2 and are designed to operate between the framework 2 and the outer side 4a of the wall 4, such as to prevent or, at least, limit the infiltration of water from outside into the door or window fitting 20.

[0017] As in the case of the embodiment shown in the figures, the fixed frame provided by the framework 2 can be, optionally, completed by a case 24 which is constituted, as usual, by a frame which is mounted on the inner side 4b of the wall 4.

[0018] The distinctive characteristic of the invention consists in that, in the upper part 2a of the framework 2, one or more drainage ports 7 are formed which function to remove any water that may have penetrated into the door or window fitting 20 through the sealing means 6.

[0019] More precisely, the drainage ports 7 are connected to at least one water conveyance channel 8, which extends altogether inside the framework 2, so as to prevent the possibility of contact between the water that flows inside it and the wall 4 of the building.

[0020] The conveyance channel 8 leads into at least one discharge port 9, which is formed in the lower part

2b of the framework 2 and is connected to the outside, so as to allow the exit, by gravity, of the water from the framework 2 and thus its evacuation to the outside of the door or window fitting 20.

[0021] Descending into the details of the embodiment shown in the figures, the framework 2 is, conveniently, made of at least one pair of lateral upright profiles 10, which are connected, at their upper ends, to an upper transverse profile 11 and, at their lower ends, to a lower transverse profile 12.

[0022] Advantageously, the drainage ports 7 are formed on a portion of the upper transverse profile 11 which is designed to be directed toward the edge 3a of the opening 3, and each discharge port 9 is formed on the face of the lower transverse profile 12 which is designed to be directed toward the outside of the wall 4.

[0023] In particular, on such portion of the upper transverse profile 11 which is designed to be directed toward the edge 3a of the opening 3, there is, advantageously, at least one draining region 13 which is inclined downward in the direction of the drainage ports 7, so that the water that has penetrated through the sealing means 6 can easily flow toward the drainage ports 7.

[0024] Conveniently, the draining region 13 has, with respect to the horizontal plane, an inclination that is substantially comprised between 2° and 4°.

[0025] Advantageously, as schematically shown in Figure 1, the conveyance channel 8 is formed, with at least one first portion 8a thereof, inside the upper transverse profile 11, with at least one second portion thereof 8b, along the extension of at least one of the two lateral upright profiles 10 and, with at least one third portion 8c thereof, inside the lower transverse profile 12.

[0026] More preferably, there are at least two conveyance channels 8, each of which passes, substantially longitudinally, through a respective lateral upright profile 10.

[0027] Conveniently, for each of the conveyance channels 8 there is at least one respective discharge port 9 located in proximity to a corresponding end of the lower transverse profile 12.

[0028] In particular, inside each lateral upright profile 10, the upper transverse profile 11 and the lower transverse profile 12 respective internal longitudinal cavities are formed, indicated respectively by the numerals 10a, 11a and 12a, each of which forms at least one respective portion of the conveyance channels 8.

[0029] The internal longitudinal cavities 10a, 11a, 12a are connected to each other at axial ends of the upright profiles 10, the upper transverse profile 11 and the lower transverse profile 12.

[0030] As shown, in particular, in Figures 3 and 4, the internal longitudinal cavity 11a of the upper transverse profile 11 has at least one intake port 14 for water, which is connected to the drainage ports 7, preferably by means of an intermediate chamber 15, which is also formed inside the upper transverse profile 11, whereas the internal longitudinal cavity 12a of the lower transverse profile 12 has at least one outflow port 16 for the water, which is connected to at least one respective discharge port 9, by means of a connecting chamber 17, formed inside the lower transverse profile 12.

[0031] As can be seen in Figure 4, the lower transverse profile 12 can, conveniently, have further drainage openings 18 which open on its side which is directed away from the wall 4, i.e. toward the movable frame 22 of the door or window fitting 20, so as to allow the drainage of rainwater or condensate, which might collect on the lower transverse profile 12, toward the internal longitudinal cavity 12a of the lower transverse profile 12 and from this to the outside, through the outflow ports 16 and the discharge ports 9.

[0032] Advantageously, the draining region 13 on the upper transverse profile 11 is formed by a wing 25, which protrudes from the upper transverse profile 11 in the direction of the inner side 4b of the wall 4, so as to delimit, with another part of the upper transverse profile 11 facing it, an engagement seat 26 for mating the case 24 with the framework 2.

[0033] Preferably, the case 24 is provided with gripping teeth 27 which are designed to engage corresponding locking grooves 28 provided on the side of the wing 25 that is directed toward the engagement seat 26.

[0034] For example, the engagement seat 26 can be dimensioned with respect to the portion of the case 24 which is designed to be inserted into it in such a way that the inclination of the wing 25 and thus of the draining region 13 can be determined by a flexural deformation of the wing 25 which is produced by the mating of the case 24 with the engagement seat 26.

[0035] For the sake of completeness it should be added that, with reference to the embodiment shown, the sealing means 6 are made of at least one gasket 30 which extends along the perimeter of the framework 2 and is arranged on an external abutment portion 31 formed on the framework 2 and designed to face the outer side 4a of the wall 4, at a region which is proximate to the opening 3.

[0036] In the embodiment shown, the external abutment portion 31 of the framework 2 is, in practice, constituted by special protuberances 10b, 11b and 12b, which are formed respectively on the lateral upright profiles 10, the upper transverse profile 11 and the lower transverse profile 12. In particular, the protuberances 10b, 11b and 12b have accommodation seats for the gasket 30.

[0037] It should be noted that, conveniently, the case 24 forms, in turn, an internal abutment portion 32 for the fixed frame of the door or window fitting 20, which is designed to engage the inner side 4b of the wall 4, so as to clamp the wall 4 between the external abutment portion 31 of the framework 2 and the internal abutment portion of the case 24.

[0038] From the foregoing it is clear that, during the use of the frame for casings according to the invention, any rainwater that could possibly penetrate through the sealing means 6 into the upper part of the framework 2

would fall, by gravity, onto the draining region 13 and then be channeled, through the drainage ports 7 and the conveyance conduits 8, toward the discharge ports 9, from which the water would be expelled to the outside, without coming into contact with the wall 4 of the building.

[0039] In practice it has been found that the invention fully achieves the set aim and, in particular, attention is drawn to the fact that the frame according to the invention, thanks to the presence of conveyance conduits inside the framework, is capable of preventing any water that might penetrate into the door or window fitting through the sealing means from infiltrating the walls, thus causing their deterioration.

[0040] All the characteristics of the invention, indicated above as advantageous, advisable or similar, may also be missing or be substituted by equivalent characteristics.

[0041] The individual characteristics set out with reference to general teachings or to specific embodiments may all be present in other embodiments or may substitute characteristics in such embodiments.

[0042] The invention thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims.

[0043] In practice the materials used, provided they are compatible with the specific use, as well as the dimensions and the shapes may be any according to requirements.

[0044] Moreover, all the details may be substituted by other, technically equivalent elements.

[0045] The disclosures in Italian Patent Application No. VR2009A000209 from which this application claims priority are incorporated herein by reference.

[0046] Where technical features mentioned in any claim are followed by reference numerals and/or signs, those reference numerals and/or signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference numerals and/or signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference numerals and/or signs.

Claims

1. A frame (1) for casings or the like, comprising a framework (2) which has a closed extension and can be fixed around the edge of an opening (3) which is formed in a wall (4) of a building and is provided with sealing means (6) designed to operate between said framework (2) and the outer side of said wall (4), **characterized in that** in the upper part (2a) of said framework (2) there is at least one port (7) for draining the water that has penetrated through said sealing means (6), said at least one drainage port (7) being connected to at least one water conveyance channel (8), which extends inside said framework (2) and is connected to at least one discharge port (9), formed in the lower part (2b) of said framework (2) and connected to the outside.

2. The frame according to claim 1, **characterized in that** said framework (2) is provided by at least one pair of lateral upright profiles (10) which are connected in an upper region to an upper transverse profile (11) and in a lower region to a lower transverse profile (12), said at least one draining port (7) being formed on a portion of said upper transverse profile (12) that is designed to be directed toward the edge of said opening (3), said at least one discharge port (9) being formed on the face of said lower transverse profile (12) that is designed to be directed toward the outside of said wall (4).

3. The frame according to one or more of the preceding claims, **characterized in that** on said portion of said upper transverse profile (11) that is designed to be directed toward the edge (3a) of said opening (3) there is at least one draining region (13) that is inclined downward in the direction of said at least one draining port (7).

4. The frame according to one or more of the preceding claims, **characterized in that** said at least one conveyance channel (8) is formed, with at least one first portion (8a) thereof, inside said upper transverse profile (11), with at least one second portion thereof (8b), along the extension of at least one of said lateral upright profiles (10) and, with at least one third portion (8c) thereof, inside said lower transverse profile (12).

5. The frame according to one or more of the preceding claims, **characterized in that** it comprises at least two conveyance channels (8), each of which crosses substantially longitudinally a respective lateral upright profile (10).

6. The frame according to one or more of the preceding claims, **characterized in that** said lateral upright profiles (10), said upper transverse profile (11) and said lower transverse profile (12) are provided on the inside with respective internal longitudinal cavities (10a, 11a, 12a), each of which forms at least one respective portion of said conveyance channels (8), said internal longitudinal cavities (10a, 11a, 12a) being mutually connected at the axial ends of said upright profiles (10), of said upper transverse profile (11), and of said lower transverse profile (12).

7. The frame according to one or more of the preceding claims, **characterized in that** the internal longitudinal cavity (11a) of said upper transverse profile (11) has at least one intake port (14) for the water which is connected to said at least one drainage port (7), and **in that** the internal longitudinal cavity (12a) of

said lower transverse profile (12) has at least one outflow port (16) for the water which is connected to said at least one discharge port (9).

8. The frame according to one or more of the preceding claims, **characterized in that** said at least one draining region (13) has, with respect to the horizontal, an inclination comprised substantially between 2° and 4°.

9. The frame according to one or more of the preceding claims, **characterized in that** said draining region (13) is formed by a wing (25), which delimits an engagement seat (26) for the mating of a case (24) with said framework (2).

10. The frame according to one or more of the preceding claims, **characterized in that** said sealing means (6) comprise at least one gasket (30), which is arranged on an external abutment portion (31) formed on said framework (2) and designed to face the outer side of said wall (4) at a region that is proximate to said opening (3).

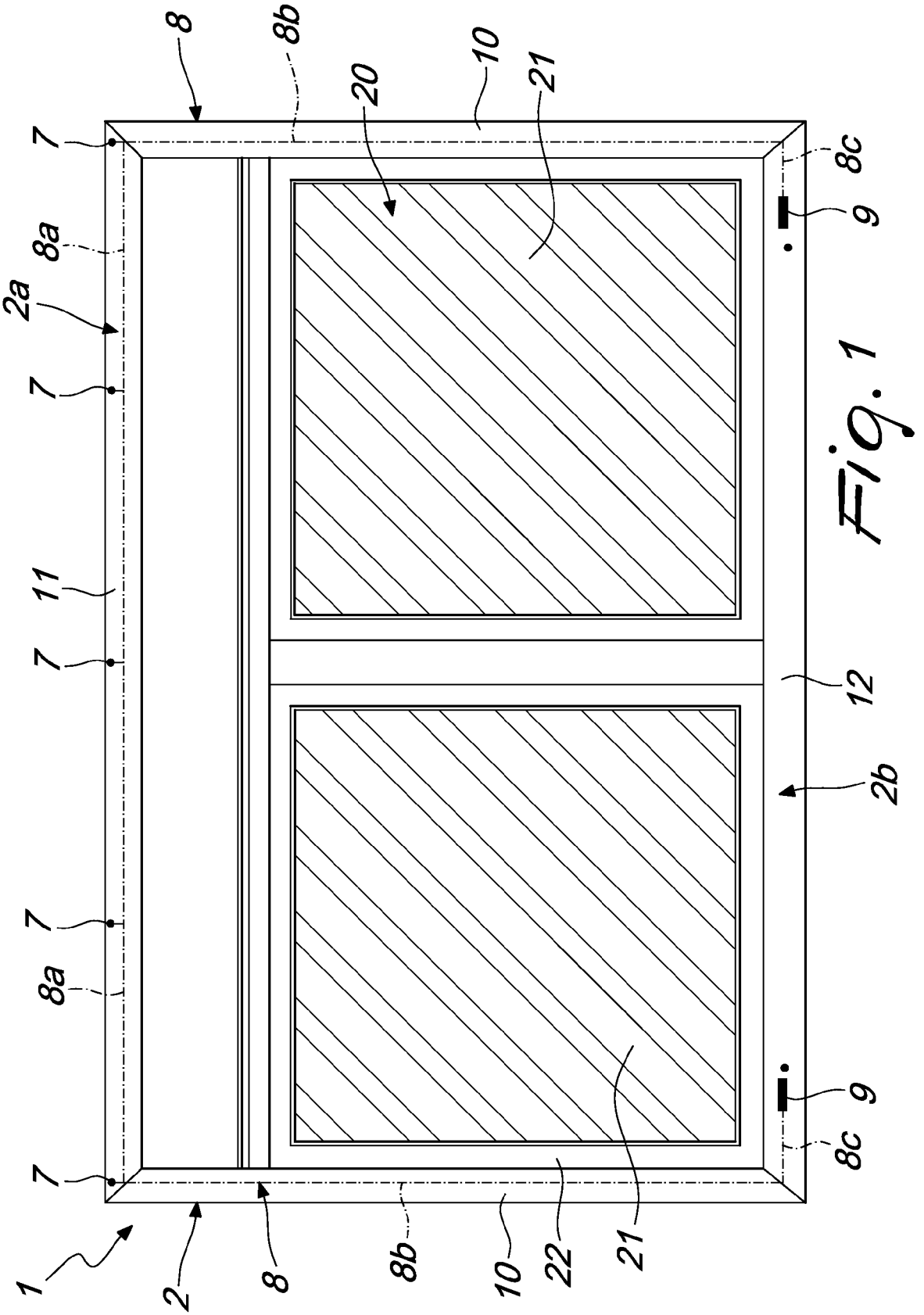

Fig. 1

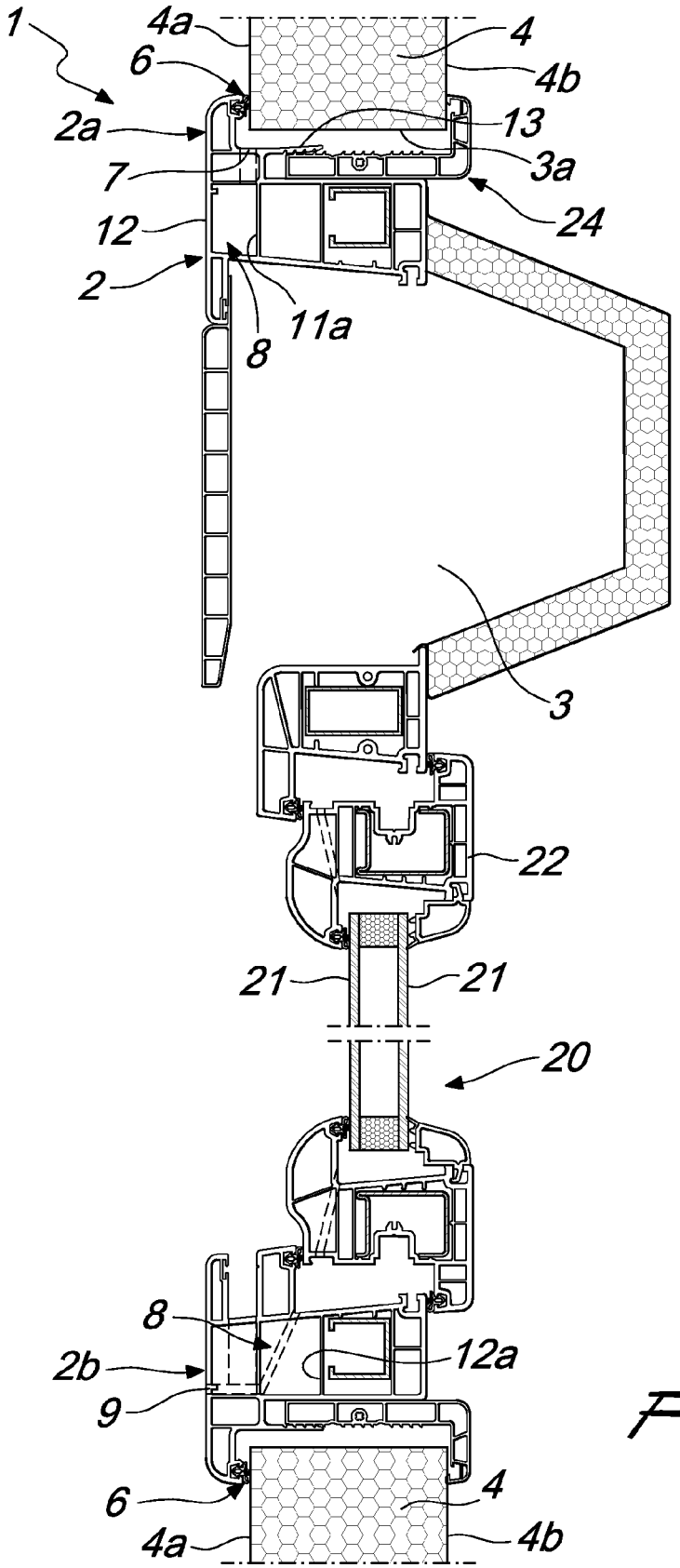

Fig. 2

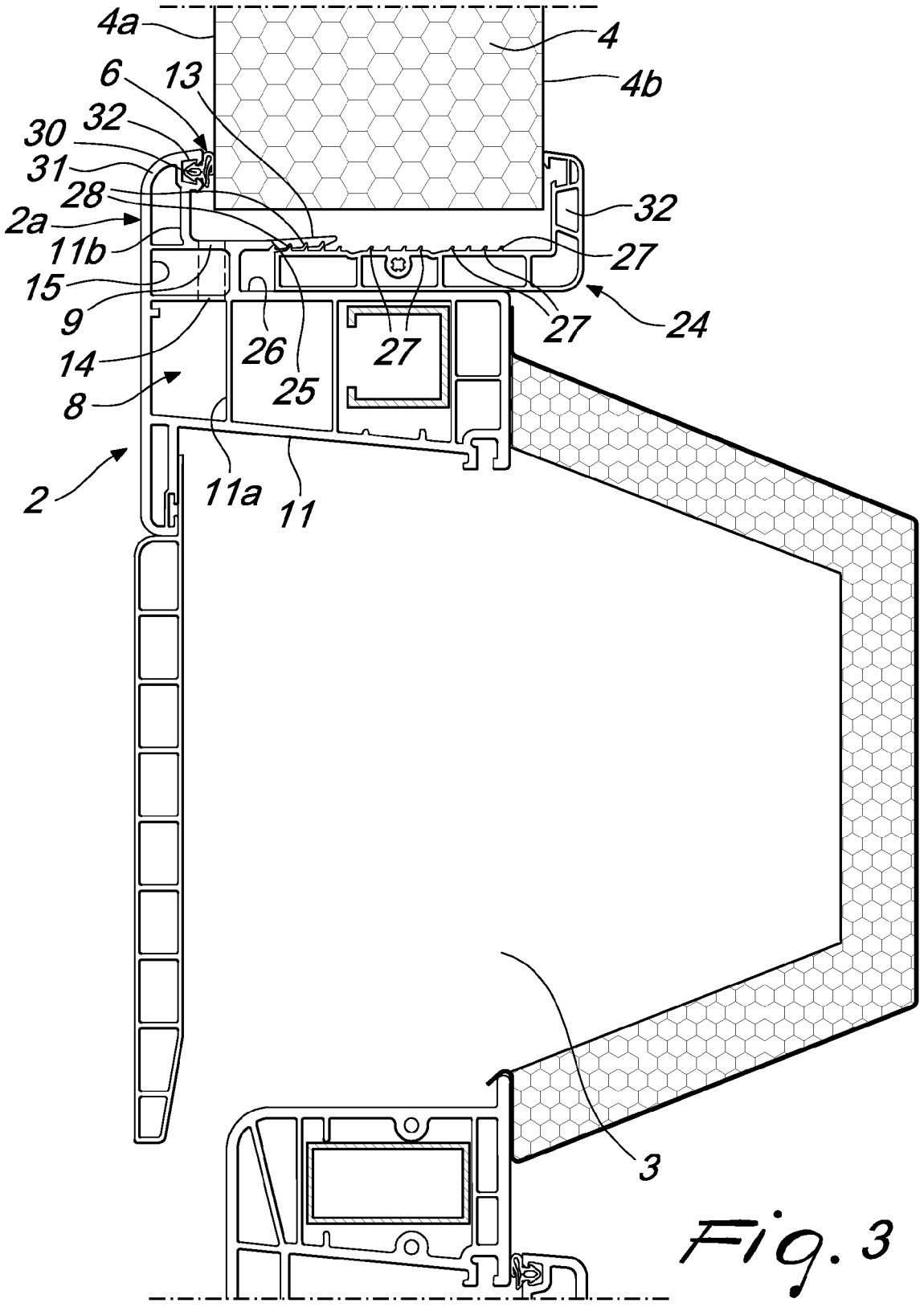

Fig. 3

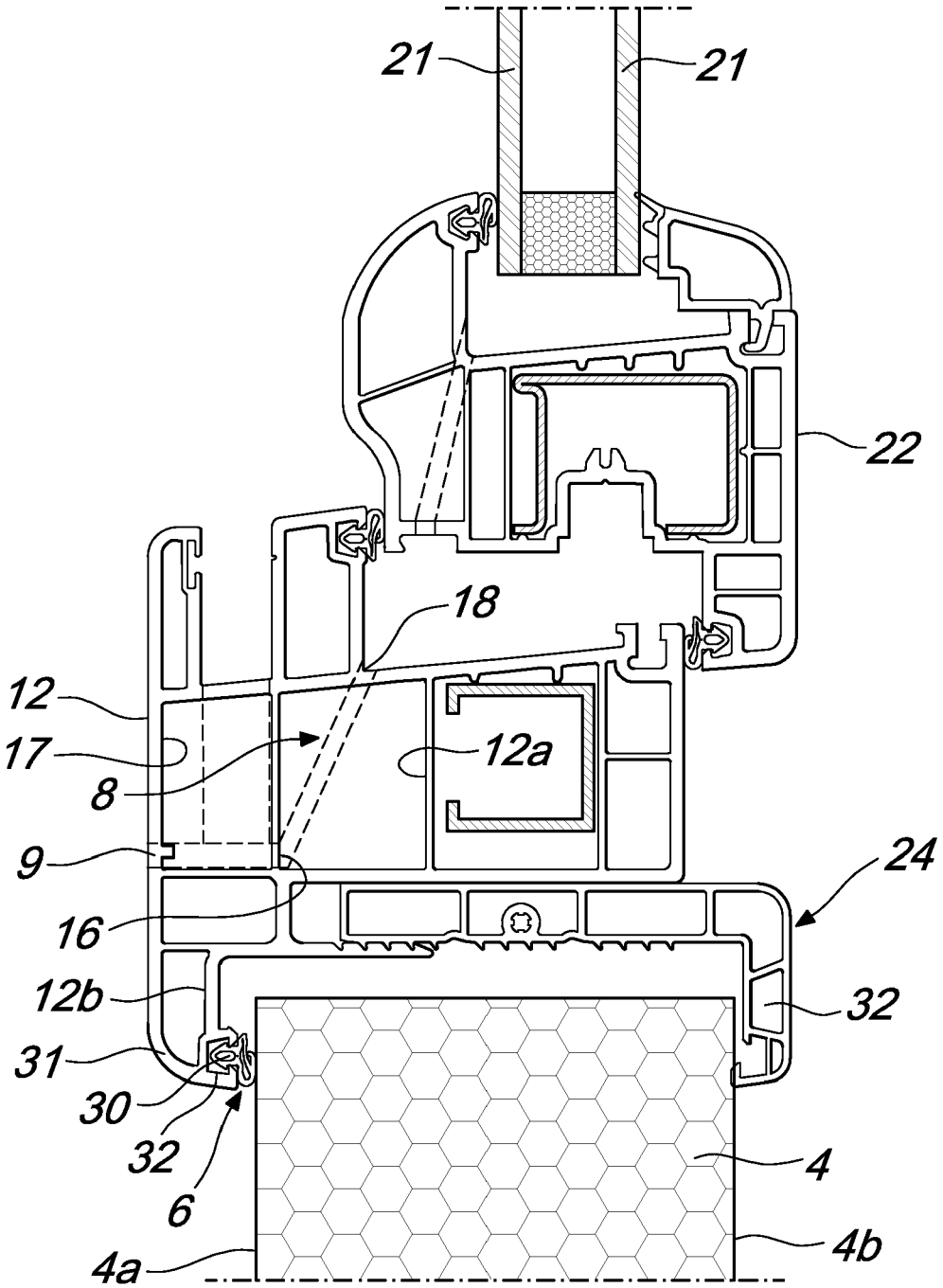

Fig. 4

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EUROPEAN SEARCH REPORT

Application Number
EP 10 19 3710

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TECHNICAL FIELDS SEARCHED (IPC)

E06B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	5 April 2011	Merz, Wolfgang

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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REFERENCES CITED IN THE DESCRIPTION

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