

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) Publication number:

0 548 773 A1

(12)

EUROPEAN PATENT APPLICATION(21) Application number: **92121381.5**(51) Int. Cl.⁵: **E06B 7/14, E04B 2/96**(22) Date of filing: **16.12.92**(30) Priority: **20.12.91 IT TV91125**(43) Date of publication of application:
30.06.93 Bulletin 93/26(84) Designated Contracting States:
AT CH DE ES FR GR IT LI PT

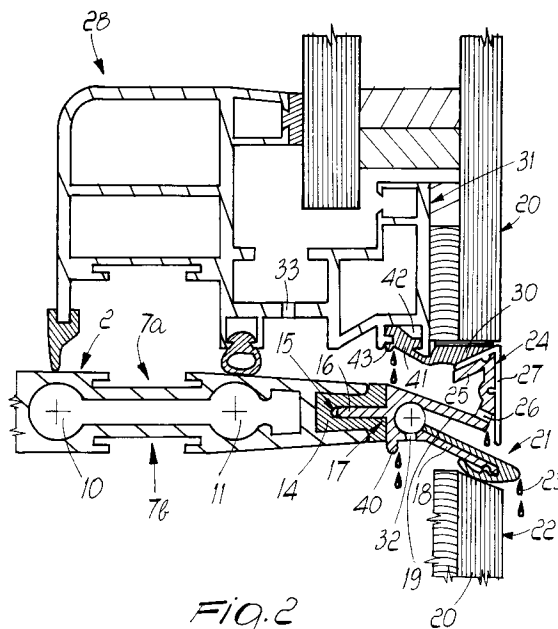
(71) Applicant: **Sossai, Aldo**
Via Ungaresca 160/156
I-31010 Marenno di Piave, Treviso(IT)
Applicant: **Sossai, Ermenegildo**
Via Ungaresca 160/156
I-31010 Marenno di Piave, Treviso(IT)

(72) Inventor: **Sossai, Aldo**
Via Ungaresca 160/156
I-31010 Marenno di Piave, Treviso(IT)
Inventor: **Sossai, Ermenegildo**
Via Ungaresca 160/156
I-31010 Marenno di Piave, Treviso(IT)

(74) Representative: **Modiano, Guido et al**
MODIANO, JOSIF, PISANTY & STAUB, Via
Meravigli 16
I-20123 Milan (IT)

(54) **Continuous structural facade for buildings with independent elements.**

(57) A continuous structural facade for buildings with independent elements which comprise a supporting frame. The structure comprises a plurality of cross-members (2) and uprights which are mutually identical and interconnectable and have a thermal insulation element (14) with which it is possible to associate, in a snap-together manner, a first profiled element (17) which has means for conveying and discharging meteoric and/or condensation water. Means are furthermore provided for supporting a glass pane which can be associated with a second shutter profiled element (28) which has ventilation holes (33).

**EP 0 548 773 A1**

The present invention relates to a continuous structural facade for buildings with independent elements.

The term "continuous facade" currently designates a system which is external to the supporting structure of building and has no vertical discontinuities.

Said continuous facades are usually constituted by a grid of metallic elements in which the panels, made of glass or opaque material, are inserted.

Known types of continuous facade include a facade wherein the grid is made of extruded profiled elements which are frontally provided with a shape suitable to accommodate curtain-wall panels made of various materials.

The supporting structure is defined by means of a planar lattice formed by uprights, which are anchored to the floor slab by means of appropriate adjustable L-shaped elements, and by cross-members, which are connected to the uprights by means of a quick snap-together coupling.

The finish of the profiled elements is provided by means of a covering element which naturally protrudes with respect to the plane of arrangement of the panel.

In the execution of buildings according to the described method it is thus common to use windows which are coupled, by means of adapted hinges, to casements which are generally made of aluminum.

Windows are thus known which are mounted on lateral hinges so that they can be opened by rotating about a vertical axis.

Other known windows are coupled to hinges which are arranged so as to allow to open the window in a cantilevered manner and thus along a plane which is inclined with respect to the plane of arrangement of the casement.

Said windows usually provide for the use of hinges which are generally constituted by an element which can be coupled to the casement, which has a guide for a mushroom-shaped stud which protrudes from an end of a sliding block which can be coupled laterally to the window.

Hinges composed of a plurality of mutually variously articulated arms are also known in this regard, but they are complicated from the point of view of manufacture and are thus onerous from the constructive point of view.

Besides shutter-like and cantilevered opening, the windows can also have hinges which allow to open them along planes which are parallel to the plane of arrangement of the casement; said hinges are usually constituted by two pairs of arms which are mutually articulated so as to form an X and are coupled to the window at one end and to the casement at the other end.

However, all these known types of continuous structural facades have problems: on one hand, each individual facade is divided from the others by a casement or in any case by an element whose dimensions are such as to considerably delimit each individual facade and thus limit the appearance of vertical "continuity" of the building; on the other hand, in known continuous structural facades it is necessary to provide alternating fixed windows and openable windows, either of the shutter-like type or of the tilt-down type, thus creating bands of fixed windows which are interposed both horizontally and vertically between openable windows.

Furthermore, in order to have an openable window in known continuous structural facades it is necessary to modify the internal lattice so as to be able to have plates of the same size from a dimensional point of view.

In fact, if one were to keep the internal lattice identical for every element of the continuous structural facade, it would be necessary to change the size of the plate, in the sense of reducing its dimensions, and thus reduce the viewing surface.

Furthermore, in known continuous structural facades the problem related to the elimination of meteoric and condensation water is not solved adequately.

Another problem which is observed in said known structural facades is ventilation, which has not been fully solved so far.

Structural facades are also known wherein the glazing is not interrupted by any type of external profiled element but is fixed to supports by means of structural sealant.

Facades thus obtained can be divided essentially into three types: a first facade, known as supported facade, comprises a mechanical support on the inner pane of the glass-box both at the uprights and at the cross-members of the grid.

In this case, structural silicone is used along the entire perimeter of the glass-box and of the mechanical support in order to support said glass-box.

A second type of facade provides for the application of the structural sealant outside the supporting grid, the glass pane being associated thereon.

A third type of continuous facade, termed ventilated or triple continuous facade, provides for the use of structural sealant to seal a monolithic plate outside the grid, the glass-box being applied inside with conventional methods.

However, all these known types of continuous facades which use structural silicone have problems: due to the considerable weight of the panels or of the monolithic plates, the structural sealant must provide adequate assurances of lasting grip

and of resistance to weather, in order to prevent said panels or plates from separating from the grid with consequent obvious dangers.

The coupling elements can furthermore constitute localized pressure points which can lead to the breakage of the glass.

The aim of the present invention is therefore to eliminate the problems described above in known types by providing a continuous structural facade wherein each individual window can be opened in a shutter-like or tilt-down manner, the glass pane being appropriately supported and retained, the internal lattice and the outer lattice furthermore both having reduced dimensions.

Within the scope of the above aim, an important object is to provide a continuous structural facade wherein each individual glass pane which constitutes the windows has the same size and thus allows to always have the same viewing surface for the user.

Another important object is to provide a facade wherein each individual window can be opened both along the horizontal direction of the facade and along the vertical one.

Another important object is to provide a continuous structural facade which associates with the preceding characteristics that of allowing assembly at the building yard without requiring particular machines or controlled ambient conditions.

Another object is to provide a structural facade wherein there is an optimum conveyance and discharge of meteoric and condensation water.

Another object is to provide a continuous facade which can be assembled rapidly and easily.

Another object is to provide a continuous facade which allows the easy insertion of accessories for the mounting and fixing of the windows.

Another object is to provide a continuous facade wherein it is possible to achieve optimum ventilation.

Yet another object is to provide a facade wherein it is possible to clean each individual window in absolute safety even with personnel not specifically trained for this purpose.

Not least object is to provide a continuous structural facade which has very modest manufacturing and installation costs and is reliable and safe in use.

This aim, these objects and others which will become apparent hereinafter are achieved by a continuous structural facade for buildings with a supporting frame, characterized in that it comprises a plurality of cross-members and uprights which are identical and mutually interconnectable and have a thermal insulation element with which a first profiled element can be associated in a snap-together manner, said first profiled element having means for the conveyance and discharge of me-

teoric and/or condensation water and means for supporting a glass pane which can be associated with a second shutter profiled element which has ventilation holes.

Further characteristics and advantages of the present invention will become apparent from the following detailed description of a particular but not exclusive embodiment thereof, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a partially sectional lateral perspective view of the facade at an intersection;

figure 2 is a partial sectional view, taken along a longitudinal median plane, of a cross-member and of other components of the facade;

figure 3 is a sectional view of a single cross-member, taken along a longitudinal median plane;

figure 4 is a view, similar to the preceding one, of a cross-member equipped for the coupling, for example, of a convector;

figure 5 is a view of a further embodiment of an upright;

figure 6 is a sectional view, taken along the plane VI-VI of figure 1.

figure 7 is a partially sectional perspective view of a second embodiment;

figure 8 is a view, taken similarly to the view of figure 2, of the horizontal node according to the second embodiment;

figure 9 is a view, taken similarly to the preceding view, of the vertical node according to the second embodiment.

With reference to the above figures, the continuous structural facade for buildings, designated by the reference numeral 1, comprises a plurality of cross-members 2 and uprights 3 which are mutually identical and are preferably made of extruded aluminum.

Said cross-members and uprights have a first portion 4 shaped essentially like a parallelepiped, followed by a second portion 5 whose cross-section is essentially shaped like a truncated pyramid.

Identical and mutually opposite first seats 7a and 7b are furthermore defined on the lateral surface of each cross-member and upright, at the region where the first portion 4 and the second portion 5 meet; said seats are arranged approximately transversely with respect to each upright and cross-member and allow the coupling of structural elements by using suitable L-shaped elements.

Each cross-member 2 and upright 3 has an internal cavity 8 at which a second seat 9, a third seat 10 and a fourth seat 11 are defined respectively at the ends of the first portion 4 and at the end of the second portion 5 which is adjacent to said first portion 4; said seats are cylindrical, par-

allel and mutually identical and are arranged transversely to said upright and cross-member.

The longitudinal extension of the first portion 4 is advantageously greater than the extension of the second portion 5, so that the center distances between the second, third and fourth seats are not constant.

A fifth seat 13 is present at the free end 12 of the second portion 5, and a thermal insulation element 14, constituted by a rigid gasket oxidized during the extrusion of the upright or of the cross-member, can be arranged in said fifth seat.

Said thermal insulation element 14 has, at its free end, a sixth axial seat 15 inside which the stem 16 of a first profiled element 17 can be associated in a snap-together manner; said first profiled element is essentially Y-shaped, with a first wing 18 and a second wing 19 which are mutually parallel and are arranged so as to be inclined with respect to the axis of the stem 16.

Said first profiled element 17 is mounted, during installation, at the sixth seat 15 of the cross-member 2 so that there are no interruptions, and this ensures, as described hereinafter, optimum drainage.

It is stressed that said first profiled element 17 shows no horizontal discontinuity for the facade, while constituting a means for water collection and drainage.

Considering what is shown in figure 2, the first wing 18 of the first profiled element 17 associated with a cross-member 2 is directed toward the glass pane 20 which constitutes the underlying window of the facade.

A means for conveying and discharging meteoric and/or condensation water can be associated in the interspace between the first wing 18 and the second wing 19; said means is constituted by a first gasket 21 which surrounds the end of the first wing 18 and protrudes therefrom beyond the plane of arrangement of the outer surface 22 of the pane 20.

The function of the first inclined wing 18 and gasket 21 is also to retain the pane 20 in case of outward movements thereof, since the upper perimetric edge of said pane is arranged on an inclined plane in abutment against the inclined gasket 21, as seen in figure 2.

An essentially L-shaped tab 24 is associated with the terminal end of the second wing 19 and is directed in the opposite direction with respect to the first wing 18; the terminal end 25 of said tab is inclined with respect to the axis of the stem 16 and is directed toward it.

At least one hole or slot 26 is defined at the connection between the ends of the second wing 19 and of the tab 24 and is suitable to convey the water which has deposited on said second wing 19

onto the underlying first gasket 21, so as to convey the drops of water 23 beyond the outer surface 22 of the underlying pane 20.

A second L-shaped or C-shaped gasket 27, at least one region of which overlies the terminal end 25 of the tab 24, can furthermore be externally associated with said tab 24, preferably in a snap-together manner; said second gasket 27, and thus the tab 24, have the function of thermal insulation and abutment for an openable shutter 28, said abutment function being also achieved for the first wing 18 during the closure of the shutter 28.

The terminal end 25 of the tab 24 furthermore interacts, by means of the second gasket 27, with a means for supporting a pane 20 of the facade, which is constituted by a foot 30 which is associated below a second profiled element 31 which constitutes the shutter 28.

At least one second hole or slot 32 is furthermore defined approximately at the region which connects the stem 16 and the first wing 18 of the first profiled element 17, and its function is to allow, together with the first hole or slot 26 defined on the tab 24 and with third holes 33 defined on said second profiled element 31, optimum ventilation and drainage for the facade.

A recess is defined on the head of the first gasket 21 at the second holes or slots 32.

Interconnection between cross-members and uprights occurs by virtue of the presence of a sleeve 34 made of extruded aluminum with steel reinforcements, which is composed of three mutually spaced cylindrical pivots 35 which are shaped complementarily with respect to the seats 9, 10 and 11 defined on the cross-members; the length of said pivots is such that they protrude beyond the opposite lateral perimetric edge, with respect to the insertion edge, of a cross-member and enter adapted fourth holes defined on the lateral surface of an adjacent upright so as to allow mutual interconnection.

Some of the cross-members may have, as shown in figure 4, a seventh seat 37, which is defined on the end which is opposite to the one provided with the thermal insulation element 14 in order to allow coupling to supports 38, and an eighth seat 39, which is defined at the first portion 4, in order to allow the accommodation of for example a wing 18.

As shown in figure 5, it is furthermore possible to use an upright 3 which is shaped essentially like a parallelepiped, can be divided into two specular elements which can be mutually coupled at their ends, and can be used if one wishes to assemble modules; in this case, the second gasket 27 is C-shaped so as to completely surround the outward edge of said upright.

A first ridge or protrusion 40 is provided at the connection between the first wing 18 and the stem 16 and is directed opposite to the wing 24.

The foot 30 furthermore has a head 41 which can be accommodated within a complementarily shaped seat 42 defined along the entire perimeter of the second profiled element 31 of the shutter 28.

Said seat 42 is occupied by the head 41 of the foot 30 only at its lower transverse side.

The other sides of the seat 42 are used as channels for draining the water conveyed thereto by the first ridge or protrusion 40 of the first profiled element 17 of the facade which is arranged above the one being considered.

This conveyance can be due to water which, by interacting with the second wing 19, is discharged through the first slotted hole 26 onto the first gasket 21.

In the presence of strong wind, said water can be pushed toward the cross-member; in this manner it affects the recess defined on the head of the first gasket 21 and thus the second holes or slots 32.

The water subsequently interacts with the first ridge or protrusion 40 and is then discharged onto the underlying seat 42.

A second ridge or protrusion 43 furthermore protrudes at the head 41 of the foot 30 and is directed toward the underlying first profiled element 17.

Said second ridge or protrusion 43 has the purpose of preventing the passage of water toward the inner part of the shutter 28.

It has thus been observed that the facade has achieved the above described aim and objects, since it is possible to use a window which can be opened both in a shutter-like manner, or about a vertical axis, and in a tilt-down manner, and this occurs for the entire arrangement of said windows in the facade and thus even in the case of equally openable windows arranged above, below or on both sides.

Furthermore, all this can be achieved while leaving the internal and external lattice unchanged and reducing the bulk of the fixed metallic element; the glass pane is conveniently supported and retained, and both the internal lattice and the external one furthermore have reduced dimensions.

Each individual glass pane which constitutes the windows furthermore has the same size, thus allowing to always have the same viewing surface for the user.

The facade thus executed also allows to achieve optimum ventilation and optimum conveyance and discharge of meteoric and condensation water.

It is furthermore possible to easily insert accessories for the mounting and fixing of the windows.

Advantages are furthermore obtained as regards the cleaning of each individual pane, since each individual pane is associated with a shutter which can be opened toward the inside of the building.

This solution furthermore has optimum safety characteristics, since each individual pane is part of a casement which is associated with the internal lattice of the building.

Finally, it is possible to clean each individual window in absolute safety even with personnel not specifically trained for this purpose.

Figures 7, 8 and 9 illustrate a second embodiment for the continuous structural facade of buildings, designated by the reference numeral 101, which comprises a plurality of cross-members 102 and uprights 103 preferably made of extruded aluminum.

Each one of said cross-members and of said uprights has a thermal insulation element 114 constituted by a gasket which can be inserted in a snap-together manner at the fifth seat 113.

Said thermal insulation element 114 has, at its free end, a sixth axial seat within which the stem 116 of a first essentially Y-shaped profiled element 117 can be associated in a snap-together manner; said first profiled element 117 has, at the horizontal node, a first wing 118 and a second wing 119 which are mutually connected so as to define a flat surface 139 at which means for conveying and discharging meteoric and/or condensation water, such as second longitudinal slots 140, can be defined.

Adapted eighth seats 141a and 141b for third sealing gaskets 129a and 129b which interact with the facing inclined surfaces of the perimetric edges of the panels 120 are furthermore defined at the portion of the first wing 118 and of the second wing 119 which is inclined with respect to the stem 116.

At the horizontal node, the first profiled element 117 has a ninth axial seat 142 between the first wing 118 and the second wing 119.

As regards the vertical node, too, the first profiled element 117 has a first wing 118 and a second wing 119; the latter, however, is not connected to the stem 116, so as to define, in an upward region, an opening 143 which is connected to the ninth axial seat 142 so as to allow the insertion therein of an adapted first gasket 121 for the conveyance and discharge of meteoric and/or condensation water; said first gasket 121 can also be positioned at the ninth axial seat 142 defined on the first profiled element 117 which is associated with the upright 103.

In this case, too, however, adapted eighth seats 141a and 141b for third gaskets 129a and 129b which interact with the facing inclined surfaces of the panels 120 are defined on the first wing 118

and on the second wing 119.

In this embodiment there is also a means for conveying water and/or air and/or sealing against them, such as a pair of brushes 144a and 144b arranged transversely and at right angles to the second portion 105 of the cross-members 102 and of the uprights 103.

One end of said brushes 144a and 144b interacts directly with cross-members and uprights, whereas the other end is arranged so that it can slide within adapted tenth seats 145a and 145b defined at the profile of the shutter 128.

One end of the brushes 144a and 144b is kept in contact with the outer lateral surfaces of the cross-members and of the uprights by virtue of the presence of adapted elastically deformable elements, such as springs 146a and 146b, arranged within the tenth seats 145a and 145b; said springs allow to ensure tightness and to automatically correct the minimal dimensional differences between the shutter 128 and the first profiled elements 117.

This solution, too, achieves the intended aim and objects.

The invention is naturally susceptible to numerous modifications and variations, all of which are within the scope of the same inventive concept.

The materials and the dimensions which constitute the individual components of the invention may naturally also be the most pertinent according to the specific requirements.

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

Claims

1. Continuous structural facade for buildings with a supporting frame, characterized in that it comprises a plurality of cross-members (2;102) and uprights (3;103) which are identical and mutually interconnectable and have a thermal insulation element (14;114) with which a first profiled element (17;117) can be associated in a snap-together manner, said first profiled element having means for the conveyance and discharge of meteoric and/or condensation water and means for supporting a glass pane which can be associated with a second shutter profiled element (28;128) which has ventilation holes (33).
2. Facade according to claim 1, characterized in that said cross-members and uprights have a

first portion (4) which is shaped essentially like a parallelepiped and is followed by a second portion (5) which has, in cross-section, essentially the shape of a truncated pyramid, first identical and mutually opposite seats (7a,7b) being defined on the lateral surface of each one of said cross-members and/or uprights at the region where said first portion and said second portion meet, said seats being arranged approximately transversely to each one of said uprights and cross-members and allowing the coupling of structural elements by using suitable L-shaped elements.

3. Facade according to the preceding claims, characterized in that each one of said cross-members and/or uprights has an internal cavity (8) at which a second seat (9), a third seat (10) and a fourth seat (11) are defined respectively at the ends of said first portion and at the end of said second portion which is adjacent to said first portion, said seats being cylindrical, parallel, mutually identical and arranged transversely to said upright and/or cross-member.
4. Facade according to the preceding claims, characterized in that the longitudinal extension of said first portion is greater than that of said second portion so as to define center distances between said second seat, said third seat and said fourth seat which are not constant.
5. Facade according to the preceding claims, characterized in that a fifth seat (13) is present at the free end of said second portion, the thermal insulation element being arrangeable in said fifth seat, said element being constituted by a rigid gasket (14) which is oxidized during the extrusion of the upright or cross-member, said thermal insulation element having, at its free end, a sixth axial seat (15) within which the stem (16) of the first profiled element can be associated in a snap-together manner, said first profiled element being essentially Y-shaped, with a first wing (18) and a second wing (19) which are mutually parallel and are arranged so as to be inclined with respect to the axis of said stem.
6. Facade according to the preceding claims, characterized in that said first wing of said first profiled element which is associated with a cross-member is directed toward a glass pane (20) which constitutes the underlying window of said facade, a means for the conveyance and discharge of meteoric and/or condensation water being associable in the interspace be-

tween said first wing and said second wing, said means being constituted by a first gasket (21) which surrounds said end and protrudes therefrom beyond the plane of arrangement of the outer surface (22) of said pane.

7. Facade according to the preceding claims, characterized in that an essentially L-shaped tab (24) is associated with the terminal end of said second wing and is directed opposite to said first wing, the terminal end of said tab being inclined with respect to the axis of said stem and directed toward it.
8. Facade according to the preceding claims, characterized in that at least one first hole or slot (26) is defined at the connection between the ends of said second wing and of said tab and is suitable to convey the water deposited on said second wing onto said underlying first gasket so as to convey the drops of water beyond said outer surface of said underlying pane.
9. Facade according to the preceding claims, characterized in that a second gasket (27) can be externally associated with said tab, preferably in a snap-together manner, and is L-shaped or C-shaped with at least one region overlying said terminal end of said tab, said second gasket having the function of thermal insulation and abutment for an openable shutter (28).
10. Facade according to the preceding claims, characterized in that said terminal end of said tab interacts, by means of said second gasket, with a means for supporting a pane of said facade, which is constituted by a foot (30) which is associated below a second profiled element (31) which constitutes said shutter.
11. Facade according to the preceding claims, characterized in that at least one second hole or slot (32) is defined approximately at the region where said stem and said first wing of said first profiled element meet, and is suitable to allow, together with said first hole or slot defined on said tab and with third holes defined on said second profiled element, ventilation and drainage for said facade.
12. Facade according to the preceding claims, characterized in that interconnection between said cross-members and said uprights occurs by means of one or more sleeves (34) made of extruded aluminum with steel reinforcements, each of which is composed of three cylindrical

pins (35) which are spaced and shaped complementarily with respect to said second, third and fourth seats defined on said cross-members, the length of said pins being such that they protrude beyond the lateral perimetric edge, which is opposite to the insertion edge, of a cross-member and such that they enter adapted fourth holes defined on the lateral surface of an adjacent upright so as to allow mutual interconnection.

13. Facade according to the preceding claims, characterized in that one or more of said cross-members has a seventh seat (37) which is defined on the end which is opposite to the one provided with said thermal insulation element, said seventh seat being suitable to allow coupling to supports (38), and an eighth seat (39), which is defined at said first portion and is suitable to allow to accommodate accessories such as a convector.
14. Facade according to the preceding claims, characterized in that one or more of said uprights (3) is shaped essentially like a parallelepiped which can be divided into two specular elements which can be mutually coupled at their ends, said second gasket (27) having a C-shaped configuration which is suitable to completely surround the end of said upright which is directed outward.
15. Continuous structural facade for buildings, characterized in that it comprises a plurality of mutually interconnectable uprights (3;103) and cross-members (2;102) which have a thermal insulation element (14;114) with which it is possible to associate, in a snap-together manner, a first profiled element (17;117) which has means for conveying and discharging meteoric and/or condensation water and means for supporting a glass pane which can be associated with a second shutter profiled element (28;128) provided with ventilation holes (33).
16. Facade according to the preceding claims, characterized in that said first profiled element (17;117) is mounted, during installation, at said sixth seat (15) of said cross-member so that there is no structural interruption.
17. Facade according to the preceding claims, characterized in that said first inclined wing (18) is suitable to retain said pane (20) in case of outward movements thereof, since the perimetric edge of said pane is arranged along an inclined plane.

18. Facade according to the preceding claims, characterized in that said first wing (18) acts as abutment for said shutter (28) during closure.

19. Facade according to the preceding claims, characterized in that a recess is defined on the head of said first gasket (21) at said at least one second hole or slot (32).

20. Facade according to the preceding claims, characterized in that a first ridge (40) or protrusion is provided at the connection between said first wing and said stem and is directed in the opposite direction with respect to said tab.

21. Facade according to the preceding claims, characterized in that said foot (30) has a head (41) which can be accommodated within a complementarily shaped seat (42) defined along the entire perimeter of said second profiled element (31) of said shutter (28), said seat being occupied by the head of said foot only at its lower transverse side, the other sides of said seat being used as channels for the drainage of the water which is conveyed therein by said first ridge or protrusion of said first profiled element of a facade which is arranged above the one being considered.

22. Facade according to the preceding claims, characterized in that said conveyance can be due to water which, by interacting with said second wing (19), is discharged through said first hole or slot (26) onto said first gasket (21), said water being possibly pushed, in the presence of strong wind, toward said cross-member so as to affect the recess defined on said head of said first gasket and said second holes or slots (32), said water interacting with said first ridge (40) or protrusion and being discharged onto said underlying seat.

23. Facade according to the preceding claims, characterized in that a second ridge (43) or protrusion protrudes at said head (41) of said foot (30) and is directed toward said underlying first profiled element, said second ridge or protrusion being suitable to prevent the passage of water toward the inner part of said shutter.

24. Facade according to the preceding claims, characterized in that each individual pane (20) is associated with a shutter (28) which can be opened toward the inside of the building.

25. Facade according to the preceding claims, characterized in that it comprises a plurality of

cross-members and uprights with which said thermal insulation element is associated, said thermal insulation element being provided, at its free end, with a sixth axial seat in which said stem of said first profiled element (117), which is essentially Y-shaped, can be associated in a snap-together manner; said first profiled element having, at the horizontal node, a first wing (118) and a second wing (119) which are mutually connected so as to define a flat surface (139) at which means for the conveyance and discharge of meteoric and/or condensation water, such as second longitudinal slots, are defined.

26. Facade according to the preceding claims, characterized in that adapted eighth seats (141a,141b) for third sealing gaskets (129a,129b), which interact with the facing inclined surfaces of the perimetric edges of said panels, are defined at the portion of said first and second wings of said first profiled elements of said cross-members and uprights which is inclined with respect to said stem.

27. Facade according to the preceding claims, characterized in that said first profiled element has, between said first and second wings, a ninth axial seat (142) at said horizontal node.

28. Facade according to the preceding claims, characterized in that said first profiled element has a first wing and a second wing at the vertical node, said second wing (118) not being connected to said stem (116), so as to define, in an upward region, an opening (121) which is connected to said ninth axial seat so as to allow the insertion, in said opening, of an adapted first gasket for the conveyance and discharge of meteoric and/or condensation water, said first gasket being arrangeable at said ninth axial seat defined on said first profiled element associated with said upright.

29. Facade according to the preceding claims, characterized in that it comprises a means for conveying water and/or air and/or for sealing against them, such as a pair of brushes (144a,144b) arranged transversely and at right angles to said second portion of said cross-members and said uprights.

30. Facade according to the preceding claims, characterized in that one end of said brushes interacts directly with said cross-members and uprights, whereas the other end is slidably arranged within an adapted tenth seat (145a,145b) defined at said shutter profile, one

end of said brushes being kept in contact with the outer lateral surfaces of said cross-members and said uprights by virtue of the presence of adapted elastically deformable elements, such as springs (146a,146b), arranged within said tenth seats, said springs allowing to ensure tightness and to automatically correct the minimal dimensional differences between said shutter and said first profiled elements.

5

10

15

20

25

30

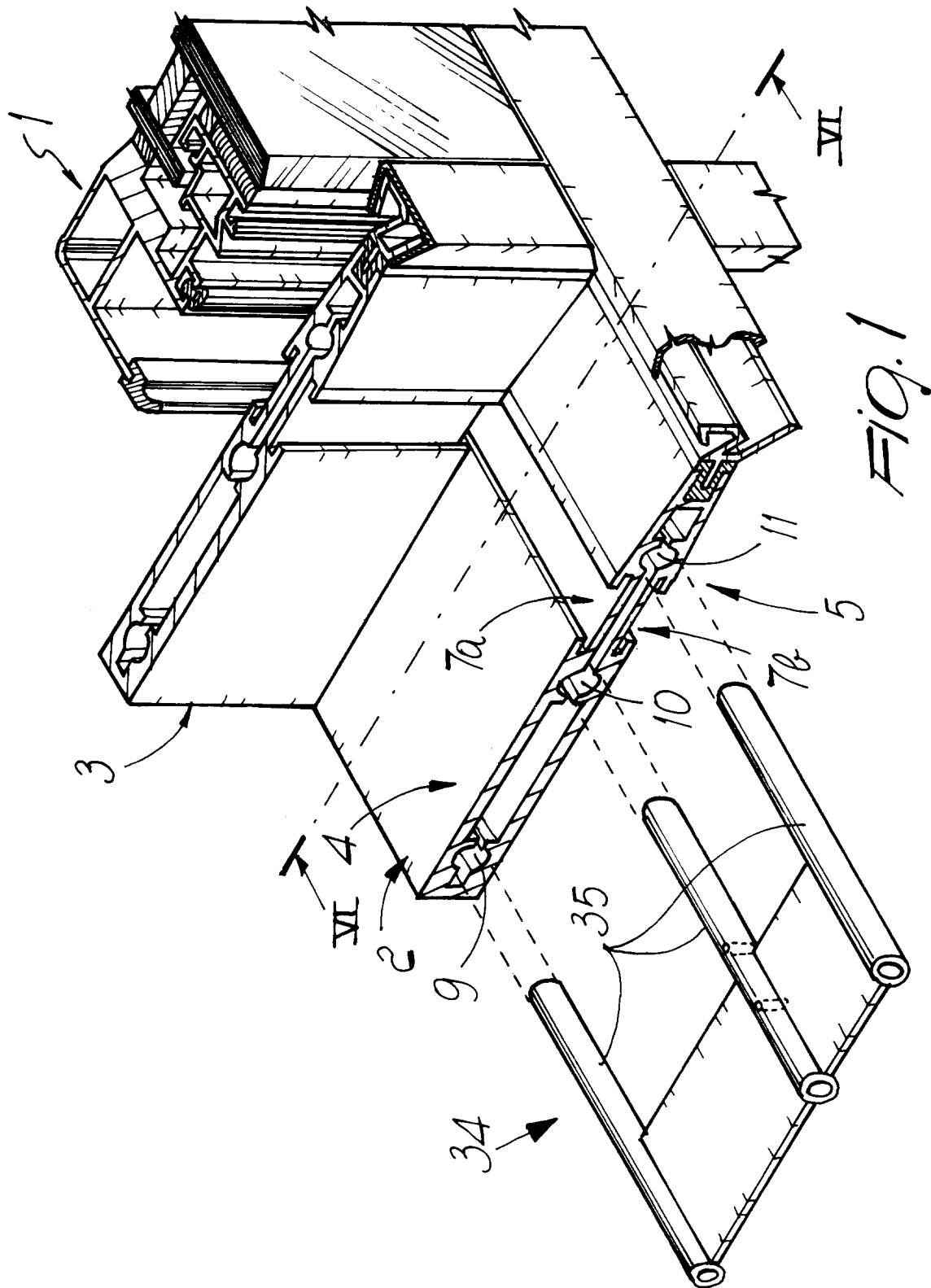
35

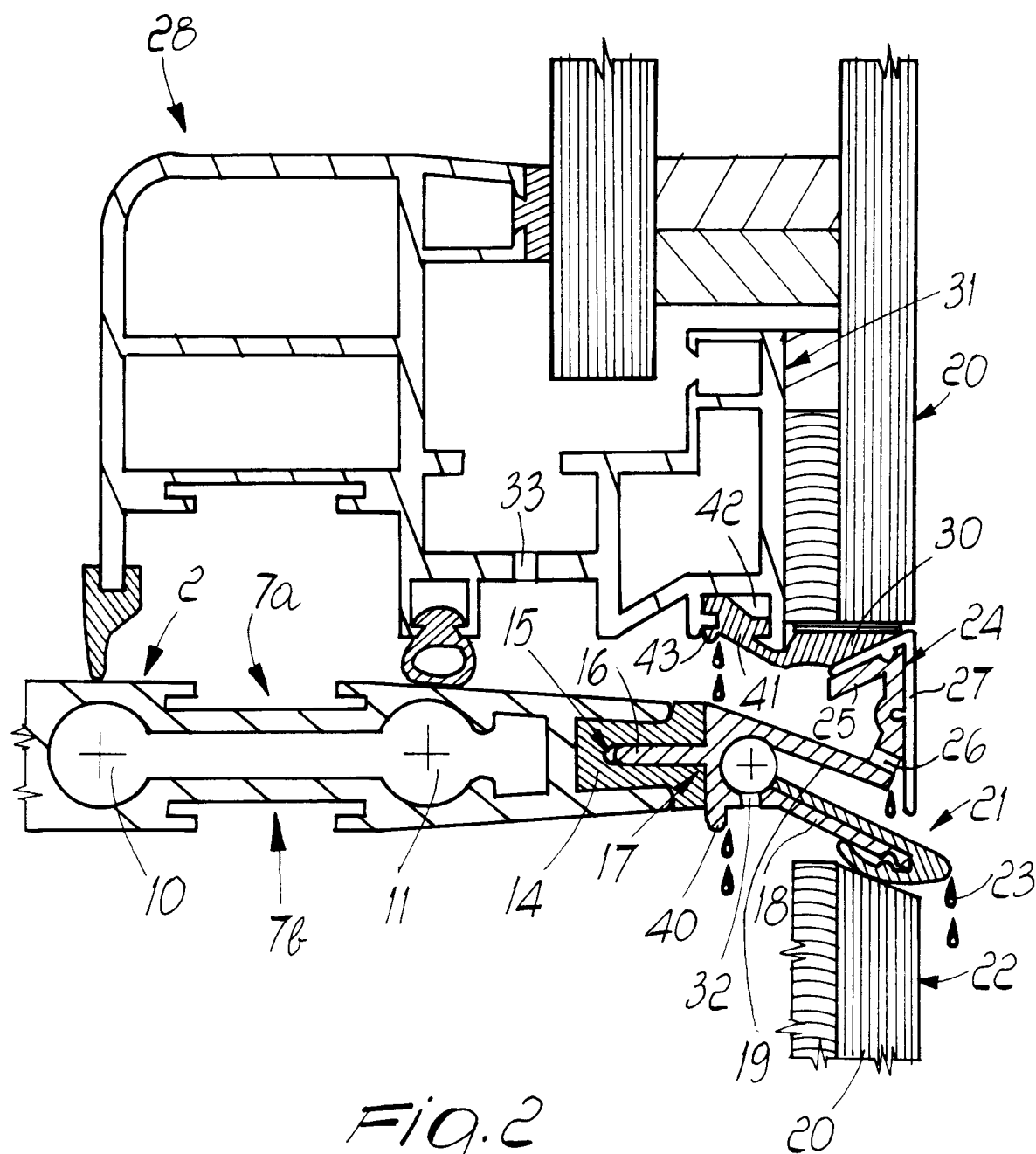
40

45

50

55





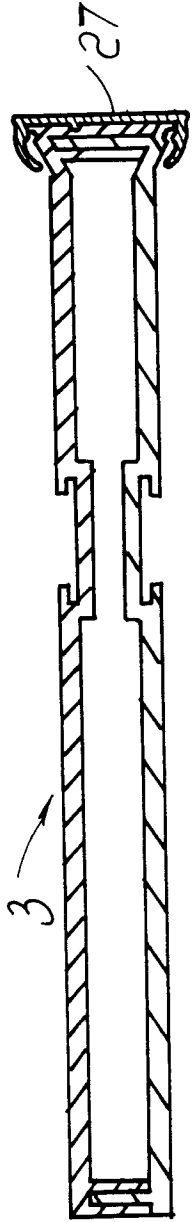


Fig. 5

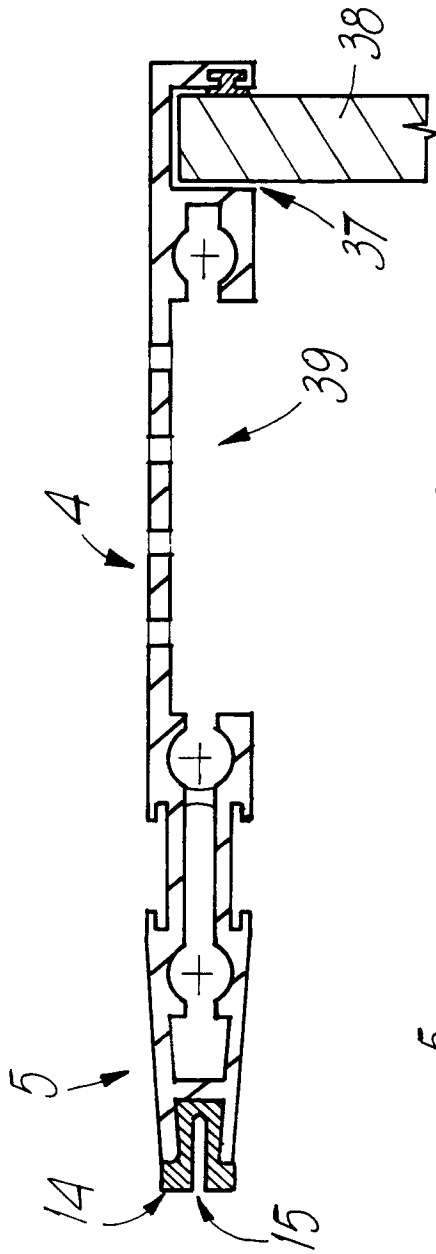


Fig. 4

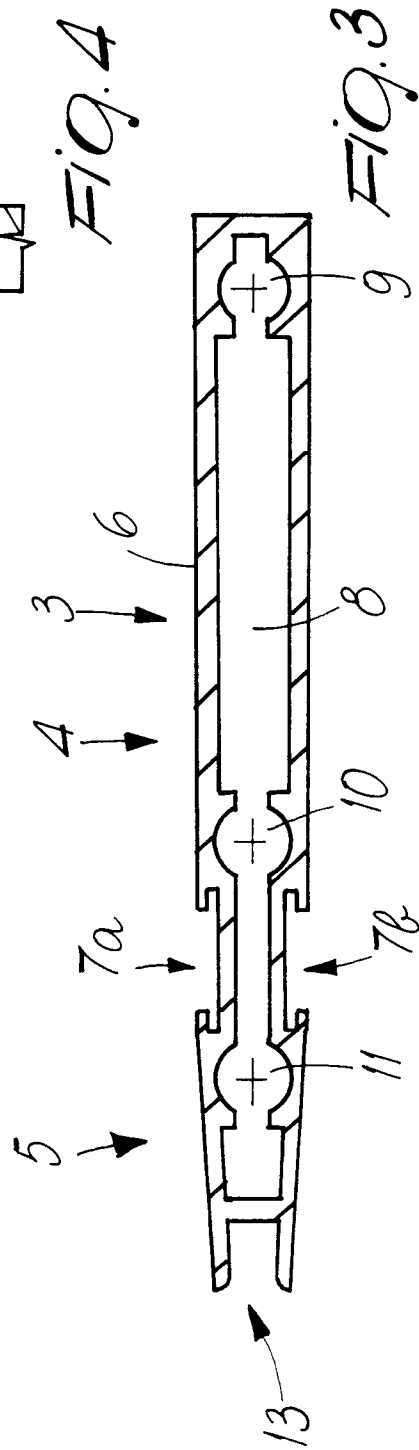
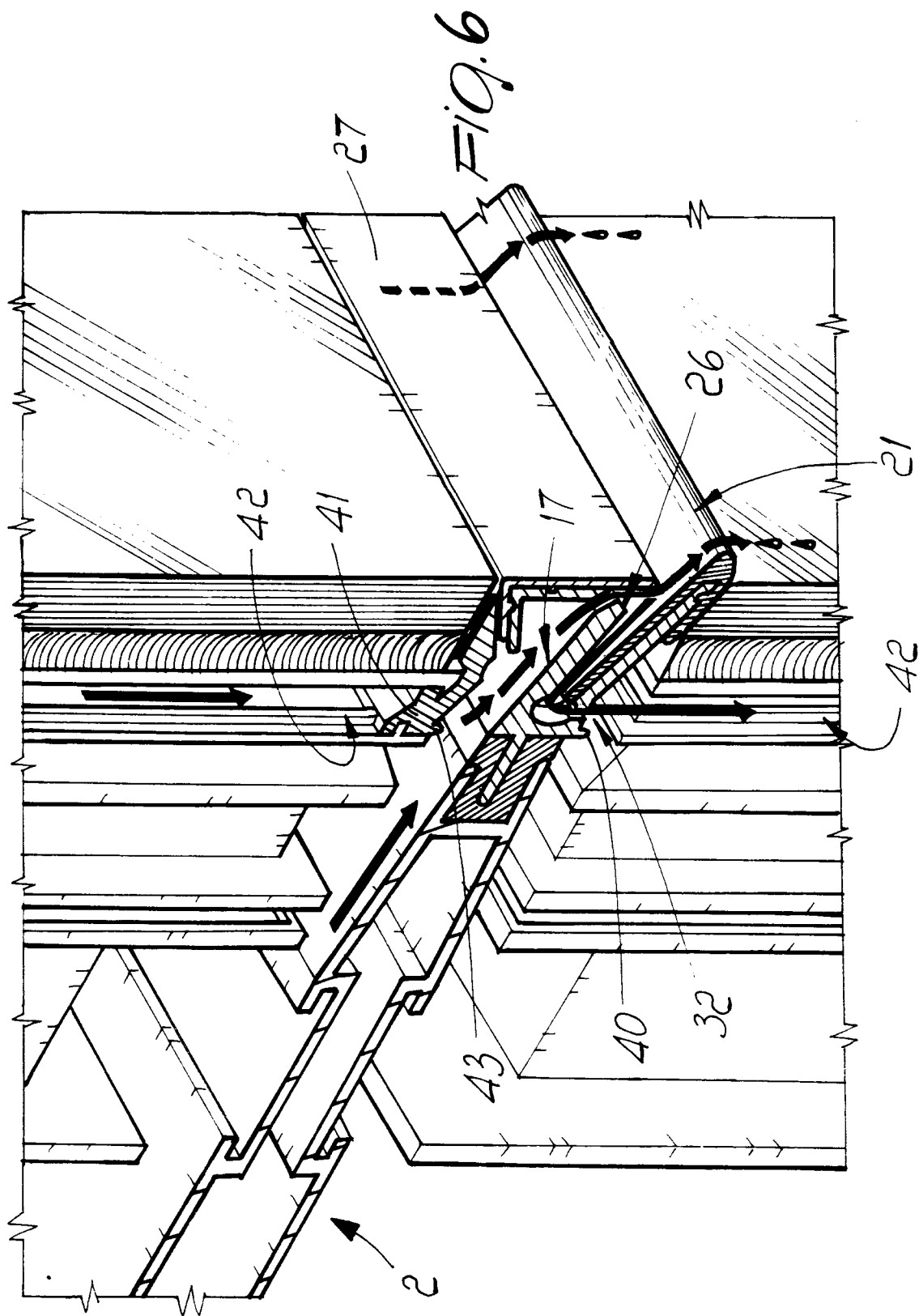


Fig. 3



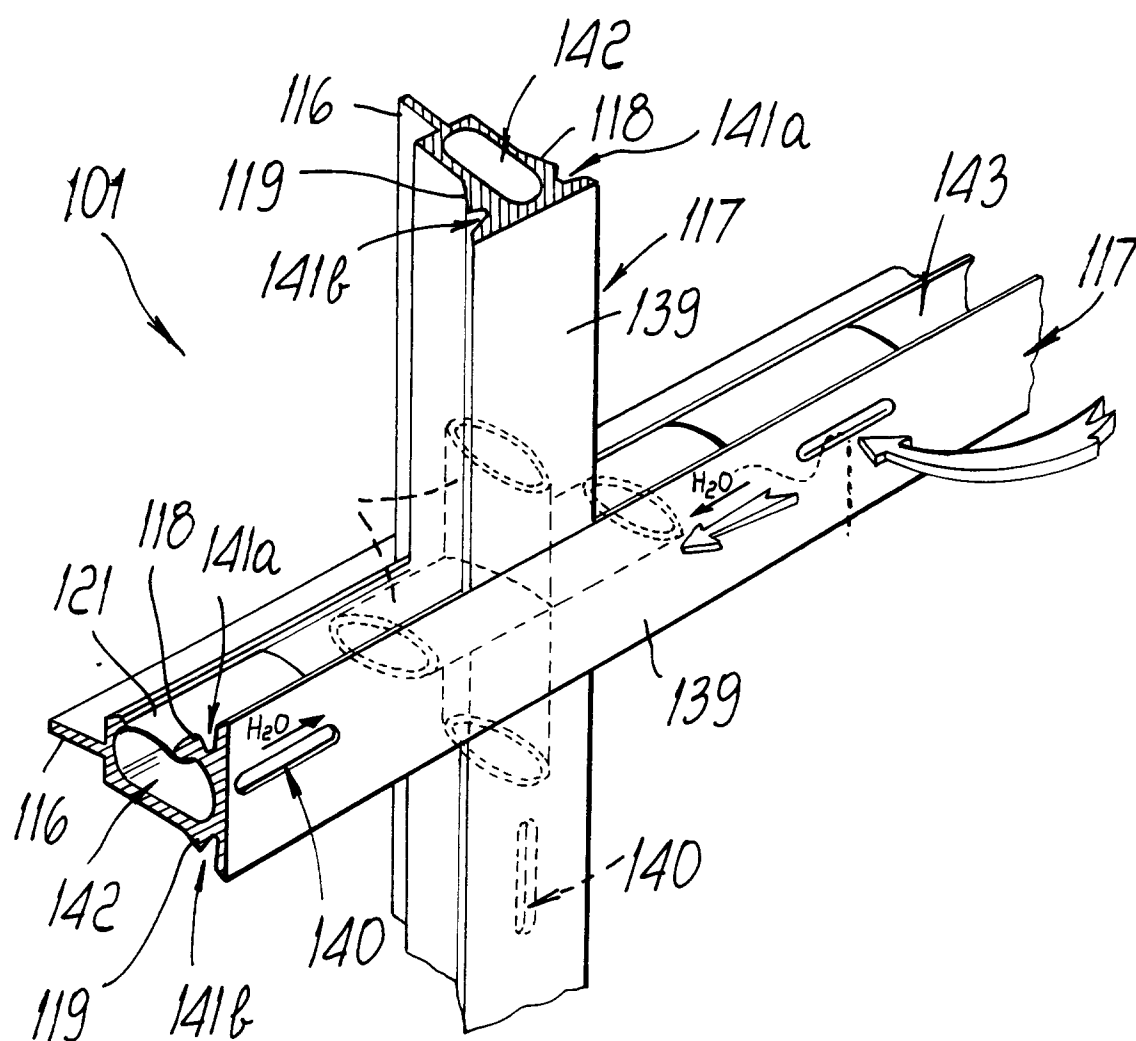


Fig. 7

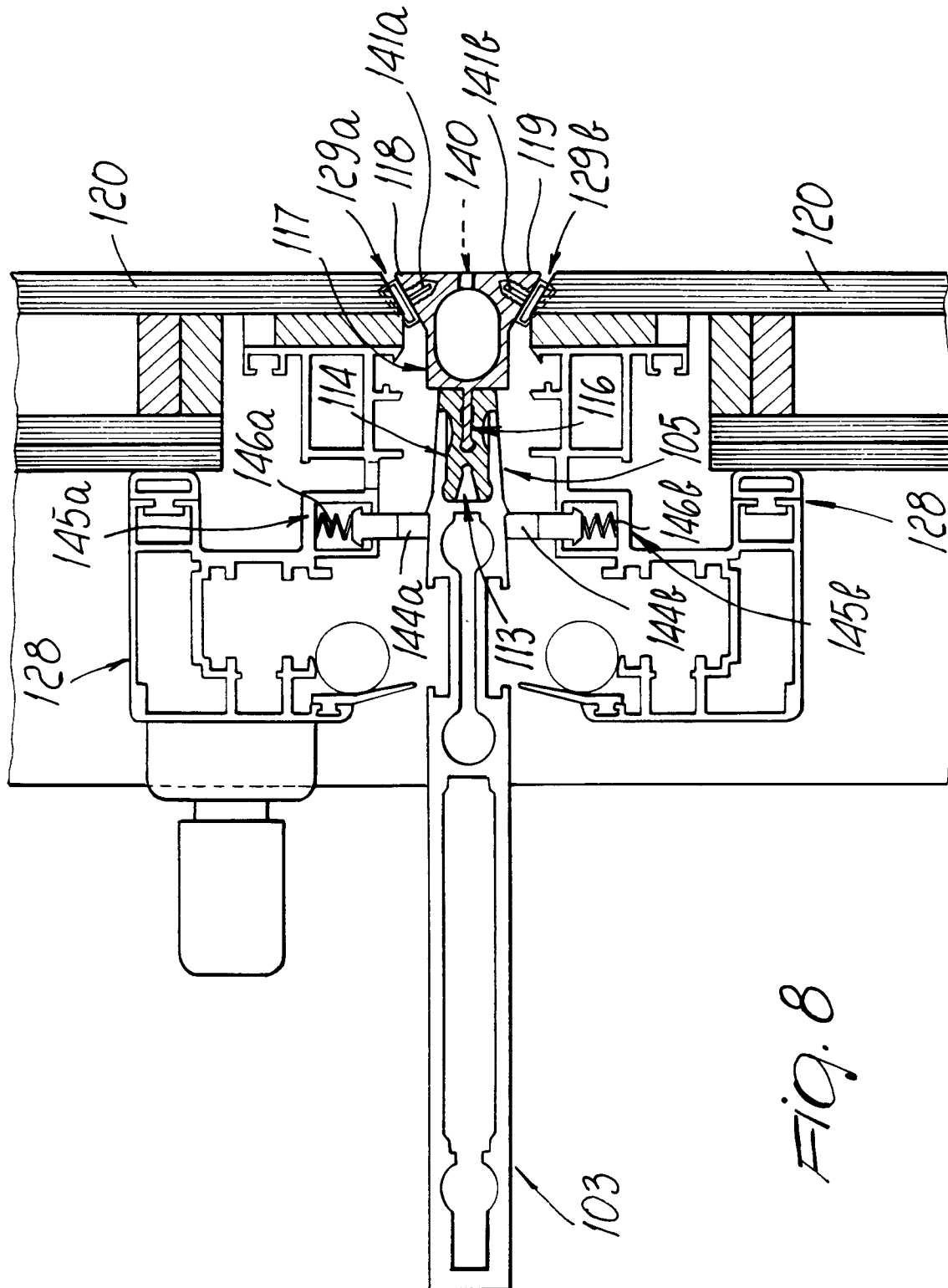
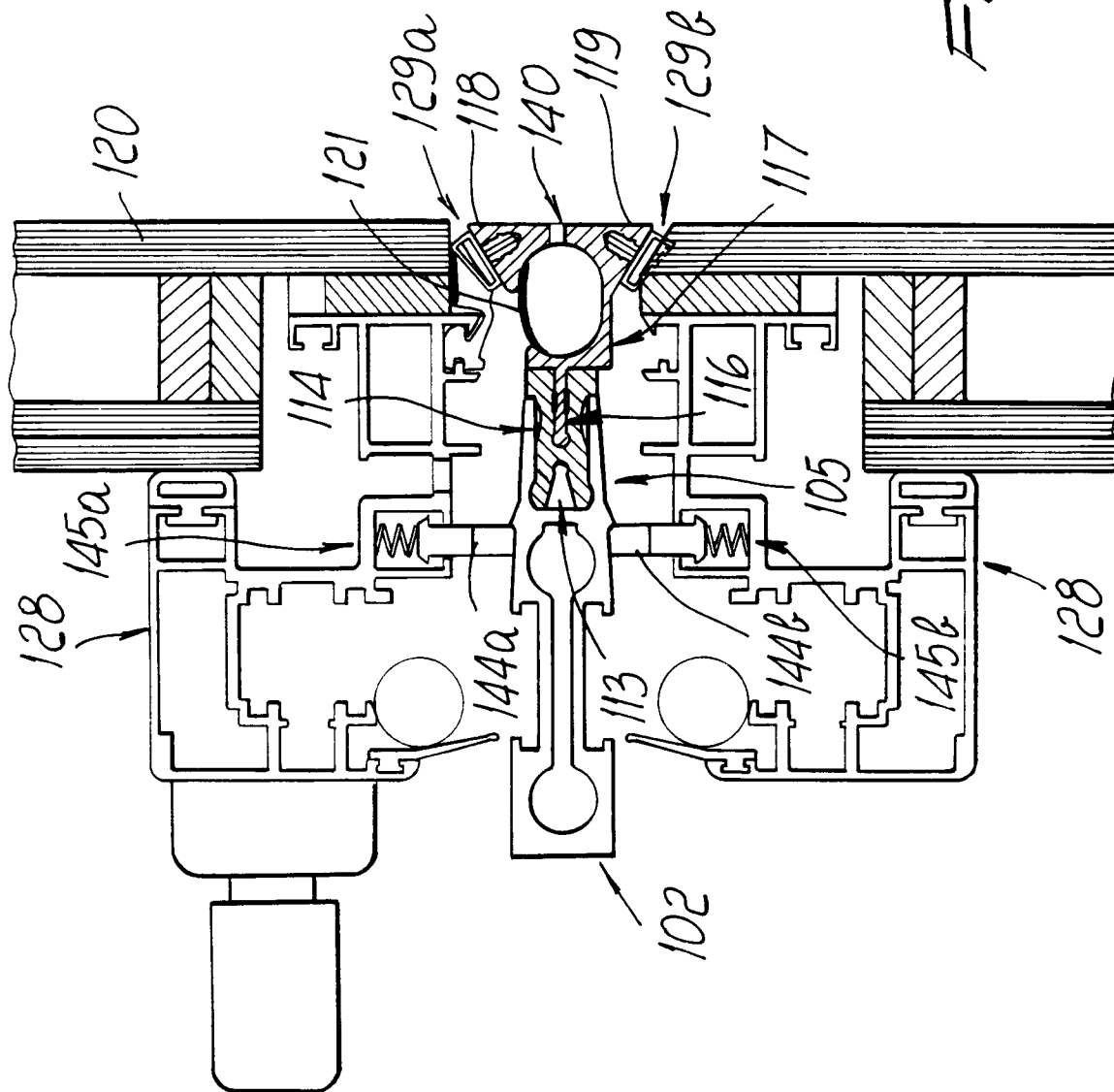


Fig. 8



6109



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number

EP 92 12 1381

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	WO-A-8 706 291 (CONSTRUCTION UTILITIES GROUP LTD) * page 6, paragraph 2 * * page 7, last paragraph - page 8, paragraph 3; figures * ---	1	E06B7/14 E04B2/96
A	DE-A-3 317 948 (GBK GESELLSCHAFT FUER BAUKONSTRUKTIONEN GMBH) * page 12, line 26 - page 16, line 8 * * page 16, line 26 - page 17, line 21; figures * ---	1	
A	EP-A-0 426 008 (JOSEF GARTNER & CO) * column 4, paragraph 2; figures * ---	1	
A	GB-A-2 239 466 (HUECK) -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			E06B E04B
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 26 MARCH 1993	Examiner KUKIDIS S.
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			