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(73) Proprietor : **Zwaan, Adrianus Jacobus**
Swagermanweg 14
NL-2252 BD Voorschoten (NL)

(72) Inventor : **Zwaan, Adrianus Jacobus**
Swagermanweg 14
NL-2252 BD Voorschoten (NL)

(74) Representative : **Smulders, Theodorus A.H.J., Ir. et al**
Vereenigde Octrooibureaux
Nieuwe Parklaan 97
NL-2587 BN 's-Gravenhage (NL)

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Description

This invention relates to glazing construction comprising a frame having a rebate, a panel such as a pane mounted in said rebate with interposition of sealing means, a ventilating device mounted in the rebate, which ventilating device has a flange part along each longitudinal edge, at least one of said flange parts having the shape of a substantially U-shaped channel having two legs, which channel, with interposition of sealing means, receives an edge of the panel, so that the panel and the ventilating device form an assembly stop-fitting in the rebate, and retaining strips mounted in the rebate for securing the assembly of panel and ventilating device in the rebate with interposition of sealing means, the flange parts forming a flange edge, which flange edge has substantially the same thickness throughout and comprises two stop surfaces located opposite each other and substantially in the same plane, the total packing thickness of the sealing means between rebate and retaining strips adjacent the panel relative to the total packing thickness of the sealing means between rebate and retaining strips adjacent the channel having been chosen and dimensioned such that the thicknesses of the legs of the U-shaped channel which extend beyond the retaining strips into the rebate, are compensated.

Such a generally used glazing construction, in which the ventilating device is mounted directly on the panel, more particularly a pane, is for instance known from Netherlands patent application 8002875. In such a glazing technique, and in particular when the panel comprises a plurality of panes, it is important that the panel is embedded in the rebate along its circumference in a sufficiently thick sealing layer. In order to keep constant the thickness of that layer at the transition from the rebate to the U-shaped channel, the inner surface of the relevant leg of the U-shaped channel is maintained level with the stop surface in the rebate. The U-shaped channel, therefore, terminates on opposite sides of the ventilating device before the rebate, i.e., it has a length which is shorter than that of the panel extending into the rebate, which typically results in a slit between the end of the channel and/or the retaining strip on the other side of the panel. Because it is required that the upper edge of the panel can be inserted in the U-shaped channel, the panel in mounted condition is typically located in spaced relation relative to the bottom of the channel. As a consequence, above the panel between the end of the channel and the rebate and/or the retaining strip an opening may be formed which can be sealed by additional cementing material or an additional sealing section.

A glazing construction as described in the opening paragraph is known from the advertisement of BONAIRE in "Bouw", vol. 27, no. 8, 19 Februari 1972, page A 226. In this glazing construction the same problem as discussed above can arise, i.e. a gap above the panel between the end of the channel and the rebate.

The object of the invention is to design a glazing construction of the type described in the preamble in such a manner that the opening referred to is avoided and, accordingly, sealing steps can be omitted.

This is accomplished in accordance with the invention in that the flange edge extends continuously and without interruption around the ventilating device and the U-shaped channel extends substantially throughout the length of the edge of the panel received therein. These surprisingly simple steps completely remove a troublesome assembly problem that is encountered to a different degree in each mounting operation because of different tolerances and will accordingly require particular attention in each separate case. The solution not only removes a possible source of errors during assembly at a construction site, but an appropriate choice beforehand also removes the necessity of performing additional sealing operations during or after assembly. A further additional advantage is that the glazing construction is also esthetically more attractive.

It is observed that ventilating devices having a circumferentially uninterrupted flange edge are known, but heretofore used exclusively for mounting in a frame or framework that encases the ventilating device in its entirety, i.e., along all four sides. Such an arrangement, therefore, will not present any problems owing to staggering stop surfaces.

According to a further embodiment of the invention, it is preferred that a sealing strip made of a resilient compressible material, such as a foam rubber, is provided round- about in the rebate and the ventilating device is screwed to the rebate By screwing the ventilating device to a wooden frame, for instance, the sealing strip of resilient compressible material, such as a foam rubber, can be compressed in such a manner that the greater thickness of the flange edge around the ventilating device relative to the thickness of the panel can be compensated without provisions on the sealing strip. This has the great advantage that when manufacturing the frame with a sealing strip mounted therein, the type and height of a ventilating device to be arranged in that frame need not be taken into consideration.

According to a further embodiment of the invention, the smaller sealing thickness between panel and U-shaped channel can be realized in a relatively simple manner when between the panel and the legs of the U-shaped channel at least a rubber sealing section is provided. In that case, the seal between panel and frame with retaining strips can be adjusted in a simple manner in any other desired manner, using a sealing cement or rubber sections or other sealing means.

The glazing construction according to the invention will now be further explained and illustrated on the basis of one embodiment of the invention, with reference to the accompanying drawings.

Fig. 1 is a perspective view of a corner of a frame having incorporated therein an assembly consisting of a panel with a ventilating device mounted thereon.

Fig. 2 is a perspective view of the corner of the ventilating device incorporated as shown in Fig. 1.

Fig. 1 shows the corner of a wooden frame 1 having a vertical jamb 1a and a horizontal jamb 1b. Recessed in this frame is a rebate 3 having a rebate stop surface 3a. Provided on the rebate stop surface is a sealing strip 4 made of a resilient material, which strip extends roundabout the entire frame.

Mounted in the rebate 3 in contact with the sealing strip 4 is a panel 5 on which a ventilating device 6 is mounted. For that purpose, adjacent to the transition from ventilating device 6 to panel 5, the ventilating device 6 is provided with a longitudinal flange in the form of a U-shaped channel 7 having legs 7a and 7b. The panel 5 has been slid into the channel 7 and secured therein and sealed by means of rubber sealing sections 2.

On the side located opposite the side fitted with the channel 7, the ventilating device 6 is provided with a similar channel 8 having legs 8a and 8b, the external surface of legs 8a, 8b being located in the same plane as the external surface of the legs 7a, 7b, respectively. With a view to insulation, the channel 8 has been filled with an insulating material 9. The channel 8 may further comprise provisions for screwing the ventilating device 6 to the frame 1.

The construction of the ventilating device 6 on the end face thereof, i.e., the part extending substantially into the rebate 3 of the vertical jamb 1a, appears most clearly from Fig. 2. The connection between the channels 7 and 8 has been effected by means of a block-shaped member 10 having such a shape and such dimensions, that two stop surfaces are obtained extending continuously and without interruptions roundabout the ventilating device 6.

The assembly of panel 5 and ventilating device 6 is mounted in the rebate 3 against the sealing strip 4. The panel 5 must be arranged at a distance of 4-5 mm from the rebate stop surface 3a so as to give sufficient volume to a cement layer to be applied, so that it can continue to function in the desired sealing manner as time passes by. To compensate the difference in thickness between the panel 5 and the channel 7 having panel 5 sealingly mounted therein, the sealing strip 4 is compressed to a greater degree, e.g. to a thickness of 1 mm, adjacent to the ventilating device than adjacent to panel 5, e.g. by screwing the ventilating device to the wooden frame 1.

Compressing the sealing strip 4 to a greater degree adjacent to the ventilating device 6 than adjacent to the panel affords the possibility of having the channel 7 extend into the rebate 3 even though the channel is wider than the panel 5 since this channel must receive that panel and its sealing sections 2. Enabling the channel 7 to extend into the rebate 3 offers the great advantage that no unattractive slit is formed at the transition between the frame and the channel, which slit would moreover require additional sealing steps because otherwise a chink would be formed above the panel 5 which is always arranged in its mounting with ample clearance, i.e., does not extend as far as the bottom of the channel. The chain-dotted line A indicates where the channel 7 would terminate, thereby forming a gap, if it could not extend into the rebate. The top of panel 5 located in the channel is indicated by a broken line illustrating that if the channel 7 did not extend into the rebate, a "peephole" B would be formed, which would require careful sealing against sound, moisture and heat.

The assembly of panel 5 and ventilating device 6 is secured in the rebate 3 by means of glass laths 12 and 13 in turn provided with a sealing strip 4 which in the manner described hereinabove is more compressed adjacent to the ventilating device 6 than adjacent to panel 5, so that a cement layer 11 provided between the glass laths and the panel can continue to fulfil its sealing function in optimum manner. It will be clear that the "peephole" B would also be present on the side of the glass laths if channel 7 did not extend into the rebate 3.

A requirement for this construction is that the sealing strips 4 are compressible by a distance equal to the thickness of the legs of the channel 7 plus the thickness of the sealing sections 2 between the panel 5 and the legs of the channel 7. As noted, this reduction of thickness of the resilient sealing strip 4 can for instance be realized by screwing the ventilating device 6 to the frame 3. This has the additional advantage that the ventilating device will not unwantedly disengage from the frame or even come down upon removal of the glass laths, for instance when replacing a damaged panel 5.

It will be clear that the desired effect can also be realized in other manners. Thus, between the ventilating device and the frame, a less thick sealing strip may be provided than that between the panel and the frame. This embodiment may be preferable if instead of a wooden frame a plastics or metal frame is used. Then, both the ventilating device and the panel may be mounted in the frame in sealing engagement therewith entirely by means of rubber sections. Further, the two rubber sections 2 may be combined to form a U-shaped sealing section.

The ventilating device 6 can be of any desired type, for instance an air vent which may or may not be fitted with additional sound-proofing provisions. The panel 5 can be a pane which may or may not comprise a plurality of glass plates or any other plate-shaped element. The frame 1 can be rigidly mounted

in a wall or be mounted for movement in a further frame. Many other variants are conceivable. Thus, the embodiment shown in Fig. 2 can be modified by also having the channel 8 extend further and/or replacing the block-shaped member 10 by a channel or tubular section. Further, the channel 7 may be of lesser length, which reduced length is then compensated by a block-shaped member 10 of greater dimensions, which in that case is provided with a recess for receiving the panel, the arrangement being such that the uninterrupted circumferential edge roundabout the ventilating device is maintained.

Claims

1. A glazing construction comprising a frame (1) having a rebate (3), a panel (5) such as a pane mounted in said rebate with interposition of sealing means (4, 11), a ventilating device (6) mounted in the rebate, which ventilating device has a flange part (7, 8, 10) along each longitudinal edge, at least one (7) of said flange parts having the shape of a substantially U-shaped channel having two legs (7a, 7b), which channel, with interposition of sealing means (2), receives an edge of the panel, so that the panel and the ventilating device form an assembly stop-fitting in the rebate, and retaining strips (12, 13) mounted in the rebate for securing the assembly of panel and ventilating device in the rebate with interposition of sealing means (4, 11), the flange parts (7, 8, 10) forming a flange edge, which flange edge has substantially the same thickness throughout and comprises two stop surfaces located opposite each other and substantially in the same plane, the total packing thickness of the sealing means (4, 11) between rebate (3) and retaining strips (12, 13) adjacent the panel relative to the total packing thickness of the sealing means (2, 4) between rebate (3) and retaining strips (12, 13) adjacent the channel having been chosen and dimensioned such that the thicknesses of the legs (7a, 7b) of the U-shaped channel which extend beyond the retaining strips into the rebate, are compensated, characterized in that the flange edge extends continuously and without interruption around the ventilating device (6) and the U-shaped channel (7) extends substantially throughout the length of the edge of the panel (5) received therein.

2. A glazing construction according to claim 1, characterized in that roundabout in the rebate a sealing strip (4) of a resilient compressible material, such as a foam rubber, is provided and the ventilating device (6) is screwed to the rebate.

3. A glazing construction according to any one of the preceding claims, characterized in that between the legs (7a, 7b) of the U-shaped channel (7) and the panel (5) at least one rubber sealing section (2) is provided.

Patentansprüche

1. Verglasungskonstruktion, versehen mit einem Rahmen (1) mit einer Nut (3), einer unter Zwischenfügung von Dichtungsmitteln (4, 11) in der Nut angeordneten Platte (5), wie eine Scheibe, einer in der Nut angeordneten Lüftungsvorrichtung (6), die über jeden Längsrand einen Flanschteil (7, 8, 10) aufweist, wobei mindestens einer (7) dieser Flanschteile die Form einer im wesentlichen U-förmigen Rinne mit zwei Schenkeln (7a, 7b) aufweist, welche Rinne unter Zwischenfügung von Dichtungsmitteln (2) einen Rand der Platte aufnimmt, so daß die Platte und die Lüftungsvorrichtung eine Kombination bilden, die in der Nut zur Anlage kommt und darin paßt, und mit in der Nut angeordneten Halteleisten (12, 13) zum Befestigen der Kombination aus Platte und Lüftungsvorrichtung in der Nut unter Zwischenfügung von Dichtungsmitteln (4, 11), wobei die Flanschteile (7, 8, 10) einen Flanschrand bilden, der überall im wesentlichen dieselbe Dicke aufweist und mit zwei gegenübereinander und je im wesentlichen in derselben Ebene liegenden Anschlagflächen versehen ist, wobei die gesamte Ausfülldicke der Dichtungsmittel (4, 11) zwischen Nut (3) und Halteleisten (12, 13) im Bereich der Platte gegenüber der gesamten Ausfülldicke der Dichtungsmittel (2, 4) zwischen Nut (3) und Halteleisten (12, 13) im Bereich der Rinne so gewählt und bemessen sind, daß die Dicken der Schenkel (7a, 7b) der U-förmigen Rinne, die sich bis an den Halteleisten vorbei in die Nut erstrecken, kompensiert werden, dadurch gekennzeichnet, daß der Flanschrand sich kontinuierlich und ununterbrochen um die Lüftungsvorrichtung (6) herum erstreckt und die U-förmige Rinne (7) im wesentlichen über die volle Länge des Randes der darin aufgenommenen Platte (5) verläuft.

2. Verglasungskonstruktion nach Anspruch 1, dadurch gekennzeichnet, daß ringsum in der Nut (3) ein Dichtungsstreifen (4) aus einem elastischen zusammendrückbaren Material, wie ein Schaumgummi, angeordnet ist und die Lüftungsvorrichtung (6) in der Nut festgeschraubt ist.

3. Verglasungskonstruktion nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, daß zwischen den Schenkeln (7a, 7b) der U-för-

migen Rinne (7) und der Platte (5) mindestens ein Gummidichtungsprofil (2) angeordnet ist.

Revendications

1. Structure de vitrage comportant un châssis (1) présentant un rabat (3), un panneau (5) tel qu'une plaque, monté dans ledit rabat avec interposition de moyens d'étanchéité (4, 11), un dispositif de ventilation (6) monté dans le rabat, ce dispositif de ventilation (6) présentant une partie de bride (7, 8, 10) le long de chaque bord longitudinal, au moins une (7) desdites parties de bride ayant la forme d'un canal essentiellement en forme de U présentant deux jambes (7a, 7b), ce canal recevant un bord du panneau avec interposition de moyens d'étanchéité (2), de telle sorte que le panneau et le dispositif de ventilation forment un système d'ajustement à arrêt dans le rabat, et des bandes de maintien (12, 13) montées dans le rabat pour fixer le système de panneau et de dispositif de ventilation dans le rabat, avec interposition de moyens d'étanchéité (4, 11), les parties de bride (7, 8, 10) formant un bord de bride qui présente essentiellement la même épaisseur tout le long et comportant deux surfaces d'arrêt situées en face l'une de l'autre et essentiellement dans le même plan, l'épaisseur totale d'emballage des moyens d'étanchéité (4, 11) entre le rabat (3) et les bandes de maintien (12, 13) adjacentes au panneau étant choisie et dimensionnée par rapport à l'épaisseur totale d'emballage entre le rabat (3) et les bandes de maintien (12, 13) de telle sorte que l'épaisseur des jambes (7a, 7b) du canal en forme de U, qui débordent des bandes de maintien à l'intérieur du rabat, est compensée, caractérisée en ce que le bord de bride s'étend de manière continue et sans interruption autour du dispositif de ventilation (6), et le canal (7) en forme de U s'étend essentiellement sur la longueur du bord du panneau (5) qui y est logé.

2. Structure de vitrage selon la revendication 1, caractérisée en ce qu'une bande d'étanchéité (4) en un matériau élastique compressible, tel qu'une mousse de caoutchouc, est prévue dans cette périphérie du rabat, et le dispositif de ventilation (6) est vissé contre le rabat.

3. Structure de vitrage selon l'une quelconque des revendications précédentes, caractérisée en ce qu'au moins un tronçon (2) de caoutchouc d'étanchéité est prévu entre les jambes (7a, 7b) du canal (7) en forme de U et le panneau (5).

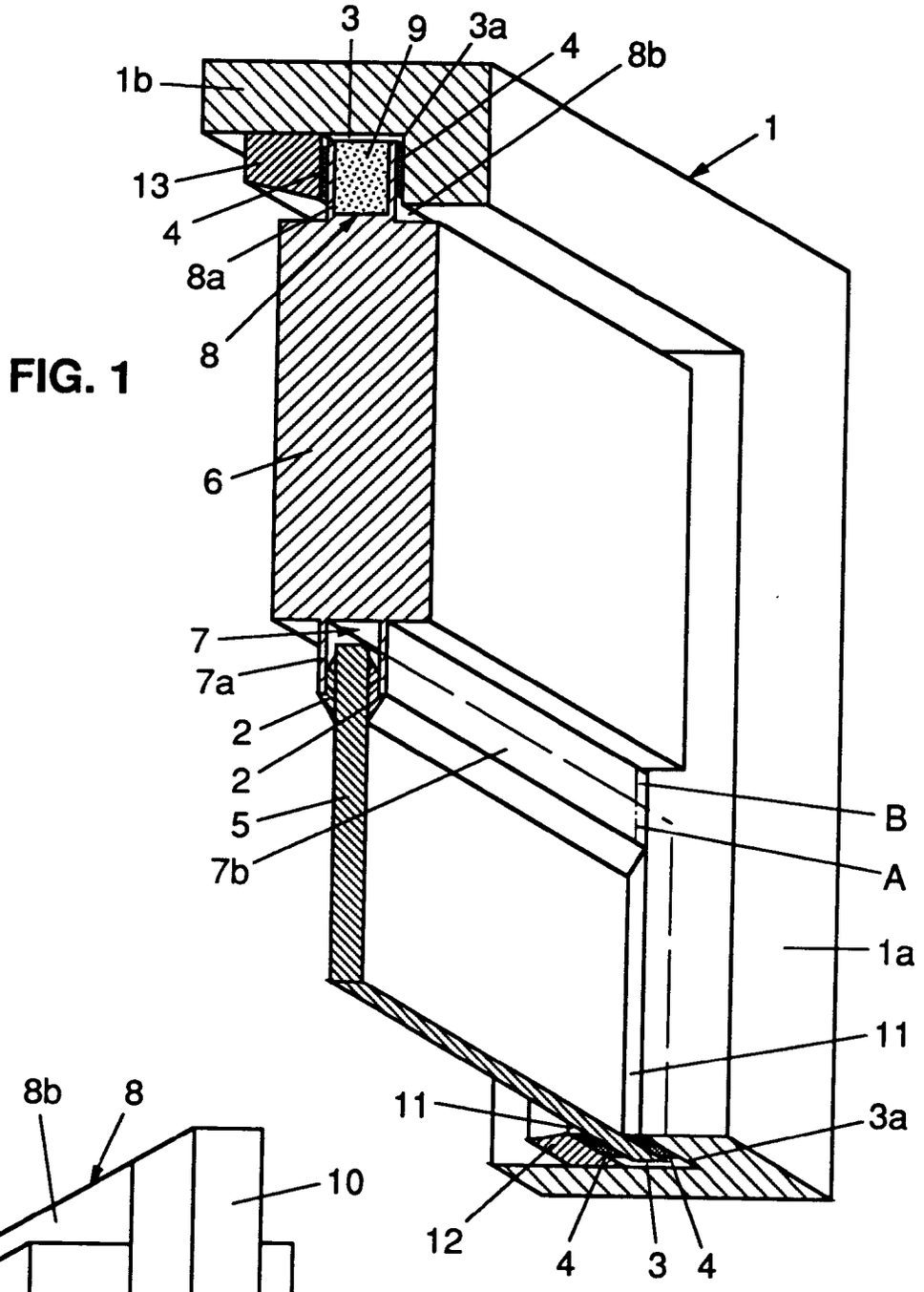

3
9
3a
4
8b
1b
1
13
4
8a
8
6
7
7a
2
2
5
7b
B
A
1a
11
11
3a
12
4
3
4

FIG. 1

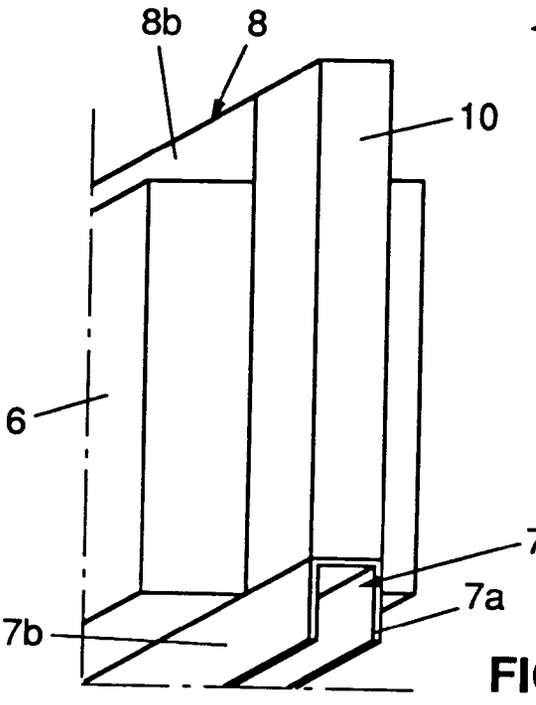

8b
8
10
6
7
7a
7b

FIG. 2