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SINGLE PART SEALING OR PLASTER STRIP

Description

The present invention relates to a one-piece sealing or plaster edge strip for placement at a transition between a component of a building and a thermal insulation or a plaster layer, to such a transition with such a one-piece sealing or plaster edge strip as well as to a method of attaching a one-piece sealing or plaster edge strip at such a transition.

In the prior art there are known plaster edge strips that are adhesively attached to a window or door frame along the edge of the window or door frame. Such a plaster edge strip is known from WO 93/17204. The protective flap of such a plaster edge strip has a film adhesively attached thereto that extends across the window or door area inside the plaster edge strips. In this manner, the respective window or door frame is perfectly protected against soiling by splashing plaster. The plaster ends at the material of the plaster edge strip, and such a connection or joint can be effected in permanently sealed manner with conventional window or door frames, since an elastic adhesive tape effects a permanent adhesive connection of the plaster edge strip to the window or door frame. Cf. also EP 1 793 061 A2.

Modern window or door frames often have a nanocoating applied to the surface thereof. Such a nanocoating comprises nanoparticles, and due to the surface structure of such a nanocoating there is only little dirt adhering to the window or door frame, and cleaning of the window or door frames thus is necessary clearly less often than in case of conventional window or door frames. However, this concomitantly involves the problem that the plaster edge strips known in the prior art in the long run are frequently subject to ablation, and humidity or water enters the space between the window or door frame and the thermal insulation. This causes the formation of mould and higher heating costs.

It is thus an object of the present invention to indicate a sealing or plaster edge strip as well as a transition between a component of a building and a thermal insulation or a plaster layer, which achieves a reliable and durable sealing effect also in case of building components having a surface that does not permit a permanent adhesive connection. Moreover, the invention also is intended to indicate an easily implementable method for attaching such a sealing or plaster edge strip to such a transition.

These objects are met by the subject matter of the independent claims. Advantageous developments are indicated in the dependent claims.

A one-piece sealing or plaster edge strip according to the invention, which is to be attached at a transition, in particular in a gap of such a transition between a component of a building and a thermal insulation or a plaster layer, comprises a base portion having, on its rear side, an expansion strip with retarded expansion, extending longitudinally of the sealing or plaster edge strip for sealingly abutting the sealing or plaster edge strip to the building component, and at least one attachment means arranged beside the same for at least temporarily attaching the sealing or plaster edge strip to the building component. The expansion strip is held in a compressed state by a holding means, and it is designed such that, or has an expansion reserve such that, after release of the holding means, it expands to a maximum expanded position that is remoter from the rear side of the base portion than the bottom side of the attachment means in order to thus ensure sealing abutment to the building component also in case of an increased distance between the building component and the thermal insulation or

the plaster layer. At least part of the front side of the base portion is intended for abutment to the thermal insulation or the plaster layer.

It is possible to arrange the strip according to the invention only in the transition between the building component and the thermal installation or the plaster layer, without attaching the same to the thermal insulation by plastering. Such a strip will be referred to as sealing strip in the following. When the strip according to the invention is additionally attached to the thermal insulation by plastering or is embedded in plaster, reference will be made to a plaster edge strip in the following.

When reference is made to building components hereinafter, this is to comprise all common building components which normally can be arranged adjacent a thermal insulation, in particular window or door frames, beams, projecting beams, window sills, metal joints or pilaster strips.

Both the thermal insulation and the plaster layer may be arranged adjacent the building component on the outside of the building. As an alternative, both the thermal insulation and the plaster layer can be arranged on the building inside.

In accordance with a finding underlying the invention, the distance between the building component and the thermal insulation or the plaster layer changes in the course of time by temperature fluctuations arising, and this effect is particularly pronounced when the transition is subject to direct sunlight. In case of an increase in the distance between the building component and the thermal insulation or the plaster layer, the attachment means, in particular the adhesive tape, often becomes detached from the building component, with this effect being particularly strong when the building component has a surface on which a permanent adhesive connection is not possible, for example a nanoparticle surface or a conventional polyethylene surface, polypropylene surface and/or a siliconized surface.

On the basis of a basic idea of the present invention, the inventive provision of an expansion strip, having an expansion reserve, for sealing abutment of the sealing or plaster edge strip to the building component, as well as at least one attachment means arranged beside the same for at least temporarily attaching the sealing or plaster edge strip to the building component ensures permanent sealing of the transition between the building component and the thermal insulation or the plaster layer, also when there are temperature-dependent changes in distance caused between the building component and the thermal insulation or plaster layer, and also when the building component has a surface permitting just temporary adhesion, but not a permanent adhesive connection.

With the sealing or plaster edge strip according to the invention it is sufficient when the attachment means adheres only temporarily during mounting of the sealing or plaster edge strip and, in case the same is embedded in plaster, adheres to the building component during plastering and thus becomes attached; this is possible with the aid of the attachment means according to the invention. The attachment means merely has to ensure temporary fixation of the sealing or plaster edge strip during assembly and during plaster-embedding. This can be referred to briefly as assembly or mounting support. The attachment means basically is not required for the sealing function.

The attachment means may extend along the sealing or plaster edge strip and may be of continuous design. A point-like or interrupted design of the attachment means is possible as well.

Upon assembly of the sealing or plaster edge strip and upon embedding the same in plaster, if such embedding takes place, the expansion strip takes over the sealing effect in that it expands as the holding means has been released before mounting of the sealing or plaster edge strip, and sealingly abuts the building component, however, without adhesion to the same or without being adhesively attached to the same. Due to the fact that this expansion strip has an expansion reserve, it is capable of "accommodating" changes in distance between the building component and the thermal insulation or the plaster layer, i.e. when there is an increase in the distance between the building component and the thermal insulation or the plaster layer, the expansion strip also expands so that it continues to sealingly abut the building component, and when there is a decrease in the distance between the building component and the thermal insulation or the plaster layer, the expansion strip again is somewhat compressed and still sealingly abuts the building component. The sealing effect afforded by the expansion strip is sufficient for permanently preventing the penetration of humidity or water into the space between the building component and the thermal insulation or plaster layer.

The expansion reserve of the expansion strip should be designed such that the expansion strip expands further than corresponds to the maximum width of the gap or the joint, and that the expansion strip in case of such expansion nevertheless is downpour-proof. The change in expansion of the expansion strip from the compressed state to the maximum downpour-proof expanded position advantageously is at least 25%, but may also be clearly higher in order to accommodate larger gap or joint dimensions.

The expansion strip, on the side of the sealing or plaster edge strip, is attached to the base portion of the sealing or plaster edge strip. This attachment can be effected in arbitrary manner, for example by adhesive or by clamping attachment.

The expansion band or expansion strip may be an expanding adhesive foam tape. By selection of the expansion strip, in particular by selection of the expansion reserve of the expansion strip, it is possible to determine the maximum expanded position of the expansion strip, i.e. the maximum distance between the building component and the thermal insulation or the plaster layer up to which safe sealing is ensured. In practical application, there always is to be provided an expansion strip with sufficient expansion reserve that is capable of sealing the maximum distance arising in practical application between the building component and the thermal insulation or the plaster layer and is capable of accommodating or absorbing all movements.

The one-piece design of the sealing or plaster edge strip permits particularly inexpensive manufacture and simple attachment of the sealing or plaster edge strip at the building site.

In accordance with a first embodiment of the invention, the holding means is in the form of a cover band or closure flap. This permits particularly simple release of the holding means before attachment of the sealing or plaster edge strip to the transition between building component and thermal insulation or plaster layer.

In accordance with a further embodiment, the attachment means is in the form of an adhesive strip, in particular a hot-melt adhesive strip. Such an adhesive strip ensures safe adhesion of the sealing or plaster edge strip to

the building component during assembly and embedding in plaster. The adhesive strip preferably is extruded concomitantly with the manufacture of the one-piece sealing or plaster edge strip. When the adhesive strip is placed in an elongate recess on the rear side of the base portion, said adhesive strip is connected to the sealing or plaster edge strip in particularly reliable manner, the position thereof is accurately determined, and migration of the adhesive strip in lateral direction is avoided.

In an alternative embodiment of the invention, the attachment means is in the form of an adhesive strip, in particular a double-faced adhesive tape. The sealing or plaster edge strip adheres to the building component with its bottom side and thus ensures an at least temporary attachment. The adhesive strip, on the side of the sealing or plaster edge strip, can be adhesively joined to a rearwardly projecting foot part of the base portion. This foot part may be an integral constituent part of the base portion.

Both in designing the attachment means as adhesive strip and in designing the attachment means as adhesive tape, there is provided a still further sealing effect as long as the attachment means adheres to the building component, in addition to the sealing effect provided by the expansion strip.

In an alternative embodiment of the invention, the attachment means receives a strip-shaped arrangement of suction cups. These suction cups can be integrated in a suction band, which facilitates handling of the same and attachment to the sealing or plaster edge strip. It is particularly expedient to attach the suction cups and/or the suction band to the sealing or plaster edge strip, when the base portion, on the rear side thereof, has an elongate recess receiving the suction cups and/or the suction band. It is thus possible to simply and reliably provide the sealing or plaster edge strip with suction cups and/or the suction band, the suction cups and/or the suction band being simply inserted in the elongate recess, and in particular being clipped into the same. In the simplest embodiment there may be provided just one or two suction cups for ensuring assembly support.

As an alternative to the attachment means indicated here in exemplary manner there may also be used other attachment means.

In accordance with a particularly reliable embodiment of the invention, the sealing or plaster edge strip comprises two attachment means on the rear side of the base portion that enclose the expansion strip. By provision of two attachment means, it is possible to provide for especially reliable temporary attachment of the sealing or plaster edge strip during assembly and embedding in plaster.

By these two attachment means, one being provided laterally of the expansion strip in the direction towards the space between the building component and the thermal insulation or plaster layer, and the second attachment means being provided in the direction away from the space between the building component and the attachment means, there is thus created an additional, supporting sealing effect as long as the attachment means adhere to the building component or at least abut on the same.

In a further embodiment of the invention, the attachment means and the expansion strip, in the delivery state of the sealing or plaster edge strip, on the side facing away from the rear side of the base portion, are covered by a cover band in order to thus prevent premature, undesired adhesion of the attachment means. By provision of a common cover band or cover strip for the attachment means and the expansion strip, handling is improved, and

the preparation of the sealing or plaster edge strip for application or mounting can be effected in simple manner by pulling-off a single cover band.

It is particularly expedient when the cover band at the same time constitutes the holding means holding the expansion strip in its compressed state. An additional holding means can thus be dispensed with.

In accordance with a further embodiment of the invention, the cover band is fixed to the attachment means by adhesive effect. As an alternative, it is possible that the cover band has at least one of its end portions releasably attached, in particular adhesively joined, to another location of the sealing or plaster edge strip, in particular the side or front side of the same.

In accordance with a further embodiment of the invention, the strip is in the form of a plaster edge strip and thus is attached to the thermal insulation or the plaster layer by applying or being embedded in plaster. To this end, the plaster edge strip has a forwardly projecting web extending longitudinally of the plaster edge strip.

In accordance with a further embodiment of the invention, the plaster edge strip, and in particular the web thereof, has a reinforcing fabric attached thereto that is to be embedded in the plaster. By way of such a reinforcing fabric, the formation of cracks in the plaster layer is safely avoided. The reinforcing fabric in most cases consists of a glass fiber mesh.

In accordance with an additional embodiment of the invention, the base portion has an in-plaster leg joined thereto which, in the mounted state of the plaster edge strip, projects away from the space between the building component and the thermal insulation or plaster layer and which is embedded in plaster as well and forms the edge for the outer plaster layer.

On the rear side of the in-plaster leg, there may be provided a flexible, in particular curved, covering lip in order to ensure an additional protective effect towards the outside in case of a normal spacing between the housing component and the thermal insulation or plaster layer.

In accordance with a further embodiment of the invention, there is provided a strip-shaped protective flap that is contiguous with the base portion or the in-plaster leg via a frangible material bridge of reduced thickness. Such a strip-shaped protective flap has the film material adhered thereto that extends across the window or door area, and after application of the plaster layer this protective flap can simply be severed and removed.

In accordance with a further embodiment of the invention, at least one of the attachment means is provided on the strip-shaped protective flap and, upon mounting of the plaster edge strip, is removed along with the same.

The sealing or plaster edge strip according to the invention preferably is made of a suitable plastics material by extrusion.

The invention also relates to a transition between a component of a building and a thermal insulation or a plaster layer with a gap being present there into which a sealing or plaster edge strip of the type described hereinbefore is introduced such that the web and/or at least part of the front side of the base portion abuts the thermal insulation or the plaster layer.

In the mounted state and with ordinary gap dimension, the at least one attachment means attaches the sealing or plaster edge strip to the building component at least temporarily, or sealingly or adhesively abuts the same, and the expansion strip sealingly abuts the building component. With an enlarged gap, for example due to temperature fluctuations, the at least one attachment means is released from the building component and the bottom side thereof is spaced apart from the same. At the same time, the expansion strip has expanded somewhat further due to its expansion reserve, while it still sealingly abuts the building component.

The inventive transition between building component and thermal insulation or plaster layer thus creates a reliable and durable sealing effect of the gap of the transition irrespective of the nature of the surface of the building component and irrespective of the temperature-dependent changes in the distance between the building component and the thermal insulation or plaster layer.

The invention also relates to a method of attaching a one-piece strip, in particular a sealing or plaster edge strip of the type described hereinbefore, in a gap of a transition between a component of a building and a thermal insulation. In doing so, the holding means of the expansion strip is firstly released, and thereafter the strip is attached to the building component such that the at least one attachment means attaches the same to the building component at least temporarily. Thereafter, the thermal insulation is attached to the masonry or the like such that the corner portion thereof abuts the web of the strip and/or at least part of the front side of the base portion of the strip.

When the strip is a plaster edge strip, the web and optionally the reinforcing fabric and/or the in-plaster leg is/are embedded in plaster thereafter.

Triggering of the expansion strip according to the invention thus takes place before application of the strip at the transition between the building component and the thermal insulation, and introduction of the strip takes place immediately after triggering expansion of the expansion strip.

The method according to the invention can be implemented easily and, as working result, yields a reliable and durable sealing effect between window and door frame and the thermal insulation or the composite thermal insulation system. The embodiments indicated hereinbefore in terms of a device can also be employed correspondingly in the inventive method of attaching a one-piece sealing or plaster edge strip, and a detailed description of the same will be dispensed with in order to avoid repetitions. In doing so, the same advantages result as those already described hereinbefore with respect to the sealing or plaster edge strip.

The invention will now be described in more detail by way of embodiments with reference to the accompanying drawings wherein

Fig. 1 shows a cross-sectional view of a not yet attached first plaster edge strip according to a first embodiment of the invention;

Fig. 2(a) shows a horizontal sectional view of the plaster edge strip of Fig. 1 arranged in a transition between a thermal insulation and a window frame, in a first state with small gap dimension;

Fig. 2(b) shows a horizontal sectional view of the plaster edge strip of Fig. 1 arranged in the transition between the thermal insulation and the window frame, in a second state with large gap dimension;

Fig. 3 shows a cross-sectional view of a not yet attached second plaster edge strip according to a second embodiment of the invention;

Fig. 4(a) shows a horizontal sectional view of the plaster edge strip of Fig. 3 arranged in the transition between the thermal insulation and the window frame, in a first state with small gap dimension;

Fig. 4(b) shows a horizontal sectional view of the plaster edge strip of Fig. 3 arranged in the transition between the thermal insulation and the window frame, in a second state with large gap dimension;

Fig. 5 shows a cross-sectional view of a not yet attached third plaster edge strip as well as a perspective view of a suction cup according to a third embodiment of the invention;

Fig. 6(a) shows a horizontal sectional view of the plaster edge strip of Fig. 5 arranged in the transition between the thermal insulation and the window frame, in a first state with small gap dimension;

Fig. 6(b) shows a horizontal sectional view of the plaster edge strip of Fig. 5 arranged in the transition between the thermal insulation and the window frame, in a second state with large gap dimension;

Fig. 7 shows a cross-sectional view of a not yet attached fourth plaster edge strip as well as a perspective view of a suction cup according to a fourth embodiment of the invention;

Fig. 8(a) shows a horizontal sectional view of the plaster edge strip of Fig. 7 arranged in the transition between the thermal insulation and the window frame, in a first state with small gap dimension;

Fig. 8(b) shows a horizontal sectional view of the plaster edge strip of Fig. 7 arranged in the transition between the thermal insulation and the window frame, in a second state with large gap dimension;

Fig. 9 shows a cross-sectional view of a not yet attached fifth plaster edge strip according to a fifth embodiment of the invention;

Fig. 10(a) shows a horizontal sectional view of the plaster edge strip of Fig. 9 arranged in the transition between the thermal insulation and the window frame, in a first state with small gap dimension; and

Fig. 10(b) shows a horizontal sectional view of the plaster edge strip of Fig. 9 arranged in the transition between the thermal insulation and the window frame, in a second state with large gap dimension.

The terms "front" or "front side" as well as "rear" and "rear side" are understood in the following drawing figures as lying at the top and at the bottom, respectively.

Fig. 1 shows a not yet attached first plaster edge strip 2 in a cross-sectional view.

The first plaster edge strip 2 shown in Fig. 1 comprises a horizontally extending base portion 4, having a forwardly projecting web 22 in its left-hand portion. On the left-hand outer side of the web 22, there is attached an upwardly extending reinforcing fabric 24 by welding 26. In the present embodiment, the welding joint is established by ultrasonic welding by means of a separately supplied welding cord, or a permanent adhesive joint.

In a left-hand portion of the rear side and a right-hand portion of the rear side of base portion 4, there are provided a first fixing portion 6 as well as a second fixing portion 12 which comprise a trough-shaped or semicircular adhesive strip receiving portion 10 and 16 directed rearwardly via a material bridge and each having a hot-melt adhesive strip 8 and 14 received therein. Arranged between these fixing portions 6 and 12 is an expansion strip 18 having its upper side adhering or welded to the rear side of the base portion 4 and having its rear side located approximately at the level of the rear side of the hot-melt adhesive strips 8 and 14. A cover band 20 extends from left towards the right across the hot-melt adhesive strip 8, across the expansion strip 18 and across the hot-melt adhesive strip 14. This cover band 20 adheres with its left-hand portion to the bottom side of the hot-melt adhesive strip 8 and with its right-hand portion to the bottom side of the hot-melt adhesive strip 14 and, with its central portion located therebetween, presses the expansion strip 18 upwardly and thus retains the same in the compressed state thereof. In the present exemplary embodiment, the expansion strip 18 has a width of approximately 10 mm and, in the compressed state of the same, has a thickness of approximately 2.5 mm. The expansion strip 18 features a retarded expansion, i.e. upon removal of the cover band 20, the expansion strip 18 expands up to a maximum expanded position that is located at a level clearly below the lower sides of the hot-melt adhesive strips 8 and 14.

Towards the left, the first fixing portion 6, in particular the adhesive strip receiving portion 10, is followed by an in-plaster leg 28 which is embedded in plaster and the outer left-hand edge of which constitutes the edge for the upper side of the plaster layer. The upper side of the in-plaster leg 28, the left-hand side of the web 22 and the transition portion therebetween are provided with a groove profile 30 in order to utilise the thus increased surface for improving the adhesion of the plaster layer or layers to the first plaster edge strip 2.

From the bottom side of the left-hand end of the in-plaster leg 28, there is a soft covering lip 32 extending rearwardly approximately to the level of the rear side of the hot-melt adhesive strips 8 and 14 and the rear side of the expansion strip 18 or even somewhat further downwardly. The covering lip 32 is curved somewhat rearwardly to the left and, in the mounted state of the plaster edge strip 2, provides protection against humidity and water.

The lateral end of the in-plaster leg 28 is followed by a strip-shaped protective flap 34 via a frangible material bridge of reduced thickness 36, with the front side thereof being of planar design and the rear side thereof having a spacer web which projects rearwardly substantially at right angles. The strip-shaped protective flap 34, on the front side thereof, has an adhesive layer to which a protective film, not shown here, may be adhesively applied.

The cross-section of the plaster edge strip 2 and of the plaster edge strips described in the following is uniform throughout the length of the same, so that the plaster edge strips can be manufactured by extrusion without any problem. The covering lip 32, which is made of a softer material than the basic material of the first plaster edge strip 2, as well as the adhesive strips can be co-extruded.

Fig. 2(a) shows a horizontal sectional view of the first plaster edge strip 2 introduced in a transition between a thermal insulation 40 and a window frame 38, in a first state with small gap dimension, and Fig. 2(b) shows a horizontal sectional view of the same in a second state with large gap dimension.

In the following figures the window frame 38 can be provided with a surface coated with nanoparticles, which is not shown separately, so that merely adhesion, but no permanent adhesive connection can be achieved.

In Fig. 2(a) the first plaster edge strip 2, upon removal of the cover band 20, has been applied to the window frame 38 such that the hot-melt adhesive strips 8 and 14 are adhered to the front side of the window frame 38 or attach the plaster edge strip 2 thereto at least temporarily. The expansion strip 18 has its bottom side abutting the face side of the window frame 38. The thermal insulation 38 then has been attached such that the right-hand side of the web 22 of the first plaster edge strip 2 and the rightwardly adjoining front side of the base portion 4 abut the corner portion of thermal insulation 40. The gap 42 thus is reliably sealed towards the outside by the base portion 4 with the two hot-melt adhesive strips 8 and 14 and the expansion strip 18. This sealing effect is enhanced further by covering lip 32 which also abuts the window frame 38. In the present exemplary embodiment the gap has a width of 3 mm.

The region of the first plaster edge strip 2 between the right-hand side of the web 22 abutting thermal insulation 40 and the plaster edge of plastering leg 28 along with the reinforcing fabric 24 and the groove profile 30 is embedded in plaster by means of a first plaster layer 44 and a second plaster layer 46 and thus is reliably attached to the thermal insulation 40. The strip-shaped protective flap 34, upon completion of the plastering work, has been severed along the frangible material bridge 36 so that the strip-shaped protective flap 34 is not present any more in Fig. 2(a).

In accordance with Fig. 2(b), the gap 42 has increased e.g. due to temperature-shrinkage of the thermal insulation 40, i.e. the distance between thermal insulation 40 and window frame 38 has increased so that the hot-melt adhesive strips 8 and 14 as well as the covering lip 32 no longer abut or adhere the window frame 38, but rather the hot-melt adhesive strips 8 and 14 and the covering lip 32 are arranged at a distance from the window frame 38. The expansion strip 18, however, has expanded such that it compensates the gap increase, and the bottom side of the same still sealingly abuts the window frame 38 and creates a reliable sealing of the space between thermal insulation 40 and window frame 38. In the present embodiment, the gap has increased from 3 to 5 mm, and the expansion strip 18 has a thickness of approximately 4 mm, but still provides a reliable sealing effect against downpour or driving rain. It is possible to design the expansion strip 18 such that it experiences an expansion of more than 100% from a compressed state to a maximum expanded state, for example from 2.5 mm to more than 5.0 mm, while it is at the same time downpour-proof. It is even possible to design the expansion strip 18 such that it experiences an expansion of more than 200% from a compressed state to a

maximum expanded state, for example from 2.5 to more than 7.5 mm, while being at the same time downpour-proof.

Fig. 3 shows a cross-sectional view of a not yet attached second plaster edge strip 48.

The second plaster edge strip 42, with respect to most of its elements, corresponds to the first plaster edge strip 2, and like elements are also designated with the same reference numerals.

The second plaster edge strip 48 differs from the first plaster edge strip 2 in the design of the fixing portions 50 and 56 thereof. These are provided in the form of foot parts 52 and 58 which project rearwardly in cusp-like manner from the outer ends of the base portion 4 and have adhesive tape strips 54 and 60 attached to their planar bottom sides. In an embodiment shown here, these may be double-faced adhesive tape strips having their upper side adhering to the planar bottom sides of the cusp-shaped foot parts 52 and 58.

In the delivery state of the second plaster edge strip 48 illustrated in Fig. 3, the adhesive tape strips 54 and 60 as well as the expansion strip 18 arranged therebetween are covered by a cover band 20 which adheres to the bottom sides of the adhesive tape strips 54 and 60 by adhesion and holds the expansion strip 18 arranged therebetween in its compressed state.

In case of both plaster edge strips 2 and 48, the adhesive tape 20 projects to the left somewhat beyond the left-hand fixing portion 6, 50 and to the right somewhat beyond the right-hand fixing portion 12, 56, respectively. The thus projecting ends can be grasped easily in order to apply the cover band 20 in the gap 42 between the thermal insulation 40 and window frame 38 before application of the plaster edge strip 2, 48.

Fig. 4(a) shows a horizontal sectional view of the second plaster edge strip 48 arranged in the transition between thermal insulation 40 and window frame 38, in a first state with small gap dimension, and Fig. 4(b) shows a horizontal sectional view of the same in a second state with large gap dimension.

In Fig. 4(a) the cusp-shaped foot parts 52, 58 are fixed to the window frame 38 by means of the adhesive tape strips 54 and 60 thereof. The space between the thermal insulation 40 and the window frame 38 is reliably sealed towards the outside by the adhesive tape strips 54 and 60 as well as the covering lip 32. With an enlarged gap according to Fig. 4(b), the adhesive tape strips 54 and 60 and the covering lip 32 are arranged at a distance from the window frame 38. The expanded expansion strip 18 still has its bottom side abutting the window frame 38, thus reliably and permanently sealing the space between thermal insulation 40 and window frame 38.

Fig. 5 shows a cross-sectional view of a not yet attached third plaster edge strip 62 as well as a perspective view of a suction cup 66 used with the same.

The third plaster edge strip 62 with respect to most of its elements corresponds to the first plaster edge strip 2, and like elements are also designated with the same reference numerals.

The fixing portions 64 and 70 in case of the third plaster edge strip 62 are in the form of rows of suction cups 72 for use, which are each inserted into, in particular clipped into, trough-shaped or semicircular suction cup receiving portions 68 and 72. The cover band 75 covering the suction cups 66 and 72 and holding also the ex-

pansion strip 18 in the compressed state of the same extends leftwardly across the covering lip 32, the spacer web of the protective flap 34, beyond the end of the protective flap 34 to the front side of the protective flap 34 and is attached there by adhesive connection, not illustrated. To the right from the right-hand suction cup row 72, the cover band 75 extends upwardly and is attached to the right-hand wall of the right-hand suction cup receiving portion 74 by adhesive connection.

Fig. 6(a) shows a horizontal sectional view of the third plaster edge strip 62 arranged in the transition between the thermal insulation 40 and the window frame 38, in a first state with small gap dimension, and Fig. 6(b) shows a horizontal sectional view of the same in a second state with large gap dimension.

In case of the installation situation of the third plaster edge strip 62 according to Fig. 6(a), temporary attachment of the plaster edge strip 62 to the window frame 38 is obtained by adhesion of the suction cups 66 and 72. By means of the expansion strip 18, with the support of the covering lip 32, reliable sealing of the space between the thermal insulation 40 and the window frame 38 is achieved. In case of the increased spacing according to Fig. 6(b), the suction cups 66 and 72 as well as the covering lip 32 are arranged at a distance from the thermal insulation 38. The expansion strip 18 has expanded further in order to compensate the increased distance, and it still has its bottom side sealingly abutting the window frame 38. It is thus possible to obtain a durable and reliable sealing of the space between the thermal insulation 40 and the window frame 38 towards the outside.

Fig. 7 shows a cross-sectional view of a not yet attached fourth plaster edge strip 76 as well as a perspective view of a suction band 80 with integrated suction cups 82 used with the same.

The fourth plaster edge strip 76 with respect to most of its elements corresponds to the third plaster edge strip 62, and like elements are designated with the same reference numerals.

Instead of rows of separate suction cups 66 and 72, the fourth plaster edge strip 76 has the suction cups 82 and 90 integrated in suction bands 80 and 88, and a first suction band 80 is inserted into the semicircular or trough-shaped suction band receiving portion 84 of the first fixing portion 78, and a second suction band 88 having suction cups 90 integrated therein is inserted in like manner into a semicircular or trough-shaped suction band receiving portion 92 of the second fixing portion 86.

Fig. 8(a) shows a horizontal sectional view of the fourth plaster edge strip 76 arranged in the transition between the thermal insulation 40 and the window frame 38, in a first state with small gap dimension, and Fig. 8(b) shows a horizontal sectional view of the same in a second state with large gap dimension.

In the installation position according to Fig. 8(a), the fourth plaster edge strip 76 is attached to the window frame 38 by means of the integrated suction cups 82. The sealing effect is created by the expansion strip 18, by the suction bands 18 and 88 which also closely abut the window frame 38, and by the covering lip 32.

In case of the increased distance between thermal insulation 40 and window frame 38 according to Fig. 8(b), the bottom sides of the suction bands 80 and 88 and of the integrated suction cups 82, 90 as well as the covering lip 32 are arranged in spaced apart manner from the window frame 38. By way of the expansion of expan-

sion strip 18 it is guaranteed that the bottom side of the same still abuts the window frame 38 and seals the space between thermal insulation 40 and window frame 38 towards the outside.

Fig. 9 shows a cross-sectional view of a not yet attached fifth plaster edge strip 94.

The fifth plaster edge strip 94 with respect to most of its elements corresponds to the second plaster edge strip 48, and like elements are also designated with the same reference numerals.

The fifth plaster edge strip 94 differs from the second plaster edge strip 48 in the design of its fixing portions 96 and 102. Instead of a cusp-shaped design, the fixing portions 96 and 102 are designed in the form of a bracket or substantially have the shape of an L or an inverted L, respectively, and they extend rearwardly from the left-hand and right-hand end of the base portion 4. On the rear sides of the straight foot parts 98 and 104 there are applied double-faced adhesive tape strips 100 and 106. Analogously to the second plaster edge strip 48, there is provided a cover band 20 which adheres to the adhesive tape strips 100 and 106 and holds the expansion strip 18 arranged therebetween in the compressed state of the same.

Fig. 10(a) shows a horizontal cross-sectional view of the fifth plaster edge strip 94 arranged in the transition between the thermal insulation 40 and the window frame 38 in a first state with small gap dimension, and Fig. 10(b) shows a horizontal cross-sectional view of the same in a second state with large gap dimension.

The illustration corresponds largely to the illustration in Fig. 4, with the bracket-shaped foot parts 98 and 104 being fixed here to the window frame 38 by means of their adhesive tape strips 100 and 106.

In case of both designs, the expansion strip 18 provides for a reliable sealing effect towards the outside, in case of the illustration with small gap dimension according to Fig. 10(a), this sealing effect is still enhanced further by the fixing portions 96 and 102.

List of reference numerals

2 first plaster edge strip
4 base portion
6 first fixing portion
8 hot-melt adhesive strip
10 adhesive strip receiving portion
12 second fixing portion
14 hot-melt adhesive strip
16 adhesive strip receiving portion
18 expansion strip
20 cover band
22 projecting web
24 reinforcing fabric
26 ultrasonic welding joint

28 in-plaster leg
30 groove profile
32 covering lip
34 strip-shaped protective flap
36 frangible material
38 window frame
40 thermal insulation
42 gap
44 first plaster layer
46 second plaster layer
48 second plaster edge strip
50 first fixing portion
52 foot part
54 double-faced adhesive tape strip
56 second fixing portion
58 foot part
60 double-faced adhesive tape strip
62 third plaster edge strip
64 first fixing portion
66 suction cup
68 suction cup receiving portion
70 first fixing portion
72 suction cup
74 suction cup receiving portion
75 cover band
76 force plaster edge strip
78 first fixing portion
80 suction band
82 integrated suction cups
84 suction band receiving portion
86 second fixing portion
88 suction band
90 integrated suction cups
92 suction band receiving portion
94 fifth plaster edge strip
96 first fixing portion
98 foot part
100 double-faced adhesive tape strip

102 second fixing portion
104 foot part
106 double-faced adhesive tape strip

EGYRÉSZES TÖMÍTŐ- VAGY VAKOLÓLÉC

Szabadalmi igénypontok

1. Egyrészes tömítő- vagy vakolóléc (2) egy épület-szerkezetrész (38), főként egy ablak- vagy ajtókeret (38), egy ablakpárkány, egy gerenda, egy fémes csatlakozás vagy egy falpillér (lizéna) és egy hőszigetelés (40) vagy egy vakolatréteg közötti átmeneten való elhelyezéséhez, amely tömítő- vagy vakolóléc tartalmaz:

– egy alaptartományt (4), amely a hátoldalán egy, a tömítő- vagy vakolóléc hosszában kiterjedő expandáló szalaggal (18) van ellátva a tömítő- vagy vakolóléc (2) tömítő felfekvéséhez az épület-szerkezetrészen (38), valamint el van látva legalább egy emellett elrendezett rögzítőeszközzel (8) a tömítő- vagy vakolóléc (2) legalább átmeneti rögzítéséhez az épület-szerkezetrészen (38),

– ahol az expandáló szalag (18) egy tartóeszköz (20) által összenyomott állapotban van tartva, és

– ahol az expandáló szalag (18) oly módon van kiképezve, hogy a tartóeszköz (20) kioldása után egy maximális tágulási helyzetbe tágul ki, amely távolabbra van az alaptartomány (4) hátoldalától, mint a rögzítőeszköz (8) alsó oldala, hogy így egy, az épület-szerkezetrész (38) és a hőszigetelés (40) vagy a vakolóréteg közötti megnövekedett távolság esetén is, amelynél a rögzítőeszköz (8) bizonyos távolságra helyezkedik el az épület-szerkezetrésztől (38), tömítő felfekvést biztosítson az épület-szerkezetrészen (38).

2. Az 1. igénypont szerinti tömítő- vagy vakolóléc (2), ahol a tartóeszköz fedőszalagként (20) vagy zárócsappantyúként van kialakítva.

3. Az 1. vagy 2. igénypont szerinti tömítő- vagy vakolóléc (2), ahol a rögzítőeszköz ragasztószalagként (8, 14), főként hot melt ragasztószalagként vagy kétoldalú ragasztószalagként (54, 60) van kialakítva.

4. A 3. igénypont szerinti tömítő- vagy vakolóléc (2), ahol a ragasztószalag (8, 14) a tömítő- vagy vakolóléc felőli oldalon egy hosszúkás mélyedésben (10, 16) van befogadva az alaptartomány (4) hátoldalán.

5. A 3. igénypont szerinti tömítő- vagy vakolóléc (48), ahol a kétoldalú ragasztószalag (54, 60) a tömítő- vagy vakolóléc felőli oldalon az alaptartomány (4) egy hátrafelé álló talprészével (52, 58) van összeragasztva.

6. Az 1. vagy 2. igénypont szerinti tömítő- vagy vakolóléc (62, 76), ahol a rögzítőeszköz szívócsészék (66, 72; 82, 90) sávszerű elrendezését veszi fel, ahol a szívócsészék (82, 90) egy szívószalagba (80, 88) vannak integrálva és/vagy ahol a szívócsészék (66, 72) és/vagy a szívószalag (80, 88) előnyösen egy hosszúkás mélyedésben (68, 74; 84, 92) vannak befogadva az alaptartomány (4) hátoldalán.

7. Az 1-6. igénypontok bármelyike szerinti tömítő- vagy vakolóléc (2), ahol két rögzítőeszköz (8, 14) van elrendezve az alaptartomány (4) hátoldalán, amelyek bezárják az expandáló szalagot (18).

8. A 7. igénypont szerinti tömítő- vagy vakolóléc (2), ahol a rögzítőeszközök (8, 14) és az expandáló szalag (18) az alaptartomány (4) hátoldalával ellentétes irányba néző oldalon egy fedőszalag (20) által vannak lefedve, ahol a fedőszalag (20) előnyösen a tartóeszközt képezi, amely az expandáló szalagot (18) összenyomott állapotában tartja, és/vagy ahol a fedőszalag (20) előnyösen tapadó hatás révén van a rögzítőeszközökön (8, 14) rögzítve és/vagy ahol a fedőszalag (20) előnyösen végtartományai legalább egyikével a vakolóléc (62, 76) egy másik helyén van oldhatóan rögzítve, főként összeragasztva.

9. Az 1-8. igénypontok bármelyike szerinti tömítő- vagy vakolóléc (2), amely tartalmaz továbbá egy előrefelé kiálló, a tömítő- vagy vakolóléc (2) hosszában kiterjedő gerincet (22), ahol a gerincen (22) előnyösen egy, a vakolatba (46, 48) beágyazandó erősítő szövetbetét (24) van rögzítve.

10. Az 1-9. igénypontok bármelyike szerinti tömítő- vagy vakolóléc (2), ahol az alaptartományhoz (4) egy bevakolási nyúlvány (28) van hozzátoldva, ahol a bevakolási nyúlvány (28) hátoldalán előnyösen egy flexibilis fedőajak (32) van elrendezve.

11. Az 1-10. igénypontok bármelyike szerinti tömítő- vagy vakolóléc (2), ahol egy csíkszerű védőheveder (34) van elrendezve, amely egy kisebb vastagságú letörhető anyaghídon (36) keresztül függ össze az alaptartománnyal (4) vagy a bevakolási nyúlvánnyal (28).

12. Átmenet egy épület-szerkezetrész (38), főként egy ablak- vagy ajtókeret (38), egy ablakpárkány, egy gerenda, egy fémes csatlakozás vagy egy falpillér és egy hőszigetelés (40) vagy egy vakolatréteg között, ahol egy hézag (42) van az épület-szerkezetrész (38) és a hőszigetelés (40) vagy a vakolatréteg között, és ahol a hézagba (42) egy, az előző igénypontok bármelyike szerinti tömítő- vagy vakolóléc (2) oly módon van behelyezve, hogy a gerinc (22) és/vagy az alaptartomány (4) elülső oldalának legalább egy része felfekszik a hőszigetelésen (40) vagy a vakolatrétegen, és hogy a legalább egy rögzítőeszköz (8, 14) a tömítő- vagy vakolólécet (2) az épület-szerkezetrészen (38) legalább átmenetileg rögzíti és az expandáló szalag (18) az épület-szerkezetrészen (38) tömítve felfekszik.

13. Átmenet egy épület-szerkezetrész (38), főként egy ablak- vagy ajtókeret (38), egy ablakpárkány, egy gerenda, egy fémes csatlakozás vagy egy falpillér és egy hőszigetelés (40) vagy egy vakolatréteg között, ahol egy hézag (42) van az épület-szerkezetrész (38) és a hőszigetelés (40) vagy a vakolatréteg közötti, és ahol a hézagba (42) egy, az előző igénypontok bármelyike szerinti tömítő- vagy vakolóléc (2) van oly módon behelyezve, hogy a gerinc (22) és/vagy az alaptartomány (4) elülső oldalának legalább egy része felfekszik a hőszigetelésen (40) vagy a vakolatrétegen, és hogy a legalább egy rögzítőeszköz (8, 14) az épület- szerkezetrészről (38) le van válva és az expandáló szalag (38) tömítve felfekszik az épület-szerkezetrészen (38).

14. Eljárás az 1-11. igénypontok bármelyike szerinti egyrészes tömítő- és vakolóléc (2) elhelyezésére egy épület-szerkezetrész (38), főként egy ablak- vagy ajtókeret (38), egy ablakpárkány, egy gerenda, egy fémes csatlakozás vagy egy falpillér és egy hőszigetelés (40) közötti átmenet hézagában (42), amely eljárás során:

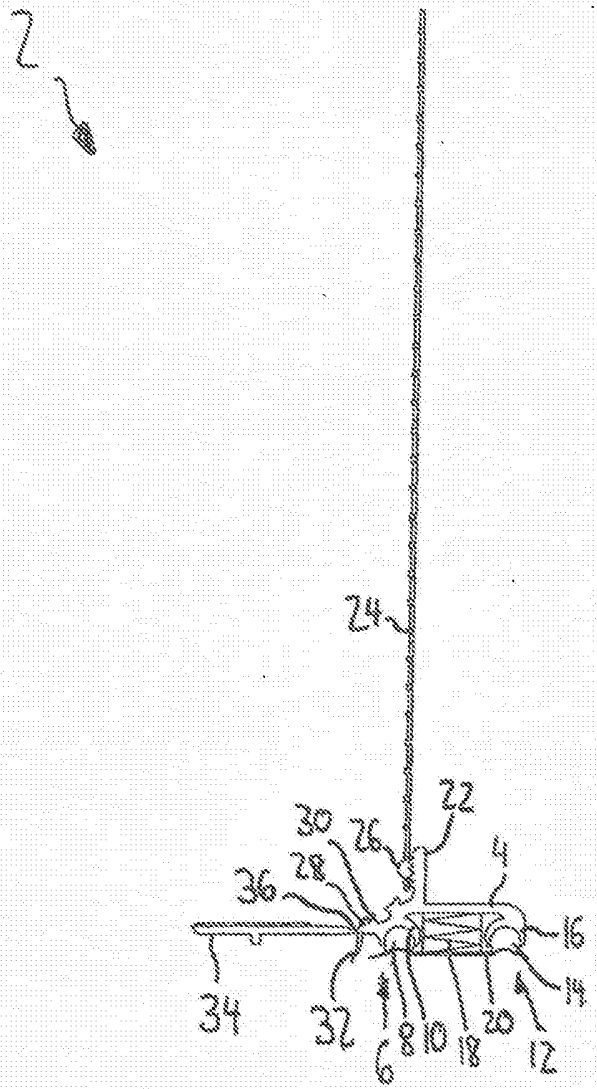
– leoldjuk az expandáló szalag (18) tartóeszközét (20);

– felhelyezzük a tömítő- vagy vakolólécet (2) az épület-szerkezetrészre (38) oly módon, hogy azt a legalább egy rögzítőeszköz (8) legalább átmenetileg rögzíti az épület-szerkezetrészen (38); és

– rögzítjük a hőszigetelést (40) oly módon, hogy az felfeküdjön a vakolóléc (2) gerincén (22) és/vagy a tömítő- vagy vakolóléc (2) alaptartománya elülső oldalának legalább egy részén.

15. A 14. igénypont szerinti eljárás, amelynek során a vakolóléc (2) gerincét (22) és/vagy a vakolóléc (2) erősítő szövetbetétét (24) és/vagy a vakolóléc (2) alaptartományhoz (4) hozzátoldott bevakolási nyúlványát (28) bevakoljuk.

Fig. 1



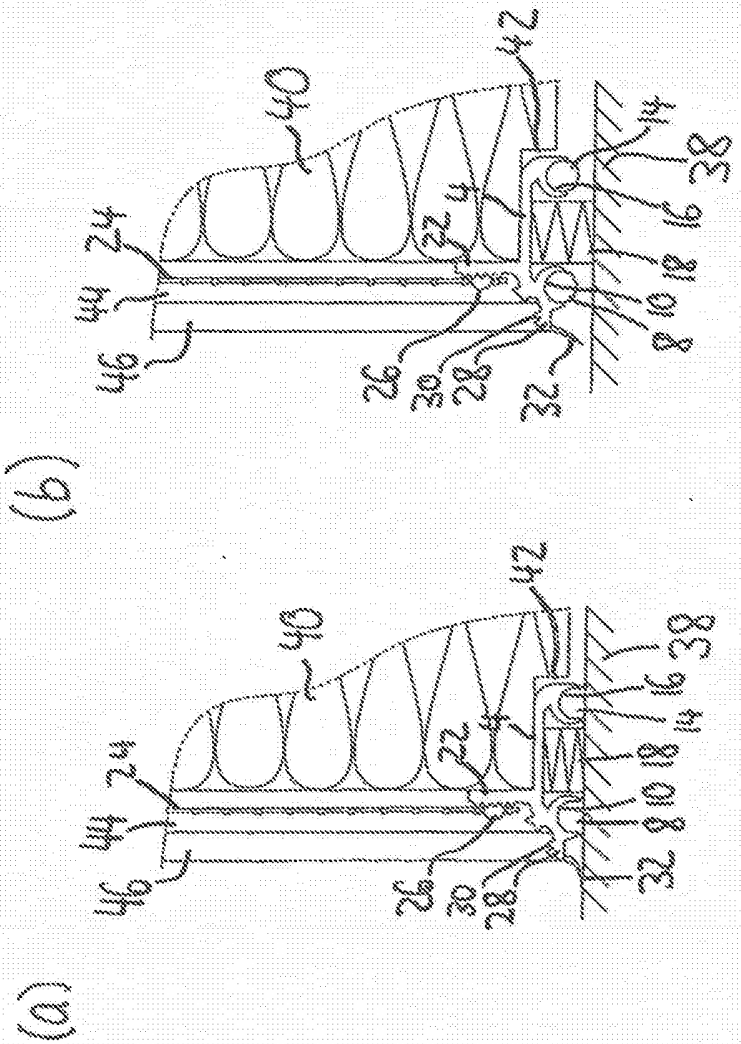

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Fig. 2

Fig. 3

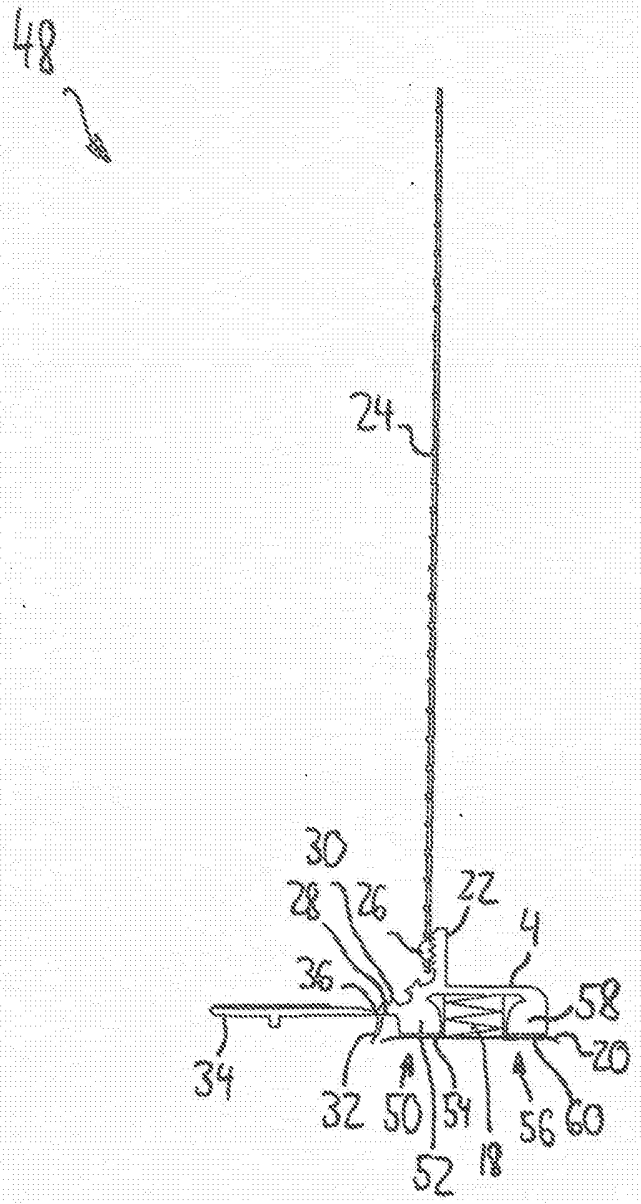

Fig. 4

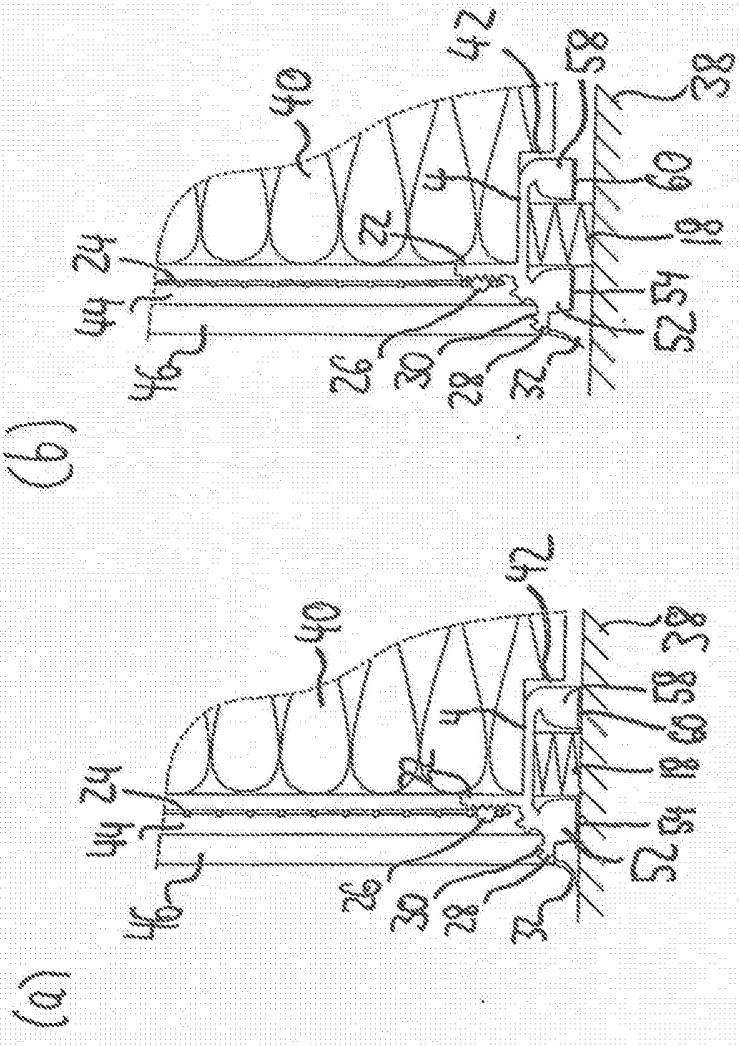
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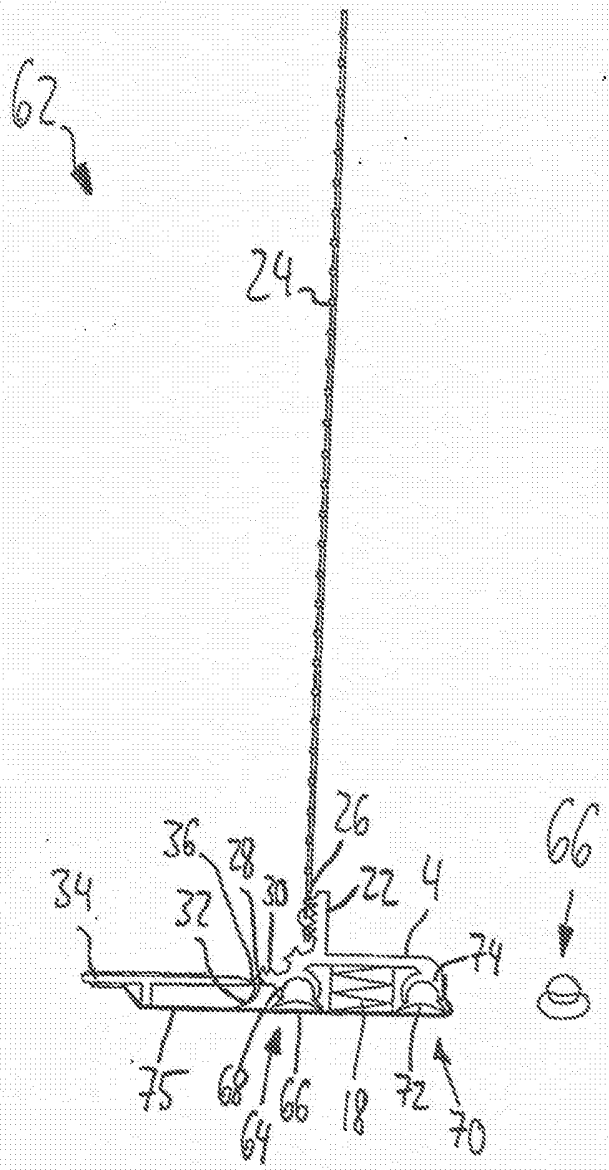
Fig. 5



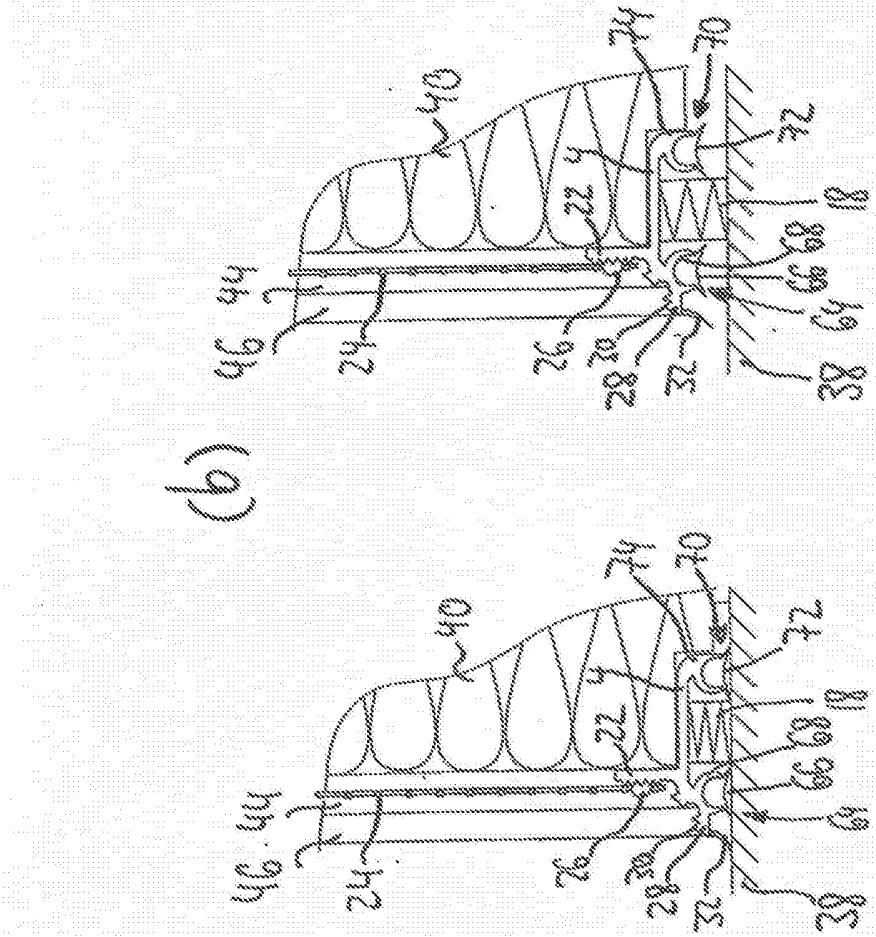

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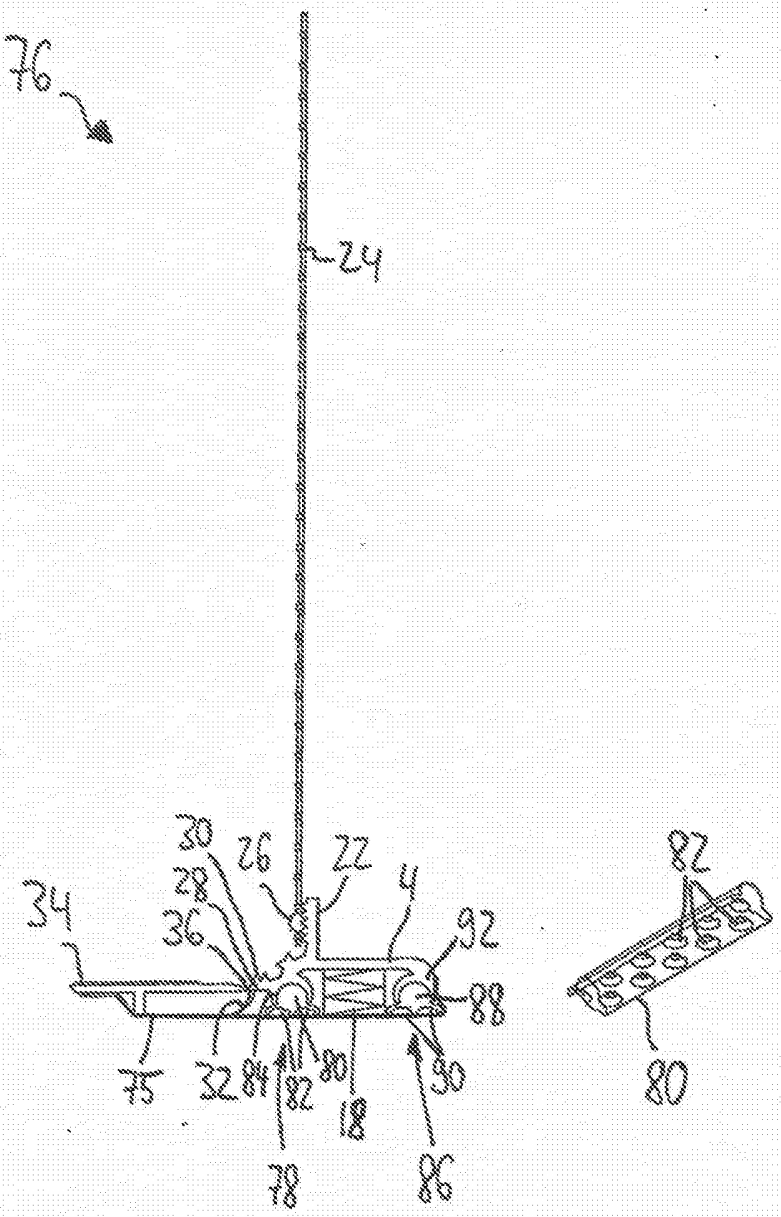
Fig. 6

Fig. 7



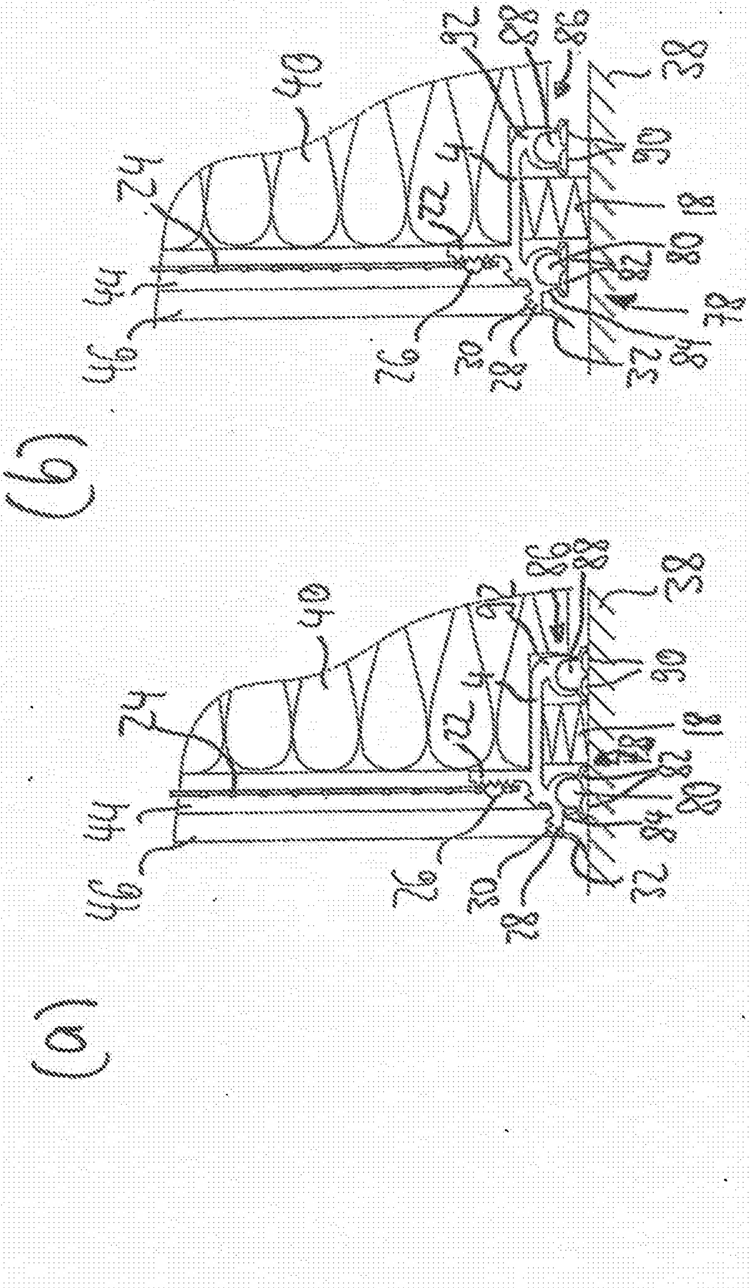
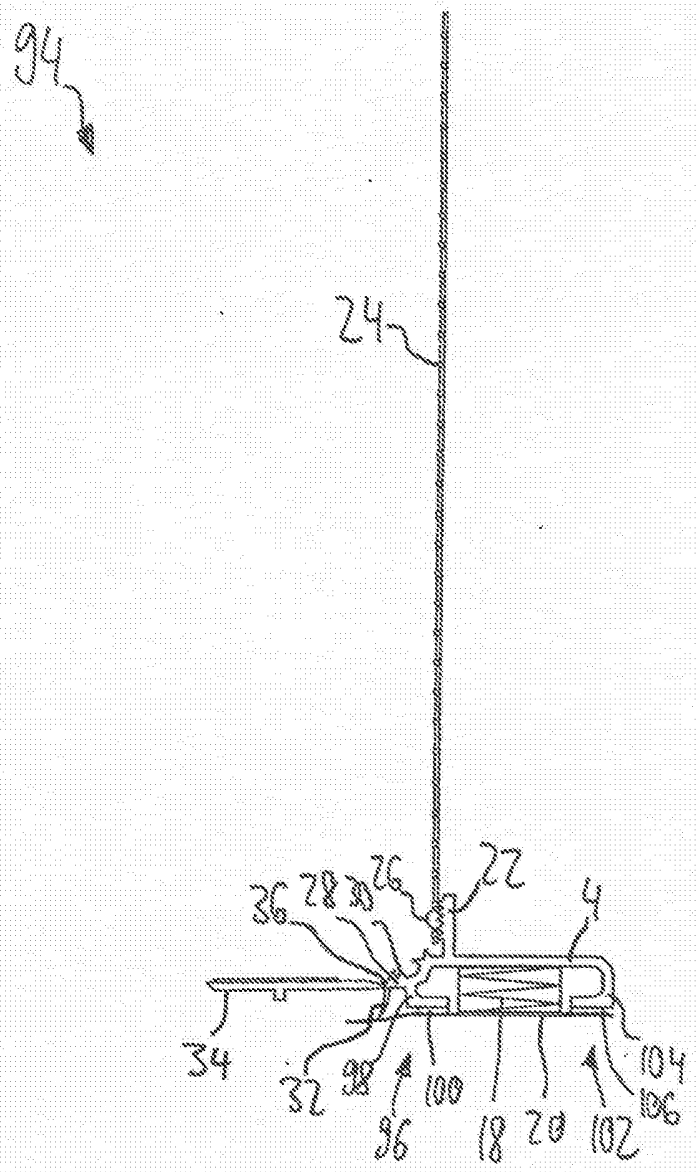


Fig. 8

Fig. 9



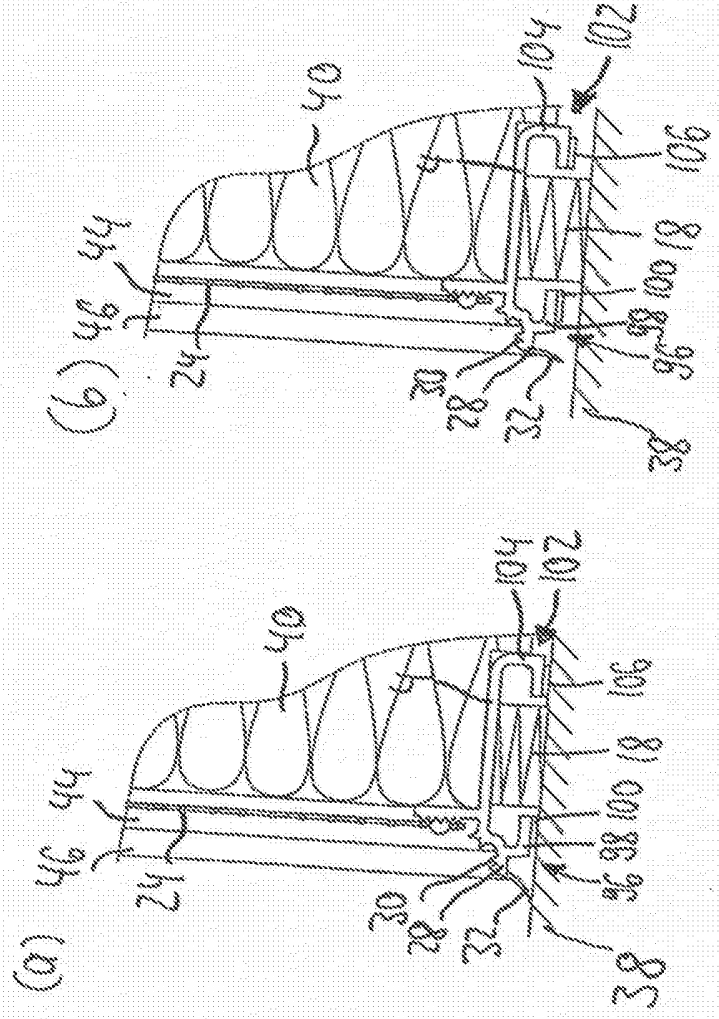


Fig 10