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ATTACHMENT BRACKET FOR AN INSULATING PANEL

The present invention relates to the field of brackets used in insulation. These brackets are used to maintain insulation on a wall.

Prior art

- 5 Documents DE9010503U and WO2016094955 disclose a method for laying insulating panels on the surface of a wall using a bracket comprising a fixing plate and a holding plate with teeth to prevent the insulating panel from tilting on itself.

Currently, there are several techniques for laying insulation on a surface of a wall. This insulation comes in the form of insulating panels (rolled or not). For example,
10 it is possible to fix these insulating panels by stapling them or gluing them.

There is also a possibility of mechanically attaching an insulating panel P to a wall M in order, for example, to allow other laying operations to be carried out. This possibility is the utilization of bracket 1 as shown in Figures 1 and 2. Such a bracket 1 consists of a fixing plate 2 designed to be fixed to the wall and a
15 pinning plate 3 as a single piece with said fixing plate. This pinning plate 3 extends at right angles from the fixing plate 2 to give the whole an L shape.

The insulating panel P is then pinned or wedged on the edge of the pinning plate 3 on said bracket 1 then pressed against the wall M as shown in Figure 2 representing a view from above. The bracket is then used to support a metal or
20 wooden structure S enabling the assembly of additional elements such as a second set of secondary frames H or directly paneling elements of type (façade cladding of any kind, cartridges, clapboard, boarding, plasterboard ..)

However, these brackets have the disadvantage of not allowing the insulating panel to be held against tilting. As a result, the insulating panel may tilt, under the effect of
25 its own weight, thus creating an air space between the insulating panel and the wall.

This tilting leads, firstly, to a variation in the performance of the insulation of the final system due to the air gap created between the wall M and the insulating panel P since the contact surface of the latter with the wall surface decreases and is no longer continuous

Secondly, this tilting can lead to greater damage such as, for example, tearing of a possible vapor-barrier film or a possible rain-barrier film associated with said insulating panel or a deformation of said bracket following a bad distribution of the stress exerted by said insulating panel.

- 5 Thirdly, the insulating panel tilting leads to a loss of time and efficiency when mounting the insulation. Indeed, the fixing bracket participates in the temporary or permanent holding of the insulation before a membrane is installed. Consequently, if the insulating panel(s) tilt, installing the membrane is more difficult.

Summary of the invention

- 10 The present invention therefore proposes to solve these shortcomings by providing a bracket for mounting insulating panels enabling better support against tilting and more reliable contact of the insulating panel against the wall.

To this end, the invention relates to a method according to claim 1, an assembly according to claim 5, and a bracket according to claim 6, said bracket for fitting an
15 insulating panel on a surface of a wall comprising, among other things, a fixing plate intended to be fixed to said surface and a holding plate, said holding plate extending substantially at right angles to said fixing plate in order to hold said insulating panel, said bracket further comprising anti-tilting support means arranged to prevent the insulating panel from tilting on itself.

- 20 This invention advantageously makes it possible to provide a bracket equipped with means for retaining the panel when the latter tends to tilt under its own weight or due to forces due to the wind or to its handling on site. Indeed, the anti-tilting holding means tend to exert a resistance and/or stress preventing such tilting.

According to the invention, said anti-tilting holding means comprise at least one
25 protruding tooth extending on a face of said pinning plate, in particular at right angles from said holding plate or forming an acute angle with the holding plate in the direction of the fixing plate.

According to one example, said anti-tilting holding means comprise at least two teeth arranged at different distances from the fixing plate.

According to one example, said anti-tilting holding means comprise at least two teeth arranged parallel to one another.

According to one example, each tooth is in the form of a blade.

According to claim 6, the tooth is in the form of a profile extending over at least
5 part of the width of the holding plate.

According to one example, each tooth has a right-angled triangle profile having one of its catheti facing the fixing plate.

According to one example, said anti-tilting holding means comprise at least one flap arranged in a housing, through-going or not, made in the thickness of the
10 holding plate.

According to one example, said anti-tilting holding means comprise at least two flaps, each of said flaps being arranged at a particular distance from said fixing plate.

According to one example, said anti-tilting holding means comprise at least two flaps arranged side by side at the same distance from said fixing plate.

15 According to one example, the anti-tilting holding means are a single piece with the holding plate.

According to one example, said anti-tilting holding means are attached to said holding plate.

According to one example, said holding plate is provided with an aperture in which a
20 support is attached, said anti-tilting holding means being arranged on said support.

According to one example, the bracket further comprises anti-sag holding means comprising at least one anti-sag surface generated by a blade extending from the holding plate substantially at right angles and horizontal with respect to the surface of the wall on which the bracket is fixed.

25 According to one example, the insulating panel is pinned on the bracket.

According to the invention, the bracket crosses the entire thickness of the insulating panel.

According to one example, the anti-tilting means are located, at least in part, on the outside of the insulating panel and cooperate with one face of the insulating panel (its face opposite the wall surface) to hold the panel and prevent it from tilting.

The present invention therefore relates according to claim 1 to a method for
5 fitting at least one thickness of insulating panel on the surface of a wall, said method comprising, among others, the following steps:

- Obtaining at least one bracket according to the invention and fixing it on a surface of said wall;
- Obtaining an insulating panel;
- 10 - Pressing said insulating panel onto the wall surface by exerting a thrusting strain so that the insulating panel is in contact, across its thickness, with the holding plate of said bracket;
- Releasing the stress to allow said insulating panel to resume its initial volume and to enable the tooth of said bracket to hold the insulating panel;
- 15 and if one wishes to install at least a second thickness of insulating panel:
 - Obtaining an insulating panel;
 - Pressing said insulating panel on the wall surface by exerting a thrusting strain so that the insulating panel is in contact, across its thickness, with the holding plate of said bracket;
 - 20 - Releasing the stress to allow said insulating panel (P) to resume its initial volume and to enable the tooth of said bracket to hold the insulating panel.

The present application further relates to an unclaimed method for fitting at least one thickness of insulating panel on the surface of a wall, **characterized in that** it comprises the following steps:

- 25 - Obtaining at least one bracket according to the invention and fixing it on a surface of said wall;
- Obtaining an insulating panel;

- Pressing said insulating panel on the wall surface by exerting a thrusting strain so that the insulating panel is in contact, across its thickness, with the holding plate of said bracket;

- Operating at least one flap to rotate it and place it in a substantially perpendicular position with respect to the holding plate;

- Releasing the stress to enable said insulating panel (P) to resume its initial volume and enable said flap to hold said insulating panel;

and if one wishes to install at least a second thickness of insulating panel:

- Obtaining an insulating panel;

- Pressing said insulating panel on the wall surface by exerting a thrusting strain so that the insulating panel is in contact, across its thickness, with the holding plate of said bracket;

- Operating at least one flap to make it pivot into a position substantially at right angles relative to the holding plate;

- Releasing the stress to enable said insulating panel to resume its initial volume and enable said flap to hold said insulating panel.

According to one example, said at least one insulating panel is pinned on said bracket.

According to one example, said bracket comprises at least two flaps arranged side by side at the same distance from said fixing plate, said bracket being arranged to be in contact with two insulating panels, the flaps being pivoted so that each flap holds an insulating panel.

According to an example in which each insulating panel is held by two brackets, for two insulating panels placed side by side, the brackets are fixed to the wall to be arranged in staggered rows, some brackets impaling an insulating panel while other brackets are arranged between two insulating panels.

Finally, the application relates to an unclaimed method of lining a wall, comprising the fitting of at least one thickness of insulating panel and comprising the mounting of a lining framework by fixing supports on the holding plates of the brackets, and the fixing of lining panels on said supports.

5 Description of the figures

Other features and advantages will become apparent from the description given below, by way of indication and in no way limiting, with reference to the appended drawings, wherein:

- Figures 1 and 2 are schematic representations of a view of a bracket only
10 and of a view from above of the bracket mounted on a wall according to the prior art;
- Figure 3 is a schematic representation of a bracket according to a first embodiment of the invention;
- Figures 4 to 6 are schematic representations of different embodiments of the first embodiment of the invention;
- 15 - Figures 7 to 9 are views from above of the steps for installing the bracket according to the first embodiment of the invention;
- Figures 10 and 11 are schematic representations of a variant of the first embodiment of the invention.
- Figure 12 is a schematic representation of a bracket according to a
20 second unclaimed embodiment;
- Figures 13a to 13d are schematic representations of different embodiments of the second embodiment;
- Figures 14 to 17 are views from above of the steps for installing the bracket according to the first embodiment of the invention;
- 25 - Figures 18, 19, 20a and 20b are schematic representations of variants of the second embodiment.

- Figures 21a and 21b are schematic representations of a variant common to the various unclaimed embodiments.
- Figures 22a and 22b are schematic representations of an alternative mounting.

Detailed description of the invention

- 5 The invention derives from the general inventive idea of providing a bracket for fixing a secondary structure on a wall making it possible to facilitate the installation of an insulator or insulating panel and to prevent the insulator from unexpected tilting

In Figure 3 a bracket 100 according to the present invention is shown. This bracket 100 comprises a fixing plate 101 designed to be fixed to a wall M and a
10 holding plate 102. This holding plate 102 extends substantially at right angles from the fixing plate 101, in a so-called longitudinal direction X from the bracket. The bracket 100 can then have an L-shape or a T-shape. The fixing plate 101 and the holding plate 102 can be a single-piece or not.

For the following and with reference to the figures, a lateral direction Y of the
15 bracket is defined as a direction orthogonal to the longitudinal direction X and parallel to the holding plate 102.

A transverse plane of the bracket is a plane orthogonal to the longitudinal direction X.

This bracket 100 or the various plates 101, 102 may be made of a plastic-type material, a composite material, a metal or one of its alloys, or wood.

- 20 This bracket 100 is used for fixing to a surface of a wall M at least one insulating panel P of glass wool or rock wool type that is made of fibrous materials. The insulating panel P can be in the form of a plate or in the form of a roll. The bracket 100 may be fixed to the wall M so that the holding plate 102 extends substantially or completely in a horizontal plane or, preferentially, substantially or
25 completely in a vertical plane. The bracket 100 may also be arranged for mounting a lining frame (not shown) by fixing supports S (visible in Figure 9) on the holding plates 102 of the brackets 100.

According to the invention, this bracket 100 is provided with anti-tilting holding means 110. These anti-tilting holding means 110 are arranged to prevent the insulating panel P from tilting on itself and disrupting the insulating function of said insulating panel P once it has been pinned. According to a first embodiment visible in Figure 3, the anti-tilting holding means 110 comprise at least one tooth 111. This tooth 111 is arranged on the holding plate 102 and, more particularly, on one of its faces 102a. This tooth 111 extends such that it protrudes on a surface 102a of said holding plate 102, in particular at right angles from said holding plate 102 or forms an acute angle with the holding plate in the direction of the fixing plate. This tooth 111 has a profile such that it offers resistance to the displacement of said insulating panel P. A profile corresponding to this problem is, for example and without limitation, a triangular profile having the shape of a right-angled triangle. This tooth 111 in the shape of a right-angled triangle is then arranged to have one of its catheti 111a facing the fixing plate 101. Thus, when the insulating panel P is pinned on the bracket 100, the tooth 111 penetrates said insulating panel P via its hypotenuse offering a minimum of resistance to the pinning. On the other hand, once the insulating panel P has been pinned in, the holding is ensured by said cathetus 111a opposite the fixing plate 101. Indeed, this cathetus 111a, which extends at right angles to the holding plate 102, offers a surface generating a resistance preventing the insulating panel P from tilting. This tooth 111 may be a single piece with the holding plate 102 or attached thereto. In this case, it may be made of a different material.

Of course, in the case of a T-shaped bracket, provision may be made to have one or more teeth 111 arranged on one and or the other of the faces 102a of the holding plate 102.

According to a first embodiment visible in Figure 4, the tooth 111' is in the form of a blade extending at right angles to one of the faces 102a of the holding plate 102. This blade configuration advantageously makes it possible to offer a sufficiently low resistance so as not to hinder the pinning-in of the insulating panel P while offering sufficient resistance preventing said insulating panel P from tilting.

In a variant of this embodiment visible in Figure 5, the bracket 100 comprises at least two parallel teeth 111'. This variant advantageously makes it possible to increase the resistance to tilting without however making pinning-in more difficult.

According to the invention, in particular claim 6, and as visible in Figure 6, the tooth is
5 in the form of a profile 111" of triangular cross-section extending over all or part of the width of said holding plate 102. The profile 111" is of constant cross-section in its main direction, which in this case corresponds to the lateral direction Y of the bracket.

The dimension of the profile in this main direction is typically greater than the dimensions of its cross-section. With reference to Figure 6 for example, the length L
10 of the profile is greater than the dimensions of the sides a, b, c of its cross-section.

This second embodiment has the advantage of presenting a larger surface facing the insulating panel P once the latter has been pinned and therefore of offering better resistance to tilting.

To limit the resistance during pinning-in, this profile 111" is designed to have a
15 lower height than the tooth or teeth 111' of the first embodiment. This lower height makes it possible to obtain a lower frontal surface during pinning-in while keeping a surface with significant resistance to tilting. In an alternative embodiment, the bracket may comprise not a profile but a succession of at least two profiles aligned with each other in the lateral direction of the bracket.

20 This first embodiment using teeth 111 operates in the following way visible in Figures 7 to 9. The operator first fixes the bracket 100 to the wall M. Then, he takes the insulating panel P and pins it on said bracket 100. The insulating panel P may be previously and locally incised to facilitate pinning-in. He pins on the insulating panel P by exerting pressure on it until the tooth 111 passes through
25 said insulating panel P and is visible. Therefore, he can release the pressure he exerts on said insulating panel P, which tends to return it to its initial volume. The insulating panel P then comes into contact with the tooth 111. The latter, due to its design and its configuration, offers, via its cathetus 111a facing the fixing plate 101, a resistance to the insulating panel P preventing it from returning to its initial
30 volume. Ideally, the tooth 111 is arranged at a distance from the fixing plate 101 allowing it to prevent the whole of the insulating panel P from resuming its initial

volume. The tooth is on the outside of the insulating panel and cooperates with one face of the insulating panel (its face opposite the wall surface). This makes it possible to exert a stress on said insulating panel P improving the holding.

In a variant of this first embodiment visible in Figure 10, the teeth 111 of the bracket
5 100 (indifferently in the form of blades or profiles) are arranged to be positioned at different distances from the fixing plate 101. It is understood by this that teeth 111 or series of teeth 111 parallel to each other are positioned so that each tooth 111 or series of teeth 111 is at a particular distance from the fixing plate 101.

This configuration may be used for fixing several insulating panels P. In this
10 case, each tooth 111 or series of teeth is used for fixing a particular insulating panel P as shown in Figure 11. In this figure 11, it is observed that the tooth 111 closest to the fixing plate 101 is used to hold in place a first panel P1 pinned on said bracket 100. Then, a second insulating panel P2 is pinned on so as to come into contact with the first insulating panel P1, the second nearest tooth 111 being
15 used to hold this second insulating panel P2 in place and so on. The distance between the fixing plate 101 and the first tooth 111 and the interval between the different teeth 111 are calculated to be identical or not to enable the installation of insulating panels Pi of the same thicknesses or not.

This configuration can also be used to improve the holding of said insulating panel P
20 or to enable the bracket to be used with panels of different thicknesses while ensuring that the panel is held externally by the anti-tilting means. In a particular case, the tooth 111 furthest from the fixing plate 101 is used to pass through said insulating panel P and hold it while the intermediate tooth or teeth 111, that is closer to the fixing plate 101, are used to end up in the thickness of said insulating panel P. In this case,
25 they provide additional hold by providing resistance inside the insulating panel P. In other cases, if the panel is less thick, an intermediate tooth having passed through the insulating panel during pinning-in will hold it from the outside, while any teeth closer to the fixing plate 101 will cooperate with the inside of the panel and the teeth furthest from the mounting plate 101 will be outside and far from the panel.

30 In a second embodiment visible in Figure 12, the anti-tilting holding means 110 comprise at least one flap 112.

The flap 112 may be arranged in a housing 103, through-going or not, made in the thickness of the holding plate 102 or extend from a block 106 arranged on said holding plate 102 as visible in Figures 13a to 13d. In the case of the flap 112 arranged in a housing 103 of the holding plate 102, the flap 112 may be cut or pre-cut.

- 5 According to a first embodiment visible in Figures 13c to 13d, the flap 112 is made of the same material as said bracket 100. In the case of a flap 112 extending from a block 106, this block 106 may be a single piece with the holding plate 102 or attached thereto.

- 10 According to a second embodiment visible in Figures 13a to 13b, the flap 112 is made of a material other than that of said bracket 100. For this, the flap 112 is arranged on a support 104 attached to the holding plate 102, via for example, an aperture 105 made in said holding plate 102. This support 104 comprises the housing 103' or the block 106'. The support 104 is fixed by gluing, welding, brazing, riveting or any other possible methods on said bracket.

- 15 This embodiment makes it possible to have a flap 112 made of a material having different characteristics from that of which the bracket 100 is made. It is possible, for example, to imagine a bracket 100 made of a rigid material such as metal or ceramic while having a flap 112 made of an elastic, deformable material, such as plastic.

- 20 When mounting the insulating panel P visible in Figures 14 to 17, the latter is pinned on said bracket 100. Once this panel P has been pinned on said bracket 100, pressure is exerted on it so that the flap 112, arranged at the holding plate 102, passes through said insulating panel P and becomes visible. Once this condition is met, an action is exerted by the operator on the cut or pre-cut flap 112 as shown in Figure 16. This action is in the form of a force that allows, in
25 addition to cutting the flap 112 when the latter is pre-cut, to pivot it in order to place it in a position substantially at right angles relative to the holding plate 102.

- This position of the flap 112 relative to the holding plate 102 makes it possible to perform the holding function. Indeed, once this flap 112 has been placed in this position at least substantially at right angles, the operator releases the pressure
30 that he exerts on the insulating panel P. This release causes a reaction of said insulating panel P which tends to return it to its initial volume. The insulating panel

P tending to return to its initial position comes into contact with the flap 112. This flap 112, with its position substantially at right angles relative to the holding plate 102, then naturally acts as a barrier. Actually, in this position substantially at right angles relative to the holding plate 102, the flap 112 has a surface blocking the recovery, by said insulating panel P, of its initial shape as visible in Figure 17. Preferably, as illustrated in Figure 12, the distal end of the flap is directed towards the fixing plate, and the flap operates like a spring blade which, once in its position substantially at right angles to the holding plate (deployed position), forms a non-return means stressing the insulating panel in compression.

10 In a first variant of this second embodiment, the bracket 100 will comprise at least two flaps 112.

According to a first configuration of this first variant visible in Figures 20a and 20b, the flap 112 is divided into at least two parts 112a. This division of the flap 112 into two parts 112a enables them to extend oppositely. Indeed, this first configuration enables the two constituent parts 112a of the flap 112 to be manipulated independently. In this way, it is possible for the parts 112a of the flap 112 to be manipulated to be placed on either side of the holding plate 102 as visible in Figure 20b. This possibility advantageously allows increasing the length of the holding surface, the latter being for example doubled. The hold offered by this first configuration is therefore improved.

20 According to a second configuration of this first variant visible in Figure 18, the flaps 112 are mounted side by side so as to be at the same distance from the fixing plate 101.

These configurations with two side-by-side flaps enable an alternative mounting of the insulating panel on said wall surface. This alternative mounting consists of placing the bracket 100 according to the invention between two insulating panels P. In this specific case, the insulating panels P are no longer pinned but simply in contact with said brackets 100. This contact is made between one of the faces of the holding plate 102 and the section/thickness of said insulating panel P.

It then becomes possible to have two insulating panels P arranged next to each other with at least one bracket 100 arranged between them so that the insulating panels P are on either side of the holding plate 102 as seen in Figures 22a and

22b. This arrangement advantageously makes it possible to operate the flaps 112, 112a so that they deploy on either side of the holding plate 102. The same bracket 100 can then help maintain two different insulating panels P1, P2.

This alternative assembly also works in the case of insulating panels P mounted one above the other. This alternative assembly also works in the case of
5 brackets 100 provided with teeth 111.

Of course, provision may be made for the brackets 100 to be fixed to the wall so that certain brackets 100 pin on the insulating panel(s) P while other brackets 100 are arranged between two insulating panels P and are only in contact. The
10 brackets 100 can thus be staggered.

According to a third configuration of this first variant visible in Figure 19, the flaps 112 are mounted so as to be at a different distance from the fixing plate 101. This second configuration makes it possible, optionally, to have the possibility of pinning in insulating panels P of different thicknesses (that is, the bracket is adapted to
15 receive different thicknesses of insulating panels, arranged in a single layer on the wall) or pinning in several insulating panels P on the same bracket 100.

For this, a first insulating panel P is pinned on and then held by a flap 112 placed in a substantially vertical position relative to the holding plate 102. Then, a second insulating panel P is pinned in so as to be in contact with the first
20 insulating panel P. Pressure is exerted on the second insulating panel P so that a second flap 112 can be manipulated. This manipulation consists of placing the second flap 112 in a position substantially at right angles relative to the holding plate. Following this, the pressure exerted on the second insulating panel is released so that it tends to return to its initial volume. This tendency is stopped
25 by the flap that blocks the tilting of the insulating panel.

Of course, it is possible to combine the three configurations to obtain flaps 112 arranged at different distances from the fixing plate 101, each flap being composed of at least two parts 112a.

In a variant of the different embodiments visible in Figures 21a and 21b, the
30 bracket 100 according to the invention further comprises anti-sag holding means

120. These anti-sag holding means 120 comprise at least one anti-sag surface. Preferably, this surface is generated by a blade 121 extending from the holding plate 102 at right angles and horizontally relative to the surface of the wall M on which the bracket 100 is fixed.

- 5 This anti-sag surface advantageously makes it possible to provide a surface on which the insulating panel P can, in part, rest so as to prevent it from collapsing on itself.

This anti-sag surface will be chosen to be as large as possible without interfering with the pinning-in. This surface may be flat, convex or concave.

- Advantageously, this anti-sag surface will be generated by a blade 120 extending
10 in the same plane as the tooth 111 of the first embodiment. In this way, the frontal surface of this blade 121 generating the anti-sag surface and the frontal surface of the holding tooth 111 of the first embodiment during pinning-in merge at least in part. This configuration thus makes it possible to have the smallest possible frontal surface and therefore the least resistance during pinning-in.

- 15 This blade generating the anti-sag surface will preferably have a trapezoidal shape.

Of course, it is possible to have several anti-sag surfaces. For example, provision may be made for the anti-sag surfaces to extend on either side of the holding plate 102.

- Of course, the present invention is not limited to the example illustrated but is
20 susceptible of various variants and modifications that will become apparent to the person skilled in the art.

Indeed, it may be intended to have a combination of embodiments with at least one flap 112 and teeth 111.

- It has been found that the holding of the panel is optimal when the total contact
25 width of the anti-tilting means in at least one transverse plane of the bracket located at a particular distance from the fixing plate is greater than 1 cm. It is understood that this contact width corresponds to the width over which the insulating panel is effectively retained by the anti-tilting means. After mounting, the anti-tilting means located in said transverse plane are preferably intended to hold the panel from the

outside, cooperating with its face opposite the wall. Total contact width of the anti-tilting means should be understood to mean, where applicable, the sum of the widths (measured in the lateral direction) of the elements constituting the anti-tilting means (flaps, teeth) in the same transverse plane of the bracket.

- 5 This arrangement applies to the various embodiments described previously: whether the anti-tilting means comprise, in the lateral direction, a succession of teeth in the form of blades of the type illustrated for example in Figures 4 or 5, one or more profiles of the type illustrated for example in Figure 6, one or more flaps of the type illustrated for example in Figures 12, 18, 20a.
- 10 Furthermore, the height of the anti-tilting means, measured orthogonally to the plane of the holding plate 102 is preferably at least 5 mm. When the anti-tilting means are teeth, as in Figures 3 and 6, this height corresponds to the height H of the catheti 111a. When the anti-tilting means are flaps, as for example in Figure 12, this height corresponds to the maximum height of the flap in the deployed
- 15 position, in other words to the length of the flap measured between its fixed proximal end 112b and its free distal end 112c.

PATENTKRAV

1. Fremgangsmåde til montering af mindst ét isoleringspladelag på en vægs overflade, hvilken fremgangsmåde omfatter følgende trin:

- opnåelse af mindst én konsol (100), der omfatter en fastgørelsesplade (101), som er beregnet til at blive fastgjort til væggen, og en fastholdelsesplade (102), idet fastholdelsespladen (102) strækker sig i det væsentlige i rette vinkler i forhold til fastgørelsespladen (102), idet konsollen (100) omfatter anti-vipningsfastholdelsesmidler (110), der er anbragt med henblik på at forhindre isoleringspladen (P) i at vippe om sig selv, idet anti-vipningsfastholdelsesmidlerne omfatter mindst én tand (111), som strækker sig således, at den rager frem på en flade (102a) af fastholdelsespladen (102), især i rette vinkler fra fastholdelsespladen (102), eller danner en spids vinkel med fastholdelsespladen (102) hen imod fastgørelsespladen (101);
- fastgørelse af konsollen på en overflade af væggen (M);
- 15 – opnåelse af en isoleringsplade (P);
- presning af isoleringspladen (P) på overfladen ved udøvelse af en skubbebelastning, således at isoleringspladen, over hele sin tykkelse, er i kontakt med konsollens fastholdelsesplade (102);
- udløsning af belastningen med henblik på at tillade isoleringspladen (P) at vende tilbage til sit udgangsvolumen og at tillade konsollens tand (111) at fastholde isoleringspladen (P) ved samvirke med den ene flade af isoleringspladen;
- 20 og hvis det ønskes at montere mindst et andet isoleringspladelag:
- opnåelse af en anden isoleringsplade (P);
- 25 – presning af isoleringspladen på overfladen ved udøvelse af en skubbebelastning, således at isoleringspladen (P), over hele sin tykkelse, er i kontakt med konsollens (100) fastholdelsesplade (102);

– udløsning af belastningen med henblik på at tillade isoleringspladen (P) at vende tilbage til sit udgangsvolumen og at tillade konsollens tand (111) at fastholde isoleringspladen (P) ved samvirke med den ene flade af isoleringspladen.

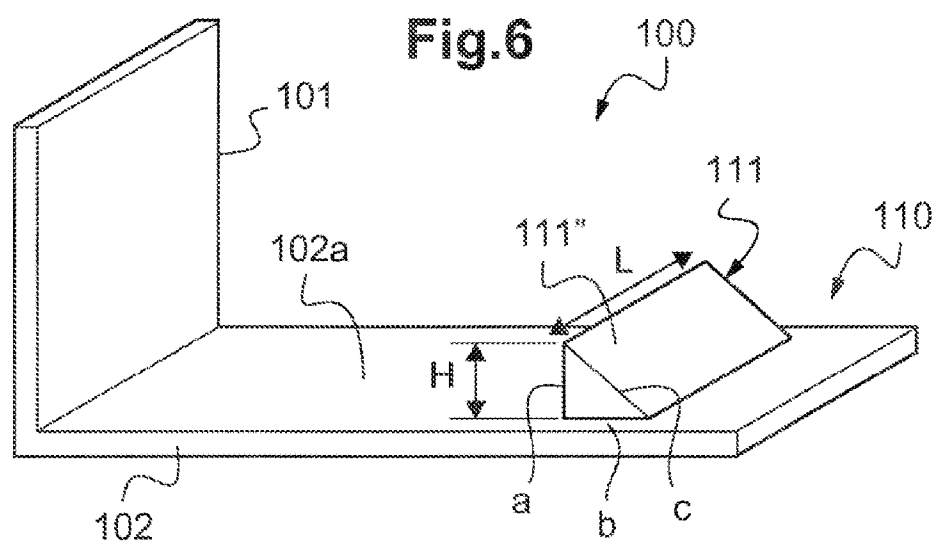
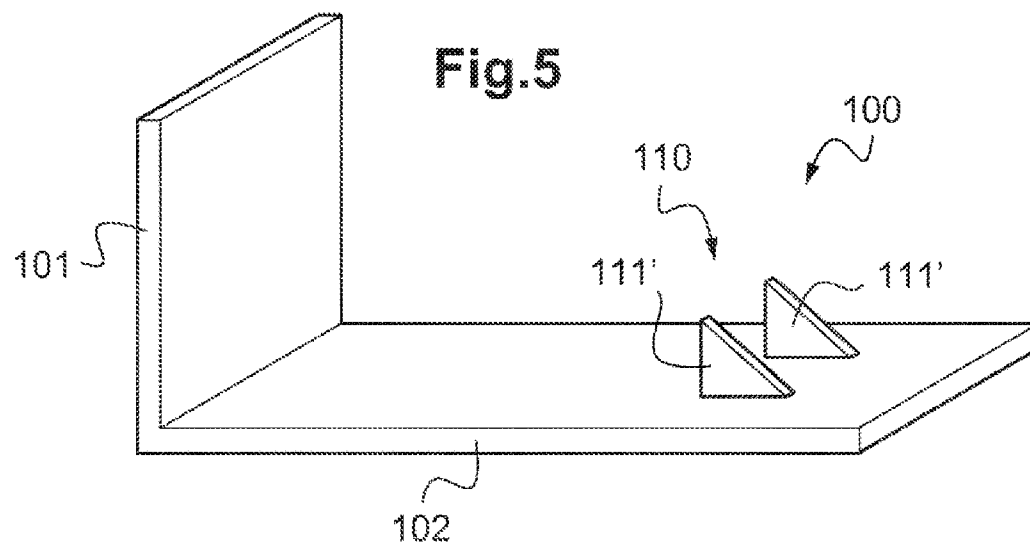
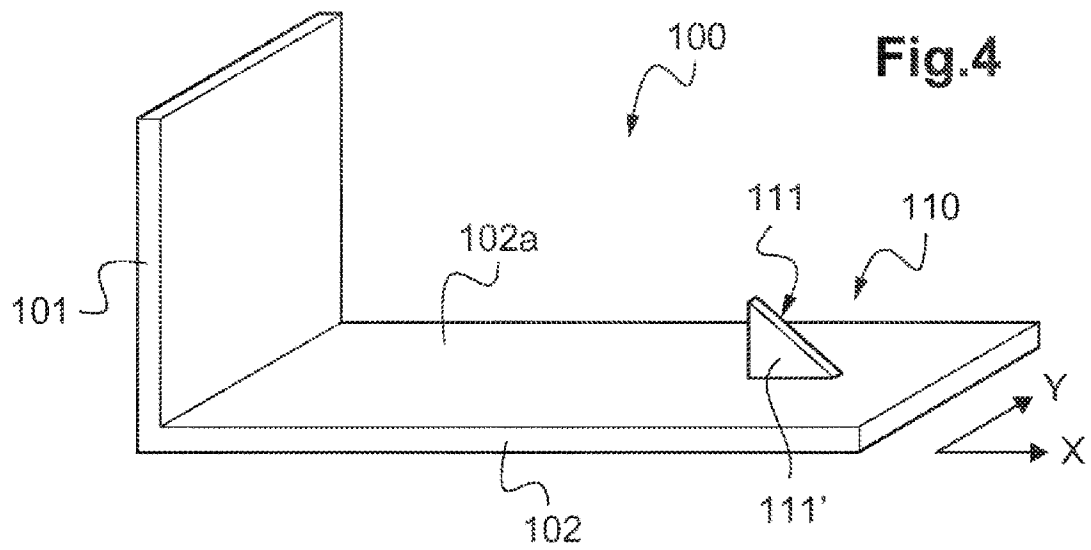
5 2. Monteringsfremgangsmåde ifølge krav 1, hvor den mindst ene isoleringsplade (P) er fasthæftet på konsollen over hele sin tykkelse.

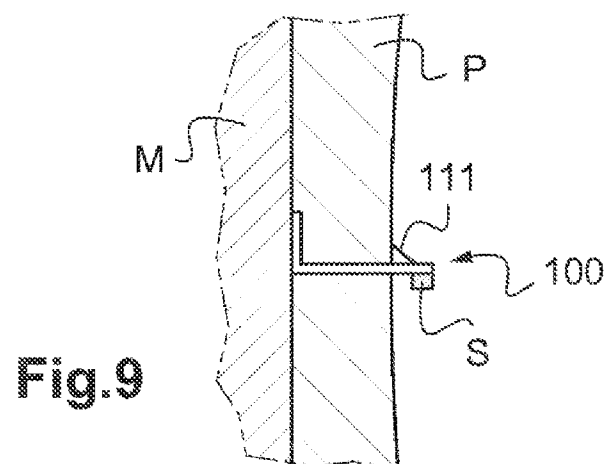
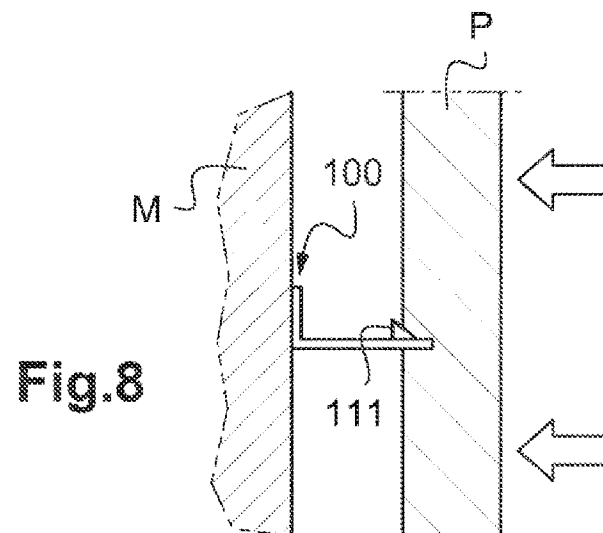
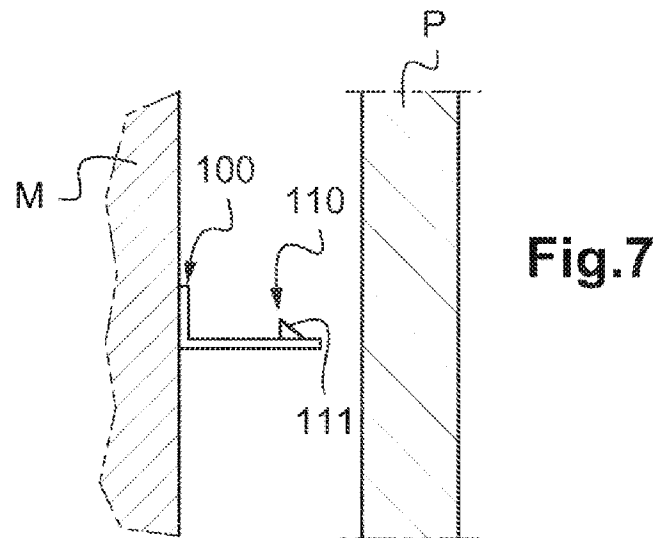
3. Monteringsfremgangsmåde ifølge et af kravene 1 eller 2, hvor hver isoleringsplade (P) fastholdes af to konsoller (100), og hvor konsollerne (100), for to isoleringsplader (P), der er placeret ved siden af hinanden, er fastgjort til
10 væggen (M) med henblik på at blive anbragt i forskudt formation, idet nogle konsoller (100) fasthæfter en isoleringsplade (P), mens andre konsoller (100) er anbragt mellem to isoleringsplader (P).

4. Vægbeklædningsfremgangsmåde, der omfatter montering af mindst ét isoleringspladelag ifølge et af kravene 1 til 3, hvilken fremgangsmåde omfatter
15 montering af en beklædningsramme ved at fastgøre understøtninger (S) på konsollernes (100) fastholdelsesplader (102) og fastgørelse af beklædningsplader på understøtningerne.

5. Samling, der omfatter en væg (M), som er forsynet med en overflade, mindst én isoleringsplade (P), der er anbragt på overfladen, og mindst én konsol
20 (100), som omfatter en fastgørelsesplade (101), der er beregnet til at blive fastgjort til overfladen, og en fastholdelsesplade (102), idet fastholdelsespladen (102) i en anvendelsestilstand strækker sig i det væsentlige i rette vinkler i forhold til fastgørelsespladen (101) og i kontakt med isoleringspladen over pladens samlede tykkelse, idet konsollen (100) omfatter anti-vipningsfastholdelsesmidler (110), der
25 er anbragt med henblik på at forhindre isoleringspladen (P) i at vippe om sig selv ved samvirke med den ene flade af isoleringspladen, idet anti-vipningsfastholdelsesmidlerne omfatter mindst én tand (111), der strækker sig således, at den rager frem på en flade (102a) af fastholdelsespladen (102), især vinkelret fra fastholdelsespladen (102), eller danner en spids vinkel med
30 fastholdelsespladen (102) i fastgørelsespladens (101) retning.

6. Konsol (100) til montering af en isoleringsplade (P) på en overflade af en væg (M) ifølge en fremgangsmåde ifølge et af kravene 1 til 4 til dannelse af en samling ifølge krav 5, idet konsollen omfatter en fastgørelsesplade (101), som er beregnet til at blive fastgjort til overfladen, og en fastholdelsesplade (102), idet
- 5 fastholdelsespladen (102) strækker sig i det væsentlige i rette vinkler i forhold til fastgørelsespladen (102), med henblik på at fastholde isoleringspladen (P), idet konsollen (100) yderligere omfatter anti-vipningsfastholdelsesmidler (110), der er anbragt med henblik på at forhindre isoleringspladen (P) i at vippe om sig selv, idet anti-vipningsfastholdelsesmidlerne (110) omfatter mindst én tand (111), der
- 10 strækker sig således, at den rager frem på en flade (102a) af fastholdelsespladen (102) og danner en spids vinkel med fastholdelsespladen (102) hen imod fastgørelsespladen (101), **kendetegnet ved, at** tanden antager form af en profil (111'') af et trekantet tværsnit og er konstant i sin hovedretning, der strækker sig over mindst en del af fastholdelsespladens (102) bredde, idet profilens dimension i
- 15 hovedretningen er større end dimensionerne af dens tværsnit.
7. Konsol ifølge krav 6, hvor anti-vipningsfastholdelsesmidlerne (110) omfatter mindst to tænder (111), der er anbragt i forskellige afstande fra fastgørelsespladen (101).
8. Konsol ifølge krav 6 eller 7, hvor anti-vipningsfastholdelsesmidlerne (110)
- 20 omfatter mindst to tænder (111), der er anbragt parallelt med hinanden.
9. Konsol ifølge et af kravene 6 til 8, **kendetegnet ved, at** hver tand (111) har en højrevinklet trekantprofil, idet den ene af katetrene (111a) vender mod fastgørelsespladen (101).
10. Konsol ifølge et af kravene 6 til 9, **kendetegnet ved, at** den yderligere
- 25 omfatter anti-sammensynkningsfastholdelsesmidler (120), der omfatter mindst én anti-sammensynkningsoverflade, som dannes af et blad (121), der strækker sig fra fastholdelsespladen (102) i det væsentlige i rette vinkler og horisontalt i forhold til overfladen af den væg (M), på hvilken konsollen (100) er fastgjort.





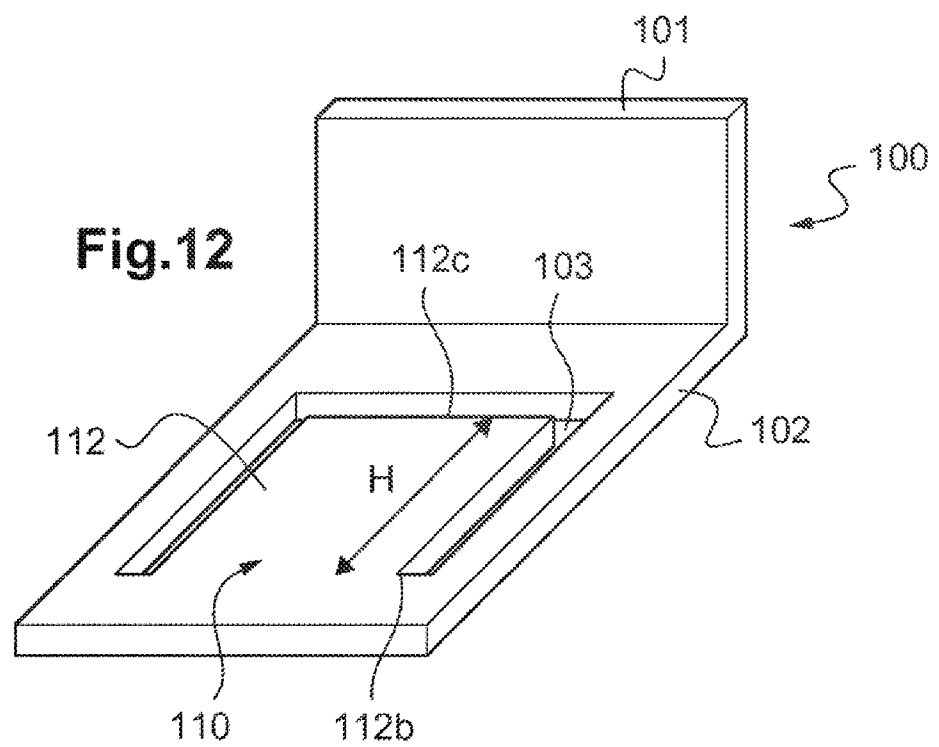
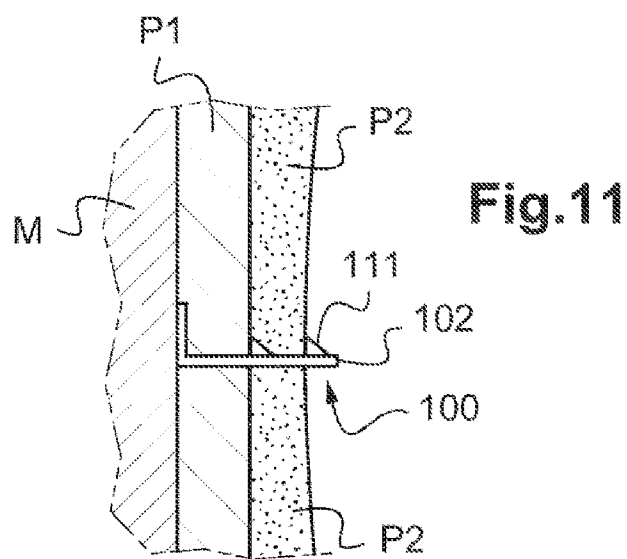
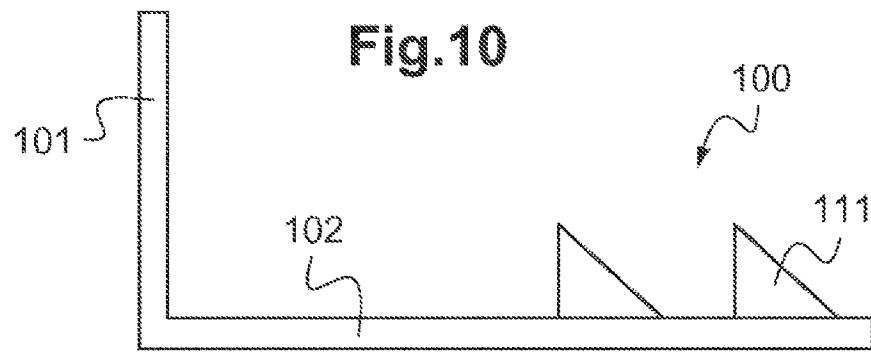


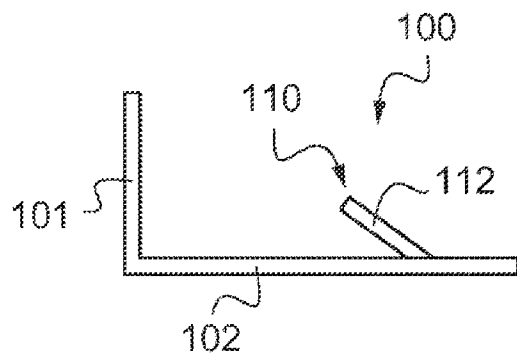
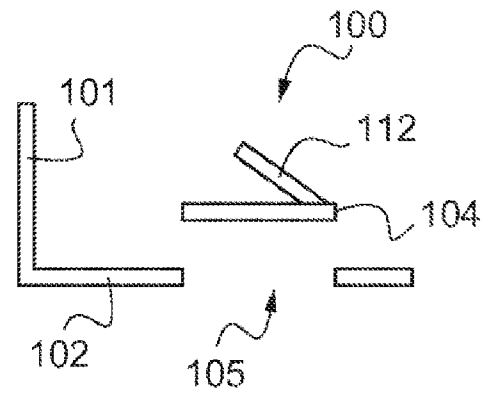
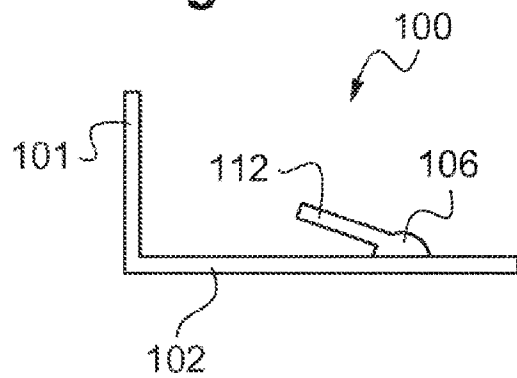
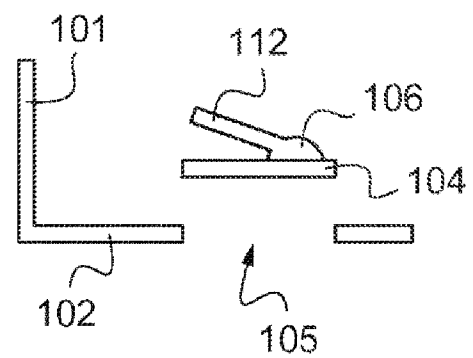
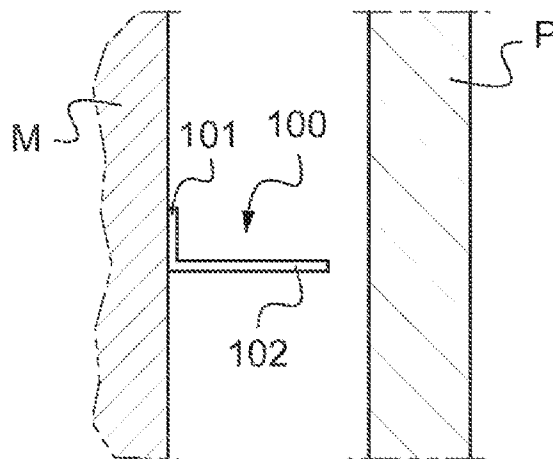
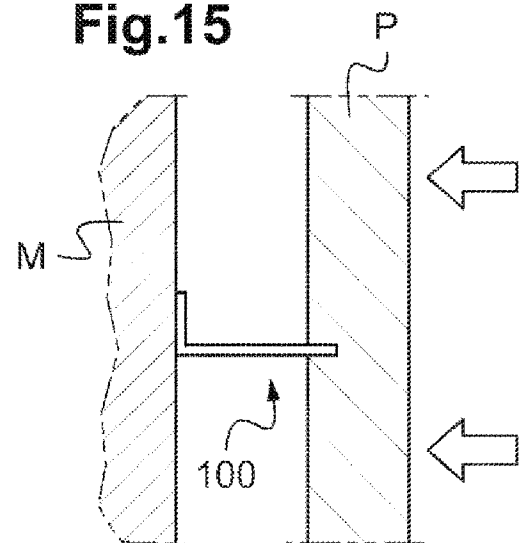
Fig.13a**Fig.13b****Fig.13c****Fig.13d****Fig.14****Fig.15**

Fig.16

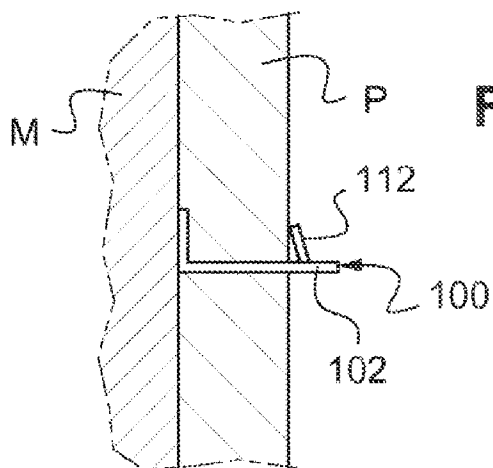
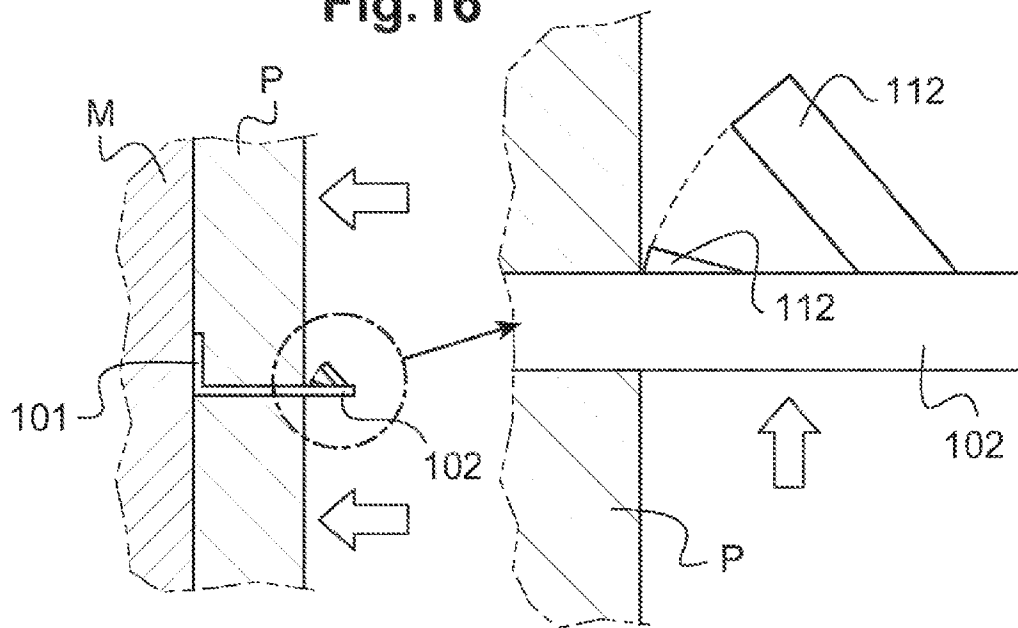
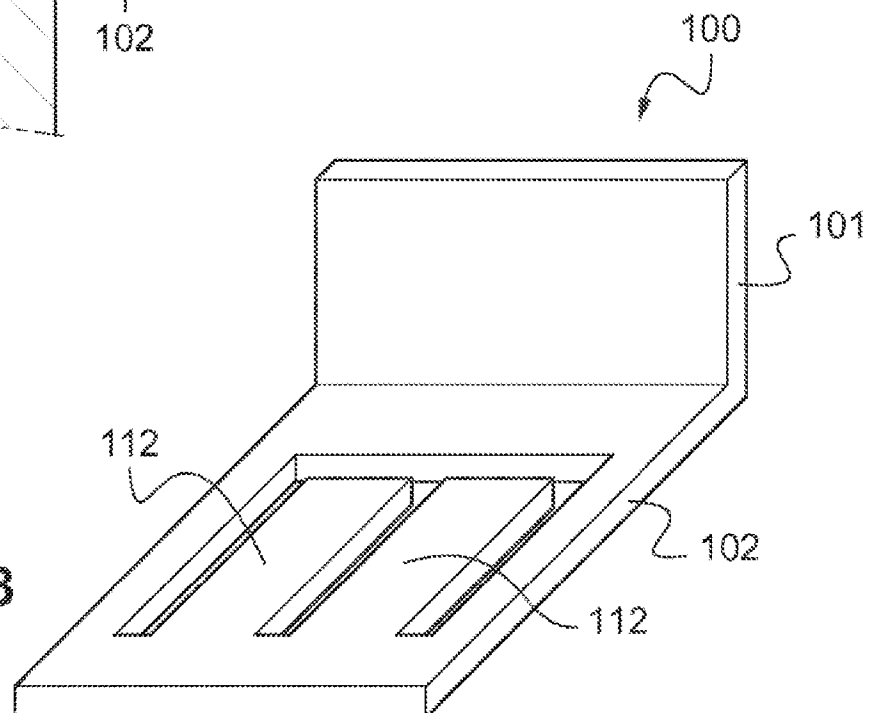
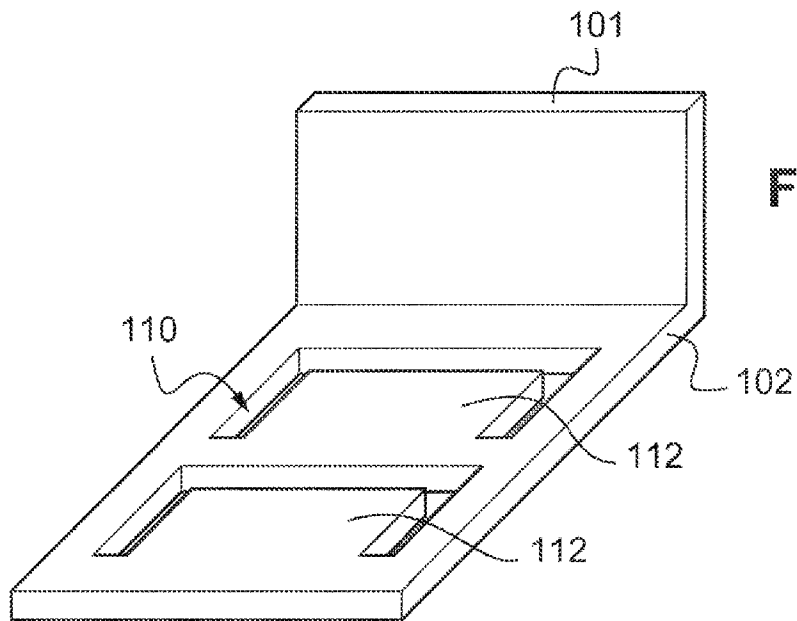
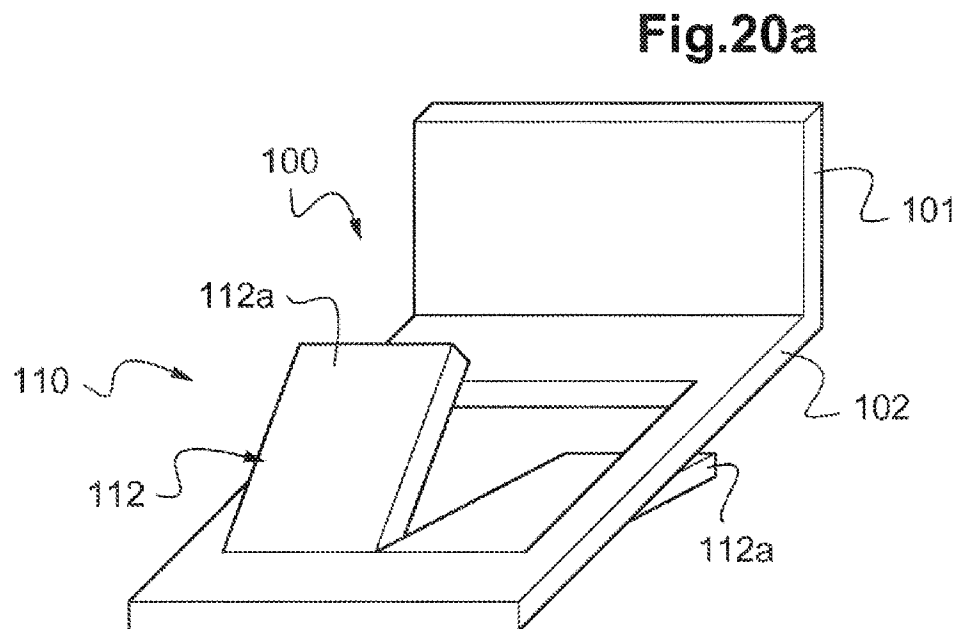
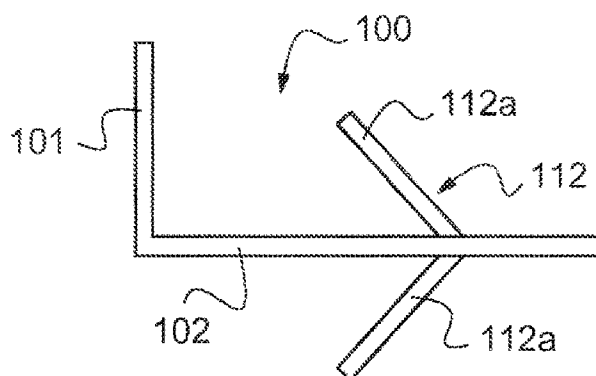


Fig.17

Fig.18



**Fig.19****Fig.20a****Fig.20b**

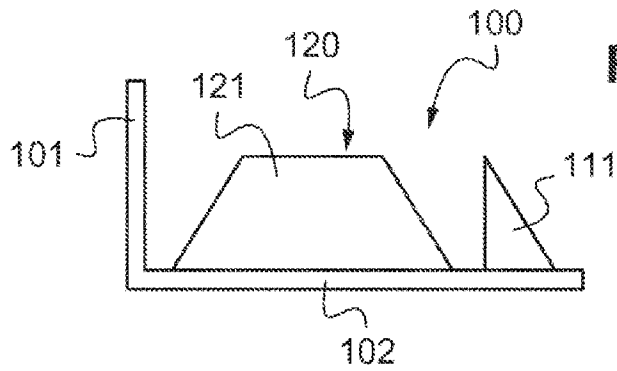


Fig. 21a

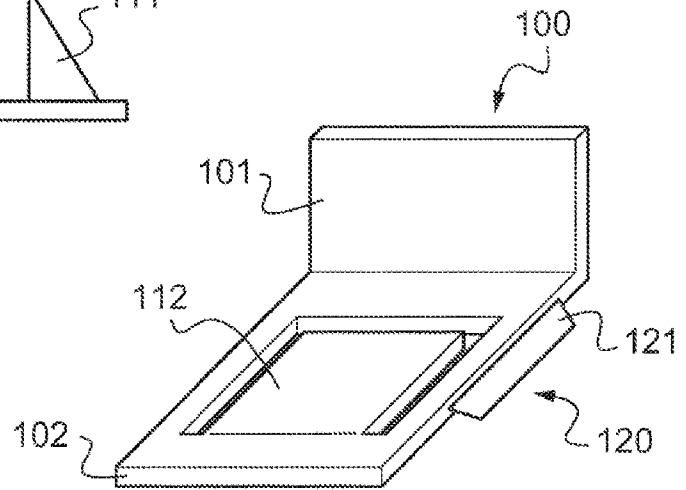


Fig. 21b

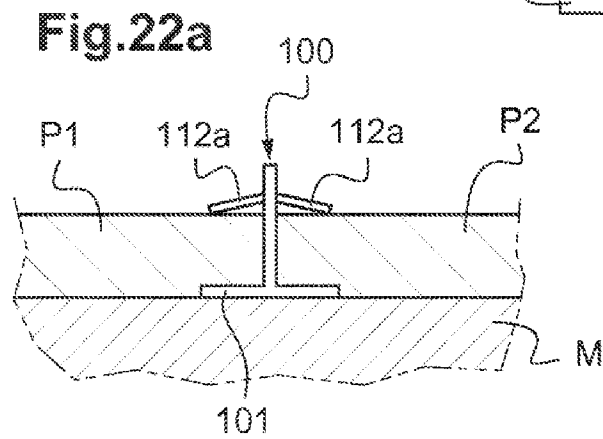


Fig. 22a

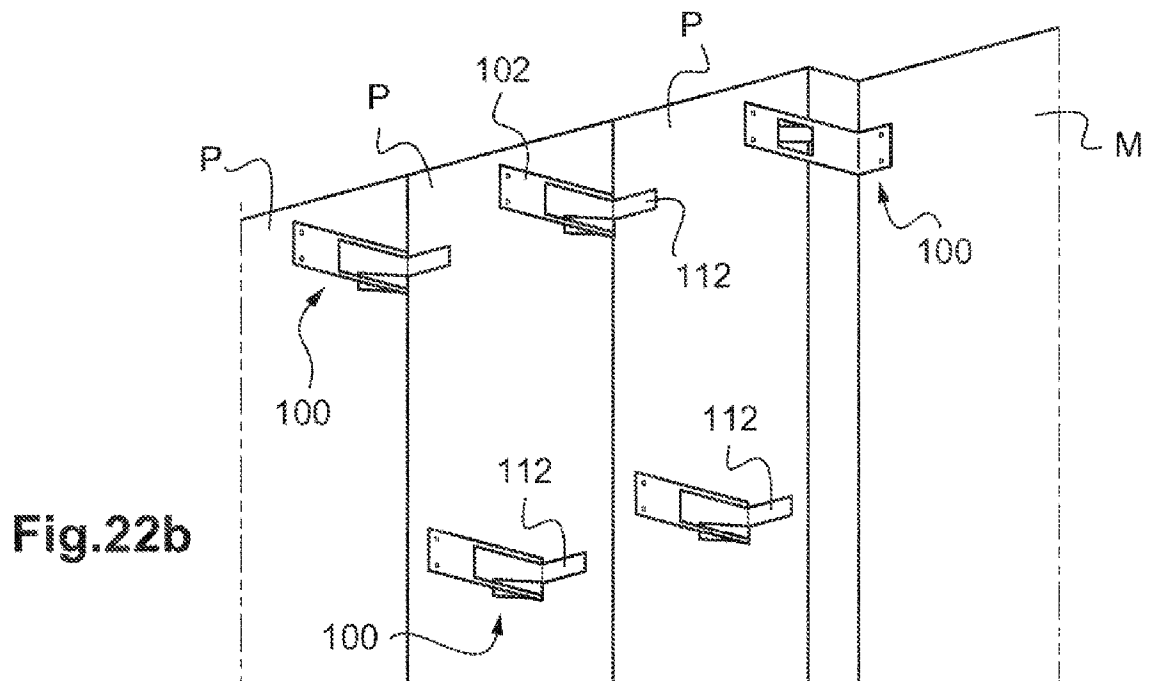


Fig. 22b