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(54) **Strike plate for spring-latch locks, particularly with a magnetic spring latch**

Schliessblech für Federriegelschlösser, insbesondere mit einem magnetischen Federriegel

Gâche pour serrure avec pêne demi-tour, en particulier avec une pêne demi-tour magnétique

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Description

[0001] The present invention refers to a combination of a support constituted by a frame of a door or window or by a leaf and a strike plate for spring-latch locks, particularly with a magnetic spring latch.

[0002] Known strike plates comprise a body that forms an accommodation seat for the spring latch, and an elongated fascia upon which are formed the seats for the screws for fixing the strike plate to a support, which is constituted by the frame or by a leaf of a door or window.

[0003] To receive the strike plate the support has to be worked to form the spring-latch hole and the seat for the fascia, so that the strike plate is flush with the surface of the support.

[0004] Such working is generally carried out with a cutter that carves the spring-latch hole, narrower and deeper than the space for the fascia, which is less deep but which extends further over the support.

[0005] Strike plates having some of the features of the preamble of the appended claim 1 are disclosed in the documents EP 0 801 191, DE 1144 150 B, DE 3202 253 A1, US 4832 388 A, US 4854 622 A, and AU 561 724 B2.

[0006] The aim of the present invention is to devise a strike plate for spring latch locks, particularly with a magnetic spring latch, which requires working of the support that is simpler and smoother compared to the work currently required to install known spring latches.

[0007] Within this aim, an object of the invention is to provide a strike plate that can be installed in supports that are not particularly deep, such as the frames of glass doors or windows with thin mountings.

[0008] Another object of the invention is to devise a strike plate that makes it possible to conceal the screws or other means designed to fix it to the support.

[0009] A further object of the invention is to provide a strike plate that is structurally simple and easy to use, and which can be produced at low cost.

[0010] In accordance with the invention, there is provided a strike plate for spring-latch locks as defined in the appended claims.

[0011] Further characteristics and advantages of the invention will become better apparent from the following detailed description of a preferred, but not exclusive, embodiment of the strike plate according to the invention, illustrated, by way of nonlimiting example, in the accompanying drawings, wherein:

Figure 1 is a transverse sectional view of a strike plate, according to the invention;

Figure 2 is a front elevation view of the strike plate, according to the invention, installed on a support;

Figure 3 is a sectional view, taken along the line III-III of Figure 2, of the strike plate, according to the invention, installed on a support;

Figure 4 is a transverse sectional view of the strike plate, according to the invention, in a particular installation configuration;

Figure 5 is a transverse sectional view of the strike plate, according to the invention, in a further embodiment.

[0012] With reference to the figures, the reference numeral 10 generally designates a strike plate for spring-latch locks 11, particularly for a magnetic spring latch, to be associated with a support 12 constituted by a frame of a door or window or by a leaf and provided with a spring-latch hole 13 in a position that corresponds to a spring latch 14 in order to receive it when the lock 11 closes.

[0013] The strike plate 10 comprises

- a body 15, which forms a receptacle 16 for the spring latch 14, to be positioned at the spring-latch hole 13,
- means 17 for fixing the body 15 to the support 12, in particular screws or the like.

[0014] According to the invention, the strike plate 10 comprises at least one protrusion 18 for insertion in the spring-latch hole 13 which has engagement seats 19 for the fixing means 17, such seats being arranged inside the spring-latch hole 13 when the protrusion 18 is inserted therein.

[0015] In addition, the engagement seats 19 define, for the fixing means 17, fixing directions A in the support 12 which are inclined with respect to an axis B of the spring-latch hole 13 in the support 12.

[0016] Advantageously, the body 15 is adapted to be accommodated substantially integrally in the spring-latch hole 13, protruding from it flush with the support 12.

[0017] The body 15 advisably comprises faceplates 20 for covering the engagement seats 19, during use the faceplates 20 concealing the fixing means 17 inserted in the engagement seats 19.

[0018] Advantageously, the body 15 is made of plastics, the faceplates 20 forming a single body with it and being hinged at the periphery of the engagement seats 19 so as to be capable of being closed upon them in order to conceal them.

[0019] With specific reference to Figure 4, the faceplates 20 are shown which are pulled back from the engagement seats 19, shown in solid lines, and pushed down on the engagement seats 19 to conceal the fixing means 17, shown in dotted lines.

[0020] The protrusion 18 is preferably structured like a recess and forms the receptacle 16 for the spring latch 14.

[0021] More precisely, the engagement seats 19 conveniently define the fixing directions A, which are inclined in a mutually diverging manner, in the support 12.

[0022] In this way the fixing means 17, specifically screws, sink obliquely into the support 12 with respect to axis B of the spring-latch hole 13, making it possible to use long screws, which therefore ensure the effective fixing of the strike plate 10 to the support, even if the depth C of the support 12 is reduced.

[0023] Moreover, the body 15 conveniently comprises two spacers 21a and 21b which laterally delimit the receptacle 16 so as to define it asymmetrically in the body 15.

[0024] The strike plate 10, installed on the support 12, has the spacers 21a and 21b that abut against side walls 13a and 13b of the spring-latch hole 13, delimiting therein the receptacle 16 in an axially offset position, with respect to a longitudinal axis D of extension of the spring-latch hole 13.

[0025] In this way, when installing the strike plate 10 on the support 12, it is possible to modulate the position of the receptacle 16 of the spring latch 14, with respect to the thickness E of the support 12, according to two configurations that correspond to the alternative arrangements of the spacer 21a of greater thickness of the spacers 21a and 21b, towards a first side wall 13a of the side walls 13a and 13b of the spring-latch hole 13, or towards the second side wall 13b facing it.

[0026] In addition, the body 15 conveniently comprises a splinter protection edge 22 which in use is adapted to surmount, so as to conceal it, a lip 23 that forms the mouth of the spring-latch hole 13.

[0027] If the lock 11 is a magnetic spring latch, then the body 15 conveniently has a chamber 24 for accommodating a magnetic device 25 to return the spring latch 14.

[0028] With particular reference to Figure 5, in a further embodiment of the invention, a strike plate 100 to be associated with the support 12 constituted by a frame of a door or window or by a leaf, for example made of a metallic material such as aluminium or the like, and which has a spring-latch hole 13 in a position corresponding to the spring latch 14 in order to receive it upon closing the lock 11, has a particular characteristic in that its body 115 comprises a protrusion 118 for insertion in the spring-latch hole 13 which has engagement seats 119 for the fixing means 17, advisably achieved with grub screws 117.

[0029] The engagement seats 119 are arranged inside the spring-latch hole 13 when the protrusion 118 is inserted therein and, in addition, the engagement seats 119 define, for the fixing means 17, fixing directions A which are inclined with respect to the longitudinal axis B of the spring-latch hole 13 in the support 12.

[0030] The spring-latch hole 13 conveniently has tightening seats 120 that are adapted to be engaged by the grub screws 117 when they are tightened on the body 115 for locking it in the spring-latch hole 13.

[0031] In practice it has been found that the invention fully achieves the intended aim and objects, by devising a strike plate for spring-latch locks, particularly with a magnetic spring latch, which requires working of the support that is simpler compared to the working currently required to install known spring latches. Indeed, it does not require cutting of the seat for the fascia, since it has none, and thus it requires the execution only of the spring-latch hole.

[0032] Moreover, a strike plate, according to the invention, can be installed in supports that are not particularly deep, such as the frames of glass doors or windows with thin mountings, by having the screws inclined with respect to the longitudinal axis of the spring-latch hole, and which therefore sink obliquely into the depth of the support.

[0033] A strike plate, according to the invention, also makes it possible to conceal the screws, or other means adapted to its fixing to the support, by means of the face-plates.

[0034] What is described and illustrated with regard to the spring latch of a lock with mechanical or magnetic actuation is intended to be similarly understood for a lock-bolt.

[0035] The invention, thus conceived, is susceptible of numerous modifications and variations, when all of which are within the scope of the appended claims.

[0036] Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

Claims

1. A combination of a support (12) constituted by a frame of a door or window or by a leaf, and a strike plate (10, 100) for spring-latch locks (11), particularly with a magnetic spring latch, adapted to be associated with said support (12), the support being provided with a spring-latch hole (13) in a position that corresponds to the spring latch (14) in order to receive it when the lock (11) closes, comprising

- a body (15, 115), which forms a receptacle (16) for a spring latch (14), to be positioned at a spring-latch hole (13),
- fixing means (17) for fixing said body (15, 115) to a support (12), such as screws or the like,

said body (15, 115) comprising at least one protrusion (18, 118) adapted to be inserted in said spring-latch hole (13), provided with engagement seats (19, 119) for said fixing means (17), said engagement seats (19, 119) being adapted to be arranged inside said spring-latch hole (13) when said at least one protrusion (18, 118) is inserted therein, said engagement seats (19, 119) forming, for said fixing means (17), fixing directions (A) that are inclined with respect to the longitudinal axis (B) of said spring-latch hole (13) in said support (12),

characterized in that said body (15, 115) comprises two spacers (21a, 21b), which delimit laterally said receptacle (16) so as to define it asymmetrically in

said body (15), said strike plate (10, 100), when installed on said support (12), having said spacers (21a, 21b) that are adapted to abut against side walls (13a, 13b) of said spring-latch hole (13), delimiting therein said receptacle (16) in an axially offset position with respect to a longitudinal axis (D) of extension of said spring-latch hole (13).

2. The combination according to claim 1, **characterized in that** said body (15, 115) is adapted to be accommodated substantially fully in said spring-latch hole (13), protruding from it flush with said support (12).
3. The combination according to claim 1, **characterized in that** said body (15, 115) comprises faceplates (20) for covering said engagement seats (19, 119), during use said faceplates (20) concealing said fixing means (17) inserted in said engagement seats (19, 119).
4. The combination according to claim 1, **characterized in that** said at least one protrusion (18, 118) is structured like a recess that forms said receptacle (16) for the spring latch (14).
5. The combination according to claim 1, **characterized in that** said engagement seats (19, 119) define said fixing directions (A), which are inclined in a mutually diverging manner, in said support (12).
6. The combination according to claim 1, **characterized in that** said body (15, 115) comprises a splinter protection edge (22) which in use is adapted to surmount, so as to conceal it, the lip (23) that forms the mouth of said spring-latch hole (13).

Patentansprüche

1. Eine Kombination aus einem Träger (12), der aus einem Tür- oder Fensterrahmen oder einem Blatt besteht, und einem Schließblech (10, 100) für Federriegelschlösser (11), insbesondere mit einem magnetischen Federriegel, ausgebildet, um mit dem Träger (12) verbunden zu werden, wobei der Träger mit einer Federriegelbohrung (13) in einer Position versehen ist, die dem Federriegel (14) entspricht, um ihn aufzunehmen, wenn sich das Schloss (11) schließt; Folgendes umfassend:
 - einen Körper (15, 115), der einen Sitz (16) für einen Federriegel (14) bildet, zu positionieren an einer Federriegelbohrung (13),
 - Befestigungsmittel (17) zum Befestigen des Körpers (15, 115) an einem Träger (12), zum Beispiel Schrauben oder dergleichen,

wobei der Körper (15, 115) mindestens einen Vorsprung (18, 118) umfasst, ausgebildet, um in die Federriegelbohrung (13) eingesetzt zu werden, ausgestattet mit Eingriffssitzen (19, 119) für die Befestigungsmittel (17), wobei die Eingriffssitze (19, 119) ausgebildet sind, um in der Federriegelbohrung (13) angeordnet zu werden, wenn der mindestens eine Vorsprung (18, 118) dort eingesetzt wird, wobei die Eingriffssitze (19, 119) für die Befestigungsmittel (17) Befestigungsrichtungen (A) bilden, die mit Bezug auf die Längsachse (B) der Federriegelbohrung (13) in dem Träger (12) geneigt sind, **dadurch gekennzeichnet, dass** der Körper (15, 115) zwei Abstandselemente (21a, 21b) umfasst, die den Sitz (16) seitlich begrenzen, um ihn asymmetrisch in dem Körper (15) zu bestimmen, wobei das Schließblech (10, 100), wenn es an dem Träger (12) montiert ist, die Abstandselemente (21a, 21b) hat, die ausgebildet sind, um an Seitenwände (13a, 13b) der Federriegelbohrung (13) anzustoßen, darin den Sitz (16) in einer axial versetzten Position mit Bezug auf eine Längsachse (D) der Erstreckung der Federriegelbohrung (13) bestimmend.

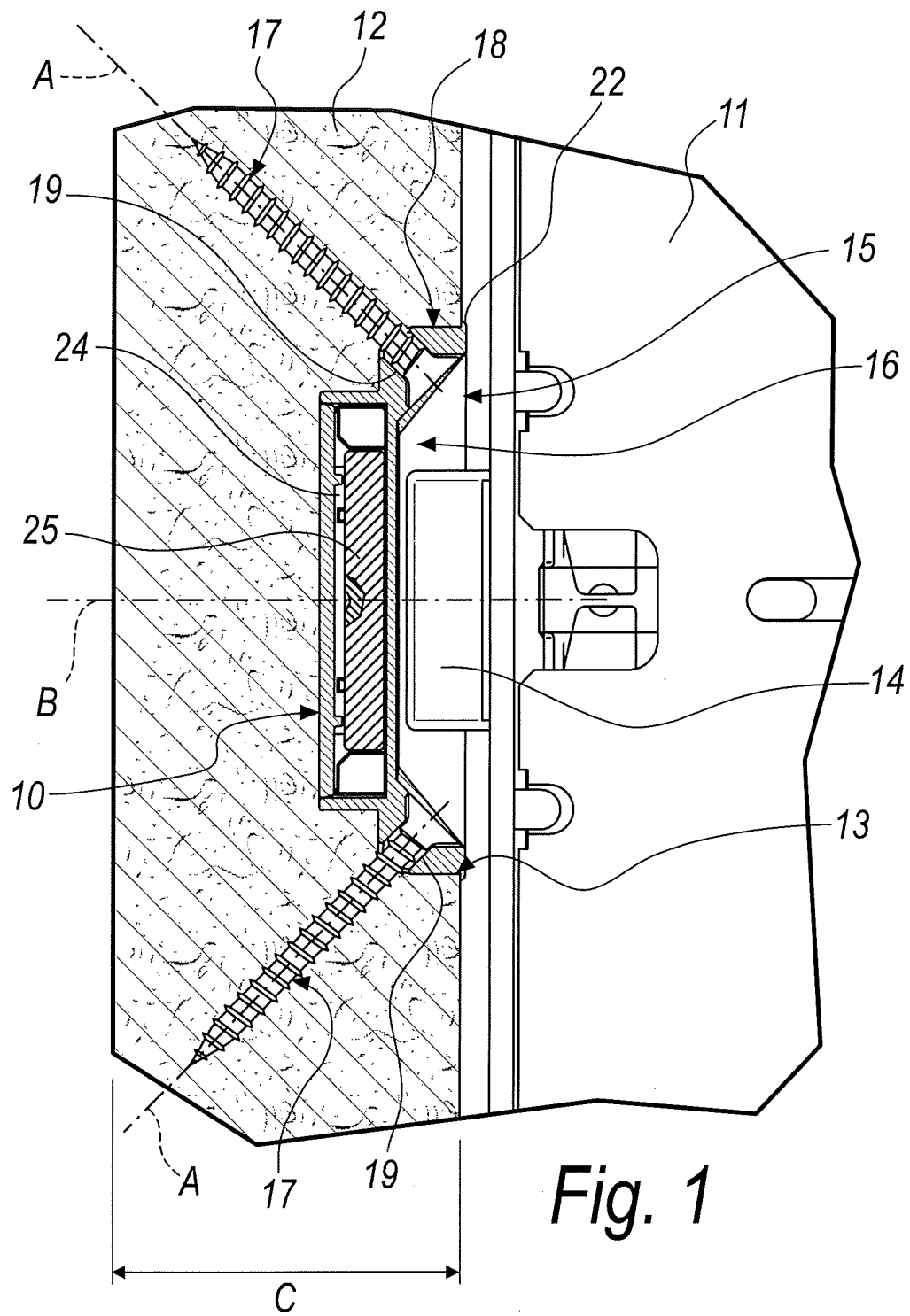
2. Die Kombination gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der Körper (15, 115) ausgebildet ist, um vollständig in der Federriegelbohrung (13) aufgenommen zu werden, aus ihr bündig mit dem Träger (12) herausragend.
3. Die Kombination gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der Körper (15, 115) Schutzplatten (20) zum Abdecken der Eingriffssitze (19, 119) umfasst, wobei im Gebrauch die Schutzplatten (20) die Befestigungsmittel (17) verdecken, die in die Eingriffssitze (19, 119) eingesetzt sind.
4. Die Kombination gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der mindestens eine Vorsprung (18, 118) wie eine Vertiefung strukturiert ist, die den Sitz (16) für den Federriegel (14) bildet.
5. Die Kombination gemäß Anspruch 1, **dadurch gekennzeichnet, dass** die Eingriffssitze (19, 119) die Befestigungsrichtungen (A), die voneinander verzweigend schräg sind, in dem Träger (12) bestimmen.
6. Die Kombination gemäß Anspruch 1, **dadurch gekennzeichnet, dass** der Körper (15, 115) eine Splitterschutzkante (22) umfasst, die im Gebrauch ausgebildet ist, um die Lippe (23), welche die Öffnung der Federriegelbohrung (13) bildet, zu überragen, somit zu verdecken.

Revendications

1. Combinaison d'un support (12), constitué par un châssis de porte ou de fenêtre ou par un battant, et d'une gâche (10, 100) pour des serrures (11) à pêne demi-tour, en particulier à pêne demi-tour magnétique, conçue pour être associée audit support (12), le support étant muni d'un trou (13) pour pêne demi-tour à un emplacement qui correspond au pêne demi-tour (14) afin de recevoir celui-ci quand la serrure (11) se ferme, comportant
 - un corps (15, 115), lequel forme un réceptacle (16) pour un pêne demi-tour (14), destiné à être placé dans un trou (13) pour pêne demi-tour,
 - des moyens de fixation (17) tels que des vis ou autres pour fixer ledit corps (15, 115) sur un support (12),

ledit corps (15, 115) comprenant au moins une saillie (18, 118) conçue pour être insérée dans ledit trou (13) pour pêne demi-tour, munie de logements d'engagement (19, 119) pour lesdits moyens de fixation (17), lesdits logements d'engagement (19, 119) étant conçus pour être ménagés à l'intérieur dudit trou (13) pour pêne demi-tour quand ladite au moins une saillie (18, 118) est insérée dans celui-ci, lesdits logements d'engagement (19, 119) créant, pour lesdits moyens de fixation (17) des directions de fixation (A) qui sont inclinées par rapport à l'axe longitudinal (B) dudit trou (13) pour pêne demi-tour dans ledit support (12),

caractérisée en ce que ledit corps (15, 115) comprend deux moyens d'espacement (21a, 21b) qui délimitent latéralement ledit réceptacle (16) de manière à définir celui-ci d'une façon asymétrique dans ledit corps (15), ladite gâche (10, 100), lorsqu'elle est installée sur ledit support (12), ayant lesdits moyens d'espacement (21a, 21b) conçus pour buter contre des parois latérales (13a, 13b) dudit trou (13) pour pêne demi-tour en délimitant dans celui-ci ledit réceptacle (16) dans une position décalée axialement par rapport à un axe longitudinal (D) d'extension dudit trou (13) pour pêne demi-tour.
2. Combinaison selon la revendication 1, **caractérisée en ce que** ledit corps (15, 115) est conçu pour être reçu sensiblement entièrement dans ledit trou (13) pour pêne demi-tour en dépassant de celui-ci au ras dudit support (12)..
3. Combinaison selon la revendication 1, **caractérisée en ce que** ledit corps (15, 115) comprend des plaques d'habillage (20) pour couvrir lesdits logements d'engagement (19, 119), pendant l'utilisation lesdites plaques d'habillage (20) masquant lesdits moyens de fixation (17) insérés dans lesdits logements d'engagement (19, 119).
4. Combinaison selon la revendication 1, **caractérisée en ce que** ladite au moins une saillie (18, 118) a la structure d'un évidement qui forme ledit réceptacle (16) pour le pêne demi-tour (14).
5. Combinaison selon la revendication 1, **caractérisée en ce que** lesdits logements d'engagement (19, 119) définissent lesdites directions de fixation (A), lesquelles sont inclinées d'une manière mutuellement divergente, dans ledit support (12).
6. Combinaison selon la revendication 1, **caractérisée en ce que** ledit corps (15, 115) comprend un rebord de protection (22) contre les échardes qui, en service, est conçu pour surmonter, afin de la masquer, la lèvre (23) qui forme l'embouchure dudit trou (13) pour pêne demi-tour.



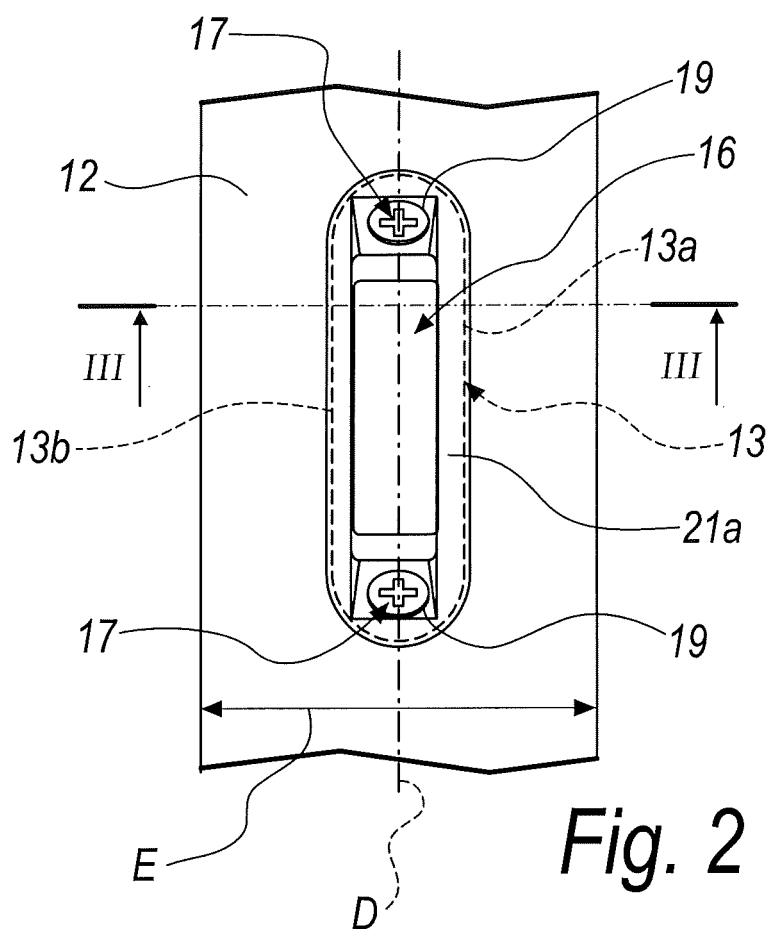


Fig. 2

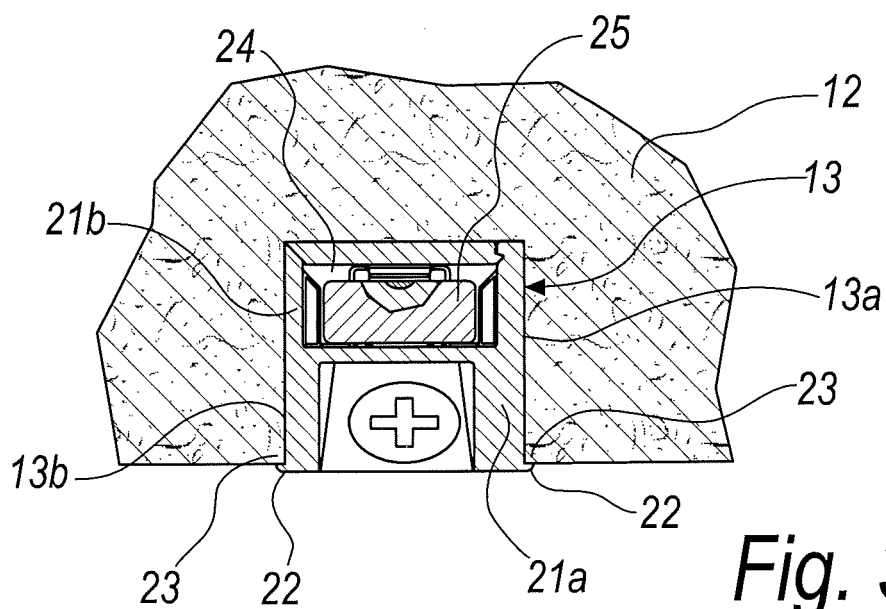
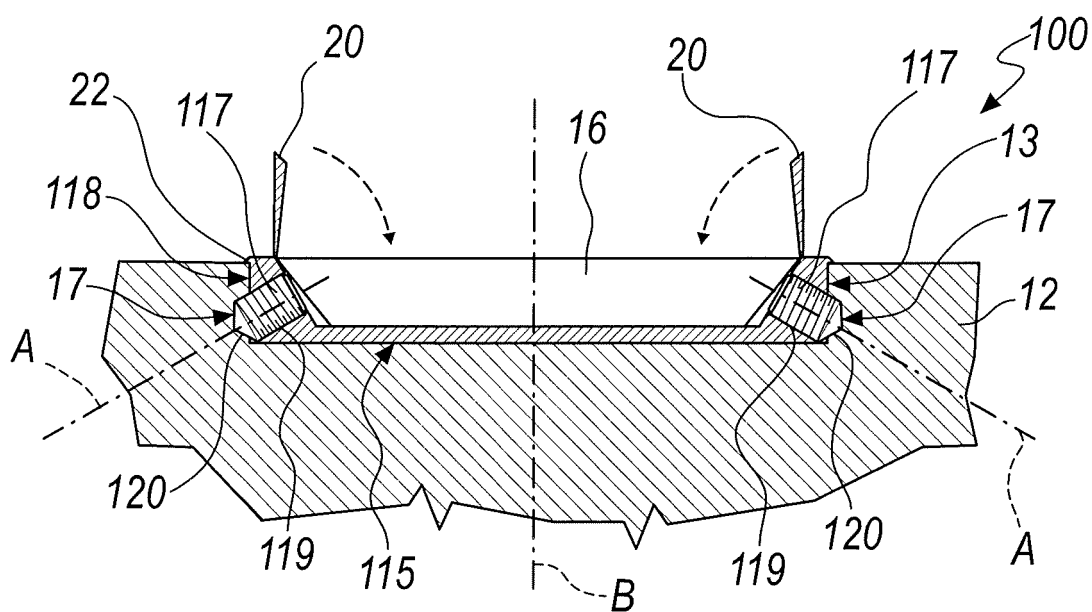
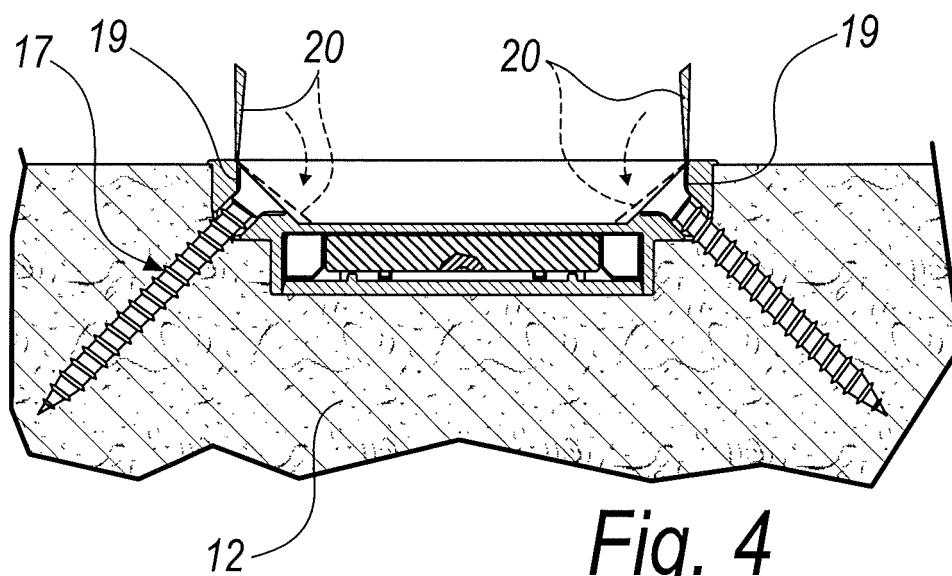


Fig. 3



REFERENCES CITED IN THE DESCRIPTION

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