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(71) Applicant: **Alban Giacomo S.p.A.**
36060 Romano d'Ezzelino (VI) (IT)

(72) Inventor: **Alban, Antonio Mario**
36061 Bassano Del Grappa (VI) (IT)

(74) Representative: **Modiano, Micaela Nadia et al**
Modiano & Partners
Via Meravigli, 16
20123 Milano (IT)

(54) Strike plate for spring-latch locks

(57) A strike plate (10) for spring-latch locks (11), 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 the spring latch (14) in order to receive it when the lock (11) closes. 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),
- at least one faceplate (18) for covering the body (15) and the fixing means (17), and adapted to conceal them when they are installed,
- means (19) for associating the faceplate (18) with the body (15).

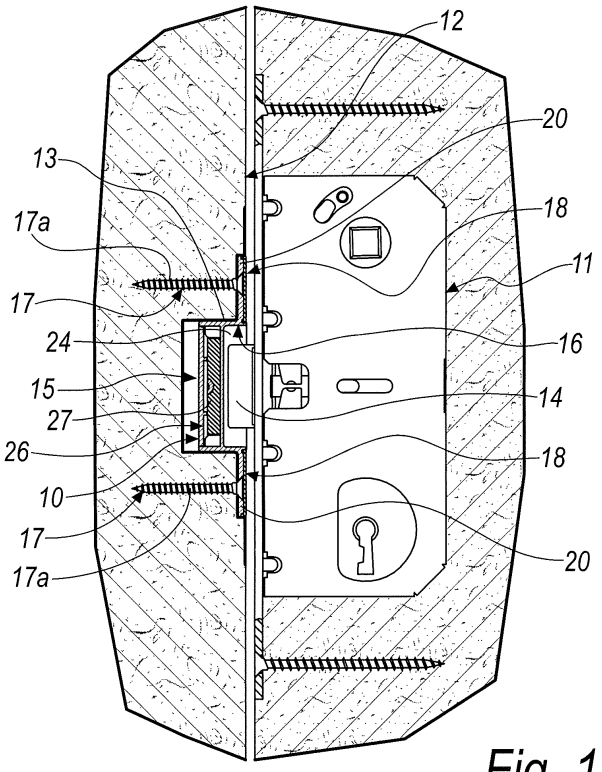

Fig. 1

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Description

[0001] The present invention refers to a strike plate, for spring-latch locks.

[0002] Nowadays many different models of strike plate for spring-latch locks are known.

[0003] In general, known strike plates comprise an elongated fascia that is provided centrally with a receptacle for inserting the spring latch, to be arranged at the spring-latch hole of the support of the strike plate.

[0004] Such support can be the frame of the door or window or, for example, the second leaf of a door or window with two leaves.

[0005] The fascia also has passthrough holes for the screws for fixing the strike plate to the support.

[0006] Nowadays plastics is widely used for providing the strike plates, particularly for doors or windows with magnetic spring-latch locks.

[0007] One problem that the technician skilled in the art has to deal with in making such strike plates consists in that their fascia has to be aesthetically finished, for example by means of painting, and, at the same time, the strike plate must have mechanical characteristics that ensure its installation to be reasonably free from the risks of breakage or accidental damage, during its handling or fixing.

[0008] The need is therefore felt to have a strike plate that, once installed, is aesthetically finished and which in particular does not expose the screws to view, while having mechanical properties that allow an installation that is safe from breakage or damage.

[0009] The aim of the present invention is to meet this requirement, by devising a strike plate which, once installed, is aesthetically finished while also being mechanically resistant during the installation.

[0010] Within this aim, an object of the invention is to devise a strike plate that makes it possible to conceal the screws used for fixing it to the support.

[0011] 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.

[0012] This aim, as well as these and other objects which will become better apparent hereinafter, are achieved by a strike plate for spring-latch locks, to be associated with a support constituted by a frame of a door or window or by a leaf and provided with a spring-latch hole in a position that corresponds to the spring latch in order to receive it when the lock closes, comprising

- a body, which forms a receptacle for the spring latch, to be positioned at said spring-latch hole,
- means for fixing said body to said support,

characterized in that it comprises

- at least one faceplate for covering said body and said fixing means and adapted to conceal them when they are installed,
- means for associating said at least one faceplate with said body.

[0013] Further characteristics and advantages of the invention will become better apparent from the following detailed description of two preferred, but not exclusive, embodiments of the strike plate according to the invention, illustrated, by way of non-limiting example, in the accompanying drawings, wherein:

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

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

Figure 3 is an enlarged and partly sectional detail view, taken along the line III-III of Figure 2, of the strike plate in the first embodiment, according to the invention;

Figure 4 is an enlarged and partly sectional detail view, taken along the line IV-IV of Figure 2, of the strike plate in the first embodiment, according to the invention;

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

Figure 6 is a front elevation view of the strike plate in the second embodiment, according to the invention, installed on a support;

Figure 7 is an enlarged and partly sectional detail view, taken along the line VII-VII of Figure 6, of the strike plate in the second embodiment, according to the invention;

Figure 8 is an enlarged and partly sectional detail view, taken along the line VIII-VIII of Figure 6, of the strike plate in the second embodiment, according to the invention.

[0014] It should be noted that everything that, in the course of the procedure of obtaining the patent, should be found to be prior art, is not intended to be claimed and is intended to be removed from the claims.

[0015] With reference to the figures, the reference numeral 10 generally designates a strike plate for spring-latch locks 11, 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.

[0016] 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, which will be described in greater detail hereinafter.

[0017] According to the invention, the strike plate 10 comprises

- a faceplate 18 for covering the body 15 and the fixing means 17, and adapted to conceal them when they are installed,
- means 19 for associating the faceplate 18 with the body 15, which will be described in greater detail hereinafter.

[0018] Comparably, a strike plate according to the invention can comprise several faceplates which act together to cover the body and the fixing means in order to conceal them.

[0019] Advantageously, the body 15 comprises a fascia 20 that is perimetric with respect to the receptacle 16 and is adapted to cover a portion of the support 12 perimetrically to the spring-latch hole 13.

[0020] The fixing means 17 conveniently comprise screws 17a, and the fascia 20 has engagement seats 21 for the screws 17a, the faceplate 18 being shaped so as to conform with the fascia 20 to cover it, in use.

[0021] Conveniently, the association means 19 are of the snap-acting type and they comprise toothed tabs 22 that protrude from the faceplate 18.

[0022] Correspondingly, the body 15 conveniently has engagement undercuts 23 for the toothed tabs 22.

[0023] Similarly and alternatively, such body can have such tabs, such faceplate having such undercuts for their engagement.

[0024] In this way, when the toothed tabs 22 are engaged with the undercuts 23, they jointly connect the faceplate 18 to the body 15 which it covers.

[0025] In alternative embodiments of the strike plate according to the invention, not described further nor shown in the accompanying figures, such association means can be of the magnetic type or for example can make use of Velcro connections or the like.

[0026] Preferably, the body 15 is made of plastics, preferably nylon or reinforced nylon, and the faceplate 18 is also advantageously made of plastics which conveniently, in particular, is acrylonitrile-butadiene-styrene, also known by its acronym, ABS.

[0027] In a first embodiment of the strike plate 10, according to the invention, the receptacle 16 is advantageously formed by a recess 24 for accommodating the spring latch 14, adapted to be inserted in the spring-latch hole 13.

[0028] Advantageously, the faceplate 18 has an opening 25 that corresponds to the receptacle 16, to allow the spring latch 14 to be accommodated inside it.

[0029] With particular reference to Figure 1, for the purposes of example, the strike plate 10 according to the invention is used, in such first embodiment, for a lock 11 with magnetic spring latch 14.

[0030] In this embodiment, the body 15 conveniently also contains a chamber 26 to accommodate a magnet 27 to return the spring latch 14 into the receptacle 16 formed by the accommodation recess 24.

[0031] With particular reference to Figures 5, 6, 7 and 8, a lock 11 with a mechanical spring latch 14 is shown for which a second embodiment of the strike plate 10, according to the invention, is illustrated.

[0032] In such second embodiment, the receptacle 16 is advantageously formed by a through window 28, the faceplate 18 having an insertion recess 29 for the spring latch 14, adapted to be accommodated in the spring-latch hole 13 inserted therein through the window 28.

[0033] Advantageously, the insertion recess 29 is provided externally with teeth 30 for engaging with an engagement edge 31 of the body 15, to retain the faceplate 18 to the body 15.

[0034] In practice it has been found that the invention fully achieves the intended aim and objects, by devising a strike plate that, once installed, is aesthetically finished while also being mechanically resistant during the installation. Indeed, the faceplate, which being made of ABS can easily be painted, covers, and conceals, the fascia and the screws of the strike plate thus meeting the needs of aesthetic finishing.

[0035] At the same time, the body, being made of nylon or reinforced nylon, has mechanical characteristics such as to ensure its adequate resistance to the stresses which it may undergo during correct and diligent handling for its installation.

[0036] Moreover, the installation of a strike plate, according to the invention, is simple and smooth, requiring first the fixing of the body to the support, then the snap-acting engagement of the faceplate to the body, which grips it with the toothed tabs that engage the undercuts.

[0037] Further, a strike plate according to the invention does not require the simultaneous installation of its body and of the faceplate.

[0038] Indeed, the faceplate can be associated with the body after installation of such body on the support.

[0039] 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 lockbolt.

[0040] The invention, thus conceived, is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims; in addition, all the details may be replaced by other technically equivalent elements.

[0041] In practice the materials employed, as well as the dimensions and the contingent shapes, may be any according to requirements and to the state of the art.

[0042] The disclosures in Italian Patent Application No. PD2009A000114 from which this application claims priority are incorporated herein by reference.

[0043] 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 strike plate (10) for spring-latch locks (11), 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 the spring latch (14) in order to receive it when the lock (11) closes, comprising

   - a body (15), which forms a receptacle (16) for the spring latch (14), to be positioned at said spring-latch hole (13),
   - means (17) for fixing said body (15) to said support (12), **characterized in that** it comprises
   - at least one faceplate (18) for covering said body (15) and said fixing means (17) and adapted to conceal them when they are installed,
   - means (19) for associating said at least one faceplate (18) with said body (15).

2. The strike plate according to claim 1, **characterized in that** said body (15) comprises a fascia (20) that is perimetric with respect to said receptacle (16) and is adapted to cover a portion of said support (12) perimetrically to said spring-latch hole (13), said fixing means (17) comprising screws (17a) and said fascia (20) having engagement seats (21) for said screws (17a), said at least one faceplate (18) being shaped so as to conform with said fascia (20) so as to cover it during use.

3. The strike plate according to claim 1, **characterized in that** said association means (19) are of the snap-acting type, comprising toothed tabs (22) that protrude from a first component chosen between said at least one faceplate (18) and said body (15), the other one of said components having engagement undercuts (23) for said toothed tabs (22), said toothed tabs (22), engaged with said undercuts (23), jointly connecting said at least one faceplate (18) to said body (15).

4. The strike plate according to claim 1, **characterized in that** said body (15) and said at least one faceplate (18) are made of plastics.

5. The strike plate according to claim 4, **characterized in that** said plastics is chosen among nylon, reinforced nylon and acrylonitrile-butadiene-styrene, ABS in acronym.

6. The strike plate according to claim 1, **characterized in that** said receptacle (16) is formed by a recess (24) for accommodating said spring latch (14), adapted to be inserted in said spring-latch hole (13), said at least one faceplate (18) having an opening (25) that corresponds to said receptacle (16).

7. The strike plate according to claim 1, **characterized in that** said receptacle (16) is formed by a through window (28), said at least one faceplate (18) having an insertion recess (29) for said spring latch (14), which is adapted to be accommodated in said spring-latch hole (13), inserted through said window (28).

8. The strike plate according to claim 7, **characterized in that** said insertion recess (29) is provided externally with teeth (30) for engaging an engagement edge (31) of said body (15), in order to retain said at least one faceplate (18) to said body (15).

9. A faceplate (18) for a strike plate (10) for spring-latch locks (11), to be associated with a support (12) constituted by a frame of a door or window or a leaf and 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, said strike plate (10) comprising

   - a body (15), which forms a receptacle (16) for the spring latch (14), to be positioned at said spring-latch hole (13),
   - means (17) for fixing said body (15) to said support (12), **characterized in that** it comprises means (19) for association with said body (15), being shaped so as to cover said body (15) and said fixing means (17) to conceal them when they are installed.

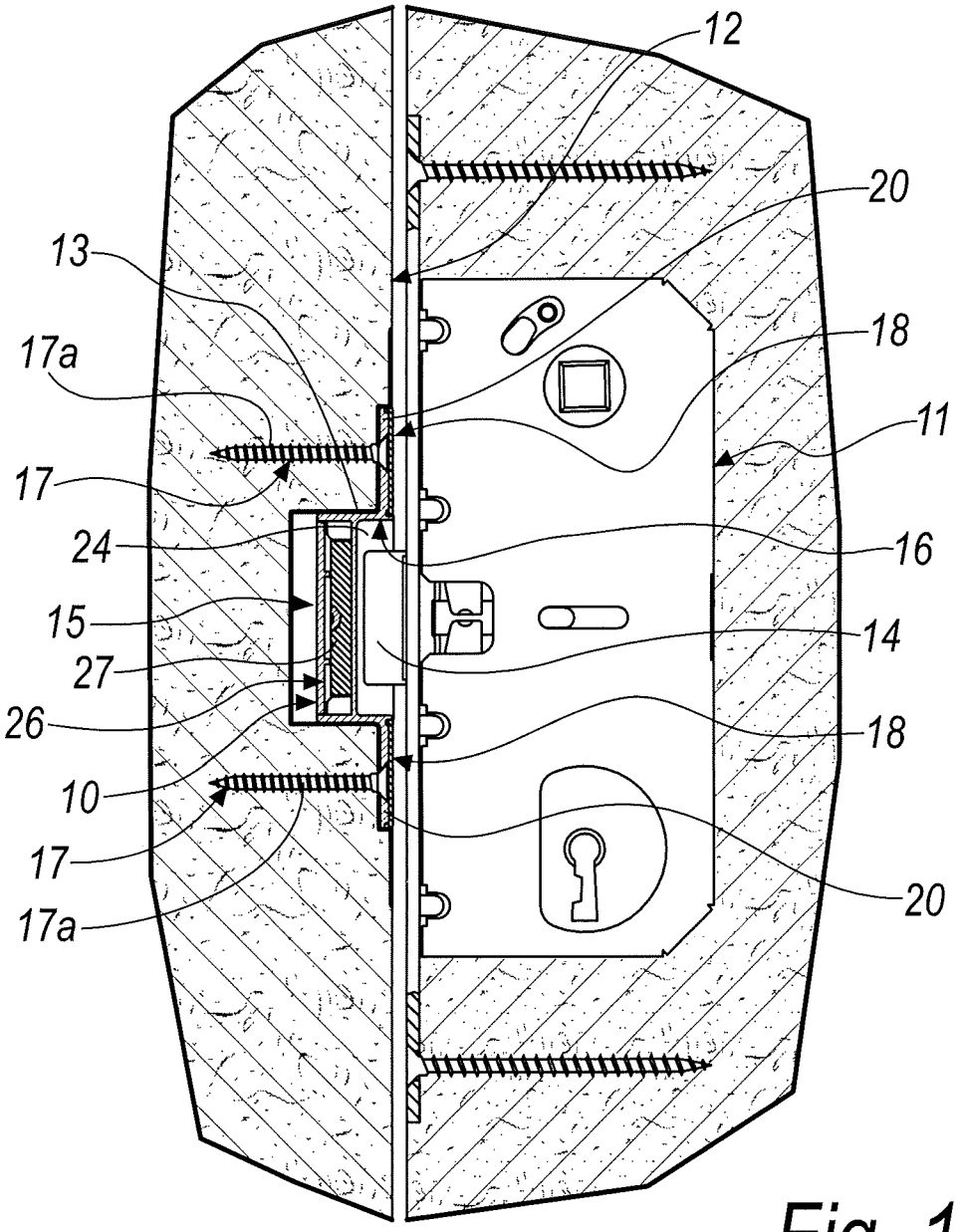

Fig. 1

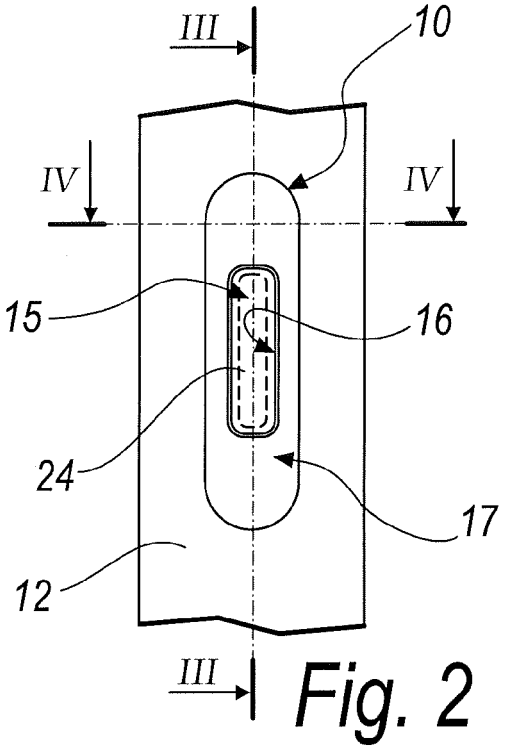

Fig. 2

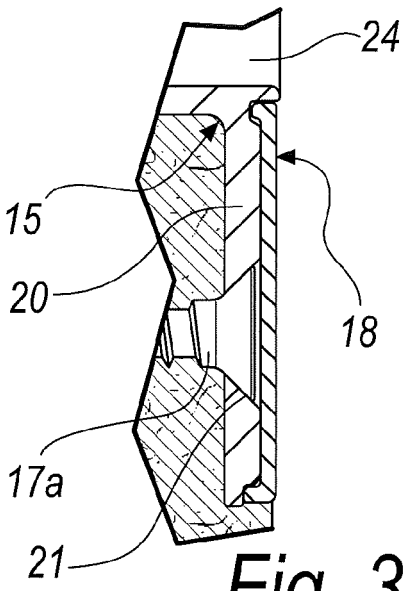

Fig. 3

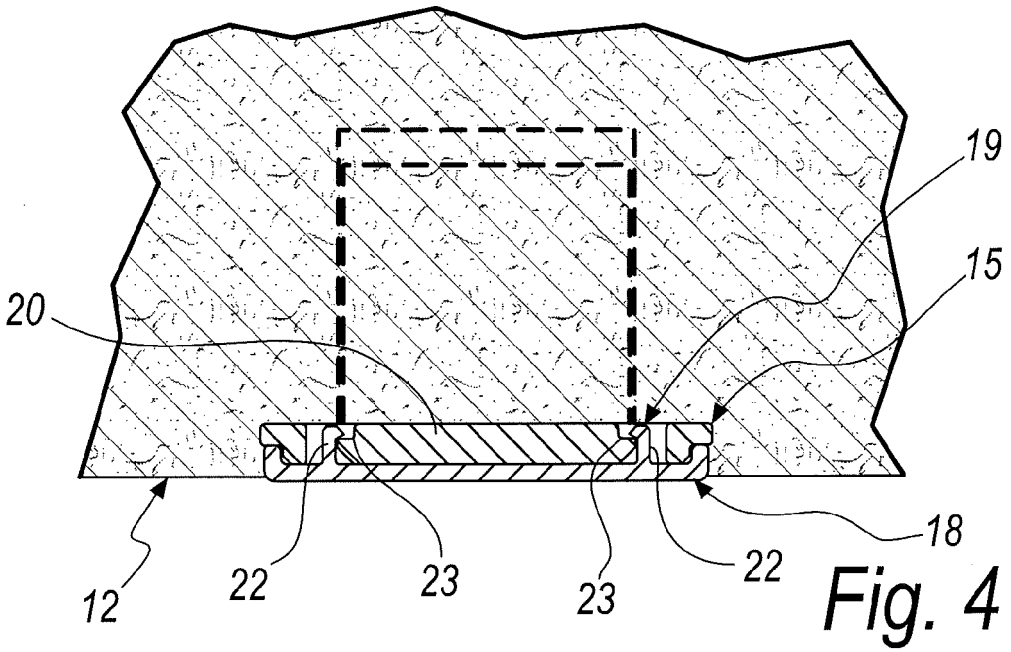

Fig. 4

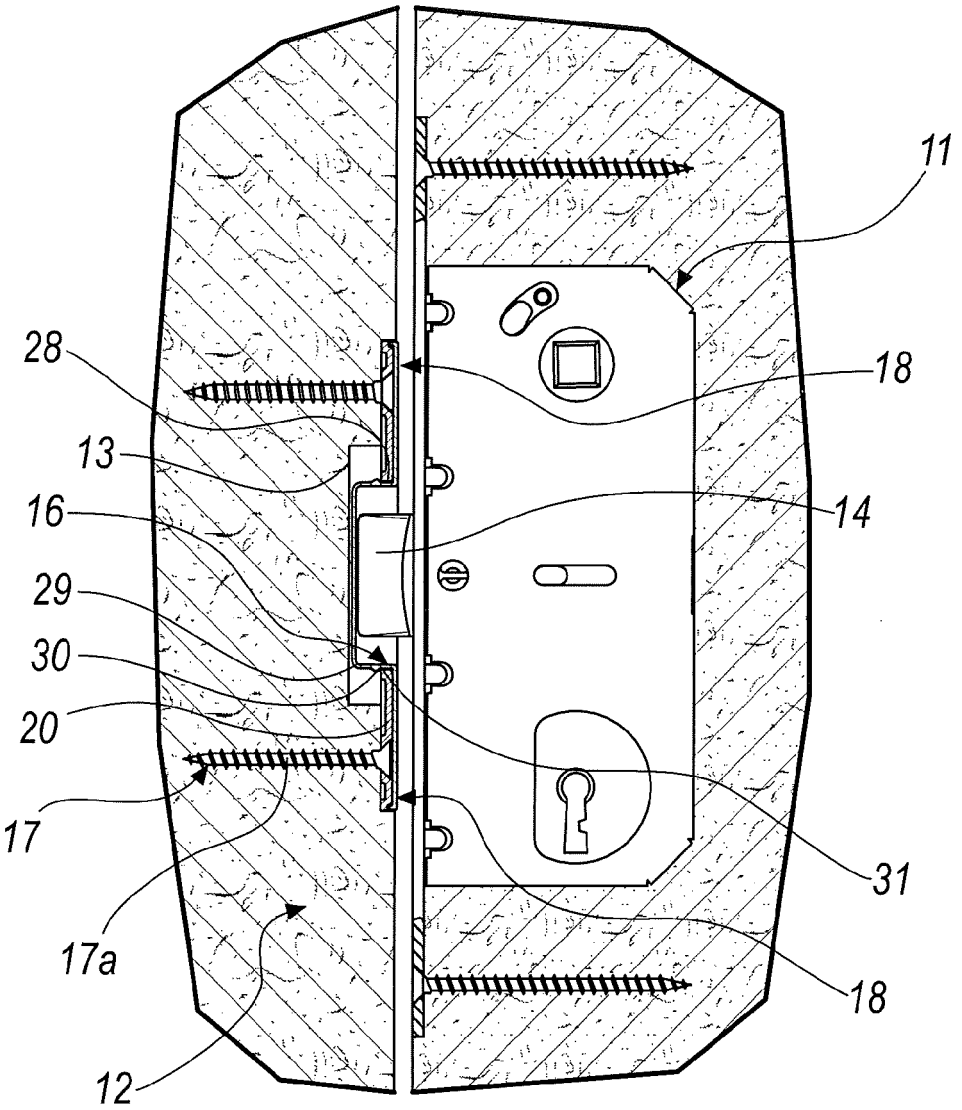

Fig. 5

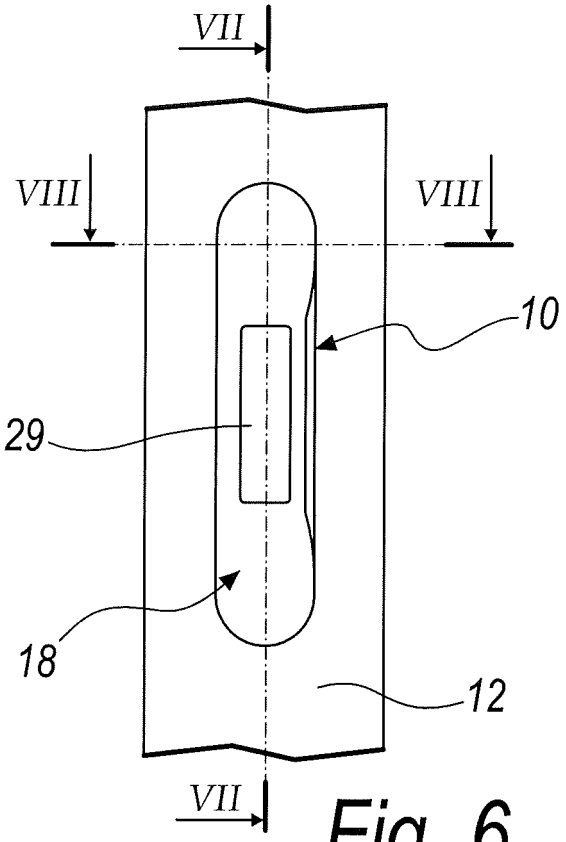

Fig. 6

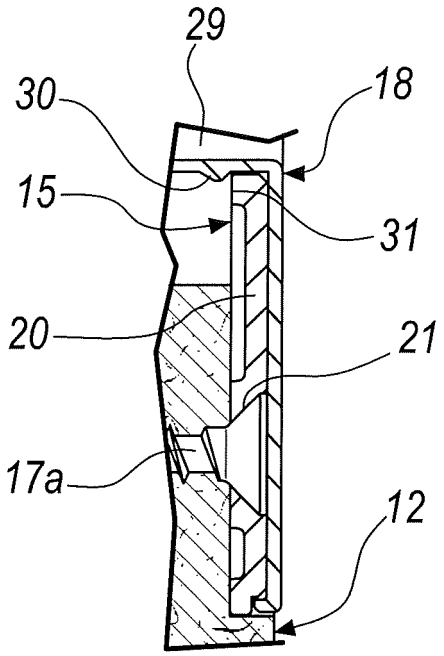

Fig. 7

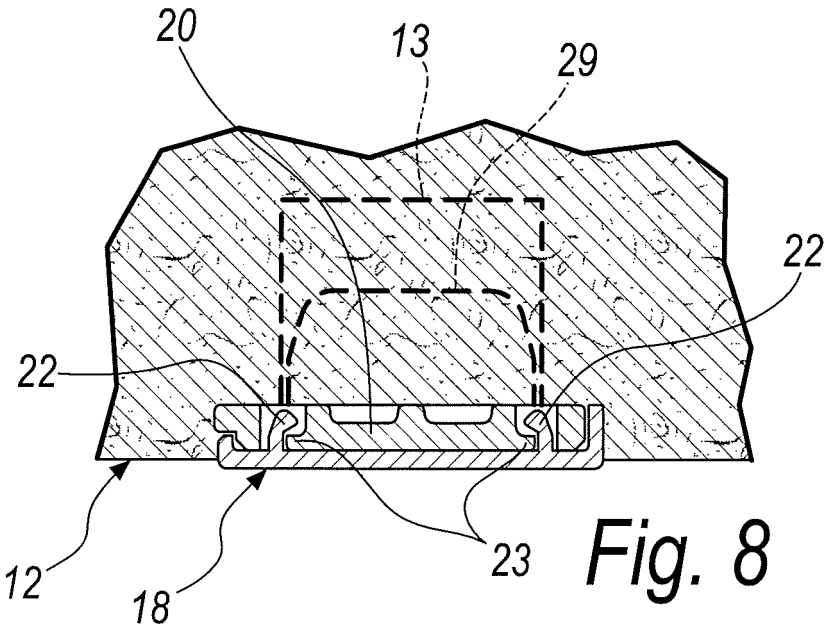

Fig. 8

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EUROPEAN SEARCH REPORT

Application Number
EP 10 16 0875

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Y	* page 2, line 23 - page 5, line 17; figures *	5	ADD. E05B9/00
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	9 June 2010	Henkes, Roeland

CATEGORY OF CITED DOCUMENTS

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