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Az európai szabadalom ellen, megadásának az Európai Szabadalmi Közlönyben való meghirdetésétől számított kilenc hónapon belül, felszólalást lehet benyújtani az Európai Szabadalmi Hivatalnál. (Európai Szabadalmi Egyezmény 99. cikk(1))

A fordítást a szabadalmas az 1995. évi XXXIII. törvény 84/H. §-a szerint nyújtotta be. A fordítás tartalmi helyességét a Szellemi Tulajdon Nemzeti Hivatala nem vizsgálta.

Finishing plate with centering means for an internal element of an electrical device

DESCRIPTION



TECHNICAL FIELD TO WHICH THE INVENTION RELATES

[0001] The present invention generally relates to electrical accessories (power outlets; on/off switches; two-way switches; network connectors or telephone sockets; light, sound, or movement sensors; ...) for installing in or outside buildings.

[0002] It relates more particularly to a finishing plate for an electrical accessory including snap-fastener tabs, each presenting a flexible tongue and at least one detent (or "notch") that projects from the flexible tongue so as to catch on an internal element of said electrical accessory.

[0003] It also relates to an electrical accessory comprising an accessory support and such a finishing plate.

TECHNOLOGICAL BACKGROUND

[0004] Document US 2004/0257181 in particular discloses a finishing plate as described above that includes pairs of snap-fastener tabs positioned back-to-back. At their free ends, the snap-fastener tabs of each pair carry respective detents that point away from each other. When the pairs of snap-fastener tabs of the finishing plate are engaged in the corresponding openings of an internal element of an electrical accessory, the two snap-fastener tabs of each pair flex resiliently in opposite direction so as to move towards each other so that their detents catch behind the edge of the opening.

[0005] The major drawback of such a finishing plate is that the flexibility of the snap-fastener tabs does not make it possible to ensure that the finishing plate is centered properly relative to the internal element of the electrical accessory.

[0006] It is thus necessary to provide additional means on the internal element of the electrical accessory and on the finishing plate for providing the centering function, to the detriment of simplicity in manufacturing and assembling the elements.

[0007] In addition, document EP 2 270 941 discloses a trim plate that comprises a front wall bordered at the rear by a peripheral rim, and two sets of tabs that make it possible to hold the trim plate on a support. Each set of tabs includes a central snap-fastener tab that is flanked by two adjuster tabs.

[0008] In that document, no element is provided for optimizing the centering of the trim plate on the support.

[0009] Document US 2005/0181665 also discloses an accessory mechanism for engaging in an electrical box, which accessory mechanism is designed to be covered by a cover plate. The fastener means for fastening the cover plate on the accessory mechanism comprise pins that are split to form cross-shapes, and that are adapted to pass through openings provided in the support of the accessory mechanism.

[0010] In that document, no element is provided for optimizing the centering of the cover plate on the accessory mechanism.

OBJECT OF THE INVENTION

[0011] In order to remedy the above-mentioned drawback of the prior art, the present invention proposes a novel finishing plate in which the snap-fastener tabs themselves center the finishing plate relative to the internal element on which it is mounted.

[0012] More particularly, the present invention proposes a first finishing plate as defined in claim 1.

[0013] The present invention also proposes a second finishing plate as defined in claim 9.

[0014] In these two embodiments of the invention, the slot or the sloping direction of the detents makes it possible to center the finishing plate properly relative to the internal element on which it is mounted, without it being necessary to use any other contrivance.

[0015] More precisely, the slot makes it possible, by co-operating with a lug that is correspondingly provided on the internal element, to perform this function properly, because since the two portions of the snap-fastener tab are not designed to move apart from each other or closer together, the slot forms a rail in which the lug can slide and be centered.

[0016] In the same way, the detents make it possible, by co-operating with corresponding sloping catches on the internal element, to perform this function properly, because once the finishing plate is pressed flat against the internal element, the detents prevent any sideways movement of the finishing plate on the internal element.

[0017] Finally, it should be observed that the finishing plate of the invention can only be mounted on a dedicated internal element that is designed in such a manner that it cannot receive other finishing plates. Thus, the snap-fastener tabs form keying means for mounting the finishing plate on the specific dedicated internal element, which keying means are designed so as to present a high degree of electrical safety. Thus, it is not possible to associate an internal element with a finishing plate having poor electrical safety, thereby improving the electrical safety of the assembly.

[0018] Other advantageous and non-limiting characteristics of the first finishing plate of the invention are defined in claims 2 to 8.

[0019] Other advantageous and non-limiting characteristics of the second finishing plate of the invention are defined in claims 10 to 14.

DETAILED DESCRIPTION OF AN EMBODIMENT

[0020] The following description of non-limiting examples given with reference to the accompanying drawings, makes it possible to understand what the invention consists of and how it can be reduced to practice.

[0021] In the accompanying drawings:

- Figure 1 is an exploded diagrammatic perspective view of a first embodiment of the finishing plate of the invention and of the support that is associated therewith;
- Figure 2 is a diagrammatic perspective view of a catch portion of the Figure 1 support;
- Figure 3 is a diagrammatic perspective view from below of the Figure 1 finishing plate;
- Figure 4 is a view of a detail of zone IV in Figure 3;
- Figure 5 is a diagrammatic perspective view of the Figure 1 finishing plate and support;

- Figure 6 is a view of a detail of zone VI in Figure 5;
- Figure 7 is an exploded diagrammatic perspective view of a second embodiment of the finishing plate of the invention and of the support that is associated therewith;
- Figure 8 is a diagrammatic perspective view of a catch portion of the Figure 7 support;
- Figure 9 is a diagrammatic perspective view from below of the Figure 7 finishing plate;
- Figure 10 is a view of a detail of zone X in Figure 9;
- Figure 11 is an exploded diagrammatic perspective view of a third embodiment of the finishing plate of the invention and of the support that is associated therewith;
- Figure 12 is a diagrammatic perspective view of a catch portion of the Figure 11 support;
- Figure 13 is a diagrammatic perspective view from below of the Figure 11 finishing plate;
- Figure 14 is a view of a detail of zone XIV in Figure 13;
- Figure 15 is an exploded diagrammatic perspective view of a fourth embodiment of the finishing plate of the invention and of the support that is associated therewith;
- Figure 16 is a diagrammatic perspective view of a catch portion of the Figure 15 support;
- Figure 17 is a diagrammatic perspective view from below of the Figure 15 finishing plate;
- Figure 18 is a view of a detail of zone XVIII in Figure 17.

[0022] The description below relates to an electrical accessory of any of the following types: power outlet; on/off switch; two-way switch; network connector or telephone socket; light, sound, or movement sensors;

[0023] In this embodiment, the electrical accessory is designed to be engaged in a wall box or "pattress" that is embedded in an orifice formed in a wall. It could also be designed to be engaged in a wall box that projects from a wall.

[0024] In the description below, the terms "front" and "rear" are thus used relative to the direction in which the installer of the electrical accessory faces the wall, the front designating the side facing towards the installer and the rear designating the side facing towards the rear of the orifice formed in the wall.

[0025] In addition, in this description, the various components of the electrical accessory are described in their non-deformed state, when no force is exerted on them.

[0026] In the description, the elements of the various embodiments of the invention shown in the various figures that are identical or similar are, whenever possible, referenced using the same references, and they are not described each time.

[0027] An electrical accessory generally comprises an accessory mechanism, an accessory support, and a finishing plate.

[0028] The accessory mechanism is the element that enables the electrical accessory to perform its function. By way of example, for a power outlet, such an accessory mechanism is formed of a base that houses electrical-connection terminals for connecting to the local electricity network and reception sockets for receiving the pins

of an electric plug, and a trim plate that closes the base at the front and that defines a reception well for receiving the electric plug.

[0029] The accessory support is itself designed to receive the base of the accessory mechanism in stationary manner and to block it in the wall box.

[0030] Finally, the finishing plate is designed to be fastened on the accessory support in order to cover it in attractive manner, and border the trim plate of the accessory mechanism.

[0031] Figures 1, 7, 11, and 15 show four embodiments of an assembly 1 formed of a finishing plate 10 and of an accessory support 20.

[0032] In the four embodiments, the accessory support 20 forms a part that is distinct from the base of the accessory mechanism (not shown). In a variant, naturally it could be envisaged that the accessory support is formed integrally with the base of the accessory mechanism.

[0033] In this embodiment, as shown in Figures 1, 7, 11, and 15, the accessory support 20 comprises a flat frame 21 of shape that is square.

[0034] The frame 21 thus comprises four plane branches and is defined between an outer peripheral edge 22 and an inner peripheral edge 23 that defines a central opening 24 of shape that is square. The axis of the frame 21 that is defined as the axis that passes through the center of the central opening 24 and that is orthogonal to the branches, is referred to as the main axis A0.

[0035] As shown in Figures 1, 7, 11, and 15, the accessory support 20 includes securing means 25 suitable for enabling it to be fastened on the wall box (not shown).

[0036] In each of two opposite branches of the frame 21, the securing means conventionally comprise a perforation 25 in the shape of a key hole, with a circular portion that makes it possible to pass the head of a fastener screw engaged in a screw-fastener well that is correspondingly provided in the wall box, and an elongate portion of smaller width that makes it possible to pass the threaded shank of the fastener screw.

[0037] The accessory support 20 also includes fastener means for fastening the base of the accessory mechanism (not shown). By way of example, the fastener means, that are not shown in the figures, could be formed by ribs situated on the inner peripheral edge 23 of the frame 21, suitable for catching snap-fastener means that are correspondingly provided on the base of the accessory mechanism.

[0038] In this embodiment, the accessory support 20 is made as a single piece by molding a plastics material. In a variant, it could be made from a metal sheet that is cut and folded into the desired shape. The cut and folded metal sheet could thus have a layer of plastics material overmolded thereon.

[0039] In the four embodiments shown in the figures, the finishing plate 10 itself comprises a frame 11 of shape that is square.

[0040] The frame 11 thus comprises four branches and is defined between an outer peripheral edge 12 and an inner peripheral edge 13 that defines a central opening 14 of shape that is square.

[0041] The axis of the frame 11 that is defined as the axis that passes through the center of the central opening 14 and that is orthogonal to the branches, is referred to as the main axis A2. It is intended to coincide with the

main axis A0 of the frame 21 of the accessory support 20, after said accessory support has been assembled with the finishing plate 10.

[0042] In this embodiment, the front and rear faces 10A, 10B of the frame 11 are completely plane. In this embodiment, the mean plane P2 of the rear face 10B thus coincides with said rear face.

[0043] In a variant, it could be envisaged that the front face of the frame of the finishing plate curves a little, in such a manner that the outer peripheral edge of the frame presents a thickness that is less than the thickness of the inner peripheral edge.

[0044] As can be seen in Figures 3, 9, 13, and 17, the rear face 10B of the finishing plate 10 is bordered by an outer peripheral rim 15 and by an inner peripheral rim 16 that co-operate with the rear face 10B to define a housing for receiving the accessory support 20.

[0045] More particularly, the inner peripheral rim 16 is formed by a rib of rectangular section that borders the inner peripheral edge 13 of the frame 11 and that projects from the rear face 10B of the frame 11, orthogonally to said frame.

[0046] In this embodiment, the finishing plate 10 is made as a single piece by molding a plastics material. In a variant, it could be made in some other way, e.g. by superposing an under-plate made of plastics material and an over-plate made of a higher-grade material, such as brushed metal or wood.

[0047] As shown in Figures 1, 7, 11, and 15, in order to fasten it to the accessory support 20, the finishing plate 10 includes snap-fastener tabs 110; 210; 310; 410 that extend from the rear face 10B of the frame 11 and that are adapted to catch on catch portions 120; 220; 320; 420 that are correspondingly provided on the accessory support 20.

[0048] More precisely, in the four embodiments shown in the figures, the finishing plate 10 includes four snap-fastener tabs 110; 210; 310; 410 that extend rearwards from the rear face of the inner peripheral rim 16. The four snap-fastener tabs 110; 210; 310; 410 extend perpendicularly to the rear face 10B of the frame 11 of the finishing plate 10.

[0049] In this embodiment, the four snap-fastener tabs 110; 210; 310; 410 extend in pairs from two opposite sides of the inner peripheral rim 16, the two snap-fastener tabs 110; 210; 310; 410 of each pair being situated at a distance from each other.

[0050] More precisely, each snap-fastener tab 110; 210; 310; 410 comprises a flexible tongue 111; 211; 311; 411 that extends, heightwise (relative to the frame 11), along a longitudinal axis A1 that is parallel to the main axis A2, and at least one detent 112; 212; 312; 412 that extends, lengthwise, across the width of the flexible tongue 111; 211; 311; 411.

[0051] In the four embodiments shown in the figures, each flexible tongue 111; 211; 311; 411 presents the shape of a thin rectangular plate, having two main faces (inside and outside faces) that are parallel to the inside and outside faces of the corresponding edge of the inner peripheral rim 16.

[0052] Each snap-fastener tab 110; 210; 310; 410 thus extends along a reference mid-plane P1 that is situated at equal distances from the inside and outside faces 111A; 211A; 311A; 411A of the flexible tongue 111; 211; 311; 411.

[0053] Each flexible tongue 111; 211; 311; 411 presents two side edges and a rear edge that, in the invention, connects with the side edges via two beveled corners.

[0054] In this embodiment, the height of each flexible tongue is equal to 4.7 millimeters (mm), while its width is equal to 6.9 mm, and its thickness is equal to 0.9 mm.

[0055] In this embodiment, the detents 112; 212; 312; 412 provided on the flexible tongues 111; 211; 311; 411 are situated projecting from the outside faces 111A; 211A; 311A; 411A of the flexible tongues 111; 211; 311; 411 (faces facing outwards, i.e. towards the accessory support). The detents 112; 212; 312; 412 are parallel to one another.

[0056] In this embodiment, more precisely, three detents 112; 212; 312; 412 are provided on each flexible tongue 111; 211; 311; 411.

[0057] The three detents 112; 212; 312; 412 present cross-sections of shape that is identical, namely triangular.

[0058] As shown clearly in Figure 4, each detent thus presents a rear face that slopes towards the outside of the frame 11, forming a slope that makes it easier to mount the snap-fastener tabs 110; 210; 310; 410 on the catch portions 120; 220; 320; 420 of the accessory support 20.

[0059] Also as shown clearly in Figure 4, each detent further presents a front face 112B facing towards the mean plane P2 of the rear face 10B of the frame 11 and parallel to said rear face, that is adapted to co-operate with the catch portions 120; 220; 320; 420 so as to fasten the finishing plate 10 securely to the accessory support 20.

[0060] The four catch portions 120; 220; 320; 420 provided on the accessory support 20 are thus situated in pairs, projecting from two opposite sides of the inner peripheral edge 23 of the frame 21, such that the detents 112; 212; 312; 412 of the finishing plate 10 can catch thereon.

[0061] In a variant, provision could be made for the flexible tongues to be situated on the inner peripheral edge 13 of the frame 11, and for the detents to be situated on the inside faces of the flexible tongues. Thus, unlike the embodiments shown in which the front faces 112B of the detents 112 face towards the rear face 10B of the frame 11, the front faces of the detents would face towards the mean plane of the central opening 14 of the frame 11.

[0062] The first embodiment of the assembly 1 appears more precisely in Figures 1 to 6,

[0063] As shown more particularly in Figure 6, according to a particularly advantageous characteristic, at least one of the snap-fastener tabs 110 of the finishing plate 10 presents a slot 113 that separates it in its height direction into two portions 118, 119, so that the two portions 118, 119 are mainly suitable for deforming elastically by flexing in a single direction relative to said reference mid-plane P1.

[0064] In this embodiment, all of the snap-fastener tabs 110 are identical. A slot 113 is thus provided in each of the snap-fastener tabs 110 of the finishing plate 10.

[0065] In addition, the slot 113 is provided so that each portion 118, 119 of the snap-fastener tab 110 carries a portion of each detent 112; 212; 312; 412.

[0066] As shown in Figure 4, the slot 113 of each snap-fastener tab 110 extends along the longitudinal axis A1, over at least 50% of the height of the snap-fastener tab 110. In this embodiment, more precisely, it extends over

the entire height of the snap-fastener tab 110, from the rear edge of the flexible tongue 111 to the inner peripheral rim 16 of the frame 11 of the finishing plate 10. The slot 113 thus opens out to the rear of the flexible tongue 111.

[0067] The slot 113 presents a width that is constant, lying in the range 5% to 50% of the width of the snap-fastener tab 110. In Figure 4, the width is shown as being equal to 10% of the width of the snap-fastener tab 110, while in Figure 6, it is shown as being equal to 30% of the width of the snap-fastener tab 110.

[0068] In Figures 4 and 6, it should be observed that the width of each portion 118, 119 of the snap-fastener tab 110 is at least one and a half times greater than the thickness of the flexible tongue 111. In this embodiment, the width is approximately three times greater than the thickness of the flexible tongue 111.

[0069] In this way, each portion 118, 119 of the snap-fastener tab 110 is designed, more particularly, to deform by flexing towards the inside or the outside of the frame 11, moving away from the reference mid-plane P1, as illustrated by the arrow shown in Figure 4.

[0070] As shown in Figure 4, the connection zone 110B between the snap-fastener tab 110 and the inner peripheral rim 16 of the frame 11 thus forms a kind of hinge about which each portion of the snap-fastener tab 110 can flex.

[0071] In Figure 4, it should also be observed that, in this embodiment, the front face 112B of each detent 112 of each snap-fastener tab 110 extends, lengthwise, orthogonally to the longitudinal axis A1, and more precisely extends in a plane that is parallel to the rear face 10B of the frame 11 of the finishing plate 10.

[0072] As shown more particularly in Figure 2, each catch portion 120 of the accessory support 20 presents a corresponding shape.

[0073] In this embodiment, each catch portion 120 is formed of a base 121, a rib 122, and a lug 123.

[0074] The base 121 is constituted by a projection on the front face of the frame 21 of the accessory support 20, which projection forms a rectangular parallelepiped that extends, lengthwise, along the inner peripheral edge 23 of the frame 21.

[0075] The rib 122 of the catch portion 120 thus extends from the inside face of the base 121, lengthwise, along said base. The rib 122 presents a length that is substantially equal to the length of the detents 112 of the snap-fastener tabs 110.

[0076] In this embodiment, the rib 122 presents a cross-section of shape that is triangular.

[0077] As shown in Figure 2, it thus presents a front face 122A that slopes towards the inside of the frame 21, forming a slope on which the sloping rear faces of the detents 112 of the snap-fastener tabs 110; 210; 310; 410 can bear while the finishing plate 10 is being mounted on the accessory support 20.

[0078] It further presents a rear face 122B facing towards the front face of the frame 21 and parallel to said front face, that is adapted to co-operate with the rear faces of the detents 112 of the snap-fastener tabs 110 so as to fasten the finishing plate 10 securely to the accessory support 20.

[0079] The lug 123 is itself provided projecting from the inside face of the base 121, at the center of said base, and thus projecting from the rib 122. In this embodiment, and as seen from the front, the lug 123 presents the

shape of a triangle having a base that is connected to the base 121, and having a vertex that points towards the inside of the frame 21. The width at the base of this triangle is greater than the width of the slots 113 of the snap-fastener tabs 110 of the finishing plate 10.

[0080] As shown in Figures 5 and 6, while mounting the finishing plate 10 on the accessory support 20, the installer positions the finishing plate 10 substantially on the axis of the accessory support 20, so that the snap-fastener tabs 110 of the finishing plate can be engaged on the catch portions 120 correspondingly provided on the accessory support 20.

[0081] The sloping rear faces 122A of the detents 112 of the snap-fastener tabs 110 thus come to bear against the sloping front faces 112A of the ribs 122 of the catch portions 120, while the slots 113 of the snap-fastener tabs 110 are engaged on the lugs 123 of the catch portions 120.

[0082] The co-operation between the sloping faces of the detents 112 and the ribs 122 makes it possible to flex the snap-fastener tabs 110 inwards, under the effect of the force applied by the installer on the finishing plate 10 towards the accessory support 20.

[0083] The co-operation between the slots 113 and the lugs 123 makes it possible to ensure that the snap-fastener tabs 110 are centered properly on the catch portions 120, and thus place the main axis A2 of the finishing plate 10 on the main axis A0 of the accessory support 20.

[0084] Specifically, the two portions of the snap-fastener tabs 110 are not designed to move apart from each other resiliently under the effect of the installer merely pushing on the finishing plate 10. Thus, when the two sides of the lug 123 come to bear simultaneously against the two sides of the slot 113, they push back the two portions of the snap-fastener tabs lightly, not in opposite directions, but in the same direction, towards the inside of the frame 11, which ensures that the finishing plate 10 is securely centered on the accessory support 20.

[0085] The use of a plurality of detents 112, in this embodiment three detents, on each snap-fastener tab 110 also makes it possible to install the finishing plate 10 at three different heights relative to the accessory support 20, so that its outer peripheral rim 15 can come to bear against the wall in which the wall box is embedded, regardless of how deeply the wall box is embedded in the cavity formed in the wall.

[0086] In Figure 4, the slot 113 extends through the entire thickness of the flexible tongue 111 (in other words, it opens out into the two main faces of the flexible tongue), so much so that the two portions 118, 119 of the flexible tongue 111 are disjoint.

[0087] In a variant, provision could be made for the slot to extend through a fraction only of the thickness of the flexible tongue (in other words, it would open out into only one of the two main faces of the flexible tongue). It would thus merely form a recess set back in one or the other of the two main faces of the flexible tongue, which would open out into the rear edge of the flexible tongue.

[0088] In this way, the two portions of the flexible tongue would be disassociated only in part, and the slot would define an engagement channel for engaging the corresponding lug of the accessory support.

[0089] In this variant, it should be understood that the flexible tongue would preserve its two main functions, namely its flexing function for enabling its detents to be snap-fastened on the ribs of the accessory support, and its reception function for receiving the lug for centering the cover plate relative to the accessory support.

[0090] The second embodiment of the assembly 1 appears more precisely in Figures 7 to 10.

[0091] According to a particularly advantageous characteristic of the second embodiment of the invention, at least a portion of each detent 312 of at least one of the four snap-fastener tabs 310 of the finishing plate 10 extends, lengthwise, along a sloping direction relative to the longitudinal axis A1 of the snap-fastener tab 310.

[0092] The term "sloping" means that the detents 312 extend, lengthwise, along a direction that is neither parallel nor orthogonal to the longitudinal axis A1.

[0093] In this embodiment, no slots are provided in any of the snap-fastener tabs 310.

[0094] The finishing plate 10 is thus centered on the accessory support 20 by the detents 312 themselves which, for this purpose, slope relative to the longitudinal axis A1.

[0095] In this embodiment, the front faces 312B of the detents 312 of each snap-fastener tab 310 are all plane and parallel to one another. They slope relative to the longitudinal axis A1 by an angle lying in the range 60° to 85°, in this embodiment equal to 80°.

[0096] In contrast, the front faces 312B of the detents 312 of each snap-fastener tab 310 slope relative to the front faces of the detents of the other snap-fastener tab of the same pair of snap-fastener tabs, along opposite directions. In Figure 9, it should thus be observed that the detents 312 of the snap-fastener tabs 310 of a single pair extend, lengthwise, along different directions.

[0097] In Figures 7 and 8, it should also be observed that each of the catch portions 320 provided on the accessory support 20 comprises a base 321 that is identical to the base 121 shown in Figure 2, and a rib 322 that differs from the rib 122 shown in Figure 2 in that it extends, lengthwise, along a direction that slopes at 10° relative to the plane of the frame 21. In this embodiment, in contrast, the catch portions 320 do not have a lug. In Figure 7, it should be observed that the ribs 322 of the catch portions 320 of a single pair extend, lengthwise, along different directions, so as to be capable of fastening to the detents 312 of the snap-fastener tabs 310.

[0098] Thus, when the finishing plate 10 is fitted on the accessory support 20, the front faces 312B of the detents 312 of the snap-fastener tabs 310 become pressed fully against the rear faces 322B of the ribs 322 of the catch portions 320.

[0099] Since the detents 312 and the ribs 322 slope in different directions, they make it possible to force the finishing plate 10 to be centered on the accessory support 20, and prevent it from moving sideways.

[0100] The third embodiment of the assembly 1 appears more precisely in Figures 11 to 14,

[0101] In this embodiment, the snap-fastener tabs 410 present shapes that are identical to the shapes of the snap-fastener tabs 310 shown in Figures 7 to 10, with the difference being that each of them presents a slot 413 that is identical to the slots 113 described above and shown in Figures 1 to 6.

[0102] Correspondingly, the catch portions 420 provided on the accessory support 20 are identical to the catch portions 320 shown in Figure 10 (with a base 421 and a sloping rib 422), with the difference being that they each include a lug 423 that is identical to the lug 123 described above and shown in Figure 2.

[0103] In this third embodiment, it should thus be understood that the finishing plate 10 is centered on the accessory support 20 not only by the co-operation between the detents 412 and the ribs 422 that slope, but also by the co-operation between the slot 413 and the lug 423.

[0104] The fourth embodiment of the assembly 1 appears more precisely in Figures 15 to 18.

[0105] In this embodiment, all of the snap-fastener tabs 210 of the finishing plate 10 are identical.

[0106] In particular, each of them presents a slot 213 that is identical to the slots described above and shown in Figures 1 to 6.

[0107] In contrast, in this embodiment, the detents 212 of the snap-fastener tabs 210 do not extend, lengthwise, along directions that are rectilinear, so much so that their front faces are not flat.

[0108] Each of the three detents 212 carried by each snap-fastener tab 210 thus presents three portions that are in register with one another, each having a central portion that extends, lengthwise, along a first direction that is parallel to the plane of the frame 11, and two side portions that extend, lengthwise, on either side of the central portion, along second and third directions that are distinct from and not parallel to the plane of the frame 11.

[0109] The front face of the central portion of each detent 212 is thus situated in a plane that is orthogonal to the longitudinal axis A1, while the front faces of the side portions of each detent 212 are situated in planes that slope relative to this axis, in different directions, by the same angle that is equal to 80° in this embodiment.

[0110] Correspondingly, the catch portions 220 provided on the accessory support 20 are identical to the catch portions shown in Figure 2 (with a base 221, a rib 222, and a lug 223), with the difference being that their ribs 222 are not rectilinear, but each presents a central portion and two side portions.

[0111] The rear face of the central portion of each rib 222 is thus situated in a plane that is parallel to the plane of the frame 20, while the rear faces of the side portions of each rib 222 are situated in planes that slope relative to that plane, in different directions, by the same angle that is equal to 10°.

[0112] Thus, when the finishing plate 10 is fitted on the accessory support 20, the front faces of the detents 212 of the snap-fastener tabs 210 become pressed fully against the rear faces of the ribs 222 of the catch portions 220.

[0113] In this fourth embodiment, it should thus be understood that the finishing plate 10 is centered on the accessory support 20 not only by the co-operation between the sloping side portions of the detents 212 and of the ribs 222, but also by the co-operation between the slot 213 and the lug 223.

Központosító eszközökkel felszerelt végmaszkoló lemez egy villamos készülék egy belső eleméhez

Szabadalmi igénypontok

1. Végmaszkoló lemez (10) egy villamos készülék számára, amely végmaszkoló lemez egy kerettel (11) rendelkezik, amely egy központi nyílást (14) határol, és amelynek egy olyan hátlapja (10B) van, amelyről reteszelőkörömök (110; 210; 410) nyúlnak ki arra merőlegesen, ahol mindegyik reteszelőköröm (110; 210; 410) tartalmaz:



– egy flexibilis nyelvet (111; 211; 411), amely egy vonatkoztatási középsíkkal (P1) párhuzamosan terjed ki és egy a vonatkoztatási középsíkkal (P1) párhuzamos oldala (111A; 211A, 411A) van, és tartalmaz

– legalább egy bordát (112; 212; 412), amely a hosszúságát tekintve a flexibilis nyelv (111; 211; 411) szélessége irányában terjed ki és amelynek egy a hátoldal (10B) középsíkja (P2) felé néző beakasztási felülete van és kiáll az említett oldalról (111A; 211A; 411A), hogy a borda (112; 212; 412) beakadjon a villamos készülék egy belső elemébe (20),

azzal jellemezve, hogy a reteszelőkörömök (110; 210; 410) legalább egyike egy réssel (113; 213; 413) rendelkezik, amely a reteszelőkörömet magassági értelemben két részre osztja, oly módon, hogy a két rész mindegyike mindegyik borda (112; 212; 412) egy részét hordozza, és hogy a két rész elméletileg képes rugalmasan deformálódni ugyanazon irányba meghajolva a vonatkoztatási középsíkhoz (P1) képest.

2. Az 1. igénypont szerinti végmaszkoló lemez (10), amelynél a rés (113; 213; 413) a reteszelőköröm (110; 210; 410) magasságának legalább 50%-ára terjed ki.

3. Az 1. igénypont szerinti végmaszkoló lemez (10), amelynél a rés (113; 213; 413) állandó szélességgel rendelkezik.

4. Az 1-3. igénypontok bármelyike szerinti végmaszkoló lemez (10), amelynél a rés (113; 213; 413) a szélességét tekintve az adott reteszelőköröm (110; 210; 410) szélességének 5-50%-ára terjed ki.

5. Az 1-4. igénypontok bármelyike szerinti végmaszkoló lemez (10), amelynél egy rés (113; 213; 413) van kiképezve mindegyik reteszelőkörömben (110; 210; 410).

6. Az 1-5. igénypontok bármelyike szerinti végmaszkoló lemez (10), amelynél a rögzítőköröm (110; 210; 410) mindegyik részének szélessége legalább másfélszerese a rögzítőköröm (110; 210; 410) ezen része vastagságának.

7. Az 1-6. igénypontok bármelyike szerinti végmaszkoló lemez (10), amelynél mindegyik flexibilis nyelv (111) magassági irányban egy hossz tengely (A1) mentén terjed ki, és mindegyik rögzítőköröm (110) mindegyik bordájának (112) beakasztási felülete a hosszúságát tekintve az említett hossz tengellyel (A1) párhuzamosan terjed ki.

8. Az 1-6. igénypontok bármelyike szerinti végmaszkoló lemez (10), amelynél mindegyik flexibilis nyelv (211; 411) magassági irányban egy hossz tengely (A1) mentén terjed ki, és a rögzítőkörömök (210; 410) legalább egyikének mindegyik bordájához (212; 412) tartozó beakasztási felület legalább egy része a hosszúságát tekintve ferdén terjed ki az említett hossz tengelyhez (A1) képest.

9. Végmaszkoló lemez (10) egy villamos készülék számára, amely végmaszkoló lemez egy olyan hátlappal (10B) rendelkezik, amelyről reteszelőkörömök (200; 300; 400) nyúlnak ki arra merőlegesen, ahol mindegyik reteszelőköröm (200; 300; 400) tartalmaz:

– egy flexibilis nyelvet (211; 311; 411), amely magassági irányban egy hossz tengely (A1) mentén terjed ki és egy olyan oldallal (211A; 311A; 411A) rendelkezik, amely párhuzamos ezzel a hossz tengellyel (A1), és tartalmaz

– legalább egy bordát (212; 312; 412), amely a hosszúságát tekintve a flexibilis nyelv (211; 311; 411) szélessége irányában terjed ki és amelynek egy a hátoldal (10B) középsíkja (P2) felé néző beakasztási felülete van, és kiáll az említett oldalról (211A; 311A; 411A), hogy a borda (212; 312; 412) beakadjon a villamos készülék egy belső elemébe (20).

azzal jellemezve, hogy a reteszelőkörömök (200; 300; 400) legalább egyikéhez tartozó mindegyik borda (212; 312; 412) legalább egy része a hosszúságát tekintve egy ferde irányban terjed ki a rögzítőköröm (200; 300; 400) hossz tengelyéhez (A1) képest.

10. A 9. igénypont szerinti végmaszkoló lemez (10), amelynél legalább két reteszelőköröm (300; 400) bordái (312; 412) a hosszúságukat tekintve egyenes vonalban terjednek ki ferde irányokat követve a reteszelőköröm (300; 400) a hossz tengelyéhez (A1) képest, ahol a reteszelőkörömök (300; 400) legalább egyikéhez tartozó mindegyik borda (312; 412) iránya ferde a reteszelőkörömök (300; 400) másikához tartozó mindegyik borda (312; 412) irányához képest.

11. A 9. igénypont szerinti végmaszkoló lemez (10), amelynél az adott reteszelőköröm (200) mindegyik bordája (212) két résszel rendelkezik, amelyek a hosszúságukat tekintve ferde irányokat követve terjednek ki egymáshoz képest és a hossz tengelyéhez (A1) képest.

12. 9-11. igénypontok bármelyike szerinti végmaszkoló lemez (10), amelynél az adott reteszelőköröm (200; 300; 400) mindegyik bordájának (212; 312; 412) beakasztási felülete az adott reteszelőköröm (200; 300; 400) flexibilis nyelvének (211; 311; 411) oldalára (211A; 311A; 411A) merőlegesen terjed ki.

13. 9-12. igénypontok bármelyike szerinti végmaszkoló lemez (10), amelynél legalább egy reteszelőköröm (210; 410) egy vonatkoztatási középsíkkal (P1) rendelkezik, amely párhuzamos az oldalfalával (211A; 311A; 411A) és egy résszel (213; 413), amely azt két részre osztja magassági irányban, oly módon, hogy ez a két rész elvileg képes rugalmasan meghajolva deformálódni ugyanazon irányba a vonatkoztatási középsíkhoz (P1) képest.

14. Villamos készülék, amely egy készüléktartót (20) és egy az előző igénypontok bármelyike szerinti végmaszkoló lemezt (10) tartalmaz, ahol mindegyik reteszelőköröm (100; 200; 300; 400) bordái (112; 212; 312; 412) arra vannak kialakítva, hogy beakadjanak azokba a beakasztási részekbe (120; 220; 320; 420), amelyek megfelelő módon a készüléktartón (20) vannak kiképezve.

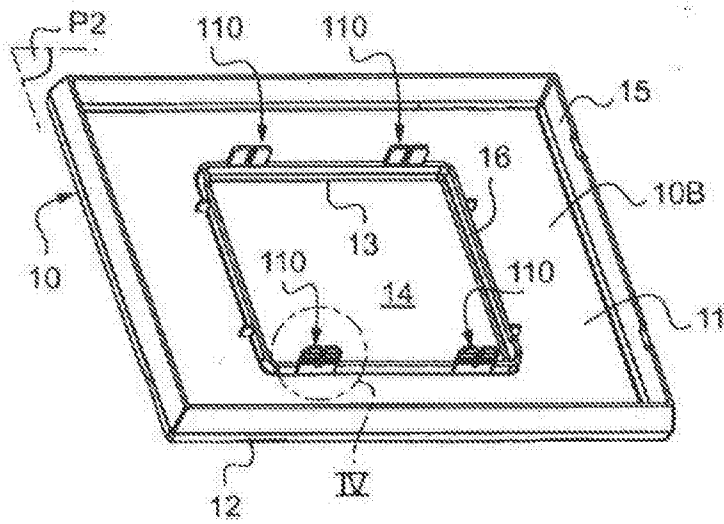


Fig. 3

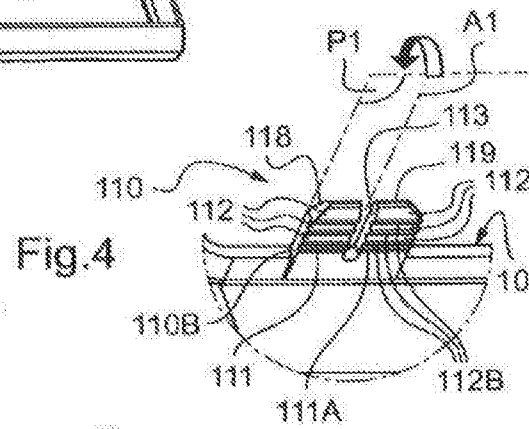


Fig. 4

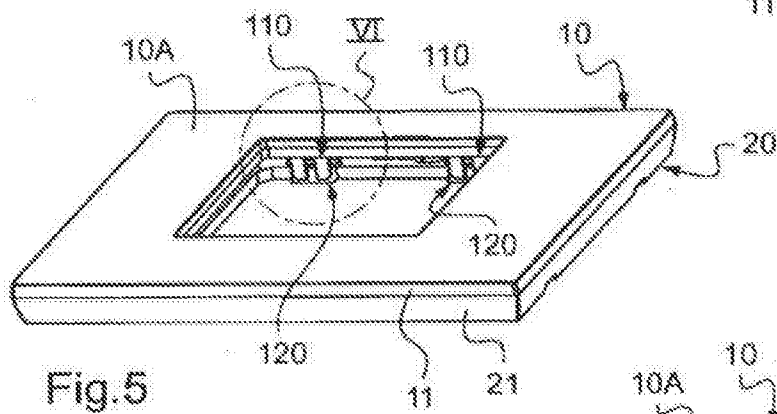


Fig. 5

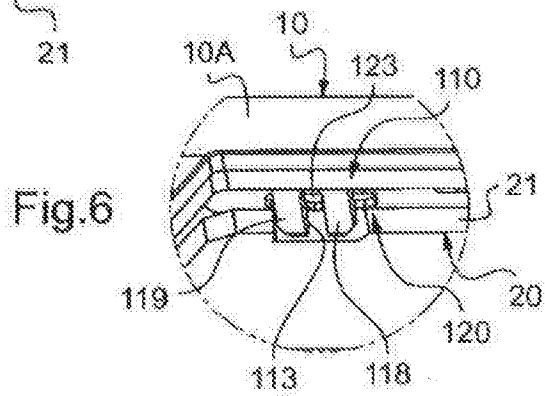
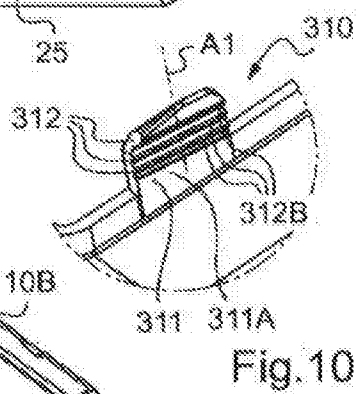
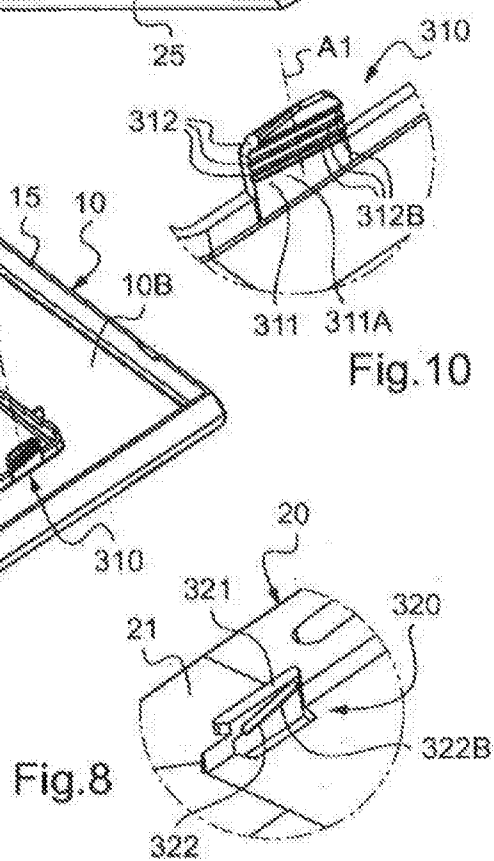
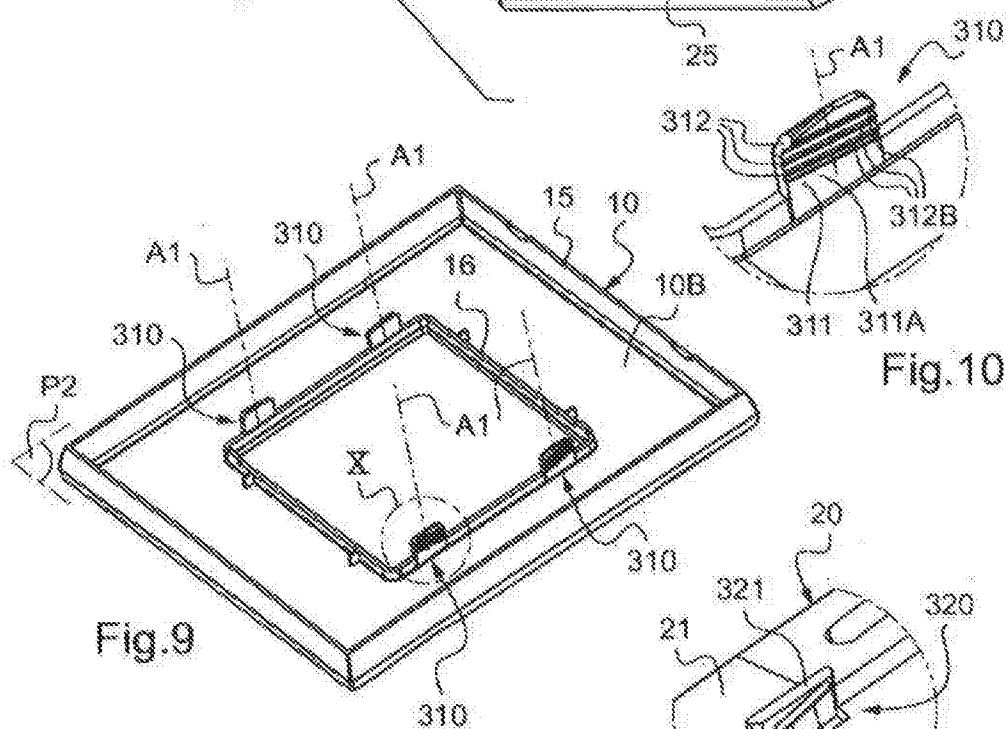
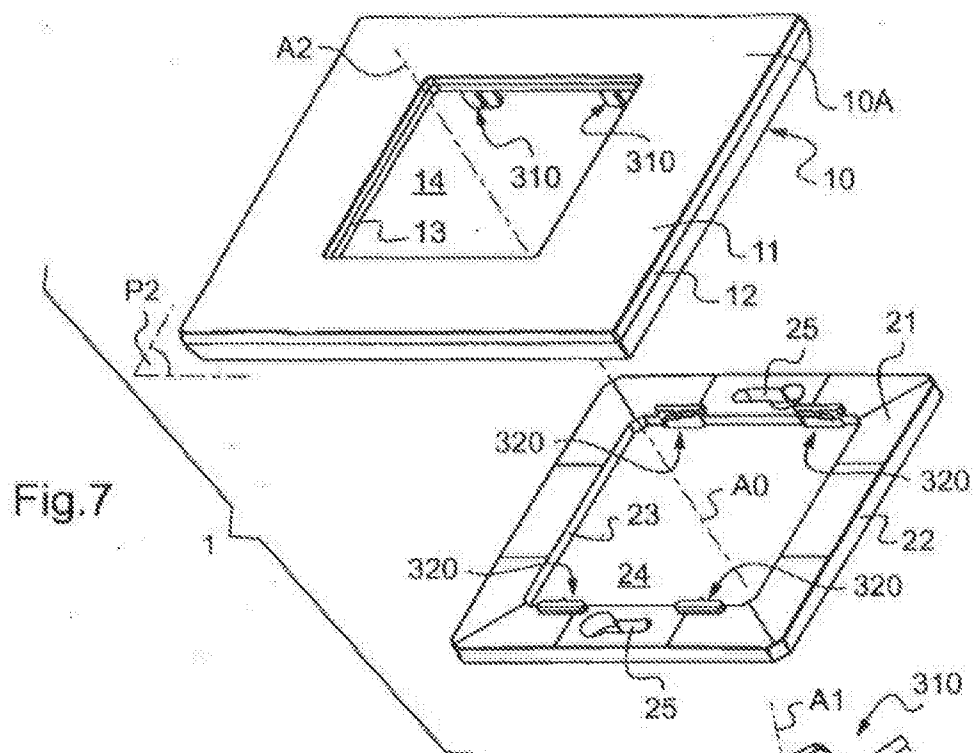


Fig. 6



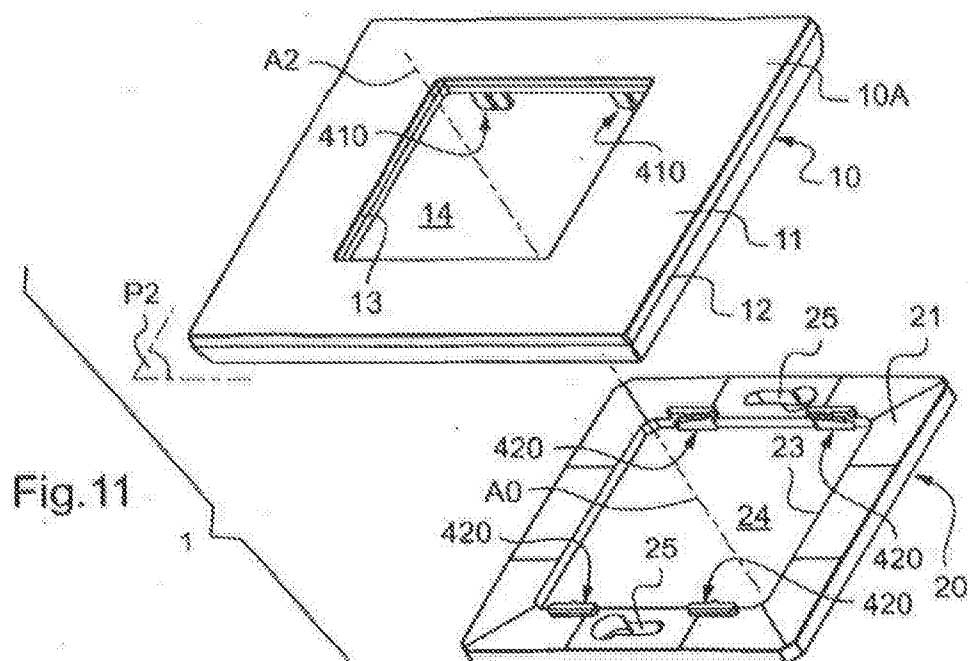


Fig. 11

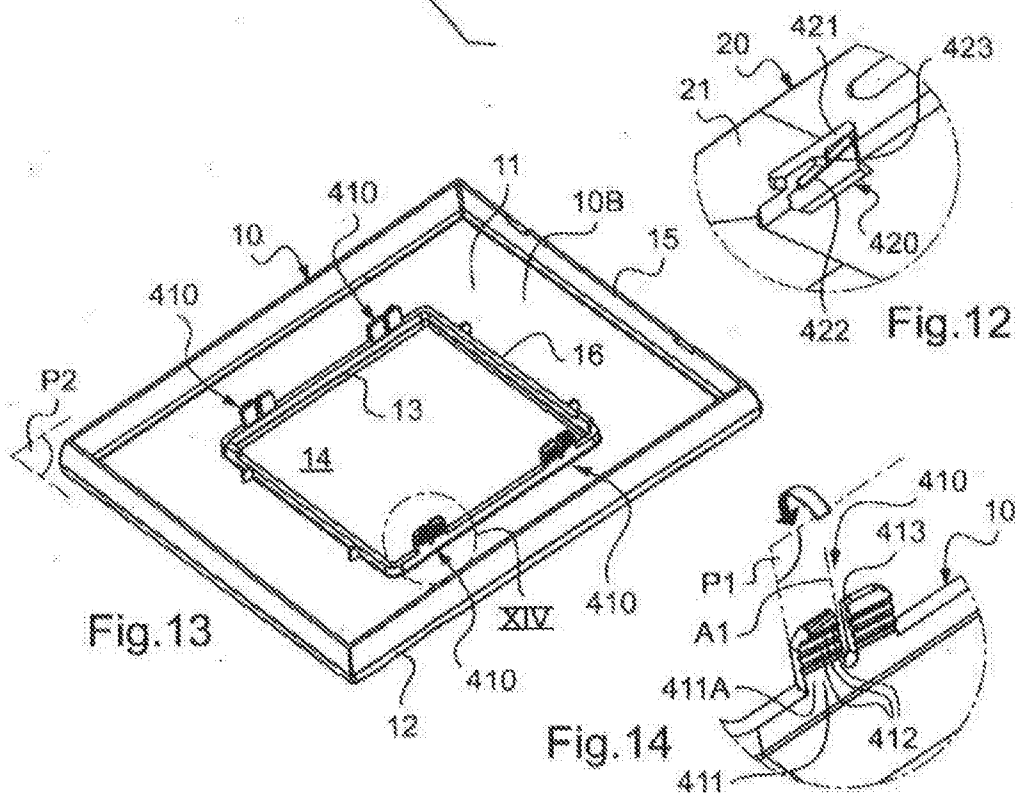


Fig. 13

Fig. 14

