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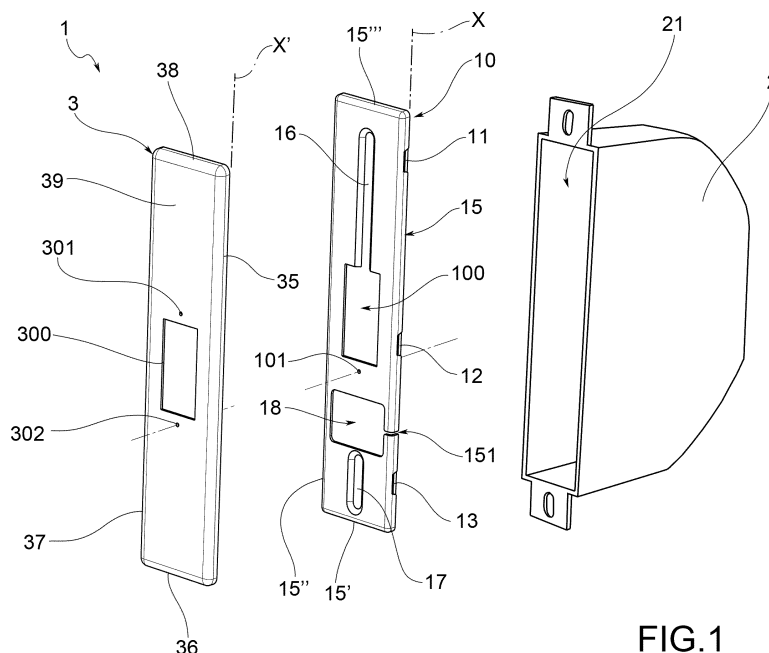
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(54) **COVER PLATE GROUP FOR A WINDER SEAT OF A WINDER BOX WITH AN OPENING FOR A SWITCH AND THE RELATIVE COVER PLATE WITH OPENING FOR A SWITCH**

(57) A cover plate group (1) for a winder seat (21) of a winder box (2) for a winder of a shutter comprises a sub-plate (10), suitable for being fastened to the winder seat (21) and comprising one or more sub-plate coupling portions (11, 12, 13). The group also comprises a cover plate (3), comprising a sub-plate seat (33) suitable for accommodating the sub-plate (10) therein when the cover plate (3) is coupled to the sub-plate (10). The cover plate (3) comprises plate coupling portions (30, 31, 32) suitable for being snap-coupled to the one or more re-

spective sub-plate coupling portions (11, 12, 13) for releasably snap-coupling the cover plate to the sub-plate (10) and completely closing the winder seat (21). The cover plate (3) comprises a through opening (300) suitable for accommodating a switch (4) for the electrical control of a motor of a shutter, and one or more switch fastening holes (301, 302) suitable for fastening the switch (4) onto the cover plate (3) through a fastening device.

**FIG.1****EP 4 556 675 A1**

Description

Field of application

[0001] The present invention relates to a cover plate group for a winder seat of a winder box, in which a winder of a shutter suitable for closing a window or glass door compartment is generally placed. Furthermore, the present invention also relates to a cover plate.

[0002] The present patent application relates to the field of shutter winders and, more specifically, to a cover plate for a winder box, designed to improve the aesthetics and functionality of existing winder boxes, especially in cases of non-use or replacement with motorized winders.

[0003] With the advent of automated solutions, the conversion of existing shutter winder installations with the integration of a motor for the automatic movement of the shutter is often required. This conversion often requires invasive interventions such as masonry works for positioning the motor control switch. This not only increases costs and installation times but may also affect the aesthetic and structural integrity of the environment.

[0004] Alternatively, it is possible to fasten a switch at a separate point, but this solution also results in a suboptimal modification of the surrounding space, negatively affecting the harmony of the interior design, or requires the presence of a wireless remote control, which in some cases may be inconvenient in its use.

Solution of the invention

[0005] The need felt is therefore to simplify the installation process of the control switches for shutter motors, minimizing the need for masonry works and keeping the aesthetics of the environment unchanged. A solution that allows the control switch to be easily integrated into the winder system, without the need to significantly alter existing structures or add external elements, represents a marked progress in the sector.

[0006] There is therefore a strong need to provide a cover plate group and a cover plate that are capable of overcoming the drawbacks mentioned with reference to the prior art.

[0007] Also an object of the present invention is to provide a cover plate group that is easy to install, compatible with standard winder boxes and capable of aesthetically adapting to various residential contexts whilst maintaining a discrete or elegant profile.

[0008] Such requirements are satisfied by a cover plate group and by a cover plate in accordance with the attached independent claims. The dependent claims describe preferred or advantageous embodiments of the invention, comprising further advantageous features.

Description of the drawings

[0009] The features and advantages of the cover plate group and of the cover plate will become apparent from

the following description of some preferred embodiments, given by way of indicative and nonlimiting example, with reference to the accompanying figures, wherein:

Figure 1 shows an exploded axonometric view of a cover plate group according to one embodiment of the present invention and of a winder box suitable for accommodating a shutter winder;

Figure 2 shows an exploded axonometric view of a cover plate group according to one embodiment of this invention from a different point of view than in Figure 1, in particular from the rear, i.e., from the side facing the seat of the winder box;

Figure 3 shows an elevation plan view of the cover plate group in Figure 2 when assembled, viewed from the rear, like in figure 2.

Figure 4 shows an elevation plan view of the cover plate group of Figure 2 when assembled, in a front view, wherein a switch is installed in the through opening.

Detailed description

[0010] With reference to the aforesaid figures, a cover plate group 1 for a winder seat 21 of a winder box 2 for a winder of a shutter of a window or glass door compartment is collectively indicated with the reference numeral 1.

[0011] The cover plate group 1 comprises a sub-plate 10, suitable for being fastened to the winder seat 21 and comprising one or more sub-plate coupling portions 11, 12, 13.

[0012] The cover plate group 1 also comprises a cover plate 3 comprising a sub-plate seat 33 suitable for accommodating the sub-plate 10 therein when the cover plate 3 is coupled to the sub-plate 10.

[0013] The cover plate 3 comprises a through opening 300 suitable for accommodating a switch 4 for the electrical control of a shutter motor.

[0014] Furthermore, the cover plate 3 comprises one or more switch fastening holes 301, 302 suitable for fastening the switch 4 onto the cover plate 3 through a fastening device, such as one or more screws.

[0015] Additionally, the sub-plate 10 also comprises a sub-plate through opening 100 suitable for accommodating the switch 4.

[0016] Preferably, the sub-plate through opening 100 is aligned with the through opening 300 of the cover plate 3.

[0017] Preferably, the sub-plate through opening 100 is shaped identically to the through opening 300 of the cover plate 3.

[0018] According to one embodiment, the through opening 300 is positioned to be centered with respect to the total length of the cover plate 3 along a major plate extension direction X' of the cover plate 3.

[0019] Preferably, the cover plate 3 comprises only the one or more switch fastening holes 301, 302 together with

the through opening 300 and is therefore devoid of any other opening or hole for fastening the cover plate 3 to the sub-plate 10. This allows a simple and linear plate without unsightly holes or visible screws to be obtained, as well as ensures a simple installation.

[0020] Preferably, the one or more switch fastening holes 301, 302 are positioned in proximity to the through opening 300.

[0021] Preferably, the switch 4 is inserted into the through opening 300 and is fastened to the cover plate 3 through pins or screws passing through the one or more switch fastening holes 301, 302.

[0022] Due to the switch fastening holes 301, 302, the switch is self-contained, i.e. fully supported, preferably exclusively supported, directly by the cover plate 3.

[0023] According to an embodiment, the sub-plate 10 comprises at least one auxiliary fastening hole 101 positioned so as to be aligned with one of said one or more switch fastening holes 301, 302 of the cover plate 3, when the cover plate 3 is coupled to the sub-plate 10. In this variant, the switch is supported entirely by the cover plate 3 and also by means of the sub-plate 10, which strengthens the fastening thereof.

[0024] According to one embodiment, the cover plate 3 comprises plate coupling portions 30, 31, 32 suitable for being snap-coupled to the one or more respective sub-plate coupling portions 11, 12, 13 for releasably snap-coupling the cover plate to the sub-plate 10. In this way, the winder seat 21 is simply and completely closed.

[0025] According to one embodiment, the one or more sub-plate coupling portions 11, 12, 13 are a depression formed on a side 15 of the sides of the sub-plate 10.

[0026] According to one embodiment, the plate coupling portions 30, 31, 32 are one or more teeth protruding from a plate side 35 of the peripheral sides 35, 36, 37, 38 of the cover plate 30. In particular, the one or more protruding teeth project toward the inside of the sub-plate seat 33.

[0027] According to one embodiment, the one or more sub-plate coupling portions 11, 12, 13 are a tooth protruding from a side 15 of the sub-plate and wherein the plate coupling portions 30, 31, 32 are one or more depressions formed on a plate side 35 of the peripheral sides 35, 36, 37, 38 of the cover plate 30. In particular, the one or more depressions are on the side of the sub-plate seat 33.

[0028] According to one embodiment, the sub-plate 10 comprises an upper fastening slot 16 and/or a lower fastening slot 17.

[0029] The upper fastening slot 16 and the lower fastening slot 17 are each suitable for being crossed by a pin or a screw for stably fastening the sub-plate 10 to the winder box 2.

[0030] According to one embodiment, the sub-plate 10 also comprises a belt opening 18 arranged between the upper fastening slot 16 and the lower fastening slot 17 along a major extension direction X of the sub-plate. The belt opening 18 is a through opening, open towards a

single side 15 of the sub-plate 10 through a slit 151 which interrupts the continuity of said side 15. This may allow the belt of the manual shutter to be restored, once the cover plate has been removed, where necessary.

[0031] Preferably, the sub-plate 10 is completely made of a thermoplastic polymer.

[0032] Preferably, the sub-plate 10 is completely made of a metal, such as aluminum, sheet metal, or steel.

[0033] Preferably, the cover plate 3 is completely made of a thermoplastic polymer or a metal, for example aluminum, sheet metal or steel.

[0034] Preferably, the cover plate 3 has a rectangular plate shape having a completely flat front face 39 folded on the edges with rounded corners to form small peripheral plate sides 35, 36, 37, 38.

[0035] Preferably, the sub-plate 10 has a rectangular plate shape having a flat front face 19 folded on the edges with rounded corners to form plate sides 15, 15', 15'', 15''', suitable for abutting with the small peripheral plate sides 35, 36, 37, 38 on the side of the sub-plate seat 33, and preferably to be fully accommodated in such a sub-plate seat, so that the cover plate 3 entirely covers the sub-plate.

[0036] It is clear that an object of the present invention is also a cover plate 3 that may be coupled per se to a sub-plate 10 of a cover plate group 1 as described within any of the previously described embodiments, and in particular having a flat front face 39 folded on the edges with rounded corners to form small peripheral plate sides 35, 36, 37, 38 of the plate and being totally devoid of through openings. Obtained on said flat front face 39 is the through opening 300 suitable for accommodating the switch 4 for the electrical control of a motor of a shutter, and one or more switch fastening holes 301, 302 suitable for fastening the switch 4 onto the cover plate 3 through a fastening device, such as one or more screws.

[0037] Further, preferably, the cover plate 3 is devoid of any other opening or hole for fastening the cover plate 3 to the sub-plate 10 and/or to a winder box 2.

[0038] Innovatively, the present invention brilliantly overcomes the drawbacks of the prior art and meets the needs of the industry.

[0039] The proposed solution is easy to install and remove, is compatible with standard winder boxes and is capable of aesthetically adapting to various residential contexts, whilst maintaining a discrete profile.

[0040] In a brilliant manner, the cover plate group allows the box seat to be recovered by installing the switch in said seat by means of the cover plate group, in the case of retrofitting a manual winder with a motorized winder. In effect, the switch is placed into the box seat and the winder box may be used for the electrical connections without requiring excessive masonry works for the installation of the control switch.

[0041] Advantageously, the possibility of snap-removing the plate allows the aesthetics of the plate to be adapted and re-adapted quickly to the residential context, without having to carry out screwing operations.

[0042] Similarly, it is also possible to change the type of switch in a simple manner.

[0043] In addition, the fact that the switch is supported directly by the cover plate ensures further ease of installation and fastening of the electrical connections to the switch, since it is not necessary to remove the sub-plate.

[0044] Furthermore, advantageously, the present invention allows manual winders to be retrofitted without having to cover the winder seat box with masonry works, instead using it exactly for that purpose.

[0045] Furthermore, due to the presence of the sub-plate, where it is necessary to restore the manual winder, this would be immediate by virtue of the possibility of removing only the cover plate, snapped in place onto the sub-plate which is already provided with the opening for the passage of a belt.

[0046] Furthermore, the fact that the cover plate has no further openings, but only the fastening holes of the switch, allows for a simple and linear plate to be obtained, especially since the switch plate also covers the fastening screws of the switch, making the whole assembled group 200 cover plate 3 and switch 4 completely devoid of visible screws.

[0047] It is clear that a person skilled in the art may make changes to the invention in order to meet contingent needs, said changes all falling within the scope of protection as defined in the following claims.

Claims

1. A cover plate group (1) for a winder seat (21) of a winder box (2) for a winder of a shutter, said cover plate group (1) comprising:

- a sub-plate (10), suitable for be fastened to the winder seat (21) and comprising one or more sub-plate coupling portions (11, 12, 13);

- a cover plate (3), comprising a sub-plate seat (33) suitable for accommodating the sub-plate (10) therein when the cover plate (3) is coupled to the sub-plate (10) ;

said cover plate group (1) being **characterized in that** the cover plate (3) comprises plate coupling portions (30, 31, 32) suitable for being snap-coupled to the one or more respective sub-plate coupling portions (11, 12, 13) for releasably snap-coupling the cover plate to the sub-plate (10) and completely closing the winder seat (21),

and **in that** the cover plate (3) comprises a through opening (300) suitable for accommodating a switch (4) for the electrical control of a shutter motor, and one or more switch fastening holes (301, 302) suitable for fastening the switch (4) onto the cover plate (3) through a fastening device, such as one or more screws, and **in that**

the sub-plate (10) comprises a sub-plate through opening (100) suitable for accommodating the switch (4).

2. Cover plate group (1) according to claim 1, wherein the through opening (300) is positioned to be centered with respect to the total length of the cover plate (3) along a major plate extension direction (X') of the cover plate (3).

3. Cover plate group (1) according to any one of the preceding claims, wherein the cover plate (3) only comprises the one or more switch fastening holes (301, 302) and the through opening (300) and being devoid of any other opening or hole for fastening the cover plate (3) to the sub-plate (10).

4. Cover plate (1) according to any one of the preceding claims, wherein the one or more switch fastening holes (301, 302) are positioned close to the through opening (300).

5. Cover plate group (1) according to any one of the preceding claims, wherein the sub-plate through opening (100) is aligned with the through opening (300) of the cover plate (3).

6. Cover plate group (1) according to claim 5, wherein the sub-plate through opening (100) is shaped identically to the through opening (300) of the cover plate (3).

7. Cover plate group (1) according to any one of the preceding claims, wherein the sub-plate (10) comprises at least an auxiliary fastening hole (101) positioned so as to be aligned with one of the said one or more switch fastening holes (301, 302) of the cover plate (3), when the cover plate (3) is coupled to the sub-plate (10).

8. Cover plate group (1) according to any one of the preceding claims, wherein the one or more sub-plate coupling portions (11, 12, 13) is a depression obtained on a side (15) of the sub-plate and wherein the plate coupling portions (30, 31, 32) are one or more teeth protruding from a side of the cover plate (30) towards the inside of the sub-plate seat (33), or wherein the one or more sub-plate coupling portions (11, 12, 13) is a tooth protruding from a side (15) of the sub-plate and wherein the plate coupling portions (30, 31, 32) are one or more depressions obtained on a side of the cover plate (30) on the side of the sub-plate seat (33).

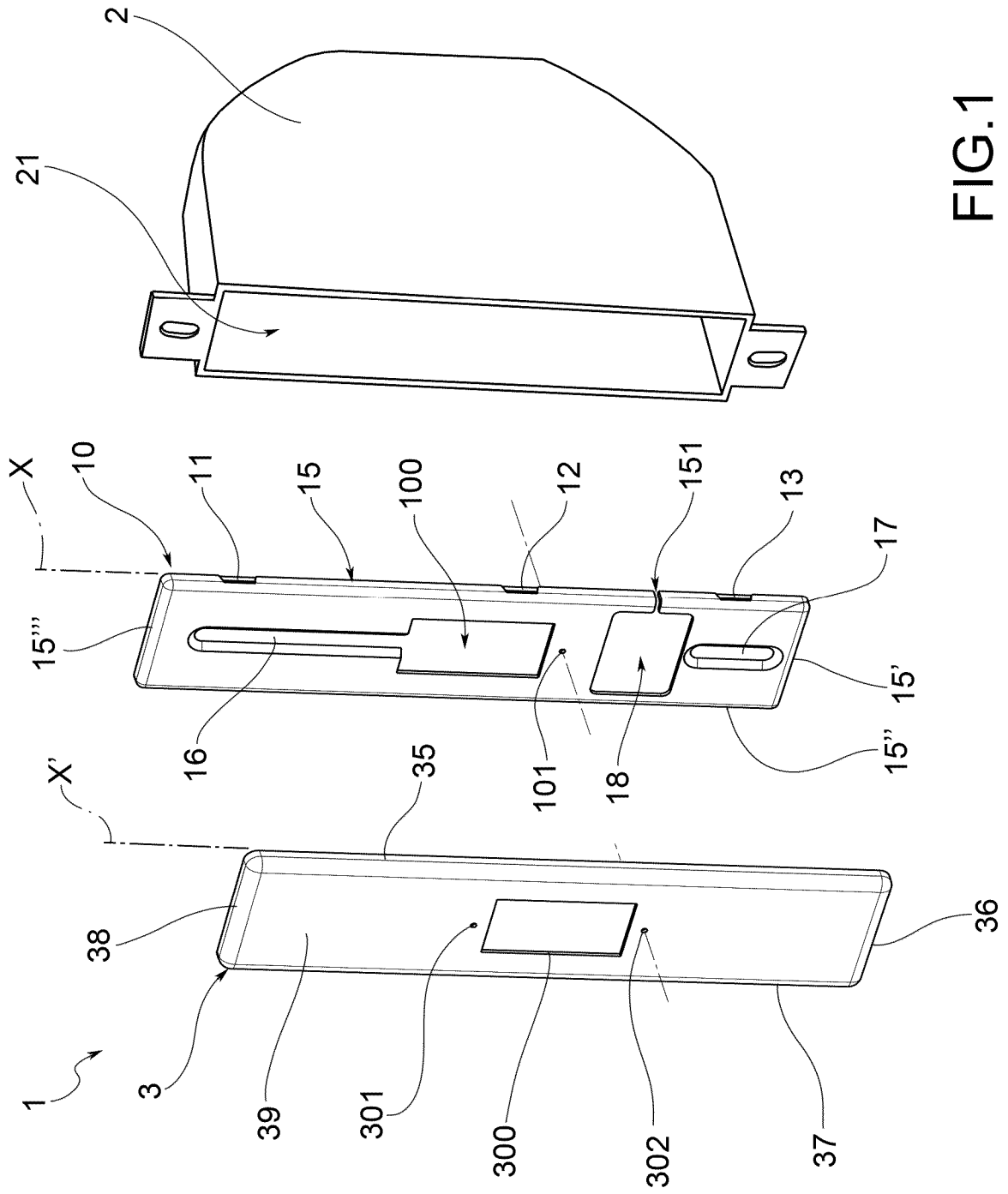
9. Cover plate group (1) according to any one of the preceding claims, wherein the sub-plate (10) comprises an upper fastening slot (16) and a lower fastening slot (17), said upper fastening slot (16)

and lower fastening slot (17) being suitable for being crossed by a pin or a screw for stably fastening the sub-plate (10) to the winder box (2).

10. Cover plate group (1) according to claim 9, wherein the upper fastening slot (16) is joined to the through opening (300), thus forming a single opening. 5
11. Cover plate group (1) according to claim 9 or 10, wherein the sub-plate (10) comprises a belt opening (18) positioned between the upper fastening slot (16) and the lower fastening slot (17) along a major extension direction (X) of the sub-plate, wherein said belt opening (18) being a through opening and being open towards only a side (15) of the sub-plate through a slit (151) which interrupts the continuity of said side (15). 10 15
12. Cover plate group (1) according to any one of the preceding claims, wherein the cover plate (3) has a rectangular plate shape having a flat front face (39) folded on the edges with rounded corners to form small peripheral plate sides (35, 36, 37, 38), the through opening (300) being obtained in said flat front face (39) . 20 25
13. A cover plate (3) couplable to a sub-plate (10) of a cover plate group (1) according to any one of the preceding claims, said cover plate (3) having a flat front face (39) folded on the edges with rounded corners to form small peripheral plate sides (35, 36, 37, 38), a through opening (300) suitable for accommodating a switch (4) for the electrical control of a shutter motor and one or more switch fastening holes (301, 302) suitable for fastening the switch (4) onto the cover plate (3) through a fastening device, such as one or more screws, being obtained on said flat front face (39), 30 35
said cover plate (3) being devoid of any other opening or hole for fastening the cover plate (3) to the sub-plate (10) and/or to a winder box (2). 40
14. An assembled unit (200) comprising a cover plate group (1) according to any one of claims 1 to 12, wherein the sub-plate (10) is snap-coupled to the cover plate (3) and wherein a switch (4) is fastened onto the cover plate (3), 45
said group (200) being devoid of visible screws. 50

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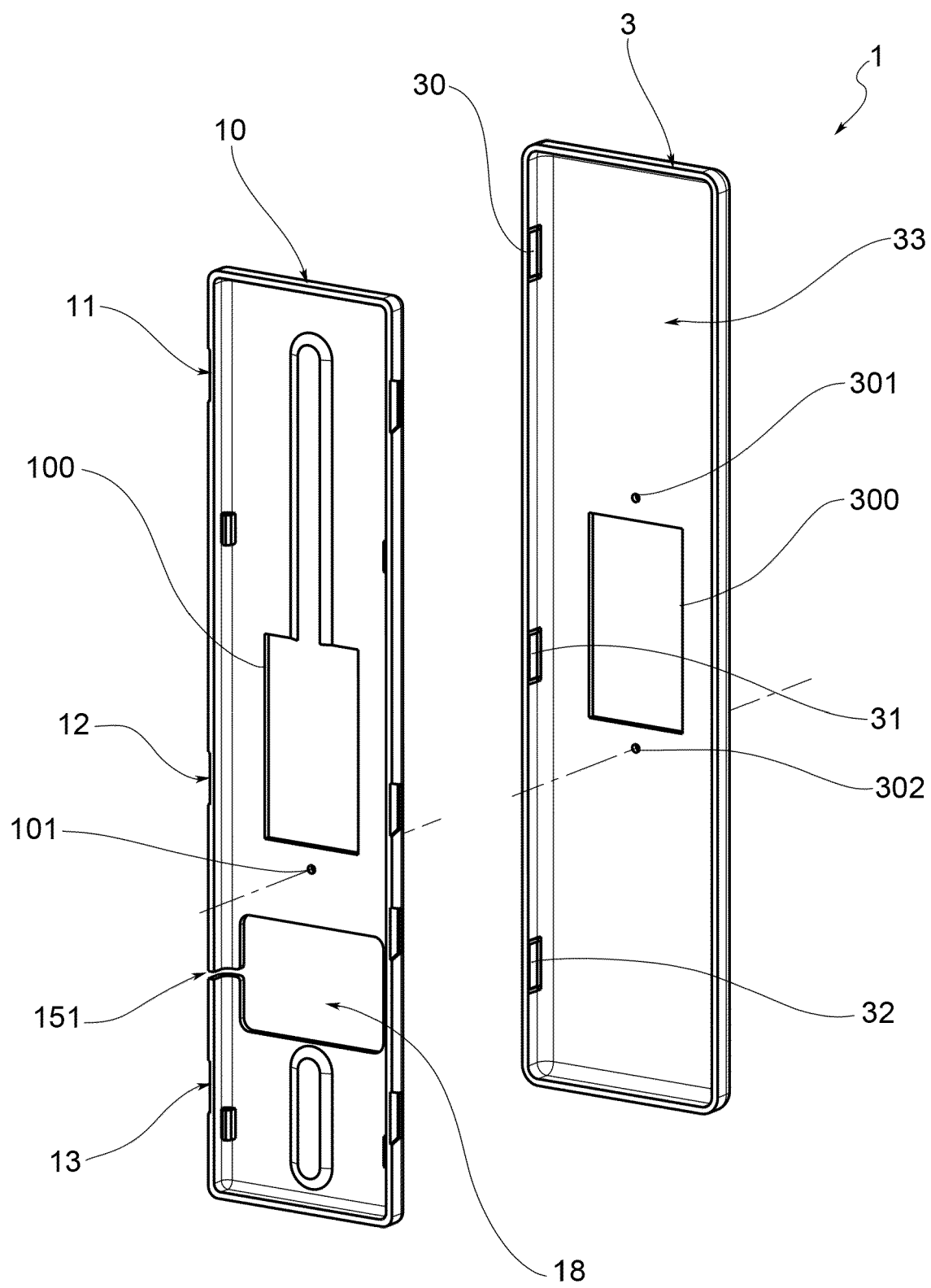


FIG.2

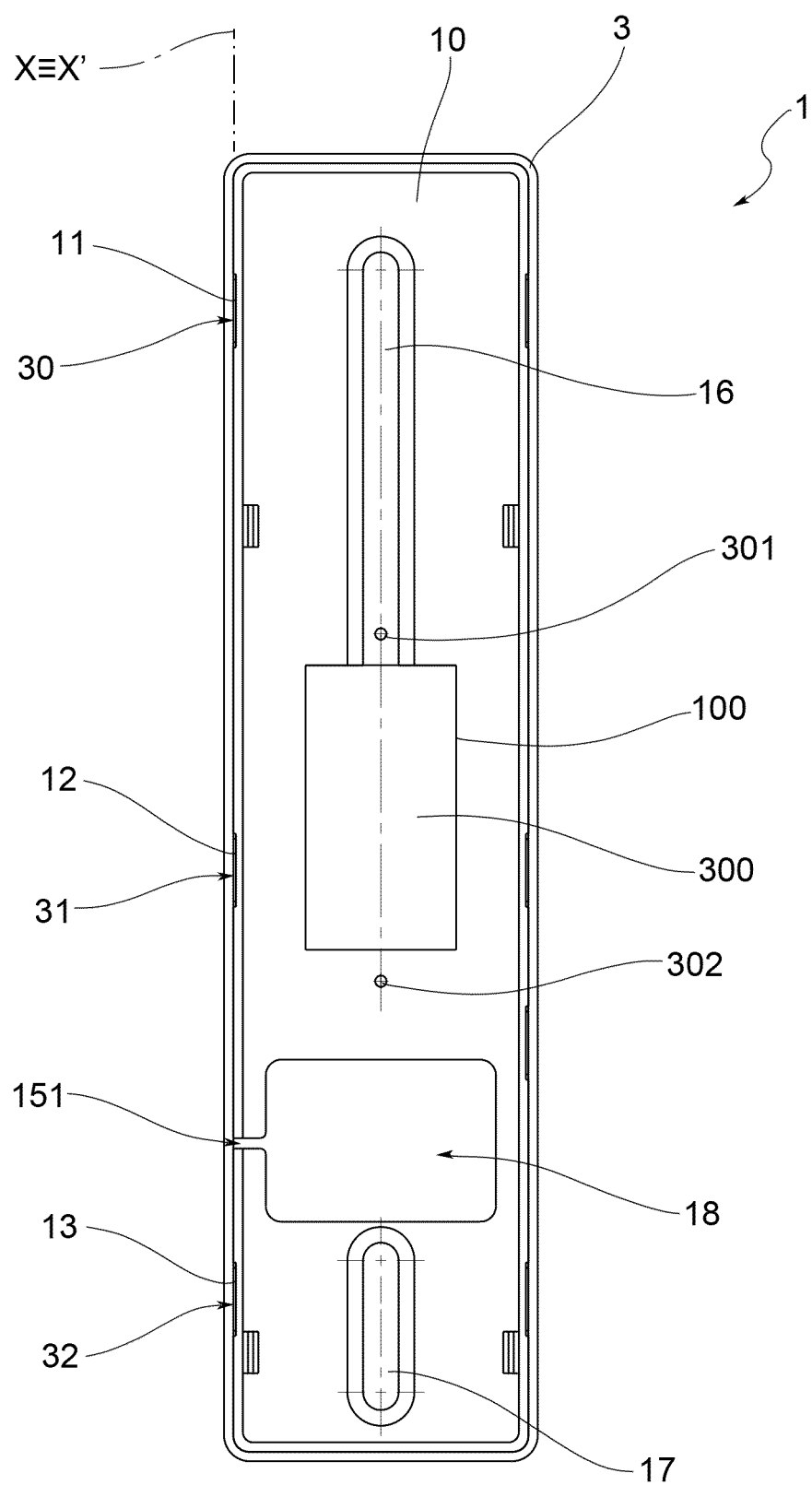


FIG.3

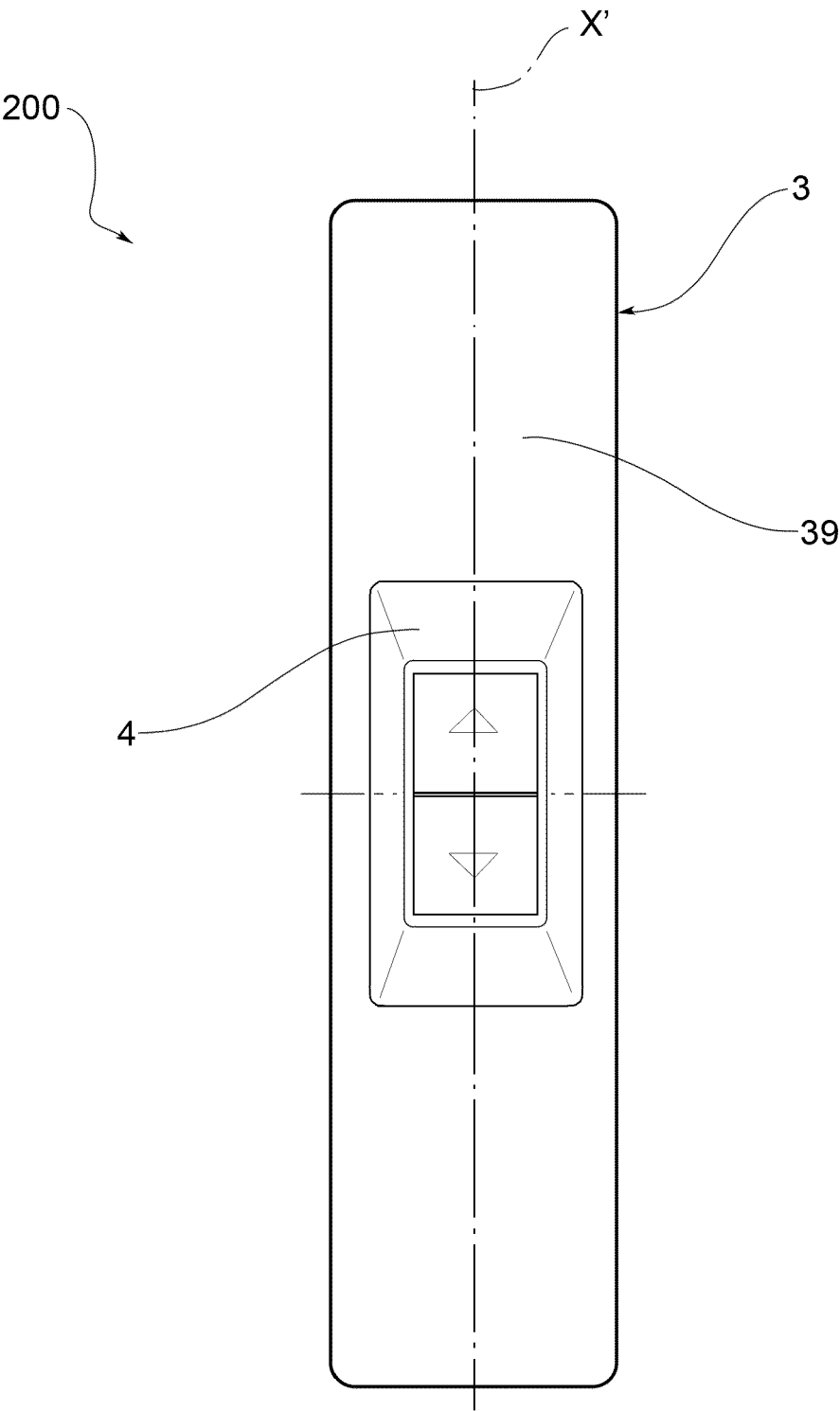


FIG.4



EUROPEAN SEARCH REPORT

Application Number

EP 24 21 2751

DOCUMENTS CONSIDERED TO BE RELEVANT

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A	EP 2 520 754 B1 (SCHELLENBERG ALFRED GMBH [DE]) 9 December 2015 (2015-12-09) * abstract; figures 1-2 * * paragraphs [0001], [0028] * -----	1-14	INV. E06B9/74 E06B9/78
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			TECHNICAL FIELDS SEARCHED (IPC)
			E06B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		26 March 2025	Wehland, Florian
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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