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**(54) SLIDING DOOR DRIVE APPARATUS AND KIT FOR EQUIPPING A FACADE THEREWITH**

ANTRIEBSVORRICHTUNG FÜR EINE SCHIEBETÜR UND BAUSATZ ZUM AUSRÜSTEN EINER FASSADE MIT EINER SOLCHEN VORRICHTUNG

DISPOSITIF D'ENTRAÎNEMENT DE PORTE COULISSANTE ET KIT POUR ÉQUIPER UNE FAÇADE AVEC UN TEL DISPOSITIF

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## Description

**[0001]** The present invention relates to an apparatus for operating a sliding door and a kit for equipping a facade which comprises such an apparatus.

**[0002]** In particular, the present invention relates to an apparatus for operating a sliding door intended to be installed on walls not already adapted to carry a sliding door, and a kit to equip the facade of that wall.

**[0003]** Therefore the present invention is in the field of auxiliary structures for buildings.

**[0004]** Nowadays, in the field of drives for sliding doors are known apparatuses comprising a casing that can be fixed to the wall and which accommodates a device adapted to support and/or to operate a sliding door.

**[0005]** Once installed, this traditional system presents the casing that protrude from the wall facade wherein one leaf or two leaves of the door hang below the casing. It is clear that such operating device must extend for the entire movement path of the leaf and then, with respect to the area which the door is intended to close, extends the entire length of the leaf, on one side of the compartment, if the door is a single-leaf door or, if the door is a two-leaf door extends on both sides of the compartment of a length at least equal to that of each leaf.

**[0006]** The resulting aesthetic effect of the casing is that of a bulky item and disproportionate to the opening. Generally, the aesthetic effect of these traditional devices is not liked at all.

**[0007]** The problem underlying the present invention is to propose an apparatus for actuating a sliding door which present a visual impact less bulky than the traditional devices.

**[0008]** An aim of the present invention is to provide an apparatus for actuating a sliding door and a kit for equipping facades which solves this problem by overcoming the drawbacks of the traditional operating apparatuses described above.

**[0009]** Within this aim, it is an object of the present invention to propose an apparatus for operating a sliding door that, compared to traditional equipment, allows for greater integration of accessories to the walls as lighting systems or indication light systems or ventilation systems or awning or shading.

**[0010]** Another aim of the present invention is to provide an apparatus for operating a sliding door that, compared to the traditional ones, allows for greater integration with windows or accessories systems for windows and/or shop windows.

**[0011]** Another object of the invention is to propose an apparatus for operating a sliding door which allows to integrate more effectively with ancillary structures of glasses and display walls.

**[0012]** A further object of the present invention is to provide a kit for equipping a facade that allows to integrate easily and effectively a sliding door in a facade not suitable to have a compartment for sliding door.

**[0013]** This task, these aims and others which will be-

come apparent hereinafter are achieved by an apparatus for actuating a sliding door according to appended claim 1. Detail features of the apparatus for operating a sliding door according to the invention are disclosed in the dependent claims.

**[0014]** Further characteristics and advantages of the invention result from the description of a preferred embodiment, of the apparatus for operating a sliding door and a kit for equipping a facade according to the invention, illustrated only by way of non-limitative example in the accompanying of drawings, in which:

- Figure 1 shows schematically a perspective view of an apparatus of the operating apparatus according to the invention;
- Figure 2 shows a cross section of an operating apparatus according to the present invention;
- Figures 3a and 3b show, respectively in front view and plan view, a first combination of modules of a kit for equipping a facade according to the present invention;
- Figure 4 illustrates in schematic form the parts of a kit for equipping a facade according to the present invention;
- Figures 5a and 5b show, in front view and plan view respectively, a second combination of modules of a kit for equipping a facade according to the present invention;
- Figures 6 to 10 illustrate combinations of modules of a kit for equipping a facade according to the present invention.

**[0015]** With particular reference to the mentioned figures, it is globally indicated with 10 an apparatus for operating a sliding door comprising:

- a frame 11 that can be fixed to a vertical support 12,
- support means 13 connected to the frame 11 and adapted to hang at least one leaf 14 of the sliding door to the frame 11 and to slide the leaf 14 along the frame 11 in a opening/closing direction A;
- a casing 15 which can be fixed to the frame 11 and adapted to cover the support means 13 for concealing them.

**[0016]** According to the present invention, the operating apparatus 10 has a particular characteristic in that it comprises lighting means 16 fixed to the frame 11 and configured such that, in a use condition in which the frame 11 is fixed to a vertical wall, the lighting means 16 are activated to project at least one light radiation that hits in a substantially grazing way the vertical wall.

**[0017]** The illumination effect on a zone of the wall or facade adjacent to where the operating apparatus 10, thereby created, is that it is dramatically reduced the perception of the operating apparatus itself so as to greatly reduce the visual impact thereof compared to the conventional operating apparatuses.

**[0018]** According to the invention, the operating apparatus 10 is configured in such a way that the lighting means 16 in use project at least one light radiation towards the sliding door and/or towards the facade on which the operating apparatus 10 is supported.

**[0019]** In general, preferably the lighting means 16 are adapted to generate:

- a light radiation substantially uniform and diffused on the area below the operating apparatus 10 when it is in use;
- and/or one or more focused light beams, which are projected below the operating apparatus 10 when it is in use.

**[0020]** Structurally, the operating apparatus 10 develops mainly along the opening/closing direction A and includes:

- a rear wall 17 shaped to be fixed on a substantially flat support, that forms part of the frame 11 and is adapted to be secured to vertical support 12;
- an upper wall 18, directly fixed to or integral with the rear wall 17;
- a front wall 19, opposite said rear wall 17 and directly fixed to or integral with the upper wall 18. These walls 17, 18, 19 delimit a compartment B internal to the apparatus 10 in which are housed the support means 13.

**[0021]** The lighting means 16 are configured so as to generate a light radiation directed from the inside towards the outside of the compartment B, in a direction at least predominantly parallel to the rear wall 17.

**[0022]** In this way, the lighting means 16 in use illuminate in a substantially grazing way the facade on which the apparatus is installed and/or the opening of the door so as to make more relevant the visual impact of the illuminated area, and then draw on this the attention of a bystander and consequently further reduce the visual impact of the operating apparatus.

**[0023]** The frame 11 includes advantageously the rear wall 17 and the upper wall 18, each provided with a face C and D respectively, that are external to the compartment B. These two external faces C and D preferably extend along mutually perpendicular planes, so that, when the operating apparatus is fixed to a vertical wall, by its rear wall 17, then the outer face D of the upper wall is horizontal.

**[0024]** The support means 13 advantageously comprise at least one rail 20 fixed to the rear wall 17 or integral with the latter.

**[0025]** The front wall 19 preferably includes a support 21 fixed to the upper wall 18, or integral with the latter and a hiding element 22 that can be fixed in a removable manner to the support 21 and adapted to conceal the contents of the compartment B.

**[0026]** The hiding element 22 advantageously com-

prises:

- at least one central element 23;
- at least a left lateral element 24;
- and at least one right lateral element 25.

**[0027]** For sake of simplicity only, in the description that follows, and in Figure 1, is disclosed a hiding element 22 that have only two lateral elements, one on the right side and one on left side 25, 24, however, the present description is applicable mutatis mutandis to the case of a plurality of lateral elements 24 and 25. Advantageously, locking means adapted to lock the hiding element 22 to the support 21 are provided.

**[0028]** These locking means 26 are configured so that the lateral elements 24, 25 are locked or unlocked to the support 21 by means of a sliding movement along a direction parallel to the opening/closing direction A. In general, the locking means 26 are also configured in such a way that the central element 23 is lockable and unlockable to the support 21 along a direction perpendicular to the opening/closing direction A and that if the elements 23, 24, 25 are locked to the support 21, then the central element 23 prevents lateral elements 25, 26 an unlocking sliding along the opening/closing direction A, to keep them locked to the support 21 as long as the central element 23 is locked thereto.

**[0029]** Preferably, the locking means 26 comprise a bayonet type device of the type equipped with a mushroom-shaped anchoring member adapted to engage a lane by means of a movement that is first perpendicular to the opening/closing direction A, for coupling with the lane, and then parallel to the opening/closing direction A to engage the lane with the head of the anchoring device.

**[0030]** The lighting means 16 advantageously comprise a device for light diffusion 27 shaped to form a light band, extending parallel to the opening/closing direction A. The light diffusion device 27 advantageously comprises:

- a parabolic reflector 28;
- light emitters 29, preferably LEDs, mounted to the parabolic reflector 28 and arranged so as to illuminate it during use;
- a translucent screen 30 secured to the parabolic reflector 28 so as to be illuminated, in use, by the light emitted by the light emitters 29 after being reflected from the parabolic reflector 28.

**[0031]** Preferably, the light diffusion device 27 is fixed to or integral with the front wall 19, and delimits, in cooperation with the rear wall 17 and a bottom opening E of the compartment B through which a leaf 14 of the sliding door can protrude from the operating apparatus 10.

**[0032]** Preferably, the light diffusion device 27 protrudes from the front wall 19 towards the rear wall 17 and by its own free edge defines a side of the lower opening, the other side of the latter being defined by the rear wall

17.

**[0033]** Advantageously, the free edge of the light diffusion device 27 carries a yielding element, for example a brush, adapted to close a portion of the lower opening E which is free from the leaf 14 when this is hanged to the support means 13.

**[0034]** The lighting means 16 preferably comprise spotlights adapted to emit focused light beams.

**[0035]** It makes part of the present invention also a kit 100 to equip a facade with a sliding door, which comprises an operating apparatus 10.

**[0036]** Preferably, the kit 100 comprises support elements 101, which can be fixed to the operating apparatus 10 so as to extend transversely and/or parallel to the opening/closing direction A and suitable for being affixed to a floor and/or ceiling and/or vertical walls of a building and configured to support the operating apparatus 10.

**[0037]** Advantageously, the support elements 101 include bearing beams preferably equipped with a cover.

**[0038]** With particular reference to Figure 10, the support elements 101 are preferably configured to form an H-shaped structure comprising a central beam 101a that extends horizontally between two walls, and two uprights 101b and 101c which extend from a floor to a ceiling.

**[0039]** In this way, through the support elements 101 it is possible to obtain a self-supporting structure which includes the operating device 10 which may comprise in central part of the support means 13 to operate the leaves 14 of a door and, in the side parts 10a such as spotlights and/or tends to respectively illuminate or cover an exhibition zone as a shop window 102.

**[0040]** The kit 100 is advantageously modular and comprises a plurality of modular elements having a flat face that can be fixed to a vertical support and having all the same cross section, relative to a plane perpendicular to said planar face.

**[0041]** Said plurality of modules 110, 111, 112, 113 preferably comprises:

- a main module 110 which consists of the operating apparatus 10;
- extension modules 111 that can be fixed or put side by side to the main module 110 to extend the latter, or to be aligned to it, along the opening/closing direction A;
- angular modules 112, suitable to be attached to the main module 110 and/or extension modules 111 and having a first part 112a extending in a first direction, that can be aligned to the opening/closing direction A, and a second part 112b extending in a second direction forming a predetermined angle with the first direction;
- modular end elements 113 equipped with a face shaped so as to connect to a front face of the modules 110, 111, 112 to the surface to which they are attached in use.

**[0042]** At least one of the modules 110, 111, 112, 113

is equipped with an accessory to choose from:

- an extensible curtain comprising a protecting or shading element and a drive device configured to extend or rewind said protecting or shading element from/into said module;
- an air knife generating device configured to generate an air knife extending from the module;
- lighting elements capable of casting light on the outside of the module.

**[0043]** With particular reference to Figures 7 to 13, the kit 100 further includes structural elements accessories, globally indicated with reference numeral 114, adapted to be combined with the operating apparatus 10 and/or with the support elements 11 to form a box shaped access structure with sliding doors, possibly equipped with display niches 115.

**[0044]** The structural elements accessories 114 preferably include structural supports 114a, 114b, suitable to support the operating apparatus 10 spaced apart from the wall which has the opening to be closed by the door supported by the operating mechanism 10.

**[0045]** The support elements 114a and 114b may comprise glass panels 114a, possibly self-supporting, and/or beams 114b.

**[0046]** With particular reference to Figures 11-13, the structural supports advantageously define a forepart 300 that can support the structure 200 resulting from the installation of the kit 100, spaced from the wall that presents the compartment to be equipped with the leaf/leaves of the sliding door.

**[0047]** In this way it is possible to prevent the structure 200 to be superimposed to the facade to which it is connected, so as to integrate them by defining an architectural element in its own right in combination with the projecting part, such as illustrated in Figures 11-13.

**[0048]** The invention as it is conceived is susceptible to numerous modifications and variants, all falling within the scope of the appended claims.

**[0049]** Furthermore all the details can be replaced by technically equivalent elements.

**[0050]** In practice, the materials used, as well as the contingent shapes and dimensions, can be varied according to the contingent requirements and the state of the art.

**[0051]** Where the construction characteristics and techniques mentioned in the appended claims are followed by signs or reference numbers, such signs or reference numbers have been used for the sole aim of increasing the intelligibility of the claims themselves and, therefore, they do not in any way constitute a limitation to the interpretation of each element which is identified, purely by way of example, by such signs or reference numbers.

## Claims

1. Operating apparatus (10) for a sliding door comprising:

- a frame (11) fixable to a vertical support (12),  
 - support means (13) connected to said frame (11) and suitable to support at least one leaf (14) of the sliding door to said frame (11) and to slide said leaf (14) along said frame (11) according to a opening/closing direction (A);  
 - a casing (15) fixable to said frame (11) and adapted to cover said support means (13);  
 - lighting means (16) fixed to said frame (11);

**characterized in that** said operating apparatus (10) extends mainly along said opening/closing direction (A) and **in that** the frame (11) comprises:

- a rear wall (17) forming part of said frame (11) and adapted to be secured to said vertical support (12);  
 - an upper wall (18), directly attached to said rear wall (17) or integral with the latter;  
 - a front wall (19), opposite said rear wall (17) and directly fixed to said upper wall (18) or integral with the latter;  
 said walls (17, 18, 19) delimiting a compartment (B) which is internal to said operating apparatus (10) in which are housed said support means (13); said lighting means (16) being configured such that in a condition of use, in which said frame (11) is fixed to a vertical wall, said lighting means (16) are activated to project at least one visible light radiation that is projected on said vertical wall in a direction which is substantially grazing to the latter; said lighting means (16) being configured so as to emit said at least one light radiation from the inside to the outside of said compartment (B), in a direction at least predominantly parallel to said rear wall (17).

2. Operating apparatus (10) according to claim 1 **characterized in that** said frame (11) comprises said rear wall (17) and said upper wall (18), having two outer faces which are external to said compartment (B) which develop according to mutually perpendicular planes; said support means (13) comprising at least one rail (20) fixed to said rear wall (17) or integral with the latter.
3. Operating apparatus (10) according to one of the preceding claims **characterized in that** said front wall (19) comprises a support (21) secured to said upper wall (18), or integral with the latter, and a hiding element (22) fixable in a removable manner to said support (21).

4. Operating apparatus (10) according to claim 3 **characterized in that** said hiding element (22) comprises:

- at least one central element (23);  
 - at least a left lateral element (24);  
 - and at least one right lateral element (25);

locking means (26) being provided for locking said hiding element (22) to said support (21) and configured so that said lateral elements (24, 25) are locked to/unlocked from said support (21) by a sliding movement along a direction parallel to said opening/closing direction (A); said locking means (26) being further configured such that said central element (23) is lockable/unlockable from said support (21) along a direction perpendicular to said opening/closing direction (A) and that if said elements are locked to said support (21), said central element (23) prevents said side (24, 25) sliding along said opening/closing direction (A), to keep them locked to said support (21) .

5. Operating apparatus (10) according to one of the preceding claims **characterized by** the fact that said lighting means (16) comprise a device for light diffusion (27) shaped to form a light band elongated, extending parallel to said opening/closing direction (A) .

6. Operating apparatus (10) according to claim 5, **characterized in that** said device for light diffusion (27) comprises:

- a parabolic reflector (28);  
 - light emitters (29) fixed to said parabolic reflector (28) and arranged so as to illuminate it during use;  
 - a translucent screen (30) fixed to said parabolic reflector (28) so as to be illuminated, in use, by the light emitted by said light emitters (29) after being reflected from said parabolic reflector (28).

7. Operating apparatus (10) according to one of claims 5 and 6 **characterized by** the fact that said device for light diffusion (27) is fixed to or integral with said front wall (19), and delimits, in cooperation with said rear wall (17) a bottom opening (E) of said compartment (B) through which a leaf (14) of the sliding door can protrude from said operating apparatus (10) .

8. Operating apparatus (10) according to one of the preceding claims **characterized by** the fact that said lighting means (16) comprise spotlights adapted to emit focused light beams.

9. Kit for equipping a facade with a sliding door, com-

prising an operating apparatus (10) made according to one of the preceding claims.

10. A kit for equipping a facade according to claim 9 **characterized in that** it comprises support elements (101), attachable to said operating apparatus (10) so as to extend transversely and/or parallel to said opening/closing direction (A) and adapted to be fixed to a floor and/or ceiling and/or the vertical walls of a building and configured to support said operating apparatus (10).
11. A kit for equipping a facade according to one of claims 9 and 10 **characterized in that** it comprises a plurality of modular elements having a flat face that can be fixed to a vertical support (12) and having all the same section, with respect to a plane perpendicular to said flat face.
12. A kit for equipping a facade according to claim 11 **characterized in that** said plurality of modules 110, 111, 112, 113 includes:
- a main module (110) said apparatus consisting of said operating apparatus(10);
  - extension modules (111) which can be fixed or placed side by side to said main module (110) to extend the latter, or to be aligned to it, along said opening/closing direction (A);
  - angular modules (112), adapted to be secured to said main module (110) and/or said extension modules (111) and having a first part (112a) extending in a first direction, and suitable to be aligned along said opening/closing direction (A), and a second part (112b) extending in a second direction forming a predetermined angle with said first direction;
  - modular end elements (113) equipped with a front shaped so as to joint a front face of said modules (110, 111, 112) to the surface to which they are attached in use.
13. Kit for equipping a facade according to claim 12 **characterized in that** at least one of said modules (110, 111, 112, 113) is equipped with at least one accessory chosen from:
- an extensible curtain comprising a shielding or shading element and an operating device configured to extend or fold out/rewind said shielding or shading element from/into said module;
  - an air knife configured to generate an air curtain extending from said module;
  - lighting elements capable of casting light towards the outside of that module.

## Patentansprüche

1. Betätigungsvorrichtung (10) für eine Schiebetür, Folgendes aufweisend:
- einen Rahmen (11), der an einem vertikalen Träger (12) fixierbar ist,
  - eine Halterungseinrichtung (13), die mit dem Rahmen (11) verbunden und dafür geeignet ist, zumindest einen Flügel (14) der Schiebetür am Rahmen (11) zu halten und den Flügel (14) entlang des Rahmens (11) gemäß einer Öffnungs-/Schließrichtung (A) zu verschieben;
  - ein Gehäuse (15), das am Rahmen (11) fixierbar und dafür angepasst ist, die Halterungseinrichtung (13) zu verdecken;
  - eine Beleuchtungseinrichtung (16), die am Rahmen (11) fixiert ist;
- dadurch gekennzeichnet, dass** sich die Betätigungsvorrichtung (10) hauptsächlich entlang der Öffnungs-/Schließrichtung (A) erstreckt und der Rahmen (11) Folgendes aufweist:
- eine Rückwand (17), die einen Teil des Rahmens (11) bildet und dafür angepasst ist, am vertikalen Träger (12) befestigt zu werden;
  - eine obere Wand (18), die direkt an der Rückwand (17) angebracht oder einstückig mit dieser ausgeführt ist;
  - eine Vorderwand (19), die der Rückwand (17) gegenüberliegt und direkt an der oberen Wand (18) fixiert oder einstückig mit dieser ausgeführt ist;
- wobei die Wände (17, 18, 19) ein Fach (B) abgrenzen, das sich innerhalb der Betätigungsvorrichtung (10) befindet, in dem die Halterungseinrichtung (13) untergebracht ist; wobei die Beleuchtungseinrichtung (16) so ausgelegt ist, dass in einem Gebrauchszustand, in dem der Rahmen (11) an einer vertikalen Wand fixiert ist, die Beleuchtungseinrichtung (16) aktiviert wird, um zumindest eine sichtbare Lichtstrahlung zu projizieren, die auf die vertikale Wand in einer Richtung projiziert wird, welche die Wand im Wesentlichen überstreicht;
- wobei die Beleuchtungseinrichtung dafür ausgelegt ist, die zumindest eine Lichtstrahlung von der Innenseite zur Außenseite des Fachs (B) in einer Richtung auszusenden, die zumindest vorwiegend parallel zur Rückwand (17) ist.
2. Betätigungsvorrichtung (10) nach Anspruch 1, **dadurch gekennzeichnet, dass** der Rahmen (11) die Rückwand (17) und die obere Wand (18) aufweist, mit zwei Außenflächen, die bezüglich des Fachs (B) außen liegen und sich entsprechend zweier zueinander senkrechter Ebenen ausbilden; wobei die Hal-

terungseinrichtung (13) zumindest eine Schiene (20) aufweist, die an der Rückwand (17) fixiert oder einstückig mit dieser ausgeführt ist.

3. Betätigungsvorrichtung (10) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Vorderwand (19) einen Träger (21), der an der oberen Wand (18) befestigt oder einstückig mit dieser ausgeführt ist, und ein Abdeckelement (22) aufweist, das abnehmbar am Träger (21) fixierbar ist.

4. Betätigungsvorrichtung (10) nach Anspruch 3, **dadurch gekennzeichnet, dass** das Abdeckelement (22) Folgendes aufweist:

- zumindest ein zentrales Element (23);
- zumindest ein linkes Seitenelement (24);
- und zumindest ein rechtes Seitenelement (25);

eine Einrasteinrichtung (26), die dafür vorgesehen ist, das Abdeckelement (22) am Träger (21) einzurasten, und so ausgelegt ist, dass die Seitenelemente (24, 25) durch eine Gleitbewegung entlang einer zur Öffnungs-/Schließrichtung (A) parallelen Richtung am Träger (21) eingerastet bzw. von diesem gelöst werden; wobei die Einrasteinrichtung (26) darüber hinaus so ausgelegt ist, dass das zentrale Element (23) entlang einer zur Öffnungs-/Schließrichtung (A) senkrechten Richtung am Träger (21) eingerastet bzw. von diesem gelöst werden kann, und dass, wenn die Elemente am Träger (21) eingerastet sind, das zentrale Element (23) verhindert, dass sich die Seitenelemente (24, 25) entlang der Öffnungs-/Schließrichtung (A) verschieben, um sie am Träger (21) eingerastet zu halten.

5. Betätigungsvorrichtung (10) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Beleuchtungseinrichtung (16) eine Lichtdiffusionsvorrichtung (27) aufweist, die so gestaltet ist, dass sie ein langgestrecktes Lichtband bildet, das sich parallel zur Öffnungs-/Schließrichtung (A) erstreckt.

6. Betätigungsvorrichtung (10) nach Anspruch 5, **dadurch gekennzeichnet, dass** die Lichtdiffusionsvorrichtung (27) Folgendes aufweist:

- ein parabolischen Reflektor (28);
- Lichtemitter (29), die am parabolischen Reflektor (28) fixiert und so angeordnet sind, dass sie ihn in Gebrauch anstrahlen;
- eine durchscheinende Blende (30), die am parabolischen Reflektor (28) fixiert ist, um in Gebrauch durch das von den Lichtemittern (29) ausgesendete Licht angestrahlt zu werden, nachdem es vom parabolischen Reflektor (28)

reflektiert wurde.

7. Betätigungsvorrichtung (10) nach einem der Ansprüche 5 und 6, **dadurch gekennzeichnet, dass** die Lichtdiffusionsvorrichtung (27) an der Vorderwand (19) fixiert oder einstückig mit dieser ausgeführt ist und in Zusammenwirkung mit der Rückwand (17) eine Bodenöffnung (E) des Fachs (B) umgrenzt, durch die ein Flügel (14) der Schiebetür von der Betätigungsvorrichtung (10) vorragen kann.

8. Betätigungsvorrichtung (10) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Beleuchtungseinrichtung (16) Punktstrahler aufweist, die dafür angepasst sind, fokussierte Lichtstrahlen auszusenden.

9. Bausatz zum Ausstatten einer Fassade mit einer Schiebetür, mit einer Betätigungsvorrichtung (10), die nach einem der vorhergehenden Ansprüche ausgeführt ist.

10. Bausatz zum Ausstatten einer Fassade nach Anspruch 9, **dadurch gekennzeichnet, dass** sie Trägerelemente (101) aufweist, die an der Betätigungsvorrichtung (10) so anbringbar sind, dass sie sich quer und/oder parallel zur Öffnungs-/Schließrichtung (A) erstrecken, und dafür angepasst sind, an einem Boden und/oder einer Decke und/oder den vertikalen Wänden eines Gebäudes fixiert zu werden, und dafür ausgelegt sind, die Betätigungsvorrichtung (10) zu halten.

11. Bausatz zum Ausstatten einer Fassade nach einem der Ansprüche 9 und 10, **dadurch gekennzeichnet, dass** er mehrere modulare Elemente mit einer Flachseite aufweist, die an einem vertikalen Träger (12) fixiert werden können und in Bezug auf eine zur Flachseite senkrechten Ebene jeweils denselben Querschnitt haben.

12. Bausatz zum Ausstatten einer Fassade nach Anspruch 11, **dadurch gekennzeichnet, dass** die mehreren Module (110, 111, 112, 113) Folgendes umfassen:

- ein Hauptmodul (110), wobei die Vorrichtung aus der Betätigungsvorrichtung (10) besteht;
- Erweiterungsmodule (111), die entlang der Öffnungs-/Schließrichtung (A) nebeneinander am Hauptmodul (110) fixiert oder platziert werden können, um es zu erweitern oder damit ausgerichtet zu werden;
- Winkelmodule (112), die dafür angepasst sind, am Hauptmodul (110) und/oder den Erweiterungsmodulen (111) befestigt zu werden, und einen ersten Teil (112a), der sich in einer ersten Richtung erstreckt und dafür geeignet ist, ent-

lang der Öffnungs-/Schließrichtung (A) ausgerichtet zu werden, und einen zweiten Teil (112b) aufweisen, der sich in einer zweiten Richtung erstreckt, die mit der ersten Richtung einen vorbestimmten Winkel bildet;

- modulare Endelemente (113), die mit einer Frontseite ausgestattet sind, die so gestaltet ist, dass sie eine Frontfläche der Module (110; 111, 112) mit der Oberfläche verbindet, an der sie in Gebrauch angebracht sind.

13. Bausatz zum Ausstatten einer Fassade nach Anspruch 12, **dadurch gekennzeichnet, dass** zumindest eines der Module (110, 111, 112, 113) mit zumindest einem Zubehörteil ausgestattet ist, das ausgewählt ist aus:

- einem ausziehbaren Vorhang, der ein Abschirmungs- oder Abschattungselement und eine Betätigungsvorrichtung aufweist, die dafür ausgelegt ist, das Abschirmungs- oder Abschattungselement aus dem Modul herauszufahren oder herauszuklappen bzw. es in das Modul einzuziehen;

- einem Luftmesser, das dafür ausgelegt ist, einen sich aus dem Modul heraus erstreckenden Luftvorhang zu erzeugen;

- Beleuchtungselementen, die in der Lage sind, Licht von diesem Modul nach außen zu werfen.

## Revendications

1. Appareil d'actionnement (10) pour une porte coulissante comprenant :

un bâti (11) pouvant être fixé sur un support vertical (12),  
des moyens de support (13) raccordés audit bâti (11) et appropriés pour supporter au moins un battant (14) de la porte coulissante sur ledit bâti (11) et pour faire coulisser ledit battant (14) le long dudit bâti (11) selon une direction d'ouverture/fermeture (A) ;

un boîtier (15) pouvant être fixé sur ledit bâti (11) et adapté pour recouvrir lesdits moyens de support (13) ;

des moyens d'éclairage (16) fixés sur ledit bâti (11) ;

**caractérisé en ce que** ledit appareil d'actionnement (10) s'étend principalement le long de ladite direction d'ouverture/fermeture (A) et **en ce que** le bâti (11) comprend :

une paroi arrière (17) faisant partie dudit bâti (11) et adaptée pour être fixée sur ledit support vertical (12) ;

une paroi supérieure (18) fixée directement

sur ladite paroi arrière (17) ou solidaire de cette dernière ;

une paroi avant (19) opposée à ladite paroi arrière (17) et directement fixée sur ladite paroi supérieure (18) ou solidaire de cette dernière ;

lesdites parois (17, 18, 19) délimitant un compartiment (B) qui est à l'intérieur dudit appareil d'actionnement (10) dans lequel sont logés lesdits moyens de support (13) ; lesdits moyens d'éclairage (16) étant configurés de sorte que dans une condition d'utilisation, dans laquelle ledit bâti (11) est fixé sur une paroi verticale, lesdits moyens d'éclairage (16) sont activés pour projeter au moins un rayonnement de lumière visible qui est projeté sur ladite paroi verticale dans une direction qui affleure sensiblement cette dernière ; lesdits moyens d'éclairage (16) étant configurés afin d'émettre ledit au moins un rayonnement de lumière de l'intérieur à l'extérieur dudit compartiment (B), dans une direction au moins principalement parallèle à ladite paroi arrière (17).

2. Appareil d'actionnement (10) selon la revendication 1, **caractérisé en ce que** ledit bâti (11) comprend ladite paroi arrière (17) et ladite paroi supérieure (18), ayant deux faces externes qui sont à l'extérieur dudit compartiment (B) qui se développent selon des plans mutuellement perpendiculaires ; lesdits moyens de support (13) comprenant au moins un rail (20) fixé sur ladite paroi arrière (17) ou solidaire de cette dernière.

3. Appareil d'actionnement (10) selon l'une des revendications précédentes, **caractérisé en ce que** ladite paroi avant (19) comprend un support (21) fixé sur ladite paroi supérieure (18) ou solidaire de cette dernière, et un élément de dissimulation (22) pouvant être fixé d'une manière amovible sur ledit support (21).

4. Appareil d'actionnement (10) selon la revendication 3, **caractérisé en ce que** ledit élément de dissimulation (22) comprend :

au moins un élément central (23) ;

au moins un élément latéral gauche (24) ;

et au moins un élément latéral droit (25) ;

des moyens de verrouillage (26) étant prévus pour verrouiller ledit élément de dissimulation (22) sur ledit support (21) et configurés de sorte que lesdits éléments latéraux (24, 25) sont verrouillés/déverrouillés dudit support (21) par un mouvement coulissant le long d'une direction parallèle à ladite direction d'ouverture/fermeture (A) ; lesdits moyens de verrouillage (26) étant

- en outre configurés de sorte que ledit élément central (23) peut être verrouillé/déverrouillé dudit support (21) le long d'une direction perpendiculaire à ladite direction d'ouverture/fermeture (A) et **en ce que** si lesdits éléments sont verrouillés sur ledit support (21), ledit élément central (23) empêche ledit côté (24, 25) coulissant le long de ladite direction d'ouverture/fermeture (A), de les maintenir verrouillés sur ledit support (21).
5. Appareil d'actionnement (10) selon l'une des revendications précédentes, **caractérisé par le fait que** lesdits moyens d'éclairage (16) comprennent un dispositif pour la diffusion de lumière (27) formé pour former une bande lumineuse allongée, s'étendant parallèlement à ladite direction d'ouverture/fermeture (A).
6. Appareil d'actionnement (10) selon la revendication 5, **caractérisé en ce que** ledit dispositif pour la diffusion de lumière (27) comprend :
- un réflecteur parabolique (28) ;
  - des émetteurs de lumière (29) fixés sur ledit réflecteur parabolique (28) et agencés afin de l'éclairer pendant l'utilisation ;
  - un écran translucide (30) fixé sur ledit réflecteur parabolique (28) afin d'être éclairé, à l'usage, par la lumière émise par lesdits émetteurs de lumière (29) après avoir été reflété à partir dudit réflecteur parabolique (28).
7. Appareil d'actionnement (10) selon l'une des revendications 5 et 6, **caractérisé par le fait que** ledit dispositif pour la diffusion de lumière (27) est fixé sur ou est solidaire de ladite paroi avant (19) et délimite en coopération avec ladite paroi arrière (17), une ouverture inférieure (E) dudit compartiment (B) à travers laquelle un battant (14) de la porte coulissante peut faire saillie dudit appareil d'actionnement (10).
8. Appareil d'actionnement (10) selon l'une des revendications précédentes, **caractérisé par le fait que** lesdits moyens d'éclairage (16) comprennent des projecteurs adaptés pour émettre des faisceaux lumineux concentrés.
9. Kit pour équiper une façade avec une porte coulissante, comprenant un appareil d'actionnement (10) réalisé selon l'une des revendications précédentes.
10. Kit pour équiper une façade selon la revendication 9, **caractérisé en ce qu'il** comprend des éléments de support (101), pouvant être fixés audit appareil d'actionnement (10) afin de s'étendre de manière transversale et/ou parallèle vers ladite direction d'ouverture/fermeture (A) et adaptés pour être fixés
- sur une porte et/ou un plafond et/ou les parois verticales d'un bâtiment et configurés pour supporter ledit appareil d'actionnement (10).
11. Kit pour équiper une façade selon l'une des revendications 9 et 10, **caractérisé en ce qu'il** comprend une pluralité d'éléments modulaires ayant une face plate qui peut être fixée sur un support vertical (12) et ayant tous la même section, par rapport à un plan perpendiculaire à ladite face plate.
12. Kit pour équiper une façade selon la revendication 11, **caractérisé en ce que** ladite pluralité de modules (110, 111, 112, 113) comprend :
- un module principal (110), ledit appareil se composant dudit appareil d'actionnement (10) ;
  - les modules d'extension (111) qui peuvent être fixés ou placés côte à côte avec ledit module principal (110) pour étendre ce dernier ou être aligné avec ce dernier, le long de ladite direction d'ouverture/fermeture (A) ;
  - des modules angulaires (112) adaptés pour être fixés sur ledit module principal (110) et/ou lesdits modules d'extension (111) et ayant une première partie (112a) s'étendant dans une première direction, et appropriés pour être alignés le long de ladite direction d'ouverture/fermeture (A), et une seconde partie (112b) s'étendant dans une seconde direction formant un angle prédéterminé avec ladite première direction ;
  - des éléments d'extrémité modulaires (113) équipés avec une partie avant formée afin d'assembler une face avant desdits modules (110, 111, 112) à la surface sur laquelle ils sont fixés, à l'usage.
13. Kit pour équiper une façade selon la revendication 12, **caractérisé en ce qu'au moins l'un** desdits modules (110, 111, 112, 113) est équipé avec au moins un accessoire choisi parmi :
- un rideau extensible comprenant un élément de protection ou d'ombrage et un dispositif d'actionnement configuré pour étendre ou plier/embobiner ledit élément de protection ou d'ombrage de/dans ledit module ;
  - une lame d'air configurée pour générer un rideau d'air s'étendant à partir dudit module ;
  - des éléments d'éclairage pouvant projeter la lumière vers l'extérieur de ce module.



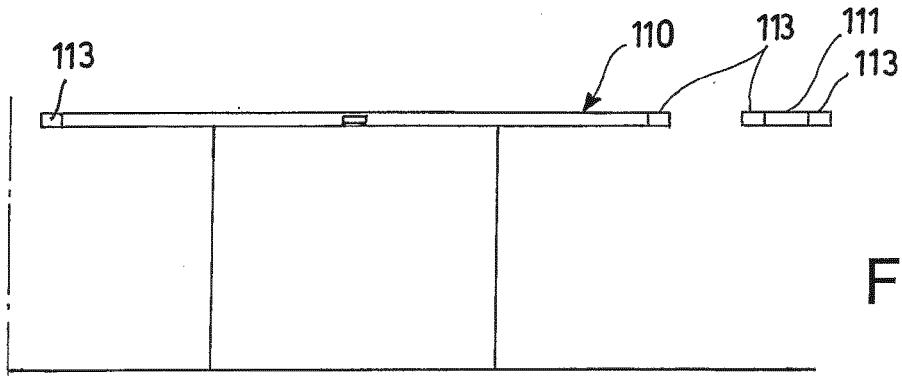


Fig.3a

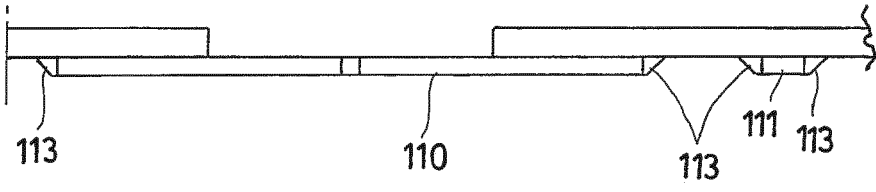


Fig.3b

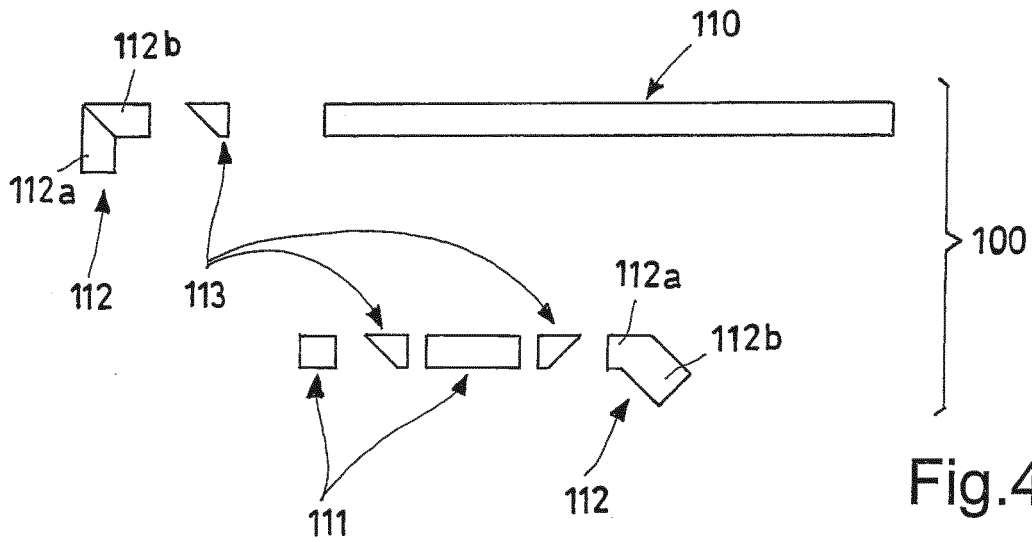


Fig.4

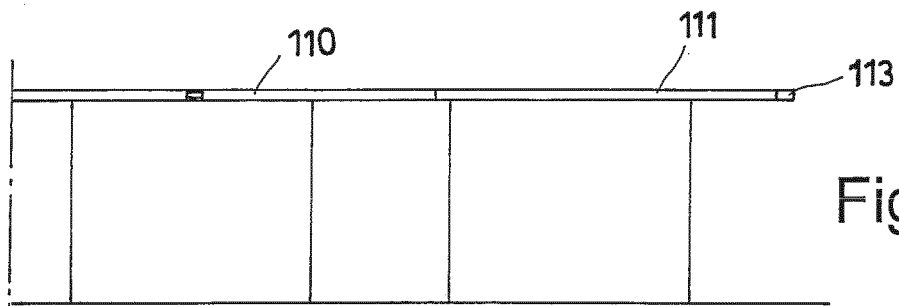


Fig.5a

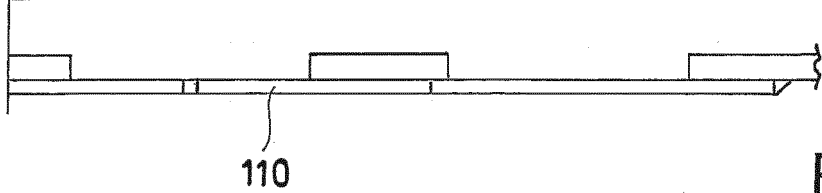


Fig.5b

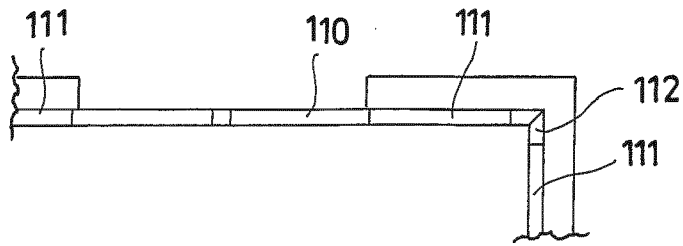


Fig. 6

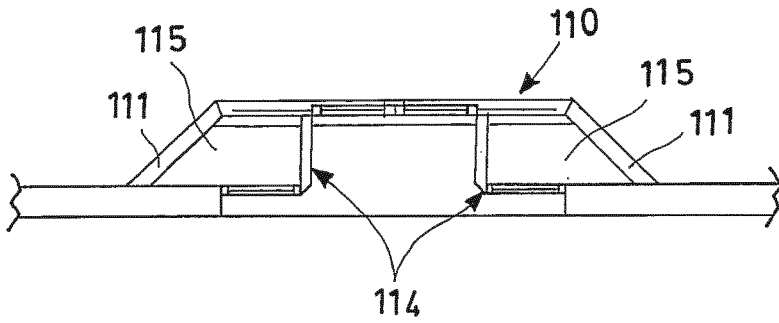


Fig. 7

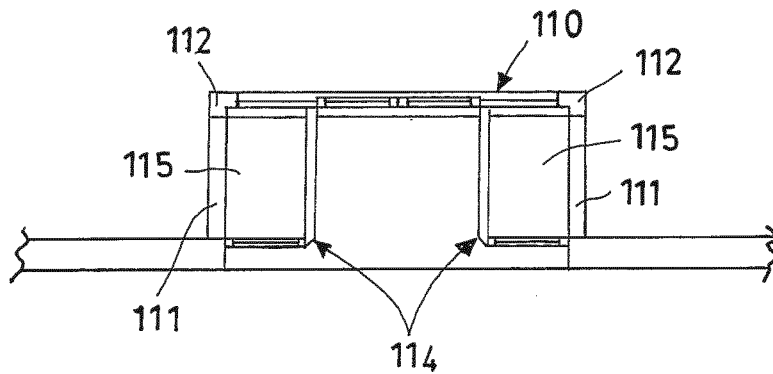


Fig. 8

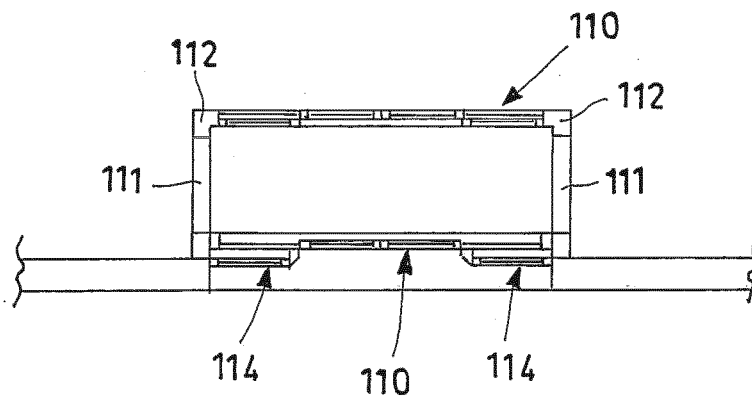


Fig. 9

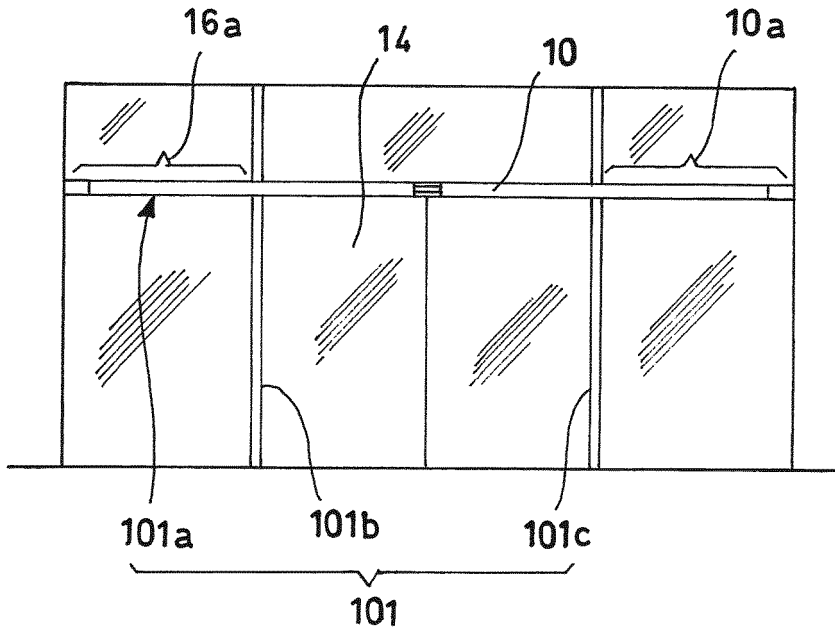


Fig.10

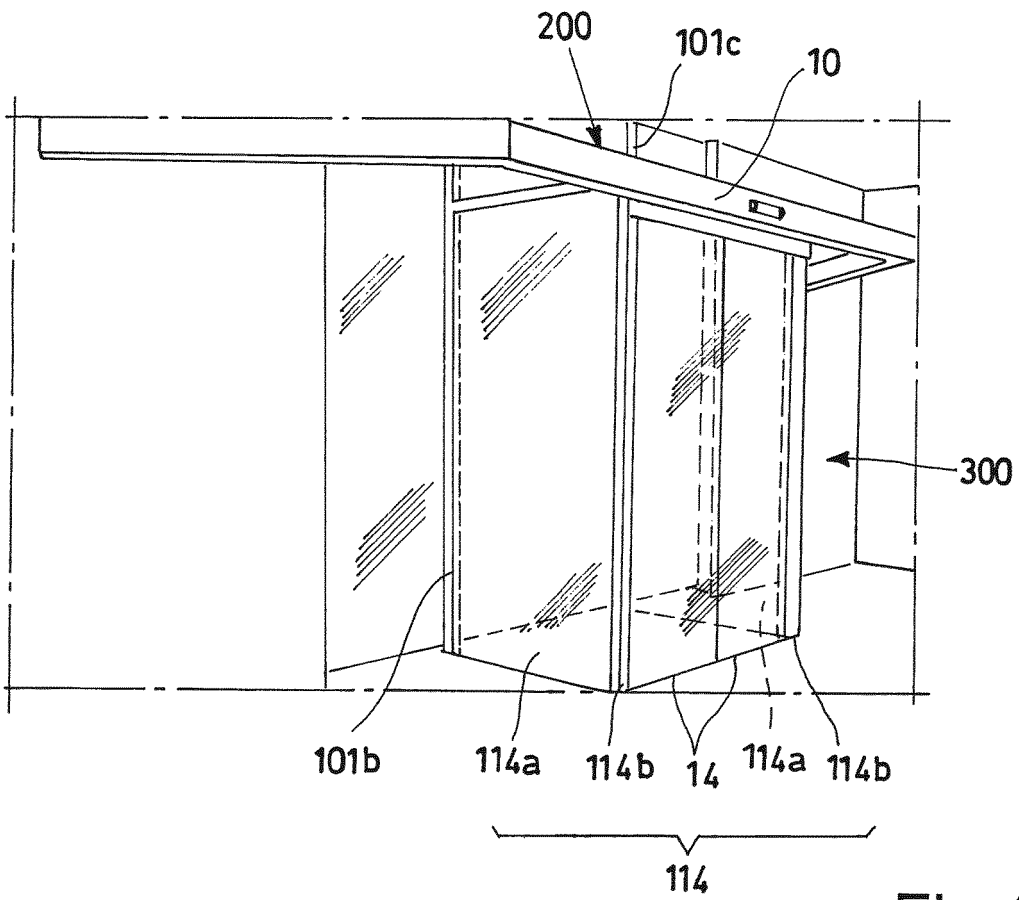


Fig.11

