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(54) **BUILDING ELEMENT**

BAUELEMENT

ELEMENT DE CONSTRUCTION

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US-A- 2 654 918

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Description

[0001] The present invention relates to a building front element comprising two opposite and parallel extending guiding profiles adapted to be placed in a generally vertical position, defining lowermost and uppermost ends, two displaceable frames being of substantially the same weight and being received in and guided in respective slideways in the guiding profiles and each having opposite and parallel lateral edges, and a wire system connecting one of the edges of the displaceable frame, being received in and guided in the appertaining slideway in one of the guiding profiles or in the first guiding profile, to the opposite edge of the second displaceable frame which is received in and is guided in the appertaining slideway of the second guiding profile which wire system in addition connects one of the edges of the above mentioned displaceable frame which is received in and guided in the appertaining slideway of the second guiding profile, to the opposite edge of the second displaceable frame which is received in and guided in the appertaining slideway in one of the guiding profiles or in the first guiding profile, and which wire system is guided around the above mentioned uppermost ends of the guiding profiles.

[0002] Building front elements in the form of windows are disclosed in numerous publications, e.g. Norwegian patent No. 12488, published British patent application No. 2 193 744, German patent No. 880 646, German patent No. 961 294, US patent No. 1 361 163 and US patent No. 1 552 436.

[0003] Several of these patents relate to techniques claiming to provide a balancing of the displaceable frames of the building front element in question. In accordance with these prior art balancing methods, the lateral edges of the displaceable frames are connected by means of wires passing via/over pulleys or tackles, said lateral edges being received in and guided by slideways in one of the guiding profiles, or alternatively, balancing springs or weights are provided for balancing the displaceable frames.

[0004] These prior art balancing methods have, however, proven to be quite unsatisfactory and inappropriate, in particular when the window or building front element is of a considerable size and the displaceable frames, accordingly, have relatively large dimensions. In this connection, it has turned out that the employment of conventional balancing methods often leads to a wedge-like blocking of the displaceable frames of the window or building front element in the slideways of the guiding profiles, thus preventing an effortless and reliable opening or closing of the frames.

[0005] A building front element of the kind described above is known from Danish utility model registration No. 93 00123 and is characterized by differing from the building front elements disclosed in the above mentioned publications by having window frames which are not especially likely to block by wedging and thus to pre-

vent an effortless and reliable mobility and operation. This elimination of blocking by wedging or poor or unreliable function which is often present in the above mentioned older building front elements is obtained by means of two wires constituting a cross suspension which serves the purpose of ensuring that the two displaceable frames of the building front element to the extent possible are always guided in parallel and in balanced state or in an equilibrium.

[0006] In spite of the splendid properties of this prior art front building element it has turned out that this cross-suspended front building element can be further improved in order to improve the function of the front building element. Thus, it has been realized that the establishment of the special cross suspension which provides the effortless and frictionless mobility of the two displaceable frames of the front building element and eliminates the problems relating to wedge-like blocking and difficult or poor operation implies a precise adjustment of the two wires in relation to the displaceable frames.

[0007] An object of the present invention is to provide a building front element of arbitrary size and of the kind described above which compared to the building front element known from the above mentioned Danish utility model registration provides the further advantage that the cross suspension of the building front element may be established in a simple manner without requiring exact adjustment of the two wires of the wire system known from the above mentioned Danish utility model registration in relation to each other and in relation of the two displaceable frames of the building front element and thus in relation to construction and operation improves the building front element known from the above mentioned Danish utility model registration.

[0008] According to the present invention, this object is achieved by means of a building front element of the aforementioned kind, which building front element in accordance with the realization upon which the present invention is based is characterized in that the wire system comprises a single wire which is guided around the lowermost edge of the two displaceable frames which is arranged lowermost in the building front element constituting a closed loop.

[0009] In accordance with the realization of the present invention, the building front element known from the above mentioned Danish utility model registration is improved by making the wire system of the building front element so to speak self-adjusting as the closed loop formed by one of the wires of the wire system provides a self-adjusting adaption of the parts of the wire corresponding to the two cross suspension-forming wires of the building front element known from the above-mentioned Danish utility model registration. During mounting of the building front element as well as during later use and e.g. during disassembling of the building front element for maintenance as e.g. painting, cleaning etc, the construction of the cross-suspended wire system as a

closed loop facilitates the handling of the building front element. Likewise, any changes in the length of the wires due to use or aging of the two wires of the building front element known from the above mentioned Danish utility model registration is in itself counterbalanced in the building front element according to the present invention, in which the wire system constitutes a closed loop comprising one single wire simultaneously establishing the self-adjusting cross suspension which in accordance with the construction known from the above mentioned Danish utility model registration provides an effortless and frictionless mobility and at the same time provides the possibility of positioning of the two displaceable frames in arbitrary positions, e.g. a totally open or a totally closed position and an arbitrary intermediate partly open or partly closed position.

[0010] A primary use of the building front element according to the present invention is for confining e.g. verandas, balconies, pavement restaurants and the like, where these objects should be opened or closed easily, however still maintaining breastwork. The building front element according to the present invention may, however, alternatively be employed as a window element.

[0011] Independently of the intended use of the building front element as an independent building front element, or alternatively as a window element, the displaceable frames preferably constitute window frames receiving glass panes of one or more glass sheets, e.g. hardened single-layer glass panes, two- or three-layered insulating panes. The displaceable frames may, alternatively, constitute covering panels, e.g. in connection with pavement restaurants or shops providing an enclosure and cover for display- or facade areas during the closing hours of the restaurant or shop in question. Moreover, and alternatively, the displaceable frames of the building front element according to the present invention may be formed with reinforcements, e.g. a grid or a wire.

[0012] According to one embodiment of the building front element according to the present invention, the two displaceable frames may be received in separate or respective slideways of the guiding profiles. According to the presently preferred embodiment of the building front element according to the present invention, each of the guiding profiles is formed with a single slideway for guiding respective lateral edges of the two displaceable frames, said two displaceable frames being guided in the same slideway of the two guiding profiles.

[0013] The wire of the wire system of the building front element according to the present invention constitutes the above-mentioned cross suspension and may lead from one edge of the first displaceable frame to the opposite edge of the second displaceable frame via bushings, rollers or, in accordance with the presently preferred embodiment of the building front element according to the present invention, around respective reels, arranged at said uppermost ends of the guiding profiles, the two wires further, and preferably, being fixed to the

uppermost edges of the two displaceable frames.

[0014] The building front element according to the present invention may alone be formed by the two opposite and mutually parallel guiding profiles, the two displaceable frames with their associated wires constituting the cross suspension, characteristic of the present invention. In accordance with the presently preferred embodiment of the building front element according to the present invention, the building front element further comprises two fixed frames placed between the guiding profiles at their uppermost and lowermost ends, respectively, defining an uppermost and a lowermost fixed frame, respectively. These uppermost and lowermost frames may be of identical dimensions, or different dimensions, and may, additionally, be identical to or different from the displaceable frames, which may again be of different sizes, as long as the displaceable frames are of the same weight or, alternatively, are balanced to an essentially identical weight.

[0015] It is, however, preferred that all four frames, i.e. the two displaceable frames and the two fixed frames, are of identical dimensions, thus providing a building front element which, with the displaceable frames being in their closed position, closes off the building front element completely, and with the displaceable frames being in their opened position, provides an approximately 50 per cent opening of the area of the building front element. The fixed frames may be fixated in the guiding profiles or may be received in respective, separate slideways of the guiding profiles, whereby the fixed frames, e.g. for reasons of cleaning and maintenance, may be released from the normally locked or fixed positions and displaced relative to the normal, fixed positions, guided by the respective slideways of the guiding profiles.

[0016] When the building front element according to the present invention serves as a building front element and is exposed to rain, sleet and snow, the slideway receiving the uppermost fixed frame is preferably placed externally relative to the tracks receiving the displaceable frames and the lowermost fixed frame, relative to the intended position of the building front element, while the track receiving the lowermost fixed frame, correspondingly is placed internally. In this way, a dewatering of the building takes place unobstructedly, the uppermost fixed frame overlapping the uppermost displaceable frame which, e.g. via a drip nose, overlaps the lowermost displaceable frame, which again overlaps the lowermost fixed frame.

[0017] The easy access to the two displaceable frames of the building front element through the fixed frames formed as window elements that can be opened may be further improved if the uppermost fixed frame, as seen relative to the intended positioning of the building front element, can be opened outwardly whereas the lowermost fixed frame correspondingly may be opened inwardly.

[0018] According to a further, preferred embodiment of the present invention, the building front element may

comprise top and bottom elements joined to the guiding profiles and thus forming an integral frame, of which the guiding profiles constitute frame elements. The resulting building front element constitutes an independent unit, of which the bottom element may, preferably, be formed with a drip nose for eliminating possible dewatering problems. The building front element according to the present invention preferably constitutes a building front element of a height matching the given and intended use. Thus, the building front element may advantageously be of a total height which matches the height between two floors.

[0019] When using the building front element for enclosing verandas, balconies or similar structures, the height of the lowermost fixed frame preferably corresponds to the breastwork of a balcony.

[0020] The building front element according to the present invention may be manufactured from any suitable and, preferably, weatherproof material, such as aluminium, plastic or pressure- or vacuum-impregnated wood. The building front element may also be manufactured by combining elements of any of the above-mentioned materials. The building front element may additionally comprise elements made of e.g. iron profiles formed with a protecting surface coating, e.g. of plastic.

[0021] The wires which according to the present invention constitute the cross suspension, characteristic of the present invention, may be produced from any suitable material, such as steel or plastic or any combination thereof, e.g. steel wire covered with plastic of a thickness of e.g. 4 to 8 mm. In a typical application of the building front element for enclosing e.g. a balcony, the total width of the building front element is 1 to 2 metres, the building front element comprising four frames, two stationary and two displaceable frames of the same width as the building front element, and each having a height of approximately 0.5 to 1 metre. The reels or tackles guiding the cross-suspending steel wires may be manufactured from, say nylon or any durable and preferably non-corroding and weatherproof material, such as plastic, surface-treated or plastic-coated steel, brass or the like.

[0022] The present invention will be described in greater detail in the following with reference to the drawing, of which

Figure 1 shows, in a perspective view, a partially opened building front element,

Figure 2 shows in a vertical section the building front element of Figure 1,

Figure 3 is a top view of the building front element of Figures 1 and 2,

Figures 4, 5 and 6 illustrate schematically the building front element of Figs. 1 through 3, having displaceable frames suspended by means of a wire-

suspension system,

Figure 7 shows the building front element of Figs. 1 through 6 as applied in the gable of the building, and

Figure 8 shows the vertical section through the building front element of figure 1-7.

[0023] Figure 1 shows schematically and perspective a building front element according to the present invention. The building front element, as a whole, is designated 10 and comprises two opposite and parallelly extending, lateral elements 12 and 14 which together with opposite top and bottom elements 16 and 18, respectively, form a frame which receives two stationary frames 20 and 26 together with two displaceable frames 22 and 24 which in the positioning of the building front element according to Fig. 1, wherein the building front element is mounted in a generally vertical position, form vertically displaceable frames. The fixed frame 20 comprises a circumferential outer, marginal frame 21 and forms an uppermost fixed or stationary frame, while the other fixed frame 26 in the same manner has a circumferential, outer frame 27 and forms a lowermost fixed or stationary frame. The displaceable frames 22 and 24 each comprises respective circumferential outer, marginal frames, 23 and 25, respectively. Reels or tackles for wires 34 and 35 are mounted at the upper ends of the lateral elements 12 and 14, the use of which will be apparent from the following description.

[0024] Fig. 2 shows a vertical section through the building front element of Fig. 1 and showing in detail the fixed frames 20 and 26, the displaceable frames 22 and 24 together with top and bottom elements 16 and 18. Fig. 2 shows that the marginal edges of each of the displaceable and stationary frames are made up from segments of profiled strips carrying suitable sealing strips and serving to receive and fix respective window panes, formed by hardened single-layer glass windows or multiple-layer insulating windows. The top and bottom elements 16 and 18 each carries, as seen in Fig. 2, one slideway; it should be noticed that the lateral elements 12 and 14 shown in Fig. 1, correspondingly comprise one slideway. The top element 16, accordingly, is provided with two downwardly extending flanges 16a and 16b, therebetween bordering said slideway and constituting an inwardly and an outwardly protruding flange, respectively, as seen relative to the intended positioning of the building front element. Outside the slideway or outside the flange 16b, the uppermost fixed frame 20 is received, while the slideway serves the purpose of receiving the two vertically displaceable frames 22 and 24. Inside the slideway or inside the flange 16a shown in Fig. 2, the lowermost fixed frame 26 is received. The fixed frames 20 and 26 constitute outwardly and inwardly, respectively, openable window elements and are fixed at the bottom and top elements 16 and 18 by means of profile elements 17 and 19, respectively. The

construction of the frames 20 and 26 as openable window elements enables, by means of opening of the stationary frames 20 and 26, access from the inner side to the outer side of windows of the displaceable frames 22 and 24 for cleaning of the windows. The lowermost displaceable frame 24 is, as apparent from Fig. 2, on the inside provided with a handle 28, preferably formed by a protruding profiled part of the profiled element, forming the uppermost frame part of the frame 25. Fig. 2 also shows a wire 36 attached at 40 to the upper edge of the uppermost displaceable frame 22. The wire 36, as appears from Fig. 2 and as will be explained in details below, passes around reels 33 and 35 received in a bracket 30 in a closed loop.

[0025] Fig. 3 illustrates the manner in which the reels 33 and 35 are placed at the uppermost end of the lateral element 12, while reels 32 and 34 are arranged at the corresponding uppermost end of the lateral element 14, and received in a corresponding bracket 30. Fig. 3 furthermore illustrates the manner in which the wire 36 passes at the uppermost end of the building front element 10 in a crosslike way. This cross-suspension of the vertically displaceable frames 22 and 24 also appears from Figs. 4, 5 and 6; Fig. 4 clearly shows how the wire 36 is guided from the uppermost left corner of the uppermost displaceable frame 22 around the pulleys 32 and 35 and down around the lowermost right corner of the lowermost displaceable frame 24, further around the lowermost left corner of the lowermost displaceable frame 24 and up around the pulleys 34 and 33 and are fixed to the uppermost right corner of the uppermost displaceable frame 22 and constituting a closed loop. This cross suspension in a closed loop of the displaceable frames 22 and 24 allows for an almost ideal guiding of the vertically displaceable frames which are, at any time, guided mutually parallel and in equilibrium, any tendency of one of the displaceable frames to tip over relative to an intended guiding in the lateral elements 12 and 14 automatically being compensated by this cross suspension, and moreover the closed loop provides a self adjustment of the wire 36 in both sides in relation to the displaceable frames 22 and 24 which accordingly provides a self-realigning effect. Consequently, the cross suspension does not only provide a static balancing of the two displaceable frames 22 and 24, having the same external dimensions and weight, but also a dynamic balancing providing an easy, frictionless displacement. The cross-suspension also allows for a positioning of the displaceable frames at any position, either fully closed as shown in Fig. 4, partially opened as shown in Fig. 6, or in any intermediate position, for example a semi-open position as shown in Fig. 5.

[0026] Fig. 7 shows the application of the building front element described above with reference to Figs. 1-6, in the gable 52 of a house 50. The gable 52 forms an external annex, such as a balcony extension or an external, enclosed staircase. In Fig. 7, a total of three complete building front elements are shown together

with the upper part of a lowermost building front element, corresponding to a third, a second, and a first storey and the ground floor of the building 50. In Fig. 7, 54 designates a handrail or balustrade placed on the upper edge of the lowermost fixed frame 26.

[0027] Fig. 8 shows a vertical section through the building front element 10 described above with reference to Figs. 1-6, further showing the mounting of the building front element between two adjacent building components 60 and 62. Fig. 8 also shows how the upper fixed frame 20 is intended to be placed outermost, while the lower fixed frame 26 is intended to be placed innermost, thus providing a particularly simple dewatering of the building front element.

[0028] The wires 36 may be mounted freely accessible and visible, or as it is the case in the presently preferred embodiment of the building front element according to the present invention and as illustrated with reference to Figs. 1-8, it may be fixed concealed in the profiles constituting the side elements 12 and 14 in which the displaceable frames are guided.

[0029] In the presently preferred embodiment of the building element according to Figs. 1-8 of the present invention, the guiding of the wire at the uppermost end of the building front element is concealed to the viewer or user.

[0030] The reels described above may alternatively be provided by means of rollers or wheels that may be mounted on ball or roller bearings, and similarly at the lowermost corners of the lowermost displaceable frame 24, pulleys or rollers may be provided around which the wire 36 is guided in the closed loop as described above. The building front element which is in the above and with reference to Figs. 1-8 described embodiment preferably made from extruded, hard anodized aluminium profiles may alternatively be made from pressure- or vacuum-impregnated wooden fillets, if necessary combined with profiled guiding means manufactured from e.g. extruded and hard anodized aluminium. The building front element may, as anyone skilled in the art will realize, be formed in any width and height determined by the given application of the building front element. Moreover, it should be noticed that the building front element has specific advantages in relation to a virtually 50% openability, easy and unhindered operation and function, allowing for cleaning and maintenance from the inside due to the displaceability of the normally fixed frames 20 and 26. Furthermore, the building front element according to the invention is distinguished by not employing a bottom profile section, for example a bottom slide profile, as is normal in connection with conventional, horizontally displaceable frames of verandas or elements for covering balconies, said bottom slide profile often collecting large amounts of dirt and precipitation.

Claims

1. Building front element comprising two opposite and parallelly extending guiding profiles (12, 14) adapted to be placed in a generally vertical position, defining lowermost and uppermost ends, two displaceable frames (22, 24) being of substantially the same weight and being received in and guided in respective slideways in the guiding profiles (12, 14) and each having opposite and parallel lateral edges, and a wire system (36) connecting one of the edges of the displaceable frame (22, 24), being received in and guided in the appertaining slideway in the one or the first guiding profile, to the opposite edge of the second displaceable frame (24, 22) which is received in and is guided in the appertaining slideway of the second guiding profile (14, 12) which wire system (36) in addition connects one of the edges of the above mentioned displaceable frame (22, 24) which is received in and guided in the appertaining slideway of the second guiding profile (12, 14), to the opposite edge of the second displaceable frame (24, 22) which is received in and guided in the appertaining slideway in the one or first guiding profile (12, 14), and which wire system is guided around the above mentioned uppermost ends of the guiding profiles, **characterized** in that the wire system comprises a single wire (36) being guided around the lowermost edge of the one (24) of the two displaceable frames (22, 24) which is arranged lowermost in the building front element and forms a closed loop.
2. Building front element according to Claim 1, **characterized** in that the displaceable frames (22, 24) constitute window frames carrying double- or multiple glazing.
3. Building front element according to Claim 1 or 2, **characterized** in that each of the guiding profiles comprises a single slideway for guiding the respective lateral edges of the two displaceable frames (22, 24).
4. Building front element according to any of the Claims 1 through 3, **characterized** in that the wire (36) passes around respective reels (30, 32, 33, 35) arranged at the uppermost ends of the guiding profiles, and in that the wire is attached to the uppermost edge of the one (22) of the two displaceable frames (22, 24) which is arranged uppermost in the building front element.
5. Building front element according to any of the Claims 1 through 4, **characterized** by further comprising two fixed frames (20, 26) arranged between the guiding profiles (12, 14) at the uppermost and lowermost ends, respectively, defining a fixed uppermost frame and a fixed lowermost frame, respectively.
6. Building front element according to Claim 5, **characterized** in that the fixed frames (20, 26) constitute openable window elements.
7. Building front element according to Claim 6, **characterized** in that the uppermost fixed frame (20), as seen relative to the intended positioning of the building front element, is placed on the outside relative to the tracks which receive the displaceable frames (22, 24) and that the lowermost fixed frame (26) is correspondingly placed on the inside relative to said tracks.
8. Building front element according to Claim 7, **characterized** in that the uppermost fixed frame (20), as seen relative to the intended positioning of the building front element, is outwardly openable and that the lowermost fixed frame (26) is correspondingly inwardly openable.
9. Building front element according to any of the preceding Claims, **characterized** in that said building front element (10) further comprises top and bottom elements (16, 18) joined to the guiding profiles (12, 14) so as to form an integral frame, of which the guiding profiles (12, 14) constitute parts of the frame.
10. Building front element according to any of the preceding Claims, **characterized** in that the building front element (10) is of a total height which matches the height between two floors.
11. Building front element according to any of the Claims 5 through 10, **characterized** in that the lowermost fixed frame (26) is of a height which matches the height of a breastwork of a balcony.
12. Building front element according to any of the Claims 5 through 11, **characterized** in that the displaceable frames (22, 24) and the fixed frames (20, 26) are approximately of the same height.

Patentansprüche

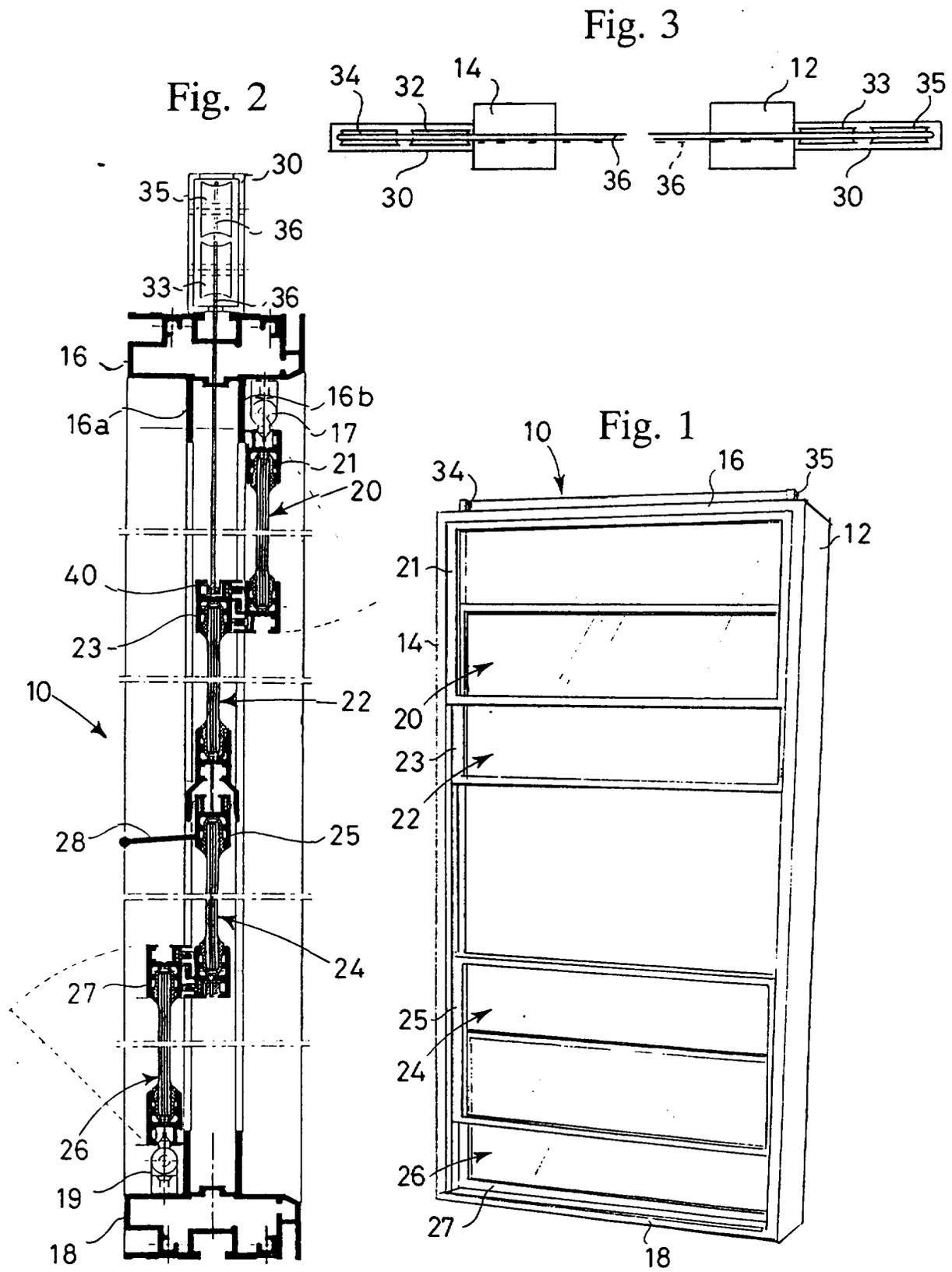
1. Fassadenelement mit zwei gegenüberliegenden und gegenseitig parallelen Führungsprofilen (12, 14), die zu hauptsächlich vertikaler Positionierung eingerichtet sind, untere und obere Enden definierend, mit zwei beweglichen Rahmen (22, 24), die in der Hauptsache das gleiche Gewicht haben und in jeweiligen Führungsspuren der Führungsprofile aufgenommen und geführt werden, und die jeweils gegenüberliegende, parallele Seitenkanten haben,

- sowie mit einem Drahtsystem (36), das die Kante des einen beweglichen Rahmens (22, 24), die in der jeweiligen Führungsspur des einen oder ersten Führungsprofils (12, 14) aufgenommen und geführt wird, mit der gegenüberliegenden Kante des anderen beweglichen Rahmens (24, 22), die in der jeweiligen Führungsspur des anderen Führungsprofils (14, 12) aufgenommen und geführt wird, verbindet, welches Drahtsystem ausserdem die Kante des genannten einen beweglichen Rahmens (22, 24), die in der jeweiligen Führungsspur des anderen Führungsprofils (14, 12) aufgenommen und geführt wird, mit der gegenüberliegenden Kante des anderen beweglichen Rahmens (24, 22), die in der jeweiligen Führungsspur des einen oder ersten Führungsprofils (12, 14) aufgenommen und geführt wird, verbindet, und welches Drahtsystem um die oberen Enden der Führungsprofile geführt ist, dadurch gekennzeichnet, dass das Drahtsystem einen einzelnen Draht (36) umfasst, der um die untere Kante desjenigen (24) der beiden beweglichen Rahmen (22, 24) geführt ist, der unten im Fassadenelement angeordnet ist, und eine geschlossene Schleife bildet.
2. Fassadenelement nach Anspruch 1, dadurch gekennzeichnet, dass die beweglichen Rahmen (22, 24) Fensterrahmen darstellen, in denen Fensterglas, das aus einem oder mehreren Scheiben besteht, aufgenommen ist.
3. Fassadenelement nach Anspruch 1 oder 2, dadurch gekennzeichnet, dass jedes der Führungsprofile eine einzelne Führungsspur zur Führung der jeweiligen Seitenkanten der beiden beweglichen Rahmen (22, 24) hat.
4. Fassadenelement nach einem der Ansprüche 1 bis 3, dadurch gekennzeichnet, dass der Draht (36) an den oberen Enden der Führungsprofile um Rollen (30, 32, 33, 35) geführt ist, und dass der Draht an der oberen Kante desjenigen (22) der beiden beweglichen Rahmen (22, 24) befestigt ist, der oben im Fassadenelement angeordnet ist.
5. Fassadenelement nach einem der Ansprüche 1 bis 4, dadurch gekennzeichnet, dass das Fassadenelement ausserdem zwei festen Rahmen (20, 26) hat, die zwischen den Führungsprofilen (12, 14) an den oberen bzw. unteren Enden angeordnet sind, einen oberen bzw. einen unteren festen Rahmen definierend.
6. Fassadenelement nach Anspruch 5, dadurch gekennzeichnet, dass die festen Rahmen (20, 26) Fensterelemente darstellen, die geöffnet werden können.
7. Fassadenelement nach Anspruch 6, dadurch gekennzeichnet, dass der obere feste Rahmen (20), gegenüber der beabsichtigten Positionierung des Fassadenelements gesehen, ausserhalb der Spuren angeordnet ist, in denen die beweglichen Rahmen (22, 24) aufgenommen sind, und dass der untere feste Rahmen (26) dementsprechend innerhalb der genannten Spuren angeordnet ist.
8. Fassadenelement nach Anspruch 7, dadurch gekennzeichnet, dass der obere feste Rahmen (20), gegenüber der beabsichtigten Positionierung des Fassadenelements gesehen, nach aussen geöffnet werden kann, und dass der untere feste Rahmen (26) dementsprechend nach innen geöffnet werden kann.
9. Fassadenelement nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, dass das Fassadenelement (10) ausserdem Ober- und Unterteile (16, 18) hat, die mit den Führungsprofilen (12, 14) verbunden sind und einen Gesamtrahmen bilden, wobei die Führungsprofile Rahmenteile darstellen.
10. Fassadenelement nach einem der vorhergehenden Ansprüche, dadurch gekennzeichnet, dass das Fassadenelement (10) eine einer Geschosshöhe entsprechende Gesamthöhe hat.
11. Fassadenelement nach einem der Ansprüche 5 bis 10, dadurch gekennzeichnet, dass der genannte untere feste Rahmen (26) eine der Brüstungshöhe eines Balkons entsprechende Höhe hat.
12. Fassadenelement nach einem der Ansprüche 5 bis 11, dadurch gekennzeichnet, dass die beweglichen Rahmen (22, 24) und die festen Rahmen (20, 26) annähernd die gleiche Höhe haben.

Revendications

1. Élément de façade avec deux profils de guidage (12, 14) opposés et parallèles entre eux, qui sont essentiellement faits pour être placés verticalement, définant les extrémités basses et hautes, deux cadres mobiles (22, 24) qui ont essentiellement le même poids et qui sont introduits et guidés dans des rainures de guidage respectives dans les profils de guidages (12, 14) et qui ont chacun des bords de côté opposés et parallèles ainsi qu'un système de fil de fer (36) qui relie le bord de l'un des cadres (22, 24) mobiles, lequel bord est introduit et guidé dans la rainure de guidage dépendante dans l'un ou le premier profil de guidage (12, 14), avec le bord opposé (24, 22) de l'autre cadre mobile, lequel bord est introduit et guidé dans la rainure de guida-

- ge dépendante dans l'autre profil de guidage (14, 12), lequel système de fil de fer (36) relie en outre ledit bord de l'un des cadres mobiles (22, 24), lequel bord est introduit et guidé dans la rainure de guidage dépendante dans l'autre profil de guidage (14, 12), avec le bord opposé de l'autre cadre mobile (24, 22), lequel bord est introduit et guidé dans la rainure de guidage dépendante dans l'un ou le premier profil de guidage (12, 14), et lequel système de fil de fer est conduit autour des extrémités supérieures des profils de guidages, CARACTÉRISÉ en ce que le système de fil de fer comprend un seul fil de fer (36), qui est conduit autour du bord inférieure de celui (24) des deux cadres mobiles (22, 24) qui est placé au niveau le plus bas de l'élément de façade, formant une boucle fermée.
2. Élément de façade selon la revendication 1, CARACTÉRISÉ en ce que les cadres mobiles (22, 24) constituent des cadres de fenêtre dans lesquels sont introduits des vitres en plusieurs couches ou d'un vitrage simple.
3. Élément de façade selon la revendication 1 ou 2, CARACTÉRISÉ en ce que chaque profil de guidage a une seule rainure de guidage pour le guidage des bords de côté respectives des deux cadres mobiles (22, 24).
4. Élément de façade selon l'une quelconque des revendications 1 à 3, CARACTÉRISÉ en ce que le fil de fer (36) est conduit autour de poulies (30, 32, 33, 35) aux extrémités supérieures des profils de guidage, et en ce que le fil de fer est fixé au bord supérieur de celui (22) des deux cadres mobiles (22, 24) qui est placé au niveau supérieur de l'élément de façade.
5. Élément de façade selon l'une quelconque des revendications 1 à 4, CARACTÉRISÉ en ce que, ultérieurement, l'élément de façade a deux cadres fixes (20, 26) qui sont placés entre les profils de guidage (12, 14) aux extrémités inférieures et supérieures respectivement, définant respectivement un cadre fixe inférieur et un cadre fixe supérieur.
6. Élément de façade selon la revendication 5, CARACTÉRISÉ en ce que les cadres fixes (20, 26) constituent des éléments de fenêtres possibles à ouvrir.
7. Élément de façade selon la revendication 6, CARACTÉRISÉ en ce que le cadre fixe supérieur (20), vu par rapport au placement voulu de l'élément de façade, est placé en dehors des rainures dans lesquelles les cadres mobiles (22, 24) sont introduits, et en ce que le cadre fixe inférieur (26) est placé, de manière correspondante, à l'intérieur des dites rainures.
8. Élément de façade selon la revendication 7, CARACTÉRISÉ en ce que le cadre fixe supérieur (20), vu par rapport au placement voulu de l'élément de façade, est possible à ouvrir vers l'extérieur, et que le cadre fixe inférieur (26) est possible à ouvrir, de manière correspondante, vers l'intérieur.
9. Élément de façade selon l'une quelconque des revendications précédentes, CARACTÉRISÉ en ce que, ultérieurement, l'élément de façade (10) a des pièces de fond et de haut (16, 18) qui sont reliés aux profils de guidage (12, 14), formant un cadre entier, dans lequel les profils de guidage constituent des pièces d'appui.
10. Élément de façade selon l'une quelconque des revendications précédentes, CARACTÉRISÉ en ce que l'élément de façade (10) est d'une hauteur totale correspondant à la hauteur d'un étage.
11. Élément de façade selon l'une quelconque des revendications 5 à 10, CARACTÉRISÉ en ce que le dit cadre fixe inférieur (26) est d'une hauteur correspondant à la hauteur d'appui d'un balcon.
12. Élément de façade selon l'une quelconque des revendications 5 à 11, CARACTÉRISÉ en ce que les cadres mobiles (22, 24) et les cadres fixes (20, 26) ont approximativement la même hauteur.



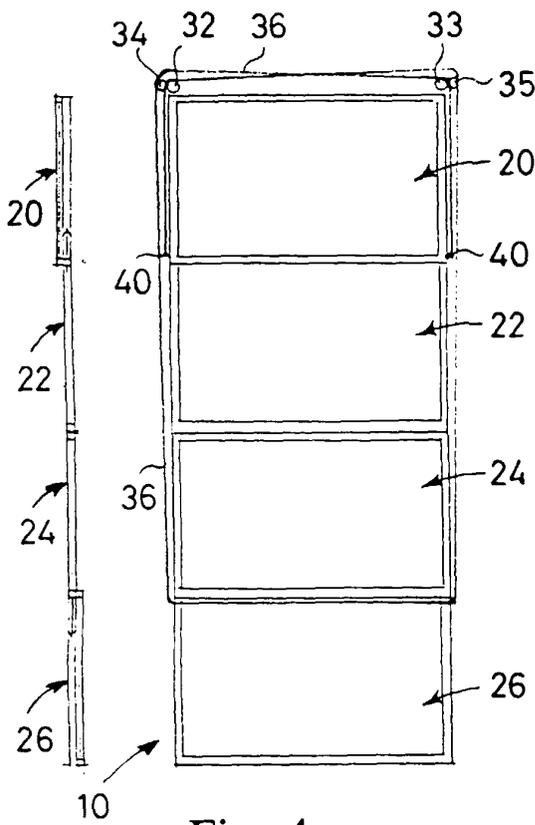


Fig. 4

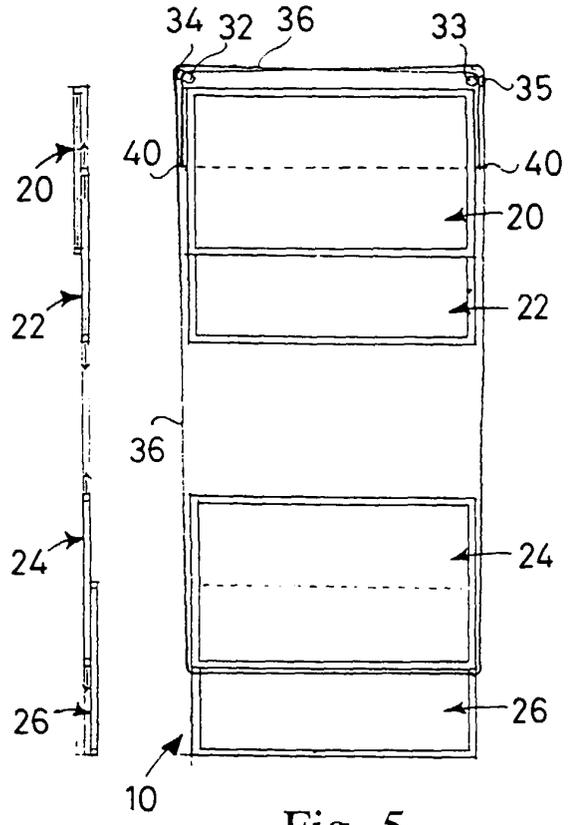


Fig. 5

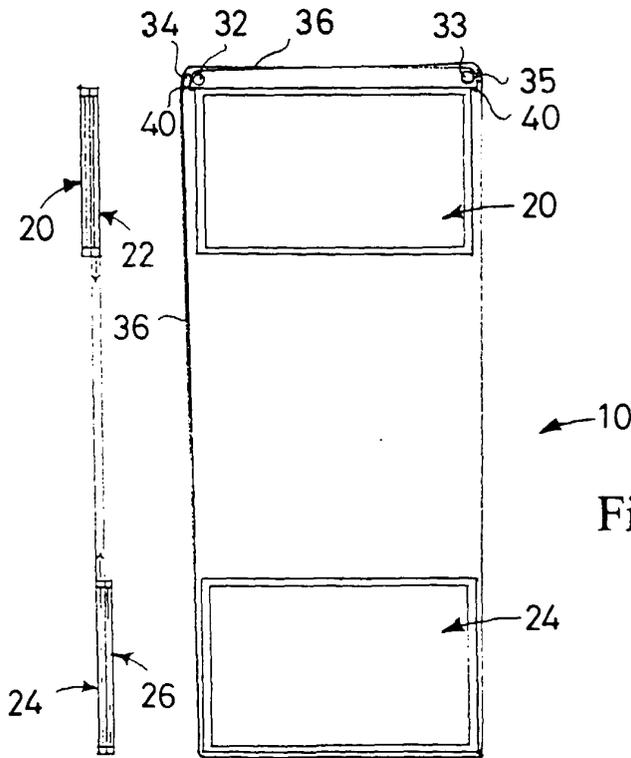


Fig. 6

Fig. 7

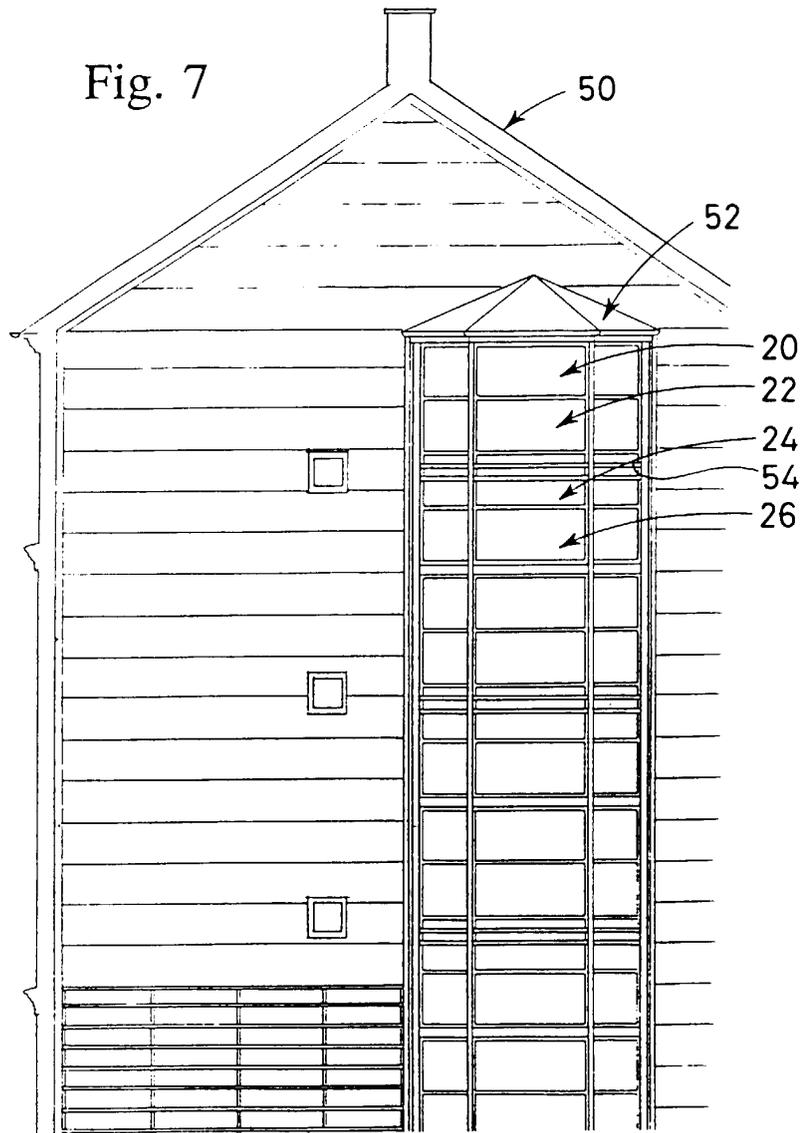


Fig. 8

