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(54) Disappearing facade element for illumination of building facades and facade including said element

(57) A building façade element designed to be inserted in a façade frame to be basically coplanar with other elements making up the façade surface includes at least one panel (13) movable between a position virtually coplanar with the façade surface (11) and a position protruding from the façade surface and contains a light source (14) designed to illuminate the exterior of the façade when the movable panel (13) is in the protruding position.

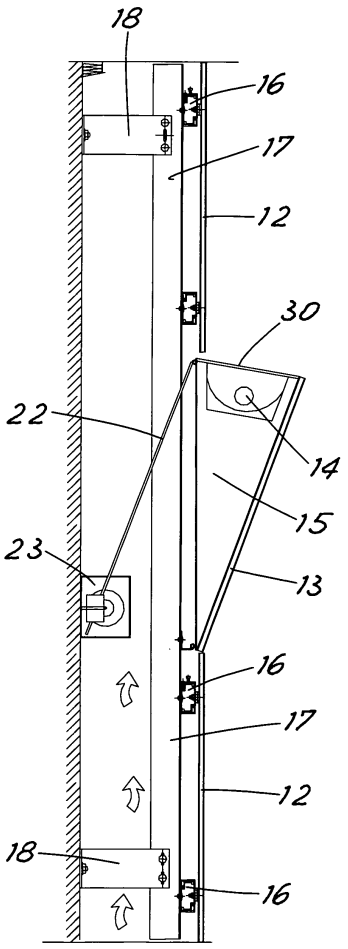

Fig. 3

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Description

[0001] This invention relates to a façade of a building provided with a disappearing lighting element such that it does not interfere with the appearance of the façade in particular during daytime.

[0002] The realization of façade lighting systems usable for example in nighttime hours to produce plays of light and special aesthetic effects on the building is known in the art.

[0003] Know lighting systems however generally include a plurality of floodlights fastened on the outer façade of the building and remaining exposed even when not in use. These lights, indeed, can ruin the aesthetic appearance of the façade and remain continuously at the mercy of bad weather or possible vandalisms.

[0004] The general purpose of this invention is to remedy the above mentioned shortcomings by making available a façade provided with a lighting system that does not interfere with the overall aesthetic effect produced by the building and in particular in daylight hours.

[0005] Another purpose of this invention is to make available a lighting system such that the light source would remain exposed to bad weather or vandalism as little as possible.

[0006] In view of this purpose it was sought to provide in accordance with this invention a building façade element designed to be inserted in a façade frame to be basically coplanar with other elements making up the façade surface including at least one panel movable between a position virtually coplanar with the façade surface and a position protruding from the façade surface and containing a light source designed to illuminate the exterior of the façade when the movable panel is in the protruding position.

[0007] To clarify the explanation of the innovative principles of this invention and its advantages compared with the prior art there is described below with the aid of the annexed drawings a possible embodiment thereof by way of non-limiting example applying said principles. In the drawings:

FIG 1 shows a view of a façade part having a lighting system in accordance with this invention,
FIG 2 shows a side view of the lighting element of the façade with hidden light source,
FIG 3 shows another side view of the façade lighting element configured to illuminate the building, and
FIG 4 shows a rear view of the lighting element inside the façade.

[0008] With reference to the figures, FIG 1 shows part of a façade 11 of a building including a plurality of modular covering panels 12 for example rectangular tiles made of ceramic.

[0009] The panels 12 are virtually coplanar with each other and define the surface of the façade 11. The panel 13, which can be sized identically to the panels 12, is movable between an protruding position inclined to the façade surface (shown in FIG 1) and a position coplanar with the façade plane.

[0010] When the panel 13 is in the protruding position, in the space between the panel and the façade surface there is at least one light source 14 oriented with the light beam toward the building façade. Two light sources realized in accordance with the prior art are shown in the example of FIG 1.

[0011] In the protruding position the movable panel 13 could be inclined to the vertical surface by an angle of between 5° and 30° which would be enough to allow the light source to illuminate the building façade 11.

[0012] In one realization of this invention the light sources 14 are housed in a supporting frame or structure 15 to which the movable panel 13 is fastened.

[0013] The supporting frame 15 together with the light source 14 and the movable panel 13 make up the façade element designed to supply the façade lighting.

[0014] FIG 2 shows a side view of the façade part where the façade element designed for lighting is arranged and configured with the light source 14 hidden inside the façade.

[0015] In accordance with the prior art contrivances, each covering panel 12 is fastened to a pair of horizontal support sections 16. The horizontal sections 16 are fastened to vertical sections 17 which in turn are anchored to the wall 19 of the building by appropriate clamps 18 also realized in accordance with prior art. Said contrivances allow forming between the building panels and wall an air space which can be ventilated if necessary in accordance with known techniques of the building industry.

[0016] The movable panel 13 differently from the panels 12 is fastened to a movable supporting frame 15 forming a space designed to house the light source 14.

[0017] In one embodiment of this invention the space 15 has a virtually prismatic form with an acute triangular cross section. Opposite its narrow part, the space 15 is hinged to the support 21 through the horizontal hinge 20. The support 21 is fastened to the above-mentioned vertical sections 17.

[0018] Opposite its wide part the space 15 is constrained to the rod 22 for transport. The rod 22 is moved by the powered driving gear 23 designed to shift the frame 15 between the retracted position of FIG 2 and the protruding position of FIG 3.

[0019] The driving gear 23 is realized in accordance with the prior art and fastened to the wall 19 of the building and controlled so as to move the movable panel 13 alternatively between the position coplanar with the façade surface in daylight hours and the inclined protruding position in the nighttime hours.

[0020] Advantageously the panel 13 is fastened to the frame 15 so as to rotate around its lower horizontal edge.

[0021] It is noted that in FIG 3 the wide part of the space 15 is closed by a covering glass 30 designed to project the light source 14 when the panel 13 is in the protruding position.

[0022] FIG 4 shows the three panels of FIG 2 from the inside of the façade with the handling rod 22 and the driving gear 23 removed.

[0023] It is noted in particular that the two covering panels 12 are anchored to the horizontal sections 16 which are in turn fastened to the vertical sections 17. The panel 13 on the contrary is fastened to the supporting frame 15 which houses the light source (not shown in the figures). The supporting frame 15 as mentioned above is hinged to the support 21 and has a width less than that of the panels to be insertable between the vertical sections 17 when the movable panel 13 is coplanar with the outer panels 12.

[0024] It is now clear that the preset purposes have been achieved. Indeed, when the movable panel 13 is in the position coplanar with the façade surface the light source 14 is positioned in the air space between the building wall and the façade without remaining in view or exposed to vandalism.

[0025] When the movable panel 13 is in the protruding position of FIG 3 the façade is illuminated while keeping the light source 14 little exposed behind the movable panel 13.

[0026] Naturally the above description of an embodiment applying the innovative principles of this invention is given by way of non-limiting example of said principles within the scope of the exclusive right claimed here.

[0027] For example, the light source could be fastened inside the façade as regards the building and there could be arranged on the movable panel a mirror to reflect the source light towards the façade when the panel is in the protruding position.

Claims

1. Building façade element designed to be inserted in a façade frame to be basically coplanar with other elements making up the façade surface including at least one panel (13) movable between a position virtually coplanar with the façade surface (11) and a position protruding from the façade surface and containing a light source (14) designed to illuminate the exterior of the façade when the movable panel (13) is in the protruding position.

2. Façade element in accordance with claim 1 **characterized in that** the light source (14) is integral with the movable panel (13).

3. Façade element in accordance with claim 1 **characterized in that** the light source (14) is movable between a position inside the façade when the movable panel (13) is coplanar with the façade surface (11) and a position outside the façade surface (11) when the movable panel (13) is in the protruding position.

4. Façade element in accordance with claim 1 **characterized in that** the movable panel is fastened to a supporting frame (15) hinged to a support integral with the building.

5. Façade element in accordance with claim 4 **characterized in that** the hinging axis of the supporting frame (15) is horizontal.

6. Façade element in accordance with claim 4 **characterized in that** the supporting frame (15) is moved by a powered driving gear device (23).

7. Façade element in accordance with claim 4 **characterized in that** the light source (14) is fastened to the supporting frame (15) of the movable panel.

8. Façade element in accordance with claim 7 **characterized in that** the supporting frame (15) forms a space in which the light source (14) is housed with said space being closed by a light-source protection glass (30).

9. Façade element in accordance with claim 1 **characterized in that** the movable panel (13) is rectangular.

10. Façade element in accordance with claim 9 **characterized in that** the movable panel (13) is constrained to the façade in such a manner as to be rotatable around one of its edges.

11. Façade element in accordance with claim 10 **characterized in that** in the protruding position as regards the façade surface the movable panel (13) is inclined at an angle between 5° and 30° to said surface.

12. Façade element in accordance with claims 1 to 11 **characterized in that** the panel (13) is a ceramic tile.

13. Building façade **characterized in that** it includes a façade element in accordance with the above claims.

14. Façade in accordance with claim 13 **characterized in that** it includes a plurality of modular coplanar panels (12) defining the surface of the façade with the covering panels (12) being supported by a supporting structure at a predetermined distance from a wall of the building (19) to form an air space in which the light source (14) is housed when the movable panel (13) is in the position coplanar with the façade surface (11).

15. Façade in accordance with claim 14 **characterized in that** said movable panel (13) has the same shape and size as the modular panels (12).

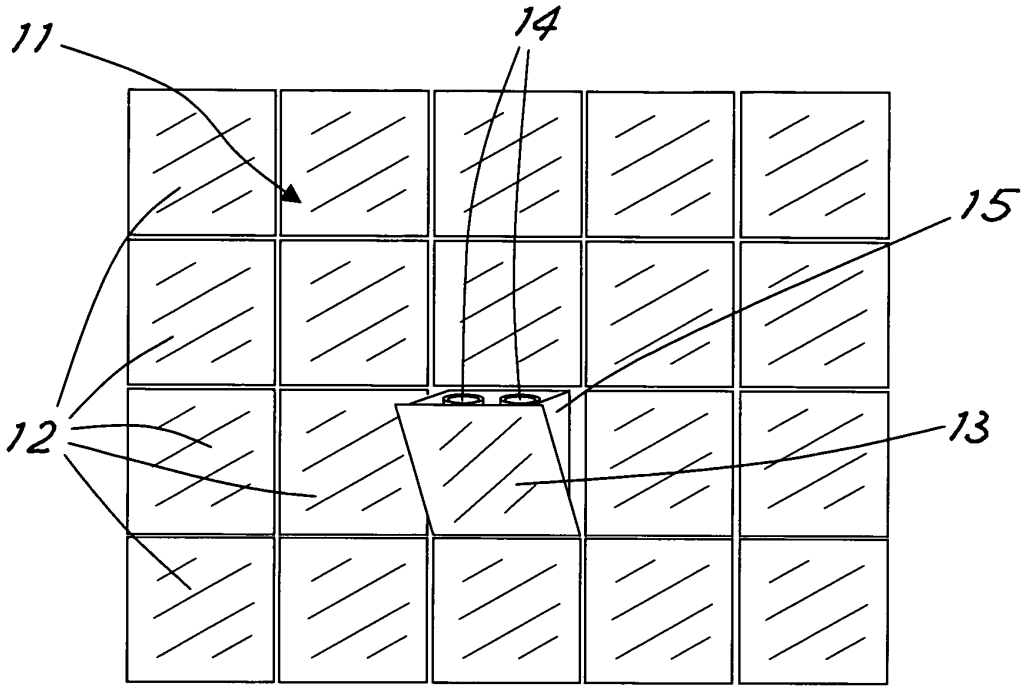

Fig.1

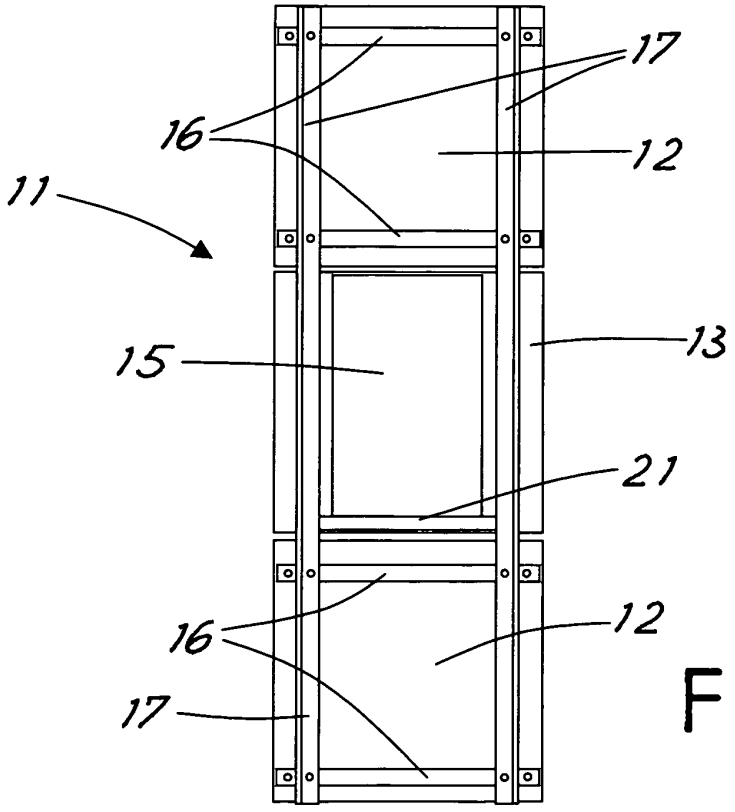

Fig.4

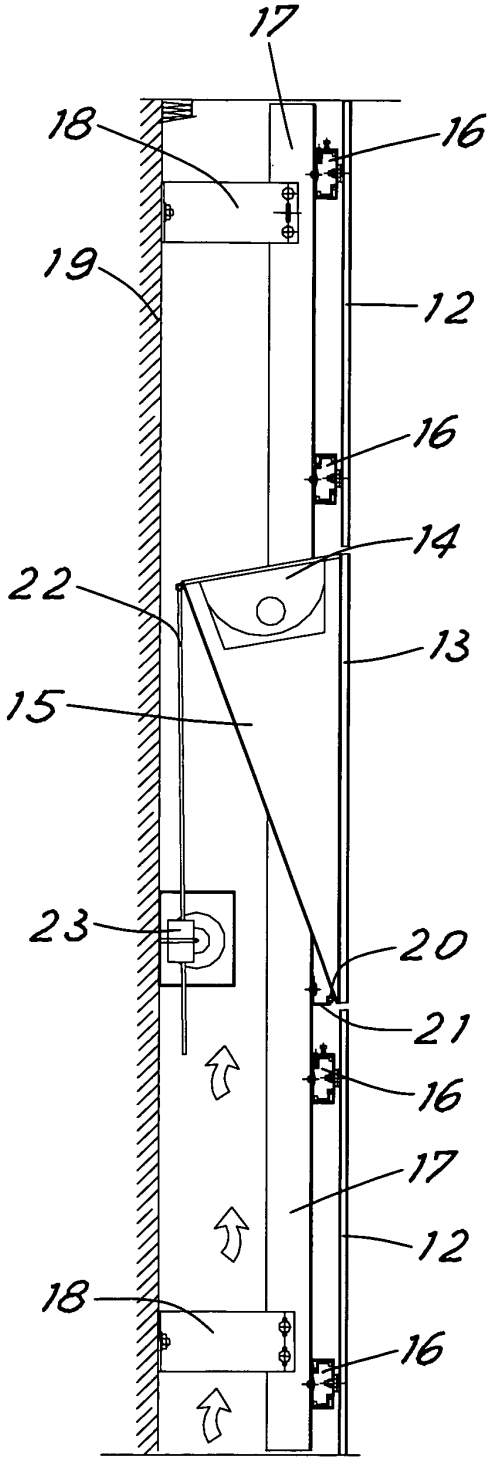
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Fig. 2

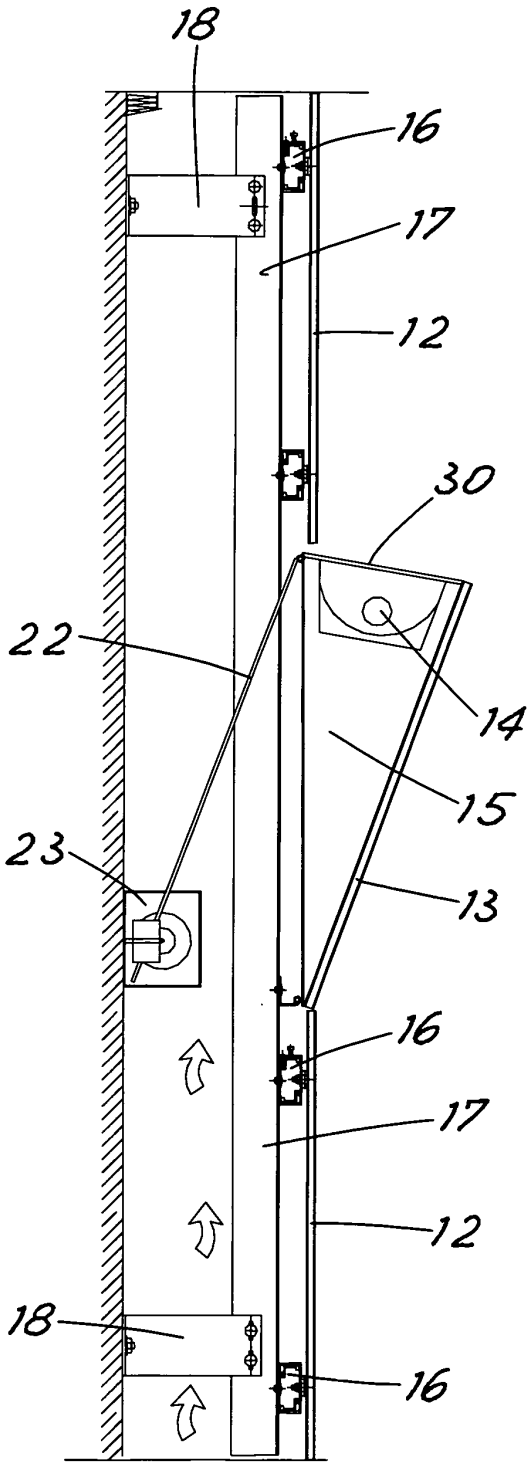
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Fig. 3