July 21, 1970 G. FORNELLS 3,521,419

SUPPORT DEVICE FOR FRAMES, DECORATIVE ELEMENTS AND FALSE CEILINGS

Filed May 9, 1968 2 Sheets-Sheet 1

FIG. 1

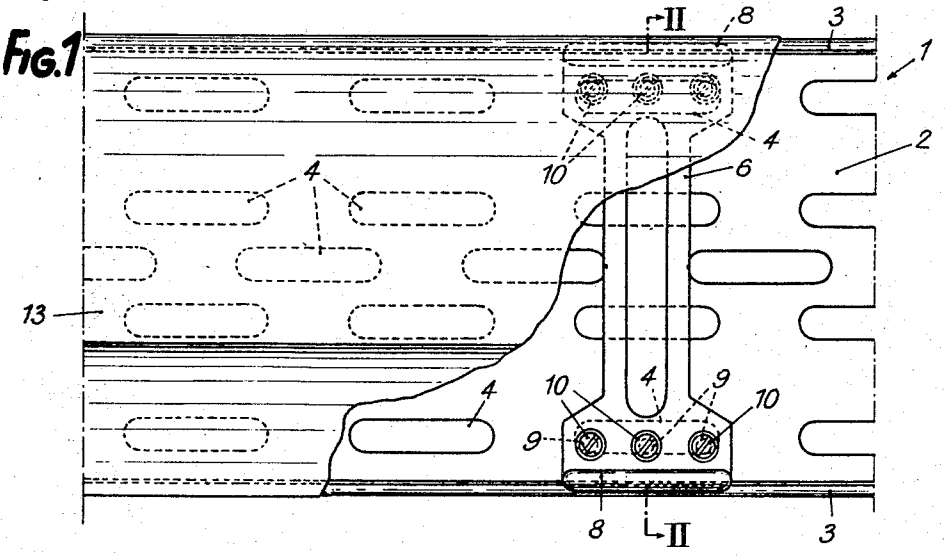
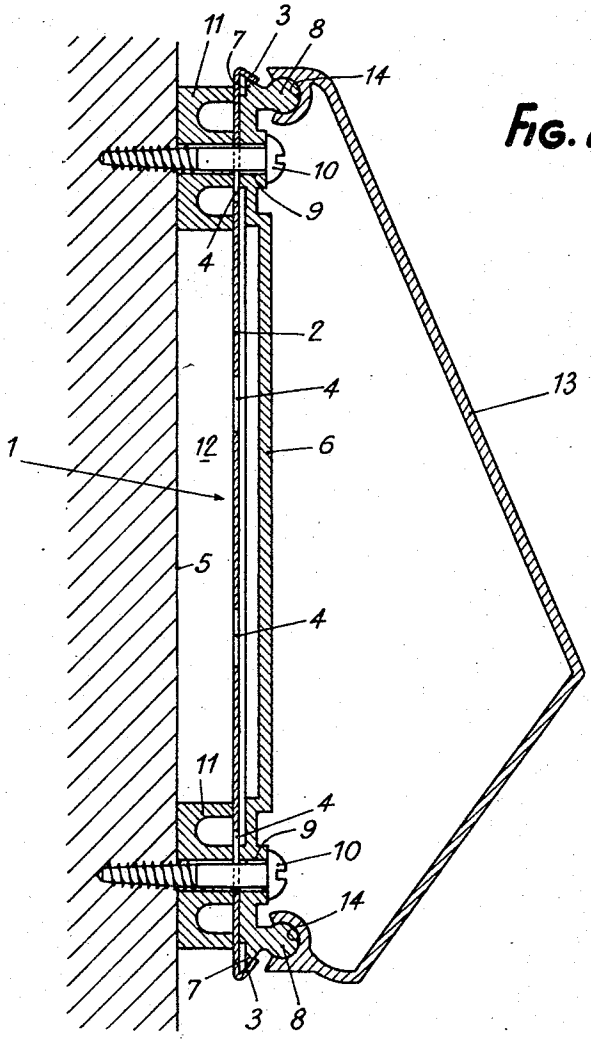


FIG. 2



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SUPPORT DEVICE FOR FRAMES, DECORATIVE ELEMENTS AND FALSE CEILINGS

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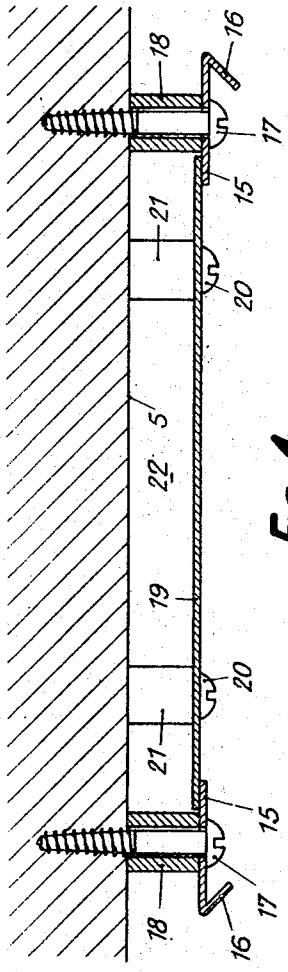


FIG. 3

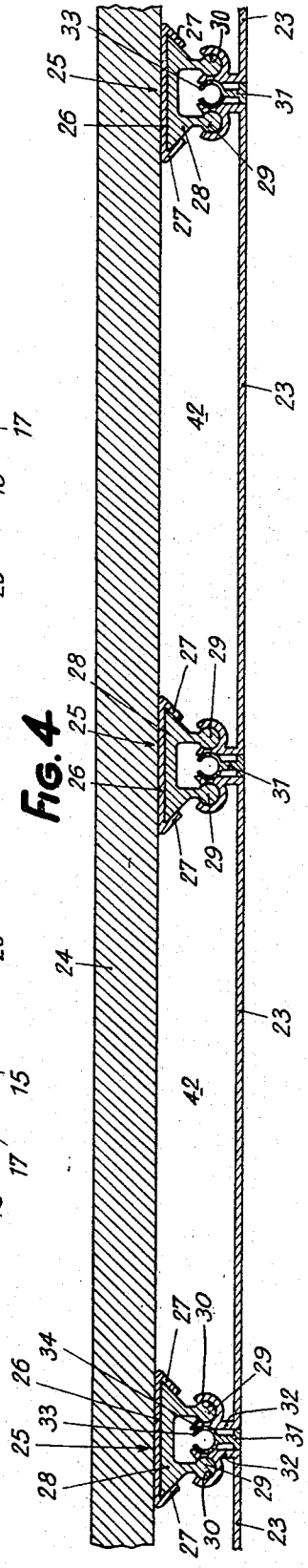


FIG. 4

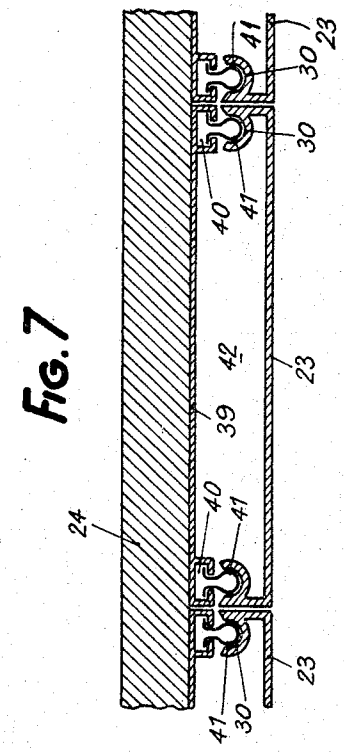


FIG. 7

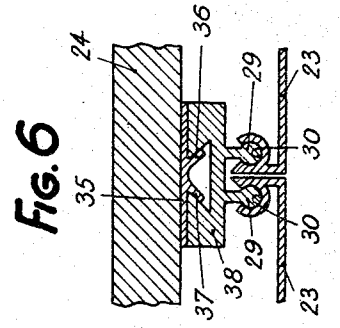


FIG. 6

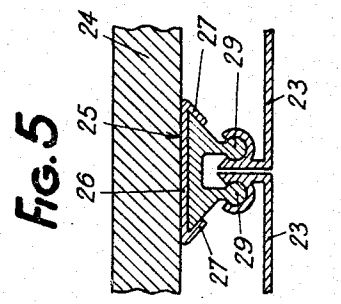


FIG. 5

United States Patent Office 3,521,419 Patented July 21, 1970

3,521,419

SUPPORT DEVICE FOR FRAMES, DECORATIVE ELEMENTS AND FALSE CEILINGS

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U.S. Cl. 52—506 3 Claims

ABSTRACT OF THE DISCLOSURE

A device for supporting different forms of decorative elements or of dropped ceilings constituted by juxtaposed panels comprising a guide rail which slidably receives support elements that are fixed or freely movable on the guide rail and said rails provide means by which various decorative elements can be affixed thereto.

An objective of this invention is to provide a supporting assembly whereby the supported elements are readily mounted and dismounted but the assembly remains rigid throughout.

A further objective of the invention is to provide a supporting assembly for receiving supported panels by cooperating self-locking elements. The invention provides for the convenient mounting of elements whether interiorly or exteriorly of different format such as frame moldings for advertising panels, showcases, doors and windows, wall cornices, dropped ceilings and moldings.

These and other objects of the invention will become more apparent to those skilled in the art by reference to the following detailed description when viewed in light of the accompanying drawings, wherein:

FIG. 1 is a plan view of the support device utilized to receive a decorative element such as a frame molding for an advertising panel;

FIG. 2 is a section along line II—II of FIG. 1, drawn on a larger scale;

FIG. 3 is a section showing a modification of the invention;

FIG. 4 is a cross section view showing the support device utilized as a support for a dropped ceiling; and

FIGS. 5, 6 and 7 are cross sections showing further modifications.

Referring now to the drawings wherein like elements indicate like parts, a support device comprises a guide rail **1**, constituted by a shaped element **2** made of metal or of thermoplastic material whose longitudinal edges **3** are bent to form a slide. The shaped element **2** is also provided with a series of oblong holes **4** which allow positioning a fixation of the shaped element by screwing for example to an existing surface **5** against which guide rail **1** is to be applied.

The rail slidably received a number of support elements **6** which may be of thermoplastic material for example. Dovetail edges **7** of the support elements fit under the bent over edges. The support elements present lateral projections **8** which, after engagement of the support elements **6** to the rail, are located adjacent edges **3**. The support elements are formed with a series of holes **9** for detachably joining the support elements to the guide rail while the whole assembly is fixed on surface **5** by screws **10**. Each of the screws also goes through a corresponding hole **4** of the guide rail, as seen best in FIG. 2. Crosspieces **11** are disposed between the guide rail and surface **5** to provide a space **12** for the housing of cables and electric conduits.

Decorative elements **13** (which in the illustrated example of FIG. 1 constitutes a frame molding for an advertising panel) are presented as a metallic or plastic shaped element whose longitudinal edges are formed with grooves **14** for self-locking action on the several lateral projections **8** of the supports **6**. An assembly with sufficient rigidity is thus obtained.

In the modification of FIG. 3, the guide rail comprises two narrow strips **15** each having a longitudinal edge **16** bent over to form a slide for receiving their support elements. Narrow strips **15** are secured to the existing surface **5** by screws **17**. Crosspieces **18** and a plate **19** of variable width having oblong holes detachably join the strips **15**. By the interposition of crosspieces **21**, a space **22** is established which is analogous to the space **12** of FIG. 2.

In FIG. 4 there is shown a support device utilized to support a dropped ceiling formed of juxtaposed panels **23**. Here guide rails **25** include a narrow strip **26** fixed to a beam **24** at regular spacings. The longitudinal edges **27** of the strips are bent to form a slide in which support elements **28** are received. The support elements **28** are provided with projections **29** to receive panels **23** to constitute the dropped ceiling. On its longitudinal edges each panel is formed with grooves **30** which are self-locking with projections **29**.

Elements **31** impart increased rigidity to the assembly formed by panels **23**. The support elements **28** are engaged between the longitudinal sides **32** of the panels. The elements **31** are held by a trough-like structure **33** which enters into locking engagement in recesses **34** formed in longitudinal sides **32**.

FIG. 5 shows a modification of embodiment in which the panels **23** are assembled without use of the elements **31**.

FIG. 6 shows another modification in which each guide rail comprises a narrow strip **35** fixed on beam **24**. Each beam presents at its mid-part two surfaces **36** and **37** which are of opposed inclination. The support elements **38** are thus slidably received by the surfaces **36** and **37**. The elements present projections **29** to which the decorative pieces are attached.

In FIG. 7, which illustrates another modification, each guide rail comprises a plate **39** fixed on beam **24**, the longitudinal edges present grooves **40** in which projections **41** are slidably engaged. The projections cooperate with grooves **30** of panels **23** and are made of a material whose flexibility ensures their retention in grooves **40** and thus the holding of panels **23** after they have been set in place.

In the examples of FIGS. 4 to 7, panels **23** define between themselves and beam **24** a space **42** for the housing of cables or electric conduits.

These embodiments further provide ready disassembly of one of panels **23** which constitute the dropped ceiling. This permits the installation in one of spaces **42** of an electric light diffuser and other elements.

The oblong holes **4** of shaped element **2** and in narrow strips **15–26–35** and in plates **39** allow adaption of the guide rail to any established or new surface to be equipped. The holes **4** impart great flexibility to shaped element **2**, strips **15–26–35** and plate **39**.

The easy and quick disassembly of the various elements that constitute the support device allows improved maintenance thereof because of ready access to all the said elements. It is possible moreover to take into account requirements of illumination, ventilation and sound proofing.

As can be seen from the above, the invention provides a support for various decorative elements constituted by juxtaposed panels, particularly of thermoplastic material, as well as means for mounting and affixing the support to an existing wall.

The invention also extends to embodiments having at least one of the following characteristics:

(a) A guide rail comprising a shaped element whose longitudinal edges are bent over to form a slide.

(b) A shaped element constituting a guide rail which is provided with a series of oblong holes to allow the positioning and fixation of a guide rail thereto.

(c) An actual support element that engages the bent over edges of a guide rail by sliding or by bending are provided with lateral projections to present, after positioning the support elements in the guide rail, a means near the bent-over longitudinal edges for the reception of panels.

(d) A support element presenting a series of holes allowing rigid detachable connection to the guide rail by matching of oblong holes in the said rail whereby the assembly can be oriented to the existing surface.

(e) Decorative elements of different forms for attachment associated with a support element that is joined detachably to a guide rail which is provided on its longitudinal edge with grooves intended to engage with self-locking action on the lateral projections on the true support elements.

(f) A guide rail of two narow strips, one of whose longitudinal edges is bent to form a slide.

(g) Two narrow strips that constitute a guide rail are fixed on an existing surface.

(h) Two narrow strips constituting a guide rail and are removably joined by means of a plate of variable width that permits modification as desired of the distance between the two narrow strips and consequently of the width of the guide rail and said plate being provided with oblong holes that permits its positioning and fixation on an existing surface against which the guide rail is to be applied.

(i) A guide rail constituted by a single narrow strip whose longitudinal edges are bent to form a slide.

(j) An actual support element that is slidably received in a guide rail and is provided with projections on which panels can be affixed.

(k) Elements impart sufficiently rigidity to the assembly formed by the panels constituting the dropped ceiling are engaged between the several longitudinal walls of the said panels in which they are held by self-locking action.

(l) A guide rail is constituted by a narrow strip that presents two sloped opposing surfaces in its median part for allowing the sliding of a support element therein.

(m) A guide rail comprising a plate whose longitudinal edges present grooves in which there are slidably engaged a projection to cooperate with the longitudinal grooves of a group of panels to form a dropped ceiling. The projections are constituted of a flexible material to ensure retention of the panels after they have been locked thereto.

(n) Crosspiece spacers disposed between the guide rail and the existing surface against which the said rail is to be applied for developing cable space to meet requirements of house cables, electric conduits, etc.

In a general manner, while there has been disclosed an effective and efficient embodiment of the invention, it should be well understood that the invention is not limited to such embodiment, as there might be changes made in the arrangement, disposition, and form of the parts without departing from the principle of the present invention.

What is claimed is:

1. A supporting asembly for attachment to an existing surface comprising

a support member,

a guide rail,

longitudinal edges formed on said rail to provide a slideway for the reception of said member whereby said member is positionable along said rail,

securing means securing said member to said rail at a selected position along said rail, said securing means being removable to permit said member to be shifted to another selected position along said rail,

a panel,

interengaging means between said panel and said support member securing said panel to said member, and

adjusting means for permitting adjustment of the distance between said two edges, said adjusting means comprising a removable plate spanning the distance between said edges whereby plates of different widths may be substituted.

2. A supporting assembly for attachment to an existing surface comprising

a support member,

a guide rail,

longitudinal edges formed on said rail to provide a slideway for the reception of said member whereby said member is positionable along said rail,

said guide rail having a series of oblong holes throughout its length having their grestest axis parallel to the longitudinal axis of said rail and said support member having apertures which are alignable with said holes as said member slides with respect to said rail,

securing means securing said member to said rail at a selected position along said rail, said securing means being removable to permit said member to be shifted to another selected position along said rail,

said securing means extending through said oblong holes and apertures to affix said rail and support member to said existing surface,

a panel,

interengaging means between said panel and said support member securing said panel to said member.

3. The invention of claim 2 wherein said interengaging means is a self-locking separable fastener comprising projections interfitting into a clasping groove.

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HENRY C. SUTHERLAND, Primary Examiner

U.S. Cl. X.R.

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