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[Continued on next page]

- (54) Title: ALUMINIUM FACADE CLADDING WITH BRICK OR CERAMIC APPEARANCE

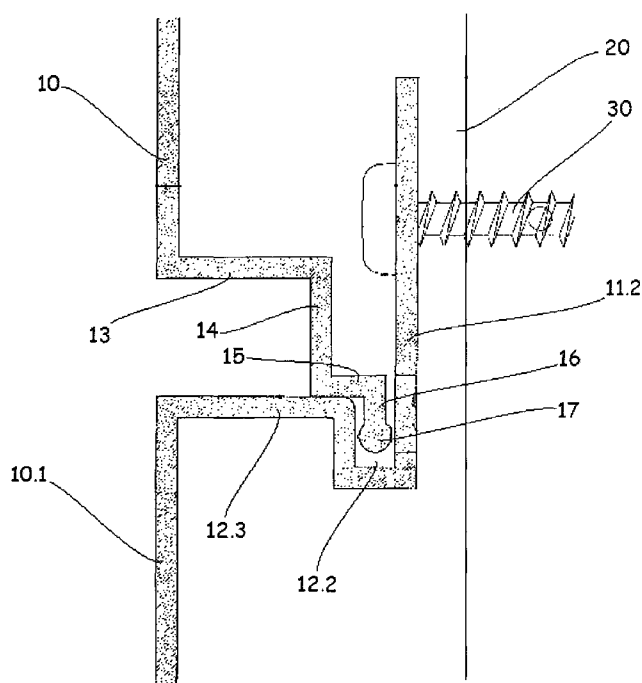


Fig. 3

(57) Abstract: In an aluminium facade cladding having brick or ceramic cladding appearance, adapted to be mounted on a building and comprising at least one panel (10) and at least one connection component, it is foreseen that said panel (10) comprises a wing and an indent that are both formed in upper part of said panel (10), a post formed to make a right angle with said indent, a first arm (13) extending horizontally at a right angle from the lower part of the panel (10), a first wall (14) extending vertically and downwardly from said first arm (13), a second arm (15) extending horizontally from the bottom of said first wall (14), a second wall (16) extending vertically and downwardly from said second arm (15) and a knob (17) formed at the free end of the second stair (16) and adapted to be received in the indent (12.2) of an adjacent similar panel (10.1).

Published:

— *with international search report (Art. 21(3))*

Technical Field

- 5 The invention relates to facade claddings.
Particularly, the invention relates to aluminum embodiment with brick and ceramic front cladding appearance to be implemented on the facades of the structures.

Known Status of the Technique

- 10 Today, there are claddings having various apparatus manufactured from various materials that are used in facade claddings of the structures. Some of them have disadvantages regarding mounting, some regarding endurance, some regarding cost and some regarding appearance.
- 15 Facade claddings, which are one of other structures that are used presently, are produced in a certain profile and are fixed with connection elements (screw, nail, etc) on impregnated welt by cramping upper sides with each other. While facade cladding bodies are made, connection elements such as screw, nail, etc should be attached
- 20 laxly by not preventing the cladding to expand to right or left because of various factors in time. This operation is not realized as lax attachment, in case of the nail or the screw to be fixed on the cladding completely, because the expansion of the cladding is prevented, it will cause fluctuation on the front. In above-mentioned implementation, because the bottom of head parts of connection elements is approximated for contact, this lax fixing possibility disappears. Particularly, in multi-
- 25 floor buildings and regions facing with wind, it is observed that the claddings are detached through tearing from connection elements part.

- For cladding the facades of the buildings, mounting structures were realized with cladding panels manufactured from various materials such as marble, granite,
- 30 ceramic, terracotta, wood and metal. The facades of the buildings are covered with paint and different materials and this is made with PVC based materials called as siding that are developed recently. Other than known traditional methods, ceramic cladding implementations, which increase the isolation of the facades of the buildings, can be assembled fast, hygienic, anti bacterial, easy to recycle, do not

need continuous care, not discoloring, easy to clean, based on metal, wood or stone/soil are being developed. Mentioned embodiments can be assembled after the walls are built on facade of the building. The cladding comprises of the tierod on the facade of the building (anchorage), plugged outer profiles in skeleton shape and panels plugged into the profiles. The facade claddings to be made from soil based material provides less chemical material to be used, resists environmental and geographical conditions and realizes isolation with the outer part of the building and planned pattern. The color combination of the facade is provided to be realized without tone difference. The claddings manufactured from wood, metal and similar different raw materials necessitate more care than ceramic claddings and also there are production difficulties.

As another facade embodiment, Terra-cotta facade cladding system comprises of facade panels, material of which is terracotta, having various dimension and cross section properties, to be assembled to the main carrier system formed on the surface of facade with aluminum carrier panels and assistant elements such as bolt, clips and fuse. The main carrier system is comprised of anchorage elements connecting the present facade comprised of materials such as in general; profile boxes covered with galvanize and concrete, brick, gas concrete, blocks, etc. The connection elements such as steel wall plug, plastic wall plug can be applied to anchorage elements.

Regarding the known status of the technique, "Facade tile" headed DE3620323 numbered application, "Building outer wall facade cladding unit" headed DE19803150 numbered application, "building facade" headed GB2067622 numbered application and "Improvements relating to cladding sheets" headed GB2126617 numbered application can be given as examples to ceramic panels seated on nails defined and prepared on the outer surface of the wall. In "Profile cramped building facade cladding arrangement" headed TR200603615 numbered application, the profiles assembled on facade wall of the building, a bulge providing rigid covering the profiles, clips plugged the bricks into the profiles and internal structures of the clips are realized.

In mentioned embodiments, the mounting of the ceramic panels seated on the profiles with special nails can not be realized because of complexity and need for

special apparatus. Because of mounting structures, facade cladding panels of the building are not appropriate for change and care. In case of the panels to be damaged, their repair is not easy. Complete repair would be necessary, when change is made in the pattern or color design of the facade in time. The repairs necessitating long time result work, time and financial loses. To make fast and easy building cladding, panels that can be demounted easily are becoming a need.

Again, in the known status of the technique, to obtain a decorative appearance in facades of the buildings and to provide heat isolation in mentioned buildings, there are claddings produced from styrofoam material that are mounted on facade surfaces of the buildings.

As a result, the existence of the necessity for aluminum facade embodiment with brick and ceramic appearance and insufficiency of existing solutions made it a must to make a development in related technical field.

The Objective of the Invention

To eliminate the disadvantages regarding the technical statement of the technique, its objective is to provide advantage regarding weight loaded to the structure that it is applied owing to its lightness.

Another objective of the invention is to make the mounting easily owing to its lightness.

Another objective of the invention is its advantage because it is recyclable because of its aluminum material in changes.

Another objective of the invention is easy color change.

Another objective of the invention is to be decorative and preferable through production of different color choices.

Another objective of the invention is to be resistant and long-lived through not being affected from natural factors (snow, rain, wind, etc).

Another objective of the invention is it to be low-cost and economic regarding its material and structure.

5 Another objective of the invention is it to be produced in desired dimensions.

The objection of the invention is to eliminate current disadvantages owing to the betterments made in appliances providing mounting/dismounting the facade cladding panels such as particularly marble, granite, terracotta, wood and metal.

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Another objective of the invention is to realize the mounting of facade cladding of the buildings easily. Owing to this, work, time and cost will be saved.

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Another objective of the invention is to reassemble the facade cladding of the building when it is necessary. Owing to this the care and repair will be able to be done easily.

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The invention is an aluminum facade embodiment (1) having brick and ceramic cladding appearance to be implemented on facades of the buildings including panel (10), connection component (20); characterized in that to provide above mentioned advantages it comprises of a wing (11), an indent (12) that are formed in upper part of mentioned panel (10), a post (12.1) formed to make right angle with the indent (12), mentioned panel (10), 1st arm seated on the panel (10) vertically, 1st stair (14) seated on the 1st arm (13) vertically, 2nd stair (16) seated on the 1st arm (14) and a knob (17) formed at the end of the 2nd stair (16), mentioned connection component (20), a handle (21) to be fixed to the structure (2), vertical and single right and left beams (22) with the handle (21), colons (23) seating integrally to the beams (22) vertically, intermediate part (24) formed between the colons (23), mounting holes (26) formed on them.

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Structural and characteristic properties and all advantages of the invention will be better understood owing to the figures shown below and the detailed description written by referring these figures and for this reason it is necessary to make the evaluation by taking these figures and the detailed explanation into consideration.

Explanation of the Figures

Figure 1 General perspective view of the mounting of the invention.

Figure 2 Perspective view of the mounting from the sides of the panels.

5 Figure 3 Detailed perspective view of the mounting of the panels from sides.

Figure 4 General perspective view of the connection component.

Figure 5 General perspective view of the connection component alternative embodiment.

10 Reference numbers

Ref. No.	Name of the Component	Ref. No.	Name of the Component
1	Facade Embodiment	2	Construction (building)
10	Panel	20	Connection component
11	Wing	21	Handle
11.1	Mounting hole	22	Beam
12	Indent	23	Colon
12.1	Post	24	Intermediate Part
13	1 st arm	25	Seating Surface
14	1 st stair	26	Mounting hole
15	2 nd arm	30	Mounting Element
16	2 nd stair		
17	Knob	10.1	Bottom panel
		11.2	Wing
		12.2	Indent
		12.3	Post

Detailed Description of the Invention

15 The invention is in general aluminum facade embodiment (1) having brick and ceramic cladding to be applied to facades of the buildings including panel (10) and connection component (20).

In Figure 1, mounting general perspective view of the invention takes place. According to the figure, a connection component (20) mounted in a vertical style to

the bottom of the facade of the structure (2) and in certain intervals is seen. After mounting of this component (20), the panels (10) are mounted between mentioned components (20) and on them. Mentioned panel preferably is produced from aluminum material and it is bought ceramic, brick etc appearances in it for it to be decorative.

In Figure 2 it is perspective view of the mounting from the sides of the panels (10). As it is seen in the figure, there is a wing (11), an indent (12) that are formed in upper part of mentioned panel (10), a post (12.1) formed to make right angle with the indent (12). At the lower part of the panel (10), the stairs (14 and 16), arms (13 and 15) and the knob are seen. Mentioned panel (10) is mounted to the connection component (20) by means of mounting element (30) from mounting hole (11.1) formed at the lower part of the wing.

In Figure 3 it is detailed perspective view of the mounting of the panels (10) from sides. As it is seen in the figure, mentioned panel (10), 1st arm seated on the panel (10) vertically, 1st stair (14) seated on the 1st arm (13) vertically, 2nd stair (16) seated on the 1st arm (14) and a knob (17) formed at the end of the 2nd stair (16) are observed. Mentioned panel (10) is fixed to the connection component (20) from wing part by plugging, and then the panel (10) is mounted by putting over a lower panel (10.1) that is mounted and fixed from top. Mentioned lower panel (10.1) is fixed on the wing (11.2) and the connection component (20). The putting over operation is realized through the 2nd arm (15) of a panel (10) to be put on a post (12.3) of lower panel (10.1) and the knob that is formed at the end of 2nd stair and 2nd stair (16) to be put on lower panel (10.1) and lower indent (12.2). Then, the panel (10) put on the lower panel (10.1) is fixed to the connection component (20) from the wing on its top by mounting element (30). In this figure, mentioned facade embodiment (1) is completed through the panels (10 and 10.1) to overlap each other.

In Figure 4 it is general perspective view of the connection component (20). As it is seen in the figure, it includes connection component (20), a handle (21) to be fixed to the structure (2), vertical and single right and left beams (22) with the handle (21), colons (23) seating integrally to the beams (22) vertically, intermediate part (24) formed between the colons (23), mounting holes (26) formed on them. An

intermediate section (24) is formed between the colons (23). Furthermore, to seat the mentioned panels (10 and 10.1) on the beams (22), seating surface (25) and mounting holes (26) are formed. The wings (11) of the mentioned panels (10 and 10.1) are fixed on the beams on the connection component (20) from mounting holes (26) by means of the mounting element (30).

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In Figure 5 it is general perspective view of the connection component (20) alternative embodiment. According to the figure, as difference, the colons (23) are connected from upper parts.

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The protection extent of this application is defined in claims part and can not be limited with the explanations made above only for sampling. It is obvious that an expert in technique can easily introduce the innovation introduced by the project using similar embodiments and/or can implement this embodiment in other fields having similar goals used in the technique. Thus, it is obvious that such embodiments are lack of innovation criterions.

15

CLAIMS

1. The invention is an aluminum facade embodiment (1) having brick and ceramic cladding appearance to be implemented on facades of the buildings including panel (10), connection component (20); **characterized** in that it comprises of a wing (11), an indent (12) that are formed in upper part of mentioned panel (10), a post (12.1) formed to make right angle with the indent (12), mentioned panel (10), 1st arm seated on the panel (10) vertically, 1st stair (14) seated on the 1st arm (13) vertically, 2nd stair (16) seated on the 1st arm (14) and a knob (17) formed at the end of the 2nd stair (16).
2. An aluminum facade embodiment (1) according to Claim 1, characterized in that it comprises connection component (20), a handle (21) to be fixed to the structure (2), vertical and single right and left beams (22) with the handle (21), colons (23) seating integrally to the beams (22) vertically, intermediate part (24) formed between the colons (23), mounting holes (26) formed on them.

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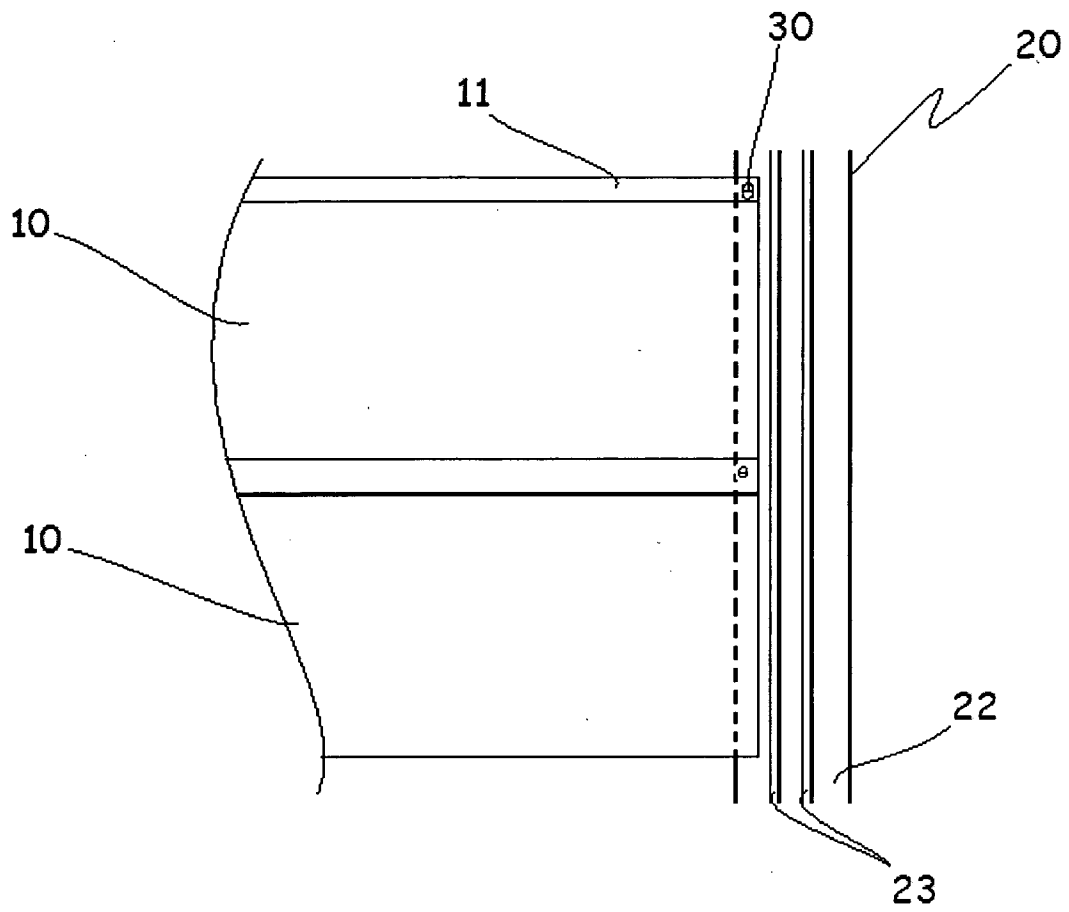


Fig. 1

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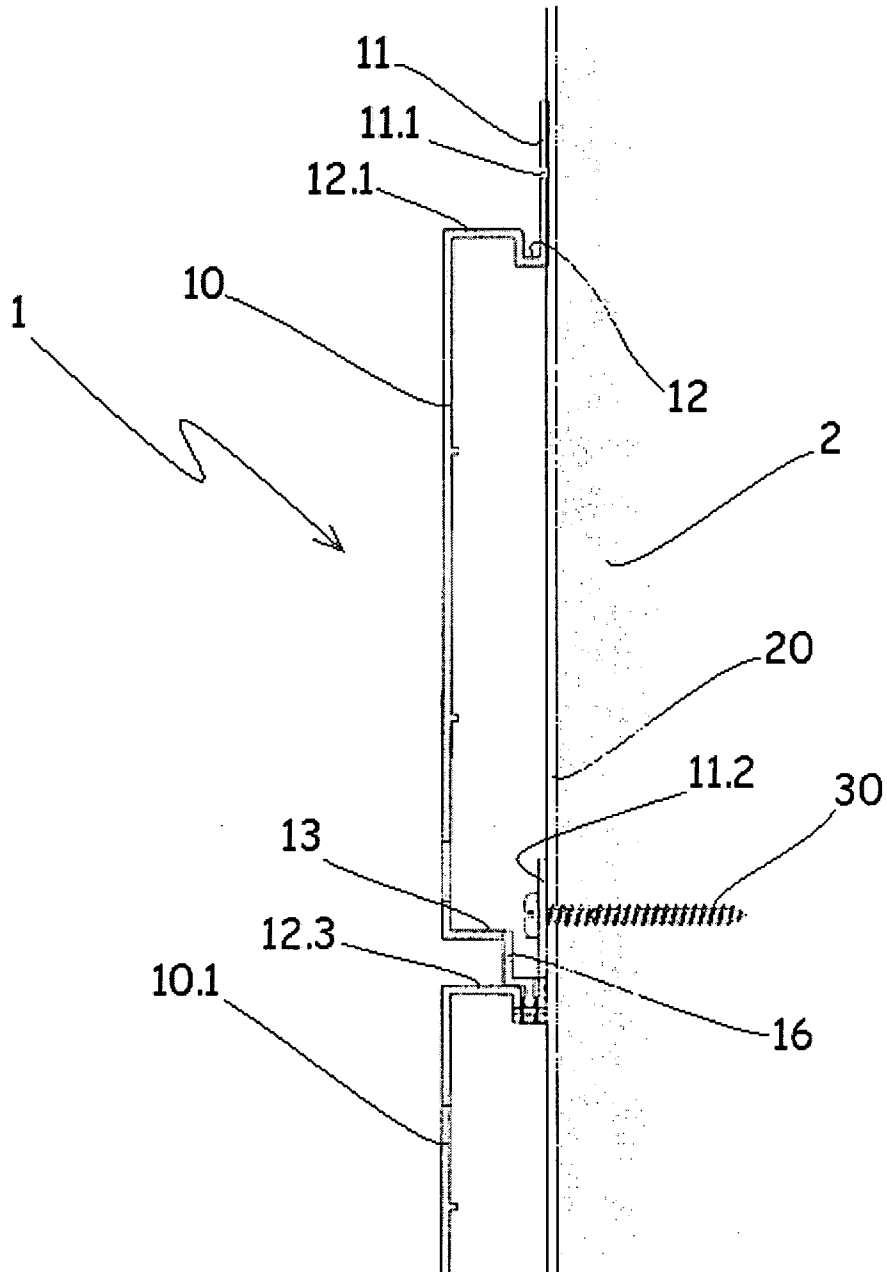


Fig. 2

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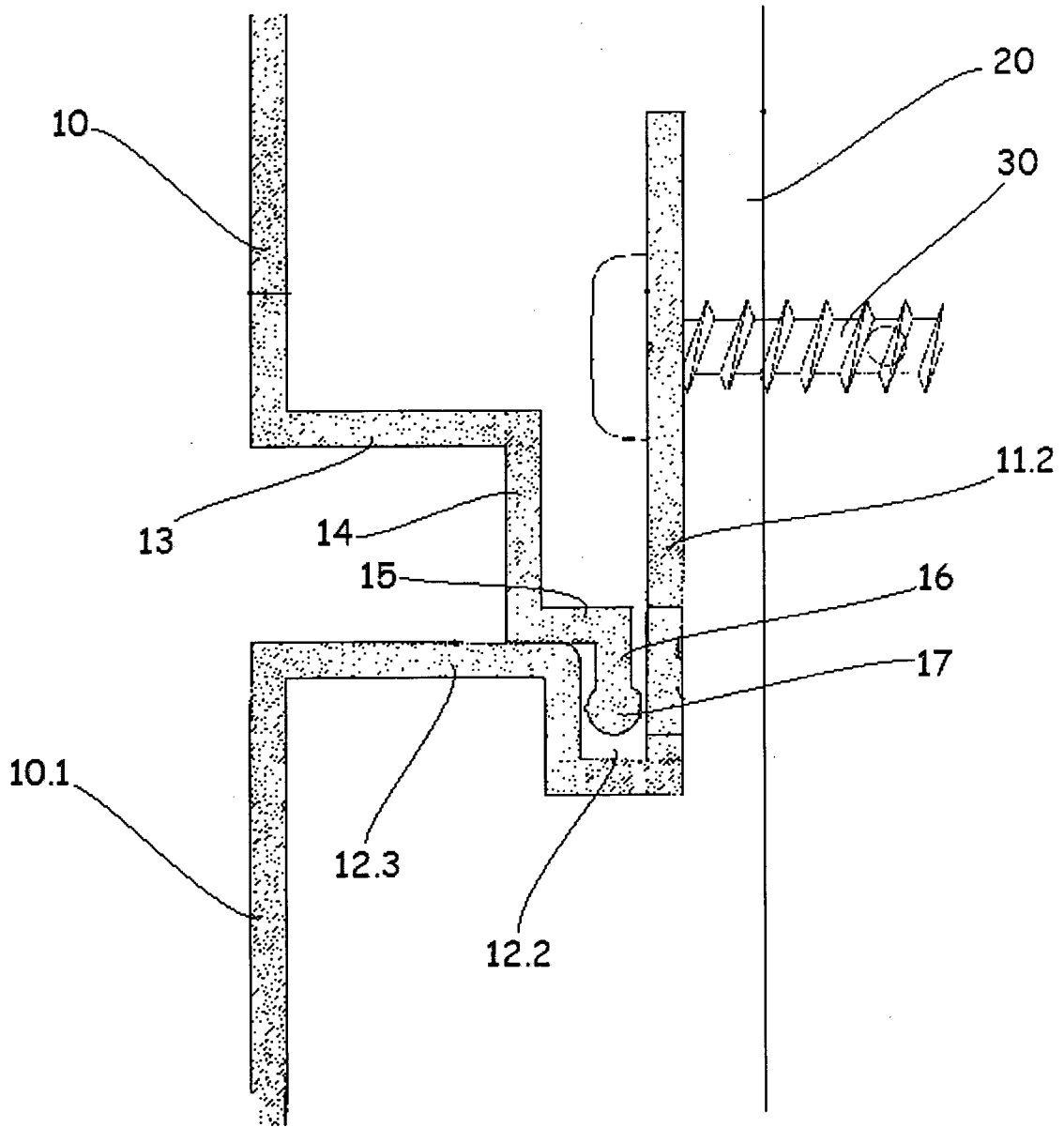


Fig. 3

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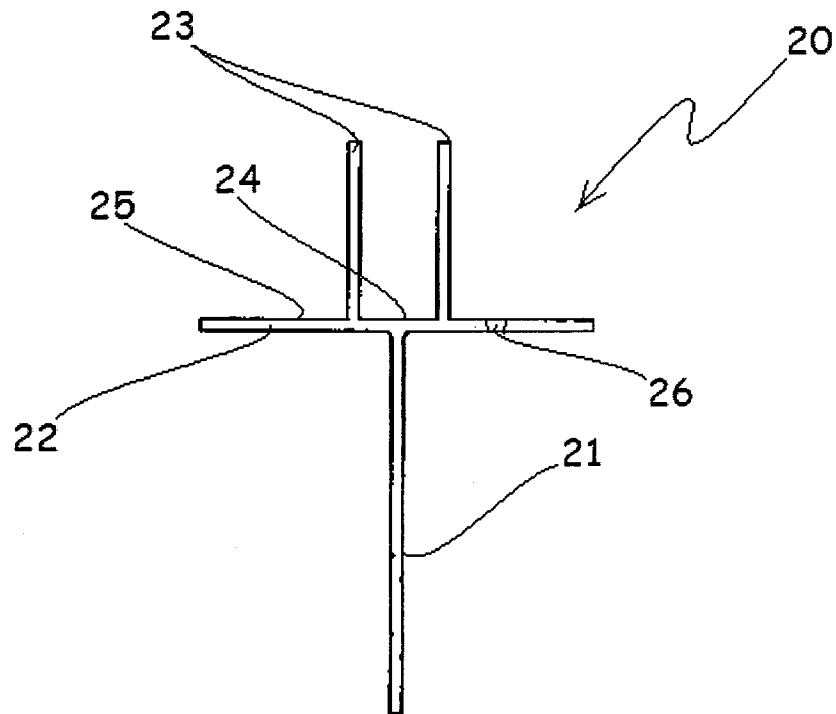


Fig. 4

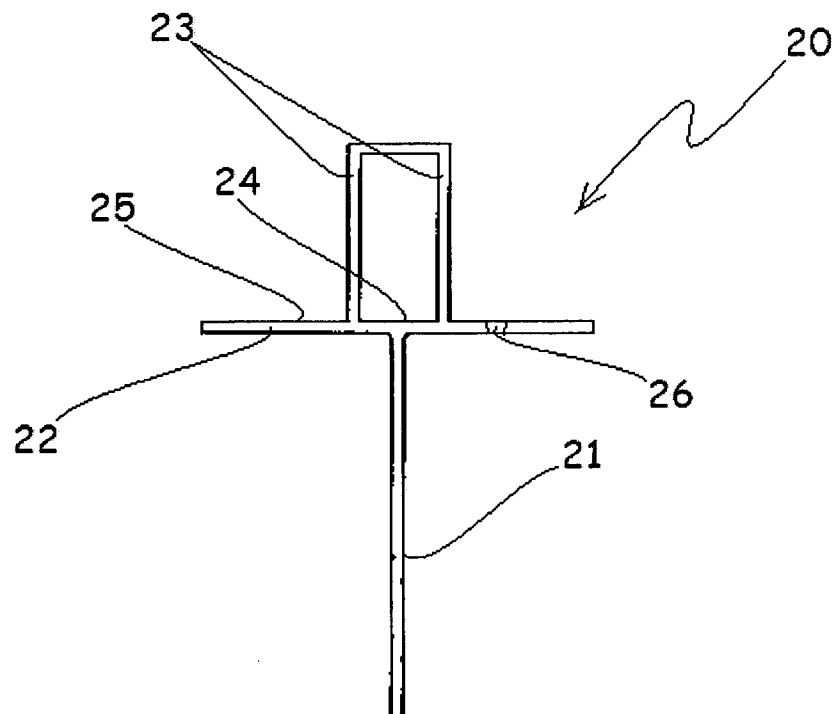


Fig. 5

INTERNATIONAL SEARCH REPORT

International application No
PCT/TR2008/000136

A. CLASSIFICATION OF SUBJECT MATTER
INV. E04F13/12 E04F13/08

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
E04F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006/185284 A1 (TOLLEY ALAN [US]) 24 August 2006 (2006-08-24) paragraph [0020] - paragraph [0021] paragraph [0032] - paragraph [0036] figures	1
A	WO 03/089734 A (KIM YOUNG MI [KR]) 30 October 2003 (2003-10-30) page 5, line 29 - page 13, line 32 figures 1,2	1
A	DE 201 06 147 U1 (ALUFORM SYSTEM TECHNIK POHL GM [DE]) 13 June 2001 (2001-06-13) page 3 - page 5 figure 4	1
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Further documents are listed in the continuation of Box C.

See patent family annex.

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- *O* document referring to an oral disclosure, use, exhibition or other means
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Date of the actual completion of the international search

11 February 2009

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INTERNATIONAL SEARCH REPORT

International application No

PCT/TR2008/000136

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4 327 528 A (FRITZ JACK E) 4 May 1982 (1982-05-04) column 2, line 34 - column 6, line 42 figure 3	1
A	TR 2006 03615 U (ISIKLAR INSAAT MALZEMELERI SAN [TR]) 21 December 2006 (2006-12-21) cited in the application figures 2-6,8-12	2

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/TR2008/000136
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006185284	A1	24-08-2006	NONE
WO 03089734	A	30-10-2003	AT 350548 T 15-01-2007 AU 2003221131 A1 03-11-2003 CN 1646777 A 27-07-2005 DE 60310906 T2 06-09-2007 EP 1497509 A1 19-01-2005 ES 2279943 T3 01-09-2007 JP 3807677 B2 09-08-2006 JP 2005522609 T 28-07-2005 US 2005160691 A1 28-07-2005
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