(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 360 309 A1**

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **89202078.5**

(51) Int. Cl.[5]: **E04B 2/76**

(22) Date of filing: **14.08.89**

(30) Priority: **19.08.88 NL 8802053**

(43) Date of publication of application:
28.03.90 Bulletin 90/13

(84) Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

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(54) Mounting system for partition walls.

(57) A mounting system (1) for panels has carriers (2). In a carrier (2) an element (3) is slidable. Carrier (2) and element (3) have legs (4, 5) and (8, 9) respectively with mutually different lengths to allow compact storage of the system (1).

Connecting horizontal and vertical carriers (2) is achieved by coupling means in the form of hooks (10), which are provided on ends of the legs (8, 9) and in the form of corresponding longitudinal slots (7), located near corner points of the legs (4, 5). Horizontal and vertical carriers (2) may simply be produced indentically, which make the system (1) universal. The system (1) may simply be assembled and disassembled without the use of bolts, screws and the like.

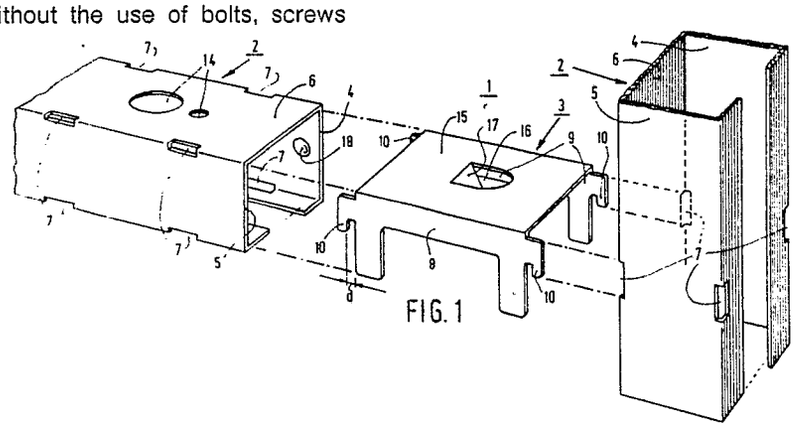

FIG. 1

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Mounting system for partition walls

The invention relates to a mounting system for assembling a frame, built up from mutually coupable carriers having a substantially U-shaped section, to which panels can be attached.

The invention furthermore relates to a carrier suitable for use in the mounting system and to a movable element for use in the mounting system.

Such mounting systems find wide application and are used for assembling generally prefabricated panels and partition walls for forming accommodations, such as offices, but also for forming stands and shop windows.

The known mounting systems have a number of disadvantages, however. In general the stability of the mounting system, in particular seen in a direction transverse to the panels, is not satisfactory. Besides, with the known mounting systems it happens that uprights and girders of the mounting system are made and shaped mutually differently. The consequence of this is that their production will have to take place by means of different dies, which is cost- increasing. Moreover, the known mounting systems make it necessary to couple uprights and girders by means of means which are difficult to detach, such as screws, bolts, pins or clamps.

The object of the invention is to provide a mounting system, whereby storage in for example a warehouse is possible in an efficient manner and without loss of space, which can be assembled and disassembled in a simple manner, which is stable in various directions and which can be built up from a frame of universal carriers with uprights and girders made in the same manner.

In order to accomplish this objective the mounting system according to the invention is characterized in that the carriers have two opposite legs with mutually different lengths, whereby first coupling means, located near corresponding corner points of the legs, are provided on the carrier, that an element having a substantially U-shaped section, to be provided inside the carrier and being movable therein, has legs whereby second coupling means, corresponding with the first coupling means, are provided on corresponding ends of the legs.

The advantage of the mounting system according to the invention is that it can be produced in a simple manner, for example by means of punching from plate material and then bending over the punched material. Furthermore the possible production of universal carriers, no matter whether said carriers are used as uprights or as girders, strongly reduces the cost price. By using moving elements, which can be stored inside the carriers, so that they cannot simply be lost at the place to work, a simple assembly becomes possible, without using bolts, screws and the like, and without it being necessary to push uprights already provided apart in order to fix a girder between the uprights. Efficient use of the storage room becomes possible in that the legs of the carriers have different lengths and thus different carriers can be inserted into one another in a direction towards one another. Furthermore it is possible to shorten a carrier by simply sawing it off, after which the carrier can be coupled to another carrier by moving the element. A further advantage of the mounting system according to the invention is that a carrier can be used with the open side of its U-shaped section up or down, according to which is desired. By placing the first coupling means on corner points of the legs of the carrier, and by placing the second coupling means on ends of the legs of the movable element, a large degree of transverse stability is achieved.

A preferred embodiment of the mounting system according to the invention is characterized in that the first coupling means are longitudinal slots and that the second coupling means are hooks.

In general it is desirable that the hooks are provided spaced from the legs of the movable element by such a distance that as a result the difference in length of the legs of a first carrier, in case said first carrier is coupled to a second carrier, is met and corresponding legs of the two carriers lie in one plane.

The invention will be further explained with reference to the drawing, in which corresponding reference numbers indicate corresponding elements.

Fig 1 is an illustration of the disassembled mounting system according to the invention.

Fig 2 shows an adjusting mechanism for use on an upright carrier of the mounting system shown in Fig 1.

Fig 3 shows two carriers, moved into each other, of the mounting system according to Fig 1.

Figure 1 shows a mounting system 1 with carriers 2 and and element 3. The element 3 can be movably provided in the carrier 2. The carrier 2 has a substantially U-shaped section and has two bent-over legs 4 and 5, which are mutually connected via a connecting part 6. The leg 4 is longer than the leg 5, so that two carriers 2 can be stored or packed in a very efficient manner, as is shown in Fig 3.

The carrier 2 is provided with first coupling means, which are made in the shape of longitudinal slots 7 in the embodiment shown in Fig 1. The

longitudinal slots 7 are respectively provided near the corner points of the carrier 2.

The movable element 3 has legs 8 and 9, whose length is such that the element 3 is just movable inside the carrier 2. At their longitudinal ends the legs 8 and 9 are provided with second coupling means corresponding with the first coupling means, said second coupling means in this embodiment being made in the shape of hooks 10. The hooks 10 can be supported in the longitudinal slots 7 in a simple manner.

A carrier is made the same, irrespective of whether it is used as an upright or as a girder in the mounting system 1. Possibly, if desired, an adjusting mechanism 11 may be provided on an end of the carrier 2 resting on the ground, as is shown in Fig 2, or can be provided in a simple manner, for example by means of attachment means. The adjusting mechanism 11 has a U-profile 12 with holes in which there is cut screw thread and through which a bolt 13 is passed. The carrier 2 can be set up level in a simple manner by means of the adjusting mechanism 11.

In the connecting part 6 there will generally be provided holes 14 for the passage of inter alia electrical leads, community aerial leads or for example telephone leads or the like.

The movable element 3 has a part 15 connecting the legs 8 and 9, said part 15 being provided with an opening 16 and a bent-over part 17. By means of the bent-over part 17 it is possible to move the movable element inside the carrier 2. When the carrier 2 is slipped upside down over the movable element 3, i.e. with the legs 4 and 5 directed upwards, the movable element 3 can be moved via the opening 16.

Each of the hooks 10 is respectively provided at such a distance d from the legs 8 and 9 of the movable element 3, that as a result the difference in length of the legs 4, 5 of the carrier 2 is set off, and thus e.g. also horizontal carriers 2, separated from each other by means of a vertical carrier 2, lie in one level plane.

The carrier 2 will generally have at least one local projection 18 projecting inside the carrier 2, in order to prevent that the movable element 3 undesiredly moves out of the carrier. It is possible, however, to move the element 3 over the projection 18 in the carrier 2 with some force, possibly by bending the legs 4 and 5 apart.

Claims

1. Mounting system for assembling a frame, built up from mutually coupable carriers having a substantially U-shaped section, to which panels can be attached, characterized in that the carriers have two opposite legs with mutually different lengths, whereby first coupling means, located near corresponding corner points of the legs, are provided on the carrier, that an element having a substantially U-shaped section, to be provided inside the carrier and being movable therein, has legs whereby second coupling means, corresponding with the first coupling means, are provided on corresponding ends of the legs.

2. Mounting system according to claim 1, characterized in that the first coupling means are longitudinal slots and the second coupling means are hooks.

3. Mounting system according to claim 2, characterized in that the hooks are provided spaced from the legs of the movable element by such a distance that as a result the difference in length of the legs of a first carrier, in case said first carrier is coupled to a second carrier, is met and corresponding legs of the two carriers lie in one level plane.

4. Carrier suitable for use in the mounting system according to any one of the claims 1 - 3.

5. Carrier according to claim 4, characterized in that on the legs within the U-shape of the carrier there is provided at least one projection, in order to prevent that the movable element undesiredly moves out of the carrier.

6. Carrier according to claim 4 or 5, characterized in that the carrier is provided with an adjusting mechanism for positioning the carrier by means of the adjusting mechanism when the carrier is used as an upright.

7. Movable element suitable for use in the mounting system according to any one of the claims 1 - 3.

8. Movable element according to claim 7, characterized in that the movable element has a part connecting its legs, which part is provided with an opening and with a bent-over part projecting between the legs of the element.

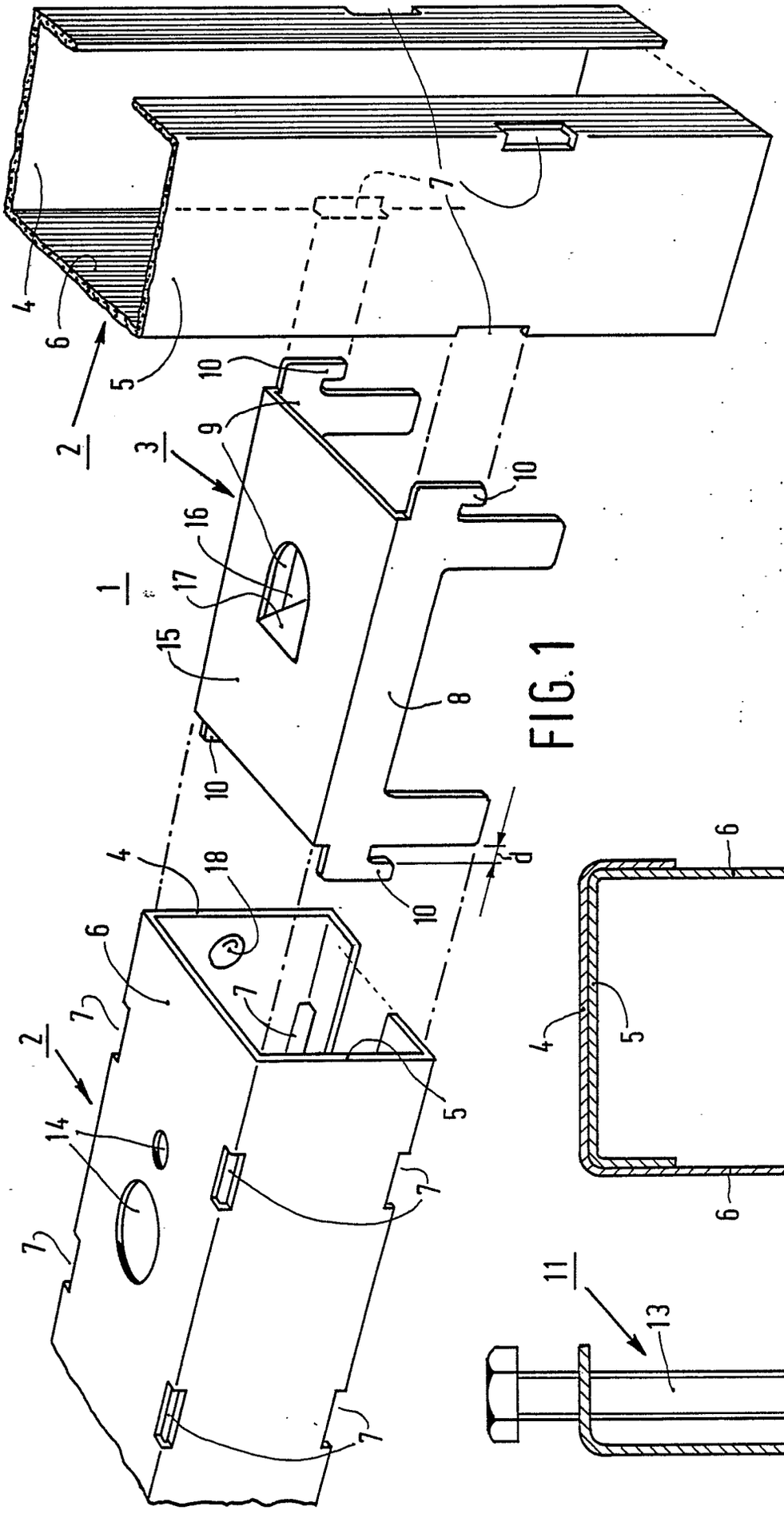

FIG.1

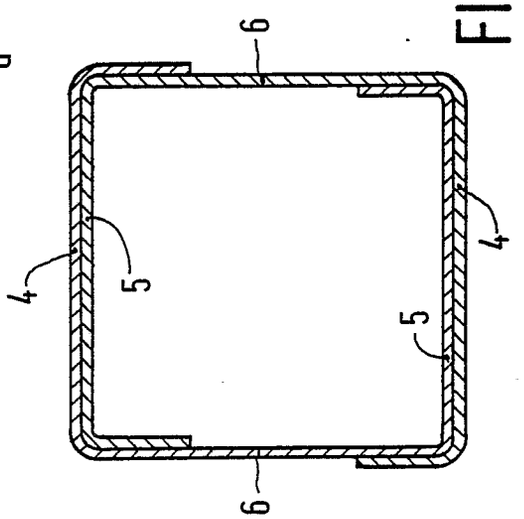

FIG.3

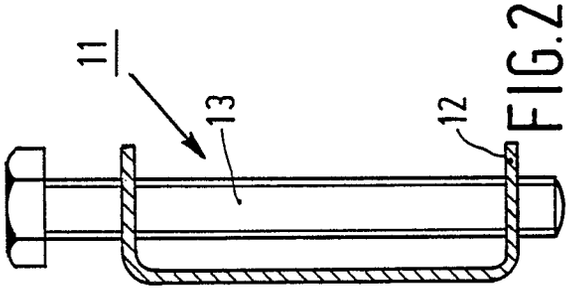

FIG.2

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EUROPEAN SEARCH REPORT

Application Number

EP 89 20 2078

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
Y	FR-A-1 326 239 (POULAIN) * Page 3, column 2, lines 19-58; page 4, column 1, lines 1-39; figure 10 *	1	E 04 B 2/76
A		2-5	
Y	DE-U-3 632 059 (VELINGS) * Page 6, lines 38-45; figure 8 *	1	
A	DE-U-8 603 676 (KAÜFERLE) * Page 7, lines 12-29; page 8, lines 1-33; page 9, lines 1-6; figures 1-3 *	1	
A	US-A-2 934 181 (WEBER) * Column 2, lines 19-72; column 3, lines 1-75; figure 8 *	2,3	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

E 04 B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	28-11-1989	SCHOLS W.L.H.

CATEGORY OF CITED DOCUMENTS

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