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Cupboard fitting

The invention relates to a cupboard fitting, for example a shelf for a preferably movable frame to be arranged in an inner space of a cupboard carcass, the shelf or similar cupboard fitting comprising a rail having a rail attachment body for delimiting a storage space at least in part.

DE 197 15 066 C2 discloses a cupboard drawer for tall cupboards of the type mentioned at the outset, in which a single vertical column supports shelves. In order to fasten the shelves to the single vertical column, fastening rods are provided which can be inserted into corresponding holes in the single vertical column, following which the fastening rods pass through the single vertical column and project out on either side thereof in order to support the shelves. Fastening shelves to the single vertical column in this manner is relatively complex and necessitates precise insertion of the fastening rods into the holes. In addition, the holes weaken the single vertical column such that their load-bearing capacity is limited. Furthermore, shelves can only be provided on the vertical column in accordance with the grid spacing of the holes.

As cupboard fittings, said single support column supports shelves that are each surrounded by a rail made of metal rods, which can be inserted into corresponding round holes in the shelf surface by means of their uprights. The end user thus cannot modify the shelves, such that, in particular if larger objects are to be stored on the cupboard fitting, the rail provided thereon cannot meet the requirements for topple-proof storage in many applications, in particular in terms of its vertical extension. In addition, the end user cannot modify the shelf, and in particular cannot provide said shelf with another rail.

DE 202 03 282 U1 discloses a shelf as a cupboard fitting of the type mentioned at the outset, in which the shelf bottom is surrounded by a mounting strip in the form of a rail, on which or in which a rail attachment body defining the storage surface of the shelf is to be attached so as to have an inward offset. This reduces the size of the storage surface. The entire rail per se cannot be modified after it is mounted.

EP 1 116 680 A1 discloses a drawer having a bottom and wall elements that laterally delimit the bottom, it being possible for rail attachments to be fastened to the wall elements by means of connection elements which are to be attached to the wall elements. These rail attachments consist of round tubes that can be inserted into corresponding connectors in the corner regions and in addition comprise a slot guide, into which a substantially T-shaped retaining part of the connection elements can be inserted. When the parts are not mounted, the wall elements and the rail attachments are flush with one another. Rail attachments to be provided in a customised manner by the user cannot be represented by this known system. In addition, the parts are extremely large and can only be used with difficulty in delicate cupboard fittings of kitchen cupboards in particular.

EP 2 145 562 A1 likewise discloses a drawer for furniture, comprising a drawer bottom, side pieces being provided which, for the purpose of configuration at different heights, can be provided with attachment elements which can be fastened to one another by caps in end regions. In order to retain the attachment elements, profile rails are to be attached to each of the side pieces and can either be bonded to the side pieces or can be connected to the side pieces by means of clamping elements or by means of a clip-like design of the profile rails. The side pieces themselves engage under the drawer bottom, such that reinforcement elements do not need to be provided on these side pieces to increase the flexural strength if the assembly is taller. It is not possible to provide an adjustable design of the attachment elements here.

The problem addressed by the present invention is to develop a cupboard fitting of the type mentioned at the outset such that the rail can be adjusted by the user and such that the rail can also be designed to be reinforced in corner regions even if the vertical extension is greater.

To solve this problem, the cupboard fitting is characterised by the features disclosed in claim 1.

A cupboard fitting is thereby provided in which shelves and similar cupboard fittings can be customised by the user in terms of their rail design. The user can provide the reinforcement element on the shelf beside the rail. This can, however, also be pre-installed on the shelf or similar cupboard fitting in the factory. By means of the corner connectors, separately supplied supplementary parts in the shape of the rail attachment bodies can then be

provided in order to raise the rail, for example, and in order for the rail to extend so as to be flush or to be in a region offset either outwards or inwards. For example, transparent rail attachment bodies (e.g. strips and the like), wires and the like can be provided, or corresponding fastening bodies can in turn also be provided, for example, in order to be able to provide horizontally oriented round rods for supplementing and/or completing the rail. The shelves may, for example, have a rectangular, circular, semi-circular, circle-segment or similar shape.

This is particularly useful if the entire pull-out frame is designed such that the shelves or similar cupboard fittings can be set to different heights on the pull-out frame and can also be adjusted to different heights by the end user, in order for it to be possible to store items that have different vertical longitudinal extensions in a customised manner. This can be adapted in a highly customised manner using the cupboard drawer according to the invention.

Therefore, it is also preferably provided that the cupboard fitting is used for a pull-out frame that has a single support column, and the single support column comprises a guide on which the shelf or similar cupboard fitting is slidably guided, and that the shelf or similar cupboard fitting can be supported on the single vertical support column in a height-adjustable, slidable manner.

In this way, a cupboard fitting is provided in which the shelves and similar cupboard fittings can be adjusted in a customised manner by the user in terms of their vertical arrangement. Here, shelves and the like that have a high load-bearing capacity can encompass or engage in the single support column and can be secured to the single support column using special fastening means such as attachment screws or the like. The height can be adjusted without a shelf or the like having to be removed from the single support column, and therefore even inexperienced users can complete the process in a very short space of time.

The connector forms an offset at its connection points both to the reinforcement element and to the rail attachment body, and therefore the rail attachment body is offset outwards such that the storage space of the shelf is not affected thereby. The main rail is not weakened by the attachment body, since said body is supported by the reinforcement element. In addition, the reinforcement element further stiffens the rail.

Further advantageous embodiments of the invention can be found in the additional dependent claims, the following description and the drawings, in which:

Fig. 1 shows an embodiment of a cupboard drawer for a tall cupboard in a pulled-out position,

Fig. 2 is a side view of the embodiment from Fig. 1,

Fig. 2a is a schematic view similar to the embodiment according to Fig. 2, with the detail A marked,

Fig. 2.2 to 2.4 show enlarged embodiments of the detail A in the region of the rail, including the reinforcement element, the connector and the rail,

Fig. 3 is a view similar to that in Fig. 2 of an alternative embodiment having a single support column arranged in the rear region,

Fig. 4 shows a detail of the single support column having a pull-out frame profile fastened thereto,

Fig. 5 is a schematic cross-sectional view of an embodiment of a single support column, and

Fig. 6 to 8 show a shelf to be secured in a slot in the single support column in various mounting positions.

In the drawings, like parts are provided with like reference numerals.

In the embodiments shown, reference sign 1 generally denotes a cupboard carcass in which the cupboard drawer, which is generally denoted by 2, is arranged. Fig. 1 shows the cupboard drawer 2 in a pulled-out position. When in its storage position, the drawer is within the inner space of the cupboard carcass, whereby, in the embodiment according to Fig. 1, the cupboard carcass 1 is closed by the furniture front 3, which is held on the front single vertical support column 4. In the embodiment according to Fig. 3, this single vertical support column 4 of the cupboard drawer 2 is positioned in the back (rear) region of the cupboard

drawer 2, the cupboard carcass being intended to be closed, for example, by hinged doors which are not shown in the embodiment according to Fig. 3 for reasons of clarity.

The pull-out frame 2 comprises the aforementioned vertical support column 4, on which a lower transverse beam 5 (pull-out frame profile) engages which is movably guided in a lower cupboard carcass guide 6. Together with the telescopic element 6.1, the parts 5 and 6 overall form a lower telescopic drawer.

In the upper region of the vertical support column 4, a connection 7 is provided for the cupboard carcass guide 8, which also comprises a telescopic element 8.1, such that a telescopic drawer is also formed in the upper region. The upper cupboard carcass guide 8 is formed on an intermediate bottom which extends towards the side walls 1.1 and the back wall 1.2 thereof. A connection 7 is provided on the single vertical support column 4 such that an upper transverse beam and thus an upper cupboard carcass guide to be provided in the upper top region 1.3 of the cupboard carcass 1 can be seen, such that said connection 7 is at such a vertical spacing from the inner top region 1.3 of the cupboard carcass 1 that, when the cupboard drawer 2 is in the storage position, a stowing space or storage space 10 remains, without cupboard drawer parts affecting said space. A cupboard drawer is thus produced which also has a good overall visual impression.

In the embodiments shown, shelves comprising a bottom 9 are provided as the cupboard fittings. For this purpose, the single vertical support column 4 has a slot guide 11 having undercuts 11.1 in which a connector 13 of a shelf can engage.

The slot 11 thus forms a guide on the single support column 4, in which guide the shelf or another fitting can be slidably guided such that, the user himself can adjust a shelf on the single support column 4 without having to dismount the shelf. Forming the connector appropriately means that this can be done without tools.

In Fig. 2.1, the detail A is indicated to show the design of the rail 9.9 for a bottom 9. Various embodiments of such a rail design in this detail A are provided in Fig. 2.2, 2.3 and 2.4. Each base 9 has a rectangular cross section in the embodiments shown, but may also have a different design and structure. A reinforcement element 9.1 engages on each of the outer sides and comprises a corresponding recess 9.2, into which lateral end regions of the shelf 9 can be inserted in a frictionally engaged manner. The reinforcement element 9.1 also has a

recess 9.3, in which a connector, in particular a corner connector 9.4, engages by means of its connecting region 9.5, again in a frictionally engaged manner. The connector 9.4 extends, having multiple angular portions, towards the outer side of the reinforcement element 9.1 and also has a recess 9.5 into which a rail attachment body 9.6 can be inserted. This rail attachment body 9.6 can have various designs. It may for example be in the shape of a strip comprising transparent surfaces, it may have various vertical extensions, it may consist of metal rods or wires, and so on. Owing to the design of the connector 9.4, said connector may extend so as to be offset either outwards or outwards and inwards, and specifically such that the rail attachment body 9.6 is substantially flush with the rail 9.9 in its vertical extension (Fig. 2.2), but also such that it is outside the vertical extension of the rail 9.9 in the mounted position (Fig. 2.3). The connector 9.4 may also, for example, merely support round rods as an upper boundary and as a rail attachment body 9.6, as shown by way of example in the embodiment according to Fig. 2.4. Owing to this design of the rail 9.9 per se, the end user can select the rail design required for the use in question himself and can assemble said rail from separately supplied, suitable rail components on site, but can also modify this assembly by changing the distances between adjacent shelves for example. The connectors 9.4 can be provided in both corner regions and, for example, other regions of a shelf and similar cupboard fittings, in order to divide shelves into compartments by means of said connectors.

As can be seen more clearly in Fig. 6 to 8, a recess surrounded by a raised collar 14 is provided in the shelf 9 for this purpose. As shown in the inserted position in Fig. 7, the collar 14 encompasses the vertical support column 4, it being possible for the abutment 15 to be inserted into the opening of the slot 11 when said abutment is in its vertical position (Fig. 6), and the abutment being in a horizontal position following rotation (Fig. 7). Owing to the eccentric clamping means 16, said abutment can then be clamped to the undercuts 11.1, whereby the shelf 9 is clamped to the single support column (Fig. 8).

In the embodiment shown according to Fig. 1 and 2, overall the vertical support column has a smaller vertical extension than the inner space of the cupboard carcass 1 and carries the upper shelf 9 as the upper limit, which shelf is formed, in the embodiment shown, as a guide shelf, in that a connector 7 for the upper cupboard carcass guide 8 is attached to the underside thereof. This guide therefore has less of an impact on the overall visual impression of the pull-out frame 2 than known designs of cupboard drawers, yet ensures that the cupboard drawer can move in an overall impediment-free manner. In the embodiment

shown according to Fig. 3, in an otherwise substantially identical construction, the vertical support column 4 of the pull-out frame 2 is provided in the back (rear) region. As with the embodiment in Fig. 1 and 2, the single vertical support column 4 can be L-shaped and thus formed in one piece.

As with the embodiments according to Fig. 1 and 2, the upper region of the pull-out frame is formed to be free of cupboard carcass guides and the limit 7 is located in a region which is at such a vertical spacing from the inner top region of the cupboard carcass 1 that there remains a storing or stowing space 10 which is no longer impeded by pull-out frame parts or cupboard carcass guide parts. In the process, the upper shelf 9 in turn also forms a guide shelf. In this embodiment, a furniture front is omitted. In fact, the cupboard carcass can be closed by hinged doors, shutter elements and the like. It is also possible for the drawer 2 to not only carry out translational movements, but also a pivot movement or a translational movement combined with a pivot movement.

As can be seen more clearly from Fig. 5, the profile which forms the single support column 4 can be formed in two parts, and has a recess 16 which is opposite the slot 11 and into which a furniture front can be inserted by its fastening parts. Owing to the second part 17 to be inserted, particular strength properties can be taken into account in each individual case, for example owing to a different material selection or different wall thicknesses. In addition, as indicated in Fig. 5, a frictional element 18 can also be introduced in order, for example, to hold the shelf 9, as a result of its own weight, in the slot guide 11 in a position which is no longer displaced but not yet clamped.

In the embodiment according to Fig. 5, the side walls 4.1 are designed so as to widen slightly obliquely towards the recess 16, and this can also serve to securely hold the shelf, by its collar, on the single support column 4 following a displacement. (The text from the last paragraph on page 2 of the original description onwards should be attached here).

P A T E N T K R A V

1. Skabsindretningsgenstand, for eksempel en hylde til en fortrinsvis bevægelig ramme (2) til anbringelse i et indre rum af et skabskorpus (1), hvorved en ræling (9.9) er forsynet med et rælingsopsatslegeme (9.6) til i det mindste delvis at afgrænse en stilleflade, hvor rælingen (9.9) er forsynet med et til bunden (9) fikserbart, som hjørneforbindelsesdel af skabsindretningsgenstanden (9) udformet forstærkningselement (9.1), som omfatter en modtageindretning (9.5) til at fastgøre et forbindelsesstykke (9.4), hvorpå rælingsopsatslegemet (9.6) kan fastgøres med et udadvendt sideforskydningsmål, k e n d e t e g n e t ved, at forbindelsesstykket (9.4) kan indsættes friktionssluttende i forstærkningselementets (9.1) modtageindretning (9.5), og rælingsopsatslegemet (9.6) kan indsættes friktionssluttende i forbindelsesstykkets (9.4) modtageindretning (9.5), og hvor forstærkningselementet (9.1) omfatter en modtageindretning (9.2), i hvilken bunden (9) kan indsættes afsnitsvis, og hvor forstærkningselementet (9.1) griber under bunden (9) i montagestillingen.

2. Skabsindretningsgenstand ifølge krav 1, k e n d e t e g n e t ved, at rælingsopsatslegemet (9.6) er udskifteligt holdt på forbindelsesstykket (9.4), og at rælingsopsatslegemet (9.6) i montagestillingen af delene omtrent flugter med rælingen (9.9) i højdeudstrækning.

3. Skabsindretningsgenstand ifølge et hvilket som helst af krav 1 eller krav 2, k e n d e t e g n e t ved, at rælingsopsatslegemet (9.6) i montagestillingen af delene er anbragt forskudt enten udad eller indad, eller flugtende med rælingen (9.9).

4. Skabsindretningsgenstand ifølge et hvilket som helst af kravene 1 til 3, k e n d e t e g n e t ved, at rælingsopsatslegemet (9.6) bærer yderligere rælingstilføjelseslegemer.

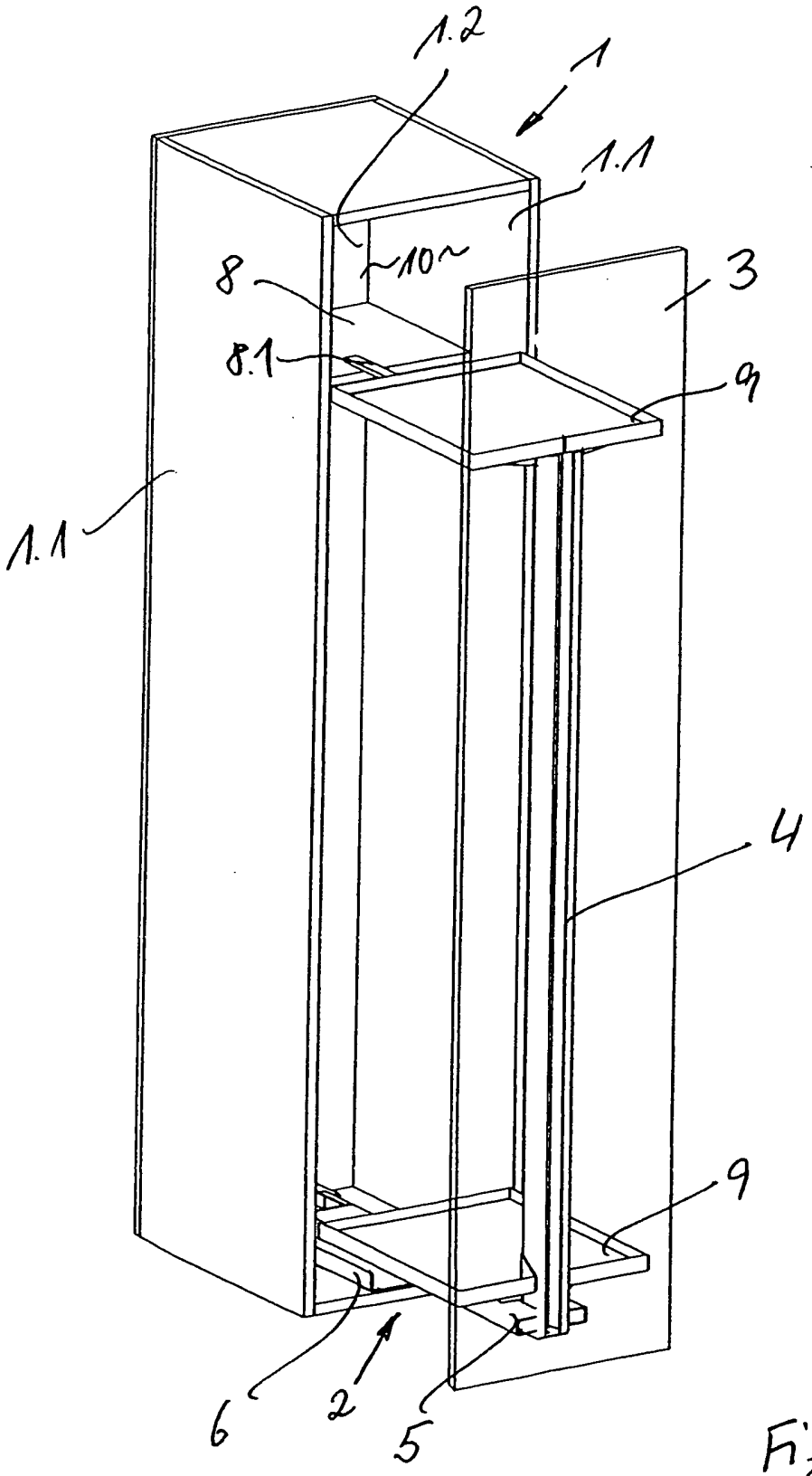

Fig.1

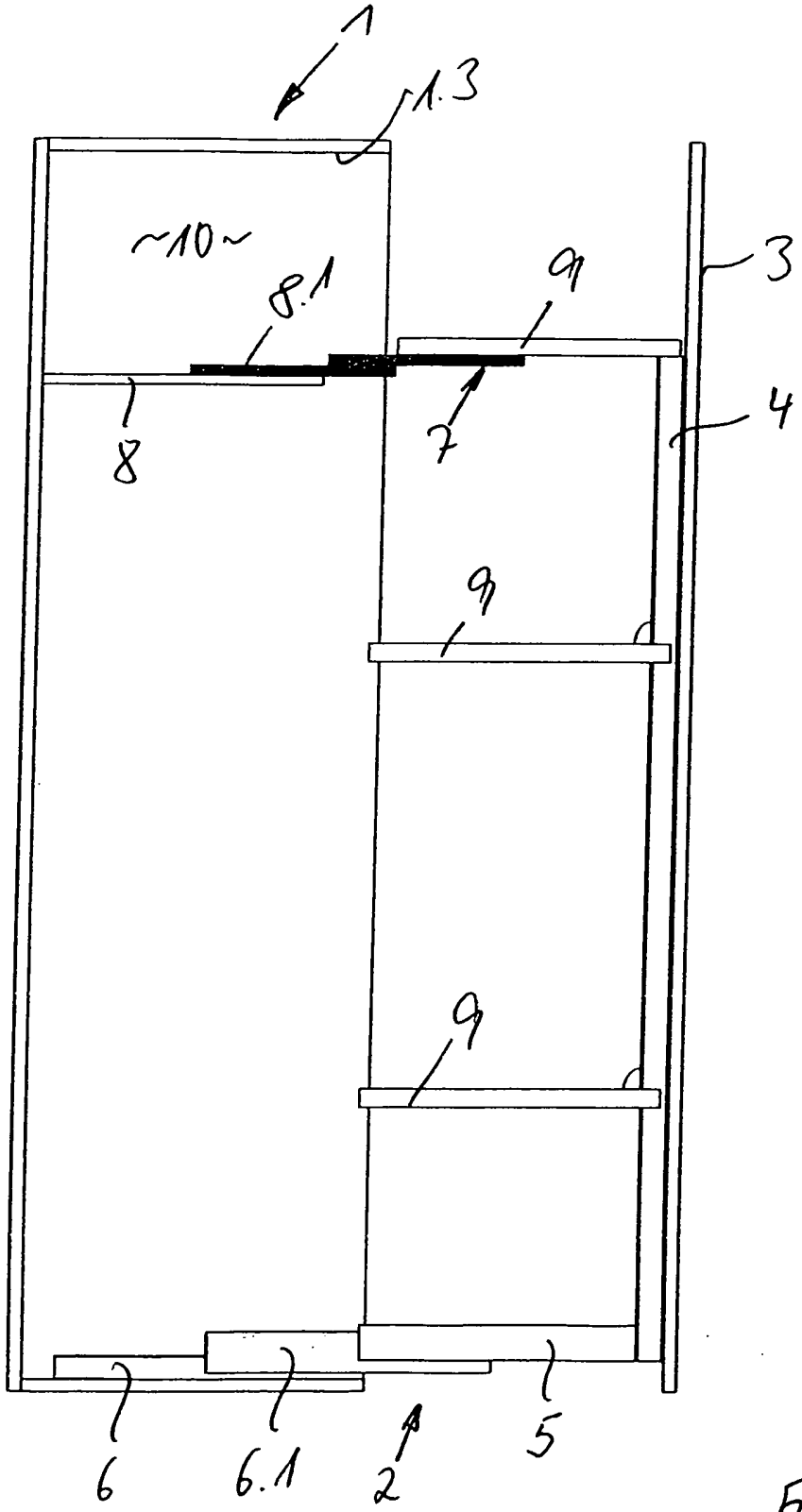

Fig. 2

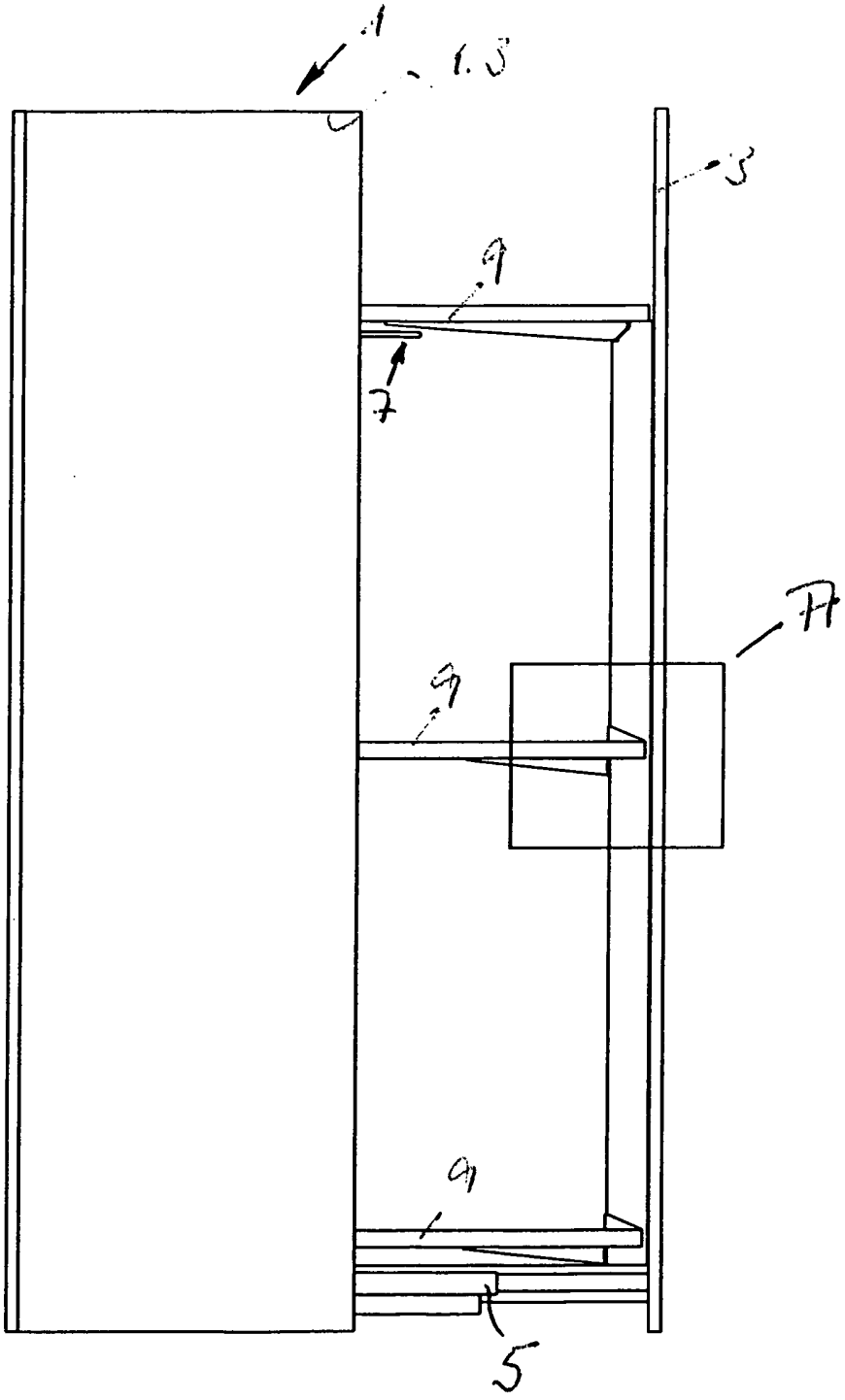

Fig. 2. 1

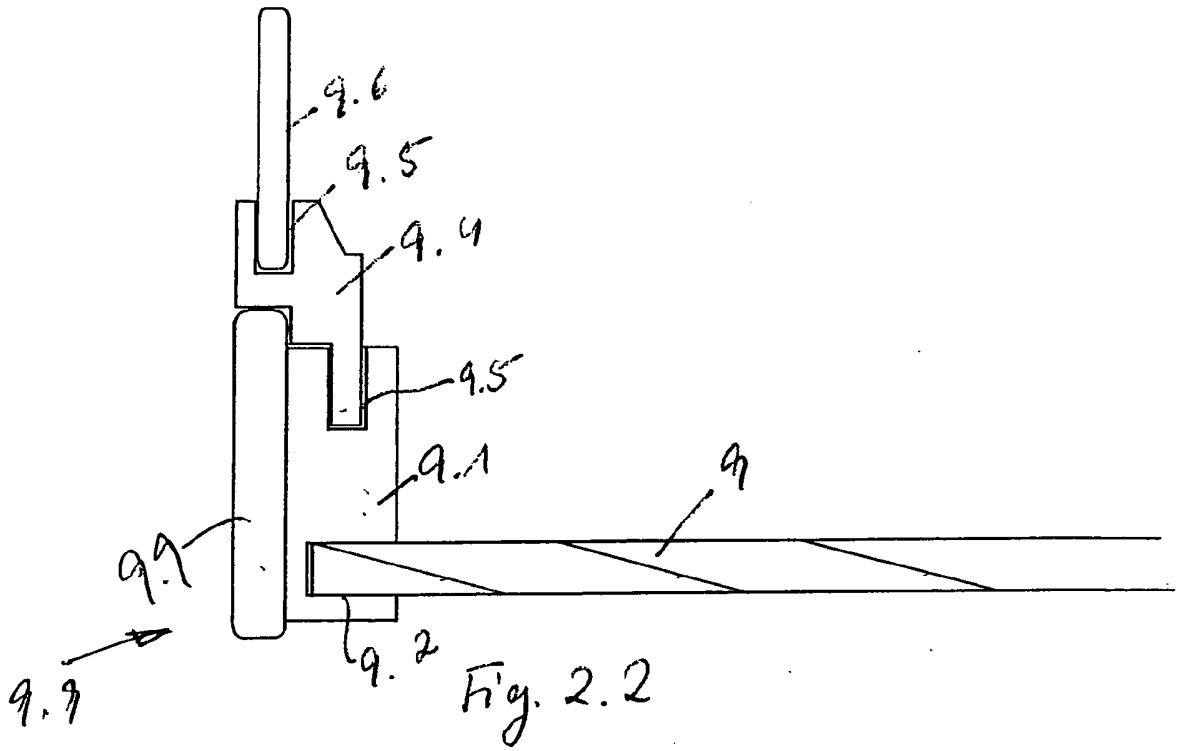

Fig. 2.2

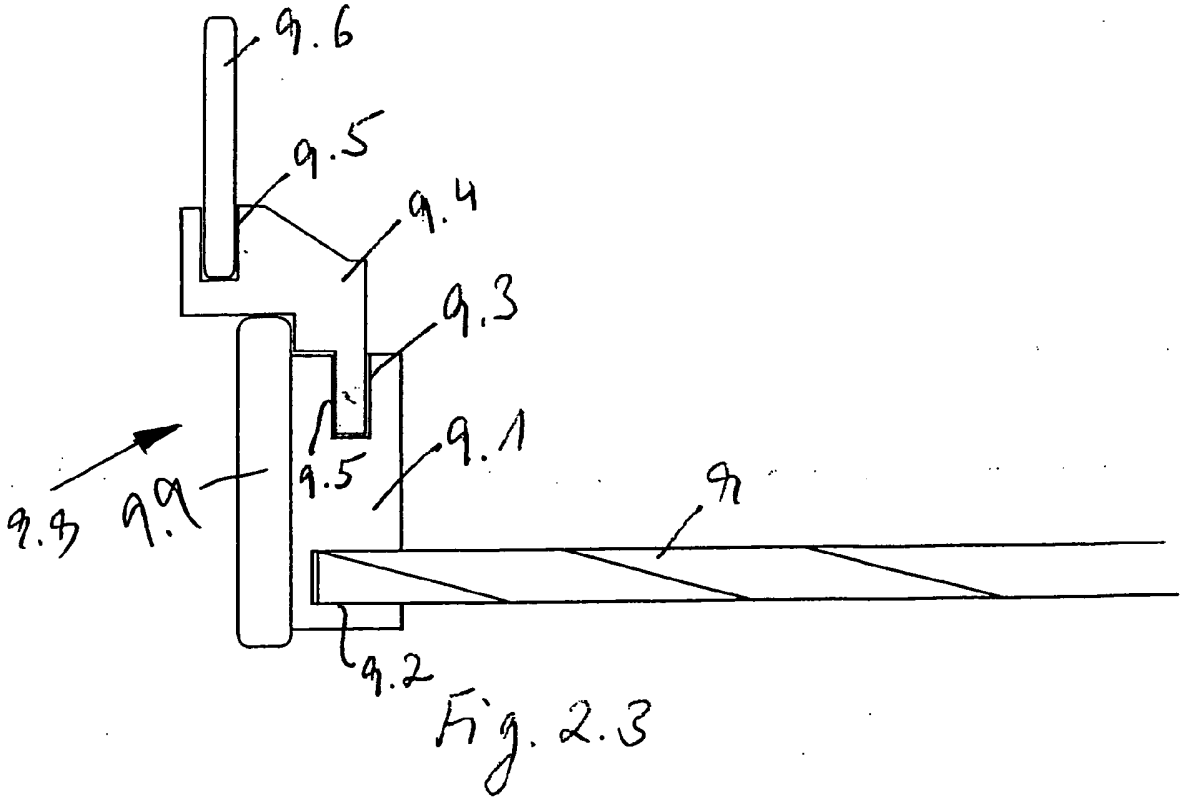

Fig. 2.3

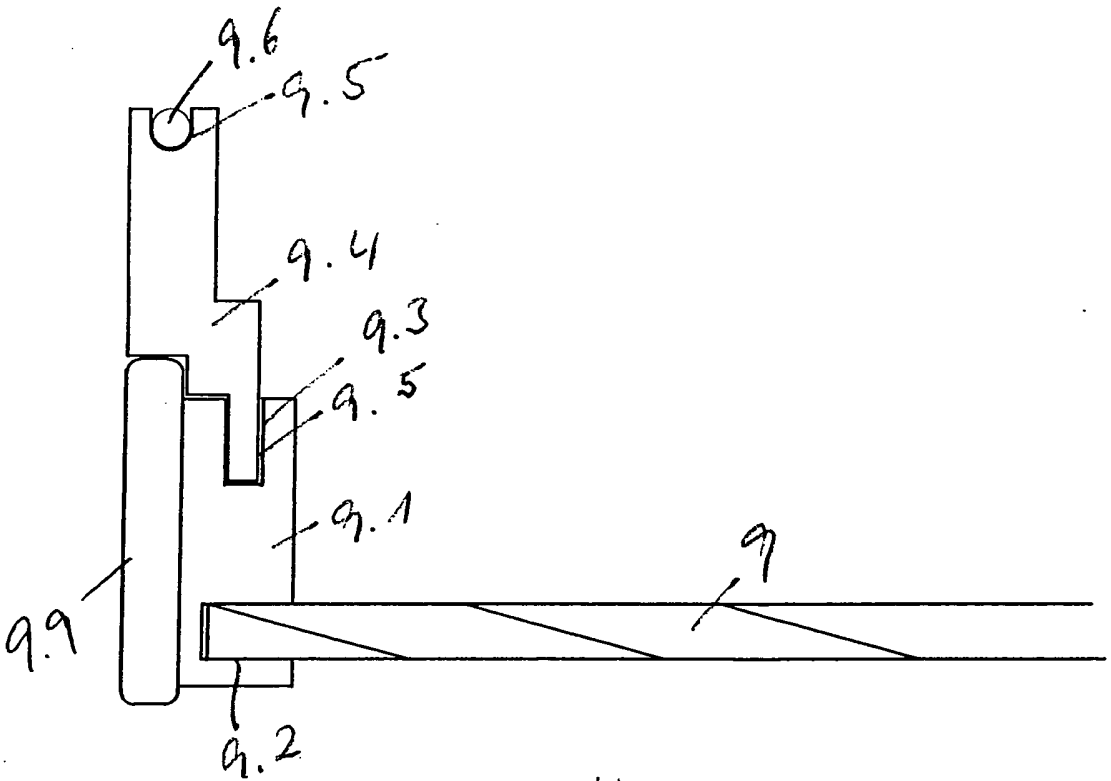

Fig. 2.4

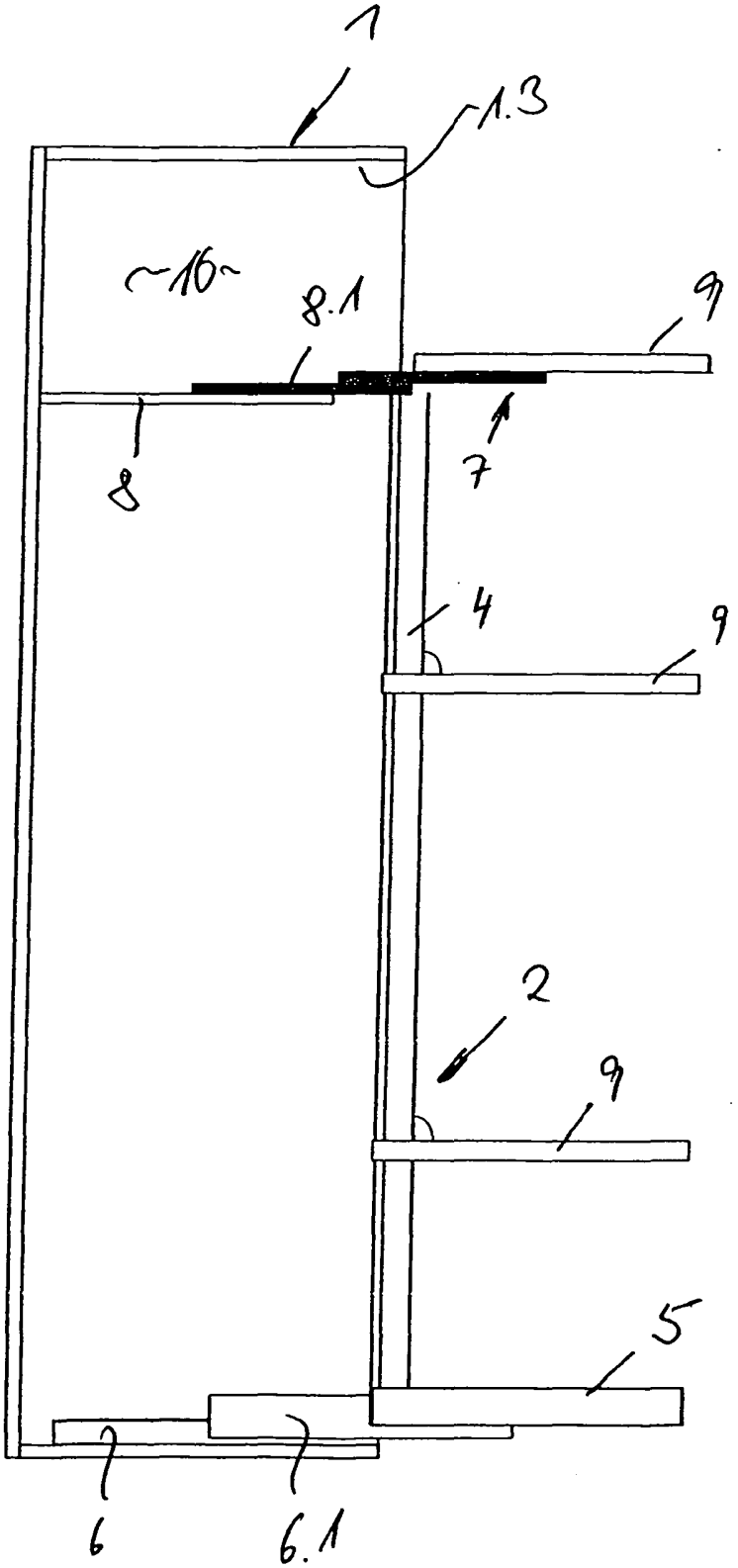

Fig. 3

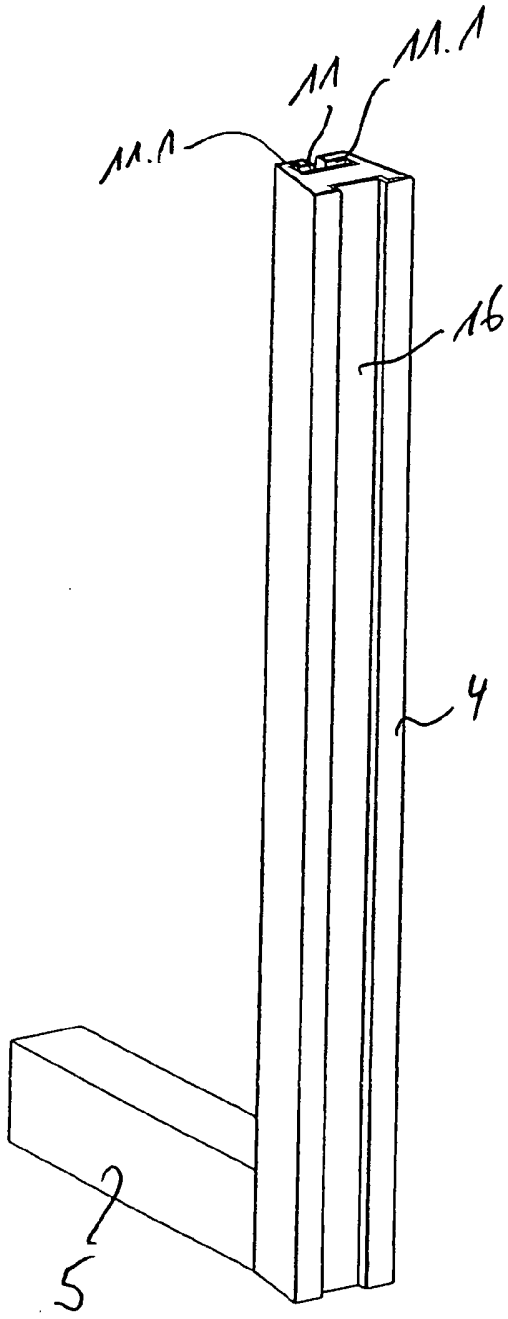

Fig. 4

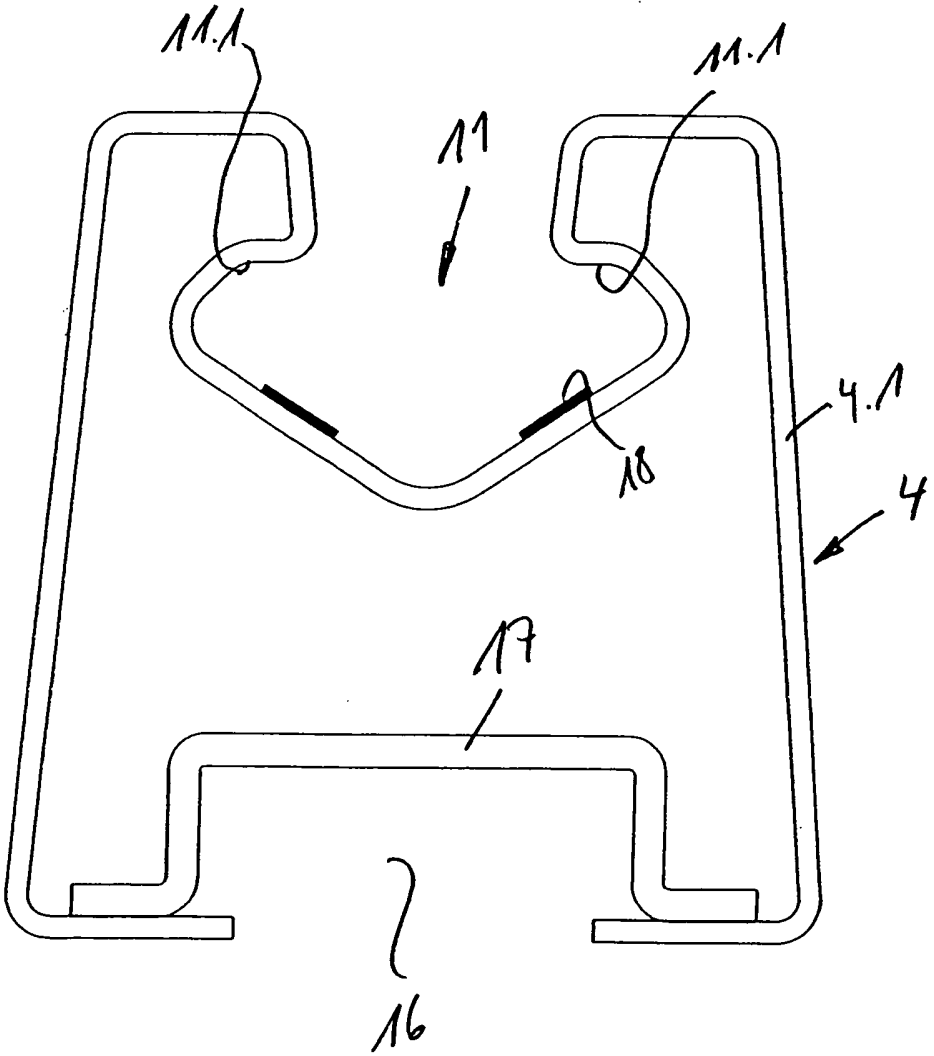

Fig. 5

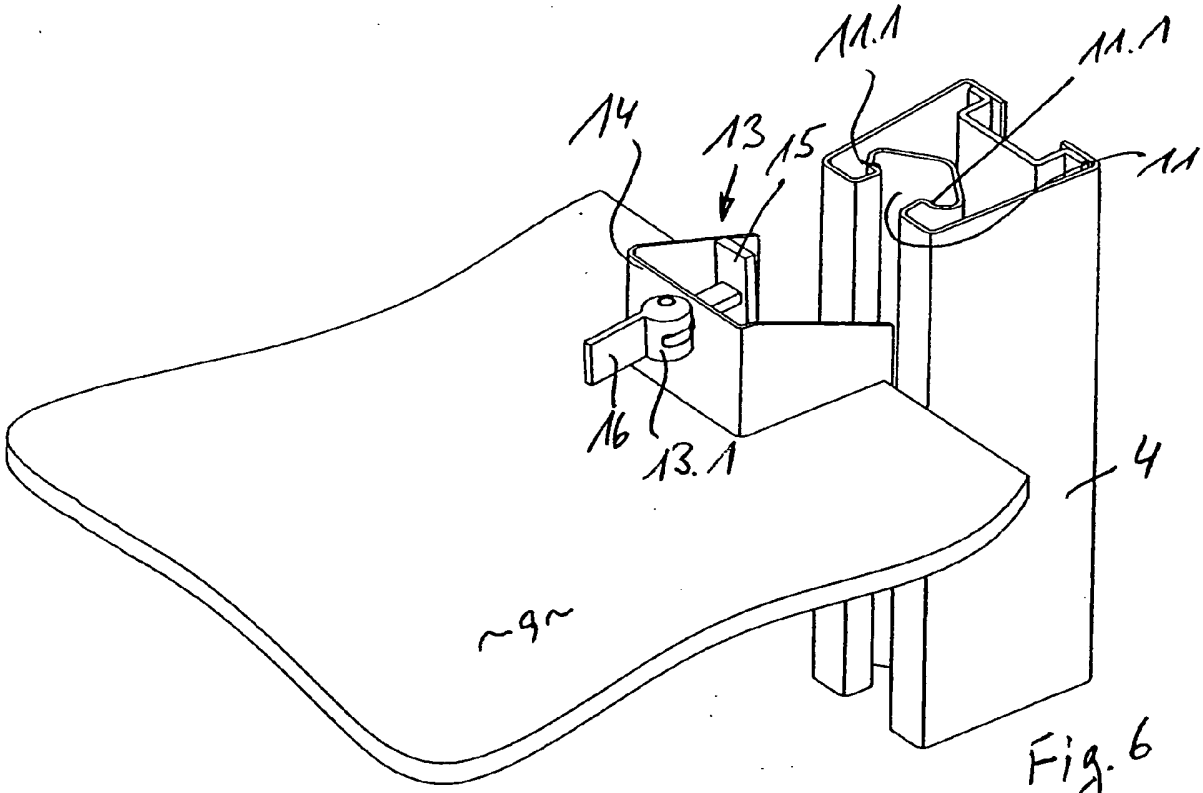

Fig. 6

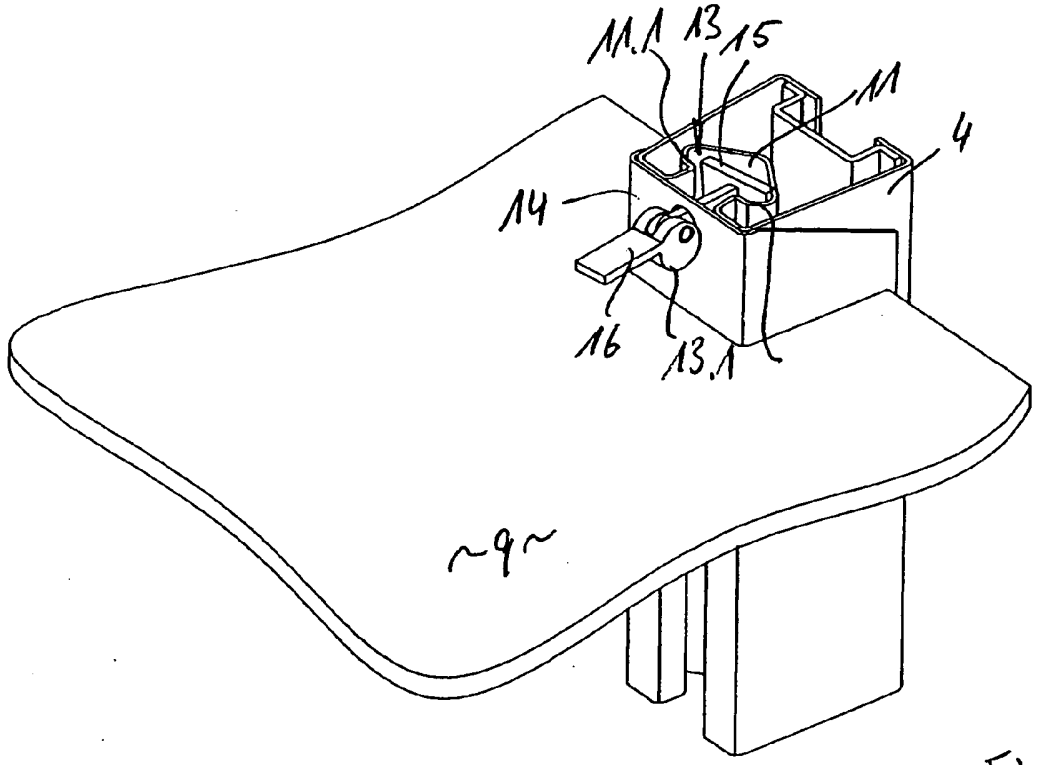

Fig. 7

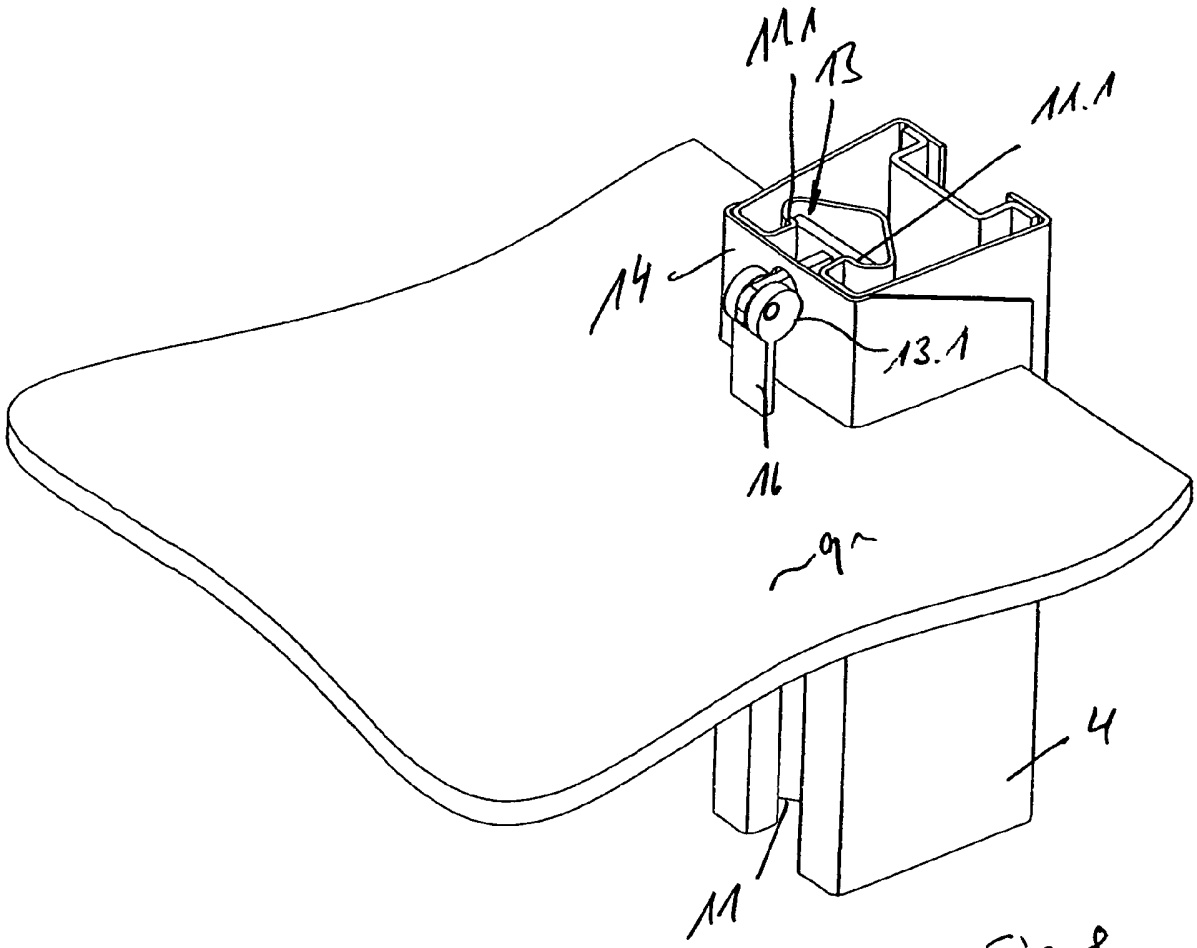

Fig. 8