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(71) Applicant: **Steelcase S.A.**

67200 Strasbourg (FR)

(72) Inventors:

• **Viegas, Luis**

67310 Wasselonne (FR)

• **Oberlé, Jean-Marc**

67310 Cosswiller (FR)

• **Fiegel, Yannik**

67700 Haegen (FR)

• **Deschang, Fabien**

57370 Mittelbronn (FR)

(74) Representative: **Bockhorni, Josef**

Patent- & Rechtsanwälte,

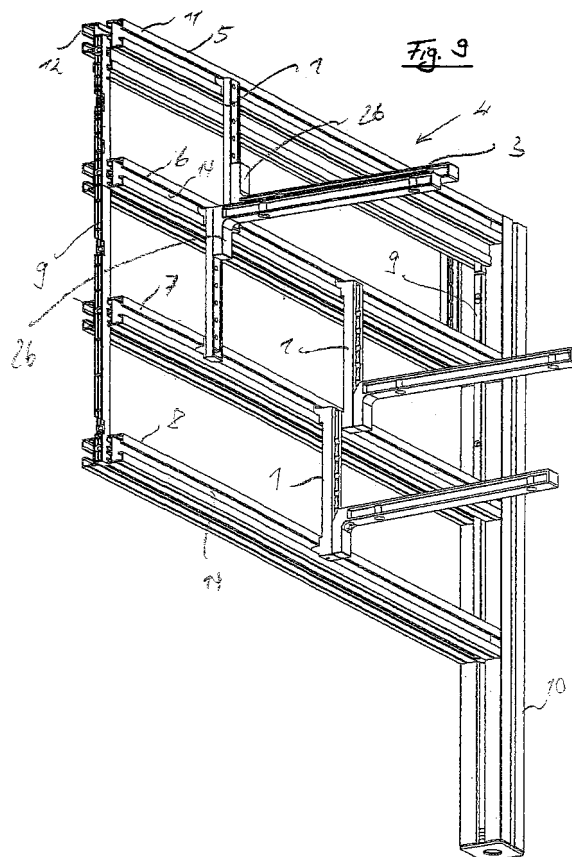
Grosse, Bockhorni, Schumacher,

Forstenrieder Allee 59

81476 München (DE)

(54) **Partition wall element for offices and the like with shelf brackets**

(57) Partition wall element for offices and similar, formed from posts (10) and at least two crossbeams (5,6,7,8), which extend between two adjacent posts, with which they are connected and accommodate shelf brackets (1) that are formed with projecting shelf arms (3) for supporting shelves, whereby each shelf bracket is formed from a fastening support (2) insertable which is formed to be hang / or hooked in into at least one cross-beam, with a preferably vertically adjustable shelf arm positioned against the fastening support.



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Description

[0001] The invention relates to a partition wall element with shelf brackets according to the preamble of claim 1.

[0002] Partition wall elements for the design of offices are generally made of a support frame comprising vertical posts and cross-beams. Said partition wall elements, whose support frame is covered by panels, serve for a variable workplace design. An essential criteria of such partition wall elements are shelf brackets serving for taking up shelf panels.

[0003] Regarding an already known partition wall element (US-PS 5,454,638) said shelf brackets feature shelf arms that are provided with hook-in hooks arranged on top of one another and that are hookable into the vertical posts at different vertical levels. Said vertical posts are hereby provided with hook-in apertures that are provided in the posts equally spaced. Formation of a multitude of hook-in apertures weakens the structure of the vertical posts and in particular leads to an undesirable appearance, since said apertures are visible from the outside. A further disadvantage is that mounting of shelf arms onto vertical posts is limited, however, they have to be mounted within a predetermined lateral space to one another. That requires additional measures, if the shelf panels to be taken up by the shelf arms shall be of different length. Comparable shelf arms also result from e.g. US-PS 5,769,247.

[0004] After all shelf brackets are known that can be fastened onto vertical posts, whereby said shelf brackets are not provided with hook-in apertures that are arranged on top of one another. Fastening of shelf brackets is hereby effected via two clamping cheeks that are taken up in the shelf bracket and are clamped by screws against the vertical posts, whereby said posts are provided with corresponding profiled flanges. Although hook-in apertures in the posts are hereby prevented, assembly is complex and to vertically adjust shelf brackets, first of all said clamping cheeks have to be released, then adjusted to a suitable height and clamped tight again. This has also the disadvantage that the shelf brackets can respectively only be fastened onto vertical posts that, however in respect of partition wall elements, are respectively mounted to one another within a predetermined space. In case of using shelf panels, whose length is shorter than the space of adjacent vertical posts of a partition wall element, additional measures have to be taken.

[0005] It is also known (EP 0 707 814 A2) to provide shelf brackets that are taken up in cross rods, which are mounted on vertical posts of a partition wall element. Said shelf brackets feature T-shaped guide heads to shift said shelf brackets longitudinally to said rods to the desired position. Furthermore, said shelf bracket comprises shelf arms that are insertable at a desired height via insert straps into insertion apertures of said shelf bracket, whereby said apertures are arranged on top of one another. Assembly is here also complex, since the shelf brackets have to be inserted via the lateral end portions

of said rods, and therefore cannot be hooked in from the outside. This complicates supplementary change of the workplace design of already mounted partition wall elements, if e.g. said shelf brackets are to be mounted at a different position.

[0006] Object of the invention is to create a partition wall element with shelf brackets for taking up shelves, featuring a simple and stable structure, as well as a fast assembly and which is formed in such a way that adaptation to a modified workplace design is easily possible.

[0007] This problem is solved according to invention by the features of the characterizing part of claim 1, whereby further developments for that purpose of the invention are characterized by the features of the sub-claims.

[0008] In accordance with the invention the partition wall element features shelf brackets with thereon provided shelf arms, onto which shelf panels can be fastened. Each shelf bracket is formed by a fastening ledge, onto which the shelf arm is arranged. Said shelf bracket is fastened by way of hooking said fastening ledge into a cross-beam, which is part of the support frame of the partition wall element, whereby said support frame is formed of vertical posts and cross-beams, which are arranged between the posts.

[0009] In a further development of the invention said fastening ledge is formed as a hook-in and insertion connection. In a practical embodiment said fastening ledge features on its upper end portion a hook-in element, which is offset against the fastening ledge, particularly formed as an L-shaped hook-in lip, which is outwardly offset against the upper end portion of said fastening ledge as well as upwardly protruding. Such a hook-in lip enables engagement behind a slot provided in a cross-beam, whereby said slot extends over the length of said cross-beam. For fastening the shelf bracket is hereby held inclined and the hook-in lip is inserted into said slot. The fastening ledge is then pivoted against the support frame so that the hook-in lip engages behind said slot. Advantageously an outwardly protruding insert nose is formed at the lower end portion of said fastening ledge, said insert nose engaging into the slot of a lower cross-beam when said fastening ledge is pivoted. Said insert nose is hereby compatible to the slot width to provide a stable and steady hold of the shelf bracket, when the hook-in lip and the insert nose are inserted into two superimposed cross-beams. For this purpose said insert nose is provided with tapered surfaces or crowned so that said insert nose is automatically centered, when inserting it into the slot of the lower cross-beam. Both hook-in lip and insert nose immerge hereby into a groove formed behind the slot, whereby said groove is outwardly encased by ribs respectively slot walls encasing the slot between one another. Therefore engagement of said hook-in lip behind a slot wall is possible and a secure anchorage of the shelf bracket is provided. It is clear that the slots and the groove behind said slots in the cross-beams are formed in the same way for that pur-

pose. Like this shelf brackets can be hooked into superimposed cross-beams of the partition wall element in any way. The space between the cross-beams, which are arranged on top of one another, is hereby determined for hooking-in the shelf brackets, meaning the space between the cross-beams complies with the space between the hook-in lip and the insert nose of a fastening ledge of the shelf bracket. This can be achieved by connecting adjacent cross-beams by lateral fastening ledges with a corresponding length to a unit.

[0010] Both the insert nose and the hook-in lip outwardly protrude for that purpose via a dog- or root-like part against the fastening ledge, which dog is preferably compatible to the slot width of the cross-beam. Moreover, both the hook-in element and the insert nose are respectively arranged on a shoulder formed on a fastening ledge, with said shoulder forming contact surfaces for abutting the fastening ledge onto the cross-beam. After being hooked into the cross-beams, the shelf brackets are released from said cross-beams, since the shoulders encase sprung-back recesses between one another.

[0011] In a preferred embodiment of the shelf bracket, the fastening ledge comprises engagement holes spaced to one another to enable fastening of the shelf arm on the fastening ledge at various graded heights. Fastening is hereby effected via screw or clamping pin connections that engage into the engagement holes. Regarding this embodiment the shelf arms are fastened onto the fastening ledge at a predetermined vertical level. If the shelf arm is to be arranged at a different height, shelf brackets are removed, the screw or clamping pin connections is undone and fastening of the shelf arms into other engagement holes vertically offset is effected. The shelf bracket can then again be hooked into a pair of cross-beams that are arranged on top of one another.

[0012] In a further embodiment the shelf arms can be manually vertically adjusted relative to the fastening ledge without having to take off the shelf brackets from the partition wall element. The shelf arm is hereby arranged vertically adjustable against the fastening ledge via an engagement mechanism that is operated manually.

[0013] The fastening ledge is hereby provided with notches for that purpose, which are vertically spaced, in form of engagement noses and features at least one guide groove for slidably taking up the shelf arm relative to said fastening ledge. For this the shelf arm is hereby provided with a guide element, which is complementary to the guide groove. The engagement arm is hereby inserted via the guide element into the guide groove of the fastening ledge and locking of the shelf arm into the desired position is effected via at least one lock ledge, which is provided on said shelf arm and which is lockable against one vertically offset engagement nose of said fastening ledge. After releasing the lock ledge, the shelf arm is shiftable relative to said fastening ledge to a different vertical position and is lockable by insertion of the lock ledge into a corresponding engagement nose.

[0014] In a particularly preferred embodiment of the shelf bracket the lock ledge is formed on a manually operated actuating lever, which is pivotally arranged in the support element. Advantageously, said actuating lever features hereby laterally protruding bearing bolts and the support element is provided with a receptacle chamber for said actuating lever, in which chamber bearing grooves for the bearing bolts are provided. Pivotable bearing of the actuating lever is hereby effected by insertion of said bearing bolts into said bearing grooves of the support element.

[0015] Advantageously, said actuating lever is formed and accommodated in the support element in such a way that the lock ledge is pivotable conditional on weight and therefore automatically forced into its locking position. This can be easily achieved by the lock ledge being formed in regard of the bearing bolts of the actuating lever on the one side and the actuating handle of the actuating lever being formed on the other side, whereby the actuating handle is designed heavier in weight than the lock ledge. Due to this a torque arises around said bearing bolt, to press down the actuating handle (clockwise) and to press and hold the lock ledge hereby in insertion position with the engagement noses of the fastening ledge. Alternatively, however, the lock ledge can be resiliently biased in locking position or lockable with a separate lock.

[0016] For that purpose the guide element of the shelf arm is formed by preferably two guide heads that are spaced to one another onto the support element of the shelf arm and that are spaced to one another, whereby said guide heads are complementary to the guide groove in the fastening ledge, particularly formed in a T-shape.

[0017] Furthermore the lock ledge is offset downwardly inclined and outwardly protruding in regard of the actuating handle of the actuating lever.

[0018] In a further embodiment for that purpose an insertable locking clamp may be provided in the fastening ledge, whereby said locking clamp is provided with an engagement hook. The shelf bracket can be locked against the cross-beam after insertion of the locking clamp into the fastening ledge. The engagement hook of said locking clamp hereby engages into the slot of the cross-beam, whereby the engagement hook engages behind one of the slot walls of the cross-beam. Moreover, the locking clamp can be provided with an engagement hook for engagement in the fastening ledge. Said engagement hook is preferably resilient so that after insertion of the locking clamp into the fastening ledge the engagement hook is resiliently engaging behind a corresponding projection of the fastening ledge and therefore engaging the locking clamp against the fastening ledge. For this said fastening ledge features an engagement hole for insertion of the locking clamp in the area of the insert nose.

[0019] According to invention therefore a shelf bracket for a partition wall element is created, whereby said shelf bracket can also be easily hooked into the partition wall element by unskilled personnel. The hooked-in shelf

bracket is hereby taken up fast and steady on the partition wall element. Nevertheless, the shelf bracket and therefore also a shelf panel that is fastened onto the shelf can be shifted at any time longitudinally to the cross-beam into the desired working position. Moreover, the shelf arm can be easily vertically shifted relative to the fastening ledge so that the shelf panel is also mountable to the desired working height and that the position of the panel is changeable to the desired vertical position.

[0020] Preferred embodiments of the invention are described below with the aid of the drawing. Therein:

- Fig. 1 is a side view of a shelf bracket,
- Fig. 2 is a plan view of the shelf bracket shown in Fig. 1,
- Fig. 3 is a sectional view along line A-A of Fig. 1,
- Fig. 4 is a sectional view along line C-C of Fig. 1,
- Fig. 5 is a three-dimensional drawing of a fastening support of the shelf bracket of Fig. 1,
- Fig. 6 is a front-view of the fastening support of Fig. 5,
- Fig. 7 is a sectional view along line B-B of Fig. 6,
- Fig. 8 is a sectional view along line A-A of Fig. 7,
- Fig. 9 is a three-dimensional partial view of a partition wall element with the shelf brackets arranged for the purposes of illustration and
- Fig. 10 is a sectional view through a cross-beam to show the accommodating groove,
- Fig. 11 is a three-dimensional view of a shelf arm of a further embodiment,
- Fig. 12 to 16 are different views and sectional views of the shelf arm shown in Fig. 11,
- Fig. 17 is a three-dimensional view of a fastening support to vertically adjustable support of a shelf arm according to Fig. 11,
- Fig. 18 to 21 are different views of the fastening ledge as shown in Fig. 17,
- Fig. 22 is an actuating lever for locking and unlocking of a shelf arm according to Fig. 11 on the fastening ledge according to Fig. 17,
- Fig. 23 is a three-dimensional view of the shelf bracket according to Fig. 11 to 22 in a mounted position,
- Fig. 24 to 26 are different views of the shelf bracket of Fig. 23,
- Fig. 28 is a sectional view of a portion of the shelf bracket as shown in Fig. 23 with the actuating lever in locking position,
- Fig. 29 is a corresponding sectional view of Fig. 28, however with the actuating lever in unlocked position,

Fig. 30 is a detail in Fig. 25 in a sectional view and

Fig. 31 is a three-dimensional view of a clamping lock as used in Fig. 30.

[0021] Fig. 1 shows the side view of a shelf bracket generally labeled 1 that comprises a ledge-like fastening support 2 with a shelf arm 3 positioned on it. Shelf arm 3 serves to carry shelves not illustrated here.

[0022] Fig. 9 shows how such shelf brackets 1 are accommodated on a partition wall element 4. The partition wall element 4 shown here only as an example comprises four cross-beams 5, 6, 7, 8 spaced one above the other that are joined by means of lateral connecting links 9 to form a self-contained unit, or so-called fence. This structure of cross-beams 5 to 8 arranged one above the other is attached via connecting links 9 to posts 10, of which only one, namely the right-hand post of partition wall element 4, is shown in Fig. 9. These cross-beams 5 to 8 are formed as extended profiles, on whose opposite side-faces there are continuous fastening projecting ribs 13 and 14, which are restricted by inwardly projecting ribs 15 and 16. As may be seen in Fig. 10, in the described embodiment the upper inwardly projecting rib 16 is shorter than the lower rib 15. As may be seen, the cross-beams in the embodiment shown have a multichamber hollow profile and are made by extruding metal, especially aluminium. As a result, such a partition wall element in which the posts 10 are also composed of extruded profiles has a comparatively rigid structure. Not shown in Fig. 9 are panels that cover the gaps between adjacent cross-beams to the front. Such panels can be attached to the cross-beams by means of clips.

[0023] The upper end of fastening support 2 of shelf bracket 1 has a hook-in element 17, which has a hook-in lip 18 projecting upwardly beyond fastening support 2 that in the embodiment shown is aligned parallel to the longitudinal stretch of fastening support 2. This hook-in element 17 enables shelf bracket 1 to be inserted into a cross-beam, whereby hook-in lip 18, for example, catches against the inwardly projecting lip 16 of slot 14 (see Fig. 10). For hooking-in, shelf bracket 1 is tilted slightly to allow hook-in lip 18 to be inserted into slot 14. Hook-in lip 18 catches against upper rib 16 and shelf bracket 1 is then returned from the tilted position into the vertical position to make contact with the cross-beam. As especially revealed by reference to Fig. 9, hook-in element 17 has a neck piece 19, from which hook-in lip 18 projects upwardly and whose height roughly corresponds to the width of slot 14, so that, after shelf bracket 1 has made contact with the cross-beams, the bracket is held by neck piece 19 without major upward or downward play and thus tightly to the cross-beams. Neck piece 19 sits on a shoulder 20, which is formed on the upper end of fastening support 2.

[0024] At the lower end of fastening support 2 is an insert nose 21 whose cross-section is for that purpose shaped like the cog of a cogwheel that therefore is pro-

vided with tapered or slightly curved sides 22. Insert nose 21 projects from a shoulder 23 formed at the lower end of fastening support 2. The interposition of shoulders 20 and 23 serves to create a recess labeled 24 between the shoulders that, so to speak, leaves the panels clipped on between the cross-beams free, i.e. bridges the panels by a distance, such that, seen from the side, the shelf brackets only make contact with the cross-beams from the front via shoulders 20 and 23. Naturally, the dimension of insert nose 21 is sized to the width of slot 14, with the curved or cross-sectional conical design of the insert nose facilitating centering of the insert nose into the corresponding slot 14. The distance between hook-in element 17 and insert nose 21 is naturally dimensioned for the distance between adjacent cross-beams, which is determined by connecting links 9. As soon as shelf bracket 1 is mounted via hook-in lip 18 into slot 14 of an upper cross-beam 6 and the shelf bracket 1 is tilted backwards towards the cross-beams, the insert nose 21 automatically grips into slot 14 of the lower lying cross-beam 7, as may be seen by reference to Fig. 9. As a result, shelf bracket 1 is held fast, but is still laterally slidable in the slots 14 of two adjacent cross-beams 6 and 7.

[0025] As shown in Fig. 5, the side of fastening support 2 opposite the hook-in element 17, 21 has two guide shoulders 24 and 25 along its length, between which shelf arm 3 is guided. In the embodiment shown, shelf arm 3 is essentially L-shaped and has a support element 26 that forms the L-limb of the shelf arm 3. As may be seen from Fig. 3, this support element has a central projection 27 that serves as a guide rail and engages between guide shoulders 24 and 25.

[0026] The embodiment illustrated shows a shelf bracket 1, in which shelf arm 3 may be adjusted vertically, i.e. along fastening support 2, in stages. For this, fastening support 2 is provided with holes 28 spaced above each other and the support element 26 of shelf arm 3 in Fig. 1 has openings 29, indicated with dashed lines, that are executed as blind holes. As can be seen, engagement holes 28 of fastening support 2 are equally spaced and provision is made in support element 26 for two holes 29 whose spacing is twice that of engagement holes 28. The desired vertical position of shelf arm 3 is determined before shelf bracket 1 is inserted into the partition wall element by suitably aligning shelf arm 3 with fastening support 2 and inserting two screws from the latter via engagement holes 28 so that shelf arm 3 is screwed correspondingly to fastening support 2. If the vertical position of shelf arm 3 is to be adjusted relative to fastening support 2, shelf bracket 1 is simply removed from the cross-beams, the screws are undone and shelf arm 3 is then aligned at the desired height relative to fastening support 2, after which the support element 26 is again screwed to fastening support 2.

[0027] For attaching shelves, provision can be made for two fastening holes 30 at a suitable distance apart on shelf arm 3. These are also visible in Fig. 4, which also yields the profile of the L-limb of shelf arm 3. A panel laid

onto two or several shelf arms depending on length can be fastened onto the shelf arms, e.g. through screws, which are not displayed here and which grip through apertures 30. The panel fastened e.g. on two shelf brackets and onto the shelf arms is easily shiftable longitudinally along the cross-beams, in which it is hooked in, into the desired working position, can also be released and hooked in again at another position quickly and without much assembly work.

[0028] Naturally, where required, shelf arm 3 can also be infinitely adjusted vertically relative to fastening support 2, for which purpose then a tilting and clamping lever is accommodated in a recess of support element 26, said lever being clampable with a clamping cam, for example, against the lateral guide shoulders 24 and 25. A corresponding embodiment is described on the basis of figures 11 to 31 further down below.

[0029] As a consequence of the two-part design of shelf bracket 1 with fastening support 2 and hook-in element 17, 21 and with removable shelf arm 3, it is also possible in embodiment according to figures 1 to 8 to reverse the arrangement of the shelf arms, as shown for example in Fig. 9 for the top shelf bracket 1, in which the support element 26 extends upwards and the L-limb of shelf arm 3 is downmost. In the shelf bracket positioned below it, by contrast, support element 26 of shelf arm 3 is aligned downwards and the L-limb of the shelf arm, which supports the shelf, is uppermost. As a result, the full engagement range of fastening support 2 with engagement holes 28 can be utilized highly effectively. Naturally, it is also possible to make shelf bracket 1 in one piece from fastening support 2 and shelf arm 3 if vertical adjustment is eschewed. Otherwise, the fastening support with the hook-in element is expediently produced as one piece, preferably of metal, especially aluminium. This also applies preferably to the shelf arm.

[0030] Naturally, vertical adjustability by means of the engagement holes is only illustrated as an example and provision can be made for other engagement mechanisms, such as engagement recesses incorporated laterally in the guide shoulders or engagement noses spaced apart on the fastening support, that work together with complementary engagement recesses on the shelf arm for the purposes of vertical adjustment.

[0031] The embodiment of a shelf bracket described in fig. 11 to 31 resembles particularly in view of the hook-in mimicry of the described embodiment so that the same reference numerals are used for the same components. Fig. 11 is a three-dimensional view of shelf arm 3 with fastening holes 30 for taking up screws and the like connecting means for fastening a panel laid on a shelf arm. This embodiment differs from the embodiment described before by the fact that shelf arm 3 is vertically adjustable by simple operation of an actuating lever according to fig. 22 longitudinally to fastening ledge 2 from fig. 17. Shelf arm 3 hereby features on its frontal surface of support element 26 a guide element, which is comprising two spaced guide heads 41 and 42 in the described em-

bodiment. Guide heads 41 and 42 are hereby formed in a T-shape. Guide groove 43, which is open from the top, is provided in fastening ledge 2, whereby said groove extends longitudinally to fastening ledge 2. Guide groove 43 is complementary to the T-shaped guide heads 41 and 42. Shelf arm 3 is taken up in fastening ledge 2 via the guide heads 41 and 42, as is best seen from fig. 26, 28 and 29. Due to this shelf arm 3 inserted from the top vertically into fastening ledge 2 can be shifted longitudinally to fastening ledge 2.

[0032] To vertically adjust shelf arm 3 relative to the fastening ledge 2, fastening ledge 2 is provided with engagement noses 44 arranged on top of one another and that are provided equally spaced via the length of the fastening ledge 2. Engagement noses 44 are formed by corresponding recesses 45 in fastening ledge 2. As it is particularly obvious from fig. 17, 20 and 25, said engagement noses 44 are formed on both sides of the T-shaped guide groove 43 in the described embodiment. It is clear that engagement noses 44 and recesses 45 in both rows are formed at exactly the same height and in exactly the same form to one another.

[0033] Actuating lever 46 as described in fig. 22 comprises a T-shaped actuating handle 47, whereby a downwardly offset lock ledge 49 is provided in form of a lock claw at the end portion of T-web 48. On both sides of lock claw 49 are bearing bolts 50 and 51, via which actuating lever 46 is pivoted within shelf arm 3. As seen in fig. 23 to 29 said actuating lever is hereby inserted into receptacle chamber 52 of support element 26 (fig. 11), whereby said chamber is open on both frontal surfaces of support element 26. For jointed support of actuating lever 46, receptacle chamber 52 is hereby provided with lateral flanges 53, which are provided with a rounded support groove 54 for the support of both laterally protruding bearing bolts 50 and 51 of actuating lever 46. From the three-dimensional view of shelf arm 3 in fig. 11, however only one flange is visible on the side of receptacle chamber 52.

[0034] Actuating lever 46 is hereby formed in regard of weight in such a way that actuating handle 47, meaning the area behind the joint axis of bearing bolts 50 and 51, is heavier in weight than the area in front of bearing bolts 50 and 51 of downwardly offset lock ledge 49. Actuating handle 46 in receptacle chamber 52 is therefore pressed downwards respectively in regard of weight in direction F in fig. 28 and is therefore supported on frontal wall 55 or stop ledge in support element 26, whereby in this position, as seen in fig. 28, lock ledge 49 engages into engagement recess 45 and is locked and blocked by protruding engagement nose 44. Resulting from fig. 28, downwardly offset lock ledge 41 is outwardly pressed against fastening ledge 2 in the course of torque F.

[0035] To unlock, actuating lever 46 only has to be pressed upwards, e.g. by manual and smooth upward pushing, whereby actuating lever 46, accommodated in support element 21 due to bearing bolts 50 and 51, is pivoted clockwise and ledge 49 is pivoted into receptacle

chamber 52 of support element 22. This position is shown in fig. 29 and shelf arm 3 is in this position shiftable upwards and downwards longitudinally to fastening ledge 2 and locking is then possible at the desired vertical level. In the described embodiment there are due to six engagement noses 44, which are equally spaced to one another, altogether six different vertical levels of shelf arm 3 relative to fastening ledge 2. As obviously seen in fig. 28 and 29, except for the lowest engagement nose 44 all engagement noses positioned above are in the lower area provided with a slant 56 to facilitate upward guiding of support element 26, when adjusting shelf arm 3, since due to that lock ledge 49 can be pressed backwards.

[0036] Locking is effected after corresponding vertical adjustment only by releasing actuating handle 47, which is then downwardly pivoted into the position according to fig. 28, whereby lock ledge 49 is pressed into lock recess 45 blocking against engagement nose 44.

[0037] Since the hook-in mimicry of shelf bracket 1 is designed according to the embodiment of fig. 1 to 8, no further description is necessary. As already explained at the beginning shelf brackets 1 are hooked in first due to fastening ledge 2 being inserted with shelf arm 3 arranged thereon via a hook-in lip into a groove of a cross-beam thereby engaging behind a wall, which is encasing said groove. Then insert nose 21 engages into a corresponding groove respectively a corresponding slot of the lower cross-beam. This provides a proper and steady hold of the shelf bracket, which, however, is still shiftable longitudinally to the cross-beams.

[0038] If desired, shelf bracket 1 can also be locked against the cross-beam, which can be done by locking clamp 60 as seen in fig. 31. Said locking clamp features an engagement hook 61 with an insertion slant 62 on one end portion. Moreover, locking clamp 60 is provided with a spring tongue 63, which is arranged in the center from locking clamp 60 in the described embodiment and which features an upwardly directed engagement hook 64. Said engagement hook 64 serves for fastening locking clamp 60 onto shelf bracket 1, preferably at the lower end portion of fastening ledge 2. Engagement hook 61 serves for locking said locking clamp 60 against the cross-beam, in which insert nose 21 of fastening ledge 2 is inserted. Locking clamp 60 is taken up in an insertion hole 65 at the lower end portion of fastening ledge 2, as is best seen from sectional view in fig. 30, but also from fig. 28 and 29. According to fig. 30, locking clamp 60 is hereby inserted into insertion hole 65 from the right side, whereby spring tongue 63, which comprising insertion slant 66 on the front end portion of engagement hook 64, is downwardly pivoted. When engagement nose 64 engages through insertion hole 65 it then snaps in behind shoulder 67 of fastening ledge 2 so that locking clamp 60 is fixed within fastening ledge 2. By inserting insertion nose 62 into the corresponding slot of the cross-beam, engagement hook 62 then engages behind the slot so that shelf bracket 1 snaps in with the corresponding cross-beam

via locking clamp 60. Nevertheless, shelf bracket 1 is also shiftable longitudinally to the cross-beam.

List of terms

[0039]

1	Regalträger / Shelf bracket	
2	Befestigungsstütze / Fastening Support - Befestigungsleiste / Fastening ledge	
3	Regalarm / Shelf arm	
4	Trennwandelement / Partition wall element	
5-8	Querbalken / Cross-beam	
9	Verbindungsleiste / Connecting link	
10	Ständer / Post	
11	Seitenfläche / Side face	
12	Seitenfläche / Side face	
12	Schlitz / Slot	
14	Schlitz / Slot	
15	Nach innen vorstehende Rippe / Inwardly projecting rib	
16	Rippe / Rib	
17	Einhängement / Hook-in element	
18	Einhängelippe / Hook-in lip	
19	Halsteil / Neck piece	
20	Sockel / Dog- or root-like part, root, shoulder	
21	Stecknase / Insert nose	
22	Flanke / Side	
23	Sockel / Dog- or root-like part, root, shoulder	
24	Führungsschulter / Guide shoulder	
25	Führungsschulter / Guide shoulder	
26	Stützteil / Support	
27	Zentraler Vorsprung / Central projection	
28	Rastöffnung / Engagement hole	
29	Öffnung im Stützteil / Hole in support	
30	Öffnung im Regalarm / Hole in shelf arm	
41	Führungskopf / Guide head	
42	Führungskopf / Guide head	
43	Führungsnut / Guide groove	
44	Rastnase / Engagement nose	
45	Rastausnehmung / Engagement recess	
46	Betätigungshebel / Actuating lever	
47	Betätigungsgriff / Actuating handle	
48	T-Steg des Betätigungsgriffs / T-web of actuating handle	
49	Riegelleiste / Lock ledge	
50	Lagerbolzen / Bearing bolt	
51	Lagerbolzen / Bearing bolt	
52	Aufnahmekammer / Receptacle chamber	
53	Flansch / Flange	
54	Aufnahmenut / support groove	
55	Stirnwand / Frontal wall	
60	Sperrklammer / Locking clamp	
61	Rasthaken / Engagement hook	
62	Einführschräge / Insertion slant	
63	Federzunge / Spring tongue	
64	Rasthaken / Engagement hook	
65	Durchgangsöffnung / Insertion hole	

66 Einlaufschräge / Slant

Claims

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1. Partition wall element for offices and similar, formed from posts and at least two cross-beams, which extend between two adjacent posts, with which they are connected and accommodate shelf brackets that are formed with projecting shelf arms for supporting shelves, **characterized by** the fact that each shelf bracket (1) is formed from a fastening support insertable which is formed to be hanged/ or hooked in into at least one cross-beam, with a preferably vertically adjustable shelf arm (3) positioned against the fastening support.

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2. Partition wall element of claim 1, **characterized by** the fact that fastening support (2) of shelf bracket (1) is formed as a hook-in and plug-in connector (17, 21).

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3. Partition wall element of claim 2, **characterized by the fact that** fastening support (2) has at its uppermost end an offset hook-in element (17) with a preferably upwardly projecting hook-in lip (18) for engaging with a slot (14) in a cross-beam.

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4. Partition wall element of claim 2 or 3, **characterized by the fact that** fastening support (2) has at its lowermost end an outwardly projecting insert nose (21) for insertion into the slot (14) of a cross-beam.

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5. Partition wall element of claim 4, **characterized by the fact that** insert nose (21) is crowned or its cross-section has curved or conical surfaces (22) for the purposes of centering.

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6. Partition wall element of any of claims 2 to 5, **characterized by** the fact that the root of the insert nose (21) and the root of the hook-in element (17) formed by a neck piece (19) is sized to the slot width of the cross-beams (5, 6).

40

7. Partition wall element of any of claims 3 to 6, **characterized by** the fact that hook-in element (17) and insert nose (21) are each positioned at a shoulders (20, 23) of the fastening support, whereby the shoulders (20, 23) define a recess (24) which is springing back against the shoulders.

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8. Partition wall element of any of the previous claims, **characterized by** the fact that the shelf arm is vertically adjustable along the fastening support (2) via an engagement device.

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9. Partition wall element of claim 8, **characterized by** the fact that the fastening support (2) has equally spaced engagement holes (28) and the shelf arm (3)

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is formed with a support element (26) for stepwise vertical adjustment, the support element (26) having at least two holes (29) for a screw or clamping pin connection, whose spacing matches the spacing of the engagement holes (28).

5

with an engagement hook (61) for engagement of the locking clamp (60) with a cross-beam (5 to 8).

10. Partition wall element of any of claims 8 or 9, **characterized by** the fact that the fastening support (2) is formed with a guide groove created by guide shoulders (24, 25) and the support element (26) with a central guide projection (27) engaging between the shoulders (24, 25) for vertical adjustment and vice versa. 10
11. Partition wall element of claim 8, **characterized by** the fact that the fastening support (2) is provided with vertically adjustable engagement noses (44) and at least one guide groove (43), the shelf arm featuring at least one guide element and engaging with said guide element (41, 42) in the guide groove (43) of fastening support (2) and the shelf arm (3) being lockable via a lock ledge (49) against engagement noses (44). 15
20
12. Partition wall element of claim 11, **characterized by** the fact that the lock ledge (49) is formed on an actuating lever (46), which is pivoted in a chamber (52) of support element (26) of shelf arm (3). 25
13. Partition wall element of claim 12, **characterized by** the fact that the actuating lever (46) is accommodated by bearing bolts (50, 51) in complementary bearing grooves or bearing shells (54) of support element (26) of said shelf arm. 30
35
14. Partition wall element of claim 13, **characterized by** the fact that the actuating lever (46) is formed in such a way and accommodated in the support element (26) that the lock ledge (49) is automatically pivoted in regard of weight into locking position or is pivoted spring-biased in locking position. 40
15. Partition wall element of any of claims 10 to 14, **characterized by** the fact that the guide element of the shelf arm (3) is formed by at least and preferably two spaced guide heads (41, 42) that are T-shaped for that purpose. 45
16. Partition wall element of any of claims, **characterized by** the fact that the fastening support (2) is provided with a receptacle (65) for a locking clamp (60) in the area of insert nose (21) to engage the fastening support with a cross-beam. 50
17. Partition wall element of claim 16, **characterized by** the fact that the locking clamp (60) is provided with a resilient engagement hook (64) for engagement of the locking clamp in the fastening support (2) and 55

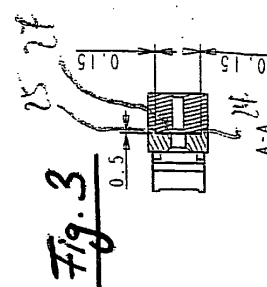
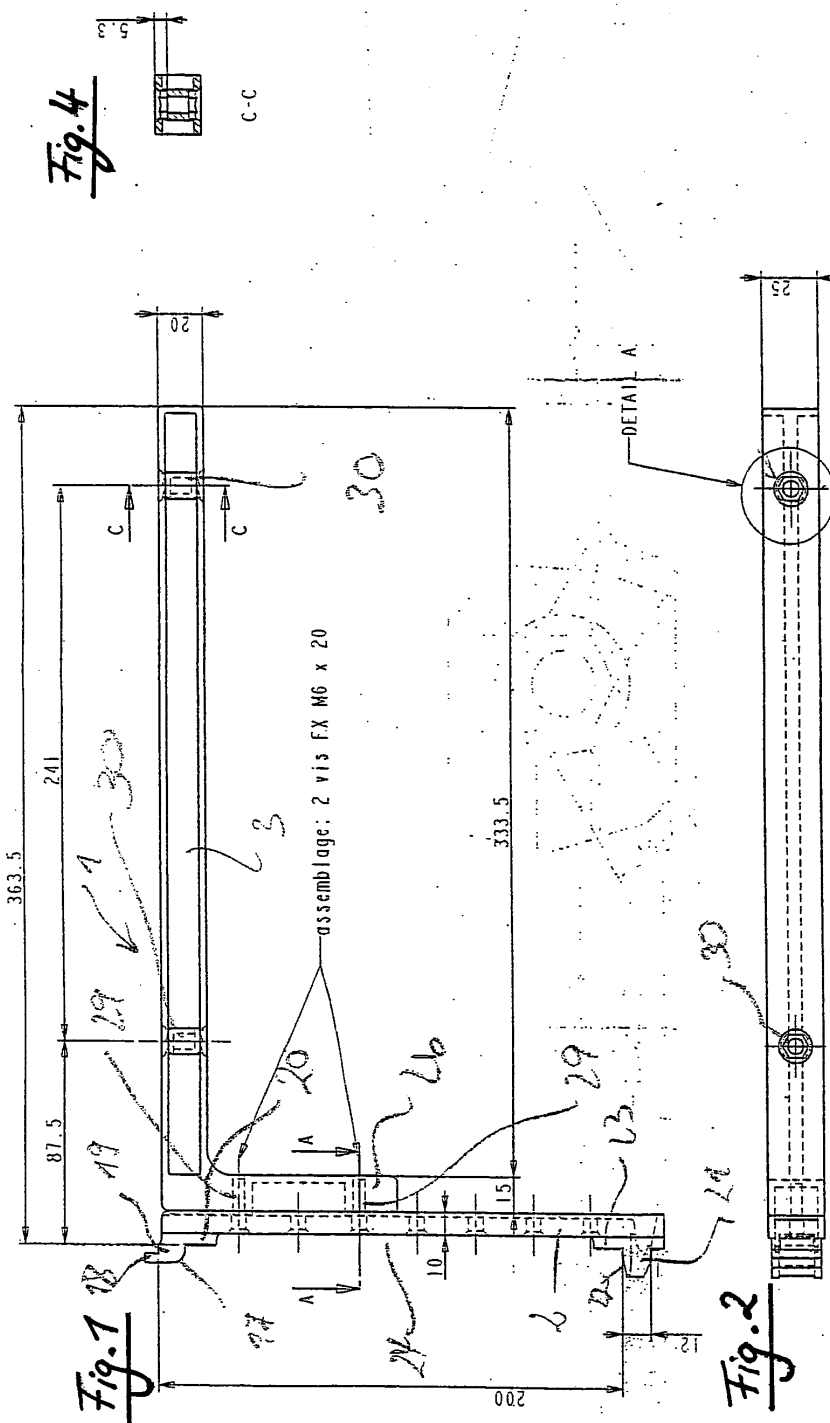


Fig. 8

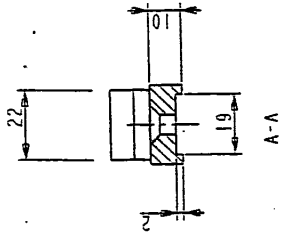


Fig. 7

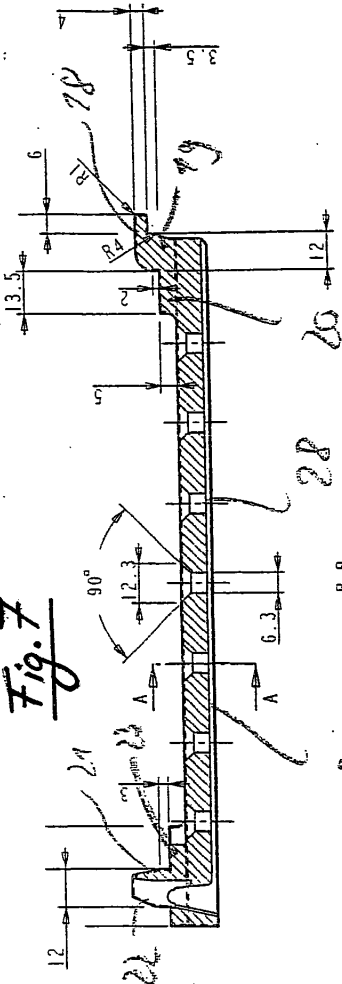


Fig. 6

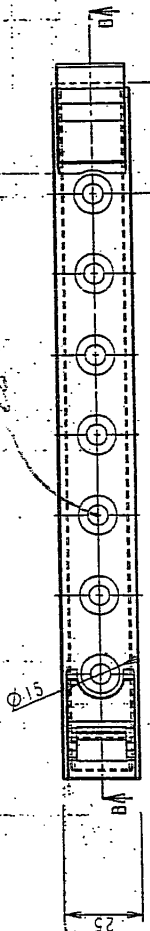
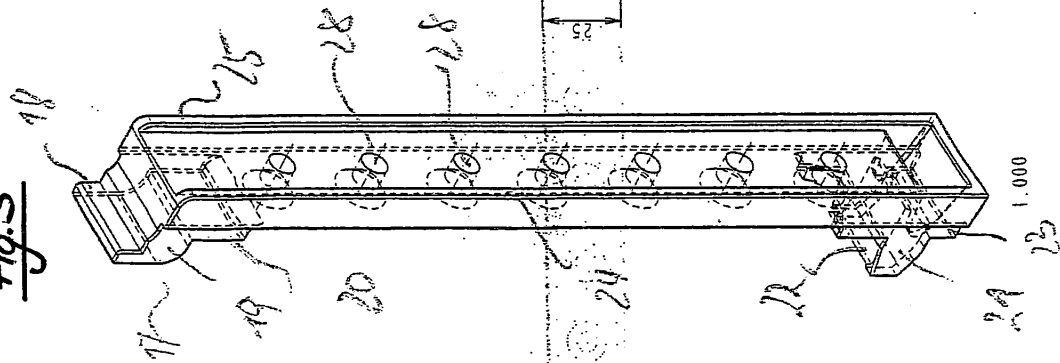
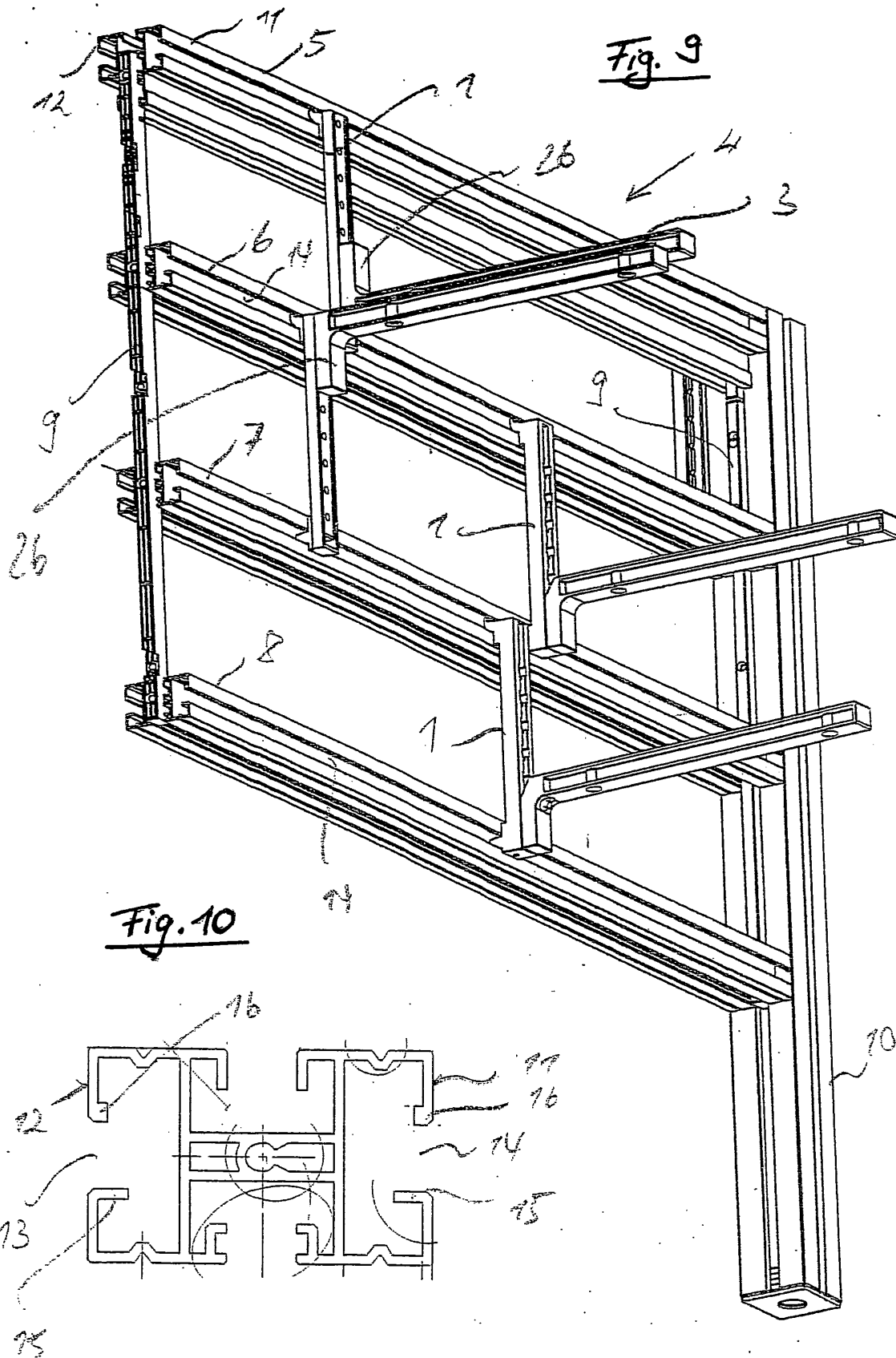


Fig. 5





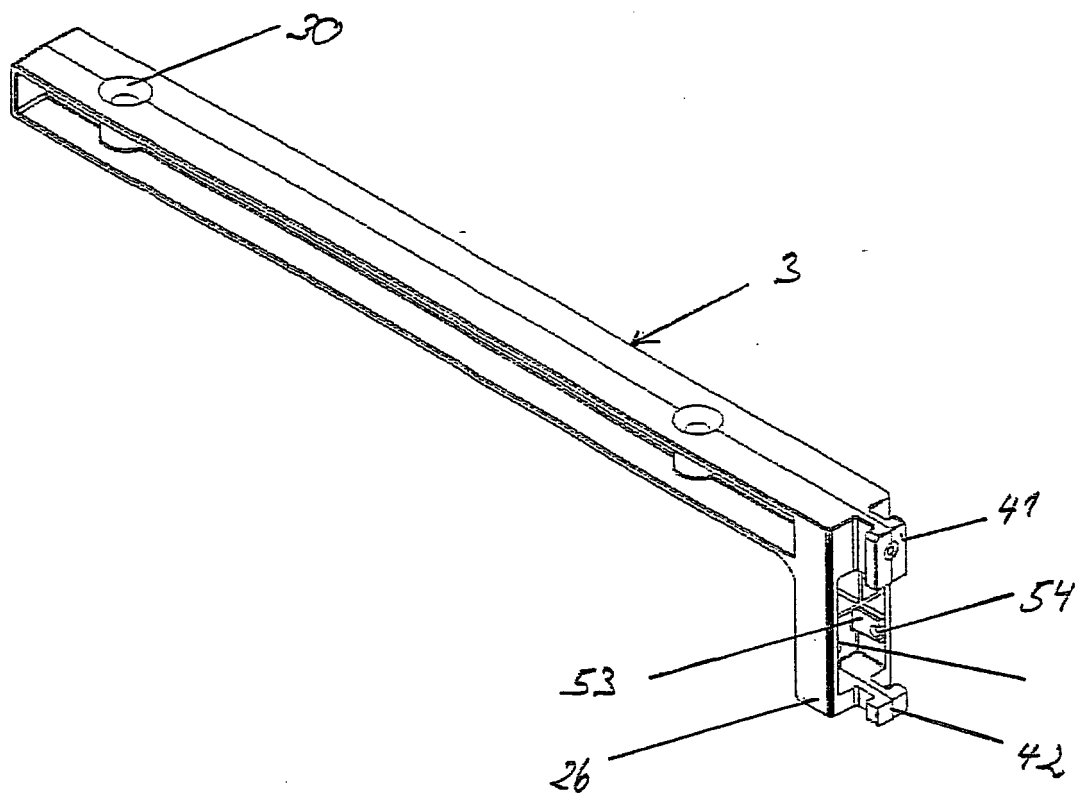


Fig. 11

Fig. 12

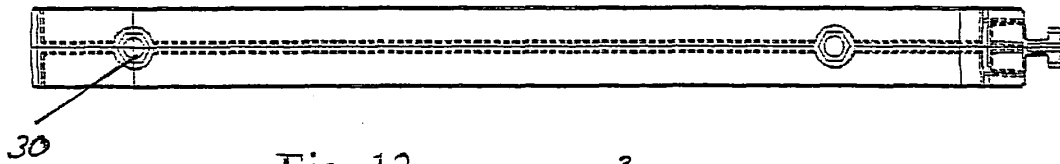


Fig. 13

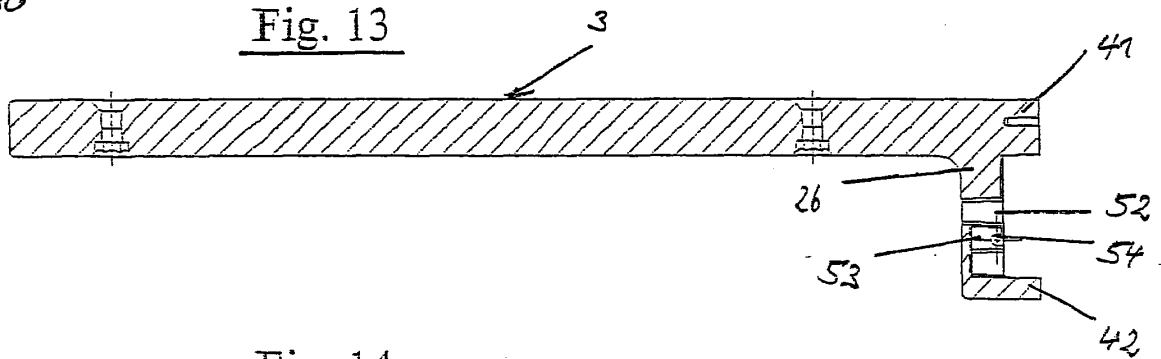


Fig. 14

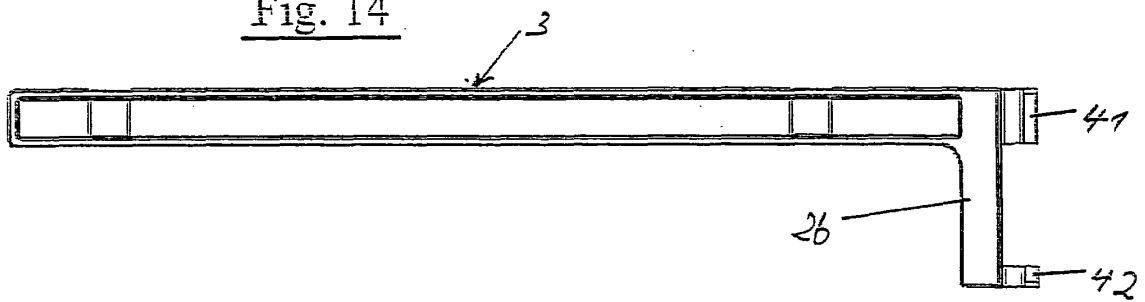


Fig. 15

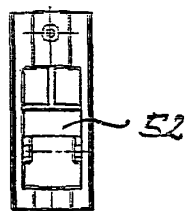
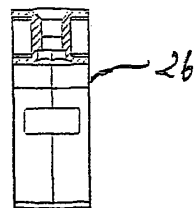


Fig. 16



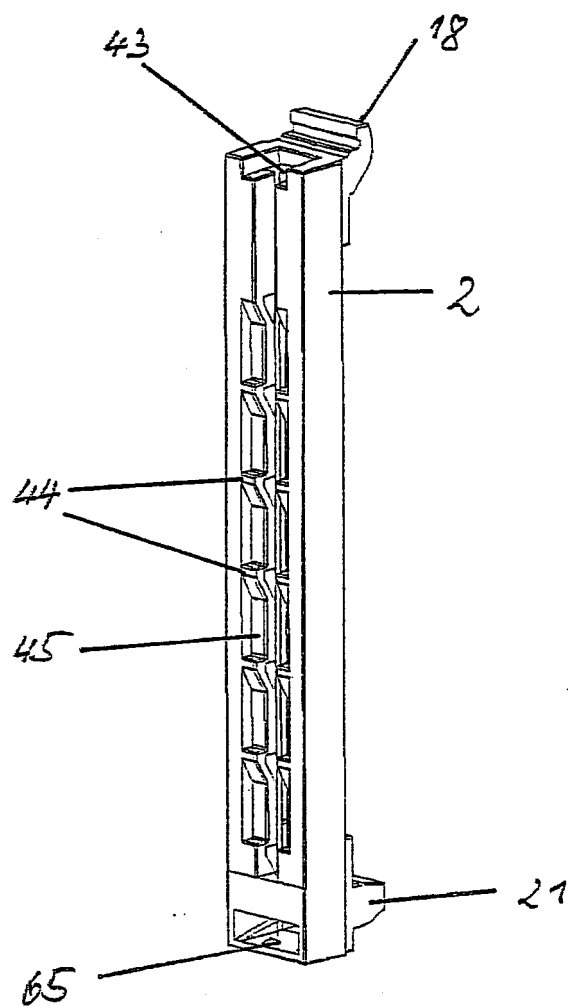


Fig. 17

Fig. 18

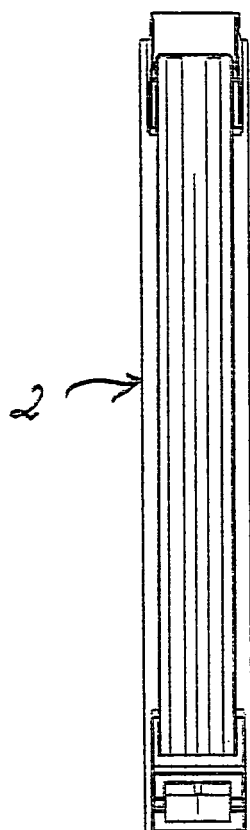


Fig. 19

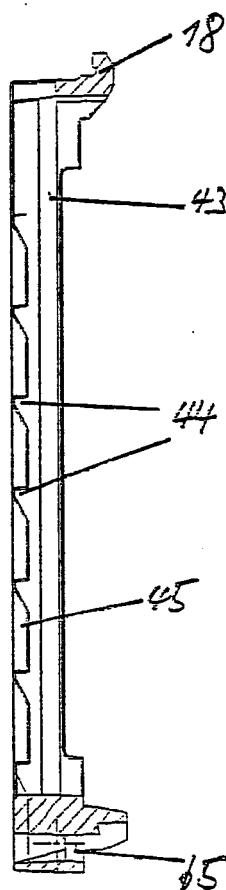


Fig. 20

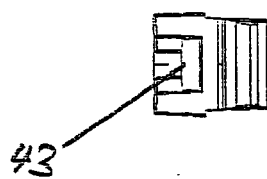
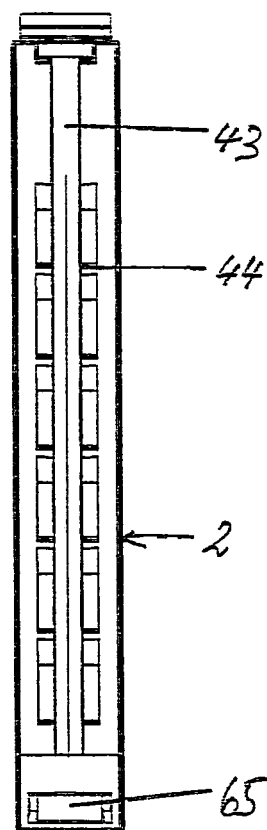


Fig. 21

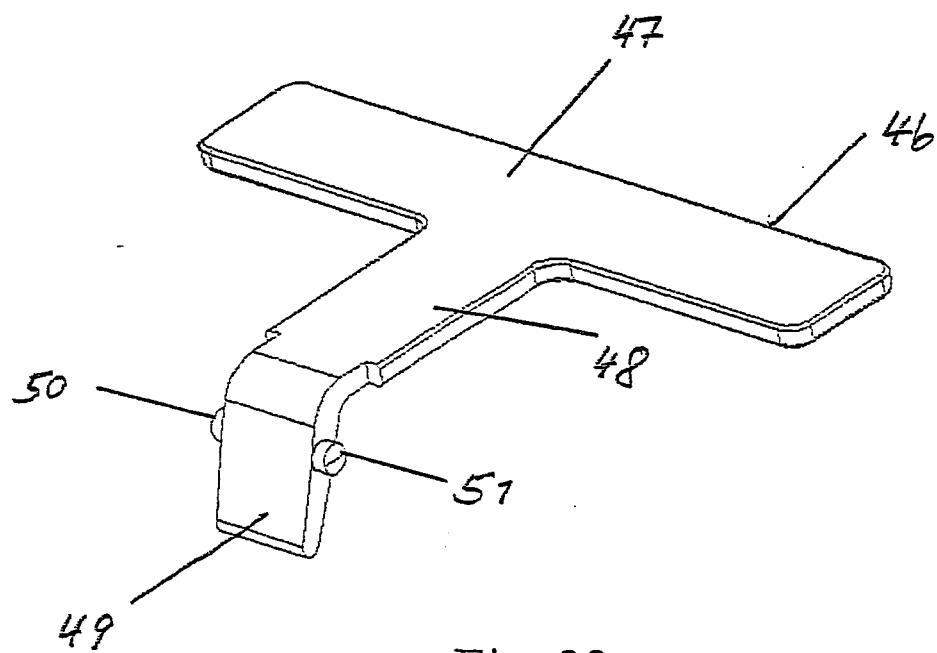


Fig. 22

Fig. 23

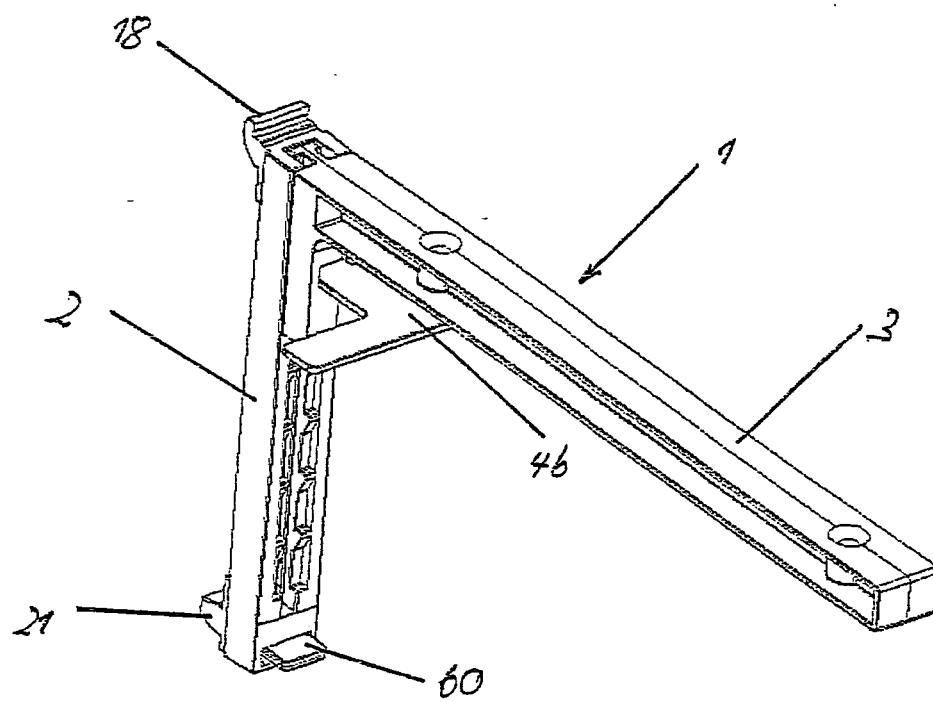


Fig. 24

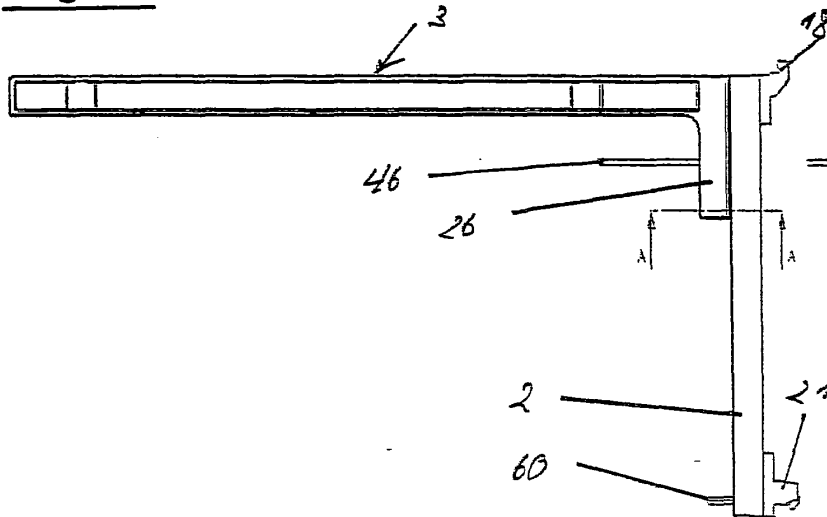


Fig. 25

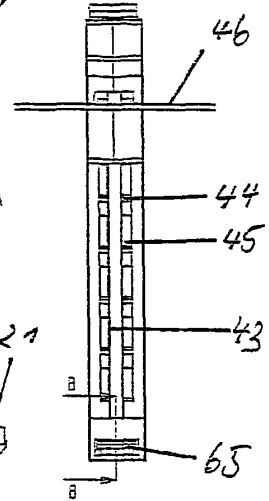


Fig. 26

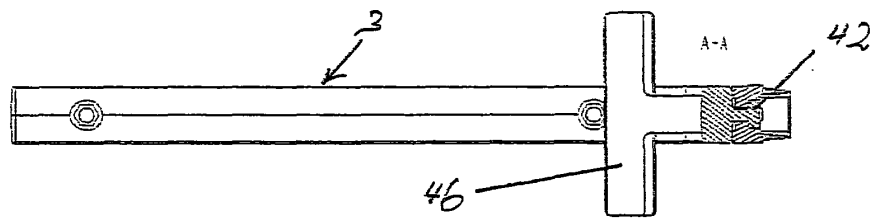


Fig. 27

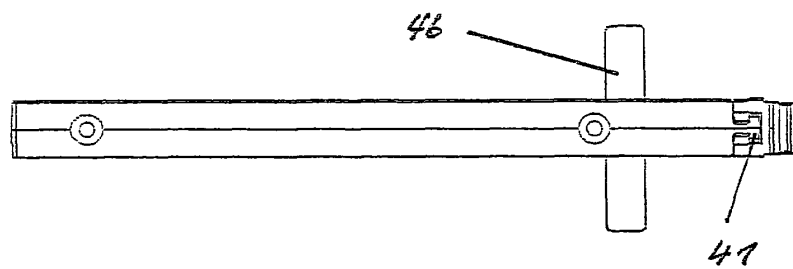
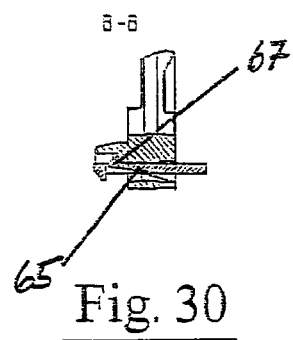
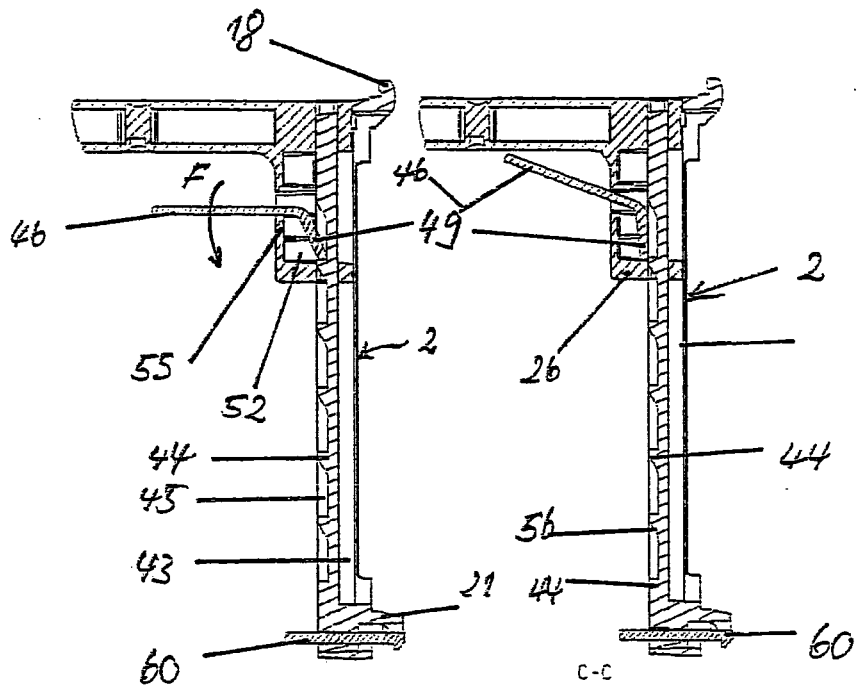


Fig. 28

Fig. 29



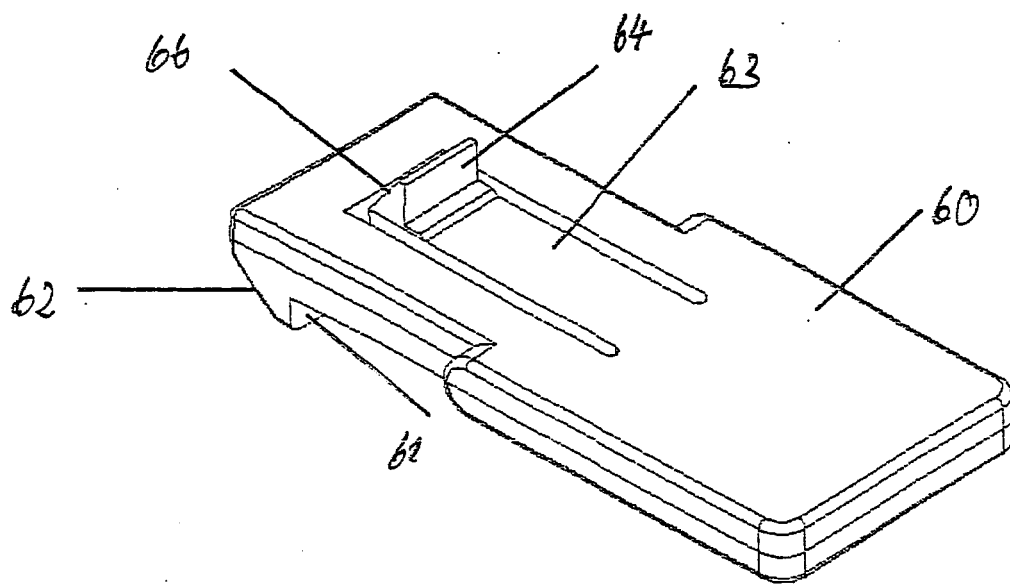


Fig. 31



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 04 02 4322

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The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 4 November 2004	Examiner Rosborough, J
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