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[Fortsetzung auf der nächsten Seite]

(54) Title: BRACKET SLEEVE HAVING AT LEAST ONE BRACKET ADAPTER

(54) Bezeichnung : ZARGENHÜLLE MIT MINDESTENS EINEM ZARGENADAPTER

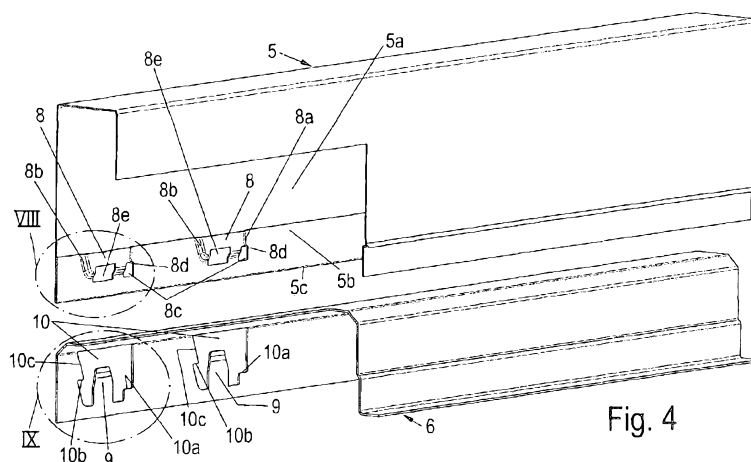


Fig. 4

(57) Abstract: The invention relates to a bracket sleeve (5) having a U-shaped or approximately U-shaped cross-section and at least one bracket adapter (6) that is connected to the sleeve on an inner face of a lateral limb (5a) of the bracket sleeve (5) by means of plug connections (7), wherein each of the plug connections (7) substantially consists of a pocket (8) provided on the lateral limb (5a) and a tongue (9) on the bracket adapter (6) that can be inserted in said pocket (8) and runs transversely to the longitudinal extension of the bracket sleeve (5), and each of the tongues (9) is located in the region of a recess (10), wherein each recess (10) is provided with a stop (10a) extending transversely to the insertion direction of the tongue (9), said stop being seated against a first lateral delimiting rib (8a) of the pocket (8), and each recess (10) has a securing lobe (10b), which rests against a second lateral delimiting rib (8b) of the pocket (8) so as to engage the same, whereby the tongue (9) is secured against being pulled out of the pocket (8).

(57) Zusammenfassung:

[Fortsetzung auf der nächsten Seite]



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RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI,
CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— mit internationalem Recherchenbericht (Artikel 21 Absatz
3)

Zargenhülle (5) mit einem U-förmigen oder annähernd U-förmigen Querschnitt und mit mindestens einem an einer Innenseite eines Seitenschenkels (5a) der Zargenhülle (5) mit dieser durch Steckverbindungen (7) verbundenen Zargenadapter (6), wobei die Steckverbindungen (7) im Wesentlichen jeweils aus einer am Seitenschenkel (5a) vorgesehenen Tasche (8) und einer in diese Tasche (8) einschiebbaren und quer zur Längserstreckung der Zargenhülle (5) verlaufenden Zunge (9) am Zargenadapter (6) bestehen und die Zungen (9) jeweils im Bereich einer Aussparung (10) liegen, wobei jede Aussparung (10) mit einem quer zur Einschubrichtung der Zunge (9) verlaufenden Anschlag (10a) versehen ist, der an einem ersten seitlichen Begrenzungssteg (8a) der Tasche (8) anliegt und dass jede Aussparung (10) eine Sicherungsnase (10b) aufweist, welche an einem zweiten seitlichen Begrenzungssteg (8b) der Tasche (8) hintergreifend anliegt, so dass die Zunge (9) gegen Herausziehen aus der Tasche (8) gesichert ist.

A frame sleeve having at least one frame adapter

The present invention relates to a frame sleeve having a U-shaped or approximately U-shaped cross-section and at least one frame adapter that is connected to the sleeve on an inner face of a side limb of the frame sleeve by means of plug-in connections, with the plug-in connections substantially consisting of a pocket provided on the side limb and a tongue on the frame adapter that can be inserted into said pocket and extends transversely to the longitudinal extension of the frame sleeve, and the tongues are respectively disposed in the region of a recess.

Frame sleeves with at least one frame adapter of this kind are known.

The frame adapter or adapters in the frame sleeve form connecting or terminal parts for coupling a frame sleeve of a drawer for example with a running rail of a pull-out guide and are further provided for accommodating further functional parts such as height-adjustment devices, automatic retraction apparatuses, dampers or the like.

A simplification of mounting is generally achieved by the connection of the frame adapters with the frame sleeves by plug-in connections.

In currently known constructions it is necessary to displace the frame adapter once again transversely to the insertion direction of the tongues relative to the frame sleeve after the complete insertion of the tongues into the pockets provided for this purpose in order to prevent a movement of the respective frame adapter against the insertion direction and thereby a detachment of the frame adapter from the frame sleeve.

This additional securing movement is disadvantageous both for manual assembly by the final consumer and also in mechanical mounting by the producer, because in each case a second movement of the frame adapter relative to the frame sleeve needs to be performed.

The present invention seeks to simplify the fixing of a frame adapter on a frame sleeve.

This may be achieved in accordance with an embodiment of the invention wherein every recess is provided with a stop extending transversely to the insertion direction of the tongue, which stop rests on a first lateral delimiting rib of the pocket and each recess has a securing lobe which rests on a second lateral delimiting rib of the pocket so as to engage behind the same, so that the tongue is secured against being pulled out of the pocket.

This construction may allow for connecting the frame adapter merely in one joining direction with the frame sleeve, with the resilient capability of the material of the frame adapter and optionally the frame sleeve being utilized in order to transfer the respective securing lobe on the outside over the edge regions of the pocket into its securing position. The respective securing lobe may therefore be guided during the insertion of the tongue into the pocket over the respective edge region of the extended pocket and slightly lifted accordingly. Once the respective securing lobe has been moved over the edge region of the respective pocket, the securing lobe may be guided back again to its original plane by the resilient restoring forces and may then rest on the second delimiting rib of the pocket by engaging behind the same. As a result, the frame adapter may be secured in all three coordinate directions against displacement relative to the frame sleeve. The tongue may be advantageously provided in the upper region with a right-angle bend, which after joining, may rest on the inside of the frame sleeve and acts against the tilting moment. It is advantageous that all fastening means may be disposed in the interior of the frame sleeve and are therefore not visible from the outside and are therefore unable to negatively impair the appearance of the frame sleeve.

Additional fixing of the frame adapter relative to the frames sleeve can occur after mounting in a materially joined, interlocking and/or form-fitting manner, e.g. by gluing, pressing or welding. This is not mandatory because a separation of the frame adapter from the frame sleeve is no longer possible as a result of the chosen type of connection. Additional fixings can provide the advantage however, as explained above, that any play arising from the connection area is unable to produce any relative movement between the frame adapter and the frame sleeve, so that potentially disturbing noise developments can be avoided.

It is advantageous when the second delimiting rib of each pocket forms a guide for transferring the securing lobe beyond the pocket into the securing position.

An embodiment is preferable according to which the second delimiting rib extends in an oblique manner in relation to the insertion direction of the tongue and in an inclined manner in relation to the plane of the lateral limb of the frame sleeve. A delimiting edge of the recess which is used as a guide can be provided on the frame adapter within a recess within which the tongue is also disposed, which delimiting edge moves along the second delimiting rib during the joining process and produces a slight lifting of the securing lobe as a result of the reduced frictional force during the joining process on the one hand and supports the positioning of the tongue in relation to the pocket after a certain distance on the other hand.

As a result of the further insertion movement, the respective securing lobe may be lifted in a slowly rising manner out of its original position and guided over the outside of the pocket until the securing lobe can spring back to its original plane after passing the pocket.

As a result of this sliding lifting, damage to the surfaces in the region of the frame sleeve and/or the frame adapter may be prevented, so that both components can be surface-treated if required prior to joining without damaging the surface treatment by the joining of the two components.

In one aspect, there is provided a frame sleeve having a U-shaped or approximately U-shaped cross-section and at least one frame adapter that is connected to the frame sleeve on an inner face of a lateral limb of the frame sleeve by means of plug-in connections, with the plug-in connections substantially consisting of a pocket provided on the lateral limb and a tongue on the frame adapter that can be inserted into said pocket and extends transversely to the longitudinal extension of the frame sleeve, and each tongue is respectively disposed in the region of a recess, wherein every recess is provided with a stop extending transversely to an insertion direction of the tongue, which stop rests on a first lateral delimiting rib of the pocket and each recess has a securing lobe which rests on a second lateral delimiting rib of the pocket so as to

engage behind the same, so that the tongue is secured against being pulled out of the pocket.

Further features of embodiments of the invention are the subject matter of further dependent claims.

An embodiment of the invention is shown in the enclosed drawings and will be described in closer detail below, wherein:

Fig. 1 shows a perspective view of a drawer with two frame sleeves in accordance with the invention;

Fig. 2 shows a view of a frame sleeve of the drawer according to Fig. 1 in the direction of arrow II;

Fig. 3 shows a sectional view along the line III-III in Fig. 2;

Fig. 4 shows a simplified perspective sectional view of a frame sleeve and a frame adapter that can be connected thereto prior to the joining of both components;

Fig. 5 shows a perspective view according to Fig. 4 after the assembly of frame sleeve and frame adapter;

Fig. 6 shows a partial sectional view along the line VI-VI in Fig. 5;

Fig. 7 shows an enlarged perspective view of a connecting area between a frame sleeve and a frame adapter;

Fig. 8 shows an enlarged view of the detail designated with reference numeral VIII in Fig. 4;

Fig. 9 shows an enlarged view of the detail designated with reference numeral IX in Fig. 4.

Fig. 1 shows a drawer designated in its entirety with the reference numeral 1, comprising a front panel 2, a rear wall 3 and two side panels 4, with the side panels respectively consisting in the known manner of frame sleeves or side panel casing 5 with at least one frame adapter 6, as is shown in closer detail in Fig. 3.

The frame sleeves 5 have an approximately U-shaped cross-section. The at least one frame adapter 6 is connected to the frame sleeve 5 by means of at least two plug-in connections (see Fig. 5 in particular) which are designated in their entirety with reference numeral 7.

The plug-in connections 7 are substantially formed by pockets 8 formed on a lateral limb 5a of a frame sleeve 5 and by pockets 9 on the frame adapter 6, with the tongues 9 being insertable into the pocket 8 in a direction extending transversely to the longitudinal extension of the frame sleeve 5.

The tongues 9 in the frame adapter 6 are respectively disposed in the region of the recess 10 which is preferably formed by punching.

The pockets 8 on the side limb or lateral limb 5a of the frame sleeve 5 are disposed in the region of a folded material strip 5b and protrude out of said folded material strip 5b. The pockets 8 are punched out such an extent that a cavity in the material thickness of the tongues 9 is produced towards the lateral limb 5a. Fixing of the frame adapter 6 in relation to the lateral limb 5a of the frame sleeve 5 perpendicularly to the plane of the lateral limb 5a is therefore achieved by the tongues 9 which engage in the pockets 8.

As is shown especially in Figs. 7 and 9, the tongue 9 is provided in its front region with a bent portion 9a which approximately corresponds to the material thickness of the material strip 5b. As a result, the free end 9b of the tongue 9 rests on the inside of the lateral limb 5a of the frame sleeve 5 when tongue 9 is inserted and therefore prevents a potential tilting movement of the frame adapter 6 in the direction of the lateral limb 5a.

The pockets 8 are respectively provided with a first delimiting rib 8a and a second delimiting rib 8b. The first delimiting rib 8a extends transversely to the bottom delimiting edge 5c of the lateral limb 5a, whereas the second delimiting rib 8b of the respective

pocket 8 extends in an inclined manner in relation to the bottom delimiting edge 5c. Since the insertion direction of tongue 9 into the pocket 8 also extends transversely to the lower delimiting edge 5c of the lateral limb 5a, it can also be said that the first delimiting rib 8a of the pocket 8 extends parallel to the insertion direction and the second delimiting rib 8b of the pocket 8 extends in an oblique manner in relation to the insertion direction.

Notchings 8c are provided in the region of the first delimiting rib 8 which form a stop surface 8d at the bottom end of the first delimiting rib 8a.

Stops 10a are provided in the region of the recesses 10 of the frame adapter 6, which stops extend transversely to the insertion direction of the tongue 9 and which come to rest on the stop surfaces 8d of the first delimiting rib 8a of the pocket 8 after complete insertion of the tongues 9 into the pockets 8.

A securing lobe 10b is further provided in the region of the recesses 10 of the frame adapter 6. Said securing lobes 10b are guided over the pockets 8 via the second delimiting ribs 8b which extend in an oblique manner in relation to the insertion direction and in an inclined manner in relation to the plane of the lateral limb 5a of the frame sleeve 5 and slightly lifted out of their original plane until said securing lobes 10b are moved out of the guide area of the second delimiting ribs 8b. In this position, the securing lobes 10b move in the direction of the lateral limb 5a of the frame sleeve 5 by the resilient restoring forces of the material and engage behind the respective pockets 8, so that now the tongues 9 of the frame adapter 6, and therefore obviously also the entire frame adapter 6, are secured against inadvertent release from the frame sleeve 5.

The delimiting edges 10c and 10d which are adjacent to the region of the securing lobe 10b extend approximately parallel to the delimiting rib 8b of the pocket, i.e. the said delimited edges 10c and 10d extend in an inclined manner in the same direction in relation to the insertion direction of the frame adapter 6 as the mentioned delimiting rib 8b. Especially as a result of the inclined arrangement of the upper delimiting edge 10c of the recess 10, the region of the securing lobe 10b is provided with sufficient resilient capability in order to enable being pushed beyond the pocket 8.

The width of the tongues 9 corresponds to the width of the insertion openings 8e of the pockets 8, so that the frame adapter 6 is fixed in relation to the frame sleeve 5 in all three coordinate directions by the aforementioned construction after the assembly of the frame adapter 6 and the frame sleeve 5.

This leads to simple mounting of frame adapter 6 and frame sleeve 5 both for the DIY enthusiast and also in the case of mechanical production since only one joining direction needs to be considered and performed.

Departing from the illustrated embodiment, the folded material strip 5b from which the pockets 8 are punched out can also be replaced by a separate material strip which is welded onto the lateral limb 5 or is fixed in another way.

Preferably, the frame sleeve 5 and the frame adapter 6 are made of sheet metal. It is also possible to make the frame sleeve 5 and/or the frame adapter 6 from plastic.

Finally, the fixing of the frame adapter 6 in relation to the frame sleeve 5 on all sides shall be described again despite only one predetermined joining direction:

Fixing of the frame adapter 6 perpendicularly to the lateral limb 5a occurs by inserting the tongues 9 into the pocket 8; a stop limitation in the insertion direction is provided by the stops 10a and the stop surfaces 8d; a displacement of the frame adapter 6 transversely to the longitudinal extension of the frame sleeve 5 is prevented by the identical width of the insertion openings 8e and the tongues 9, and retraction of the frame adapter 6 after the joining will be prevented by the securing lobes 10b which engage behind the pocket 8 on the upper side.

If a certain amount of play remains in the entire connection system for production reasons and if this play is undesirable, additional measures for removing the play caused by production can be taken, e.g. there can be gluing between the frame sleeve 5 and the frame adapter 6, or welding or stamping can occur which does not need to provide any supporting function however.

In the claims which follow and in the preceding description of the invention, except where the context requires otherwise due to express language or necessary implication, the word "comprise" or variations such as "comprises" or "comprising" is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the invention.

It will be understood to persons skilled in the art of the invention that many modifications may be made without departing from the spirit and scope of the invention.

It is to be understood that, if any prior art publication is referred to herein, such reference does not constitute an admission that the publication forms a part of the common general knowledge in the art, in Australia or any other country.

List of reference numerals

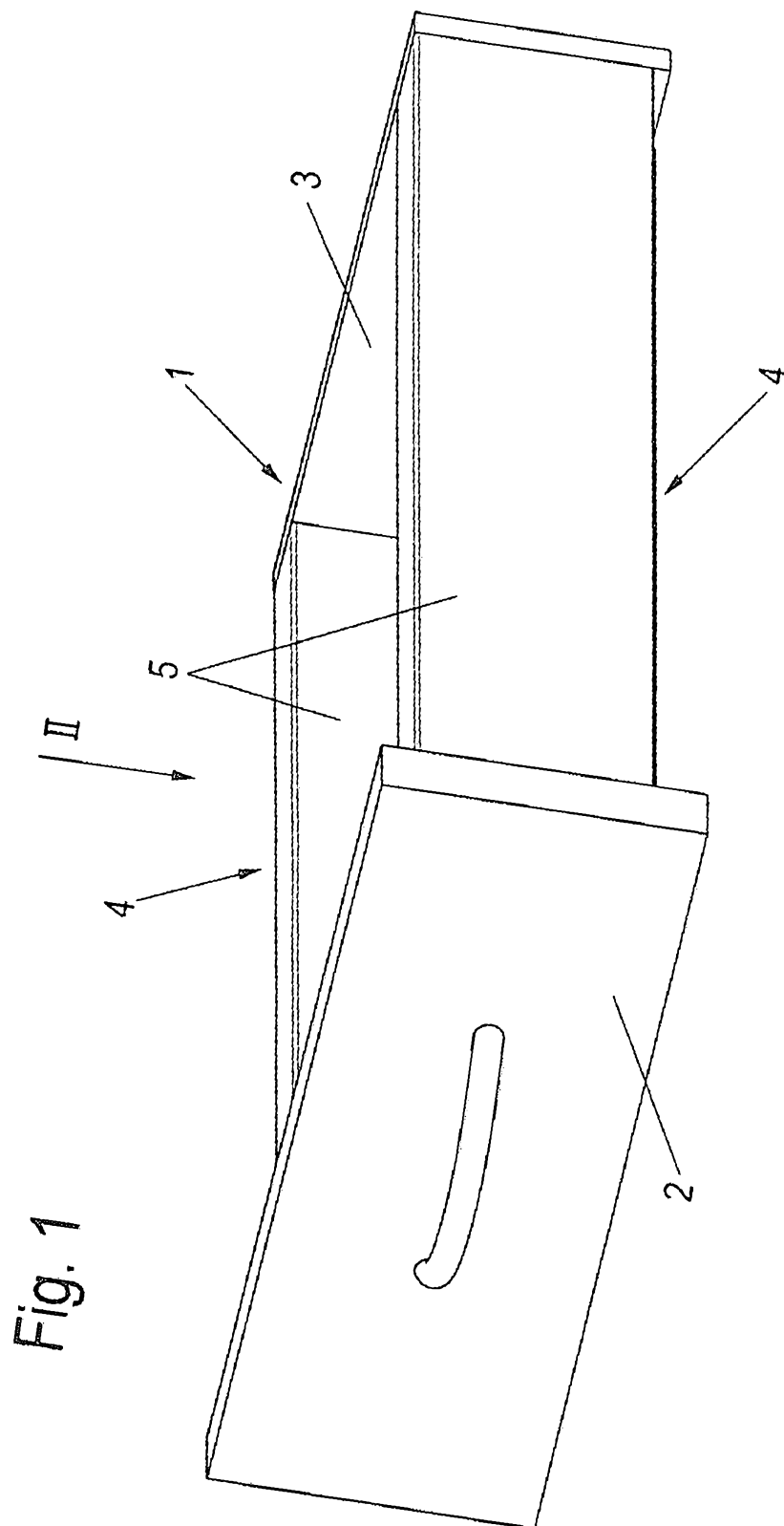
1	Drawer
2	Front panel
3	Rear wall
4	Side panels
5	Frame sleeve
5a	Side limbs
5b	Material strip
5c	Delimiting edge
6	Frame adapter
7	Plug-in connection
8	Pocket
8a	Delimiting rib
8b	Delimiting rib
8c	Notching
8d	Stop surface
8e	Insertion opening
9	Tongue
9a	Bent portion
9b	Free end
10	Recess
10a	Stop
10b	Securing lobe
10c	Delimiting edge
10d	Delimiting edge

CLAIMS:

1. A frame sleeve having a U-shaped or approximately U-shaped cross-section and at least one frame adapter that is connected to the frame sleeve on an inner face of a lateral limb of the frame sleeve by means of plug-in connections, with the plug-in connections substantially consisting of a pocket provided on the lateral limb and a tongue on the frame adapter that can be inserted into said pocket and extends transversely to the longitudinal extension of the frame sleeve, and each tongue is respectively disposed in the region of a recess, wherein every recess is provided with a stop extending transversely to an insertion direction of the tongue, which stop rests on a first lateral delimiting rib of the pocket and each recess has a securing lobe which rests on a second lateral delimiting rib of the pocket so as to engage behind the same, so that the tongue is secured against being pulled out of the pocket.
2. A frame sleeve according to claim 1, wherein the second lateral delimiting rib of each pocket forms a guide for transferring the securing lobe beyond the pocket to the securing position.
3. A frame sleeve according to claim 2, wherein the second lateral delimiting rib extends in an oblique manner in relation to the insertion direction of the tongue and in an inclined manner in relation to the plane of the lateral limb of the frame sleeve.
4. A frame sleeve according to any one of the preceding claims, wherein the tongue can be inserted into the pocket through an insertion opening.
5. A frame sleeve according to claim 4, wherein a width of the insertion opening corresponds to a width of the tongue.
6. A frame sleeve according to any one of the preceding claims, wherein a notching is provided in a bottom end region of the first lateral delimiting rib, by means of which a stop surface for the stop is exposed at the bottom end region of the first

lateral delimiting rib.

7. A frame sleeve according to any one of the preceding claims, wherein in addition to the plug-in connections the frame adapter is fixed in relation to the frame sleeve in one or more of the following manners: materially joined; interlocking; and form-fitting.
8. A frame sleeve according to any one of the preceding claims, wherein the pockets are provided in a region of a material strip which is folded in relation to a delimiting edge of the lateral limb of the frame sleeve.
9. A frame sleeve according to any one of the claims 1 to 7, wherein the pockets are provided in a region of a separate material strip which extends parallel to a delimiting edge of the frame sleeve and is connected with the lateral limb.
10. A frame sleeve according to claim 8 or 9, wherein every tongue is provided with a bent portion corresponding to a thickness of the material strip, so that free ends of the tongues rest on the inner face of the lateral limb in a mounted state.
11. A frame sleeve according to any one of the preceding claims, wherein one or both of the frame sleeve and the frame adapter are made of a sheet consisting of metal or of plastic.
12. A frame sleeve according to any one of the preceding claims, wherein a delimiting edge of the recess originating from the securing lobe extends parallel or approximately parallel to the second lateral delimiting rib of the pocket.



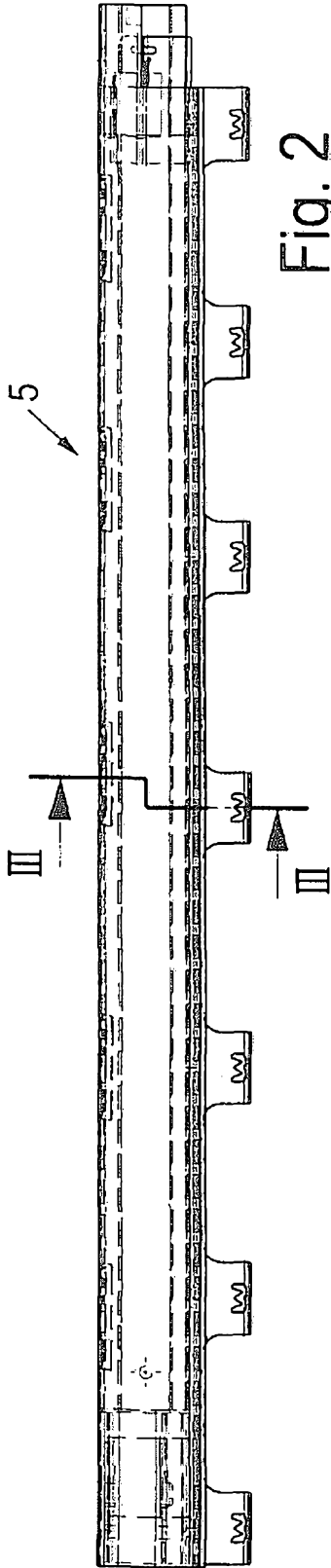


Fig. 2

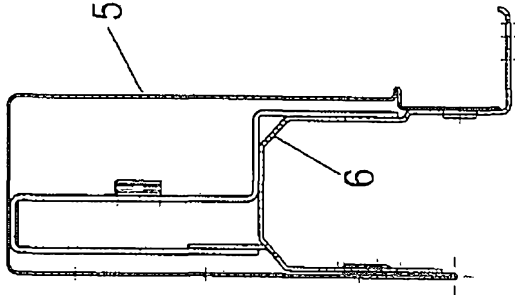


Fig. 3

