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## **Butt joint structure, window/door frame or window/door wing frame and frame profile element**

### **Description**

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#### FIELD OF THE INVENTION

[0001] The present invention relates to a butt joint arrangement as well as to a window frame/door frame or window leaf frame/door leaf frame with such a butt joint arrangement and to a frame profile element for such a window frame/door frame or window leaf frame/door leaf frame.

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#### TECHNICAL BACKGROUND

[0002] Butt joint arrangements for window frames and door frames or door leaf frames and window leaf frames exist in various embodiments. In particular, in the case of wooden windows, these are mostly pin connections, in which an extension or a separate connecting piece is pressed into recesses in the frame parts and glued or otherwise secured therein.

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[0003] A pin connection is described in DD 210 324 A1, for example. Accordingly, the pin connection has a circular cylindrical connecting pin which is introduced into bores provided on the connecting surfaces of the elementary parts of the frame to be joined. The connecting pin is clamped in the bore by means of clamping bolts, which are inserted into transverse bores through the elementary parts of the frame and the connecting pin.

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[0004] In the case of pin connections for wooden windows, there are special requirements for wood protection. Therefore, weather protection coatings or paint coatings are usually provided, which serve for the preservation of the wood material. Such paint coatings should be intact after manufacture for ensuring optimum durability of the wooden window.

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[0005] However, the requirement of wood protection sometimes involves, in the case of the production of a butt joint, increased production complexity. After joining, additional painting steps are often required on the completely assembled and therefore difficult-to-handle frame. This has the additional disadvantage that cracks in the externally applied paint layer may occur in the case of distortion of the natural wood material, in particular at the butt joints.

[0006] Therefore, in order to optimise the manufacturing process and the durability, often pre-painted components are used for assembly. These are individually easier to paint than the entire frame and are also individually provided with a complete paint seal, especially in the joint regions. When joining pre-painted parts, however, there is the problem that the existing paint layer is damaged in the joint region. The damage is caused, for example, by the force applied for joining the parts and/or by friction generated between the pins and the recesses or the walls of the bores during insertion. The pins are usually pressed into the recesses. Furthermore, the paint also causes inaccuracies in the corresponding fit. Ultimately, high friction therefore occurs during joining, so that the paint layer is often locally broken up and/or worn off or otherwise damaged.

[0007] Similar problems also occur in other types of pin connections. In slot-pin connections, for example, such as those described in DE 20 2007 019 400 U1, the pins are pressed during joining over a relatively long distance into the respective slots, which also causes high friction and, in case of pre-painted parts, damages the paint layer with the consequences already shown above.

[0008] DE 10 2012 009035 A1 discloses a butt joint arrangement having all the features of the preamble of claim 1.

## SUMMARY OF THE INVENTION

[0009] Against this background, the object of the present invention is to provide an improved butt joint arrangement for window frames/door frames or window leaf frames/door leaf frames, in particular of wooden windows.

[0010] According to the invention this object is achieved by a butt joint arrangement having the features of claim 1 and/or by a window frame/door frame or window leaf frame/door leaf frame having the features of claim 12 and/or by a frame profile element having the features of claim 13.

[0011] The discovery/idea on which the present invention is based is to minimise the necessary application of force and frictional forces when producing a butt joint by providing a plug connecting element or an insertion recess with a configuration that tapers in the plugging direction. Thus, no forces are required to insert the plug connecting element into the insertion recess, until shortly before reaching the final position. Frictional forces only arise when the final frictional connection is established, when the plug connecting element is already almost in its final position. Advantageously, damage to the paint layer of pre-painted frame profile elements during the joining thereof can thus be at least substantially or completely avoided.

[0012] Furthermore, according to the invention, a positive and/or non-positive connection can be created without the need for undercuts on the joining sections. Due to the undercut-free design of the joining sections, these can advantageously be plugged into one another frontally, in particular without them first having to slide against one another. This advantageously allows for a simple assembly, in particular without the need for a press.

[0013] The present invention thus makes possible the production of more durable window frames or window leaf frames, since the paint layer remains intact also on and in the joining sections, in particular in the case of pre-painted parts, which advantageously entails optimal wood protection.

[0014] The plug connecting element can be integrated in the first joining section and can protrude in a tapered manner from the joining section.

[0015] Furthermore, the plug connecting element can also be provided as a separate part. In the case of a separate plug connecting element, an additional insertion

recess may be provided on the first joining section. In particular, the separate plug connecting element can then have a centre having maximum thickness and taper from there into both plugging directions of the first and second joining sections.

5 [0016] In particular, the plug connecting element and the insertion recess in the joint or within the butt joint arrangement may be hidden or not visible from the outside. Advantageously, an attractive outer appearance of the butt joint is thus achieved.

10 [0017] Advantageous embodiments and developments will become apparent from the further dependent claims and from the description, with reference to the drawings.

[0018] According to one embodiment, the plug connecting element is configured as a plug connecting pin that is provided on the first joining section. Preferably, the plug  
15 connecting pin is configured as a single part with the first frame profile element. Thus, no additional plug connecting element is necessary, which reduces the number of parts and simplifies installation. The frame profile elements can be inserted into each other for joining in particular without additional connecting elements. For this purpose, the plug connecting pin preferably protrudes in front of the joining section  
20 and tapers forwards in the plugging direction.

[0019] According to a further embodiment, the plug connecting element and the insertion recess are configured in an elongated manner transverse with respect to the plugging direction. Due to the elongated configuration, the contact surface is  
25 increased, and thus a more stable plug connection is advantageously created. Furthermore, due to the elongated configuration an anti-rotation means is also provided. As an alternative to an elongated configuration, a plurality of individual plug connecting elements and insertion recesses could also be provided in a row.

30 [0020] According to a preferred embodiment, the second joining section comprises a further insertion recess. The joining sections are then formed by means of two plug connecting elements in order to be able to join to one another in a positive locking manner. In this way, a particularly intimate bond between the frame profile elements

is provided. Furthermore, the dimensional accuracy of the connection is increased by the provision of additional contact surfaces. The joining sections are preferably joined together by simultaneously inserting the plug connecting elements into the insertion recesses of the second joining section. Alternatively, or in addition to a further  
5 insertion recess on the second joining section, the first joining section could also have an insertion recess. Thus, the joining would be performed by simultaneously inserting the plug connecting elements into the insertion recesses of the first and second joining section.

10 [0021] According to a preferred embodiment, the insertion recesses have a common plugging direction. Alternatively, or additionally, the insertion recesses are aligned at an angle with respect to one other. Preferably, the insertion recesses are perpendicular to one other. The common plugging direction ensures that the frame  
15 profile elements can be joined with a single joining operation or a single relative movement. The angle thereby causes the plug connecting elements to slide on differently oriented side walls of the insertion recesses. Thus, the dimensional accuracy of the butt joint arrangement is optimised because the frame profile  
20 elements are automatically aligned with one other during joining. As a result of the taper, the plug connecting elements automatically slide into the predetermined position within the insertion recesses so that the frame profile elements are positioned relative to one another. In particular, when the insertion recesses are aligned perpendicular to each other, this positioning is carried out both in the  
transverse and in the longitudinal direction.

25 [0022] According to the invention, the plug connecting element tapers continuously in the plugging direction. In particular conical or conical tapering configurations are considered. Of course, the configuration may also be truncated, in particular in a  
cone-shaped manner or in a truncated cone-shaped manner, that is formed with a capped end. In this case, different base surfaces of the conical or frustoconical  
30 configuration are conceivable. For example, the base surface is round or is provided as a rectangle having rounded edges. In the case of an elongated plug connecting element, the conical or frustoconical configuration has a correspondingly elongated base surface. Depending on the configuration of the plug connecting element, a wide

variety of tapering angles of the continuous tapering may be considered. With correspondingly high-precision production and correspondingly hard materials, tapering angles as small as  $0.01^\circ$  may be considered. A stable anchoring of the plug connecting element in the insertion recess can be realised at angles of up to  $45^\circ$ . In practice, tapering angles in the range of  $0.5$  to  $30^\circ$  can be easily implemented. Preferred tapering angles are in the range between  $1$  and  $20^\circ$ .

[0023] According to the invention, the insertion recess is configured as a pocket that tapers in the plugging direction corresponding to the plug connecting element. This pocket has a bottom and peripheral side walls. Advantageously, a glue pocket can thus be provided at the bottom of the pocket, if pre-gluing of the joining sections is intended. As an alternative to a pocket, a passage opening in the second frame profile element which tapers correspondingly towards the plug connecting element in the plugging direction would also be conceivable. The configuration tapering in the plugging direction increases the direct contact surface between the plug connecting element and insertion recess. Thus, advantageously, an enlarged force-absorbing support surface can be provided. Furthermore, this can provide an increased frictional or non-positive fit between the plug connecting element and the insertion recess. In the case of glued butt joint arrangements, the necessary amount of glue can also be reduced because fewer cavities are present between the joining sections, which are usually filled with glue.

[0024] In an advantageous development, the insertion recess comprises a depth that is provided as greater than the pluggable length of the plug connecting element. In this way, on the one hand, a double fit is prevented and, on the other hand, advantageously a glue pocket is provided, which provides a compensation volume for excess glue. Advantageously, leakage or oozing out of glue from the butt joints is thus reduced or prevented.

[0025] According to a preferred embodiment, the frame profile elements are configured as painted solid wood parts. Particularly preferred are completely painted solid wood parts, which are pre-painted in particular also in the region of the joining sections. On the one hand, such painted solid wood parts have a high level of

environmental compatibility, especially since the material is a renewable raw material. Furthermore, they also have optimum weather resistance due to the complete paint finish. In addition, the assembly is simplified by the use of pre-painted parts, because after the joining no painting steps are necessary. Thus, particularly environmentally-friendly and at the same time weatherproof or durable butt joint arrangements can be created, which are particularly easy and efficient to assemble.

[0026] According to one embodiment, the plug connecting element comprises grooves that extend around the periphery. Alternatively, or additionally, the insertion recess may also have grooves that extend around periphery. This is particularly advantageous when the butt joint arrangement has to be glued. The surrounding grooves then form glue locks, which form a compensation volume for excess glue in the joint region and thus prevent the glue from oozing out from the joints of the butt joint.

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[0027] According to a further embodiment, the plug connecting element and the insertion recess comprise latching means that correspond to one another. Advantageously, therefore, the frame profile elements can be fastened together without glue. However, the latching means may also be advantageous in glued embodiments, because the latching means provide a certain degree of biasing force or holding force. Advantageously, it is thus possible to dispense with the use of clamps or size presses for drying or curing of the glue. Thus, the assembly and the manufacturing process of the butt joint arrangement are simplified by the latching means - whether with or without glue. Furthermore, this also allows or facilitates any on-site assembly at the installation site.

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[0028] According to one embodiment, the latching means are configured as a beading that extends around the periphery and a corresponding groove that extends around the periphery. By engaging the beading in the groove, a latching connection is created. Either the beading is provided on the plug connecting element and the groove is provided in the side wall of the insertion recess, or vice versa. If the butt joint arrangement is not glued, then the latching connection between the beading and the groove can also be reversibly reopened and closed, if a force overcoming the

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latching force is applied against the plugging direction. For example, it would be conceivable to replace windowpanes in this manner, without the need for a new window leaf frame. Of course, the same applies to door leaf panes. Alternatively, or additionally, a pine-tree interlocking arrangement can also be provided as a latching means. Such a pine-tree interlocking is provided in a tapering manner in the plugging direction on the plug connecting element and has a multiplicity of latching teeth, which are formed in particular at a certain height around the periphery of the plug connecting element. The latching teeth can form barbs, which can be guided into the insertion opening and engage locally in the side wall or into special grooves of the insertion recess, while forming a non-positive fit. Alternatively, counter-teeth or corresponding counter-locking grooves can also be provided in the side wall of the insertion recess. Once the non-positive or positive interlocking connection between the barbs and the insertion recess has been established, they rest on their surfaces, which are directed against the plugging direction, so that removal of the plug connecting element or separation of the butt joint is prevented.

[0029] In a preferred embodiment of a frame profile element, the first joining section has a protruding plug connecting pin, which tapers in the plugging direction. Thus, a plurality of frame profile elements can be plugged together or joined to form a window frame/door frame or window leaf frame/door leaf frame. The plugging direction may correspond to the plugging direction of the insertion recess on the second joining section, but this is not mandatory. For example, for forming a corner joint of a rectangular frame, the plugging direction of the insertion recess is oriented perpendicular to the longitudinal direction of the frame profile element, whereas the plugging direction of the plug connecting pin corresponds to the longitudinal direction of the frame profile element. Thus, when plugging together a plurality of frame profile elements, each first joint section of a first frame profile element is joined to the second joint section of a second frame profile element in order to form a corner joint.

[0030] It would also be conceivable, however, to plug two frame profile elements into each other in order to form a butt joint. For example, this could be provided with slightly curved frame profile elements for producing a round window. In this case, the plugging direction of a joining section would always correspond to the longitudinal

direction of the frame profile element in the respective joining section.

[0031] The above embodiments and developments can, if appropriate, be combined with each other as desired. Further possible embodiments, developments and  
5 implementations of the invention also include combinations, not explicitly mentioned, of features of the invention described above or in the following with regard to the embodiments. In particular, a person skilled in the art will also add individual aspects as improvements or additions to the respective basic form of the present invention.

## 10 SUMMARY OF THE DRAWINGS

[0032] The present invention will be explained in more detail with reference to the embodiments indicated in the schematic drawings, in which:

15 Fig. 1A, 1B are a schematic representation of a butt joint arrangement according to a first embodiment;

Fig. 2A, 2B are a schematic representation of a butt joint arrangement according to a second embodiment;

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Fig. 3 is a perspective view of a window frame/door frame or window leaf frame/door leaf frame with a butt joint arrangement according to Fig. 2B;

25 Fig. 4A, 4B are a schematic representation of a butt joint arrangement according to a third embodiment;

Fig. 5A, 5B are a schematic representation of a butt joint arrangement according to a fourth embodiment;

30 Fig. 6A, 6B are a schematic representation of a butt joint arrangement according to a fifth embodiment.

[0033] The accompanying drawings are intended to convey a further understanding

of the embodiments of the invention. They illustrate embodiments and, together with the description, serve to explain principles and concepts of the invention. Other embodiments and many of the stated advantages will become apparent with reference to the drawings. The elements of the drawings are not necessarily shown  
5 to scale with respect to each other.

[0034] In the drawings, the same, functionally identical and identically operating elements, features and components are each provided with the same reference numerals, unless stated otherwise.

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## DESCRIPTION OF EMBODIMENTS

[0035] Fig. 1A and 1B show a butt joint arrangement according to a first embodiment. The representation is to be understood as a schematic sectional representation  
15 through the butt joint arrangement, wherein hatchings are omitted for the sake of clarity.

[0036] The butt joint arrangement 1 has a first frame profile element 2 and a second frame profile element 4. The first frame profile element 2 has a first joining section 3,  
20 on which a plug connecting pin 7 is provided. The second frame profile element 4 has a second joining section 5, on which an insertion recess 6 is provided.

[0037] The plug connecting pin 7 has a configuration tapering in the plugging direction 8. By way of example, the plug connecting pin 7 is provided here as a  
25 truncated cone, which is formed as a single part with the first frame profile element 2. Alternatively, however, other embodiments of a plug connecting element are conceivable, for example, as a single part with two frustoconical ends, which is also insertable into the first frame profile element. Furthermore, other tapered shapes, such as a cone shape with a curved outer surface, are conceivable.

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[0038] The insertion recess 6 is formed as a pocket with a bottom and peripheral side walls with a shape corresponding to the shape of the plug connecting pin.

[0039] Fig. 1A shows a disassembled state of the frame profile elements 2, 4 prior to joining or plugging in the plugging direction 8. Fig. 1B shows an assembled or positively and/or non-positively joined state of the frame profile elements 2, 4.

5 [0040] Fig. 2A and 2B are a schematic representation of a butt joint arrangement 1 according to another embodiment. Similar to the representation in Fig. 1A and 1B, this is a schematic sectional representation, wherein hatching is omitted for the sake of clarity.

10 [0041] In contrast to the first embodiment, the butt joint arrangement 1 in this case has two plug connecting pins 7 and 7' on the first joining section. Furthermore, the first joining section has a step 17, wherein the first plug connecting pin 7 is provided on a step front face of the joining section 3 in the plugging direction 8 and the second plug connecting pin 7' is provided on a second step front face rearwardly offset by the  
15 step 17. The plug connecting pins 7, 7' are each elongated transversely to the plugging direction 8. They are also arranged perpendicular to each other, which will be discussed in more detail with reference to Fig. 3. In the illustrated sectional plane, the first plug connecting pin 7 is thus arranged in the longitudinal profile, while the second plug connecting pin 7 is shown in the transverse profile.

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[0042] On the second frame profile element 4, the second joining section 5 is formed correspondingly to the first joining section 3. That is, in this case, a first insertion recess 6 and a second insertion recess 7 are present, wherein the insertion recesses 6, 6' are provided in each case at a front step face and at a recessed step front face  
25 of the second joining section 5. The insertion recesses 6, 6' of the second joining section are each formed as pockets and have a bottom 15 and peripheral side walls 16. The bottom 15 is provided in a depth 9 of the insertion recess 6, which is greater than the insertable length 10 of the corresponding plug connecting pin 7. The same applies to the second insertion recess 6' and the second plug connecting pin 7'. Due  
30 to the greater depth of the pockets, a glue pocket is provided at the bottom thereof. This acts as a compensation volume for excess glue to prevent the glue from oozing out of the joints when joining. Furthermore, the greater depth also serves to prevent the plug connecting pin from abutting against the bottom 15 of the pocket, in order to

prevent a double fit.

[0043] The plug connecting pins 7, 7' and the insertion recesses 6, 6' taper in the plugging direction 8 both over their width and their depth. By way of example, a tapering angle 15 of approximately two to four degrees is indicated at the second insertion recess 6', which is transferable to the first insertion opening 6 and the plug connecting pins 7, 7'.

[0044] Fig. 3 is a perspective view of a window frame/door frame or window leaf frame/door leaf frame having a butt joint arrangement according to Fig. 2B. The illustration is merely a detail of such a frame, the detail showing an example of a corner joint. Dashed lines indicate hidden contours. This serves in particular to illustrate the configuration and positioning of the first and second plug connecting pins 7, 7' or the first and second insertion recesses 6, 6'.

[0045] The first insertion recess 6 has a longitudinal extension direction, which is aligned transversely to the longitudinal direction 19 of the second frame profile element 4. The second insertion recess 6' is formed in its longitudinal extension direction parallel to the longitudinal direction 19 of the second frame profile element 4. The insertion recesses 6, 6' are thus perpendicular to each other.

[0046] Depending on the application, the step 17 can either serve for inserting a windowpane into a window leaf frame/door leaf frame or as an abutment for a window frame or door frame. In a rectangular frame, a total of four of the illustrated vertical corner joints are provided with corresponding butt joints 1, which are formed with a total of four frame profile elements. Each of the frame profile elements 2, 4 accordingly has a corresponding first joining section 3 having plug connecting pins 7, 7' and a second joining section 5 having insertion recesses 6, 6'.

[0047] The plugging direction of the insertion recesses 6, 6' is perpendicular to the longitudinal direction 18 and 19 of the respective frame profile element 2 and 4, wherein the plugging direction 8 of the plug connecting pins 7, 7' corresponds to the longitudinal direction 18 and 19 of the frame profile element 2 and 4.

[0048] The following embodiments of Fig. 4A, 4B to 6A, 6B represent alternatives to the embodiment shown in Fig. 2A and 2B. Like the second embodiment, they are likewise transferable to a window frame/door frame or window leaf frame/door leaf frame 20 according to Fig. 3.

[0049] Fig. 4A and 4B are a schematic representation of a butt joint arrangement according to a third embodiment. In contrast to the second embodiment according to Fig. 2A and 2B, peripheral grooves 11 are provided here on the plug connecting pin 7, 7'. These serve as glue locks which, when joining the butt joint arrangement, provide a compensation volume for excess glue present in the joining sections. As a result, oozing out of the glue from the joining sections during joining is prevented.

[0050] Fig. 5A and 5B are a schematic representation of a butt joint arrangement according to a fourth embodiment. In contrast to the second embodiment according to Fig. 2A and 2B, the joining sections are formed in this case with latching means which are configured in the form of peripheral beadings 12 provided on the plug connecting pins 7, 7' and corresponding peripheral grooves 13 provided on the inner walls of the insertion recesses 6, 6'.

[0051] When joining the frame profile elements 2, 4, the plug connecting pins 7, 7' are inserted into the insertion recesses 6, 6'. Shortly before reaching the final position of the plug connecting pins 7, 7' in the insertion recesses 6, 6', the beadings 12 abut, in a region just before the corresponding grooves 13, against the side walls 16 of the insertion recesses 6, 6'. In order to bring the plug connection pins 7, 7' into their final position, a latching force must be applied in the plugging direction 8, which force elastically deforms the beadings 12 and the regions of the side walls 16 in the grooves 13, so that the beadings 12 slide into the grooves 13 and reach a latched state according to Fig. 5B. In this latched state, the beadings 12 and grooves 13 are then interlocked, as shown in Fig. 5B.

[0052] If no glue is used during joining, this latching connection is again reversibly separable by the latching force being overcome by a corresponding pulling force

against the plugging direction.

[0053] Fig. 6A, 6B schematically show a butt joint arrangement according to a fifth embodiment. In contrast to the fourth embodiment according to Fig. 5A and 5B, the latching means are configured here as a pine-tree interlocking arrangement 14. The pine-tree interlocking 14 is provided on the tapered plug connecting pins 7, 7' and is formed with peripheral interlocking arrangements. The peripheral interlocking arrangements are also arranged in a tapered manner on the plug connecting pins 7, 7'.

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[0054] When inserting the plug connecting pins 7, 7' into the insertion recesses 6, 6' the teeth of the pine-tree interlocking arrangement 14 abut against the side walls 16 shortly before the final position of the plug connecting pins 7, 7' is reached. In order to reach the final position, the teeth of the pine-tree interlocking arrangement 14 and the sections of the side walls 16, against which the teeth abut, are elastically or optionally also partially plastically deformed by applying a latching force in the plugging direction 8, so that the teeth anchor themselves barb-like in the side walls 16, as shown in Fig. 6B. The connection, once joined in this manner, is then no longer non-destructively releasable and is in particular stable even without glue. The additional provision of glue in the joining sections is still possible.

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[0055] Although the present invention has been fully described above with reference to preferred embodiments, it is not limited thereto but is modifiable in a variety of ways.

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[0056] Thus, the butt joint arrangement can in principle be combined with an additional gluing, so that an additional material bond is created.

[0057] Furthermore, several different latching means and/or a gluing can be provided.

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[0058] Furthermore, it is conceivable to fix the plug connecting pin alternatively or additionally by means of a fastening means in the insertion recess, wherein the

fastening means is driven transversely through the second frame profile element. For example, opposite to and/or laterally of the insertion recess, a screw can be driven into the frame profile such that it extends into the insertion recess and the plug connecting pin and thus fixes the plug connecting pin in the insertion recess.

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[0059] The butt joint arrangement is not necessarily a corner joint. Rather T-joints or blunt butt joints may also be considered. Furthermore, butt joints with different angular arrangements are also conceivable, which are in the range between 0 and 90°, for example at a 45° angle. In addition, the joint may also be a corner joint, in which the joining sections are aligned at a 45° angle to the longitudinal direction of the frame profile elements. The plugging direction can also be aligned at 45° to the longitudinal direction of the frame profile element. Alternatively, the plugging direction can also be aligned at a 45° angle to the joining section, i.e. it may be aligned again in the longitudinal direction of the frame profile element or perpendicular thereto.

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#### LIST OF REFERENCE NUMERALS

[0060]

20	1	butt joint arrangement
	2, 4	frame profile elements
	3, 5	joining sections
	6, 6'	insertion recess
	7, 7'	plug connecting element or plug connecting pin
25	8	plugging direction
	9	depth
	10	insertable length
	11	groove
	12	beading
30	13	groove
	14	pine-tree interlocking arrangement
	15	bottom
	16	side wall

17 step

18, 19 longitudinal directions of the frame profile elements

20 window frame/door frame or window leaf frame/door leaf frame

## PATENTKRAV

1. Stødsamlingsanordning (1) til vindueskarme/dørkarme eller vinduesrammer/dørrammer, især trævinduer/trædøre med:

5 et første rammeprofilelement (2), der omfatter en første sammenføjningssektion (3), der er anbragt på en ende af rammeprofilelementet; og  
et andet rammeprofilelement (4), der omfatter en anden sammenføjningssektion (5), der har en indsættelsesudsparing (6), hvor den anden sammenføjningssektion (5) er konfigureret således, at den kan sammenføjes på en positiv låsende måde og/eller en ikke-positiv låsende måde til den første sammenføjningssektion (3) ved hjælp af et stødforbindingselement (7), hvor stødforbindingselementet (7) og indsættelsesudsparingen (6) omfatter en form, der tilspidser i stødretningen (8) og

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### **kendetegnet ved, at**

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stødforbindingselementet (7) strækker sig i stødretningen på en tilspidset måde, på en afkortet tilspidset måde, på en kegleformet måde eller på en afkortet kegleformet måde.

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2. Stødsamlingsanordning ifølge krav 1, **kendetegnet ved, at** stødforbindingselementet (7) er konfigureret som en stødforbindingesstift (7), der er tilvejebragt på den første sammenføjningssektion (3), og er konfigureret især som en enkelt del med det første rammeprofilelement (2).

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3. Stødsamlingsanordning ifølge krav 1 eller 2, **kendetegnet ved, at** stødforbindingselementet (7) og indsættelsesudsparingen (6) er konfigureret på en langstrakt måde på tværs i forhold til stødretningen (8).

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4. Stødsamlingsanordning ifølge krav 3, **kendetegnet ved, at** den anden sammenføjningssektion (5) omfatter en yderligere indsættelsesudsparing (6'), og sammenføjningssektionerne (3, 5) er konfigureret således, at de kan forbindes med hinanden på en positiv låsende måde ved hjælp af de to stødforbindingselementer (7, 7').

5. Stødsamlingsanordning ifølge krav 4, **kendetegnet ved, at** indsættelsesudsparingerne (6, 6') omfatter en fælles stødretning (8) og/eller er orienteret i en vinkel i forhold til hinanden, især vinkelret på hinanden.
- 5 6. Stødsamlingsanordning ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** indsættelsesudsparingen (6) er konfigureret som en lomme, der tilspidser i stødretningen (8) svarende til stødforbindingselement (7).
- 10 7. Stødsamlingsanordning ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** indsættelsesudsparingen (6) omfatter en dybde (9), der er tilvejebragt som større end den stødbare længde (10) af stødforbindingselementet (7).
- 15 8. Stødsamlingsanordning ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** rammeprofilelementerne (2, 4) er konfigureret som coatede massive trædele.
- 20 9. Stødsamlingsanordning ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** stødforbindingselementet (7) og/eller indsættelsesudsparingen (6) omfatter riller (11), der strækker sig omkring periferien.
- 25 10. Stødsamlingsanordning ifølge et hvilket som helst af de foregående krav, **kendetegnet ved, at** stødforbindingselementet (7) og indsættelsesudsparingen (6) omfatter låseanordninger (12, 13; 14), der svarer til hinanden.
- 30 11. Stødsamlingsanordning ifølge krav 10, **kendetegnet ved, at** låseanordningerne er konfigureret som en vulst (12), der strækker sig rundt om periferien og den tilsvarende rille (13), der strækker sig omkring periferien eller er konfigureret som et nåletræslåsearrangement (14).
12. Vindueskarm/dørkarm eller vinduesramme/dørørramme (20), især til trævinduer/trædøre, med et stødsamlingsarrangement ifølge et hvilket som helst af de foregående krav.

13. Rammeprofilelement (2; 4) til vindueskarme/dørkarme eller vinduesrammer/dørrammer, især til en vindueskarm/dørkarm eller vinduesramme/dørramme i henhold til krav 12, med:

5 en første sammenføjningssektion (3), der er arrangeret i en ende af rammeprofilelementet (2; 4);

en anden sammenføjningssektion (5), der omfatter en indsættelsesudsparring (6), der tilspidser i stødretningen (8), hvor indsættelsesudsparringen (6) er konfigureret som en lomme, der tilspidser svarende til et stødforbindingselement (7), der strækker sig i stødretningen (8) på en tilspidset måde, på en afkortet tilspidset måde, på en kegleformet måde eller på en afkortet kegleformet måde.

10

14. Rammeprofilelement ifølge krav 13, **kendetegnet ved, at** den første sammenføjningssektion (3) omfatter en fremspringende stødforbindingesstift (7), der tilspidser i stødretningen (8).

15

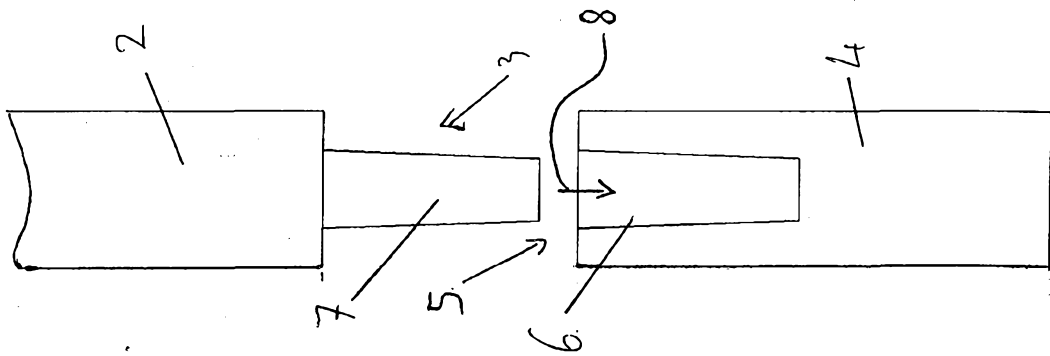
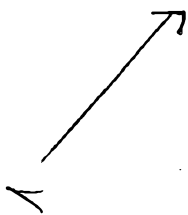


Fig. 1A

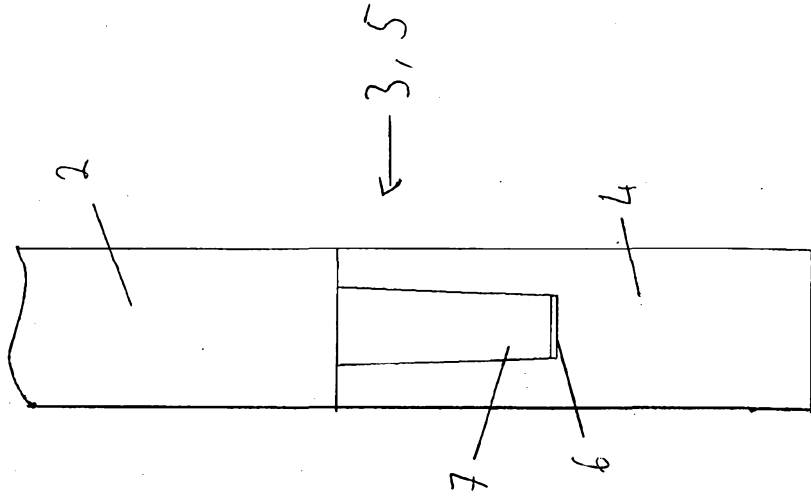


Fig. 1B



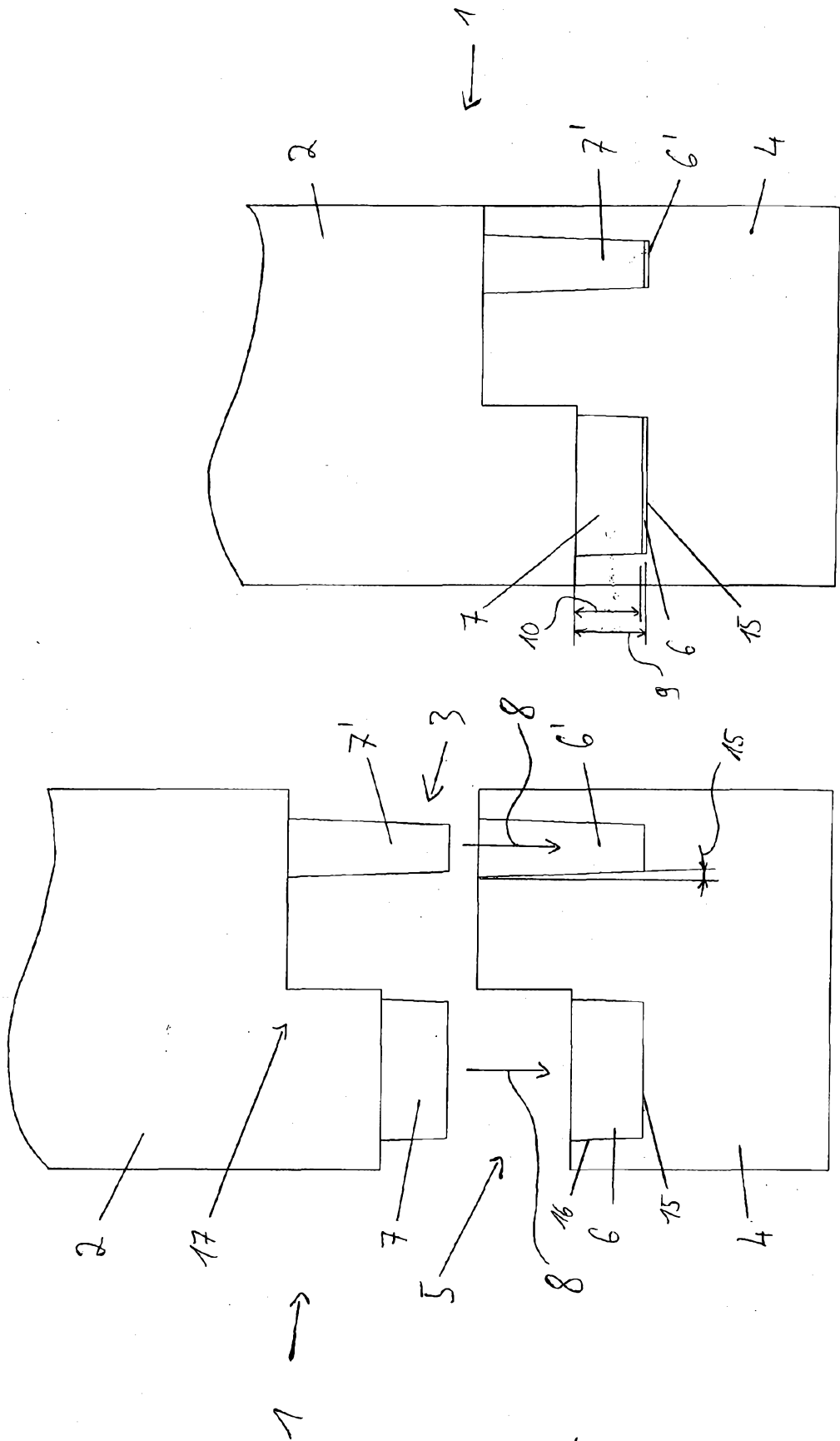


Fig. 2B

Fig. 2A

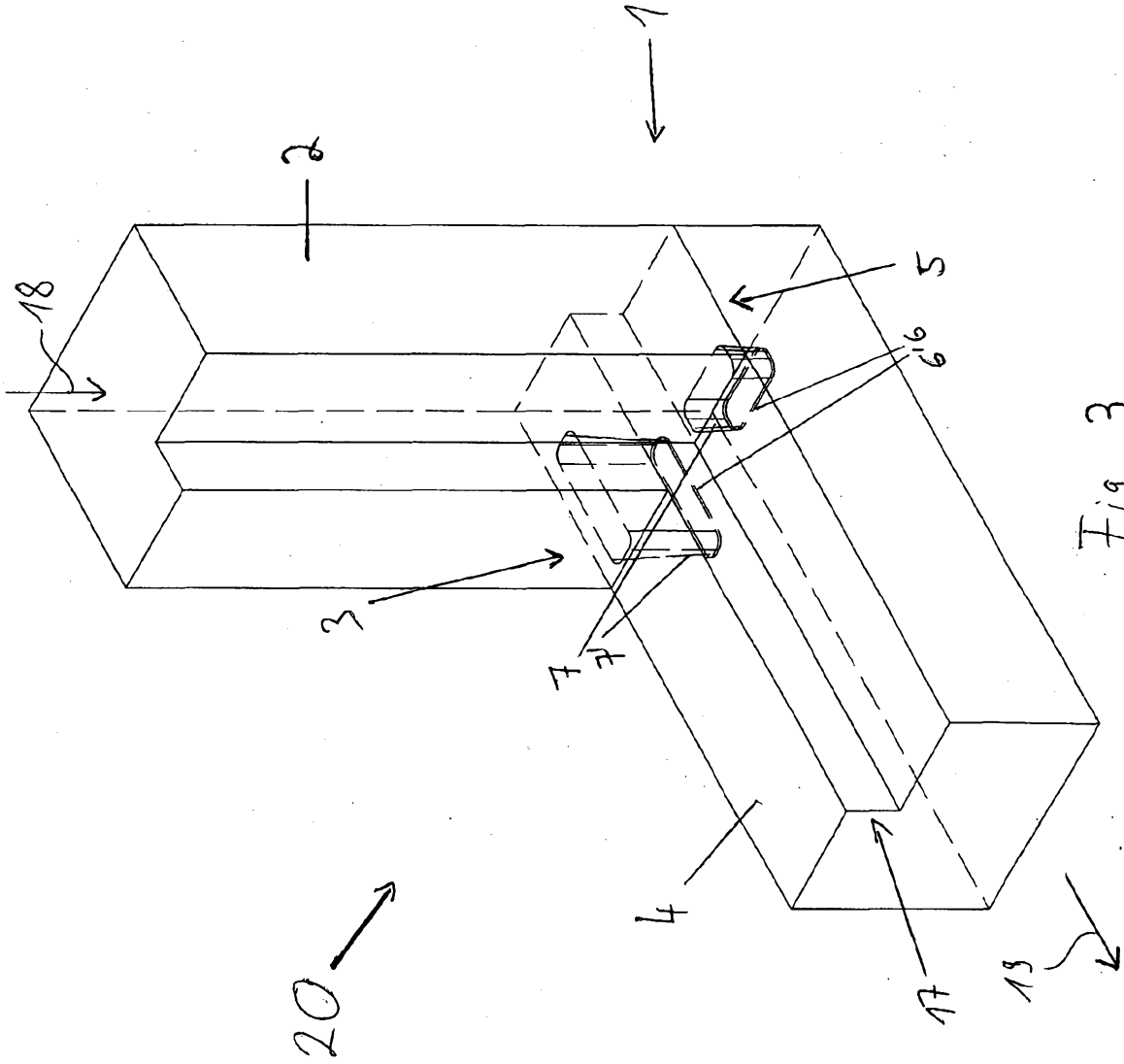


Fig. 3

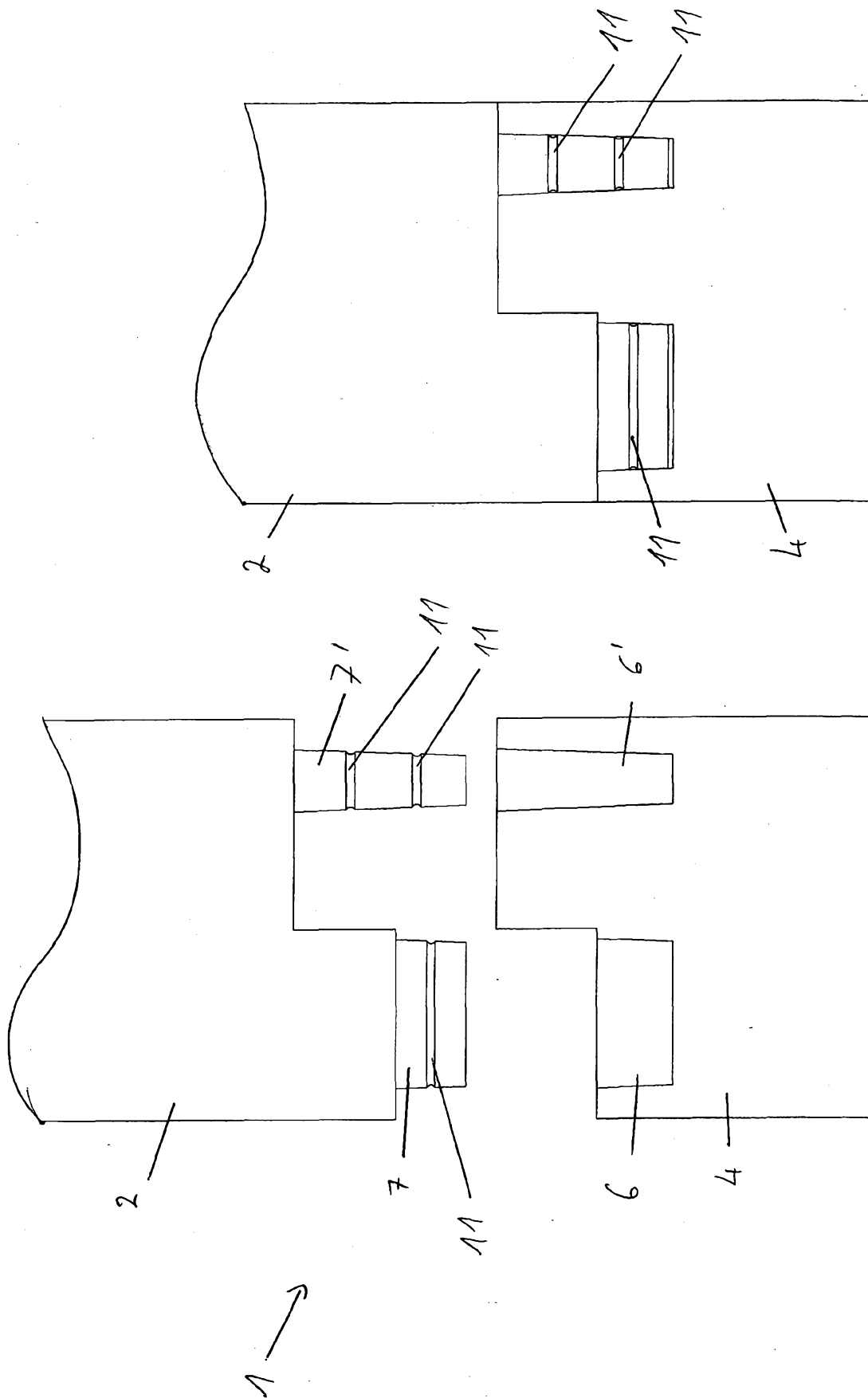


Fig. 4B

Fig. 4A

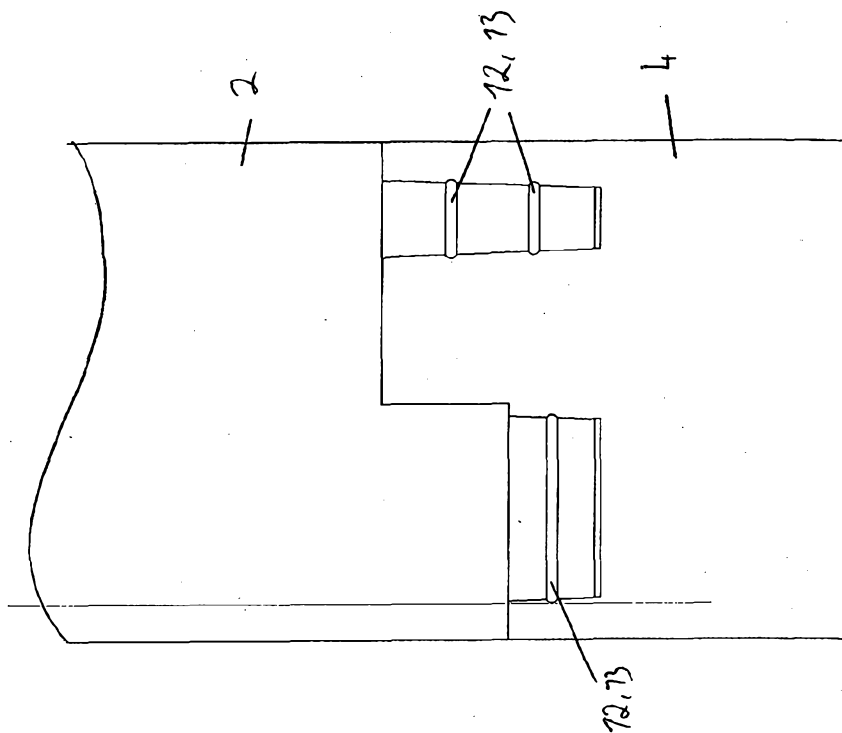


Fig. 5B

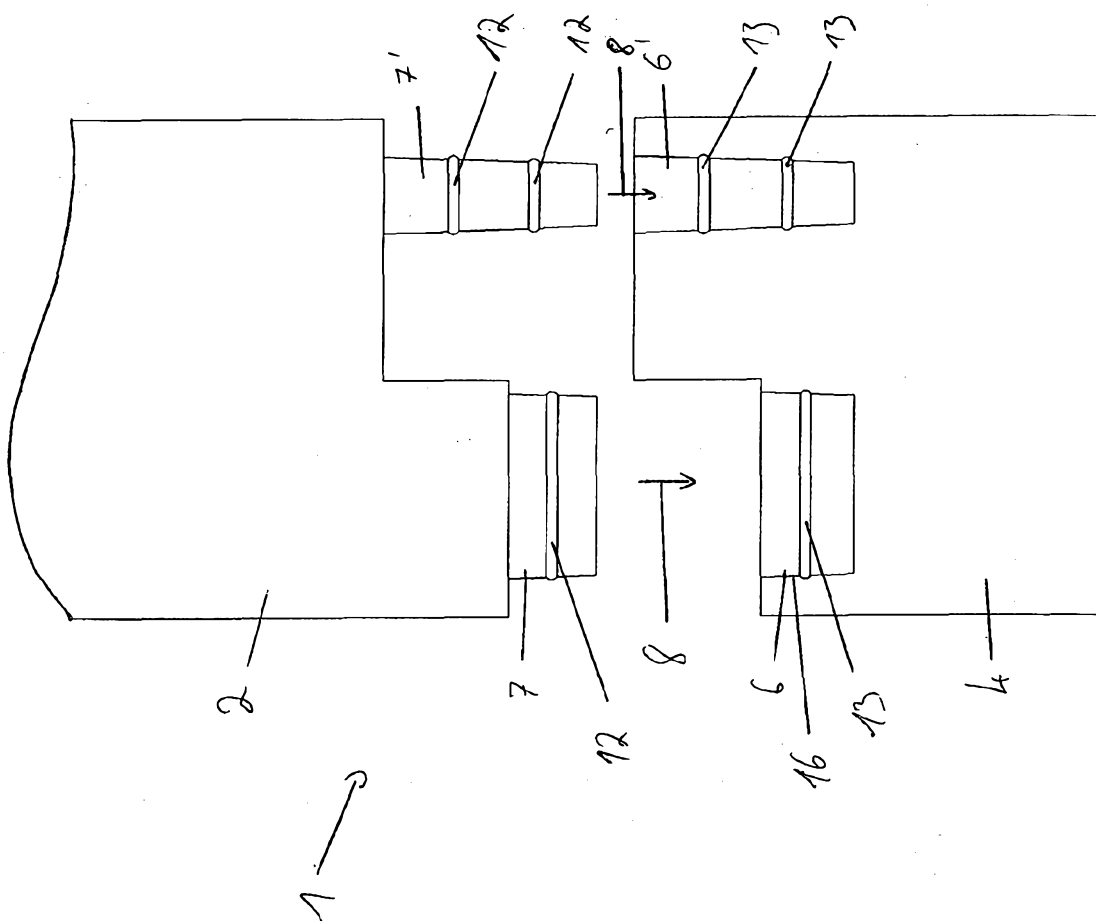


Fig. 5A

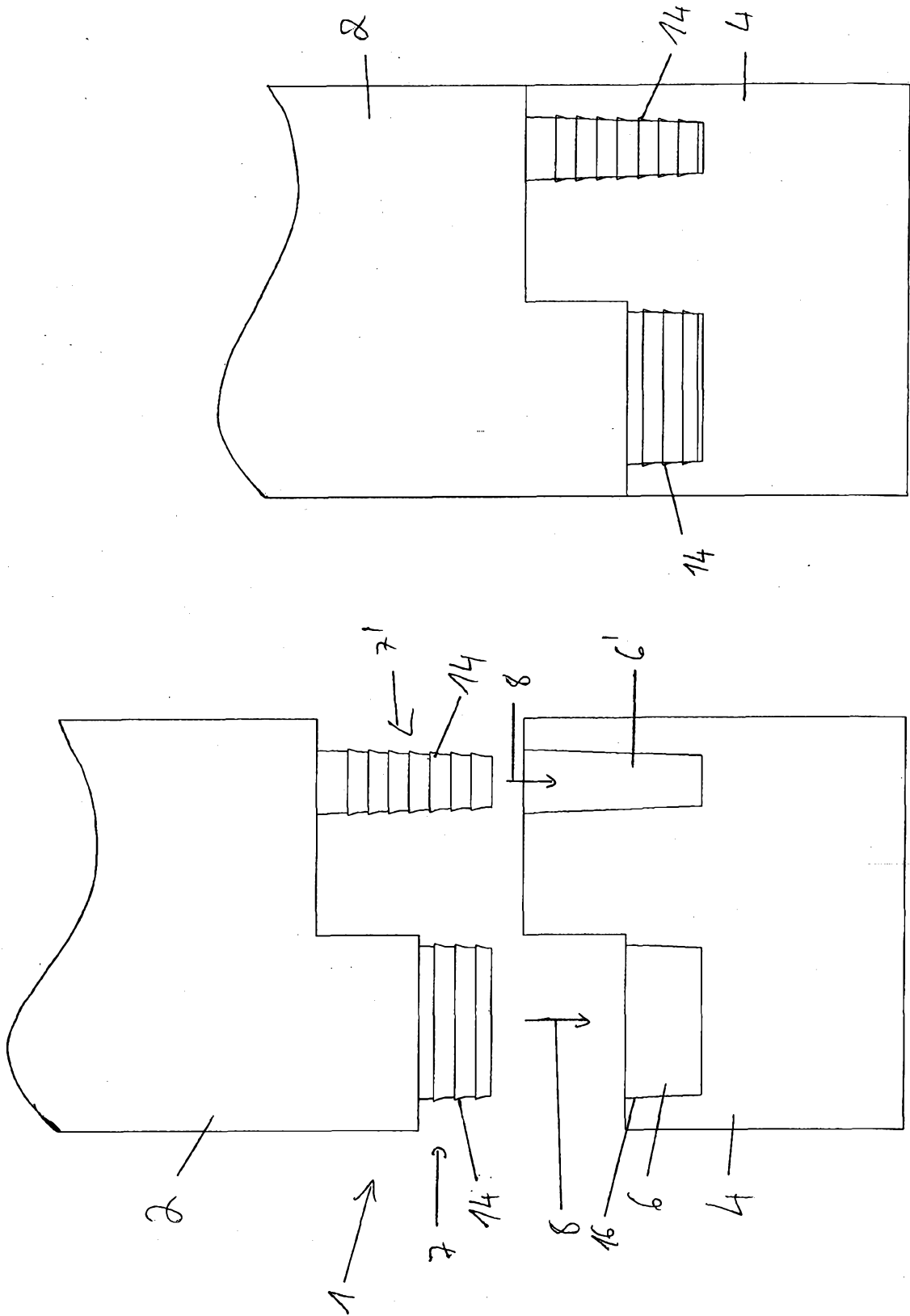


Fig. 6B

Fig. 6A