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(54) **A RAILING POST, A RAILING AND A WALKWAY ARRANGEMENT FOR A FIBRE-WEB MACHINE**

GELÄNDERPFOSTEN, GELÄNDERWERK UND LAUFSTEGANORDNUNG FÜR EINE FASERVLIESMASCHINE

POTEAU POUR GARDE-CORPS, GARDE-CORPS ET AGENCEMENT DE PASSERELLE POUR MACHINE À BANDE FIBREUSE

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Description

[0001] The invention relates to a railing post or the like in accordance with the preamble of claim 1, in which the first end of the railing post or the like comprises a fastening arrangement, by means of which the railing post or the like can be fastened to a counterpart.

[0002] The invention also relates to a railing in accordance with the preamble of claim 9 and to a walkway arrangement in accordance with claim 11.

[0003] Many machines and process devices, used e.g. in industry, are large-sized and nevertheless, it is necessary to arrange access to the vicinity of their various parts for maintenance and operation. Typically, this is achieved by providing the machine with conveniently situated walkways. The walkways have to be constructed so that it is safe to walk on them as well as to operate and maintain the machine from the walkways. Therefore, the walkways are provided with railings.

[0004] In fibre-web machines, various sub-processes are included in web formation and treatment and those parts of the fibre-web machine that perform these are, in view of the progress of the process, arranged optimally with respect to one another. The parts of the fibre-web machine also comprise peripheral devices, such as reconditioning devices for fabrics, measuring devices etc. It is essential for the operation and maintenance of the fibre-web machine that access is provided to its various parts. The fibre-web machine, as well, comprises walkways.

[0005] The railings of the walkways are typically tubular structures, which comprise tubular posts spaced at given intervals to support a substantially horizontal handrail. The railing may also be somewhat slanted in conjunction with stairs, for instance. In a previously known manner, such a railing with tubular structure is fastened to a walkway so that the walkway is provided with a hole and/or a sleeve to coincide with the respective railing post, which is inserted and fastened thereto e.g. by means of connecting bolts, such railing posts are known from NL 1 023 630 C2, CA 2 360 739 A1 and WO 82/02569 A1.

[0006] Although the structure as such is solid and reliable in use, it is, however, somewhat inefficient to construct a walkway of this type. Moreover, the structure requires high precision in the positioning of the sleeves arranged in the walkways for the railing in order to make the positioning match exactly the spacing of the posts in the railing.

[0007] An object of the invention is to provide a railing post, which fulfils its function reliably and the mounting of which is more efficient than before.

[0008] A special object of the invention is to provide a railing and a walkway arrangement for a fibre-web machine as well as a railing for the walkway, which fulfil their function reliably and the mounting of which is more efficient than before.

[0009] The objects of the invention are achieved primarily as disclosed in the appended claims 1, 9 and 11.

[0010] Additional characteristic features of the invention are disclosed in the appended claims and in the following description of the embodiments shown in the figures.

[0011] According to one embodiment of the invention, the railing post or the like is an elongated body, and the first end thereof comprises a fastening arrangement, by means of which the railing post or the like can be fastened to a counterpart. The fastening arrangement comprises a recess extending from the first end of the railing post towards the second end of the railing post, which recess divides the railing post or the like into a first and second support part, and the first support part comprises a fastening part that is movable towards the second support part substantially in transverse direction with respect to the direction of the recess. A railing post or the like of this kind is very quick to fasten as well as to unfasten, if so required, and still the fastening thereof is reliable and solid.

[0012] Preferably, the fastening part is arranged in the longitudinal direction of the railing post or the like so that the second support part extends further away from the bottom of the recess than the fastening part.

[0013] The railing according to one embodiment of the invention comprises at least two railing posts and at least one handrail fastened to the railing posts. The railing post or the like of the railing is an elongated body, and the first end thereof comprises a fastening arrangement, by means of which the railing post or the like can be fastened to a counterpart. The fastening arrangement comprises a recess extending from the first end of the railing post towards the second end of the railing post, which recess divides the railing post or the like into a first and second support part, and the first support part comprises a fastening part that is movable towards the second support part substantially in transverse direction with respect to the direction of the recess.

[0014] Preferably, the railing assembly comprises a plurality of railings arranged successively, and the railings are fastened to one another by means of the railing posts.

[0015] The walkway arrangement for a fibre-web machine according to one embodiment of the invention comprises a walkway that can be supported onto the fibre-web machine, and a railing arranged in conjunction therewith. The railing comprises at least two railing posts and at least one handrail fastened to the railing posts. The railing post or the like of the railing is an elongated body, and the first end thereof comprises a fastening arrangement, by means of which the railing post or the like can be fastened to a counterpart. The fastening arrangement comprises a recess extending from the first end of the railing post towards the second end of the railing post, which recess divides the railing post or the like into a first and second support part, and the first support part comprises a fastening part that is movable towards the second support part substantially in transverse direction with respect to the direction of the recess. At least one longi-

tudinal edge of the walkway is provided with a gripping part for fastening the railing to the walkway and the gripping part of the walkway is arranged in the recess of the fastening arrangement for the railing post.

[0016] A number of advantages are involved in the present invention, of which the following are given as examples:

- only few manufacturing stages are required,
- the number of separate parts is small,
- no holes are required for the railing posts,
- the field welding of the railing is simple,
- the fastening of the railing and railing post is quick, simple and safe.

[0017] The railing post according to the invention is particularly suitably used in a fibre-web machine, since it can be detached and removed fast out of the way of maintenance work, e.g. roll change. Likewise, it is quick to fasten to its place after the maintenance work.

[0018] In the following, the invention and its operation will be explained with reference to the appended schematic drawings, of which

- Figure 1 shows schematically one embodiment of the railing post according to the invention,
- Figure 2 shows a detail of the fastening of the railing post,
- Figure 3 shows schematically one embodiment of the railing according to the invention,
- Figure 4 shows schematically one embodiment of the mounting flange for the railing element according to the invention,
- Figure 5 shows schematically another embodiment of the railing according to the invention,
- Figure 6 shows in more detail the railing post according to Figure 5,
- Figure 7 shows another embodiment of the railing post according to the invention, and
- Figure 8 shows the assembly of the railing arrangement in conjunction with a specific embodiment.

[0019] Figure 1 shows schematically one embodiment of a railing post 10 according to the invention. In Figure 1, the drawing on the left depicts the railing post seen from the side (direction B in the drawing on the right) and the drawing on the right depicts the railing post seen from behind (direction A in the drawing on the left). The railing post comprises a first end 12 and a second end 14. The railing post 10 is provided with a fastening arrangement 16 at its first end, by means of which arrangement the railing post can be fastened to a counterpart, e.g. to a fastening part of a walkway.

[0020] The railing post 10 is formed of a plate structure, such as a steel sheet. The length 20, 20' of the cross-section of the railing post is at least five times the thickness 18 of the cross-section. The thickness 18 of the railing post is constant.

[0021] The railing post 10 is provided with cutouts 52.1, 52.2, to which the handrail is fastened. The cutout 52.1, 52.2 is such that the outer surface of the handrail may penetrate into the railing post over a certain distance of its periphery. The first cutout 52.1 extends so deep into the railing post in the direction of the length 20 of its cross-section that the handrail may be supported by the railing post 10 all the way from the middle thereof. The first cutout 52.1 is situated approximately halfway the length of the railing post and the second cutout 52.2 is located at the second end 14 of the railing post. The length 20 of the cross-section of the railing post is larger in the area between the first cutout 52.1 and the first end 12 of the railing post than the length 20' in the area between the first cutout 52.1 and the second end 14 of the railing post. Thus, the railing post 10 comprises also a first and second handrail 50.

[0022] Preferably, the length 20 of the cross-section of the railing post comprises essentially two standard lengths 20, 20' and the transition from the first length 20 to the second length 20' is embodied by a curved reduction 21 that starts from the first cutout 52.1.

[0023] At the first end 12 of the railing post the fastening arrangement 16 for the railing post 10 comprises a recess 40 that extends from the first end 12 of the railing post towards the second end of the railing post, which recess divides the railing post into a first 41 and second 42 support part. The respective surfaces of the first and second support part facing each other are located at a distance X from one another. Thus, the recess 40 forms a slot-shaped space extending mainly in the longitudinal direction of the railing post 10. While the railing post is mounted for use in conjunction with a walkway, the gripping part of the walkway is adapted into the recess of the fastening arrangement. The first support part 41 comprises a fastening part 44, which is movable towards the second support part essentially in the transverse direction with respect to the direction of the recess 40. By means of the fastening part, the gripping part of the walkway adapted in the recess 40 can be pressed against the second support part 42 to lock the railing post into its place.

[0024] The fastening of the railing post to the walkway arrangement is shown in more detail in Figure 2. The figure shows schematically a walkway arrangement 200 for a fibre-web machine as a cross-section. It comprises a walkway 210 that can be supported onto the fibre-web machine and a railing 100 arranged in conjunction therewith, of which railing only the first end 12 of the railing post 10 and its fastening arrangement 16 are principally shown in Figure 2. The walkway comprises an access platform 212 e.g. with a grating structure and at least one longitudinal edge 214 thereof is provided with a gripping part 216 for fastening the railing post 10 of the railing to the walkway 210. The gripping part 216 is a relatively thin, plate-like and elongated body that extends above the access platform 212 and, preferably, substantially continuously over the entire length of the walkway arrangement. As to its cross-section, the gripping part is

an angle in Figure 2. Then, one edge 214 of the walkway comprises a gripping part 216 substantially over its entire length and consequently, in the arrangement according to the invention, the position of the fastening of the railing post may be chosen quite freely. In the solution according to the invention, mounting holes for the railing in the gripping part are not required at all, whereby the mounting is fast and safe.

[0025] The railing post is detachably connected to the walkway 210 so that the gripping part 216 of the walkway is adapted in the recess 40 of the fastening arrangement 16. The gripping part 216 comprises preferably two parallel lateral sections 217, one of which is located against the second support part 42 and against the other one of which the fastening part 44 of the first support part 41 is pressed. By means of the fastening part, the gripping part of the walkway adapted in the recess 40 can be pressed against the second support part 42.

[0026] The fastening part 44 comprises a body 44.1 provided with an internal thread and arranged in the first support part as well as a threaded rod or screw 44.2 provided with an external thread and arranged in conjunction with the internal thread. The screw 44.2 is shown in Figure 2 by a dashed line in the position, in which the fastening arrangement 16 can be connected to or disconnected from the gripping part 216. The fastening part 44 is adapted in the first support part 41 on the side facing the recess 40, whereby the surface of the railing post 10 facing the walkway 210 is essentially straight thus minimising the risk of stumbling and injuries during operation. Further, when mounting the fastening part, it is safe to tighten it on the side facing the walkway.

[0027] The edge of the second support part 42 facing the recess, i.e. the edge that will be placed against the gripping part 216 of the walkway, is shaped so as to comprise two support surfaces 42.1, 42.2 arranged at a distance from one another and oppositely with respect to the first support part, and a recessed area 42.3 between these extending further away from the plane defined by the support surfaces 42.1, 42.2 in the direction away from the first support part 41. The fastening part 44 of the first support part 41 presses the gripping part 216 within the recessed area 42.3, whereby a local distortion is generated in the gripping part 216 due to the pressing, which distortion improves the fastening of the gripping part 216 to the fastening arrangement 16.

[0028] The railing posts 10 are provided with holes 11, by means of which one railing post can be fastened for instance to another railing post by using screw-mounting. Then, the railing assembly may be formed so as to comprise several railings 100 arranged successively so that the railings are fastened to one another by means of the railing posts 10.

[0029] Figure 3 shows schematically one embodiment of the railing 100 according to the invention. The railing 100 comprises at least two railing posts 10 with a first 12 and second 14 end, and a handrail 50 fastened to the railing posts, where the first end of the railing post comprises a fastening arrangement 16 for the railing, by means of which arrangement the railing 100 can be fastened to a counterpart, such as the gripping part 216 of a walkway. The fastening arrangement 16 is shown in more detail in the above with reference to Figures 1 and 2.

[0030] The embodiment in Figure 3 shows a railing arrangement 300, which consists of at least two railings 100 that comprise at least two railing posts 10 and of at least one railing element 100' between them. Preferably, the structure of the railing is similar to the one described in the above. The railing element 100' comprises preferably at least one planar mounting flange 110 and handrails 50 connected to the ends thereof. The railing element may also form an end section of the railing arrangement, whereby it includes only one mounting flange and the handrails are linked together between the connecting points of the mounting flange thus forming a continuous bar that passes from one end of the mounting flange to the other, as embodied by the element on the right in Figure 3.

[0031] The mounting flange 110 of the railing element 100' is shown in more detail in Figure 4. Preferably, the structure and shape of the mounting flange 110 corresponds to that section of the railing post 10, to which the handrails 50 are fastened, i.e. the section between the first cutout 52.1 and the second cutout 52.2. The handrails act e.g. as safety rails. The reference numbers in Figure 4, except for the reference number of the mounting flange 110 itself, correspond to those in Figure 1. Since the railing element is intended to be fastened to a railing post 10, for instance between two railings 100, the shape and structure of the mounting flange 110 are substantially identical with the section of the railing post 10 that acts as its counterpart. Therefore, the description of the railing post 10 in Figure 1 also applies to the mounting flange 110, where applicable. The mounting flange 110 is also provided with holes 11, by means of which one railing post can be fastened for instance to another railing post by using screw-mounting. Thus, the holes in the mounting flange and railing post coincide with each other, respectively.

[0032] Figure 5 shows one embodiment of the invention, in which the railing arrangement 300 comprises railing posts 10' and railing elements 110'. Preferably, the structures of the railing post and the railing element are similar to the ones described in the above. The railing arrangement is provided by connecting the railing post 10' to the mounting flange 110 of the railing element 110' or between two mounting flanges. The embodiment of the railing post 10' according to Figure 5 is shown in more detail in Figure 6. This embodiment is identical with the railing post shown in Figure 1 except for the fact that no features related to the fastening of the railing post are shown herein. Also in this embodiment, the railing arrangement may be formed so as to comprise several railings 100 and railing elements 110' arranged successively, whereby the sections are fastened to one another by means of the railing posts 10.

[0033] Figure 7 shows yet another embodiment of the railing post 10". In this embodiment, the railing post 10" comprises two bendings made in opposite directions above the first end 12, below the handrails, whereby the first end 12 and the second end 14 are horizontally at different points. By using this kind of a railing post 10" provided with a side curvature either together with a straight railing post 10', a railing post 10 or a railing post 10" provided with a side curvature in the opposite direction, it is possible to increase the longitudinal rigidity of the railing arrangement.

[0034] Figure 8 illustrates the assembly of the railing arrangement 300 in conjunction with a specific embodiment. In the figure, the railing 100 on the left is already mounted in place and the railing 100 on the right is in the process of being mounted. The railing 100 on the right, which is not yet mounted in its place, is lifted on top of the gripping part 216 of the walkway, as shown in Figure 2, and its railing post 10 is placed against the railing post 100 of the railing that is already mounted in its place. Consequently, the holes 11 of the respective railing posts coincide with each other. Bolts 12 are inserted into the holes and tightened by nuts 13. The fastening part 44 of the railing post 100 is tightened against the gripping part. Since the fastening part is a screw, it means that the tightening is provided by driving the screw in such a direction that the screw moves towards the gripping part of the walkway.

[0035] It is to be noted that only a few most advantageous embodiments of the invention are described in the above. Thus, it is clear that the invention is not limited to the above-described embodiments, but may be applied in many ways within the frame of the appended claims. The features described in conjunction with the different embodiments may be used in conjunction with other embodiments as well and/or various combinations of the described features may be made within the frame of the basic idea of the invention, if so desired, and if technical feasibility for this exists.

Claims

1. A railing post (10, 10', 10"), in which the first end (12) of the railing post comprises a fastening arrangement (16), by means of which the railing post (10, 10', 10") can be fastened to a counterpart (216), wherein the fastening arrangement (16) comprises a recess (40) extending from the first end (12) of the railing post towards the second end (14) of the railing post, which recess divides the railing post into a first (41) and second (42) support part, and that the first support part (41) comprises a fastening part (44) that is movable towards the second support part (42) substantially in transverse direction with respect to the direction of the recess, **characterized in that** the railing post (10) is formed of a plate structure.

2. A railing post according to claim 1, **characterized in that** the second support part (42) comprises at least two, at a distance from one another arranged support surfaces (42.1, 42.2) oppositely situated with respect to the first support part (41).

3. A railing post according to claim 2, **characterized in that** the first one (42.1) of said at least two support surfaces is arranged in the vicinity of the bottom of the recess and the other one (42.2) in the vicinity of the end of the second support part (42).

4. A railing post according to anyone of the preceding claims 1, 2 or 3, **characterized in that** the fastening part (44) is placed in the longitudinal direction of the railing post (10, 10', 10") so that the second support part (42) extends from the bottom of the recess (40) further away than the fastening part (44).

5. A railing post according to claim 4, **characterized in that** the distance the second support part (42) extends from the bottom of the recess is substantially twice as long as the distance of the fastening part (44) from recess bottom.

6. A railing post according to claim 1, **characterized in that** the fastening part (44) comprises a screw or the like (44) essentially in transverse direction with respect to the direction of the recess (40).

7. A railing post according to claim 1 or 6, **characterized in that** the fastening part (44) is arranged in the first support part (41) on the side facing the recess (40).

8. A railing post according to claim 1, **characterized in that** a length (20) of the cross-section of the railing post (10, 10', 10") is at least five times the thickness (18) of the cross-section.

9. A railing (100) comprising at least two railing posts and at least one handrail (50) fastened to the railing posts, **characterized in that** the railing post is a railing post (10, 10', 10") according to anyone of the preceding claims.

10. A railing according to claim 9, **characterized in that** the railing assembly (100) comprises several railings (100) arranged successively, and that the sections are fastened to one another by means of the railing posts (10, 10', 10").

11. A walkway arrangement (200) for a fibre-web machine comprising a walkway (210) that can be supported onto the fibre-web machine and a railing (100) arranged in conjunction therewith, **characterized in that** the railing is a railing according to claim 9, and that a gripping part (216) is arranged at least at one

longitudinal edge of the walkway for fastening the railing (100) to the walkway, and that the gripping part (216) of the walkway is arranged in the recess (40) of the fastening arrangement (16) for the railing post.

Patentansprüche

1. Geländerpfosten (10, 10', 10"), bei dem das erste Ende (12) des Geländerpfostens eine Befestigungsanordnung (16) aufweist, mittels derer der Geländerpfosten (10, 10', 10") an einem Gegenstück (216) befestigbar ist, wobei die Befestigungsanordnung (16) eine Ausnehmung (40) aufweist, die sich von dem ersten Ende (12) des Geländerpfostens in Richtung auf das zweite Ende (14) des Geländerpfostens erstreckt, wobei die Ausnehmung den Geländerpfosten in ein erstes (41) und zweites (42) Stützteil aufteilt und dass das erste Stützteil (41) ein Befestigungsteil (44) aufweist, das in Richtung des zweiten Stützteils (42) im Wesentlichen in Querrichtung bezüglich der Richtung der Ausnehmung bewegbar ist, **dadurch gekennzeichnet, dass** der Geländerpfosten (10) aus einer Plattenstruktur gebildet ist.

2. Geländerpfosten nach Anspruch 1, **dadurch gekennzeichnet, dass** das zweite Stützteil (42) mindestens zwei im Abstand voneinander angeordnete Stützflächen (42.1, 42.2) aufweist, die dem ersten Stützteil (41) gegenüberliegen.

3. Geländerpfosten nach Anspruch 2, **dadurch gekennzeichnet, dass** die erste (42.1) der mindestens zwei Stützflächen in der Nähe des Bodens der Ausnehmung angeordnet ist und die andere (42.2) in der Nähe des Endes des zweiten Stützteils (42) angeordnet ist.

4. Geländerpfosten nach einem der vorhergehenden Ansprüche 1, 2 oder 3, **dadurch gekennzeichnet, dass** das Befestigungsteil (44) in Längsrichtung des Geländerpfostens (10, 10', 10") angeordnet ist, so dass sich das zweite Stützteil (42) vom Boden der Ausnehmung (40) weiter weg erstreckt als das Befestigungsteil (44).

5. Geländerpfosten nach Anspruch 4, **dadurch gekennzeichnet, dass** der Abstand den sich das zweite Stützteil (42) vom Boden der Ausnehmung erstreckt im Wesentlichen doppelt so lang ist wie der Abstand des Befestigungsteils (44) vom Ausnehmungsboden.

6. Geländerpfosten nach Anspruch 1, **dadurch gekennzeichnet, dass** das Befestigungsteil (44) eine Schraube oder dergleichen (44) hat, die im Wesentlichen in Querrichtung bezüglich der Richtung der Ausnehmung (40) ist.

7. Geländerpfosten nach Anspruch 1 oder 6, **dadurch gekennzeichnet, dass** das Befestigungsteil (44) in dem ersten Stützteil (41) auf der der Ausnehmung (40) zugewandten Seite angeordnet ist.

8. Geländerpfosten nach Anspruch 1, **dadurch gekennzeichnet, dass** eine Länge (20) des Querschnitts des Geländerpfostens (10, 10', 10") mindestens das Fünffache der Dicke (18) des Querschnitts ist.

9. Geländer (100) mit mindestens zwei Geländerpfosten und mindestens einem an den Geländerpfosten befestigten Handlauf (50), **dadurch gekennzeichnet, dass** der Geländerpfosten ein Geländerpfosten (10, 10', 10") gemäß einem der vorhergehenden Ansprüche ist.

10. Geländer nach Anspruch 9, **dadurch gekennzeichnet, dass** die Geländerbaugruppe (100) mehrere aufeinanderfolgend angeordnete Geländer (100) aufweist und dass die Abschnitte mittels der Geländerpfosten (10, 10', 10") aneinander befestigt sind.

11. Laufsteganordnung (200) für eine Faserbahnmaschine mit einem auf die Faserbahnmaschine abstützbaren Laufsteg (210) und einem damit zusammenhängend angeordneten Geländer (100), **dadurch gekennzeichnet, dass** das Geländer ein Geländer nach Anspruch 9 ist und dass ein Klemmteil (216) mindestens an einer Längskante des Laufstegs angeordnet ist, um das Geländer (100) an dem Laufsteg zu befestigen, und dass das Klemmteil (216) des Laufstegs in der Ausnehmung (40) der Befestigungsanordnung (16) für den Geländerpfosten angeordnet ist.

Revendications

1. Poteau pour garde-corps (10, 10', 10"), dans lequel la première extrémité (12) du poteau pour garde-corps comprend un agencement de fixation (16), au moyen duquel le poteau pour garde-corps (10, 10', 10") peut être fixé à une contre partie (216), dans lequel l'agencement de fixation (16) comprend un évidement (40) s'étendant à partir de la première extrémité (12) du poteau pour garde-corps vers la seconde extrémité (14) du poteau pour garde-corps, lequel évidement divise le poteau pour garde-corps en une première (41) et en une seconde (42) partie de support, et en ce que la première partie de support (41) comprend une partie de fixation (44) qui est mobile vers la seconde partie de support (42) sensiblement dans la direction transversale par rapport à la direction de l'évidement, **caractérisé en ce que** le

poteau pour garde-corps (10) est formé avec une structure de plaque.

2. Poteau pour garde-corps selon la revendication 1, **caractérisé en ce que** la seconde partie de support (42) comprend au moins deux surfaces de support (42.1, 42.2) agencées à une distance l'une de l'autre, située à l'opposé par rapport à la première partie de support (41).

3. Poteau pour garde-corps selon la revendication 2, **caractérisé en ce que** la première (42.1) desdites au moins deux surfaces de support, est agencée à proximité du fond de l'évidement et l'autre (42.2) à proximité de l'extrémité de la seconde partie de support (42).

4. Poteau pour garde-corps selon l'une quelconque des revendications 1, 2 ou 3, **caractérisé en ce que** la partie de fixation (44) est placée dans la direction longitudinale du poteau pour garde-corps (10, 10', 10"), de sorte que la seconde partie de support (42) s'étend à partir du fond de l'évidement (40) plus à distance que la partie de fixation (44).

5. Poteau pour garde-corps selon la revendication 4, **caractérisé en ce que** la distance sur laquelle la seconde partie de support (42) s'étend à partir du fond de l'évidement, est sensiblement deux fois plus longue que la distance de la partie de fixation (44) du fond de l'évidement.

6. Poteau pour garde-corps selon la revendication 1, **caractérisé en ce que** la partie de fixation (44) comprend une vis ou similaire (44) essentiellement dans la direction transversale par rapport à la direction de l'évidement (40).

7. Poteau pour garde-corps selon la revendication 1 ou 6, **caractérisé en ce que** la partie de fixation (44) est agencée dans la première partie de support (41) sur le côté faisant face à l'évidement (40).

8. Poteau pour garde-corps selon la revendication 1, **caractérisé en ce qu'**une longueur (20) de la section transversale du poteau pour garde-corps (10, 10', 10") représente au moins cinq fois l'épaisseur (18) de la section transversale.

9. Garde-corps (100) comprenant au moins deux poteaux pour garde-corps et au moins une main courante (50) fixée sur les poteaux pour garde-corps, **caractérisé en ce que** le poteau pour garde-corps est un poteau pour garde-corps (10, 10', 10") selon l'une quelconque des revendications précédentes.

10. Garde-corps selon la revendication 9, **caractérisé en ce que** l'ensemble de garde-corps (100) comprend plusieurs garde-corps (100) agencés successivement, et **en ce que** les sections sont fixées entre elles au moyen des poteaux pour garde-corps (10, 10', 10").

11. Agencement de passerelle (200) pour une machine à bande fibreuse comprenant une passerelle (210) qui peut être supportée sur la machine à bande fibreuse et un garde-corps (100) agencé conjointement avec cette dernière, **caractérisé en ce que** le garde-corps est un garde-corps selon la revendication 9, et **en ce qu'**une partie de préhension (216) est agencée au moins au niveau d'un bord longitudinal de la passerelle pour fixer le garde-corps (100) à la passerelle, et **en ce que** la partie de préhension (216) de la passerelle est agencée dans l'évidement (40) de l'agencement de fixation (16) pour le poteau pour garde-corps.

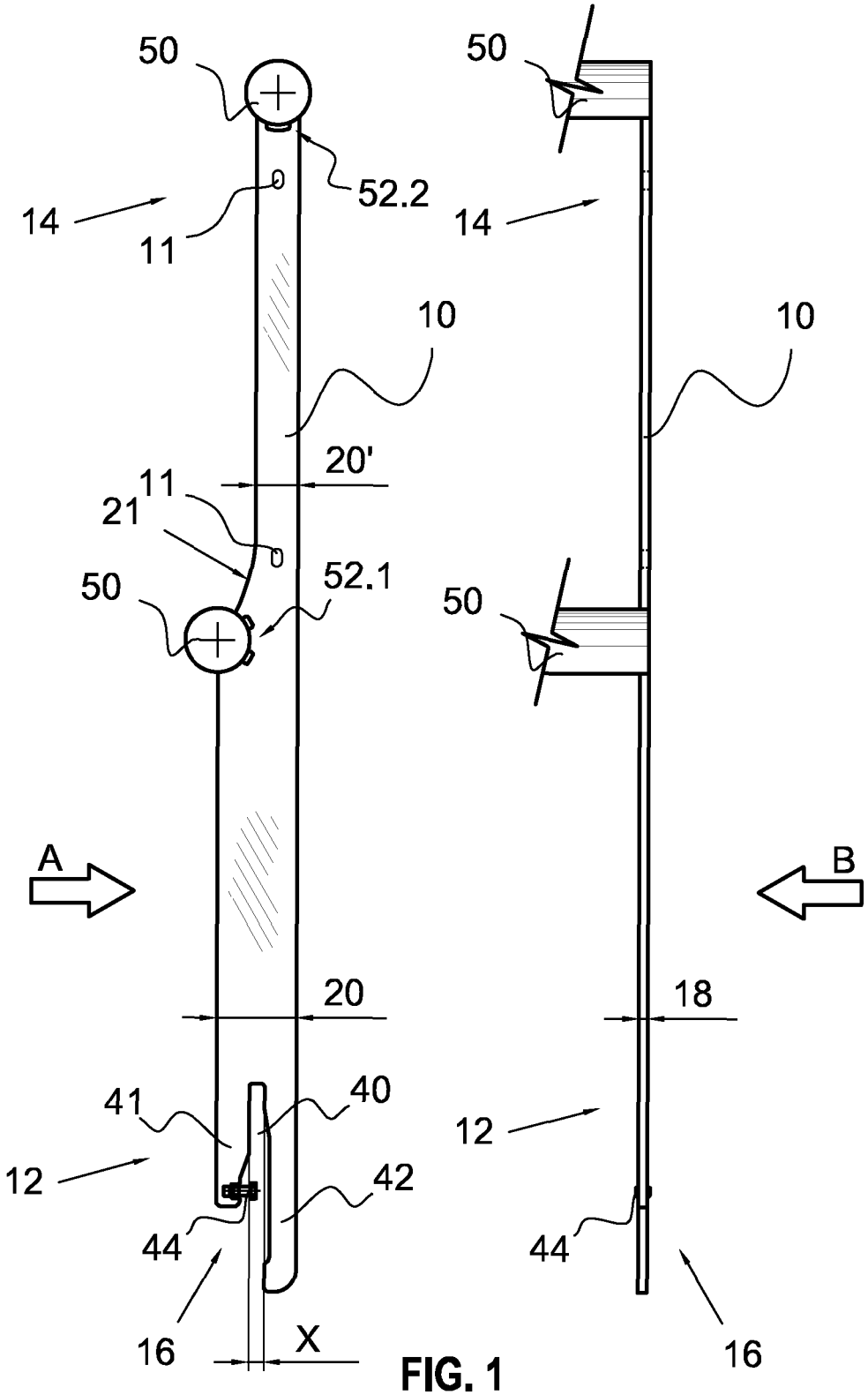

50
52.2
14
11
10
20'
11
21
50
52.1
A
20
41
40
12
42
44
16
X
50
14
10
50
B
18
12
44
16

FIG. 1

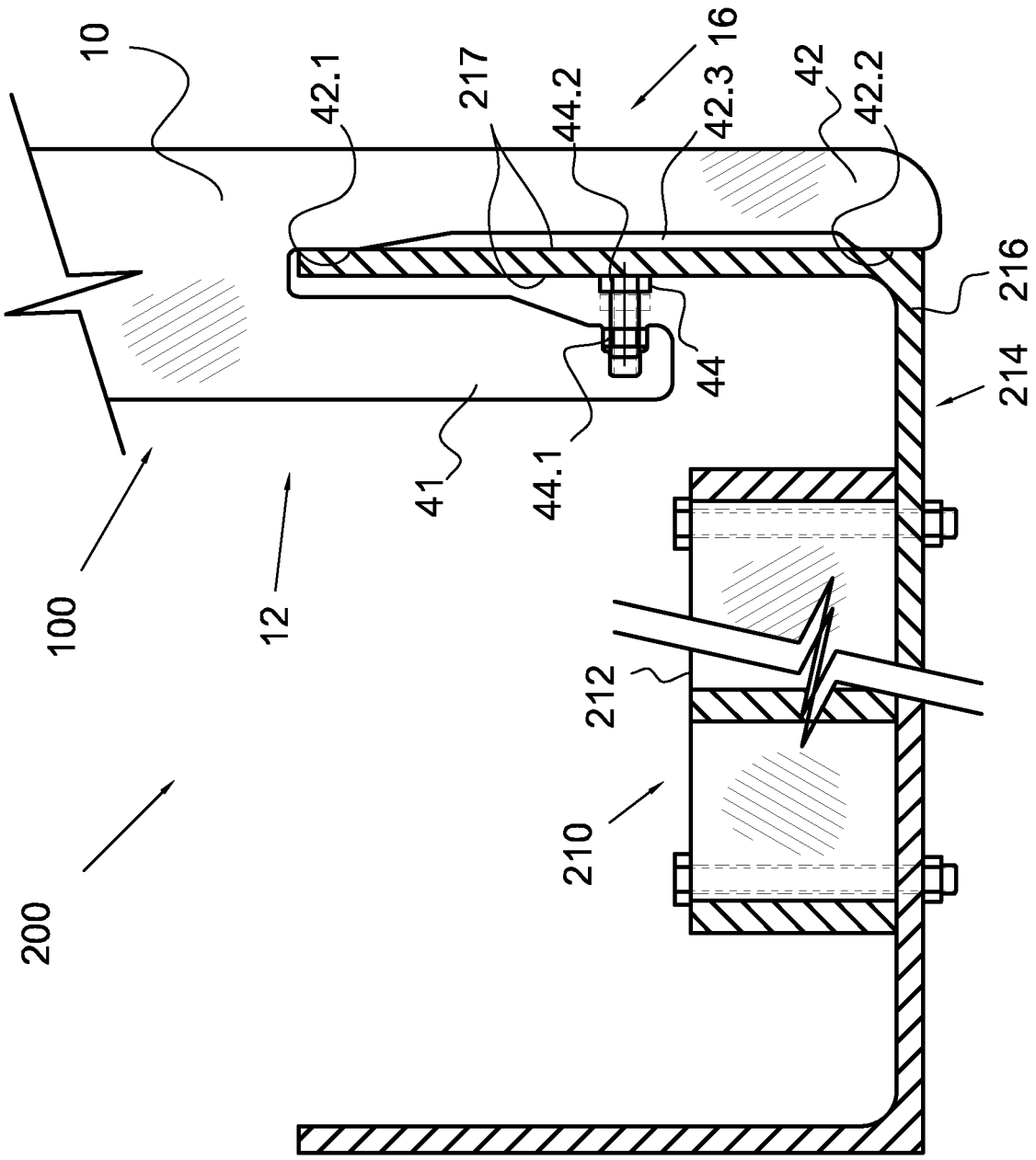


FIG. 2

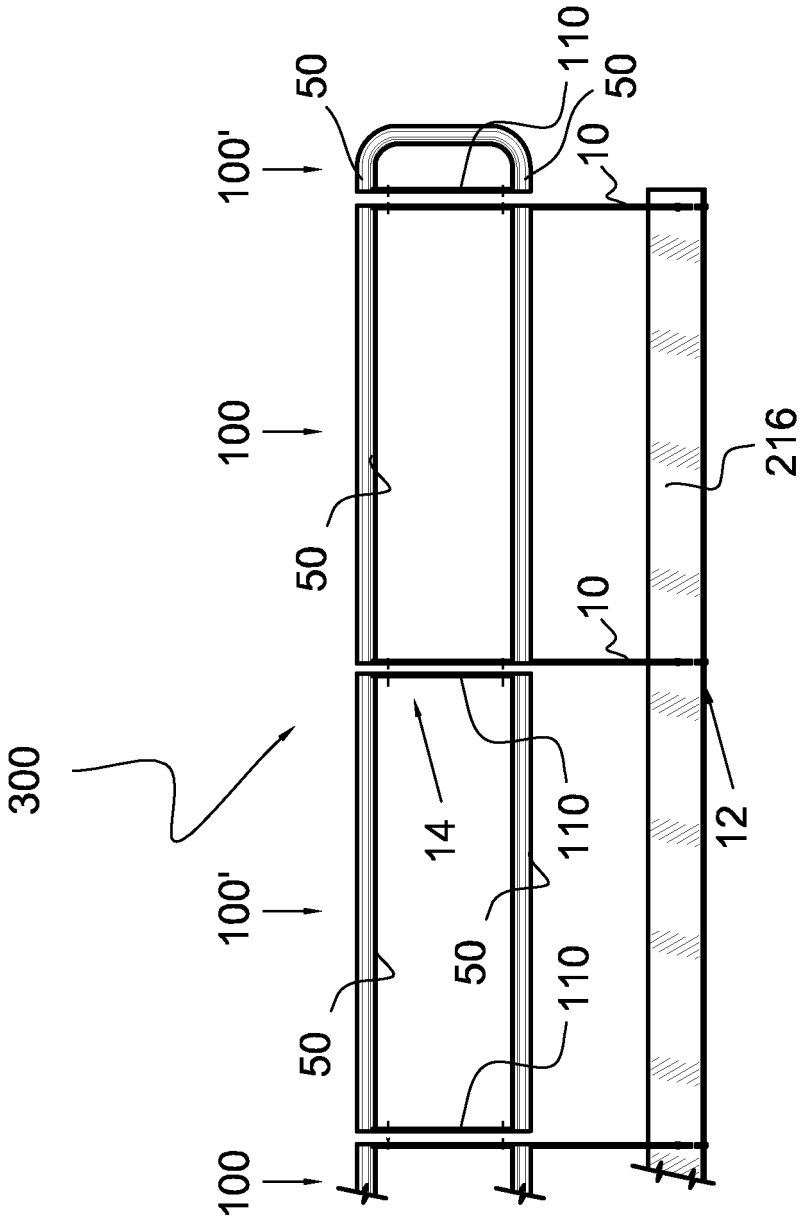


FIG. 3

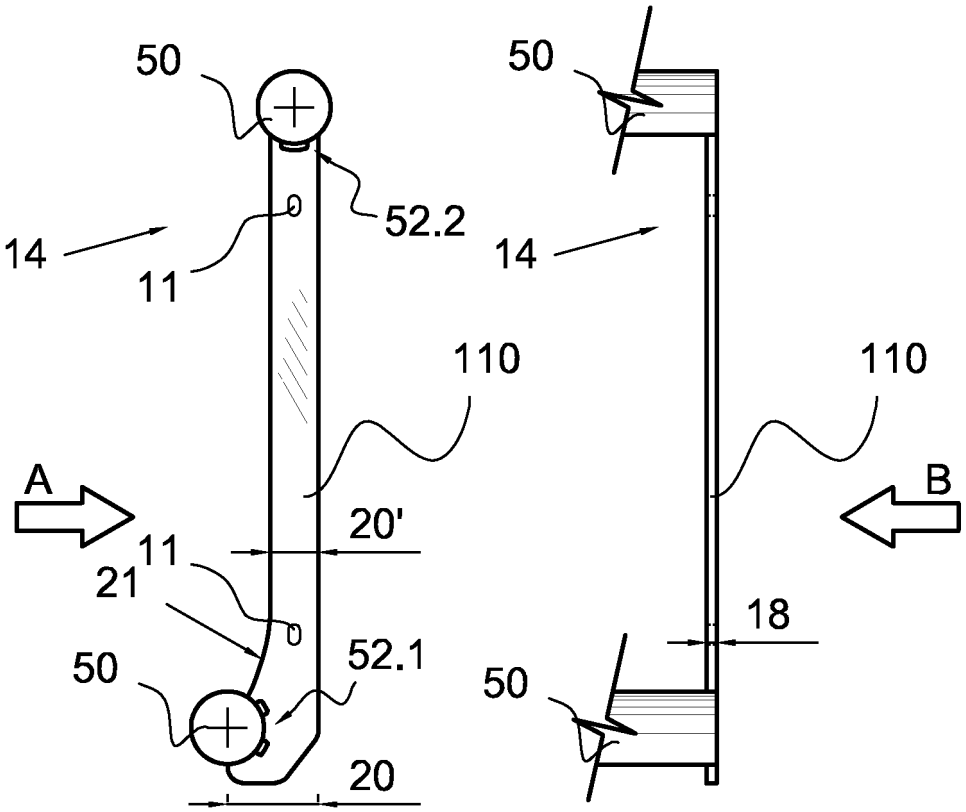


FIG. 4

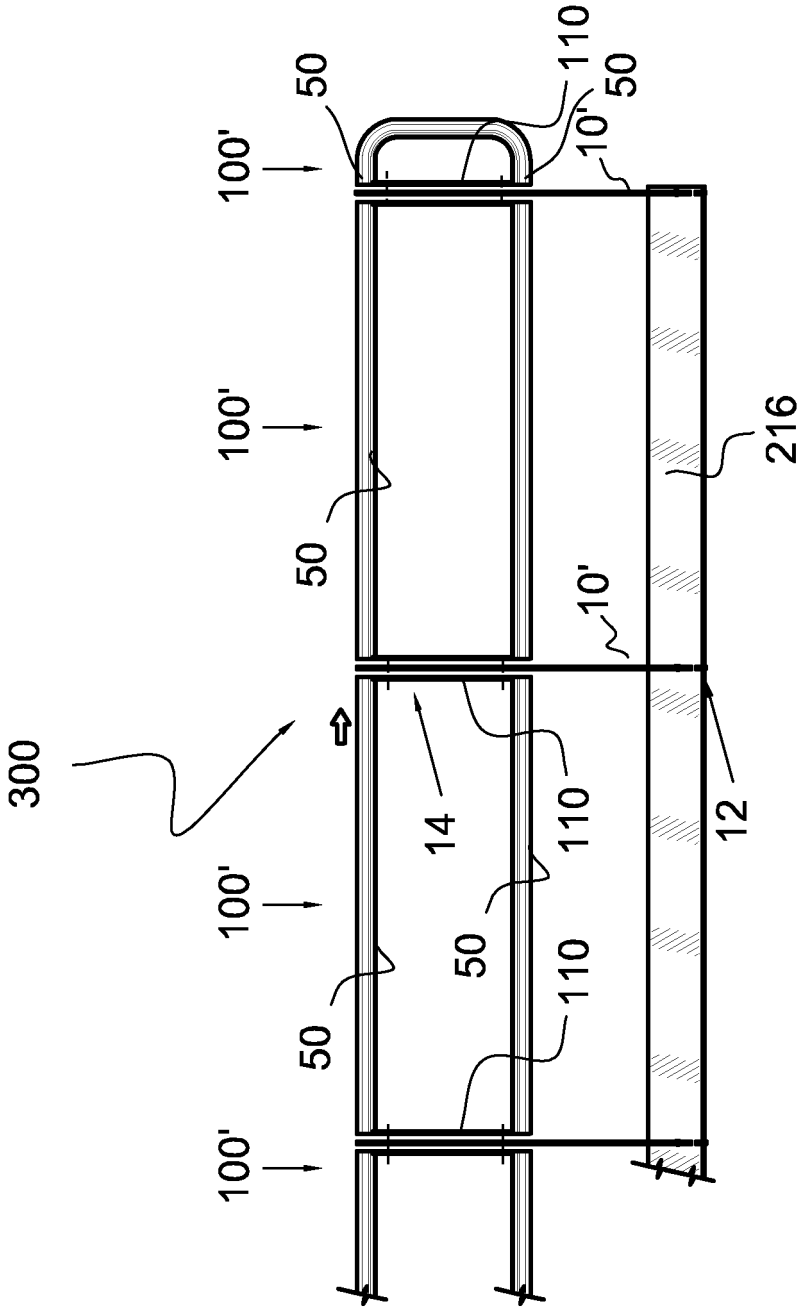


FIG. 5

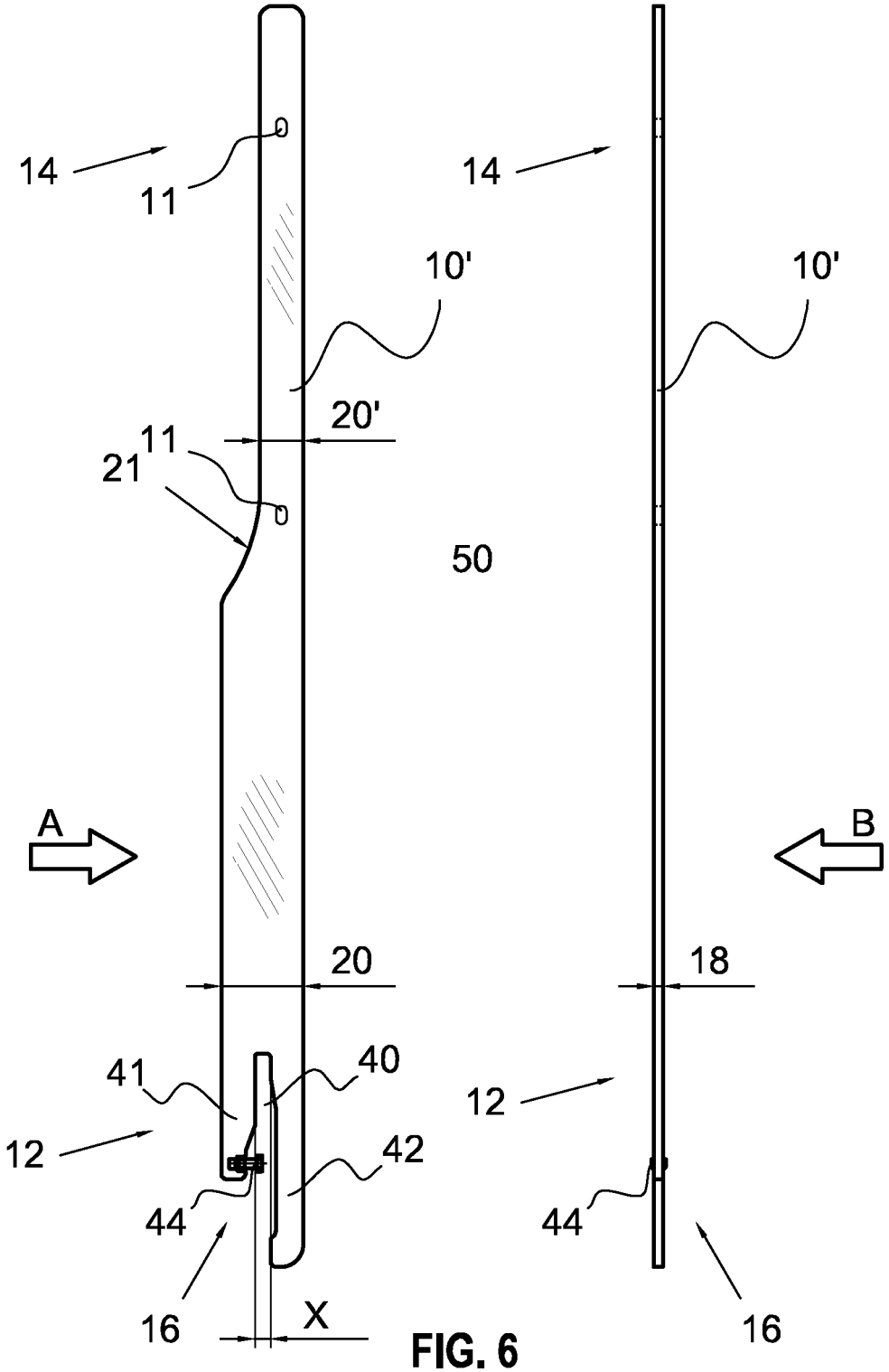


FIG. 6

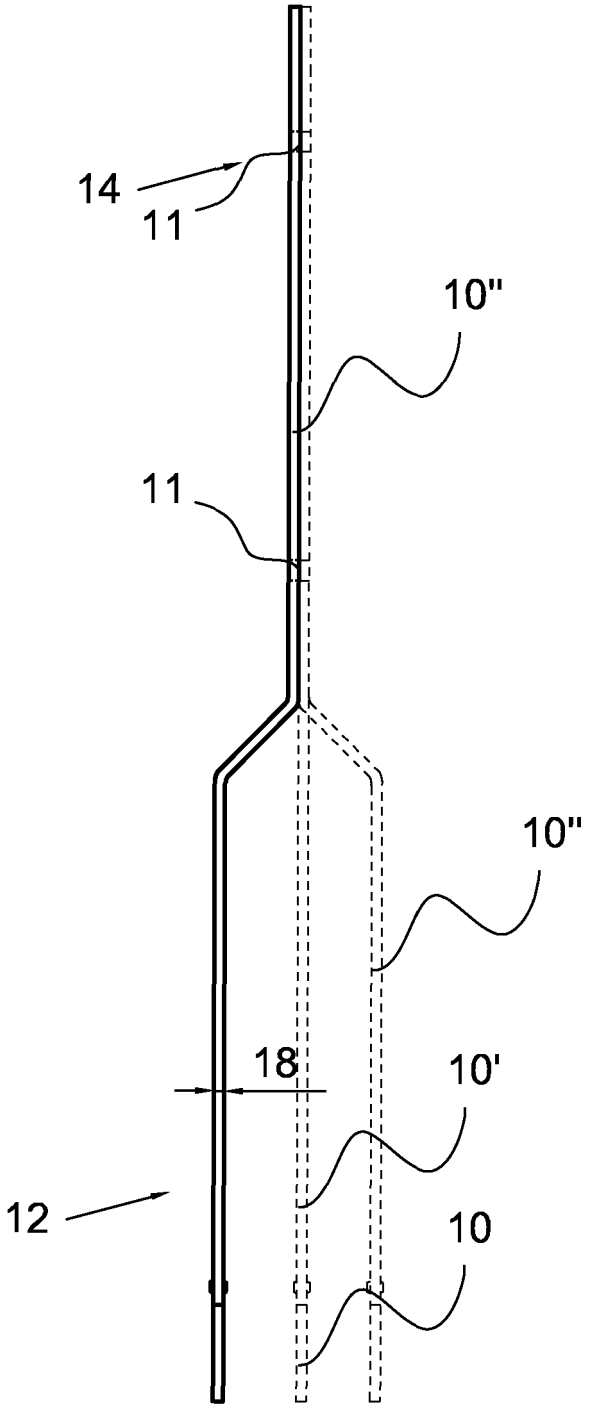


FIG. 7

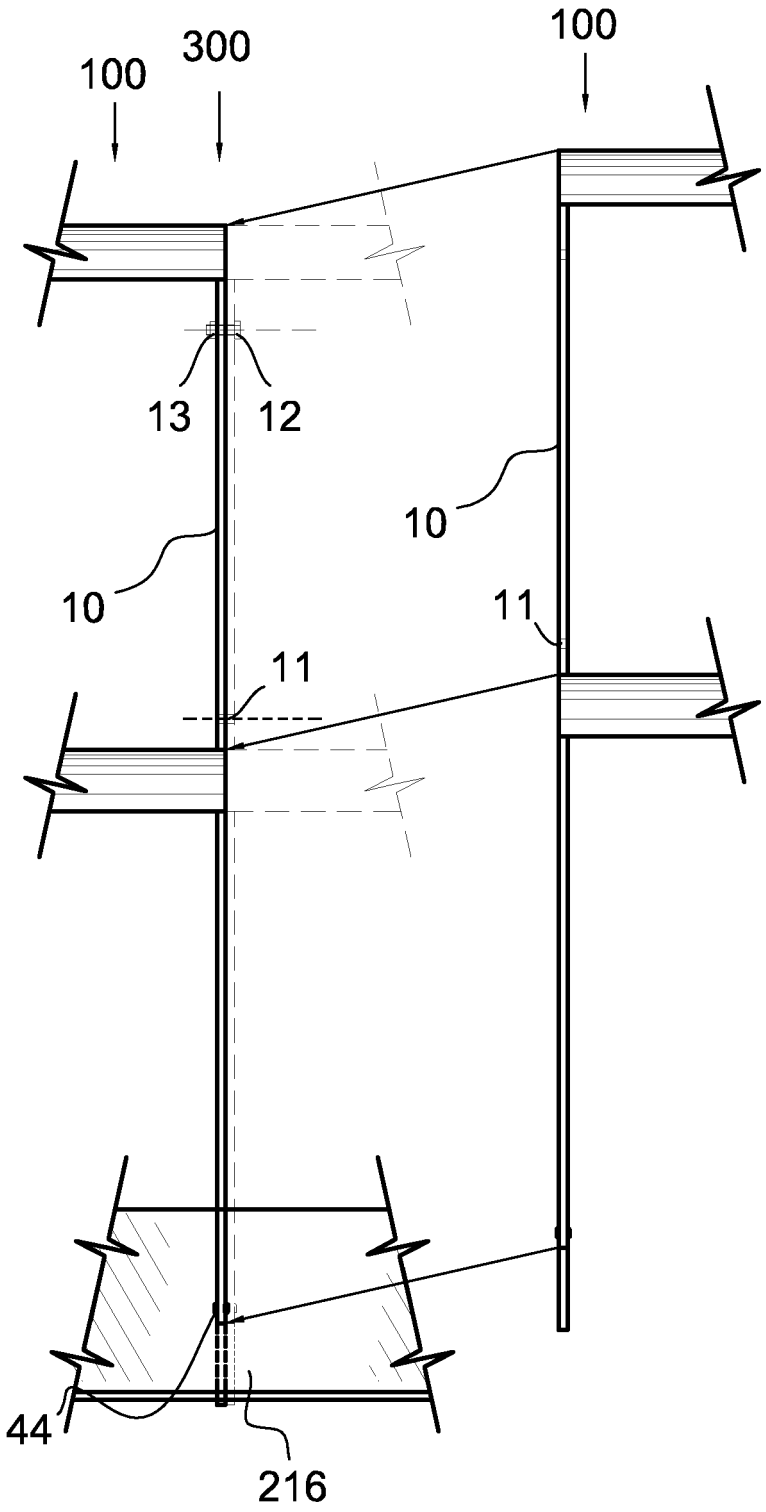


FIG. 8

REFERENCES CITED IN THE DESCRIPTION

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- WO 8202569 A1 **[0005]**