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(54) **Adjustable fence**

(57) The invention relates to a fence (1) for land division, comprising: at least one elongate upright (2) for fixed arrangement; at least one fence part which can be connected to the upright; and a releasably fixable coupling (4) for adjustable connection of the upright and the

fence part. The upright is preferably hollow and comprises at least one elongate passage (6) to the interior of the upright running in longitudinal direction of the upright, and the coupling is adjustable in position along the upright and can be connected through the passage to the interior of the upright.

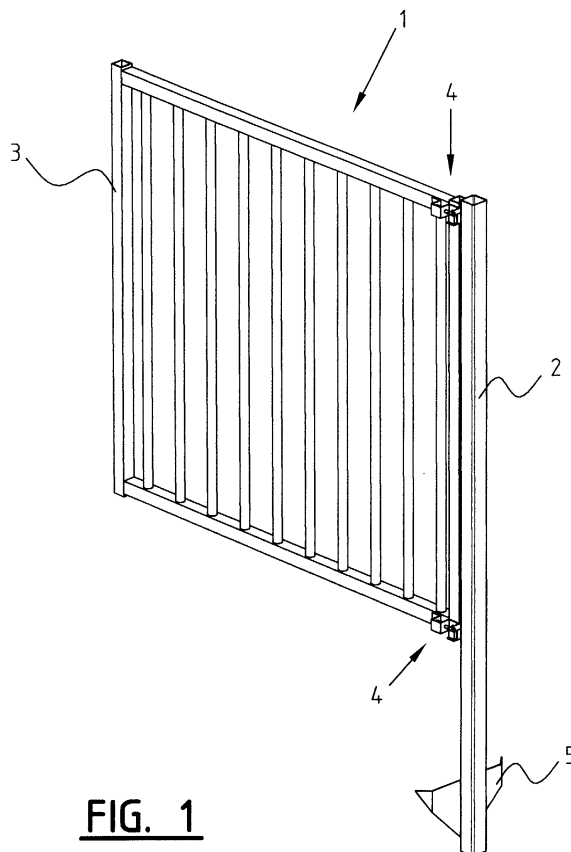


FIG. 1

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Description

[0001] The present invention relates to a fence for land division, comprising a number of elongate uprights for fixed arrangement and at least one fence part which is to be connected to the uprights.

[0002] Such fences are generally known. Here the fence part is usually welded to the upright once the latter has been placed in the ground. For this purpose the upright is sunk into the ground approximately to a desired depth and only then is the fence part fixed to the upright, since only then is it precisely known how deep the upright is actually sunk. The upright is usually anchored in the ground with a heavy concrete foot. A hole of a considerable diameter has to be dug for this purpose, which is heavy work. Compacted earth in the ground is moreover loosened to enable sinking of the concrete foot in the ground and subsequent placing of the upright therein. Owing to the compacted earth being loosened, there is the possible danger, under the influence of the weight of the upright and the concrete foot therefor as well as the weight of the fence part to be arranged on the upright, of the assembly of these components sinking further after assembling thereof. The digging of the necessary hole for sinking the concrete foot to a desired depth is also difficult. The desired height of the fence, free space under the fence part and so on are important factors here.

[0003] No mistakes may subsequently be made during the welding, although this frequently occurs in practice. If a mistake is made in the placing of the fence part and the upright, a weld which has been made must be cut and a new welded connection has to be made. This is laborious. Furthermore, a great deal of time is hereby lost and, if a mistake is made, permanent damage is caused to the exterior of the fence part or the upright.

[0004] The present invention has for its object to obviate or at least alleviate the above stated drawbacks, for which purpose a fence is provided according to the invention which is distinguished by a releasably fixable coupling for adjustable connection of the upright and the fence part. Because the coupling is releasable and no longer has to be welded, mistakes during placing no longer cause the above stated problems. The coupling is simply released, whereafter a mistake in the placing of the fence part in relation to the upright can be easily remedied.

[0005] In a preferred embodiment the upright is hollow and comprises at least one elongate passage to the interior of the upright running in longitudinal direction of the upright, wherein the coupling is adjustable in position along the upright and can be connected through the passage to the interior of the upright. In such an embodiment a considerable part of the coupling is concealed from view, since in mounted state it is situated in the interior of the upright. In such an embodiment of a hollow upright with a passage to the interior, the elongate passage preferably extends to an end of the upright. In such

an embodiment couplings can be prearranged on the upright at the relevant end of the upright to which the passage runs and be shifted along the passage to an approximately desired position. Many separate components do not therefore have to be taken along during transport to the place of destination. The upright can be transported with the couplings already thereon. At the place of destination the couplings can be released and then adjusted for the purpose of arrangement on the fence part. The outer end of the upright to which the passage extends is preferably the underside in use which is placed in the ground. Uprights are usually cast in concrete or provided with a ground anchor, whereby deformation of parts of the upright adjacently of the passage at the outer end can be effectively prevented.

[0006] The closer the passage comes to the relevant end of the upright, the wider it preferably becomes. This has a favourable effect on the convenience with which the couplings can be arranged on the upright. An element of the coupling which has to extend through the passage to engage on the interior of the upright and connect to the fence part outside it, is thus guided as it were to the narrower part of the passage without very accurate alignment when the coupling is displaced from the relevant outer end in the direction of the other outer end.

[0007] In an embodiment with an upright having a passage, the upright can be formed by a standard profile with a slotted hole arranged in the longitudinal direction thereof and forming the passage. This is a very favourable embodiment, particularly from a cost viewpoint, because use is made of a standard profile. For the arrangement of such a slotted hole it is also advantageous when such a standard profile has a rectangular cross-section, since the arrangement of slotted holes in for instance standard profiles of circular cross-section can encounter fixation problems during the arranging of such a slotted hole. The round standard profiles may tend to roll away, particularly under the influence of the tool with which the slotted hole is made.

[0008] Particularly, though not exclusively, in the case of a standard profile, it may be favourable to have the slotted hole not run all the way to the outer ends of the upright. The passage does not therefore extend here wholly to the outer ends of the upright. A greater strength can be realized at the ends of the upright in such a manner. Provisions will however then have to be made to place a part of a coupling in the interior of the hollow upright, for which purpose use can for instance be made of a widened part of the passage somewhere at a location along the length thereof. A coupling part to be arranged in the interior of the upright can then be placed into the interior of the upright at the widened part, whereafter the coupling can be shifted with the coupling part in the interior of the upright to an in any case approximately desired position along the length of the upright, whereafter the coupling can be fixed.

[0009] In a very favourable embodiment the coupling forms a hinge. Such a fence can be hung accurately pre-

cisely because of the adjustment options of the coupling according to the invention.

[0010] The coupling can comprise a tensioning mechanism for connection to the upright. Preferably, and in an embodiment with an upright with a passage, the tensioning mechanism can comprise a screw plate for placing in the interior of the upright and an associated screw which extends through the passage. By tightening the screw in the screw plate the screw plate is anchored in the interior of the upright. This is a very simple and elegant manner of bringing about engaging of the coupling on the upright. The coupling preferably comprises adjustable engaging means for connection of the fence part thereto, with which the position of the fence part in relation to the upright can be adjusted when it is mounted thereon. Particularly when the coupling according to the invention is used as hinge this is a favourable measure because the fence part can be hung in a manner comparable to a door. In a very simple and elegant embodiment, the engaging means comprise an adjustable screw connection.

[0011] In an alternative embodiment the coupling can engage on the exterior of the upright. The advantage hereof is that no measures have to be applied to conventional uprights, such as the above described passage, for the purpose of the coupling.

[0012] In a further embodiment of the present invention, the use of a concrete block as anchor on the upright can be dispensed with by arranging on the upright an anchor designed as ground plate. With great preference such a ground plate or anchor plate is arranged on the upright in similar manner to the coupling which also serves to connect the fence part to the upright. In embodiments with a passage in the upright, account will thus have to be taken here of the distance over which the passage extends, also to a level lower than the eventual ground surface, so that it also extends thereunder to enable connection of the ground plate in a manner similar to the coupling to the upright.

[0013] It is noted that the present invention relates not only to a mounted fence but also includes couplings, uprights and fence parts individually such as can be used to assemble a fence according to the invention.

[0014] The invention will be further elucidated hereinbelow with reference to the description of an embodiment shown in the drawing, in which:

fig. 1 shows schematically a perspective view of a fence according to the present invention;

fig. 2 shows in perspective view a detail of the fence of fig. 1;

fig. 3 is a view corresponding with fig. 2 in exploded state; and

fig. 4 shows an embodiment which is an alternative to the design shown in fig. 2 of the access to the passage.

[0015] The fence 1 shown in fig. 1 comprises an up-

right 2 and a fence part 3. Fence part 3 is connected to upright 2 by means of two couplings 4.

[0016] Upright 2 is provided on the underside with a ground anchor 5. This serves to increase the stability of upright 2 in the situation where it is sunk into the ground.

[0017] Fig. 2 shows a detail of fig. 1, particularly of one of the two couplings 4 of fig. 1. Fig. 3 is an exploded view.

[0018] Upright 2 is of rectangular cross-section and in one side of upright 2 is arranged a passage 6 extending over almost the full length of upright 2. It is noted that passage 6 widens to a certain extent toward the lower end of the upright 2. It hereby becomes easier to arrange couplings 4 on upright 2.

[0019] In the embodiment shown here the couplings 4 are designed such that they engage the interior of upright 2 through passage 6. In the mounted position a screw plate 7 is situated for this purpose in the interior of upright 2 behind passage 6. On the outer side of upright 2 a fork 8 can be connected against the side thereof with the passage 6 to the screw plate 7 by means of a bolt 9 or similar connecting means, which then extends through passage 6 in the assembled state. A hinge block 11 is arranged between legs 10 of fork 8. Situated above and below hinge block 11 are bushes 12 with which the hinge function is realized. A threaded end 14 is screwed into a screw hole 13 of hinge block 11. Threaded end 14 extends to a bracket 15 which is mounted on fence part 3 or can be mounted thereon. In bracket 15 is arranged a nut 16 which is in screwing engagement on the threaded end 14. The distance between upright 2 and fence part 3 can be adjusted at the relevant coupling 4 by rotating the nut 16. Fence part 3 can thus be hung in comparable manner to a door.

[0020] Fig. 4 shows an alternative to the configuration at the bottom of fig. 2 for arranging a coupling 4 on upright 2. For this purpose the passage 6 is provided with a widened portion 17. Here too the coupling 4 comprises a screw plate 7 with a screw hole 18 in which bolt 9 can engage. While bolt 9 is screwed loosely into screw hole 18, screw plate 7 is placed through widened portion 17 into the interior of upright 2, this being indicated with arrow A. As already described above, coupling 4 further comprises fork 8, of which a body 19 forms part. When screw plate 7 is carried through the widened portion 17 into the interior of the upright, the body 19 is held outside the upright 2, for instance because body 19 is larger than the dimensions of widened portion 17. With the body 19 and fork 8 of coupling 4 outside upright 2 and screw plate 7 in the interior thereof, coupling 4 can then be displaced along upright 2 while bolt 9 protrudes through passage 6.

[0021] It is noted that anchor plate 5, also referred to as ground plate, can be arranged on upright 2 in similar manner with a screw plate in the interior of upright 2. The fork 8 is here simply replaced as component of the coupling by the anchor plate shown in fig. 1. In other words, the legs 10 are then omitted, whereby only the

body 19 remains, which can be chosen larger to correspond with the anchor plate shown in fig. 1.

[0022] It will be clearly apparent to a skilled person after examination of the foregoing that the invention relates not only to the specifically described embodiment shown in the annexed figures but also to alternative and additional variants inasmuch as these lie within the range of the scope of protection defined in the appended claims. It is thus possible that the releasable coupling does not engage on the upright in the interior but acts on the outer side thereof. The coupling does not necessarily have to form a hinge as well, but can also be a fixed connection between the upright and the fence part. The upright can take forms other than the rectangular one shown in the figures. The upright can have a round form. The passage is preferably wider to a predetermined extent than the thickness of the bolt which extends therethrough to connect the fork and the screw plate, so that a lateral adjustment option is also created relative to the longitudinal direction of the upright. Passage 6 can also extend over the full length of the upright. Careful account does however have to be taken here of the material strength, so that upright 2 will not deform on the side of the passage under the influence of the weight of the fence part hanging thereon.

Claims

1. Fence for land division, comprising: at least one elongate upright for fixed arrangement; at least one fence part which can be connected to the upright; and a releasably fixable coupling for adjustable connection of the upright and the fence part.
2. Fence as claimed in claim 1, wherein the upright is hollow and comprises at least one elongate passage to the interior of the upright running in longitudinal direction of the upright, and the coupling is adjustable in position along the upright and can be connected through the passage to the interior of the upright.
3. Fence as claimed in claim 2, wherein the elongate passage extends to an outer end of the upright.
4. Fence as claimed in claim 3, wherein in the set up position the upright has a top and a bottom side, and the elongate passage extends into the bottom side to be sunk into the ground.
5. Fence as claimed in claim 3 or 4, wherein the passage is wider in the vicinity of the outer end than at a distance therefrom.
6. Fence as claimed in any of the foregoing claims 2-5, wherein the upright is formed by a standard profile with a slotted hole arranged in the longitudinal direction and forming the passage.
7. Fence as claimed in claim 2 or claims 2 and 6, wherein the passage does not extend wholly to the outer ends of the upright.
8. Fence as claimed in claim 7, wherein the passage has a widened portion at a location along the length thereof with dimensions corresponding with a coupling part for positioning in the upright, which coupling part is wider than the passage at any location other than the widened portion.
9. Fence as claimed in any of the foregoing claims, wherein the coupling forms a hinge.
10. Fence as claimed in any of the foregoing claims, wherein the coupling comprises a tensioning mechanism for connection to the upright.
11. Fence as claimed in claim 10 and any of the claims 2-5, wherein the tensioning mechanism comprises a screw plate for placing in the interior, an outer part and an associated screw which extends through the passage with which the upright can be clamped at the passage between the outer part and the screw plate.
12. Fence as claimed in claims 8 and 11, wherein the screw plate forms the coupling part.
13. Fence as claimed in any of the foregoing claims, wherein the coupling comprises adjustable engaging means for connection of the fence part thereto, with which the position of the fence part in relation to the upright can be adjusted in the position mounted thereon.
14. Fence as claimed in claim 10, wherein the engaging means comprise an adjustable screw connection.
15. Fence as claimed in any of the foregoing claims, wherein the coupling engages on the exterior of the upright.
16. Fence as claimed in any of the foregoing claims, wherein an anchor to be designed as ground plate can be arranged on the upright.
17. Fence as claimed in claim 16 and any of the claims 2-14, wherein the ground plate can be arranged on the upright in similar manner to the coupling.
18. Coupling for a fence as claimed in any of the foregoing claims.
19. Upright for a fence as claimed in any of the foregoing claims 1-5.

20. Fence part for a fence as claimed in claim 11 or 13, comprising adjusting means co-acting with the engaging means of the coupling.

21. Fence part as claimed in claim 20, wherein the adjusting means comprise a screw hole.

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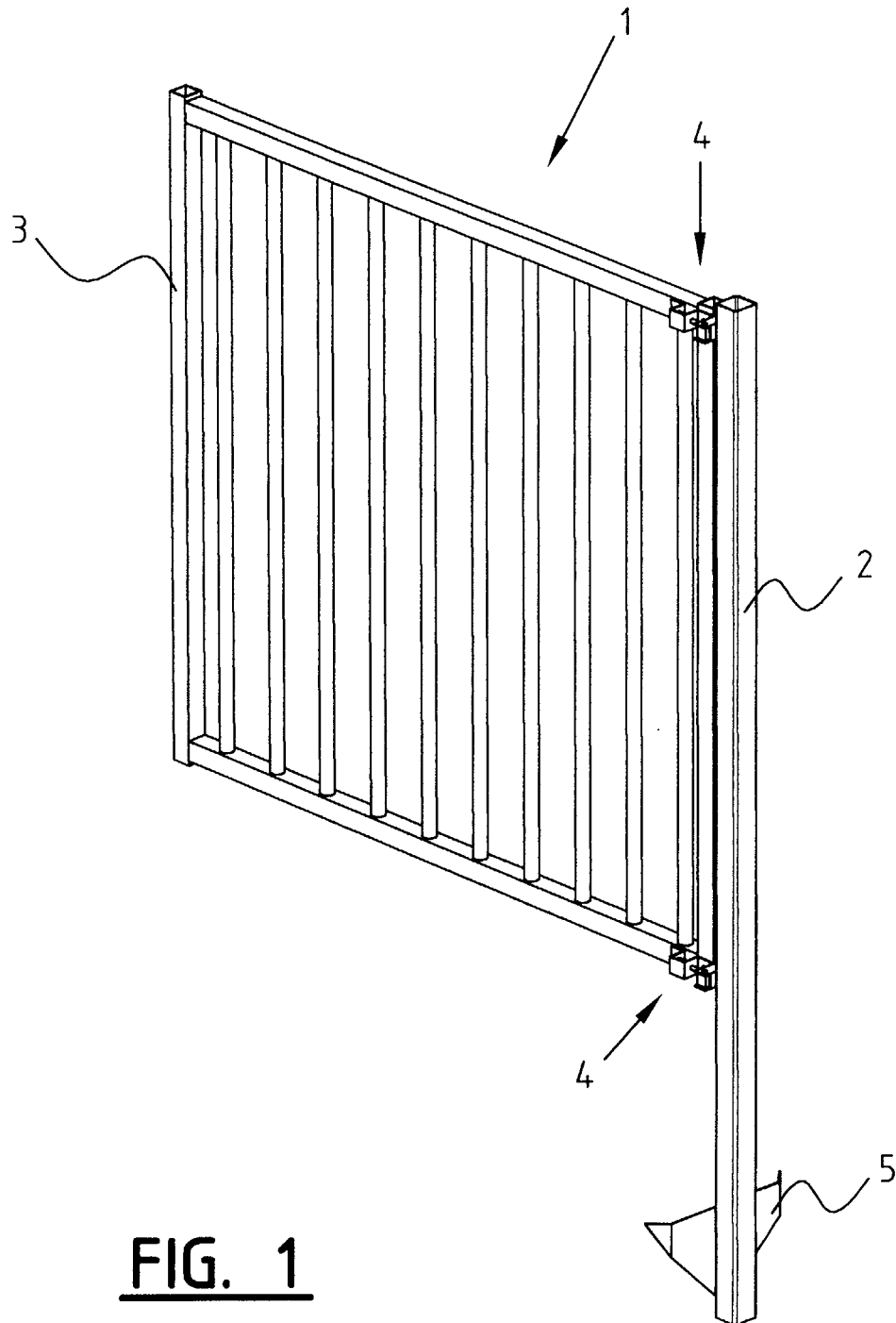


FIG. 1

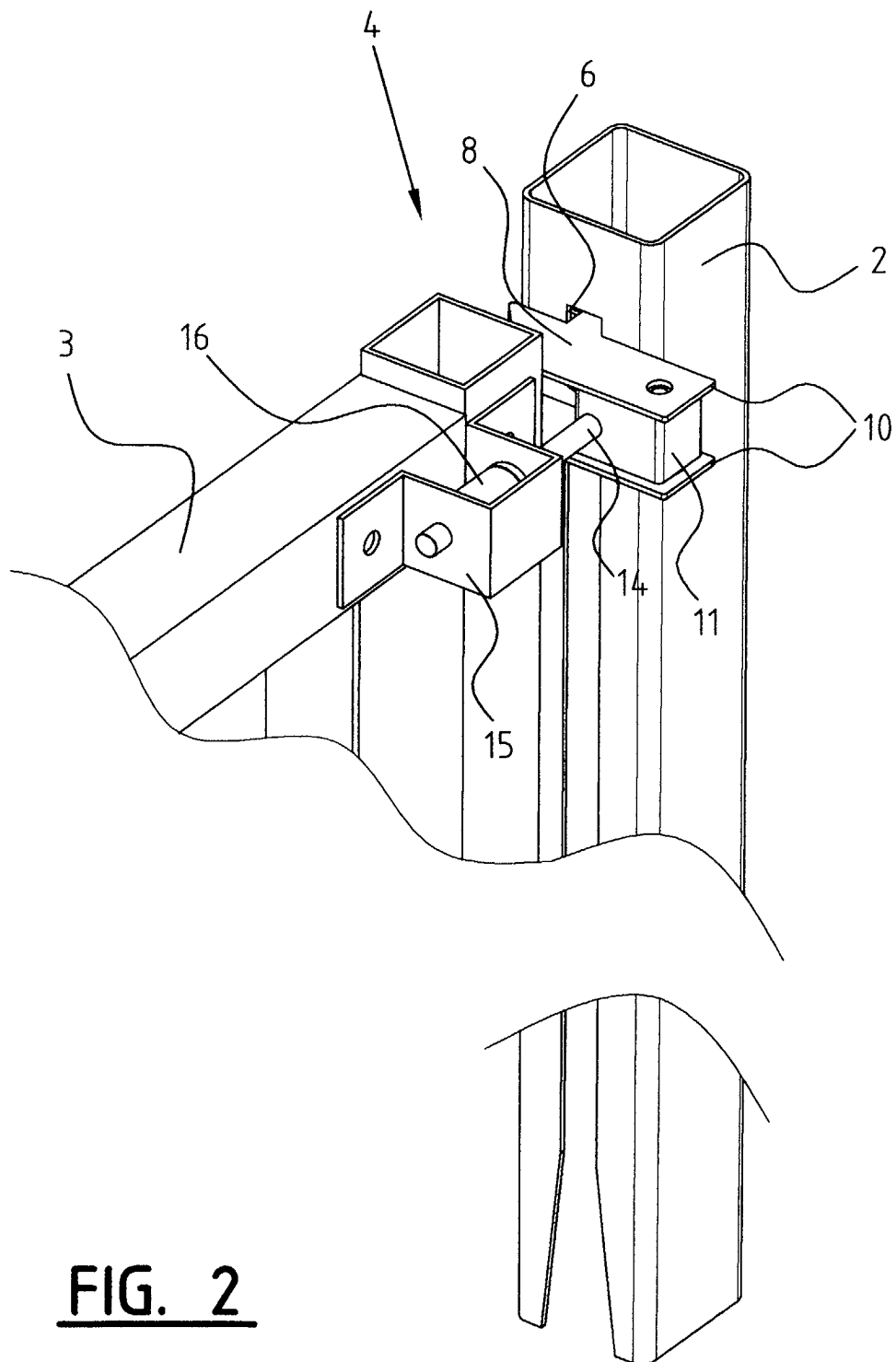


FIG. 2

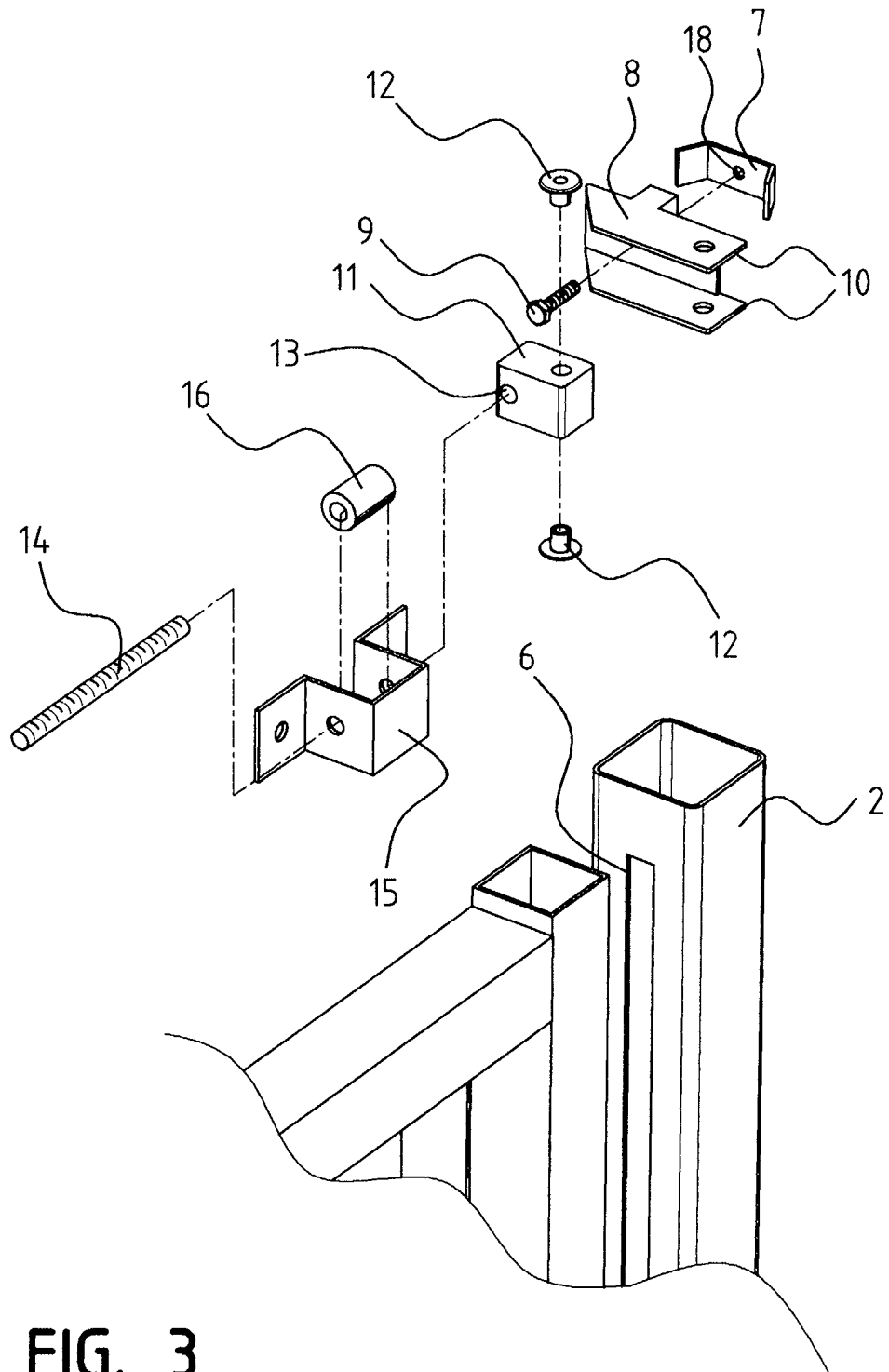


FIG. 3

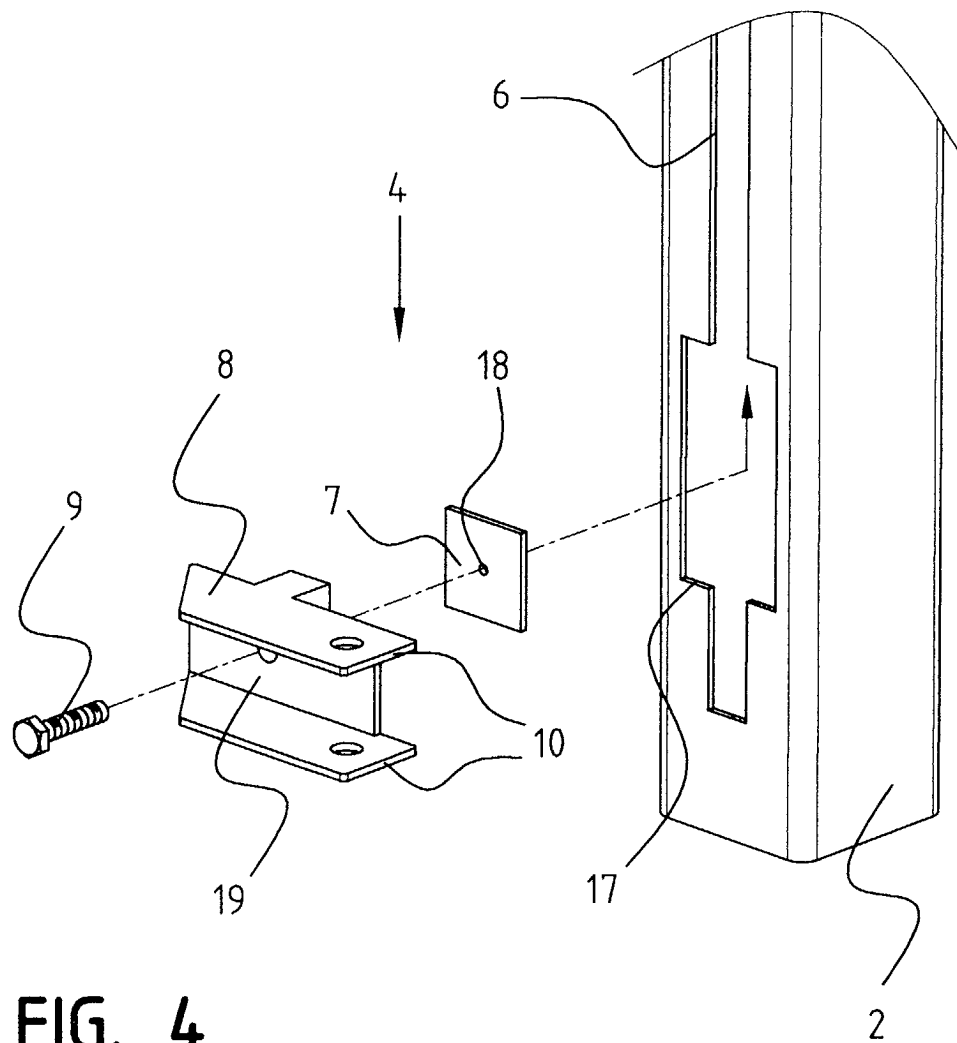


FIG. 4