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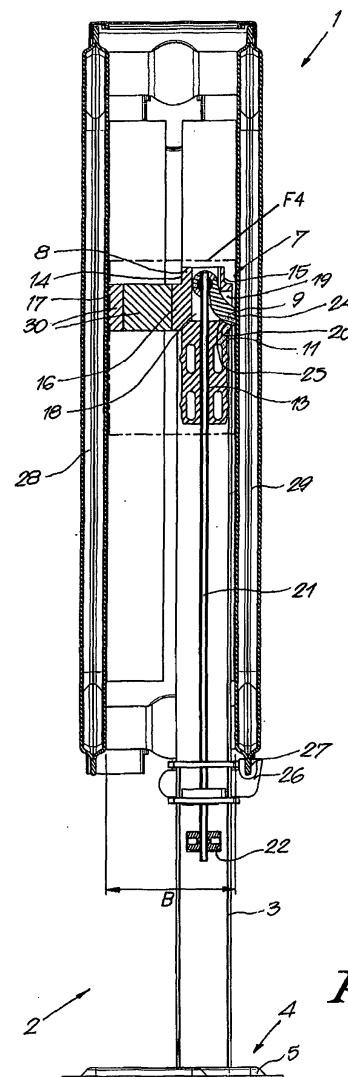
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AL BA HR MK YU(30) Priority: **17.02.2006 BE 200600097**(71) Applicant: **Rofix N.V.****3650 Dilsen-Stokkem (BE)**(72) Inventor: **Vaessen, Rob****3650 Dilsen-Stokkem (BE)**(74) Representative: **Donné, Eddy****Bureau M.F.J. Bockstael nv
Arenbergstraat 13
2000 Antwerpen (BE)****(54) Radiator support**

(57) Radiator support which mainly consists of a rod (3) provided with means (4) on one far end which make it possible to anchor the rod (3) in a wall or floor, whereas the other far end (11) of the rod (3) is provided with clamping means (7) which make it possible to clamp this far end (11) of the rod (3) between the walls of a radiator (1), characterised in that the above-mentioned clamping means (7) are formed of a body (8) having a first stop surface (17) on a first side of the rod (3), and a pawl (9) which can turn in relation to the body (8) and having a second stop surface (24) on an opposite side of the rod (3), and in that the support (2) is provided with means which make it possible to turn the above-mentioned pawl (9) and thus alter the distance (A) between the above-mentioned stop surfaces (17,24) so as to clamp the rod (3) between the walls of a radiator (1).

**Fig.3****EP 1 821 040 A2**

Description

[0001] The present invention concerns a radiator support.

[0002] In particular, the present invention concerns a radiator support of the type formed of a rod which is provided with means on one end which make it possible to anchor the rod in a wall or floor, whereas the other far end of the rod is provided with clamping means which make it possible to clamp this far end of the rod between the walls of a radiator.

[0003] A known embodiment of a radiator support of the above-mentioned type comprises a standing rod which is hollow. On the bottom end of the rod, the above-mentioned means are provided which make it possible to anchor the rod in or on a floor or wall, whereas clamping means are provided on the top end of the rod.

[0004] These clamping means mainly consist of a body and a carriage, whereby the body has at least one side wall extending in the longitudinal direction of the rod and which is designed as a first stop surface for clamping the rod between the walls of a radiator.

[0005] The upper side of the body is made oblique and it inclines, in a standing position of the rod, in a direction away from the above-mentioned stopping side wall. The carriage can slide over the upper side of the body and it is provided, on its side directed away from the stopping side wall of the body, with a second stop surface.

[0006] The known radiator also comprises a drive to shift the above-mentioned carriage in relation to the body, as a result of which the distance between the above-mentioned stop surfaces can be altered.

[0007] This drive consists of a threaded rod extending through the standing rod and which is fixed to the carriage. This threaded rod is provided with an adjusting screw at the bottom of the radiator support which can rotate in the rod and which works in conjunction with the above-mentioned threaded rod.

[0008] When screwing down the adjusting screw, the above-mentioned carriage is shifted over the upper side of the body and the distance between the contact surfaces of the clamping means is enlarged, such that the radiator support can be clamped between the walls of a radiator.

[0009] A disadvantage of the above-described known radiator support is that the threaded rod, when screwing down or screwing off the adjusting screw, is tilted somewhat round the latter, since the free end of the threaded rod is fixed to the carriage which is shifted in a slanting manner in relation to the adjusting screw.

[0010] When, for aesthetical reasons, the threaded rod extends through the rod, the tilting of the threaded rod implies that a relatively large space must be provided in this rod, such that thus rod must be dimensioned relatively large.

[0011] Another disadvantage of the known radiator support is that the screw thread of the threaded rod and the adjusting screw can be easily deformed as the thread-

ed rod tilts, such that the mutual rotation of both elements becomes difficult or completely impossible.

[0012] The aim of the present invention is to remedy one or several of the above-mentioned and other disadvantages.

[0013] To this end, the invention concerns a radiator support which mainly consists of a rod provided with means on one end which make it possible to anchor the rod in a wall or floor, whereas the other far end of the rod is provided with clamping means which make it possible to clamp this far end of the rod between the walls of a radiator, whereby the above-mentioned clamping means mainly consist of a body having a first stop surface on a first side of the rod, and a pawl which can rotate in relation to the body and which has a second stop surface on an opposite side of the rod, and whereby the support is provided with means which make it possible to turn the above-mentioned pawl and thus alter the distance between the above-mentioned stop surfaces so as to be able to clamp the rod between the walls of a radiator.

[0014] An advantage of the present invention is that the rod can be clamped between the walls of a radiator by a simple turn of the pawl.

[0015] Another advantage of a radiator support according to the present invention is that it has a relatively simple construction.

[0016] In the above-mentioned body are preferably formed a chamber and an opening whose walls form a guide for the pawl, whereby the pawl can rotate round a pivot provided on the rod, transversal to the longitudinal direction of this rod, and whereby the above-mentioned guide is made such that a shift of the pivot in an axial direction of the rod is accompanied by a turn of the pawl and thus by a change in the distance between the above-mentioned stop surfaces.

[0017] An advantage of this preferred embodiment is that the rod can be clamped between the walls of a radiator thanks to a linear movement of the above-mentioned pivot in an axial direction of the rod.

[0018] As a consequence, the above-mentioned shift can be realised by means of a bar which is embodied in the rod of the radiator support and which only has to be able to move axially in this rod, which implies that the space in the rod may be relatively small, and which implies that the section of the rod can be made relatively small.

[0019] In order to better explain the characteristics of the present invention, the following preferred radiator support according to the invention is given as an example only without being limitative in any way, with reference to the accompanying drawings, in which:

figure 1 shows a radiator in perspective which is provided on two radiator supports according to the invention;

figure 2 represents a view analogous to that in figure 1, but to a larger scale and only of a radiator support according to the invention;

figure 3 represents a section according to line III-III in figure 1 to a larger scale;

figure 4 represents the part indicated by F4 in figure 3 to a larger scale;

figure 5 represents a view identical to that of figure 4, but for another position of the radiator support according to the invention.

[0020] Figure 1 represents a radiator 1 which is provided with two radiator supports 2 according to the invention.

[0021] As is represented in figure 2, such radiator supports 2 according to the invention mainly consist of a rod 3 on which are provided means 4 on one far end which make it possible to anchor the support 2 in a wall or, as in this case, on a floor.

[0022] The above-mentioned means 4 in this case consist of an element 5 in the form of a plate in which are provided holes 6 through which can be provided bolts, not represented in the figures, for fixing the element 5.

[0023] On the above-mentioned rod 3 are further provided clamping means 7 which, according to the invention and as represented in greater detail in figures 3 to 5, mainly consist of a body 8 which is fixed to the rod 3, and of a pawl 9.

[0024] The above-mentioned body 8 in this case comprises a part 10 which can be provided in the free end 11 of the rod 3 in a fitting manner, and a part 12 which in this case extends in the prolongation of the rod 3.

[0025] In the above-mentioned part 10 of the body 8 is centrally provided an axial passage 13.

[0026] The protruding part 12 of the body 8 is provided with a protrusion 16 on one of its side walls 14, 15 whose free end forms a stop surface 17.

[0027] In the above-mentioned part 12 of the body 8 is preferably provided a chamber 18 which mainly extends axially, in the extension of the above-mentioned passage 13.

[0028] In the side wall 15 of the body 8 situated opposite the above-mentioned stop surface 17 is provided an opening 19 which is connected to the above-mentioned chamber 18.

[0029] It should be noted that one side wall 20 of this opening 19 preferably tapers towards the chamber 18.

[0030] In the rod 3 and through the passage 13 into the chamber 18 is provided a bar 21 which is threaded over at least part of its length and which, in the vicinity of the above-mentioned means for anchoring the rod 3, works in conjunction with an adjusting screw 22 which makes it possible to adjust the position of the bar 21 in the axial direction, whereby the adjusting screw 22 extends through two openings in opposite side walls of the rod 3.

[0031] In the chamber 18 is provided a pivot 23, fixed to the bar 21, whose axis is transversal to the longitudinal direction of the bar 21. The above-mentioned pawl 9 can turn round this pivot 23 in a guide which is formed of the walls of the above-mentioned chamber 18 and of the

above-mentioned opening 19 in the body 8.

[0032] The pivot 23 in this case consists of a cylinder whose far ends are held between two opposite, parallel side walls of the above-mentioned chamber 18, such that the pivot 23 cannot turn round the above-mentioned bar 21.

[0033] It should be noted that the bar 21 can also be turned by providing a little plate, not represented in the figures, which is fixed to the bar 21 and which is provided in the chamber in a fitting manner.

[0034] The pawl 9 itself comprises a stop surface 24 at its free end which can extend through the opening 19.

[0035] Further, the side wall 25 of the pawl 9, which is directed towards the tapered side wall 20 of the above-mentioned opening 19 in the body 8 when the pawl 9 is mounted, is slightly bent.

[0036] Finally, the rod comprises a protrusion 26 in which is provided a diagonal groove 27 which is directed towards the free end 11 of the rod 3.

[0037] The working of the radiator support 2 is simple and as follows.

[0038] Before placing a radiator 1, one or several supports 2 according to the invention are anchored in a floor or wall. This anchoring is done by applying bolts or the like through the holes 6 in the above-mentioned plate 5 on one far end of the support 2.

[0039] The rod 3 of the supports 2 is hereby usually situated in a standing position, whereby the clamping means 7 are situated on the top end 11 of the support 2.

[0040] The pawl 9 of the clamping means 7 is put in a position whereby the stop surfaces 17 and 24 of the clamping means 7 are situated at a mutual distance A which is smaller than a distance B between two opposite side walls 28, 29 of the radiator in between which the rod 3 is to be provided.

[0041] Next, the radiator 1 is provided over one or several supports 2, such that this radiator 1 rests with its lower side in the grooves 27 of the protrusions 26 of one or several supports 2.

[0042] The rod 3 of every support 2 hereby extends up to between the lamellas of the radiator 1, whereby the stop surface 17 of the body 8 is situated against a side wall 28 of the radiator 1.

[0043] Next, by turning the adjusting screw 22 in one or other direction, the bar 21 is axially moved, in this case in the downward direction. This downward movement of the bar 21 results in a shift of the pivot 23 in the guide 18-19.

[0044] Thanks to the shape of this guide 18-19, the pawl 8 is turned round the pivot 23 and the free end of the pawl 9 is pushed out of the opening 19 up against a side wall 29 of the radiator, whereby the distance A between the stop surfaces 17 and 24 is enlarged and the rod 3 is clamped between the side walls 28-29 of the radiator 1.

[0045] The radiator 1 can be removed again from the support 2 or supports in a simple manner, by moving the pawl 9 concerned upwards in the guide 18-19 by means

of the adjusting screw 22 in every support 2, as a result of which the pawl 9 turns and the distance A between the stop surfaces 17 and 24 is reduced, such that the support 2 is no longer being clamped between the side walls 28-29 of the radiator 1 and the radiator 1 can be freely lifted over one or several supports 2.

[0046] It should be noted that the lifting of the clamped radiator 1 is counteracted by the barb effect of the pawl 9 which is preferably directed downward to this end.

[0047] It should be noted that on the stop surface 17 of the body 8 are preferably provided coupling elements which make it possible to fix modular accessories 30 to the body which form stop surfaces 17 as such.

[0048] The use of such accessories 30 makes it possible to enlarge the distance between the stop surfaces 17 and 24 as a function of the distance B between the side walls 28-29 of the radiator 1, such that the distance over which the stop surface 24 has to be moved so as to clamp the support 2 between the side walls 28-29 of the radiator 1 can be reduced.

[0049] It should further be noted that the above-mentioned pivot 23 around which the pawl 9 has been provided can also be formed of a nut which can turn over a threaded part of the bar 21 and whereby the adjusting screw 22 is fixed to the bar 21 so as to make the bar 21 turn as a whole.

[0050] In the latter case, as the bar 21 rotates, the nut will be axially moved since the nut is being held in the chamber 18 in a non-turning manner.

[0051] The present invention is by no means restricted to the above-described embodiment represented in the accompanying drawings; on the contrary, such a radiator support according to the invention can be made according to different variants while still remaining within the scope of the invention.

Claims

1. Radiator support which mainly consists of a rod (3) provided with means (4) on one far end which make it possible to anchor the rod (3) in a wall or floor, whereas the other far end (11) of the rod (3) is provided with clamping means (7) which make it possible to clamp this far end (11) of the rod (3) between the walls of a radiator (1), **characterised in that** the above-mentioned clamping means (7) are formed of a body (8) having a first stop surface (17) on a first side of the rod (3), and a pawl (9) which can turn in relation to the body (8) and having a second stop surface (24) on an opposite side of the rod (3), and **in that** the support (2) is provided with means which make it possible to turn the above-mentioned pawl (9) and thus alter the distance (A) between the above-mentioned stop surfaces (17,24) so as to clamp the rod (3) between the walls of a radiator (1).

2. Radiator support according to claim 1, **character-**

ised in that in the above-mentioned body (8) is provided a chamber (18) and an opening (19) which is connected to the above-mentioned chamber (18), whereby the walls of the chamber (18) and of the opening (19) form a guide for the pawl (9).

3. Radiator support according to claim 2, **characterised in that** the above-mentioned opening (19) comprises a side wall (20) which is tapered towards the chamber (18).

4. Radiator support according to claim 3, **characterised in that** the above-mentioned pawl (9) has a bent side wall (25) which works in conjunction with the above-mentioned tapered side wall (20) of the opening (19).

5. Radiator support according to any one of the preceding claims, **characterised in that** the pawl (9) can rotate round a pivot (23) which extends cross-wise to the longitudinal direction of the rod (3).

6. Radiator support according to claim 5, **characterised in that** the above-mentioned guide (18-19) is made such that a movement of the pivot (23) in an axial direction of the rod (3) is accompanied by a rotation of the pawl (9) and thus with a change in the distance (A) between the above-mentioned stop surfaces (17, 24).

7. Radiator support according to claim 5 or 6, **characterised in that** the pivot (23) is provided on the far end of a bar (21) extending axially through the rod (3) into the above-mentioned chamber (18) and which can be axially moved in relation to the rod (3).

8. Radiator support according to claim 7, **characterised in that** it is provided with means which make it possible to adjust the position of the bar (21) in an axial direction.

9. Radiator support according to claim 8, **characterised in that** the bar (21) is threaded over at least a part of its length and **in that** the above-mentioned means which make it possible to axially adjust the position of the bar (21) are formed of an adjusting screw (22).

10. Radiator support according to any one of the preceding claims, **characterised in that** the above-mentioned rod (3) comprises a protrusion (26) on which a radiator (1), provided over the support (2), can rest.

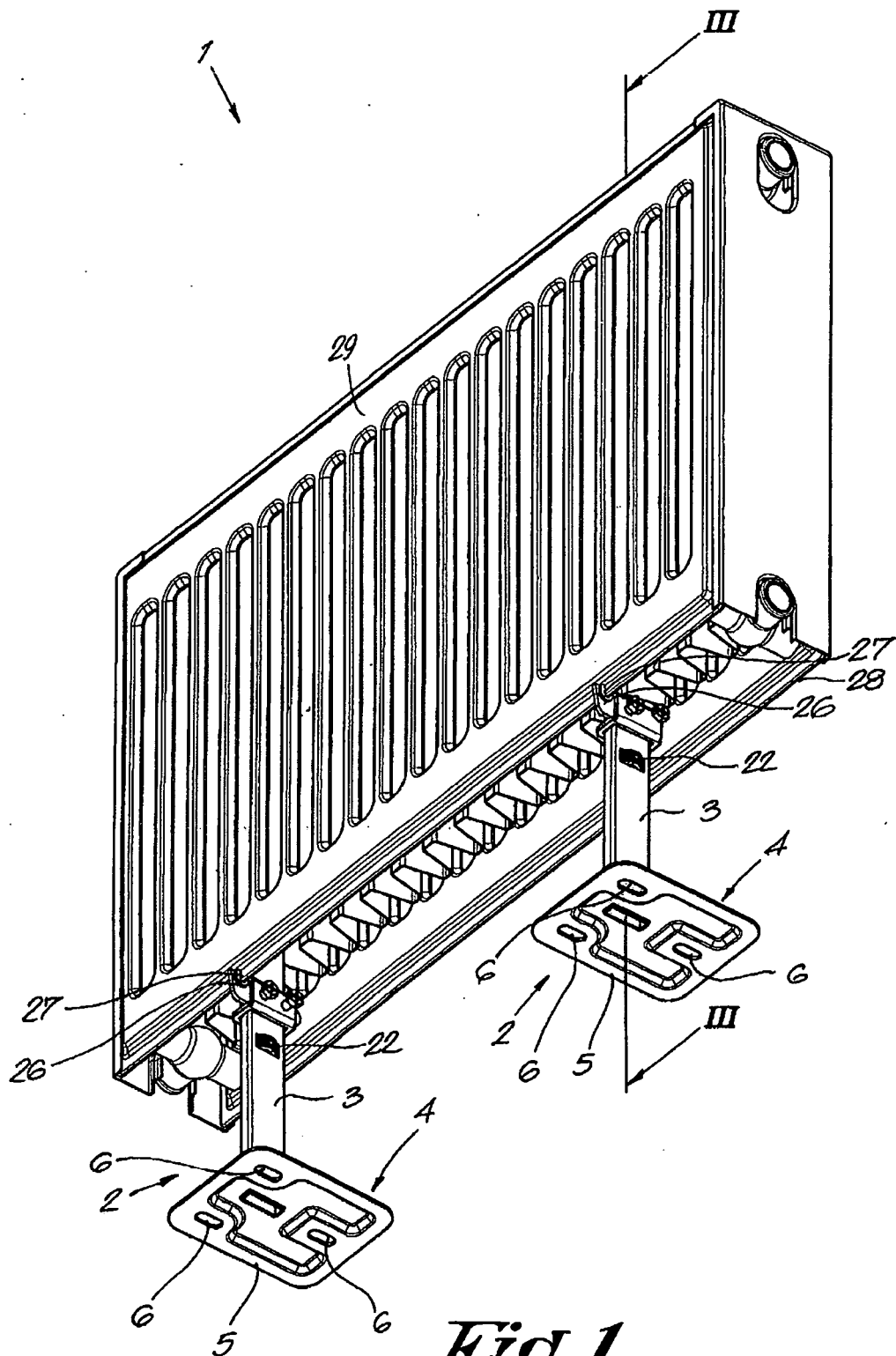
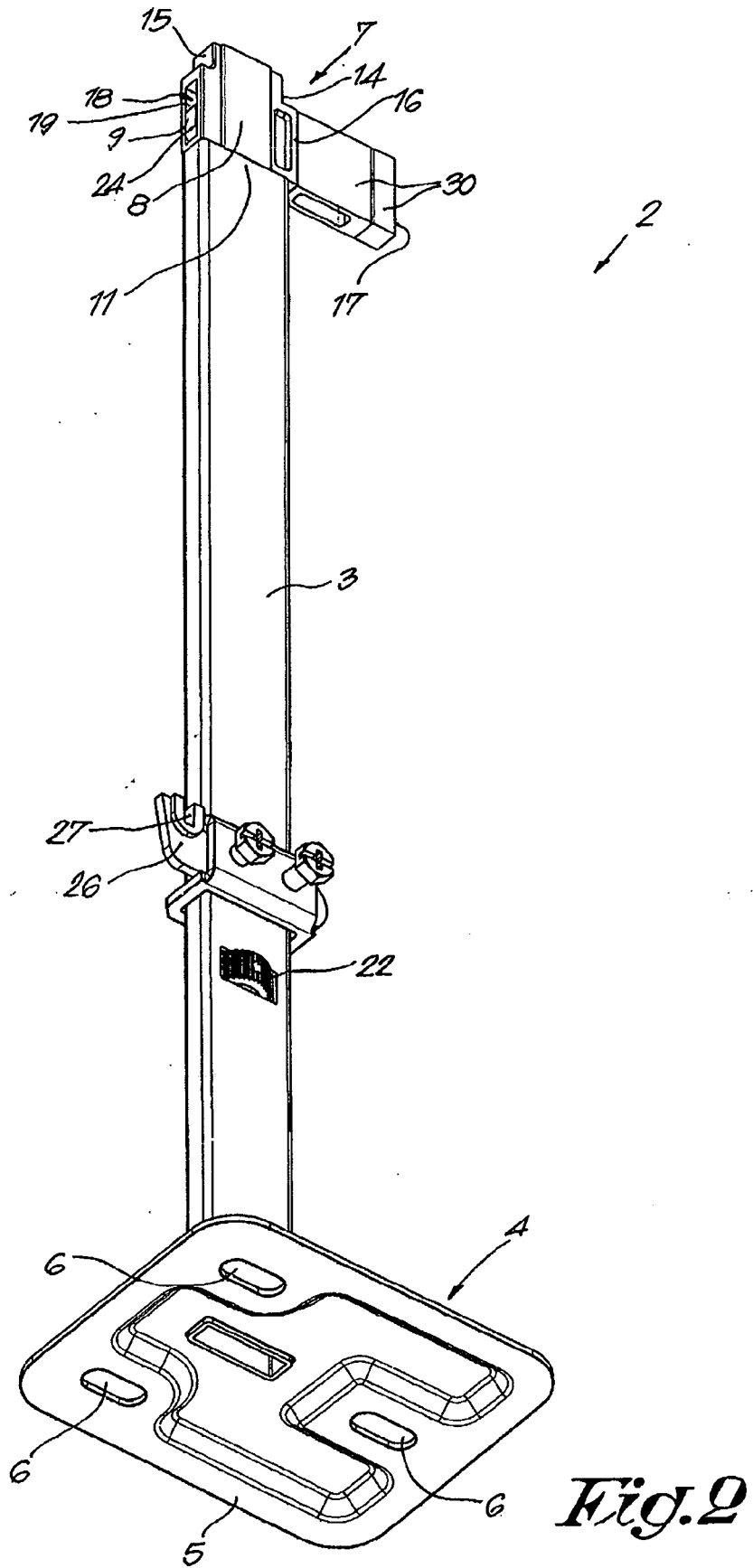


Fig. 1



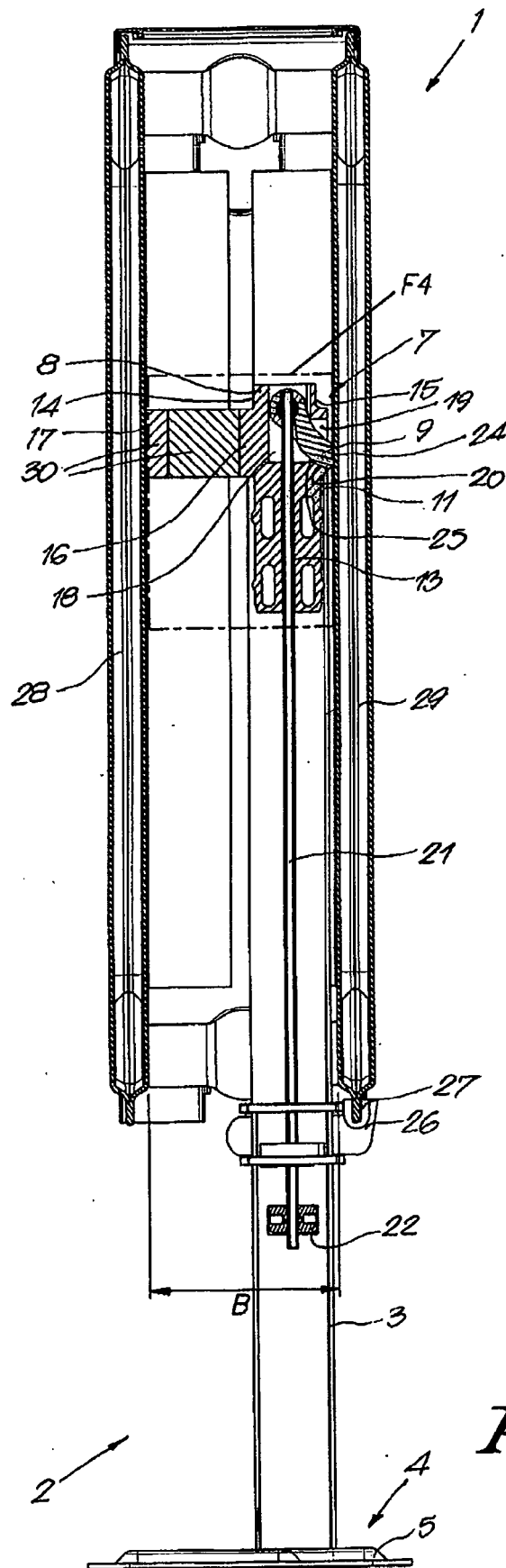


Fig. 3

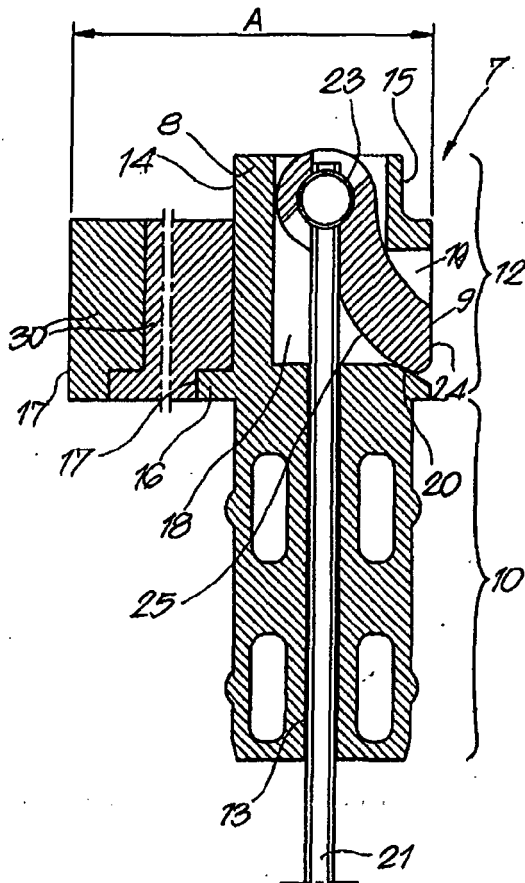


Fig. 4

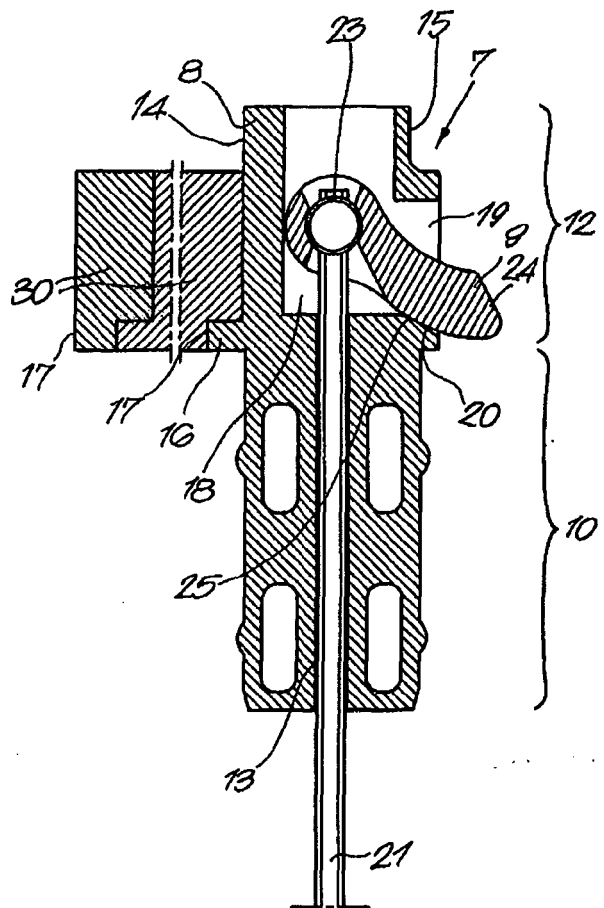


Fig. 5