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(54) **Anchoring structure particularly for radiators**

(57) An anchoring structure, particularly for radiators, which includes a supporting device, which can be anchored to a wall and can be detachably associated with a radiator in order to keep it in a condition for use, in which the radiator is hung and is substantially parallel to the wall. The particularity of the present invention resides in that the supporting device has an engagement member, which is adapted to detachably clamp at least one tubular portion of the radiator and cooperates with a supporting member, which can be anchored to the wall and can be detachably associated with the engagement member, and with a spacer means suitable to determine and correctly maintain the condition for use described previously.

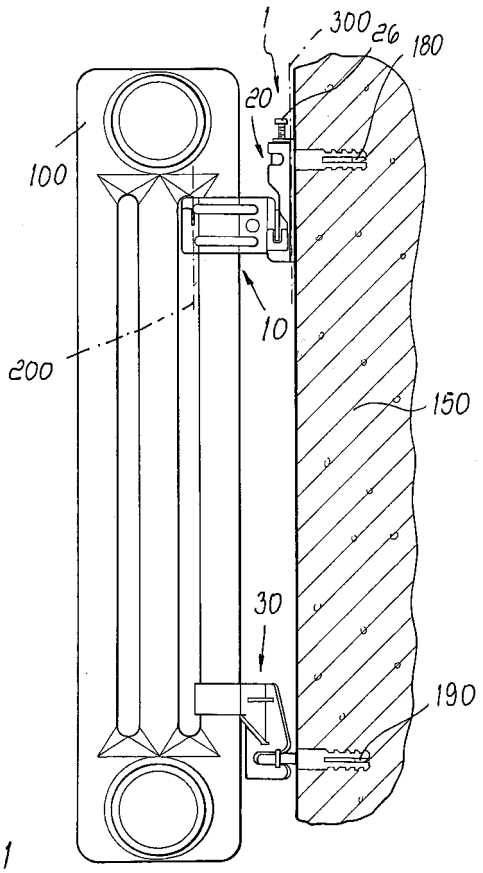

Fig. 1

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Description

[0001] The present invention relates to an anchoring structure particularly for radiators.

[0002] As is known, among the various solutions for mounting radiators on walls, particularly radiators composed of batteries of tubular radiating components, apart from a limited number of situations in which preference is given to the use of floor-standing supports, the most widespread technique among installers and plumbers entails using various types of brackets that are directly built into the wall or are anchored to the wall by using expansion plugs.

[0003] The brackets have various sizes and are made by shaped steel rods or by blanked and shaped sheet metal.

[0004] The brackets are generally rather simple and have in common the fact that on one of their ends there is a concave portion whose shape is substantially complementary to the shape of the horizontal manifolds of the radiators.

[0005] Although such system is simple and quick to use, it actually has several limitations and problems linked to its limited technical refinement.

[0006] The first drawback is that during the installation of traditional brackets, that are arranged at the upper horizontal manifolds or at the lower horizontal manifolds or at both, correct centering of the holes provided in the wall with respect to the empty spaces provided between the various radiating components of the radiator is fundamentally important.

[0007] Brackets that are particularly off-center with respect to the correct horizontal positions can even become unusable, physically preventing the mating and engagement of the radiator; brackets that are not correctly aligned with respect to the correct vertical positions can cause considerable problems both from a structural standpoint, due to the uneven distribution of the weight on the various supports, and from a functional standpoint, due to incorrect leveling of the radiator, consequently forming air bubbles inside it.

[0008] Another drawback of the traditional bracket system relates to safety. In this regard, suffice it to consider that with the aid of traditional brackets, radiators are in practice kept in the hung position exclusively by their weight and by the retaining action provided by the brackets, that accommodate them in the previously described concave portion. It is easily understood that any impacts or other actions which accidentally apply leverage to the lower part of the radiator would be opposed only by the mechanical resistance provided by the hydraulic connections and accordingly might cause the disengagement of the radiator, with all the consequent inconveniences and dangers, or at least the breakage of such connections, with consequent water leaks.

[0009] In some cases, in order to obviate the problem of the instability of the coupling, instead of ordinary brackets, other brackets are used which are provided with collars which can be opened and clamp the horizontal manifolds of the radiators so as to retain them firmly.

[0010] Although these particular types of collar-like bracket are capable of solving the drawbacks linked to safety, the same cannot be said for the possibility to easily remedy any inaccuracies in their positioning, an aspect for which the drawbacks mentioned earlier arise again.

[0011] One should also not ignore the aesthetic impact of the systems described above, which in both cases cannot be hidden from view and remain always visible even from the front of the radiators, with an undeniable reduction in overall value.

[0012] The aim of the present invention is to solve the problems described above, by providing an anchoring structure which, despite affecting only a portion of single radiating tube, is adjustable both horizontally and vertically, allowing to very easily remedy any inaccuracies during installation.

[0013] Within the scope of this aim, a particular object of the invention is to provide an anchoring structure which ensures the necessary safety, preventing accidental disengagements of the radiator, and is capable of withstanding impacts and other stresses.

[0014] Another object of the invention is to provide an anchoring structure which allows easily installation of the radiators, even the heaviest ones, in addition to being practically invisible from the front of the radiator, by virtue of its ability to affect only a portion of a single radiating tube.

[0015] Another object of the invention is to provide an anchoring structure which is simple to manufacture and can be provided at competitive costs while having a particularly pleasant aesthetic appearance.

[0016] This aim and these and other objects, which will become better apparent hereinafter, are achieved by an anchoring structure, particularly for radiators, comprising a supporting device, which can be anchored to a wall and detachably associated with a radiator in order to keep it in a condition for use, in which the radiator is hung and is substantially parallel to the wall, characterized in that the supporting device comprises an engagement member, which is adapted to detachably clamp at least one tubular portion of the radiator, said tubular portion cooperating with a supporting member, which can be anchored to the wall and can be detachably associated with said engagement member, said supporting device comprising a spacer means adapted to determine and correctly maintain the condition for use.

[0017] Further characteristics and advantages of the invention will become better apparent from the following detailed description of preferred but not exclusive embodiments of an anchoring structure according to the invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a side view of an anchoring structure according to the invention during fine-tuning of the condition for use;

Figure 2 is a perspective view of a portion of an anchoring structure according to the invention, in the condition for use;

Figure 3 is another perspective view of a portion of an anchoring structure according to the invention, in the condition for use;

Figure 4 is a side view of a portion of an anchoring structure according to the invention, in the condition for use;

Figure 5 is a perspective view of a portion of an anchoring structure according to a further aspect of the invention, in the condition for use;

Figure 6 is a perspective view of a portion of an anchoring structure according to still a further aspect of the invention, in the condition for use;

Figure 7 is a side view of the portion of the anchoring structure of Figure 6;

Figure 8 is a side view of an anchoring structure according to still a further aspect of the invention, during the condition for use;

Figure 9 is a perspective view of a portion of the anchoring structure of Figure 8, in the condition for use;

Figure 10 is a perspective view of another portion of the anchoring structure of Figure 8, in the condition for use.

[0018] With particular reference to Figures 1 to 5, an anchoring structure, generally designated by the reference numeral 1, has a supporting device, which can be anchored to a wall 150 and can be detachably associated with a radiator 100, which is composed of a plurality of tubes that are interposed and joined to a pair of manifolds.

[0019] The supporting device is capable of keeping the radiator 100 in a condition for use in which the radiator hangs from the wall 150 substantially parallel thereto.

[0020] Although in practice at least two supporting devices are applied generally to the radiator 100, only one is described hereinafter, the other ones being substantially similar.

[0021] According to the invention, the supporting device comprises an engagement member 10, which detachably clamps a tubular portion related to the upper end of a single radiating tube of a radiator 100, and a supporting member 20, which can be anchored to the wall 150 by simply using anchoring screws and expansion plugs and can be detachably associated with the engagement member 10 with which it cooperates.

[0022] In particular, the engagement member 10 is constituted by two contoured jaws 11a and 11 b, obtained for example by blanking and plastic deformation of metal plate. Each jaw is substantially Ω-shaped and is provided with a contoured portion, designated respectively by the reference numerals 12a and 12b, whose shape is substantially complementary to the tubular portion related to an individual radiating tube of a radiator 100. The contoured portion 12a, 12b rests between a head end, designated respectively by the reference numerals 13a and 13b, and a base end, designated respectively by the reference numerals 14a and 14b.

[0023] The contoured jaws 11 can be mutually and detachably pivoted at the head end 13, where a pivoting means constituted by two notches, designated respectively by the reference numerals 15a and 15b and formed at two wings 16a and 16b which blend with the contoured portions 12, allows the jaws 11 to interlock during the condition for use, forming a pivoting axis 200 which substantially coincides with the notches 15.

[0024] In the condition for use, the jaws 11 surround the tubular portion related to a single radiating tube of the radiator 100, clamping it with the contoured portions 12. The jaws 11 can be mutually detachably joined at the base end 14, in which they assume a substantially flat configuration and can easily be arranged so as to face each other. A screw-type fastening means, which acts transversely with respect to the pivoting axis 200 and is constituted in this example by one or more screws 18, allows to join the base ends 14, eliminating the space 19, which intentionally remains between them when they face each other. During the tightening of the screw 18, it is accordingly necessary to overcome a certain elastic resistance in order to plastically deform the base ends 14, thus ensuring greater contact of the contoured portions 12 with the tubular portion related to a single radiating tube of the radiator 100, leading to firmer and safer clamping.

[0025] Two substantially perpendicular strips 17a and 17b protrude from the base ends 14 and, when the base ends 14 are mutually joined, form a contact portion which can be slidingly associated with the supporting member 20, with a sliding movement which is transverse with respect to the pivoting axis 200.

[0026] The supporting member 20, which by virtue of its characteristics is standard for radiators of any size, is preferably made for example of blanked and folded metal plate and has a semitubular C-shaped structure which is substantially symmetrical with respect to a longitudinal axis of symmetry 300. The supporting member 20 is constituted by a back 21 and two wings 22a and 22b which protrude laterally and transversely from it. A first abutment and guide member is formed on the wings 22, lies transversely to the longitudinal axis of symmetry 300 and is shaped so that the guide member can slidingly accommodate the previously described supporting portion. In this example, the first abutment and guide member is constituted by a first pair of brackets having notches 23a and 23b, which are formed in the wings 22a and 22b and are insulated by the insulating members 28a and 28b that are applied detachably thereto, their notch blending with a contoured profile, respectively 24a and 24b, which facilitates the fine-tuning of the condition for use, assisting the rotary and translational motion of the contact portion until the straps 17 are guided gently into the notches of the brackets with notch 23 and so that the pivoting axis 200 is substantially parallel to the longitudinal axis of symmetry 300.

[0027] For correct horizontal positioning of the supporting member 20 there is a fine adjustment means, which acts along an axis which coincides substantially with the longitudinal axis of symmetry 300 and is constituted by an eye 25, which is formed on the back 21 of the supporting member 20 parallel to the longitudinal axis of symmetry 300. A movable adjustment member 26 is constituted by a screw which is supported by an upper portion of the back 21 which is folded transversely and interacts with the head 181 of a first anchoring screw 180, which is accommodated by the eye 25 so as to compress the back 21 against the wall 150 in which it is inserted during the condition for use.

[0028] In order to maintain the correct parallel arrangement of the radiator 100 with respect to the wall 150 during the condition for use, the anchoring structure 1 is provided with a spacer means 30. According to a first embodiment, the spacer means 30 has at least one fixed spacer 40, which is made of molded synthetic material and is composed of an interlocking member 41, which can be associated detachably by snap action with a second tubular portion of the radiator 100 related to the lower end thereof.

[0029] The interlocking member 41 is joined monolithically to a contact base 42, on which there is laterally a lateral incision 43, which can be associated with a second anchoring screw 190 which compresses, with the head 191, the contact base 42 against the wall 150 in which it is to be inserted during the condition for use.

[0030] In a second embodiment of the anchoring structure 1, shown in Figures 6 and 7, the spacer means 30 has at least one adjustable spacer 50, which is constituted by a tubular member 51 which is shaped substantially complementarily with respect to the second tubular portion of the radiator 100 with which it is detachably associable by snap action, and by a movable support 52 with an axis of action which is transverse with respect to the pivoting axis 200 during the condition for use.

[0031] A ring 53 and a polygonal profile 55 are formed on the movable support 52. The ring can be slidingly associated with a rail member 54, which can be anchored beforehand to the wall 150, and the polygonal profile can be associated easily with an appropriate key in order to facilitate its rotation.

[0032] The anchoring structure 1 also has a housing 60, which can be detachably associated by snap action with the supporting member 20 and interferes with seats 27a and 27b formed on the wings 22 in order to prevent the accidental disengagement of the contact portion from the first abutment with guide, in addition to giving the assembly a higher aesthetic value.

[0033] According to a further aspect of the invention, the anchoring structure 101, shown in Figures 8 to 10, has a supporting member 120, having a C-shaped semitubular structure which is similar to the structure of the supporting member 20. However, the supporting member 120 has such a longitudinal extension as to allow to affect at least two tubular portions related to the same individual radiating tube of the radiator 100.

[0034] The structure is substantially symmetrical with respect to a longitudinal axis of symmetry 300 and is constituted by a back 21 and a pair of wings 22a and 22b which protrude laterally and transversely therefrom.

[0035] A first abutment and guide member, which is formed proximate to the upper end of the supporting member 120 and is constituted by the first pair of brackets with notch 23a and 23b, formed on the wings 22a and 22b, the notch of which blends with a contoured profile, respectively 24a and 24b. The supporting member 120 also has a second abutment and guide member, which is formed proximate to its lower end.

[0036] The second abutment and guide member, which is substantially identical to the first abutment and guide member, is constituted by a second pair of brackets with notch 123a and 123b, that are formed on the wings 22a and 22b, their notch blending with a contoured profile, respectively 124a and 124b, whose function has already been described earlier. The supporting member 120 also has a fine adjustment means which is substantially identical to the one already described for the supporting member 20.

[0037] The correct parallel arrangement of the radiator 100 with respect to the wall 150 during the condition for use is ensured by the spacer means 30, which in this embodiment includes at least one sliding spacer 140, which is made of molded synthetic material and composed of a clip member 141, which can be detachably associated by snap action with the second tubular portion of the radiator 100 which relates to the lower end thereof. The clip member 141 is monolithically joined to a sliding base 142, which can be slidingly associated with two slots 143a and 143b formed respectively on the wings 22a and 22b. The distance between the clip member 142 and the sliding base 142 can be optionally changed by using an adjustment means, not shown in the accompanying figures.

[0038] In the embodiment shown in Figures 8 to 10, the components that correspond to the components already described with reference to the embodiments shown in Figures 1 and 7, have been designated by the same reference numerals.

[0039] In a further embodiment of the anchoring structure 1, not shown in the figures, the engagement member 10 is constituted by a snap-acting member, which is made of molded synthetic material and has a collar which can be detachably associated by snap action with the tubular portion related to the upper end of a single radiating tube of the radiator 100. The collar is monolithically joined to a foot, which constitutes the contact portion of the engagement member 10 and is shaped so that it can be slidingly associated with the first abutment with guide.

[0040] The operation of the anchoring structure according to the invention is as follows.

[0041] After resting the contoured portion 12 of the jaws 11 against a tubular portion related to the upper end of a single radiating tube of the radiator 100 and proxi-

mate to the clamping point, it is sufficient to slide the jaws 11 toward each other until they are mutually pivoted, making the notches 15 interlock and thus forming the pivoting axis 200. At this point, by way of the screw 18, the base ends 14, which face each other but are not in mutual contact, are detachably joined and by tightening the screw 18 the jaws 11 are plastically deformed, overcoming a modest elastic resistance and eliminating or reducing the space 19 so as to surround completely the tubular portion of the radiator 100 of interest and clamp it firmly.

[0042] Then, by using a screw 180 with an expansion plug, placed at a height which is sufficient to keep the radiator 100 hanging, the supporting member 20 to be associated with the engagement member 10 installed previously is anchored to the wall 150. The screw 180 is inserted in the eye 25 and screwed until its head 181 rests against the back 21 of the supporting member 20, compressing it against the wall 150, and then the movable adjustment member 26 is moved into contact with the head 181.

[0043] Installation of the anchoring structure 1 continues by arranging the straps 17, which compose the contact portion of the engagement member 10, adjacent to the contoured profiles 24 of the supporting member 20 and by imparting a slight oscillation to the radiator 100.

[0044] The oscillation produces a rotary and translational motion of the contact portion, which slides, being guided in its motion by the contoured profiles 24, until the straps 17 gently rest within the notches of the brackets with notch 23, insulated by the insulating members 28.

[0045] The correct position of the radiator 100 is adjusted both horizontally, by sliding the straps 17 in the brackets with notch 23 transversely to the pivoting axis 200, and vertically by acting on the movable adjustment member 26.

[0046] While the horizontal adjustment allows to mate the connectors of the radiator 100 correctly with the connectors of the heating system, the vertical adjustment allows correct leveling of the radiator 100, allowing in particular to position it so as to force the air that is present inside to accumulate proximate to the venting valve, allowing its easy outflow and avoiding in this way accumulations which would compromise the effectiveness of the radiator 100.

[0047] The parallel arrangement of the radiator 100 with respect to the wall 150 is instead achieved and maintained by virtue of the spacer means 30, which is arranged on a second tubular portion of the radiator 100 related to its lower end.

[0048] In particular, with reference to the fixed spacer 40, shown in Figures 1 and 5, it is joined detachably to the radiator 100, engaging by snap action the interlocking member 41 with the second tubular portion of the radiator 100 and then turning it thereon, with a rotation axis which is substantially parallel to the pivoting axis 200, until the protruding portion of the second clamping screw 190, arranged beforehand with the correct height and orientation, is accommodated by the lateral incision 43 and the supporting base 42 rest against the wall 150, subsequently fixing it by tightening the second clamping screw 190.

[0049] If the wall 100 is not perfectly vertical, it is sufficient to resort to the adjustable spacer 50 by engaging by snap action the tubular member 51 with the second tubular portion of the radiator 100 and subsequently turning it thereon, with a rotation axis which is substantially parallel to the pivoting axis 200, until the ring 53 of the movable support 52 is accommodated by the rail member 52 previously anchored to the wall 150 with the correct height and orientation. The distance of the lower end of the radiator 100 from the wall 150 can be adjusted by turning the movable support 52, optionally after associating an appropriately provided key with the polygonal profile 55.

[0050] To complete the installation of the anchoring structure 1, the housing 60 is associated by snap action with the supporting member 20, preventing the accidental disengagement of the contact portion from the first abutment with guide and also enhancing the invention aesthetically.

[0051] The operation of the third embodiment of the anchoring structure according to the invention, which can be used in case of walls 150 which are not solid enough to allow to fix the radiator 100 by means of the simple supporting member 20, is substantially similar to the one described earlier.

[0052] The only difference is to be found in the fact that after anchoring the supporting member 120 to the wall 150 by way of the screws 180 and 190 it is necessary to associate the sliding base 142 of the sliding spacer 140 with the slots 143 before associating the contact portion of the engagement member 10 with the first abutment with guide of the supporting member 120.

[0053] If necessary, in this embodiment it is also possible to install a second engagement member 10 proximate to the second tubular portion of the radiator 100 and associate it with the second abutment with guide.

[0054] If possible, the use of the snap-acting member as a replacement of the jaws 11 makes the operations described above even simpler, since in this case in order to clamp the tubular portion related to a single radiating tube of the radiator 100 with the engagement member 10 it is sufficient to associate therewith by snap action the collar of the snap-acting member. The other operations simply have to be repeated as described earlier.

[0055] In practice it has been found that the anchoring structure according to the invention fully achieves the intended aim and objects. By being able to affect a portion of a single radiating tube the structure can be adjusted both horizontally and vertically, allowing to remedy very easily any inaccuracies in installation.

[0056] By virtue of its structural characteristics, the anchoring structure according to the invention allows to install very easily and safely even very heavy radiators, by being particularly resistant to impact and stresses and preventing accidental disengagements of the radiator,

and also allows to use the same components for radiators of different sizes.

[0057] The ability to affect a portion of a single radiating tube also makes the anchoring structure according to the invention practically invisible from the front of the radiator, although it remains simple to provide, aesthetically pleasant and producible at competitive costs.

[0058] This application claims the priority of Italian Patent Application No. VI2006A000074, filed on March 17, 2006, the subject matter of which is incorporated herein by reference.

[0059] The anchoring structure thus conceived is susceptible of numerous modifications and variations, within the scope of the appended claims. All the details may be replaced with other technically equivalent elements.

[0060] In practice, the materials employed, so long as they are compatible with the specific use, as well as the contingent shapes and dimensions, may be any according to requirements and to the state of the art.

Claims

1. An anchoring structure, particularly for radiators, comprising a supporting device, which can be anchored to a wall and detachably associated with a radiator in order to keep it in a condition for use, in which said radiator is hung and is substantially parallel to said wall, **characterized in that** said supporting device comprises an engagement member, which is adapted to detachably clamp at least one tubular portion of said radiator, said tubular portion cooperating with a supporting member, which can be anchored to said wall and can be detachably associated with said engagement member, said supporting device comprising a spacer means adapted to determine and correctly maintain said condition for use.

2. The anchoring structure according to claim 1, **characterized in that** said tubular portion of said radiator comprises at least one portion of a single radiating tube of said radiator, said radiator being constituted by a plurality of radiating tubes which are interposed and connected to a pair of manifolds.

3. The anchoring structure according to one or more of the preceding claims, **characterized in that** said engagement member comprises two contoured jaws, which can be mutually detachably pivoted at a head end, by a pivoting means, and can be mutually joined at a base end, which lies opposite said head end, by a screw-type clamping means which acts transversely with respect to the pivoting axis, said base ends being substantially flat and being arrangeable so as to face each other.

4. The anchoring structure according to one or more of the preceding claims, **characterized in that** each of said contoured jaws is substantially Ω-shaped and comprises a contoured portion, which is interposed between said head end and said base and has a configuration which is substantially complementary to said tubular portion of said radiator, said contoured portions being suitable to clamp said tubular portion of said radiator during said condition for use.

5. The anchoring structure according to one or more of the preceding claims, **characterized in that** said pivoting means comprises two notches that substantially coincide with said pivoting axis and are formed on two wings which protrude respectively from each of said head ends, said contoured jaws being mutually interlocked at said pair of notches during said condition for use.

6. The anchoring structure according to one or more of the preceding claims,
characterized in that said engagement member comprises a contact portion, which is slidingly associated with said supporting member and is constituted by two straps that are formed respectively on each of said contoured jaws transversely to said base end.

7. The anchoring structure according to one or more of the preceding claims, **characterized in that** the sliding of said contact portion with respect to said engagement member is substantially transverse with respect to said pivoting axis.

8. The anchoring structure according to one or more of the preceding claims, **characterized in that** said engagement member comprises a snap-acting member.

9. The anchoring structure according to one or more of the preceding claims, **characterized in that** said snap-acting member comprises a collar which can be detachably associated by snap action with said tubular portion of said radiator which is joined monolithically with a foot which forms said contact portion.

10. The anchoring structure according to one or more of the preceding claims, **characterized in that** said supporting member comprises a first abutment and guide member, which lies transversely to the longitudinal axis of symmetry of said supporting member, said guide being slidingly associated with said supporting portion.

11. The anchoring structure according to one or more of the preceding claims, **characterized in that** said supporting member comprises a second abutment and guide member, which is substantially identical to said first abutment and guide member but is

formed proximate to the lower end of said supporting member, said first abutment and guide member being formed proximate to the lower end of said supporting member, said supporting member having a longitudinally elongated structure which allows it to affect at least two tubular portions related to the same single radiating tube of said radiator.

12. The anchoring structure according to one or more of the preceding claims, **characterized in that** said first abutment and guide member comprises a first pair of brackets with notch, formed respectively on each of the wings of said supporting member, said supporting member being substantially semitubular.

13. The anchoring structure according to one or more of the preceding claims, **characterized in that** each of said brackets with notch comprises an insulating member which is detachably associated therewith.

14. The anchoring structure according to one or more of the preceding claims, **characterized in that** each of said wings comprises a contoured profile which is blended with each of said notches, said contoured profile being adapted to facilitate the insertion of said contact portion in said guide, said pivoting axis being substantially parallel to said longitudinal axis of symmetry of said supporting member during said condition for use.

15. The anchoring structure according to one or more of the preceding claims, **characterized in that** said supporting member comprises a fine adjustment means whose axis of action substantially coincides with said longitudinal axis of symmetry of said supporting member.

16. The anchoring structure according to one or more of the preceding claims, **characterized in that** said fine adjustment means comprises at least one eye, which is formed on the back of said supporting member parallel to said longitudinal axis of symmetry of said supporting member, and a movable adjustment member which is supported by said supporting member and has an axis of action which is substantially parallel to said longitudinal axis of symmetry of said supporting member, said movable adjustment member interacting with the head of a first anchoring screw which is accommodated by said eye and is inserted in said wall, during said condition for use.

17. The anchoring structure according to one or more of the preceding claims, **characterized in that** said supporting member comprises a housing which is detachably applied by snap action to said supporting member, interfering with at least one seat formed in said wings, in order to avoid the accidental disengagement of said contact portion from said first abutment with guide and cover said supporting member during said condition for use.

18. The anchoring structure according to one or more of the preceding claims, **characterized in that** said spacer means comprises at least one fixed spacer.

19. The anchoring structure according to one or more of the preceding claims, **characterized in that** said fixed spacer comprises an interlocking member, which is detachably associated by snap action with a second tubular portion of said radiator, which is joined monolithically to a contact base, which can be anchored to said wall, during said condition for use.

20. The anchoring structure according to one or more of the preceding claims, **characterized in that** said contact base comprises a lateral incision which can be associated with the protruding portion of a second anchoring screw which is inserted in said wall.

21. The anchoring structure according to one or more of the preceding claims, **characterized in that** said spacer means comprises at least one adjustable spacer.

22. The anchoring structure according to one or more of the preceding claims, **characterized in that** said adjustable spacer comprises a tubular member which is detachably associated by snap action with said second tubular portion of said radiator, said second tubular portion being joined to a movable support, said movable support having an axis of action which lies transversely to said pivoting axis, during said condition for use.

23. The anchoring structure according to one or more of the preceding claims, **characterized in that** said adjustable spacer comprises a rail member which is anchored to said wall, said rail member being slidingly associated with a ring formed on said movable support.

24. The anchoring structure according to one or more of the preceding claims, **characterized in that** said spacer means comprises at least one sliding spacer.

25. The anchoring structure according to one or more of the preceding claims, **characterized in that** said sliding spacer comprises a clip member, which is detachably associated by snap action with said second tubular portion of said radiator, said second tubular portion being monolithically joined with a sliding base, said sliding base being associated with two slots formed respectively on each of the wings of said supporting member, during said condition for use.

26. The anchoring structure according to one or more of the preceding claims, **characterized in that** said sliding spacer comprises an adjustment means interposed between said clip member and said sliding base in order to vary their mutual distance.

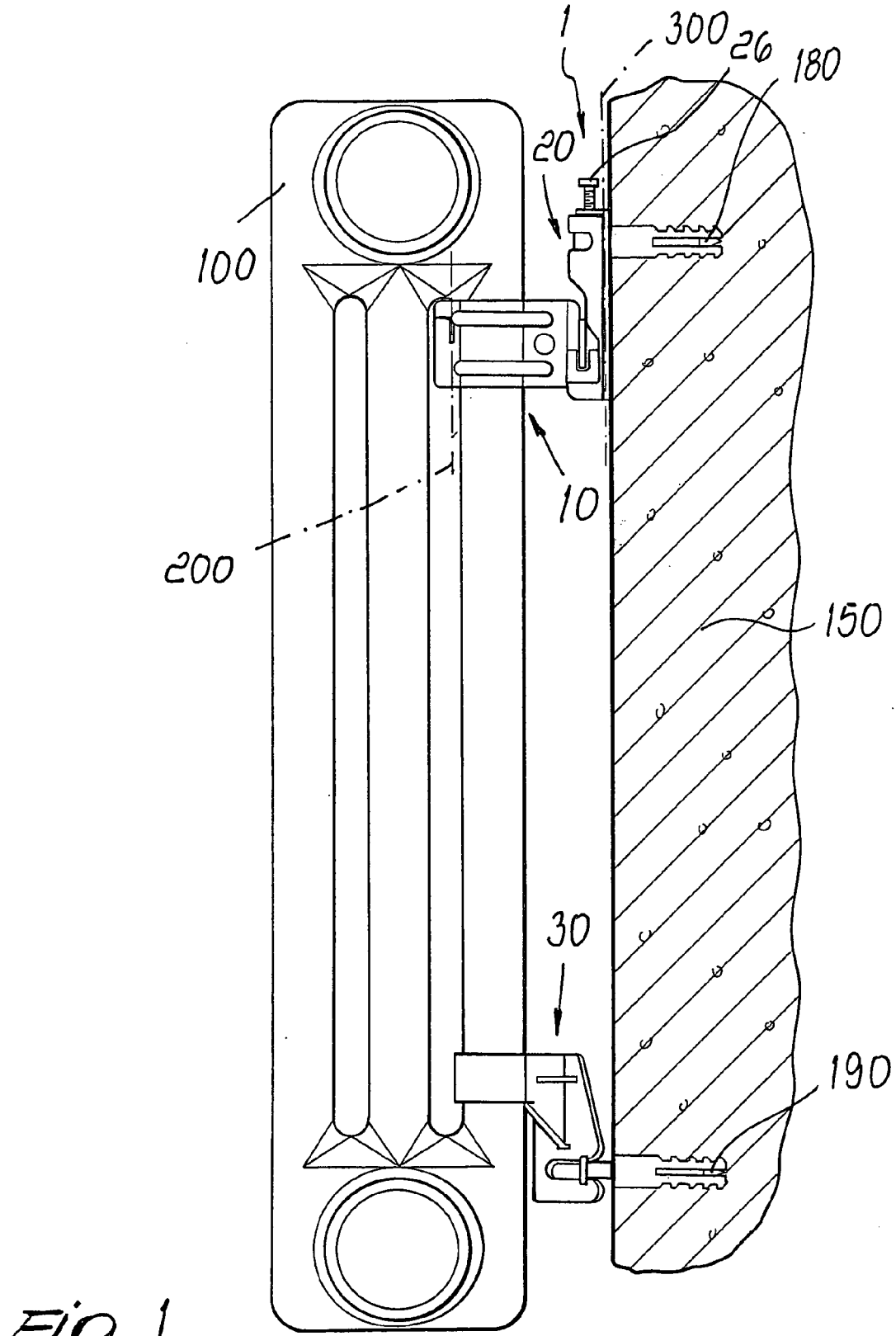

Fig. 1

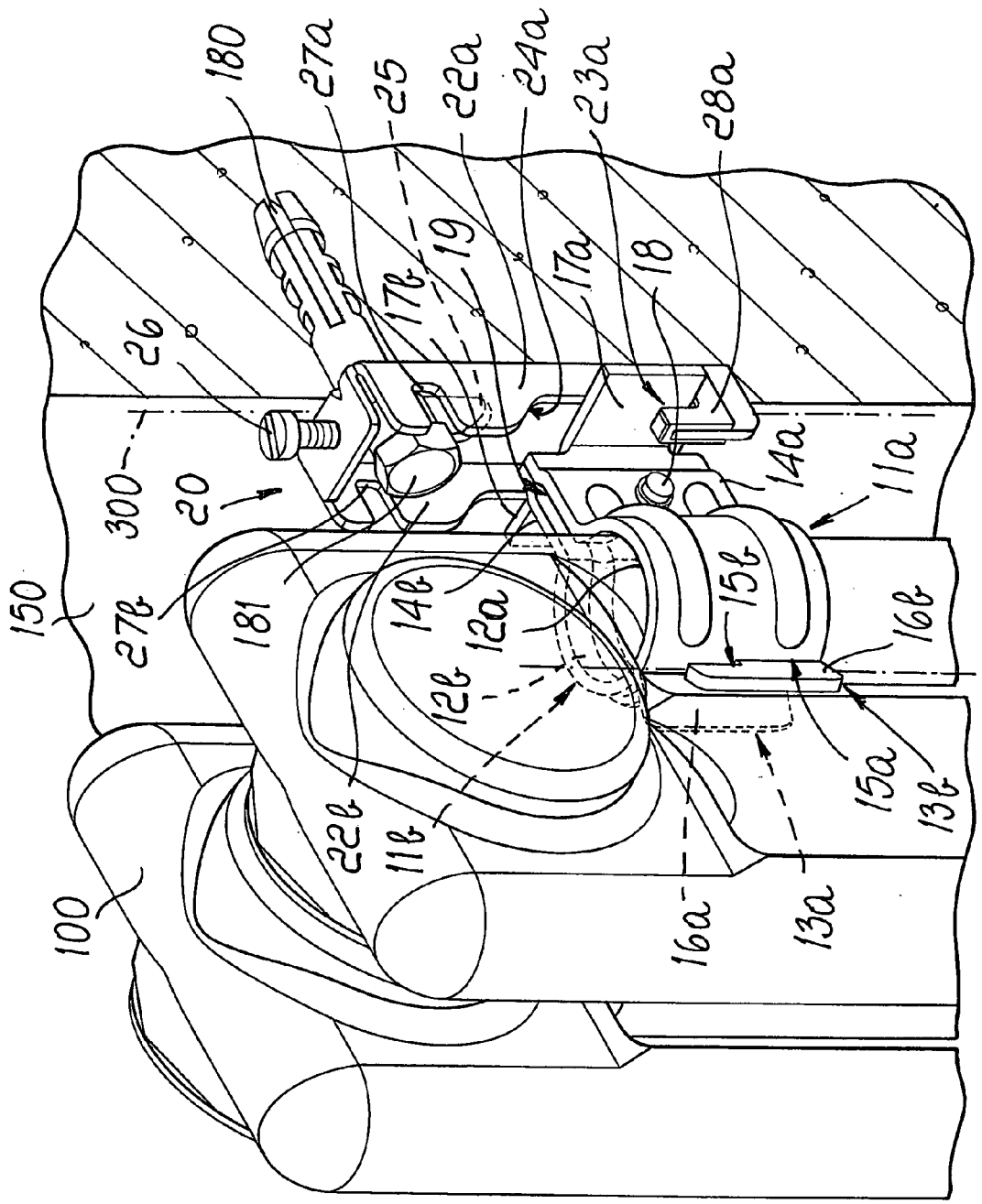
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Fig. 2

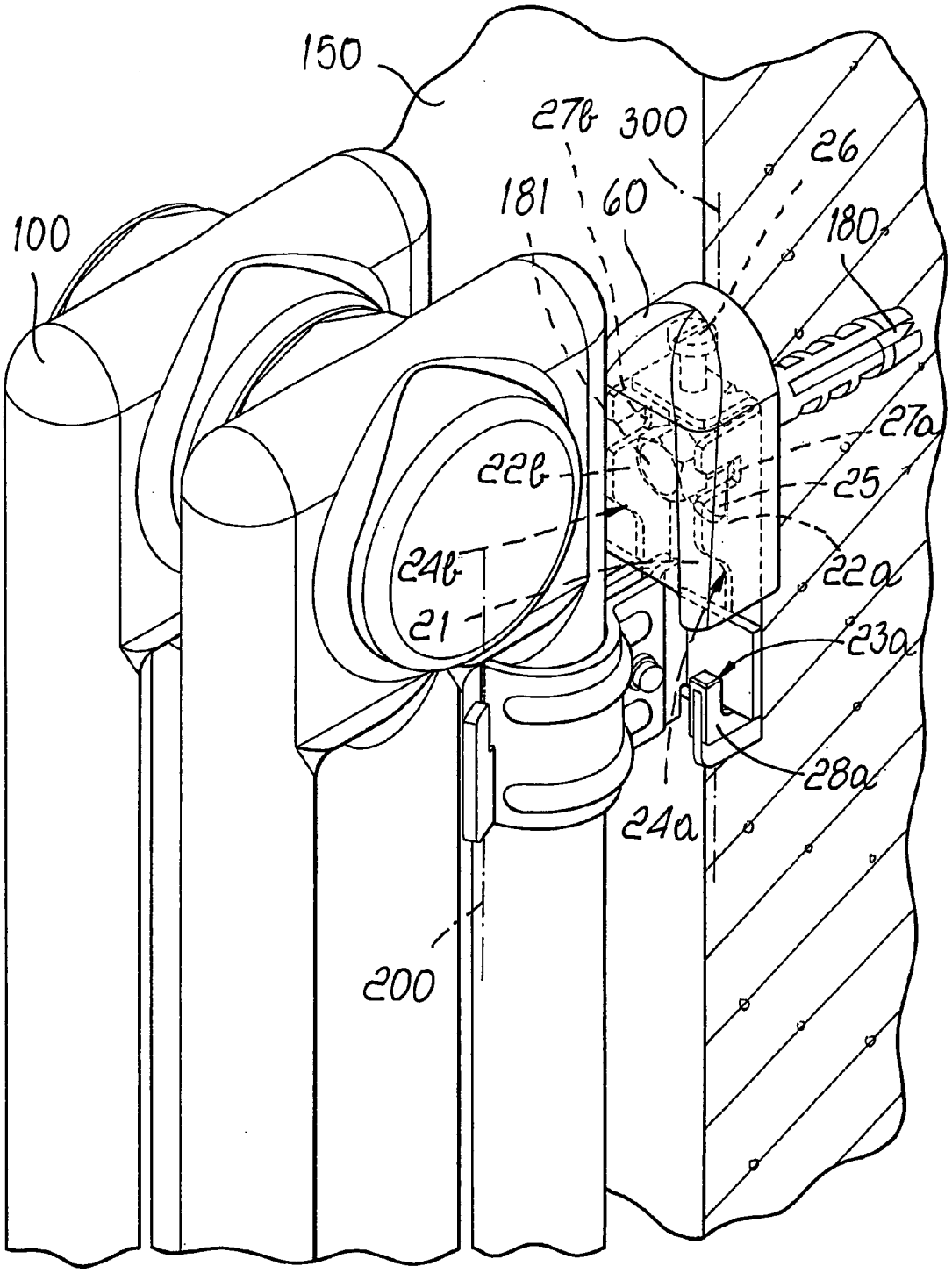
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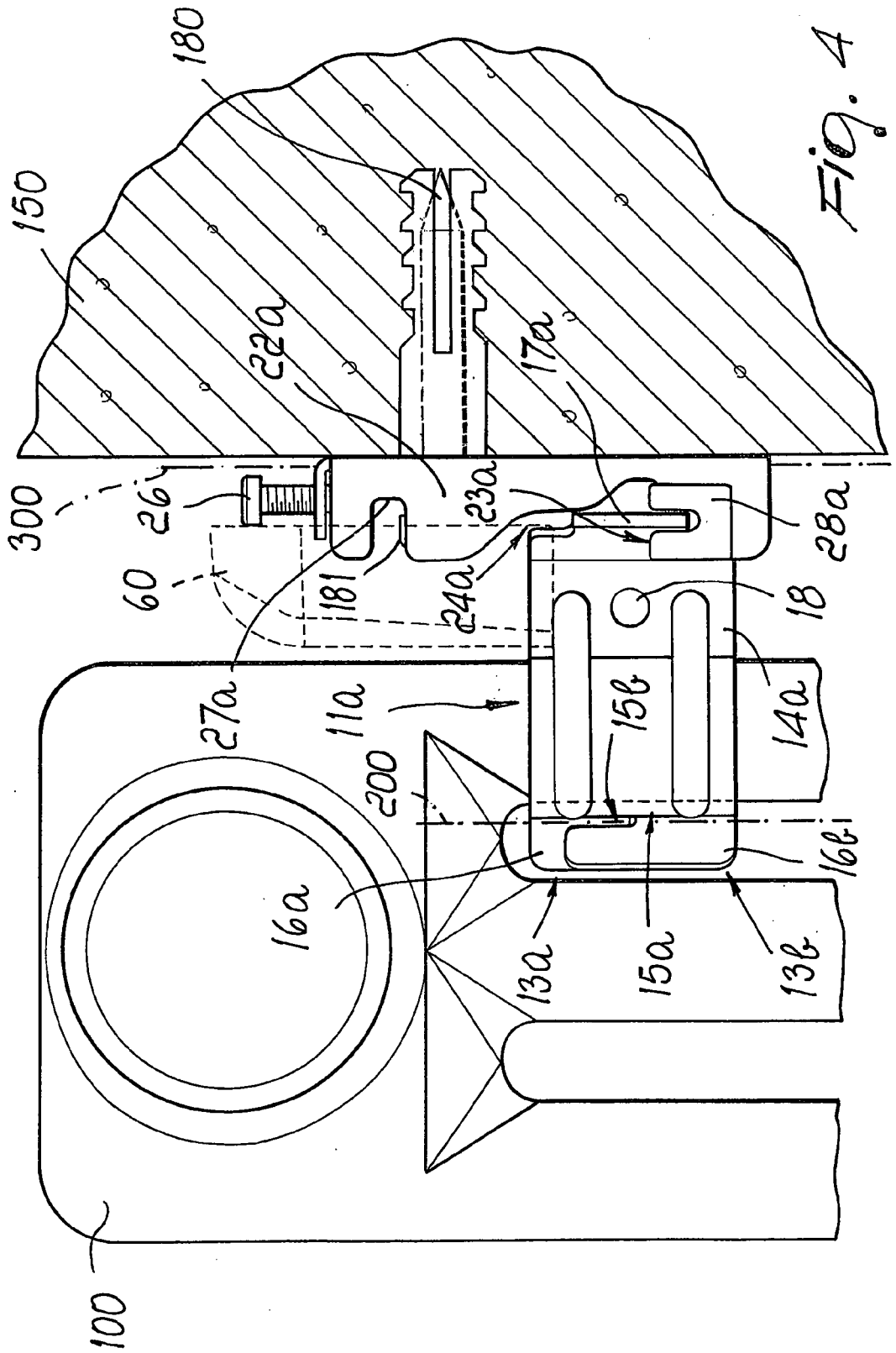
Fig. 3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17a
300
26
23a
28a
60
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18
27a
11a
15b
14a
200
16b
16a
13a
15a
13b
100

Fig. 4

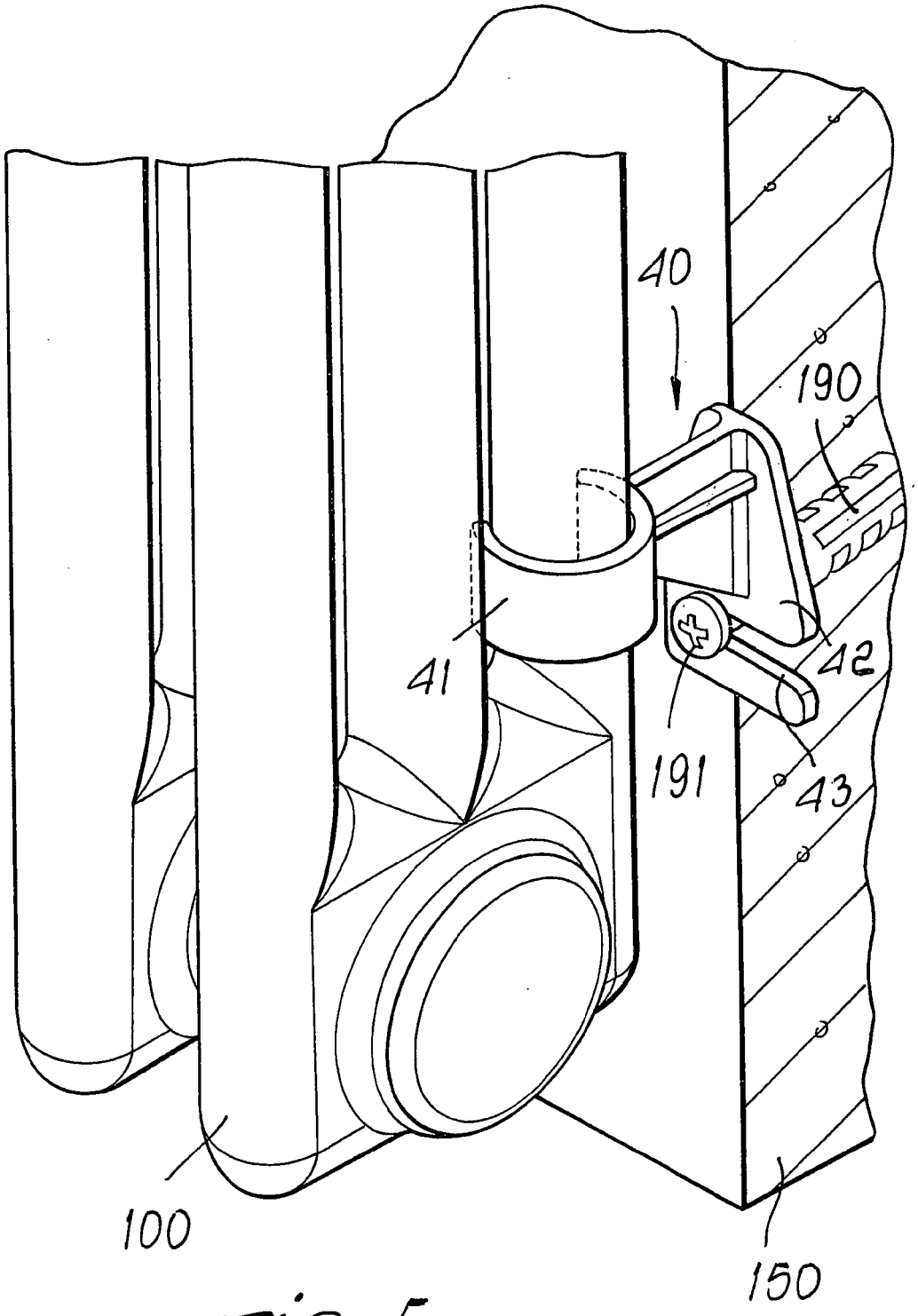


Fig. 5

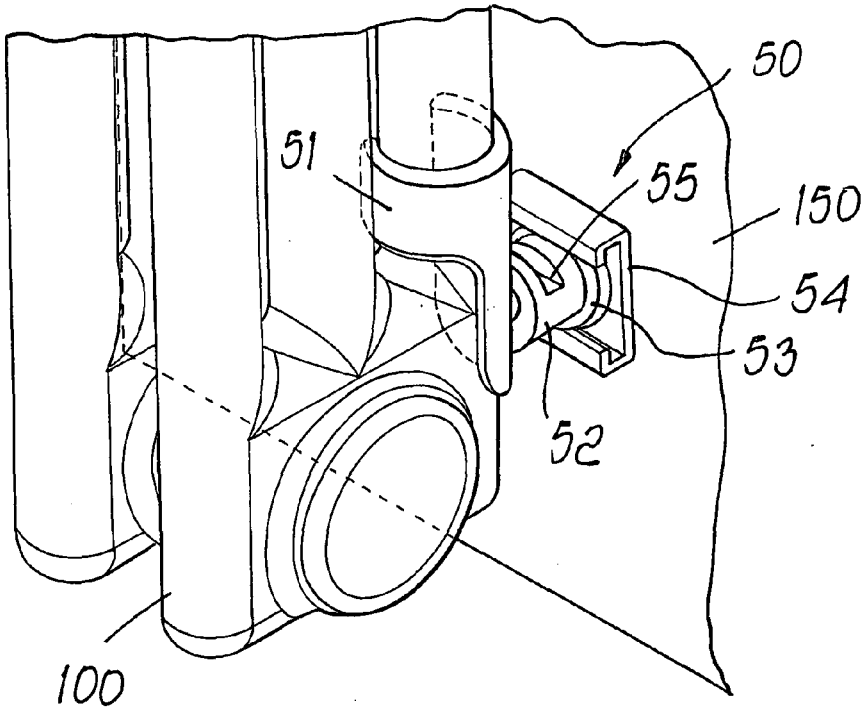


Fig. 6

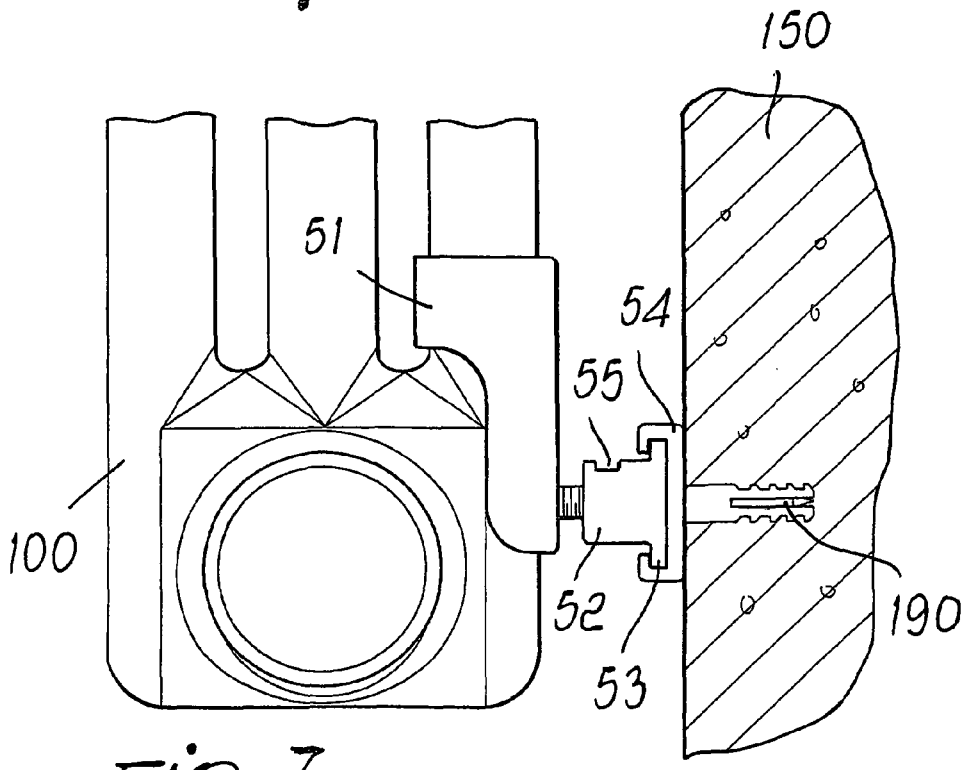


Fig. 7

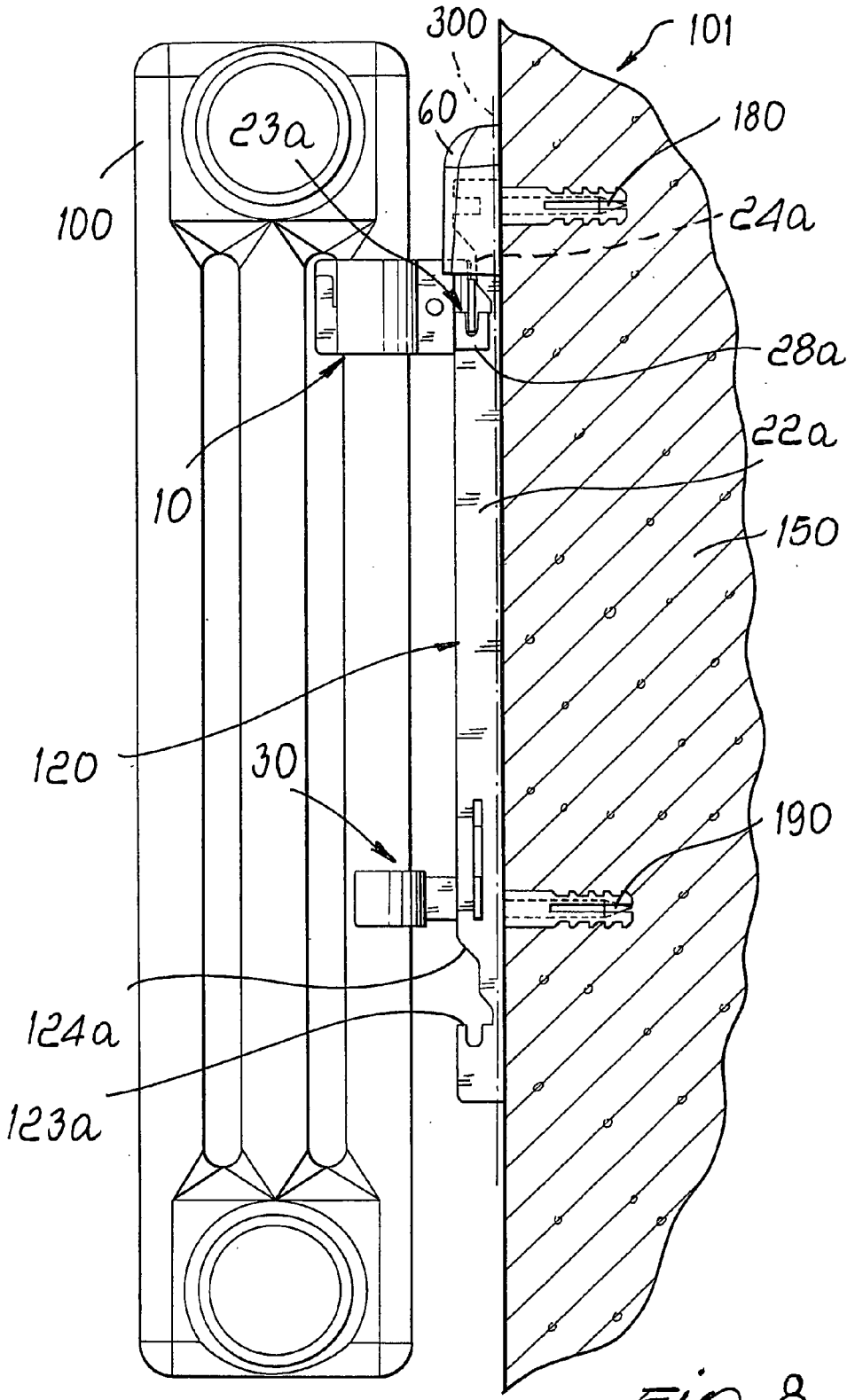
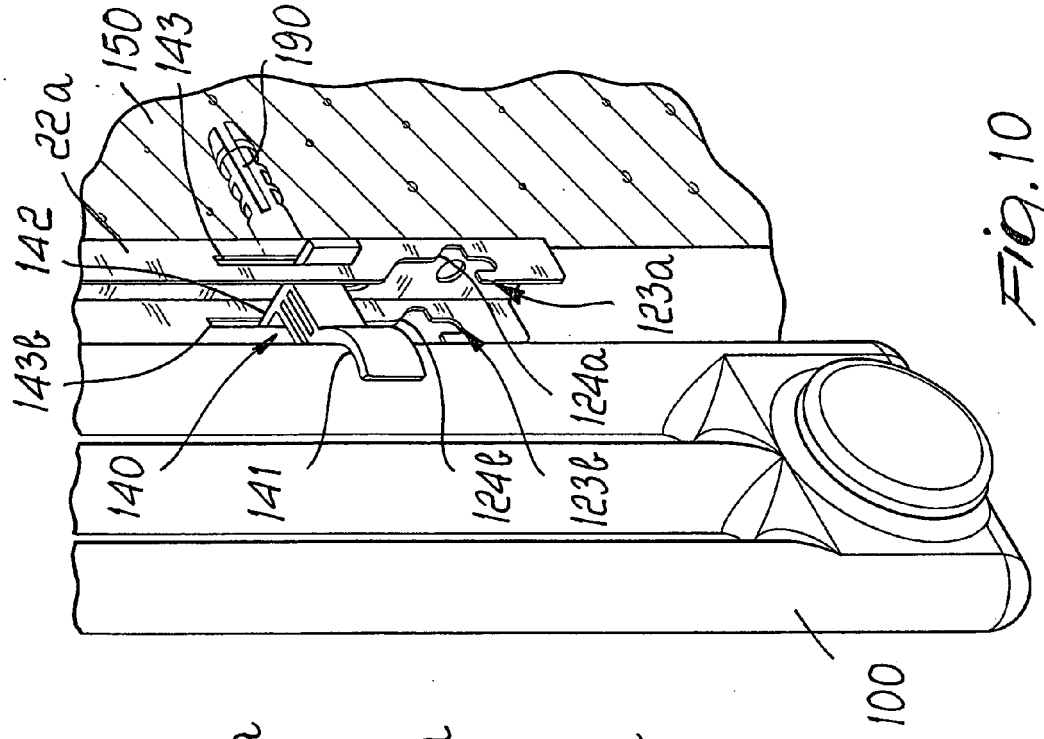


Fig. 8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143
190
22a
142
143b
140
141
124b
123b
124a
123a
100

Fig. 10

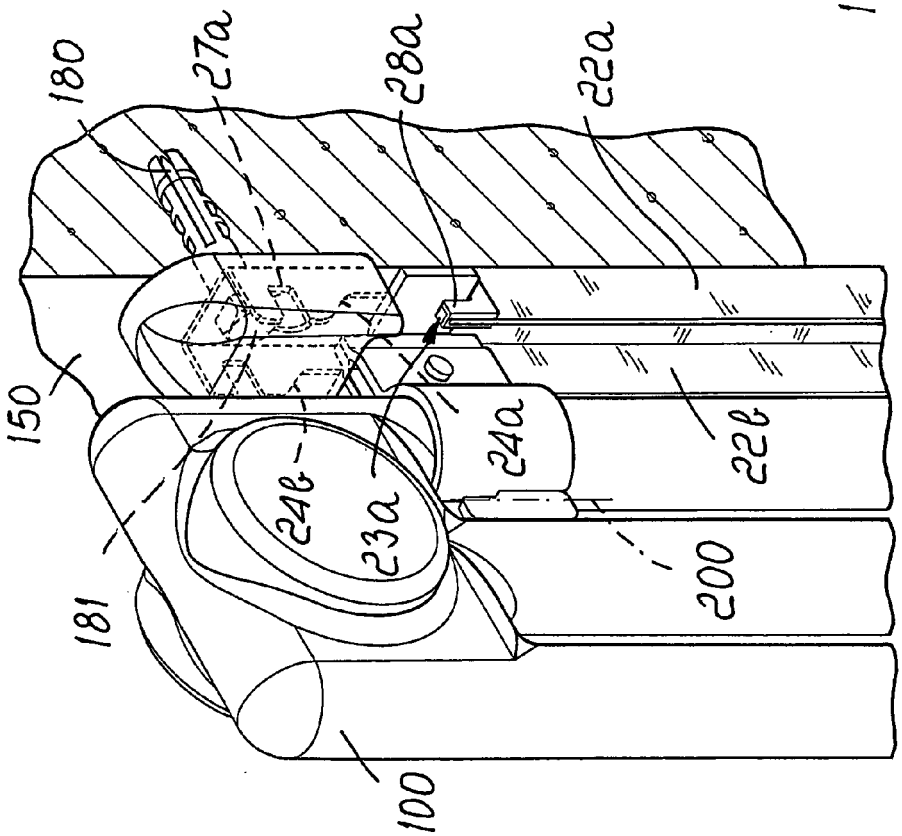
180
27a
28a
22a
150
24b
23a
24a
22b
181
200
100

Fig. 9

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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