A stair handrail mounting bracket facilitates the installation of handrails, the bracket including a series of elements that make it, mechanically, a fixed support of the handrail anchored to the nosing of the steps, allowing the automatic and uniform positioning at a level of the handrail for the whole length of the stairs before it is fixed to the wall. The mounting bracket includes two support bases, a system of clamping elements including a clamp provided with a threaded bar that can be adjusted via a nylon knob. The nylon know allows the tightening or loosening of the support that anchors the bracket support bases to the stair step nosing. The bracket support bases includes two sliding tracks on which to slide a support bar that can be locked in place as required with two geared knobs.
STAIR HANDRAIL MOUNTING BRACKET

CROSS-REFERENCE TO RELATED U.S. APPLICATIONS

[0001] Not applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] Not applicable.

NAMES OF PARTIES TO A JOINT RESEARCH AGREEMENT

[0003] Not applicable.

REFERENCE TO AN APPENDIX SUBMITTED ON COMPACT DISC

[0004] Not applicable.

BACKGROUND OF THE INVENTION

[0005] 1. Field of the Invention

[0006] The present invention relates to a bracket whose component parts facilitate the installation of stair handrails because they allow the worker to keep the handrail mechanically fixed to the stair steps before it is fixed to the load-bearing wall so as to guarantee the automatic and uniform positioning of the handrail at level for the whole length of the stairs.


[0008] Currently, installation of stair handrails is carried out manually and needs to be done by several workers whose number is proportional to the length of the stairs.

[0009] In particular, today there do not exist tools that will allow the mechanical locking of the handrail before it is finally fixed to the load-bearing wall of the stairs, with the result that it is particularly difficult to position the handrail at a uniform level for the whole length of the stairs.

BRIEF SUMMARY OF THE INVENTION

[0010] It is an object of the present invention to provide users with a handy, light and inexpensive bracket that will make it easier to install a stair handrail with the prior mechanical locking of the handrail to the stair steps before it is fixed to the load-bearing wall so as to facilitate the automatic and uniform positioning of the handrail at level for the whole length of the stairs.

[0011] It is another object of the present invention to provide workers with a simple, inexpensive tool that will eliminate the problems described above.

[0012] It is another object of the present invention to reduce the labor required so as to lower the cost of installing stair handrails and in any case to facilitate and improve their installation.

[0013] These and other objects are achieved by the stair handrail mounting bracket whose components mechanically define its function of fixed handrail support anchored to the nosing of the stair steps, that is, to their protruding part, before the handrail is fixed to the load-bearing wall, so as to facilitate the installation of the handrail and, in particular, its automatic and uniform positioning at level for the whole length of the stairs. For stair steps without nosing or steps that are rounded, and therefore such that the bracket cannot be anchored, the present invention has a variant whereby the prior fixing of the bracket to the step is brought about by a 20/25 kg weight provided by a piston that is inserted in the opposite end of the support bar on which the handrail support and locking base is mounted.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0014] Other characteristics and advantages of the invention will become more readily apparent from the description of a preferred but not exclusive embodiment, of the invention illustrated by way of non-limiting example in the accompanying drawings.

[0015] FIG. 1 is a perspective view of the invention of the present application complete with all its functional parts.

[0016] FIG. 2 shows a schematic view of the two support bases of the system on the step.

[0017] FIG. 3 is a perspective view of the clamp for clamping the support bases to the step.

[0018] FIG. 4 shows a schematic view of the support bar, which is preferably telescopic so that the bracket can also be adjusted according to the width of the stairs on which the handrail is to be installed.

[0019] FIG. 5 shows a schematic view, representing the handrail support base with its locking system.

[0020] FIG. 6 is a perspective view of the invention with the variant envisaged in the case of steps without nosing or rounded steps.

DETAILED DESCRIPTION OF THE INVENTION

[0021] The invention consists of a stair handrail mounting bracket made up of a system for mechanically fixing it to the stair steps consisting of two support bases (1) and (1/a) that are anchored to the nosing of the steps with a clamping clamp (2) provided with a threaded bar (3) that can be adjusted via a nylon knob (4) to allow tightening or loosening of the anchoring supports (5) and (5/a) on the stair step nosing. The support bases (1) and (1/a) have two sliding tracks (7) and (7/a) on which are inserted a support bar (6) that can be locked as required via two geared knobs (8) and (8/a). The support bar (6) is preferably telescopic so that the invention can also be adjusted according to the width of the stairs on which the handrail is to be installed.

[0022] A threaded bar (9) is welded on the outside of the bracket and its purpose is to support and adjust the support base of the handrail (10) both widthways and lengthways according to the pitch lines of the stairs so that, once the handrail has been placed at uniform level after being locked with a quick clamp (11), it can easily be fixed to the stair load-bearing wall.

[0023] In the case where the stairs have steps without nosing or with their final part rounded, the above described invention has the variant of replacing the above described fixing system with a 20/25 kg weight (12) that is inserted inside the support bar (6) and fixed to it with a pin (13). In this variant, the invention will have just one support base (1) on the step, and it will be adjusted to the height of the step via the threaded bar (3) and the nylon knob (4).

[0024] The materials and dimensions of the invention as described above, illustrated in the accompanying drawings and claimed below, may be any according to requirements. Moreover, all the details can be replaced with other technically equivalent ones.
1. Stair handrail mounting bracket facilitating installation of handrails and being, mechanically, a fixed support of a handrail anchored to a nosing of steps so as to allow automatic and uniform positioning at a level of the handrail for an entire length of the stairs before being fixed to the wall, said mounting bracket comprising:
   two support bases;
   a system of clamping elements being comprised of a clamp provided with a threaded bar, said threaded bar being adjusted via a nylon knob, said nylon knob tightening or loosening support anchoring the support bases to the stair step nosing, the support bases being comprised of two sliding tracks, a support bar being slidable on the sliding tracks and locked in place as required with two geared knobs, further comprising, for stair steps without nosing or steps that are rounded, a 20/25 kg weight provided by a piston inserted in an opposite end of the support bar.

2. Handrail mounting bracket as claimed in claims 1, wherein said clamp is adjusted via a nylon knob, tightening or loosening of anchoring supports on the stair step nosing.

3. Handrail mounting bracket as claimed in claim 1, wherein said support bases have two sliding tracks and a support bar inserted on the tracks, said support bar being telescopic so that the handrail can also be supported and adjusted according to the width of the stairs on which the handrail is to be installed and that can be locked as required via two geared knobs.

4. Handrail mounting bracket as claimed in claim 1, wherein said support bar is telescopic, adapting according to the width of the stairs on which the handrail is to be installed.

5. Handrail mounting bracket as claimed in claim 1, further comprising:
   a locking system being comprised of a threaded bar and a quick clamp respectively supporting and adjusting the support base both widthways and vertically according to the pitch lines of the stairs, being locked in place before proceeding to fix the base to the stair load-bearing wall.

6. Handrail mounting bracket as claimed in claim 1, wherein each support base adjusts both widthways and vertically according to the pitch lines of the stairs.

7. Handrail mounting bracket as claimed in claim 1, further comprising:
   for steps without nosing, a 20/25 kg weight, the support base being inserted inside the weight.

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