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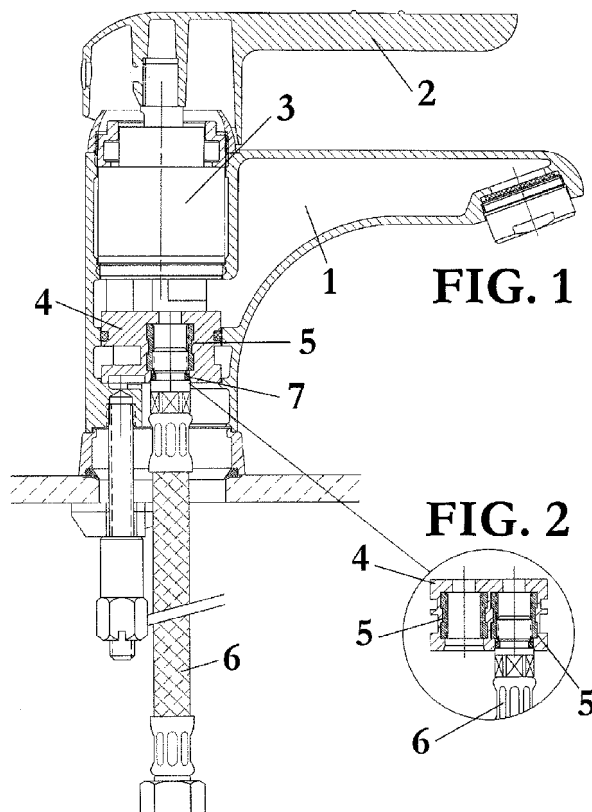
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(54) **Single lever tap**

(57) The single lever tap comprises a carcass (1) provided with a driving lever (2); a single lever cartridge (3) housed inside said carcass (1) provided with a cold water input, a hot water input and a water exit; an insertion (4) made from plastic material for connecting two water input tubes (6) from the mains with said cold water and hot water inputs of the cartridge (3); and it is characterised

in that it also comprises a pair of metallic connexion elements (5) completely housed inside said insertion (4) made from plastic material.

It permits to use conventional flexible connexion tubes and, at the same time, the sealing of the tap is easily obtained with no complex designs of the carcass, so that it is easier and cheaper to manufacture, using less brass than the conventional taps, being lighter.



Description

[0001] The present invention refers to a tap, particularly a tap of single lever kind comprising an input connection for cold water and an input connexion for hot water, permitting to obtain a cast system of the bodies, the assembly of the connexion elements to the mains and a sealing system for the water inputs in a simpler way than the conventional single lever taps.

BACKGROUND OF THE INVENTION

[0002] The single lever taps comprise a single lever linked to a cartridge, through which the temperature of the exit water can be regulated, changing the mixture degree of cold and hot water, and the volume of flow.

[0003] The temperature regulation is done rotating the lever to the right or to the left, and the volume of flow regulation is done lifting said lever more or less.

[0004] One of the problems of the single lever taps in the cast system of their bodies (currently solid) and the high costs involved.

[0005] Alternatively, in some taps empty bodies have been designed with insertions made from a different material than that of the conventional cast, just to decrease their production costs. These systems currently require special connexion devices to simplify the internal design of the tap body. These solutions permit to decrease the manufacturing costs of each individual tap, but prevent the use of conventional connexion tubes.

[0006] Therefore, it is apparent the need of a tap in which the connexion is done by conventional flexible connexion tubes and, at the same time, the internal design of the tap body being as simpler as possible.

DESCRIPTION OF THE INVENTION

[0007] With the tap of the invention said drawbacks can be solved, presenting other advantages that will be described.

[0008] The single lever tap of the present invention comprises:

- a carcass provided with a driving lever;
- a single lever cartridge housed inside said carcass provided with an input for cold water, an input for hot water and a water exit;
- an insertion made from plastic material for connecting two input tubes for water from the mains with said inputs for cold water and hot water of the cartridge;

and it is characterised in that it also comprises a pair of metallic connexion elements completely housed inside said insertion made from plastic material.

[0009] Thanks to this feature, conventional flexible connexion tubes can be used and, at the same time, the sealing of the tap can be easily obtained with no complex designs of the carcass, so that it is easier and more eco-

nomical to be manufactured, and it permits to use less brass than the conventional taps, and it being lighter.

[0010] Advantageously, said insertion from plastic material comprises a closing area for seating each gasket that includes the flexible connexions which have the function of the input tubes for water from the mains, guaranteeing the sealing between said elements.

[0011] Preferably, said insertion from plastic material includes internal connexion elements, provided during the injection of the insertion itself, which are cylindrical fittings with an anti-rotation perimeter teeth and they provided with a threaded internal passage.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] For a better understanding of what has been described, some drawings are attached in which, diagrammatically and only as a non-limitative example, a practical embodiment is shown.

Fig. 1 is an elevation view of a cross-sectioned tap of the present invention; and

Fig. 2 is a detail of the connexion elements of the tap of the present invention.

DESCRIPTION OF A PREFERRED EMBODIMENT

[0013] As shown in Fig. 1, the single lever tap of the present invention comprises a carcass 1 provided with a lever 2, whose driving regulates the volume of flow and the temperature of the water that exits the tap.

[0014] Inside the carcass 1 a cartridge 3 is placed, where the mixture of hot water and cold water is done. This cartridge 3 is conventional and does not form part of the present invention, so that it is not described in detail, because it is known.

[0015] Under said cartridge 3 an insertion 4 made from plastic material is placed, whose function is double: to permit the sealing of the inner part of the carcass 1 through which the water passes, and to make easier the water connexion from the mains.

[0016] For this connexion, said insertion 4 made from plastic material houses inside it a pair of connexion elements 5 for connecting a pair of water input tubes 6. Said water input tubes 6 are two: one for cold water and another for hot water.

[0017] As shown in Fig. 1, said connexion elements 5 are completely housed inside said plastic insertion 4. This is done this way to make easier the sealing at the water inputs from the mains. On the other hand, the sealing is also obtained between the insertion 4 from plastic material and the carcass 1, which is usually made from brass, i.e. the sealing between the plastic and the metal of the body.

[0018] Said plastic insertion 4 comprises for each water input where the connexion elements 5 are placed, a closing area for seating each gasket 7 including the water input tubes 6, as shown with more detail in Fig. 2.

[0019] In this Fig. 2 a detail of the connexion elements is shown.

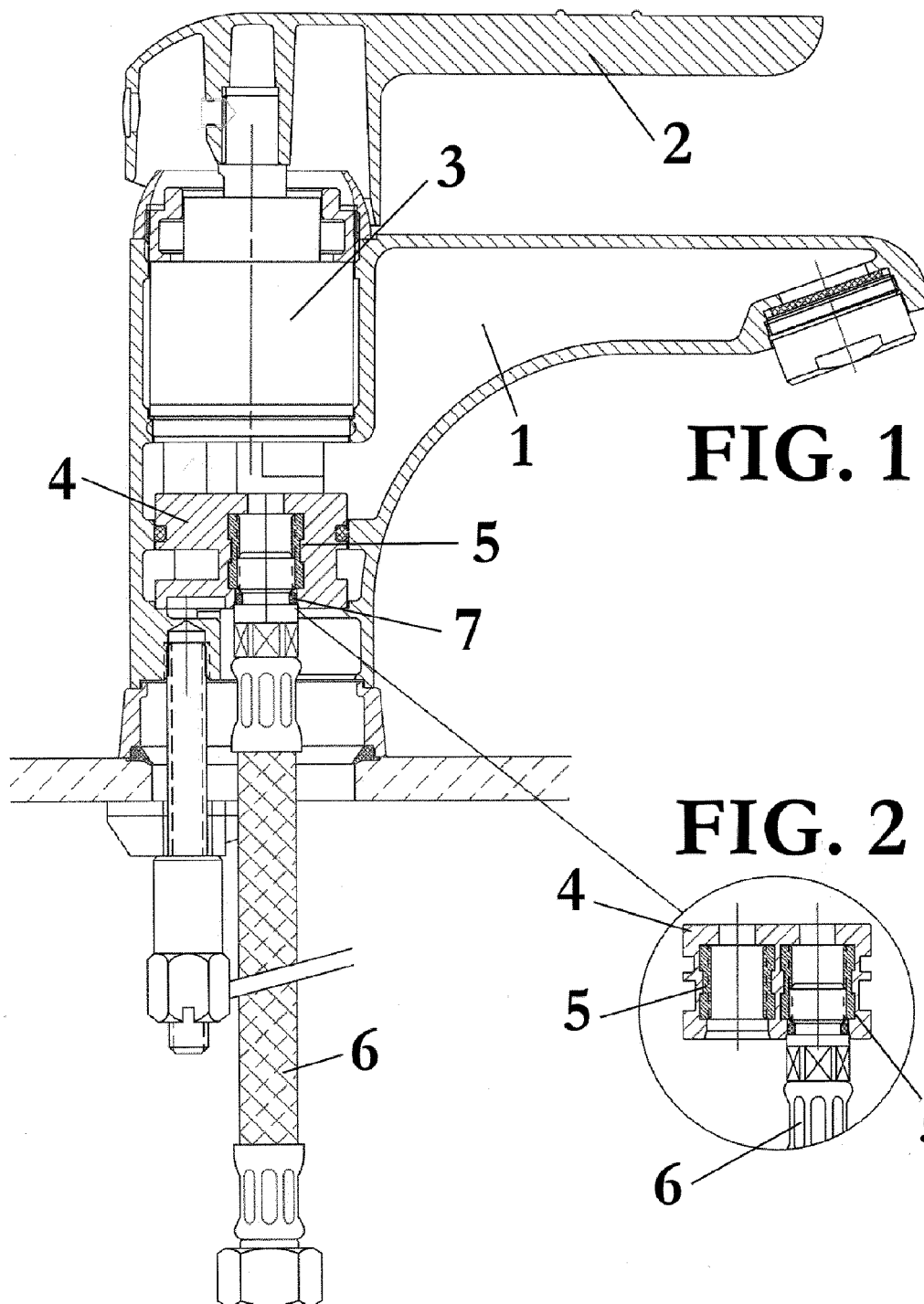
[0020] Preferably, these connexion elements 5 are cylindrical fittings with an internal threaded passage. The function of the internal thread is to permit the engagement of said water input tubes 6 standard in the market, which are conventional flexible connexions, so that the single lever tap of the present invention can be used in any conventional water input installation.

[0021] As shown in Fig. 2, the wall thickness of said fittings 5 is reduced to use the minimum possible material, but they have a design with external perimeter grooves which provides an anti-rotation feature.

[0022] Even though reference is made to a specific embodiment of the invention, it is apparent for a person skilled in the art that the disclosed single lever tap is susceptible of a lot of variations and modifications, and that all the details cited can be substituted by other technically equivalent ones, without departing from the scope of protection defined by the attached claims.

Claims

1. Single lever tap, comprising:
 - a carcass (1) provided with a driving lever (2);
 - a single lever cartridge (3) housed inside said carcass (1) provided with a cold water input, a hot water input and a water exit;
 - an insertion (4) made from plastic material for connecting two water input tubes (6) from the mains with said cold water and hot water inputs of the cartridge (3);
 - characterised in that** it also comprises a pair of metallic connexion elements (5) completely housed inside said insertion (4) made from plastic material.
2. Single lever tap according to claim 1, wherein said insertion (4) made from plastic material comprises a closing area for seating a gasket (7) included in the standard flexible tubes (6) for the entry of water from the mains.
3. Single lever tap according to claim 1 or claim 2, wherein said connexion elements (5) are cylindrical fittings provided with a threaded internal passage to be connected to said standard flexible tubes (6) and with an external perimeter are with anti-rotation grooves.





EUROPEAN SEARCH REPORT

Application Number
EP 11 38 2277

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	AT 405 968 B (IDEAL STANDARD [DE]) 25 January 2000 (2000-01-25) * page 2, line 23 - line 39 * * page 2, line 50 - line 56 * * page 3, line 16 - line 35 * * figures 2-4 * * claims 1-3,6-8 * -----	1-3	INV. E03C1/04 F16K11/078
			TECHNICAL FIELDS SEARCHED (IPC)
			E03C F16K
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		27 January 2012	Van Bost, Sonia
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 38 2277

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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27-01-2012

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
AT 405968	B	25-01-2000	NONE

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82