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(54) **The set of pipes and fittings for hot and cold water and installation of central heating**

(57) This invention solves the problem of a design for combination pipes and fittings for hot and cold water and installation of central heating.

The set consists of a conduit (1) with combination pipes (2) and (3) as well as fittings (4), (5) and (6).

The cross section of conduit (1) is preferably oval where, inside, it houses two combination pipes (2) and (3), one next to the other, which are parallel with respect to each other, where combination pipe (2) is designated for hot water, while combination pipe (3) is designated for cold water.

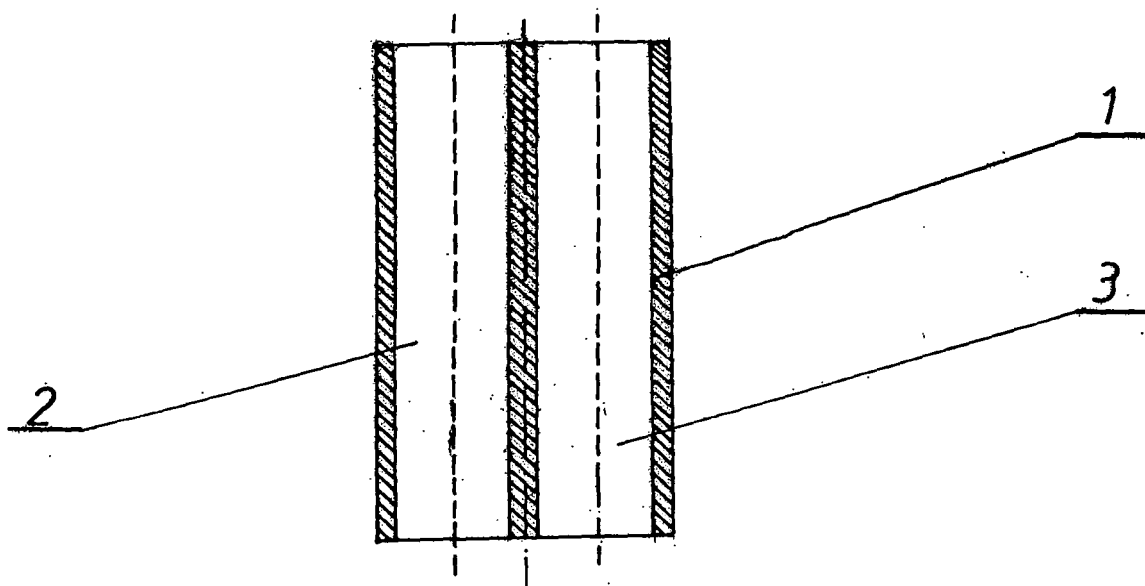


Fig. 1

EP 2 273 204 A2

Description

[0001] The subject of the invention is the set of pipes and fittings for hot and cold water and installation of central heating, finding its usage in residential buildings, office and retail service buildings, industrial plants and other buildings.

[0002] To date, there have been no solutions for a combination system where a single conduit contains a pipe for conducting cold water and pipe for conducting hot water.

[0003] The essence of the invention involves the construction design of the combination of pipes and fittings making up a set for installing hot and cold water systems as well as central heating systems, inclusive of connections.

[0004] The set of invention includes a conduit, preferably oval in section, inside of which the combination pipes are placed, one next to the other. One pipe is designated for cold water while the other is for hot water. The set includes fittings making connections possible. The fittings intended for making a hook-up to a fixture at an angle of 90° in opposite directions has a cross section similar in outline to the letter "T". It is provided with two openings matching the cross sectional diameters of the pipes in the combination conduit. These openings are bent at an angle and directed in opposite directions. The ends on one side consist of an internally or externally threaded insert. They may also be cut clean, creating a surface for connecting with the combination pipe by welding. On the opposite side, the edges of the fitting are cut clean, forming a surface for connecting with the combination pipe by welding.

[0005] The fitting designated for 90° connections in one direction has a cross sectional outline reminiscent of an upside-down letter "L". Its edges are cut clean on one side forming surfaces for connecting with the combination pipe by welding. The ends on the other side of the fitting have internally or externally threaded inserts. They may also be cut clean to form a surface for connecting by welding.

[0006] A fitting designated for straight connection with a fixture has a cross sectional outline reminiscent of a cylinder becoming a truncated cone and ultimately a ring. Openings made inside the fitting match the dimensions of the combination pipes. These openings are parallel to each other along a short segment and subsequently diverge sideways to run at an angle. On the wider side of the fitting, the openings are provided with internal or external threaded inserts. They can also be cut clean to create a surface for connection with the combination pipes by welding. On the cylinder side, the edges of the fitting are cut clean creating a surface for connection with the combination pipe conduits by welding.

[0007] The solution, in line with the invention, allows the reduction of costs in the manufacture and installation of pipes and fittings. Moreover, the solution facilitates a shortening of system installation time. It also influences

the lowering of production costs of individual elements.

[0008] The subject of this invention is explained in the example in the attached drawing, where figure No.1 - shows a longitudinal section of the combination pipe conduit, figure No.2 - shows the cross section, figure No.3 - depicts a fitting for making opposite direction 90° connections, figure No.4 - illustrates the fitting for making double connections on one side, while figure No.5 - presents the fitting for making straight connections.

[0009] The set of pipes and fittings for hot and cold water and the installation of central heating, according to the invention consists of conduit 1 which contains combination pipes 2 and 3, one next to the other, where combination pipe 2 is designated for hot water, while combination pipe 3 is for cold water. Conduit 1 is oval in cross section. The set also includes fittings 4, 5 and 6.

[0010] Fitting 4 serves to make a connection between conduit 1, combination pipes 2 and 3, and a fixture in two opposite directions. Fitting 4 has a cross sectional outline similar to the letter "T". Fitting 4 has openings 2' and 3' inside, which match the openings of combination pipes 2 and 3. On one side, the edges of fitting 4 are cut clean, forming a surface for connection with conduit 1 combination pipes 2 and 3, applying the polydiffusion welding method. At the opposite end, openings 2' and 3' are provided with metal inserts 7 that are threaded on the outside.

[0011] Fitting 5 is designated for making connections between conduit 1, combination pipes 2 and 3, and a fixture at a 90° angle in the same direction. Fitting 5 has a cross sectional outline similar to an upside-down letter "L" and is provided with openings 2' and 3' bent at an angle to one side, which match the openings of combination pipes 2 and 3. On one side, the edges of fitting 5 are cut clean, forming a surface for connection with conduit 1 combination pipes 2 and 3, applying the polydiffusion welding method. On the opposite side, openings 2' and 3' are provided with metal inserts 7 that are threaded on the inside.

[0012] Fitting 6 is designated for making connection between combined pipes 2 and 3 of conduit 1, and a fixture located straight on. Fitting 6 has a cross sectional outline resembling a cylinder becoming a truncated cone and ultimately a ring. Openings 2' and 3' as made in fitting 6 match the openings of combination pipes 2 and 3 of conduit 1 and are parallel to each other along a short segment and are then bent to the sides to run at an angle. On the widened side, openings 2' and 3' are provided with metal inserts 7 threaded on the inside. On the opposite side, the edges are cut clean, forming a surface for connection with conduit 1 combination pipes 2 and 3, applying the polydiffusion welding method. On the opposite side, openings 2' and 3' are provided with metal inserts 7 that are threaded on the inside. Fitting 6 is designated for making connection between combined pipes 2 and 3 of conduit 1, and a fixture located straight on. Fitting 6 has a cross sectional outline resembling a cylinder becoming a truncated cone and ultimately a ring.

Openings 2' and 3' as made in fitting 6 match the openings of combination pipes 2 and 3 of conduit 1 and are parallel to each other along a short segment and are then bent to the sides to run at an angle. On the widened side, openings 2' and 3' are provided with metal inserts 7 threaded on the inside. On the opposite side, the edges are cut clean, forming a surface for connection with conduit 1 combination pipes 2 and 3, applying the polydiffusion welding method.

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(3') are at one end concluded by a threaded insert (7) or are cut clean, creating a surface for connection by welding with conduit (1) combination pipes (2) and (3) where on the opposite side the edges are cut clean creating a surface for connection by welding.

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Claims

1. The set of pipes and fittings for hot and cold water and installation of central heating, **characteristic in this, that** consists of conduit (1) with combination pipes (2) and (3) as well as fittings (4), (5) and (6), where conduit (1) preferably has an oval cross section with combination pipes (2) and (3) placed inside, one next to the other, where combination pipe (2) is designated for hot water, while combination pipe (3) is designated for cold water.
2. The set, as per claim 1, **characteristic in this, that**, fitting (4) in its cross section, has an outline similar to the letter "T" and is provided inside with openings (2') and (3') whose dimensions match those of combination pipes (2) and (3), where openings (2') and (3') are bent at an angle and directed in opposite directions and are concluded at one end by a threaded insert (7) or are cut clean, creating a surface for connection by welding with conduit (1) combination pipes (2) and (3), where on the opposite side the edges are cut clean creating a surface for connection by welding with conduit (1) combination pipes (2) and (3).
3. The set, as per claim 1, **characteristic in this, that** fitting (5) in its cross section, has an outline similar to an upside-down letter "L" and is provided with openings (2') and (3') whose dimensions match those of combination pipes (2) and (3), where openings (2') and (3') are bent at an angle and directed in the same direction and are concluded at one end by a threaded insert (7) or are cut clean, creating a surface for connection by welding with conduit (1) combination pipes (2) and (3), where on the opposite side the edges are cut clean creating a surface for connection by welding.
4. The set, as per claim 1, **characteristic in this, that** fitting (6), in its cross section, has an outline reminiscent of a cylinder becoming a truncated cone and ultimately a ring and is provided with openings (2') and (3') whose dimensions match those of combination pipes (2) and (3) where openings (2') and (3') are initially parallel over a short section and then bent to the sides and angled, where openings (2') and

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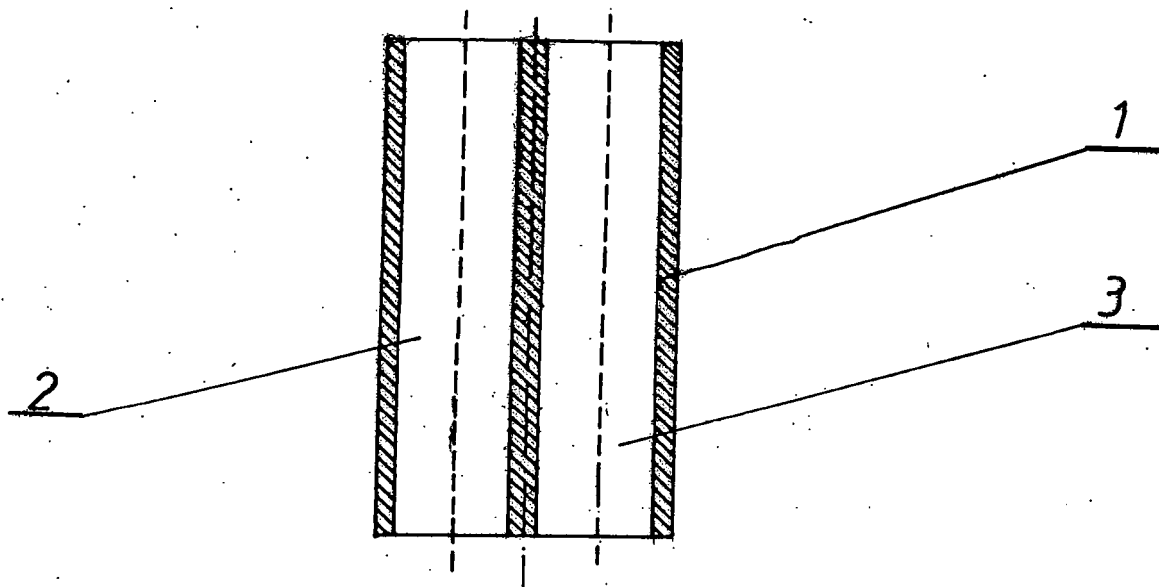


Fig. 1

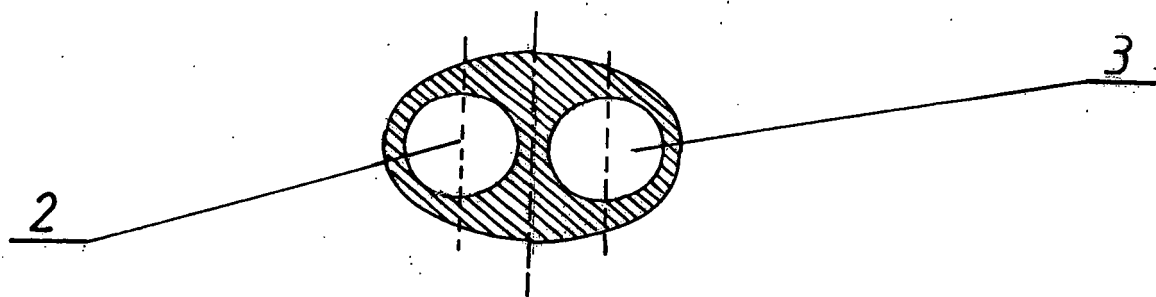


Fig. 2

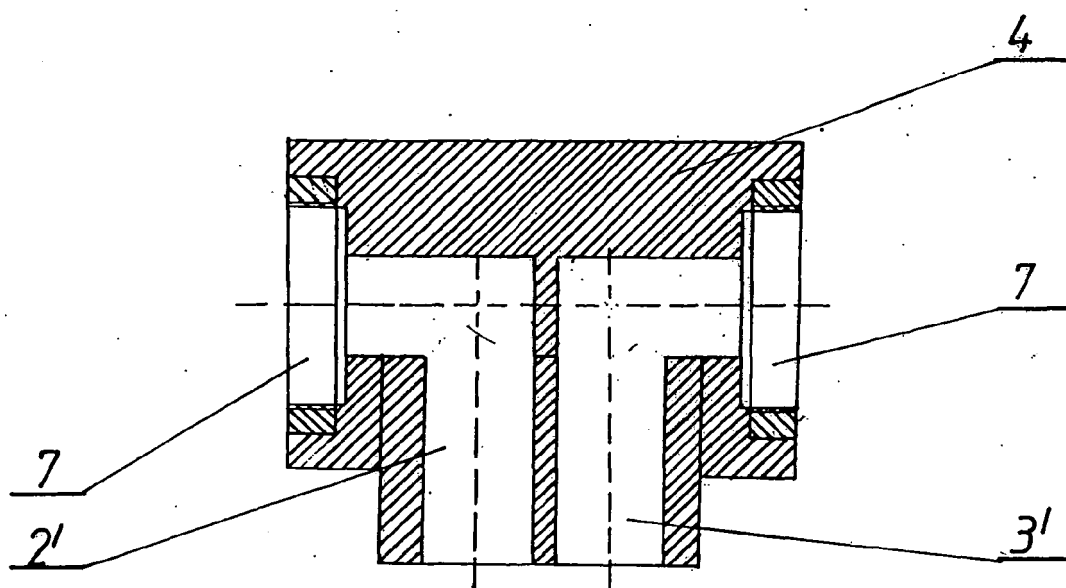


Fig. 3

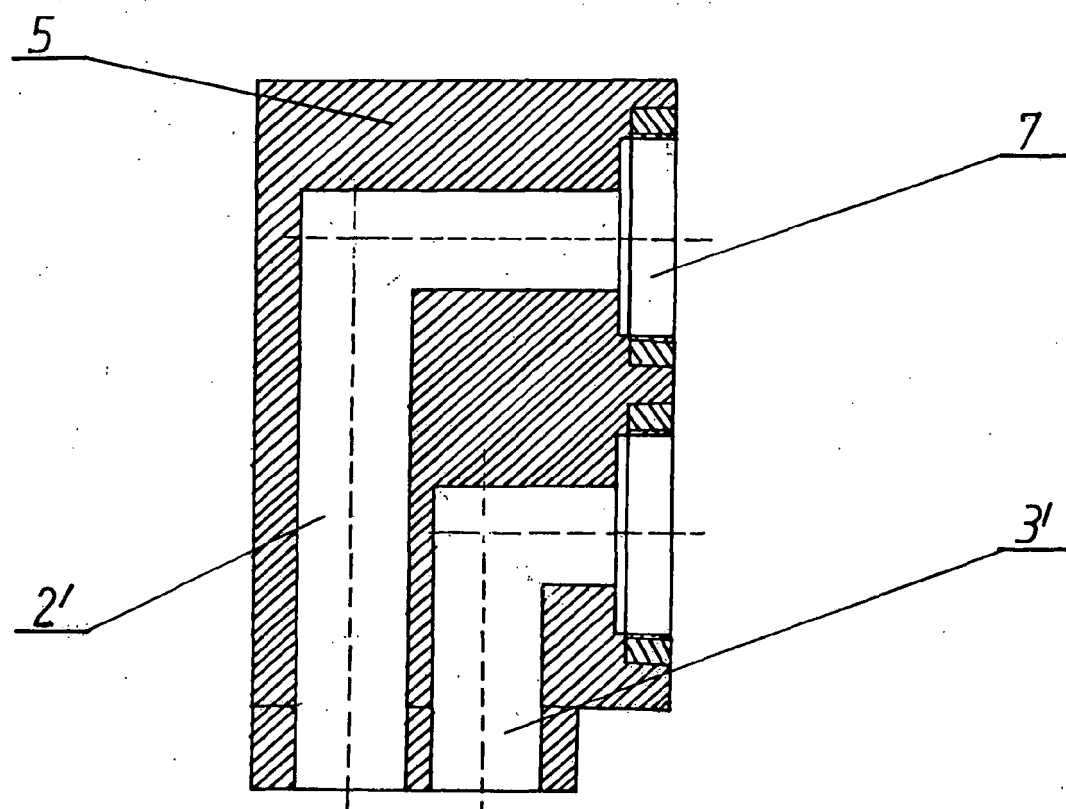


Fig. 4

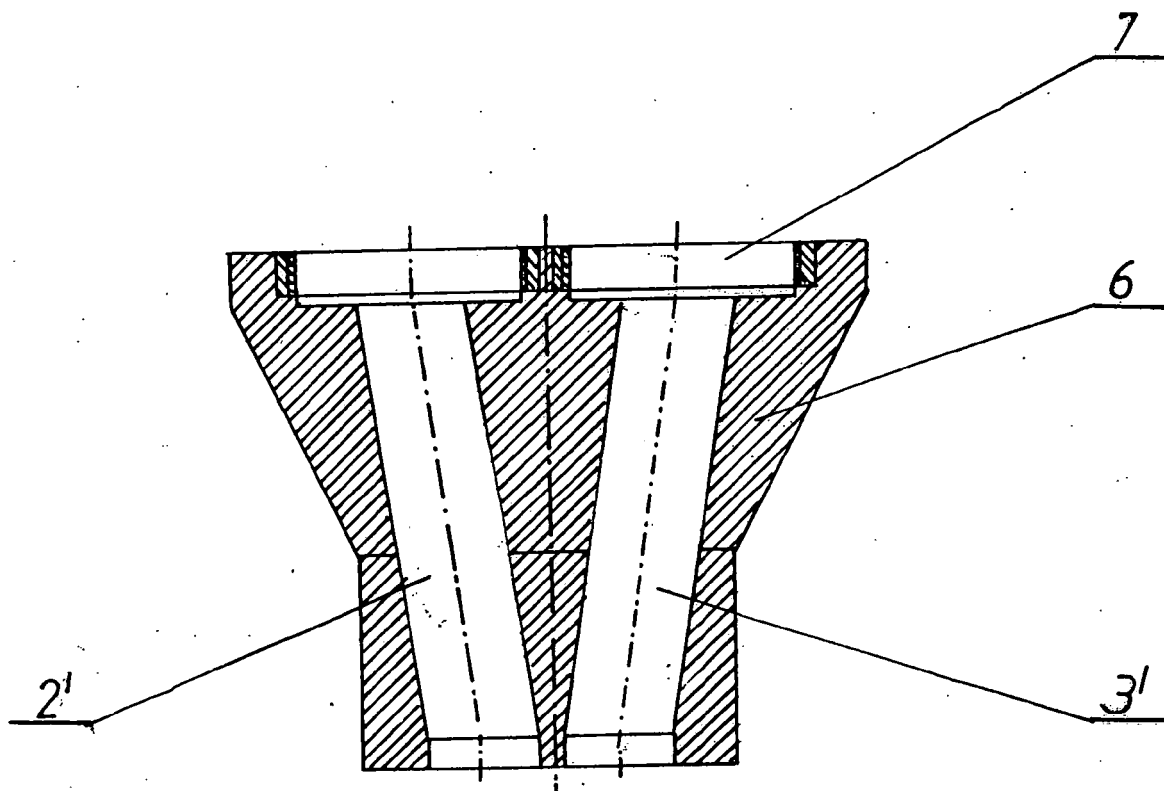


Fig. 5