Feb. 25, 1941. J. W. McGARRY 2,233,267

PLURAL-VALVE PLUMBING FIXTURE

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Fig. 1.

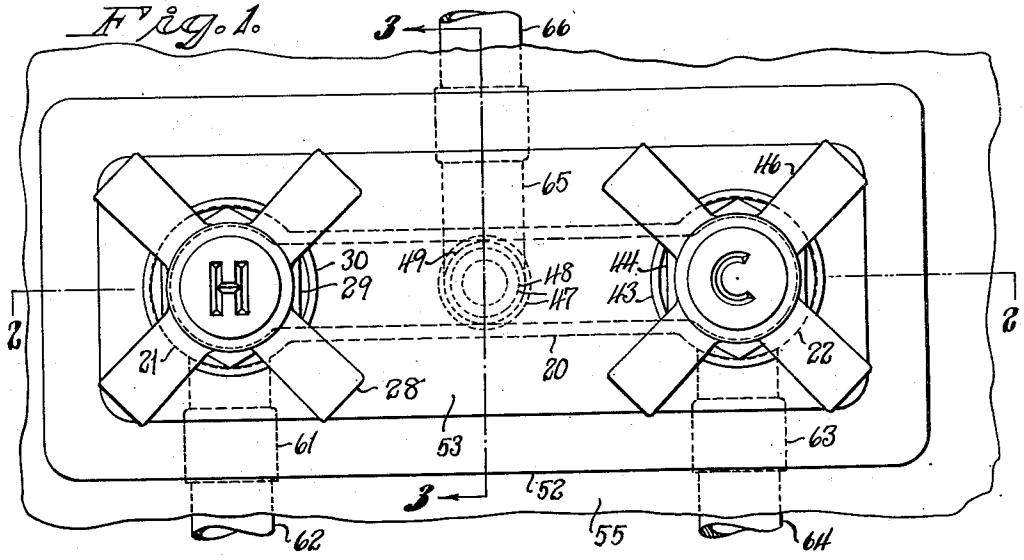
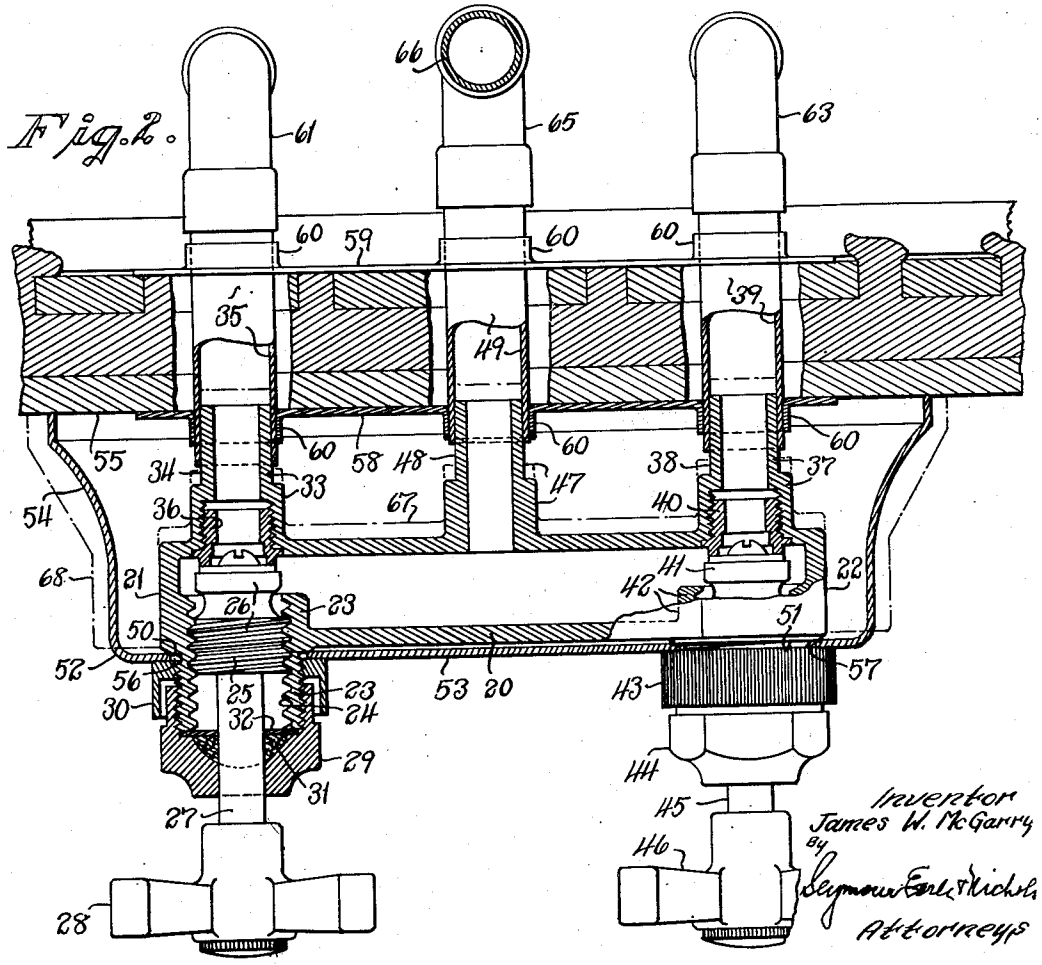


Fig. 2.



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Fig. 3.

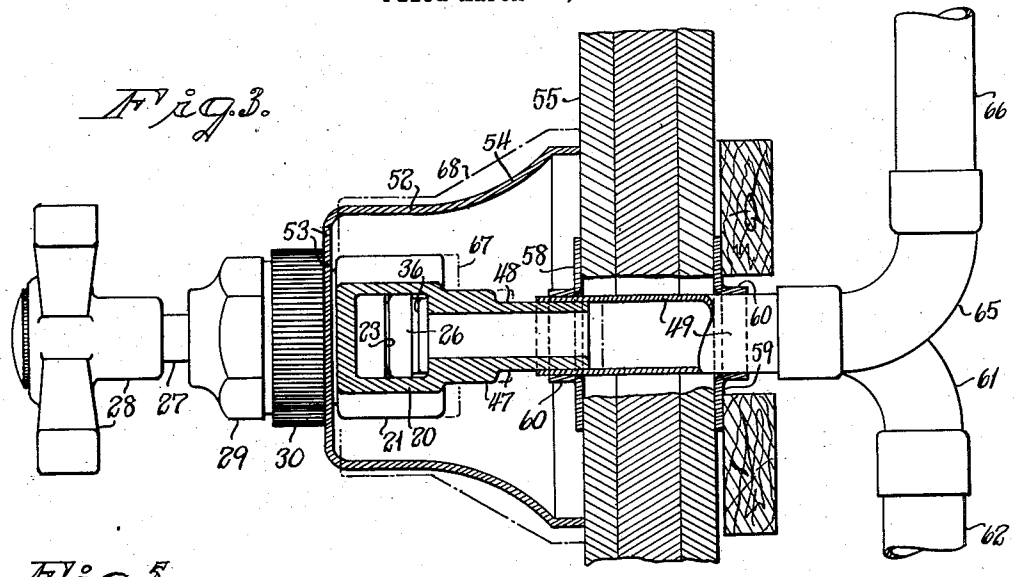


Fig. 5.

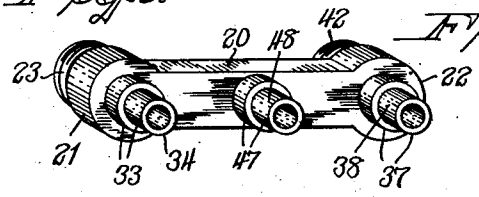


Fig. 6.

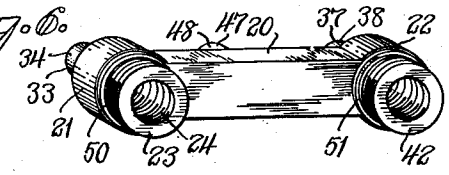
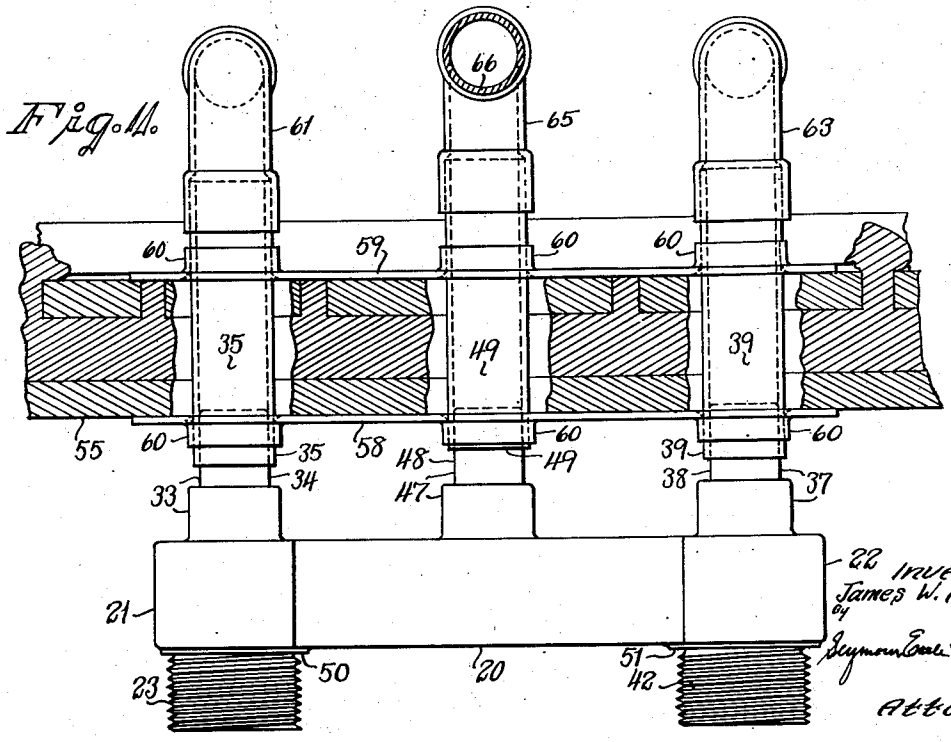


Fig. 4.



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Fig. 8.

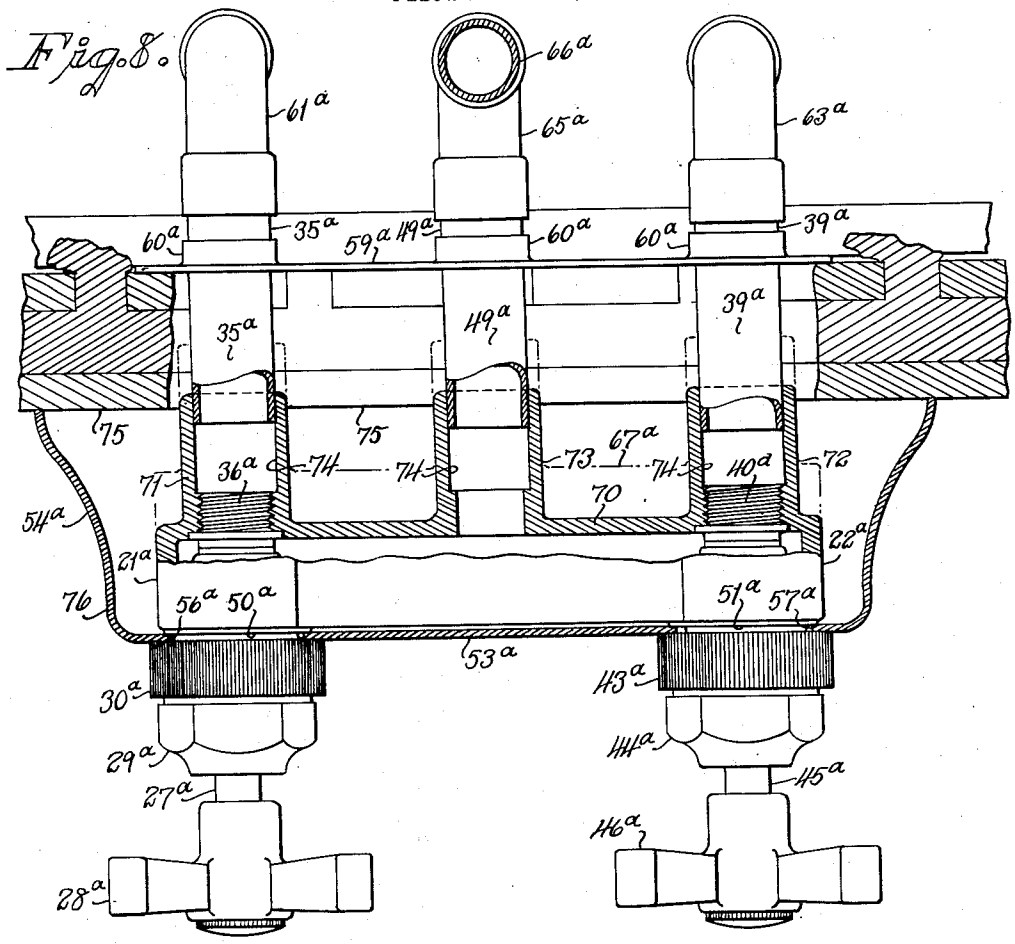


Fig. 9.

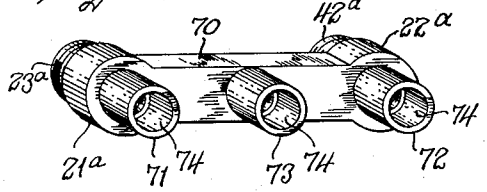
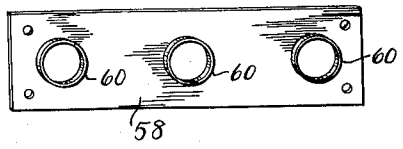


Fig. 10.



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UNITED STATES PATENT OFFICE

2,233,267

PLURAL-VALVE PLUMBING FIXTURE

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Application March 22, 1940, Serial No. 325,312

4 Claims. (Cl. 137—111)

The present invention relates to improvements in plumbing fixtures and more particularly to plumbing fixtures having two or more valves, each of which requires distinct piping connections but which feed water to a common outlet.

Among the many objections to plural-valve plumbing fixtures as ordinarily constructed is the difficulty of securing the desired positioning of the fixture with respect to a wall surface without repeated "cuts" and "tries."

A further handicap of plural-valve plumbing fixtures as heretofore produced has been the great difficulty of accommodating the rigid fixture to a plurality of pipes, the terminals of which are positioned at varying distances from a wall surface.

A further objection of prior plural-valve plumbing fixtures which may be here mentioned resides in the fact that such fixtures are not readily installable at different distances from a wall surface in order to adapt themselves to escutcheons or cover plates of varying depth and design.

One of the main objects of the present invention is to provide a superior plural-valve plumbing fixture which may be readily and conveniently installed at varying distances from a wall surface.

Another object of the present invention is to provide a superior plural-valve plumbing fixture which may be readily and conveniently coupled to a plurality of pipes or the like despite differences in degree of projection of such pipes or the like with respect to a wall surface.

A further object of the present invention is to provide a superior plumbing fixture of the character referred to which may be readily and conveniently positioned at varying distances from a wall surface in order to accommodate escutcheons or other covering means of varying depths and designs.

With the above and other objects in view, as will appear to those skilled in the art from the present disclosure, this invention includes all features in the said disclosure which are novel over the prior art and which are not claimed in any separate application.

In the accompanying drawings, in which certain modes of carrying out the present invention are shown for illustrative purposes:

Fig. 1 is a view in front elevation of a plural-valve plumbing fixture embodying the present invention and shown in conjunction with a portion of a wall-structure and associated piping;

Fig. 2 is a view mainly in horizontal section on the line 2—2 of Fig. 1, with some of the parts in plan;

Fig. 3 is a broken vertical sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is a view corresponding to Fig. 2 in general character save that the escutcheon is omitted and the distributing-head is stripped of its valves;

Fig. 5 is a perspective view of the distributing-head of the structure of the preceding figures and viewing the same mainly from the rear;

Fig. 6 is a corresponding view but viewing the distributing-head mainly from the front;

Fig. 7 is a perspective view of one of the templates;

Fig. 8 is a view generally corresponding to Fig. 2 but showing another embodiment of the present invention; and

Fig. 9 is a perspective view of the distributing-head of the structure of Fig. 8 and viewing the same mainly from the rear.

In the form of the invention illustrated in Figs. 1 to 7 inclusive, a hollow distributing-head **20** is employed which may be conveniently produced by casting, preferably from brass or other suitable corrosion-resistant material. The particular distributing-head shown is of bar-like appearance in general and has two cylindrically-contoured hollow end-portions **21** and **22** respectively at its opposite ends.

Coaxial with the hollow cylindrically-contoured end-portion **21** of the distributing-head **20**, the said distributing-head is formed with an integral hot-water-valve-receiving portion **23** which projects partly rearwardly from the front wall of the said distributing-head into the interior thereof and partly forwardly from the said front wall, as is especially well shown in Fig. 2. The said hot-water-valve-receiving portion **23** is formed internally with threads **24** which are engaged by threads **25** formed upon the exterior of a valve-head **26** constructed and arranged to control the flow of hot-water into the interior of the distributing-head, in a manner as will more fully appear.

The valve-head **26** just above referred to, is provided with a rigid forwardly-projecting valve-stem **27** provided at its exposed forward end with an operating-handle **28** by means of which the valve-head **26** may be advanced and retired. The part of the hot-water-valve-receiving portion **23** which extends forwardly of the distributing-head **20** is externally threaded as shown for the reception of a packing-nut **29** and an escutcheon-retaining nut **30**. The valve-stem **27** extends

through the packing-nut 29 and through a compressible packing-gasket 31 and a gasket-retaining washer 32. The washer 32 just referred to, is seated against the forward edge of the tubular hot-water-valve-receiving portion 23, and the said packing-gasket 31 is interposed between the outer face of the said washer 32 and the inner face of the packing-nut 29.

Arranged axially in line with the hot-water-valve-receiving portion 23 of the distributing-head 20 is a rearwardly-projecting hot-water-inlet coupling-portion 33 formed integral with the said distributing-head and projecting rearwardly from the rear wall thereof. The said hot-water-inlet coupling-portion 33 is of tubular form and its rearmost part is slightly reduced in diameter to provide a smooth unthreaded cylindrically-contoured exterior surface 34 for close telescopic interfitting within the forward terminal-portion of a horizontal hot-water-supply tube 35 in a manner as will be more fully hereinafter described. The "close" or "snug" telescopic-interfitting should be of such character as to provide for the capillary flow of solder or other cementing material between the opposed surfaces.

The forward part of the tubular coupling-portion 33 above referred to, is internally threaded to receive a replaceable tubular valve-seat 36 with the forward edge of which the rear face of the valve-head 26 may be engaged to shut off the ingress of hot-water into the hollow interior of the distributing-head 20.

Concentrically with the other cylindrically-contoured end-portion 22 of the distributing-head 20, the said distributing-head is formed with an integral tubular rearwardly-projecting cold-water-inlet coupling-portion 37. The rear portion of the said coupling-portion 37 is contracted in diameter and provides a smooth unthreaded exterior surface 38 sized and proportioned to snugly telescopically interfit within the forward terminal of a horizontal cold-water-supply tube 39, all in a manner as will more fully hereinafter appear. Threaded within the enlarged front part of the coupling-portion 37 is a replaceable tubular valve-seat 40, the forward edge of which is adapted to be engaged by the rear face of a valve-head 41 to shut off the inflow of cold-water into the interior of the distributing-head 20 from the cold-water-supply tube 39.

The valve-head 41, just above referred to, corresponds in all essentials to the valve-head 26 before described and is threadedly mounted in a cold-water-valve receiving portion 42 formed integral with the distributing-head 20 and corresponding in all essential respects to the hot-water-valve-receiving portion 23 thereof.

Associated with the forwardly-projecting part of the portion 42 of the distributing-head 20 is an escutcheon-retaining nut 43 corresponding to the escutcheon-retaining nut 30. Also associated with the said portion 42 of the distributing-head 20 is a packing-nut 44 corresponding to the packing-nut 29. The valve-head 41 before referred to and which serves to control the flow of cold-water into the distributing-head 20, is provided with a valve-stem 45 carrying at its exposed forward end an operating-handle 46.

Midway between the hot-water-inlet coupling-portion 33 and the cold-water-inlet coupling-portion 37, the distributing-head 20 is formed with an integral tubular rearwardly-projecting mixed-water-outlet coupling-portion 47 substantially corresponding to the said coupling-portions 33 and 37 and having a smooth unthreaded cylindrically-contoured exterior surface 48 constructed and arranged for snug telescopic interengagement within the forward terminal of a horizontal mixed-water-outlet tube 49 located intermediate the hot-water-supply tube 35 and the cold-water-supply tube 39.

On its forward face the distributing-head 20 is preferably formed with two forwardly-facing escutcheon-seats 50 and 51 respectively surrounding the respective bases of the forwardly-projecting parts of the hot-water-valve-receiving portion 23 and the cold-water-valve-receiving portion 42 of the said distributing-head 20.

Fitting over the front of the distributing-head 20 is an escutcheon 52 having a front-wall 53 and a skirt 54 rearwardly projecting therefrom and normally having its rear edge seated against the front surface of a wall-structure 55. The front-wall 53 of the escutcheon 52 is provided with two laterally-spaced-apart perforations 56 and 57 providing respectively for the clearance of the forwardly-projecting parts of the hot-water-valve-receiving portion 23 and the cold-water-valve-receiving portion 42 of the distributing-head 20. Preferably the rear faces of the portions of the escutcheon 52 surrounding the perforations 56 and 57 therein, respectively bear against the escutcheon-seats 50 and 51 of the distributing-head 20. The said escutcheon 52 is retained in place by the escutcheon-retaining nuts 30 and 43 before described.

For the purpose of laterally stabilizing the various tubes 35, 39 and 49, one or more so-called "templates" is preferably employed. In the structure shown particularly well in Figs. 2 and 3, both a front template 58 and a rear template 59 are employed. Each of the templates 58 and 59 is formed with three laterally-spaced-apart tubular collars 60 which are interiorly sized to snugly telescopically receive the adjacent one of the tubes 35, 39 and 49. The template 58 preferably has its collars 60 projecting forwardly and may be secured in any suitable manner to the front face of the wall-structure 55 before referred to. The rear template 59 preferably has its collars 60 projecting rearwardly and the said template may be secured to the rear face of the wall-structure 55 or it may be supported directly upon the usual studding forming a feature of wall-structures.

The respective tubes 35, 39 and 49 are by means of the templates 58 and 59 positioned in arcuate laterally-spaced-apart parallel relationship corresponding to the spacings of the rearwardly-projecting coupling-portions 33, 37 and 47 of the distributing-head 20. The said tubes 35, 39 and 49 may also be stabilized against axial displacement, if desired, by sweat-soldering each of the said tubes to each of the collars 60 through which such tube may extend.

The various tubes 35, 39 and 49 may be connected at their rear ends into appropriate features of a plumbing system in manners which may vary in accordance with the exigencies of any given situation.

As shown, the rear end of the hot-water-supply tube 35 is coupled to an elbow 61 curving downwardly and rearwardly therefrom and having its lower end, in turn, connected to a vertical hot-water-supply tube 62 leading upwardly from a suitable source of hot-water.

Similarly, the cold-water-supply tube 39 has its rear end connected to a downwardly-and-rearwardly-curved elbow 63 which in turn has its

lower end connected to a vertical cold-water-supply tube 64 leading upwardly from a suitable source of cold-water.

In a manner similar to that described above in connection with the tubes 35 and 39, the rear end of the mixed-water-outlet tube 49 is connected to the adjacent end of an elbow 65 which in this particular instance, however, curves rearwardly-and-upwardly and has its upper terminal connected to a vertical mixed-water-outlet tube 66 leading upwardly to a shower-head or the like.

It will be obvious from the foregoing that by adjusting the valve-head 26 with respect to its valve-seat 36 and the valve-head 41 with respect to its valve seat 40, the temperature of the mixed water flowing outwardly from the distributing-head 20 through its tubular coupling-portion 47, may be varied as desired.

The normal and economical procedure in plumbing installations consists in installing the vertical tubes 62, 64 and 66 together with their respective elbows 61, 63 and 65 and the respective horizontal tubes 35, 39 and 49 in a manner which is commonly referred to in the art as "roughing in." In this "roughing in" operation far more often than not the vertical tubes 62, 64 and 66 or their equivalent are located and rigidly fastened at varying distances back of the surface of the wall-structure 55 or the wall-surface intended to be occupied by an as-yet incomplete wall.

Under the circumstances just referred to, which are the usual circumstances, the horizontal supply-tubes 35, 39 and 49 will project beyond the front surface of the wall when the same is completed to varying degrees depending on the particular location of their associated vertical tubes 62, 64 and 66, as is illustrated particularly well in Fig. 2.

Despite the varying projections of the horizontal tubes 35, 39 and 49, the distributing-head 20 may have its coupling-portions 33, 37 and 47 telescoped into the interior of the said tubes respectively to the varying degrees required by a particular situation. The distance of the distributing-head 20 may thus be varied as required to accommodate various situations or to place it at a standard predetermined distance from the wall-surface. Thus by reference to Fig. 2 is will be seen that the rear face of the distributing-head 20 may be moved inwardly to occupy the position represented by the broken lines 67 or even further towards the wall-surface. On the other hand, the said distributing-head may be readily moved outwardly to provide for a deeper escutcheon, if desired, than the escutcheon 52. Preferably, the distributing-head is so positioned with respect to the wall-surface that its escutcheon-seats 50 and 51 will be in correct position to support the front wall such as 53 of the chosen escutcheon. When the distributing-head 20 has its coupling-portions 33, 37 and 47 telescoped more deeply into the tubes 35, 39 and 49 respectively, so as to occupy the position represented by the broken lines 67, a shallower escutcheon such as the escutcheon represented by the broken lines 68 may be accommodated.

After the distributing-head 20 has been positioned at any one of the desired distances from the wall-surface the coupling-portions 33, 37 and 47 thereof may be conveniently sweat-soldered to the interfitting surfaces at the forward ends of the tubes 35, 39 and 49 respectively, prior to the application of the escutcheon.

In the above manner the distributing-head 20 may be readily accommodated to varying degrees of projection of the tubes 35, 39 and 49 and still be arranged in parallelism with the wall-surface as is necessary for a workmanlike installation. Furthermore, the distributing-head 20 may be shifted toward or away from the wall-surface within appreciable limits prior to its actual soldering in place, in order to accommodate escutcheons of varying depths of skirt.

In the structure of Figs. 8 and 9, a distributing-head 70 is employed which corresponds to the distributing-head 20 before described in connection with the structure of Figs. 1 to 7, inclusive, save that it is provided with a hot-water-inlet coupling-portion 71, a cold-water-inlet coupling-portion 72 and a mixed-water-outlet coupling-portion 73 of female character rather than male character as is the case with the structure of the preceding figures.

Each of the coupling-portions 71, 72 and 73 of the distributing-head 70 is provided with a smooth interior cylindrically-contoured unthreaded surface 74 for telescopic interfitting respectively with the smooth unthreaded terminal of an adjacent tube.

The said distributing-head 70 is associated with a wall-structure 75, with an escutcheon 76 and with other features corresponding to those shown and described in connection with the structure of Figs. 1 to 7 inclusive, and for purposes of convenience, bearing similar reference characters save that the reference character *a* has been added thereto.

It will be understood that after having had its coupling-portions 71, 72 and 73 telescopically interfitted respectively with the tubes 35*a*, 39*a* and 49*a*, the said coupling-portions may be sweat-soldered or otherwise cemented to their complemental tubes.

The invention may be carried out in other specific ways than those herein set forth without departing from the spirit and essential characteristics of the invention, and the present embodiments are, therefore, to be considered in all respects as illustrative and not restrictive, and all changes coming within the meaning and equivalency range of the appended claims are intended to be embraced therein.

I claim:

1. A plural-valve plumbing fixture construction comprising: a wall-structure; a plurality of substantially-parallel pipes or the like extending in said wall-structure and having cylindrical-surfaced end portions; and a hollow distributing-head having a plurality of control-valves and a plurality of substantially-parallel tubular coupling-portions rigid with and non-adjustable relatively to said distributing-head; each said tubular coupling-portion being axially aligned with one of the said pipes or the like and having a cylindrical-surfaced portion in non-threaded telescopically-interfitted soldered relation with the cylindrical-surfaced portion of one of the said pipes or the like.

2. A plural-valve plumbing fixture construction comprising: a wall-structure; a plurality of substantially-parallel pipes or the like extending in said wall-structure and beyond the front surface of said wall-structure and ending in cylindrical-surfaced end portions; and a hollow distributing-head having a plurality of control-valves and a plurality of substantially-parallel tubular coupling-portions rigid with and non-adjustable relatively to said distributing-head; each said tubular coupling-portion being axially

aligned with one of the said pipes or the like and having a cylindrical-surfaced portion in non-threaded telescopically-interfitted soldered relation with the cylindrical-surfaced portion of one of the said pipes or the like.

3. A plural-valve plumbing fixture construction comprising: a wall-structure; a template having a plurality of holes therethrough; a plurality of substantially-parallel pipes or the like extending through said holes of the template and fixedly secured to said template and extending in said wall-structure and having cylindrical-surfaced end portions; and a hollow distributing-head having a plurality of control-valves and a plurality of substantially-parallel tubular coupling-portions rigid with and non-adjustable relatively to said distributing-head; each said tubular coupling-portion being axially aligned with one of the said pipes or the like and having a cylindrical-surfaced portion in non-threaded telescopically-interfitted soldered relation with the cylindrical-surfaced portion of one of the said pipes or the like.

4. A plural-valve plumbing fixture construction comprising: a wall-structure; a template fastened to said wall-structure and having a plurality of holes therethrough with collars surrounding said holes; a plurality of substantially-parallel pipes or the like extending through said holes and collars of the template and fixedly secured to said template and extending in said wall-structure and having cylindrical-surfaced end portions; and a hollow distributing-head having a plurality of control-valves and a plurality of substantially-parallel tubular coupling-portions rigid with and non-adjustable relatively to said distributing-head; each said tubular coupling-portion being axially aligned with one of the said pipes or the like and having a cylindrical-surfaced portion in non-threaded telescopically-interfitted soldered relation with the cylindrical-surfaced portion of one of the said pipes or the like.

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