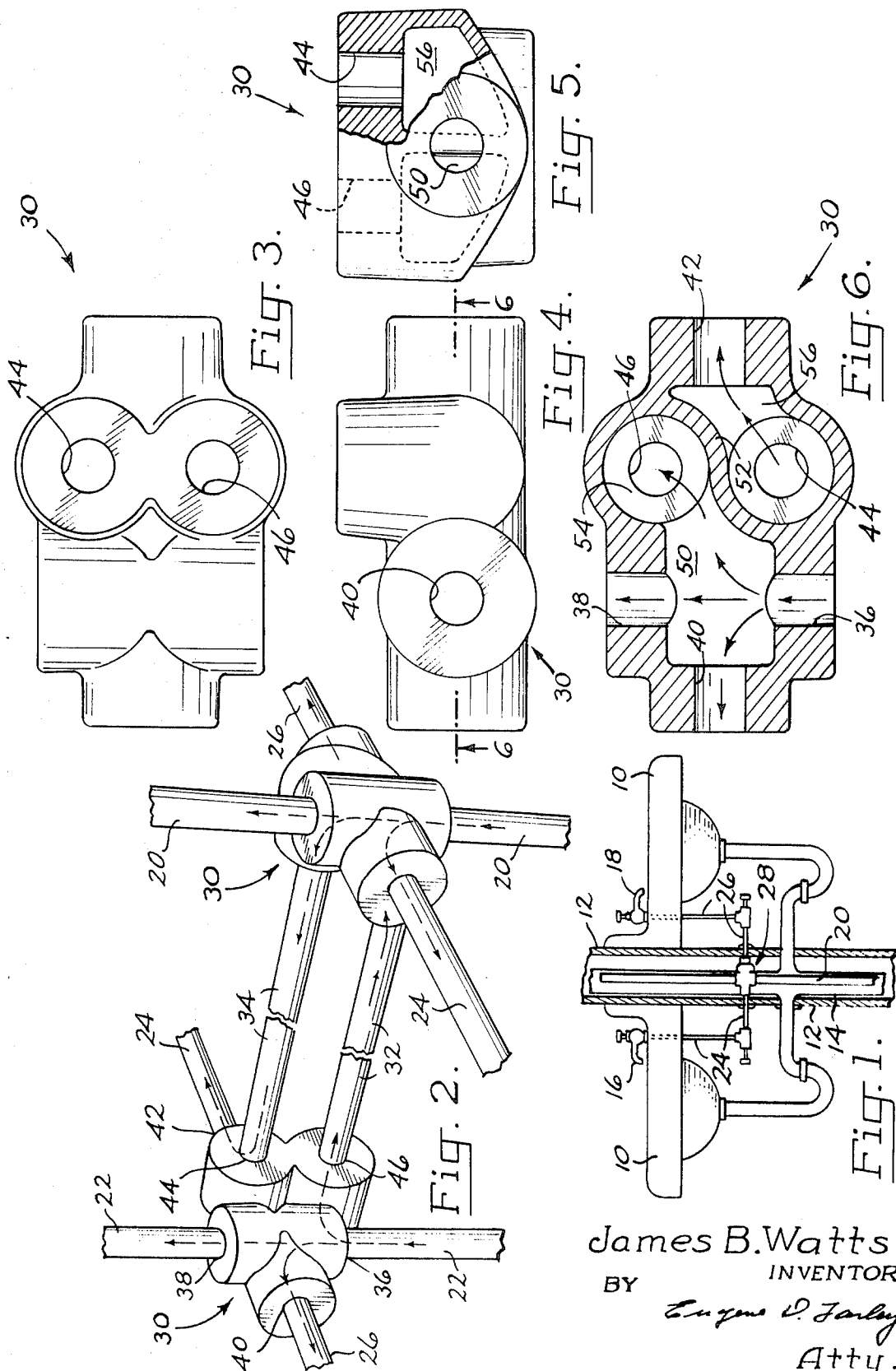


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STRAIGHT-THROUGH MANIFOLD ASSEMBLY FOR HOT AND
COLD WATER FAUCET PAIRS ARRANGED BACK TO BACK
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1

2

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STRAIGHT-THROUGH MANIFOLD ASSEMBLY FOR HOT AND COLD WATER FAUCET PAIRS ARRANGED BACK TO BACK

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4 Claims

ABSTRACT OF THE DISCLOSURE

A manifold assembly for hot and cold water faucet pairs arranged back to back on opposite sides of a multi-story building partition includes a pair of manifolds and interconnecting conduits. Each manifold has a central chamber with ports connecting it to one of the house hot or cold water lines, to hot and cold water faucets on opposite sides of the partition and to the companion manifold. The arrangement is such that the house lines pass upwardly through the building in a straight line without crossing over at each building level.

This invention pertains to a manifold assembly for plumbing-in hot and cold water faucet pairs arranged back to back on opposite sides of a structural partition.

It is common practice in the construction of multiple unit dwellings, office buildings and the like to place lavatories, wash bowls, sinks and other plumbing fixtures back to back on opposite sides of a partition. The hot and cold water lines and waste pipe then are placed within the partition and connected to the respective fixtures.

In such installations, it is usual to supply hot water to the left hand faucet and cold water to the right hand faucet of such fixtures. This complicates the installation of back to back plumbing fixtures since, where the fixtures are fed from common parallel hot and cold water lines, it obviously is necessary to provide an interchange to preserve the left hand-right hand relationship of the hot and cold water faucets on both sides of the partition.

In the past, it has been necessary to employ a costly plumbing procedure when connecting the faucets to the hot and cold water lines, requiring about two hours of a plumbers' time.

To alleviate this problem, there recently have appeared integrated manifold assemblies which accomplish the foregoing purpose, but which may be installed as a single unit. However, such units have had serious shortcomings.

It accordingly is the general purpose of the present invention to provide a manifold assembly for installing hot and cold water faucet pairs back to back on opposite sides of a building partition, which assembly has the following advantages:

- (1) It permits arranging the house hot and cold water lines in a straight line from bottom to top of the building, without crossing over from side to side at each story.
- (2) It incorporates two identical manifold units usable in mirror image relationship.
- (3) It provides increased water capacity, in view of the straight through flow.
- (4) It makes use of straight connecting conduits.
- (5) It minimizes the possibility of incorrect assembly.
- (6) It is made easily in a wide range of capacities, is relatively small in physical size, and is light in weight.

The manner in which the foregoing and other objects of this invention are accomplished will be apparent from the accompanying specification and claims considered together with the drawings, wherein:

FIG. 1 is a view in side elevation, partly in section, of an installation of a pair of washbowls arranged back to back, one on each side of a partition, illustrating the man-

ner of application of the manifold assembly of my invention;

FIG. 2 is a view in perspective of the manifold assembly;

FIGS. 3, 4 and 5 are views in side elevation, top plan, and end elevation, respectively, of one of the manifold components of the assembly, FIG. 5 being broken away to show interior construction; and

FIG. 6 is a longitudinal sectional view taken along line 6—6 of FIG. 4.

As shown in FIG. 1, the manifold assembly of my invention is designed for use in installing plumbing fixtures such as washbowls 10, back to back, on opposite sides of a partition 12. The washbowls discharge in conventional manner into a vented waste pipe 14 installed inside the partition between the washbowls.

Each washbowl is provided with cold and hot water faucet pairs 16, 18, respectively. These are connected respectively to cold and hot water house lines 20, 22 by means of faucet lines 24, 26. The latter lines are arranged to locate the hot water faucets on the left and the cold water faucets on the right, as viewed facing the washbowls.

The manifold assembly by means of which cold water from main line 20 is supplied to both of faucets 16, and hot water from main line 22 is supplied to both of faucets 18, is indicated generally at 28 of FIG. 1.

The manifold assembly comprises a pair of manifolds, indicated generally at 30, interconnected by a pair of straight connecting conduits 32, 34, FIG. 2. The novel construction of the manifolds is shown in FIGS. 3—6 inclusive.

Each manifold comprises a substantial casting made of bronze or other suitable material and having six ports: a house line inlet port 36, a house line outlet port 38, a front faucet line port 40, a back faucet line port 42, and first and second connecting line ports 44, 46.

The construction of the manifold and the arrangement of the ports is such that identical manifolds may be attached to house lines 20, 22 but is reverse or mirror image relationship. With the manifolds arranged in this manner, cold and hot water house lines 20, 22 may be connected to the manifold house line inlet ports as well as to the manifold house line outlet ports. Front and back faucet line ports 40, 42 then may be coupled to the hot and cold water faucets in the usual left hand-right hand arrangement.

To make this possible, manifold 30 is formed with a central chamber 50 which communicates directly with inlet house line port 36, outlet house line port 38 and front faucet line port 40.

A portion of chamber 50 is divided by a manifold partition 52 which extends diagonally between the floor and ceiling of the manifold. The partition thus forms a first passageway 54 and a second passageway 56. Passageway 54 interconnects chamber 50 and connecting line port 46. Passageway 56 interconnects connecting line port 44 and back faucet line port 42.

It is to be noted that a certain important relationship exists between the locations of the various manifold ports.

Thus house line inlet port 36 and house line outlet port 38 are substantially in vertical alignment with each other.

Front faucet line port 40 and back faucet line port 42 are in substantial horizontal alignment with each other. The two connecting line ports 44 and 46 are in vertical alignment with each other, their axes being offset laterally with respect to the axis of aligned house line ports 36, 38.

Also, the axis of house line ports 36, 38 extends at right angles not only to that of faucet line ports 40, 42 but also to that of connecting line ports 44, 46. It is this three dimensional arrangement which makes possible the

3

interchangeable application of a manifold of simple design on either the right hand or left hand side of the assembly.

The manner of assembly and mode of operation of the herein described manifold is particularly apparent from a consideration of the flow illustrated in FIGS. 2 and 6.

Cold water flowing in house line 20 enters manifold 28 through house line inlet port 36 on the right hand of the assembly as viewed in FIG. 2. The flow divides in chamber 50, part leaving on demand via faucet line port 40, part passing through house line outlet port 38 to continue to another story, and part passing through passageway 54, through connecting line port 46 to connecting line 34. The latter conveys the cold water to the companion manifold where it enters through connecting line port 44, passes through passageway 56, and exists into faucet line port 42 into cold water faucet line 24. This leads to the cold water faucet on the other side of the building partition.

The flow on the hot water of the assembly is similar.

Hot water from house line 22 passes through house line inlet port 36 (now 38) into chamber 50 where it divides. Part flows on demand through faucet line port 40 into hot water faucet line 26. Part passes through house line outlet port 38 (now 36) to the upper section of hot water house line 22 which conveys it upwardly to another story.

Part flows from chamber 50 through passageway 54, through port 46 and into connecting conduit 32. This conveys the hot water to companion manifold 30, through the connecting line inlet port thereof, through passageway 56, and out through faucet line port 42 at the back of the manifold. This in turn transfers the hot water to hot water faucet line 26 which conveys it to the hot water faucet on the reverse side of the building partition.

Thus by a simple arrangement the several objects of the invention are achieved. The house line flow is straight through from floor to floor without crossing over from left to right, or vice versa, as heretofore has been the case. A single manifold may be used interchangeably on left and right. Assembly is simplified. Connecting tubes bent to accommodate intervening soil pipes are eliminated. These advantages are obtained, furthermore, with the use of an assembly which is relatively small in size, light in weight, and easily available in a wide range of sizes.

Having thus described my invention in preferred embodiments, I claim as new and desire to protect by Letters Patent:

1. For use in a manifold assembly for hot and cold water faucet pairs arranged back to back on opposite sides of a partition, a manifold having bottom and top house line ports substantially aligned with each other in a vertical plane, front and back faucet line ports substantially aligned with each other in a horizontal plane, and first and second side connecting line ports directed horizontally and arranged in a vertical plane horizontally and inwardly offset from the plane of the bottom and top house line ports, said manifold having a central chamber communicating directly with the bottom, top and front ports, said manifold having further partition means dividing a portion of the chamber into two passage-

4

ways, one of which interconnects the chamber and the first side port and the other one of which connects said second side port and said back port.

2. A manifold assembly for hot and cold water faucet pairs arranged back to back on opposite sides of a partition, the assembly comprising:

- (a) a pair of substantially identical manifolds horizontally spaced from and facing each other in mirror image reverse relation,
- (b) each manifold having bottom and top house line ports in substantial alignment with each other, front and back faucet line ports, and first and second connecting line side ports,
- (c) each manifold having a central chamber communicating directly with the bottom, top and front ports,
- (d) partition means dividing a portion of each chamber into two passageways, one of which interconnects the chamber and the first side port, the other of which interconnects the second side port with the back port, and
- (e) a pair of connecting conduits, one of said connecting conduits interconnecting the first side port of one manifold with the second side port of the other manifold and the other of said connecting conduits interconnecting the second side port of the said one manifold with the first side port of the said other manifold.

3. The manifold assembly of claim 2 wherein the central chamber is defined by the manifold side walls and the partition means comprises a wall arranged diagonally with respect to two of the said first and second side ports and accordingly dividing a portion of the chamber into two passageways.

4. The manifold assembly of claim 2 wherein the bottom and top house line ports are substantially aligned vertically affording straight through passage of house line water, wherein the front and back faucet line ports are substantially aligned horizontally for mounting hot and cold faucets on opposite sides of the partition opposite each other, and wherein the first and second side connecting line ports are substantially coplanar in a vertical plane, each pair of said side ports in one manifold being directed inwardly from said one manifold toward an opposite pair directed inwardly from the companion manifold.

References Cited

UNITED STATES PATENTS

1,762,619	6/1930	Fleming	4-191X 4-167
2,581,855	1/1952	Griffith	4-192X 137-98
3,307,205	3/1967	Moeschler	4-192
3,349,797	10/1967	Parr	4-192X 137-594
3,373,452	3/1968	Watts	4-192

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