Oct. 19, 1937. A. WEINGARTEN 2,096,602

PLUMBING FIXTURE

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Fig. 1.

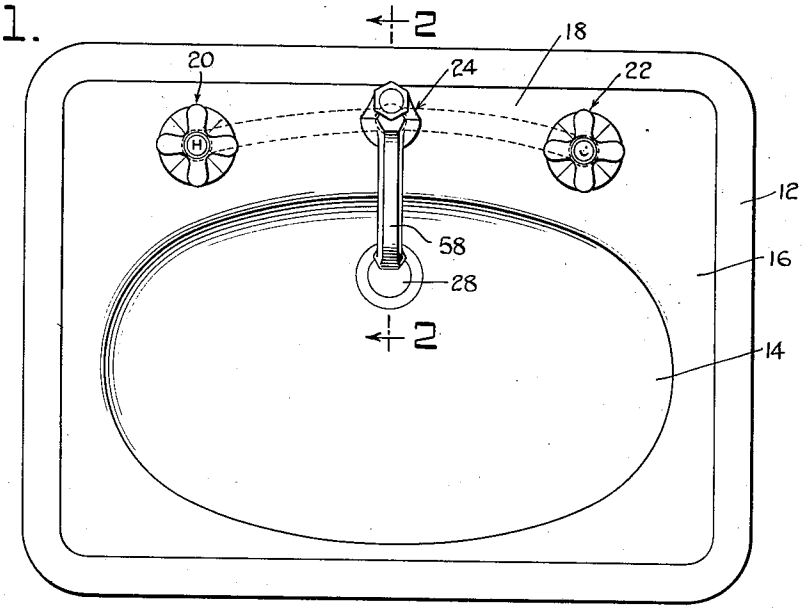
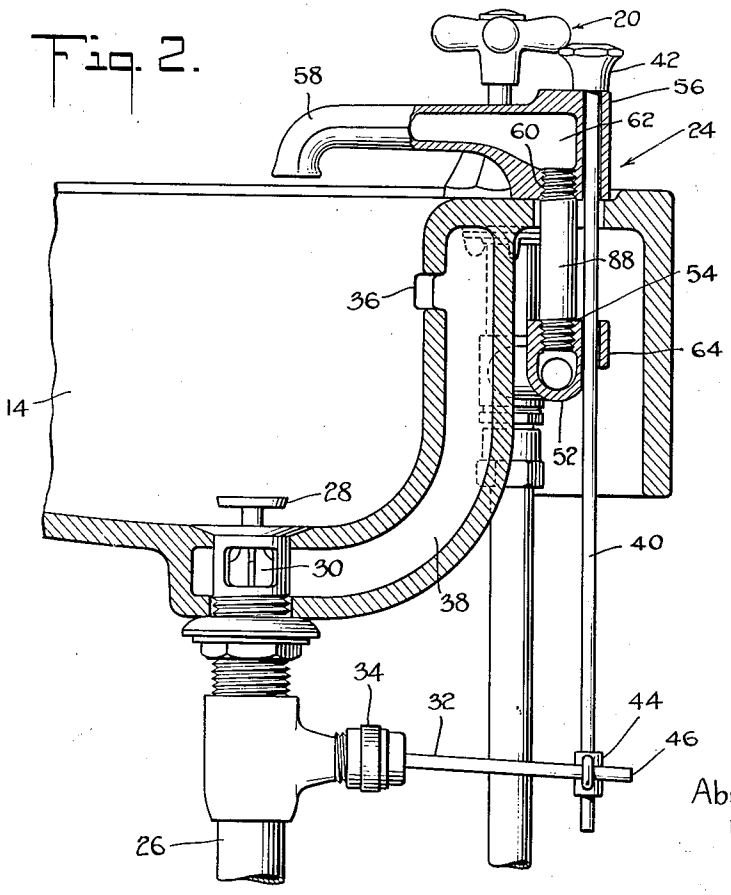



Fig. 2.




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Fig. 3.

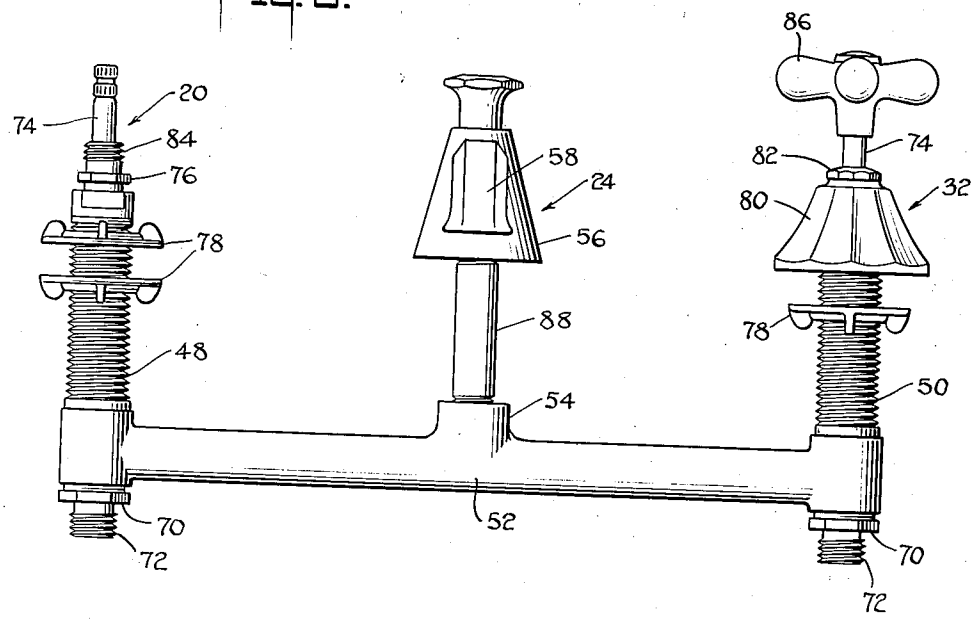



Fig. 4.

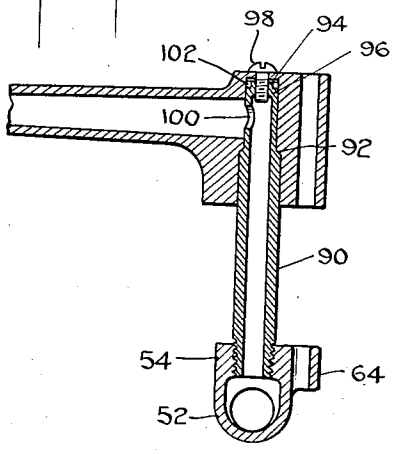



Fig. 6.

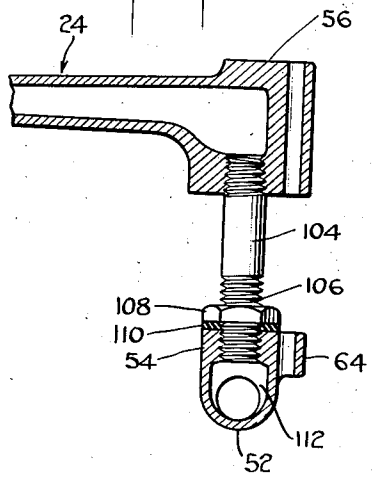
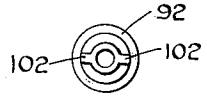



Fig. 5.




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# UNITED STATES PATENT OFFICE

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## PLUMBING FIXTURE

Abraham Weingarten, New York, N. Y.

Application August 19, 1937, Serial No. 159,893

8 Claims. (Cl. 4—192)

This invention relates to plumbing fixtures, and more particularly to a valve and mixing spout assembly for wash basins.

A common form of valve and spout assembly for wash basins comprises separate spaced valves for hot and cold water and a common spout therebetween. The valves and spout are connected beneath the wash basin by short pieces of brass tubing the ends of which are compressed in suitable fittings. The discharge through the waste or drain pipe is controlled by a mechanical valve operated by means of a vertical drain control rod passing through the vertical center line of the spout. This in turn complicates the casting for the spout, it being necessary to provide an inner passage for the drain control rod while the water supply flows in an annular space around the center passage. The primary object of my invention is to generally improve and simplify valve and spout assemblies of this general character.

These assemblies as heretofore constructed are characterized by serious disadvantages. Considerable labor is required to install and properly connect the various separate parts of the valve and spout assembly. It is necessary to level up the valves and spout to fit the top surface of the basin. The pipe size used is rather small, say ⅜ inch, and while this is adequate if unobstructed, it proves inadequate when obstructed, as by lamp wick, putty or other packing used in making the connections. The packing may be used freely to prevent leaks, for a subsequently developing leak is a serious matter. The parts are ordinarily in an inaccessible location when finally installed, and many hours of labor may be needed to disassemble and re-assemble the fixture to eliminate a leak.

More particularized objects of my invention are to obviate the foregoing difficulties and disadvantages of conventional fixtures, and to instead provide a substantially leak-proof fixture which may be quickly installed and which is not subjected to obstruction of the water flow therethrough.

To the accomplishment of the foregoing general objects and other more particularized objects which will hereinafter appear, my invention consists in the valve, spout and drain control elements and their relation one to the other, as hereinafter are more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by drawings in which:

Fig. 1 is a plan view of a conventional basin showing the application of my invention thereto;

Fig. 2 is a section taken in elevation in the plane of the line 2—2 of Fig. 1;

Fig. 3 is a front elevation of the valve and spout assembly with the cover plate and handle removed from one of the valves;

Fig. 4 is a section through a modification of the invention in which the spout is secured in place by means of a slip connection;

Fig. 5 is a plan view of the end of the nipple or connection used in Fig. 4; and

Fig. 6 is a section taken in elevation through still another form of spout and nipple embodying features of the invention.

Referring to the drawings, and more particularly to Figs. 1 and 2, the invention is shown applied to a basin 12 which is conventional in having a bowl 14 surrounded by a ledge 16 provided with three spaced openings at the rear surface 18 thereof. A hot water valve 20 is disposed in one of these openings, a cold water valve 22 in another of the openings, while a spout 24 is mounted in the third or center opening. The bowl 14 is drained through a waste or drain pipe 26, the drain being controlled by a vertically movable disc valve 28 mounted at the upper end of a valve stem 30. The latter is controlled by lever 32 pivotally mounted on a ball seal at 34. Overflow from the bowl runs through opening 36 and thence through passage 38 to the drain pipe. The drain valve 28 is controlled by a vertically reciprocable rod 40, the upper end of which is provided with a suitable head 42 and the lower end of which carries a coupling 44 secured on rod 40 by a set screw or other appropriate means. The rear end 46 of lever 32 passes through coupling 44, thus connecting the same to rod 40 for acuation by raising or lowering the rod. With the rod in its normally lowered position as shown in Fig. 2, the drain valve 38 is elevated to its open position.

Referring now to Fig. 3 as well as Figs. 1 and 2, in accordance with my invention the valve body 48 of valve 20 and the valve body 50 of valve 22 are cast integrally with one another and with a cross-connection pipe 52 extending all the way from one valve to the other. Pipe 52 is provided with an upstanding boss or T-connection 54. The spout 24 is cast separately, and comprises an enlarged head 56 with a nozzle 58 extending forwardly and downwardly therefrom. The spout is simple in design and construction, it comprising a threaded inlet 60 leading directly to water passage 62 (Fig. 2). The head 56 of

the spout is bored in a vertical direction outside the water passage **62** to receive and guide drain control rod **40**. Referring to Fig. 2, it will be seen that the boss **54** is provided with a projection **64** which is also bored to receive and guide the drain control rod **40**. The passages for the drain control rod are, of course, in superposed alignment.

Except for the fact that the valve bodies are cast integrally with the cross-connection **52**, the valves **20** and **22** may be substantially conventional. Separate valve seats **70** are screwed into the bottoms of the valves, the lower ends of these seats being threaded at **72** to receive appropriate water supply connections leading to the valves. Valve stems **74** pass through the tops of the valve bodies and are appropriately packed against leakage by means of packing nuts **76**. The exterior of the valve body is threaded to receive wing nuts or rings **78** which function to clamp the valve in position above and below the ledge of the basin. The upper nut as well as the packing nut **76** are normally concealed from view by a decorative cover plate or shell **80**, said shell being shown in position on valve **22**, but not on valve **20**. The shell is secured in place at its upper edge by a nut **82** shown on valve **22**, said nut being received on a threaded upward extension **84** of packing nut **76**, this extension **84** being shown at valve **20**. Valve stem **74** has mounted thereon an appropriate form of handle **86**, this handle being omitted from valve **20**.

The spout **24** and the boss **54** are connected by a suitable brass nipple **88**, as is clearly shown in Figs. 2 and 3. The length of the nipple is so selected as to bring the bottom of the spout head **56** approximately in the same plane as the bottom edges of the cover plates **80**. This dimension does not have to be exact, for the cover plates may be located higher or lower to an extent determined by the relation between nut **82** and thread **84**. Nipple **88** is shown with right-hand threads at both ends.

It will be understood that in practice the entire fixture is mounted on the basin as follows:—The upper wing nuts **78** are removed from the valves. The integrally cast valves and cross-connection **52** are then slid upwardly through the mating openings in the basin, whereupon the upper wing nuts **78** are replaced. Nipple **88** is screwed into the spout and the lower end of the nipple is then passed through the center opening of the basin and is secured into boss **54** as by swinging the entire spout around with the nipple. This is done until the connections are tight and the spout points forwardly over the bowl. The spout is made short enough to clear the valves when swung around. Any necessary accommodation to point the spout in desired direction is readily attained because of the tapered nature of the threads. The nipple may be screwed into the cross-connection **52** before putting the valves in place, and in such case, the only difference is that the spout is screwed onto the top of the nipple. The top wing nuts **78** are then backed away until the head **56** of the spout rests on the basin, at which time wing nuts **78** are turned upwardly to clamp the valves in position. The cover plates **80**, nuts **82** and handles **86** are then added. Appropriate water supply connections are made to the bottom threads **72** of the valves, and drain control rod **40** is dropped downwardly through the head of the spout. Appropriate connections are then made by means of coupling **44** in order to actuate the drain valve.

The mode of assembly as so far described presupposes that it is possible to swing the spout around in position. This cannot be done if the basin is provided with a back wall or if the basin has already been permanently mounted in position against the room wall. In such case, it is, of course, possible to use a nipple with right and left-hand threads, and to appropriately change the threads mating with the nipple. Other constructions may be used which do not necessitate the provision of a left-hand thread. For example, in Figs. 4 and 5, I show a modification in which the spout is secured to the upper end of a special nipple or pipe by means of a slip joint. Referring to those figures, it will be seen that the upright nipple or connection means **90** is threaded at its lower end and screwed into the boss **54** of the cross-connection **52**. The upper end is provided with a ground tapered shoulder **92**. The head **94** of the spout differs from that previously described, and is machined to mate with the upper end of connection **90**. The top of connection **90** is closed at **96** and threaded to receive a screw **98**. The spout is slipped over the upper end of connection **90** and is tightened in place by means of screw **98**. The side wall of connection **90** is apertured at **100** for passage of water into the spout. In order to hold the parts in registration, the nipple and the spout are provided with appropriate mating means. In the present case, the connection **90** is provided with keys **102** at its upper end, and these are received in mating slots formed within the spout. In this manner rotative movement of the spout relative to the nipple **90** is prevented.

Still another and simpler manner for connecting the spout to the remainder of the fixture is illustrated in Fig. 6. In this case the spout **24** is provided with a head **56** just like that first described. The nipple **104** differs in that the lower thread **106** is carried well up on the nipple. A lock nut **108** is received on thread **106** and a gasket **110** is disposed between lock nut **108** and the boss **54**. The space **112** within the cast pipe connection **52** is made adequate to receive the lower end of the nipple for a length exceeding the thread length actually received within the spout at the upper end of the nipple.

In practice, the nipple **104** is preliminarily screwed as far as possible down into boss **54**. The spout is then held over the nipple and the nipple is screwed upwardly into the spout until a tight connection is obtained. At this time the nipple is, of course, being unscrewed at the bottom, but ample thread remains in the boss, as is clearly shown in the drawings. The lock nut **108** is then screwed downwardly against gasket **110**, thus sealing the connection at the bottom of the nipple.

It is believed that the construction and method of installation, as well as the many advantages of my improved valve and spout assembly, will be apparent from the foregoing detailed description thereof. Inasmuch as the valve casting and spout are made of bronze, while the nipple **88** is made of brass, the flow of water is entirely through protected piping. The short connections heretofore used are dispensed with. Four different connections or joints are eliminated with consequent source of leaks, and substantial saving of labor for installation and for repair. No lamp wick packing in large quantities or other packing is needed, and there is no danger of obstruction of water flow through the assembly. The drain control rod is connected in a neat and

simple manner, and without passage through the water flow chamber of the spout. The opening in the basin normally provided for the spout is ample in diameter to receive both the nipple and the drain control rod. This is so because heretofore the spout has been made in a more cumbersome manner with an annular passage for water flow, said passage surrounding the guide tube of the drain rod. No such annular passage and complex shaping of the spout are necessary with the present fixture. The guide **64** receiving the drain control rod may, of course, be dispensed with because of the large bearing surface provided by the passage through the spout.

It will be apparent that while I have shown and described my invention in preferred forms, many changes and modifications may be made in the structures disclosed, without departing from the spirit of the invention defined in the following claims.

I claim:

1. A plumbing fixture comprising a unitary integral casting including vertical hot and cold water valve bodies connected by a common horizontal cross pipe cast integrally therewith and having an internally vertically threaded upstanding boss or T connection at its center, the valve bodies being disposed at the extremities of the cross-pipe and being externally threaded for a substantial distance to each receive top and bottom nuts for mounting the fixture in place on a conventional wash basin, valve seats secured in the bottoms of the valve bodies, valve stems passing through the tops of the valve bodies, and cover plates around the valve bodies, a spout, an upright nipple directly connecting the aforesaid center boss and the spout, the length of said nipple being so selected as to afford level mounting on the basin of the valve cover plates and the spout, the valves and boss of the casting being so relatively disposed when viewed in plan as to fit the three openings at the top of a conventional wash basin.

2. A plumbing fixture comprising a unitary integral casting including vertical hot and cold water valve bodies connected by a common horizontal cross pipe cast integrally therewith and having a vertical boss or T connection at its center, the valve bodies being disposed at the extremities of the cross-pipe and being externally threaded to receive nuts for mounting the fixture in place on a conventional wash basin, a spout having a forwardly and downwardly directed nozzle, an upright pipe directly connecting the aforesaid center boss and the spout, the valves and boss of the casting being so relatively disposed when viewed in plan as to fit the three openings at the top of a conventional wash basin, with the upright pipe at the forward part of and smaller in diameter than the center opening of the basin, and a drain control rod passing downwardly through the rear part of said center opening and behind said upright pipe, said rod being located wholly outside the water flow passages.

3. A plumbing fixture comprising a unitary integral casting including vertical hot and cold water valve bodies connected by a common cross pipe cast integrally therewith and having a vertical boss or T connection at its center, the valve bodies being disposed at the extremities of the cross-connection and being externally threaded to receive nuts for mounting the fixture in place on a conventional wash basin, cover plates for said valves, a spout having a vertically disposed guide channel or hole for receiving and guiding a drain control rod, said guide being located in back of the spout and outside the water flow passage through the spout, the aforesaid casting including at the boss a vertically disposed channel or hole aligned with the aforesaid hole to also receive and further guide the drain control rod, an upright pipe directly connecting the aforesaid center boss and the spout, the length of said pipe being so selected as to afford level mounting of the valve cover plates and the spout on the basin, the valves and boss and drain control rod being so relatively displaced when viewed in plan as to fit the three openings at the top of the conventional wash basin.

4. A plumbing fixture comprising a unitary integral casting including hot and cold water valve bodies connected by a common cross pipe cast integrally therewith and having an internally threaded upstanding boss or T connection at its center, the valve bodies being disposed at the extremities of the cross-connection and being externally threaded to receive nuts for mounting the fixture in place on a conventional wash basin, valve seats secured in the bottoms of the valve bodies, valve stems passing through the tops of the valve bodies, and cover plates around the valves, a spout having a downwardly directed threaded inlet opening to receive the upper end of an upright nipple, and having a vertically disposed guide channel or hole for receiving and guiding a drain control rod in back of said nipple and outside the water flow passages, the lower end of said nipple being received in the aforesaid center boss, the length of said nipple being so selected as to afford level mounting on the basin of the valve cover plates and the spout, the valves and spout and drain control rod being so relatively displaced when viewed in plan as to fit the three openings at the top of a conventional wash basin.

5. A plumbing fixture comprising a unitary integral casting including hot and cold water valve bodies connected by a common cross pipe cast integrally therewith and having a vertical boss or T connection at its center, the valve bodies being disposed at the extremities of the cross-pipe and being externally threaded to receive nuts for mounting the fixture in place on a conventional wash basin, a spout, a vertical pipe directly connecting the aforesaid center boss and spout, the upper end of said connection being provided with a ground shoulder and the spout being mated to slip over the upper end of said connection with a water-tight slip connection, screw means for locking the upper end of the nipple to the spout, and mating means on said nipple and spout to prevent relative rotation of the spout and nipple, the valves and boss being so relatively disposed when viewed in plan as to fit the three openings at the top of a conventional wash basin.

6. A plumbing fixture comprising a unitary integral casting including hot and cold water valve bodies connected by a common cross pipe cast integrally therewith and having an internally threaded upstanding boss or T connection at its center, the valve bodies being disposed at the extremities of the cross-connection and being externally threaded to receive nuts for mounting the fixture in place on a conventional wash basin, valve seats secured in the bottoms of the valve bodies, valve stems passing through the tops of the valve bodies, and cover plates around the valve bodies, a spout, an upright nipple directly connecting the aforesaid center boss and spout, the length of said nipple being so selected as to afford level mounting of the valve cover plates and the

spout on the basin, the upper end of said nipple being provided with a ground shoulder and the spout being mated to slip over the upper end of said connection with a water-tight slip connection, means for locking the upper end of the nipple to the spout, and mating means on said nipple and spout to prevent relative rotation of the spout and nipple, the valves and nipple being so relatively disposed when viewed in plan as to fit the three openings at the top of a conventional wash basin.

7. A plumbing fixture comprising a unitary integral casting including hot and cold water valve bodies connected by a common cross pipe cast integrally therewith and having a threaded upright boss or connection at its center, a spout, an upright nipple directly connecting the aforesaid center boss and the spout, the lower end of said nipple being threaded for a substantial excess distance and being provided with a lock nut and gasket, the arrangement being such that the nipple may be preliminary excessively threaded downwardly into the aforesaid casting and then turned upwardly into the spout until a tight connection is formed with the spout, whereupon the lock nut may be turned downwardly against the gasket and casting to form a tight connection with the casting, the valves and boss being so relatively disposed when viewed in plan as to fit the three openings at the top of a conventional wash basin.

8. A plumbing fixture comprising a unitary integral casting including hot and cold water valve bodies connected by a common cross pipe cast integrally therewith and having a threaded upstanding boss or T connection at its center, the valve bodies being disposed at the extremities of the cross-connection and being externally threaded to receive nuts for mounting the fixture in place on a conventional wash basin, valve seats secured in the bottoms of the valve bodies, valve stems passing through the tops of the valve bodies, and cover plates for the valve bodies, a spout, an upright nipple directly connecting the aforesaid center boss and the spout, the length of said nipple being so selected as to afford level mounting on the basin of the valve cover plates and the spout, the lower end of said nipple being threaded for a substantial excess distance and being provided with a lock nut and gasket, the arrangement being such that the nipple may be preliminarily excessively threaded downwardly into the aforesaid casting and then turned upwardly into the spout until a tight connection is formed with the spout, whereupon the lock nut may be turned downwardly against the gasket and casting to form a tight connection with the casting, the valves and boss being so relatively disposed when viewed in plan as to fit the three openings at the top of a conventional wash basin.

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