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SWING SPOUT MIXING FAUCET

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Fig. 1.

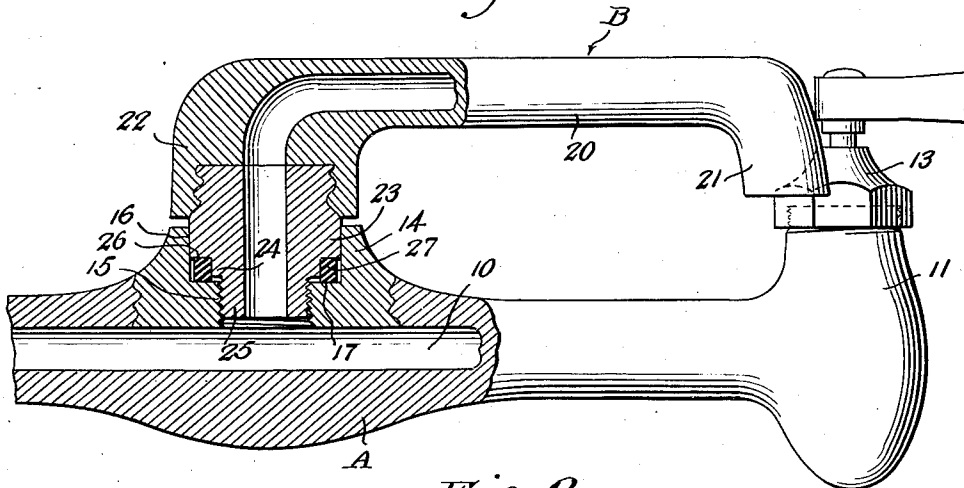


Fig. 2.

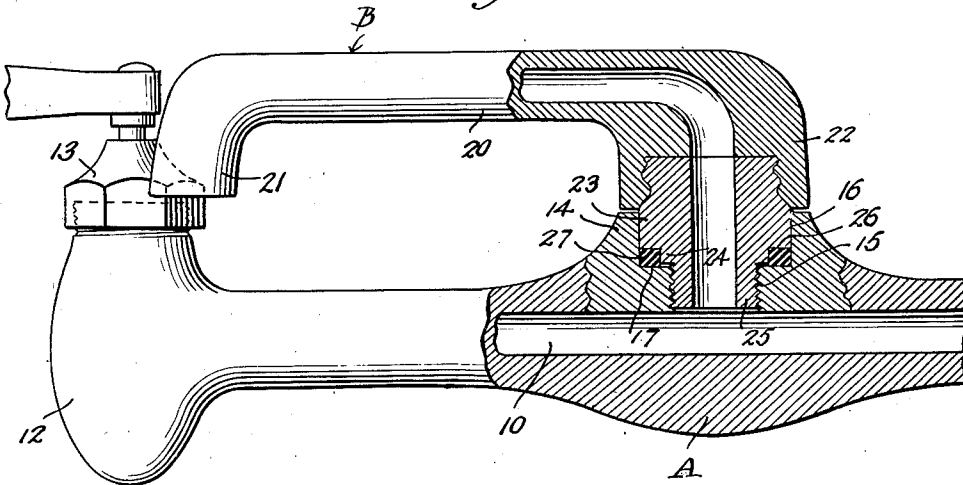
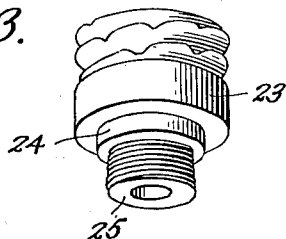


Fig. 3.



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SWING SPOUT MIXING FAUCET

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5 Claims. (Cl. 277-57)

This invention relates to household plumbing fixtures and has particularly reference to swing spout mixing faucets, the invention being directed to certain improvements in the manner of assembling the spout with and mounting the same to swing relative to the faucet body and to the means for effectively sealing the spout against leakage at the region of its connection with the faucet body.

The invention broadly comprehends a simple and effective means of connection between the faucet body and spout which when assembled permits of a limited swinging movement of the spout with reference thereto, while preventing disassembly thereof without first removing the bonnets of the valved inlets of the faucet body to thereby minimize the likelihood of surreptitious removal of the spout elements from the fixtures.

An important feature of the invention consists in the employment of a simple threaded connection between the spout and faucet body which greatly facilitates the labor of assembly while permitting of the use of an elastic gasket which is so associated with the spout and faucet body as to effectually seal the same against leakage at their juncture, thereby avoiding the necessity of resorting to expensive stuffing boxes and packing glands and the like with the attendant requirement to frequently renew the packing and stuffing.

As a further feature, the invention comprehends a swing spout mixing faucet structure in which the faucet body and swinging spout at the regions of their threaded connection may have portions or inserts fashioned of a different material or alloy from that of the remainder of the spout and body to provide for a non-corrosive, wear resisting connection.

With the previously enumerated and other objects in view, the following specification sets forth the invention in greater detail, while the claims mark out and define the scope of the invention, the structure being illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary front view of a swing spout mixing faucet constructed in accordance with the invention, showing the spout swung to the limit of its movement in engagement with the bonnet of the right hand valved inlet end of the faucet body, the medial outlet portion of the body and intake end of the spout being broken away and shown in section to disclose the sealing gasket.

Fig. 2 is a similar view showing the spout swung to the limit of its movement in engagement with

the bonnet of the left hand valved inlet of the faucet body.

Fig. 3 is a perspective view of the insert portion at the inlet end of the spout.

Referring to the drawing by characters of reference, A designates generally the body of a swing spout mixing faucet which is of elongated tubular formation and provided with a longitudinal passage 10 defining a mixing chamber, the opposite ends of which communicate with the valved inlet ends defined by enlarged portions 11 and 12 at the opposite ends of the faucet body and constituting valve casings over which are threadedly engaged the usual bonnets 13. The medial portion 14 of the body A is enlarged to provide a boss which is formed with an inner threaded outlet bore 15 the innermost end of which opens into the mixing chamber or passage 10 and the outer end of which communicates with the innermost end of an enlarged outer bore 16 opening at its outer end through the outer surface of the boss or enlarged medial portion of the body. This defines a shoulder 17 at the juncture of the inner and outer bores 15 and 16 which shoulder is disposed within the confines of the boss or enlarged medial portion 14 adapted to serve a purpose which is hereinafter explained.

The spout, designated generally by the reference character B, includes an elongated tubular shank portion 20 having a downturned outer free outlet end portion 21 and an angulated inner intake end 22 having a reduced depending trunnion portion 23 of a diameter to snugly fit within the outer bore 16 of the faucet body A. A reduced terminal portion 24 protrudes from the trunnion portion 23 and is formed with a still further reduced exteriorly threaded extremity 25 engageable within the threaded inner bore 15 to effect rotatory connection between the spout B and faucet body A and to establish communication between the spout and mixing chamber or passage 10, a shoulder 26 being defined at the juncture of the reduced terminal 24 with the trunnion 23.

An elastic gasket 27 of rubber or an equivalent material is provided, the internal periphery of which is of a size to snugly fit around the terminal 24 and said gasket is interposed between the faucet body shoulder 17 and the spout shoulder 26 to lie within the outer bore 16 of the faucet body when the spout is assembled therewith. This assembly is accomplished before the bonnets are applied to the end portions 11 and 12, it being apparent that the reduced threaded extremity is engaged with the threaded inner bore 15

and the spout rotated a multiple number of turns until the end face of said extremity is substantially flush with the inner end of the inner bore 15, as shown in Fig. 2. It is evident that the outer free outlet end portion of the spout B clears the upper faces of the end portions 11 and 12 during the assembly but upon emplacement of the bonnets 13, the same act as stops disposed in the path of movement of the outer end 21 of the spout B, thus serving to limit the same to swinging movement therebetween. The gasket 27, which is of such a length that it will be maintained under compression at all times after the spout B is assembled with the faucet body A and subsequent to the application of the bonnets 13, will have sufficient longitudinal expansive action to effect a seal at all times thereby compensating for the slight relative movement of the shoulders 17 and 26 toward and away from each other due to the threaded swinging connection between the spout and body. As illustrated, the normal outer diameter of the gasket 27 is slightly less than the inner diameter of the outer bore 16 to afford a clearance space for the radial outward expansion of the gasket as it is compressed longitudinally between the shoulders 17 and 26 during their movement toward each other when the spout B is swung from the right hand position shown in Fig. 1 to the left hand position shown in Fig. 2.

What is claimed is:

1. In a swing spout mixing faucet, a faucet body defining a mixing chamber and having inlet valves at the opposite ends thereof including removably associated valve bonnets, said faucet body having an outlet intermediate the ends thereof, a spout having an intake terminal threadedly engaging said faucet body outlet and communicating with the mixing chamber and an outlet terminal at the outer end of the spout arranged to swing in a path intersected by the valve bonnets, said inlet valves being so located as to clear the outlet terminal of the spout when the bonnets are removed to permit of multiple rotation of the spout when threadedly engaging and disengaging the intake end thereof with the faucet body outlet, said valve bonnets when applied to the inlet valves serving as stops to prevent complete rotation of the spout and to limit the same to swinging movement therebetween.

2. In a swing spout faucet as set forth in claim 1, in which the spout intake terminal and faucet body outlet are respectively formed with spaced complementary shoulders located within the confines of the outlet, and an elastic sealing gasket interposed between said shoulders so as to be under compression and impinged thereagainst in any relative position of the spout with reference to the faucet body between the limiting stops defined by the inlet valve bonnets.

3. In a swing spout mixing faucet, a body defining a mixing chamber having valved inlets at the opposite ends thereof and a recessed outlet intermediate said ends, removable bonnets car-

ried by the valved inlet ends of said body, a spout having an outlet end and an angulated intake terminal threadedly engaging within the recessed outlet of the body and communicating with the mixing chamber, the valved inlet ends of the body being so located as to clear the outlet end of the spout to permit of complete and multiple rotation thereof for engaging the intake end thereof with and disengaging the same from the faucet body during assembly and disassembly of the spout and body, said valve bonnets being so located on the valved inlet ends of the body as to intersect the path of movement of the outlet end of the spout to serve as stops to limit the spout to swinging movement therebetween when the bonnets are applied.

4. In a swing spout mixing faucet as set forth in claim 3, wherein the recessed outlet of the faucet body is formed with an inner reduced threaded bore and an outer relatively larger bore defining a shoulder and wherein the intake terminal of the spout is formed with a reduced threaded extremity engaging the inner bore and with a larger trunnion portion fitted within the outer bore and defining at the juncture with the extremity a shoulder complementary to the outlet shoulder, and an elastic sealing gasket located between said shoulders and maintained under compression in any relative position of the spout with reference to the faucet body between the limiting stops defined by the bonnets.

5. A swing spout mixing faucet including an elongated hollow body defining a mixing chamber, an outlet boss intermediate the ends thereof having a threaded inner bore opening into the mixing chamber and having a relatively larger outer bore communicating with the inner bore and opening through the outer surface of the boss with a shoulder defined at the juncture of said bores, a spout having an angulated end portion respectively forming a trunnion fitted within the outer bore and a reduced threaded terminal engaging the threaded inner bore with a shoulder defined at the juncture of said trunnion and terminal, the shoulders of said spout and bore being spaced apart, an inlet valve casing at the opposite ends of the faucet body so arranged as to permit of multiple rotation of the spout for threadedly assembling the same with the faucet body, valve bonnets removably associated with the inlet valve casings and normally disposed in the path of movement of the free end of the spout for preventing disassembly of the spout and serving as stops to limit the spout to swinging movement therebetween, and an elastic sealing gasket located between the shoulders so as to be compressed therebetween and maintained under compression in any position of the spout with reference to the faucet body between the limiting stops defined by the valve bonnets to seal the intake end of the spout at its juncture with the faucet body.

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