

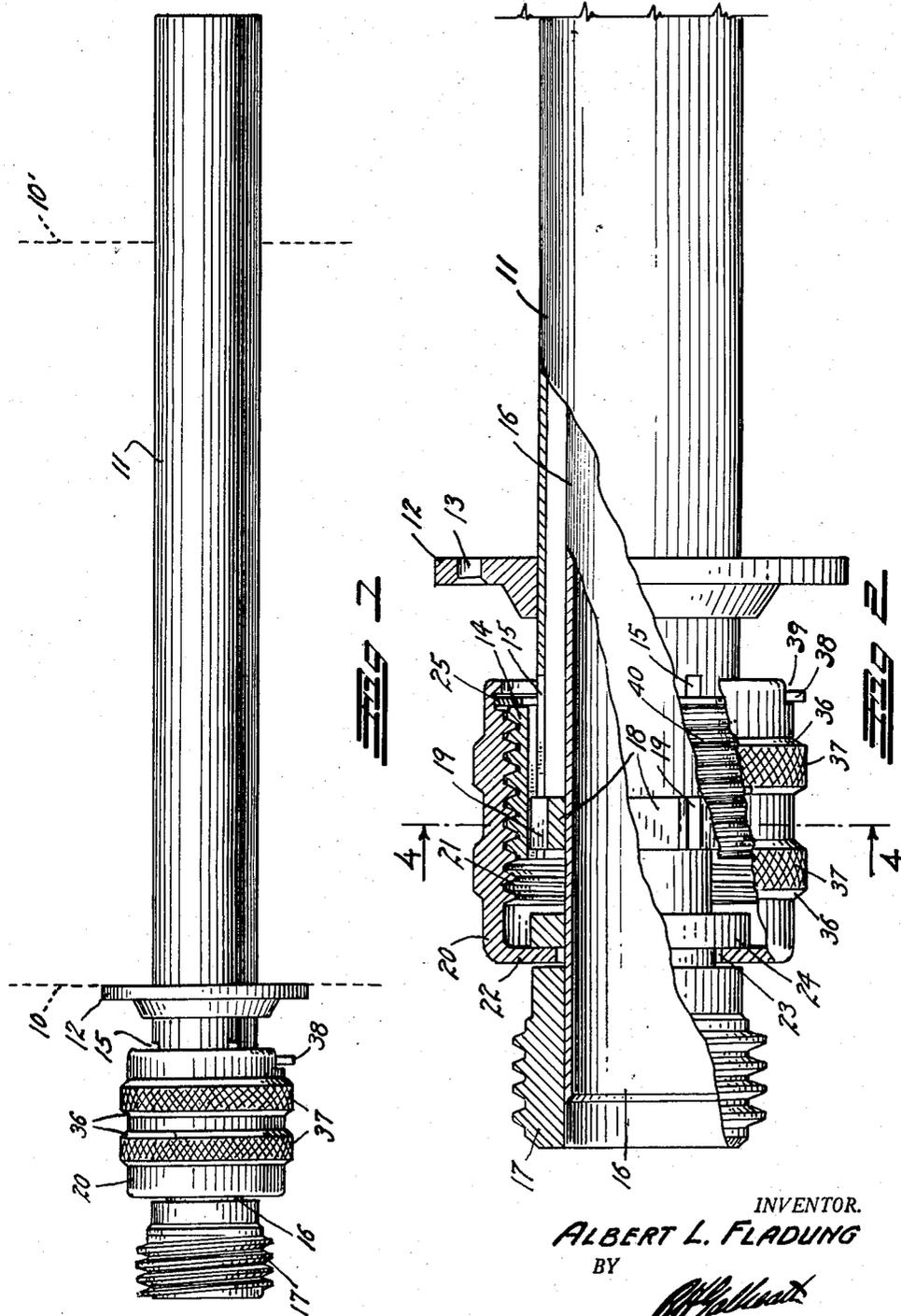
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SILL FAUCETS

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Filed Oct. 22, 1956

2 Sheets-Sheet 1



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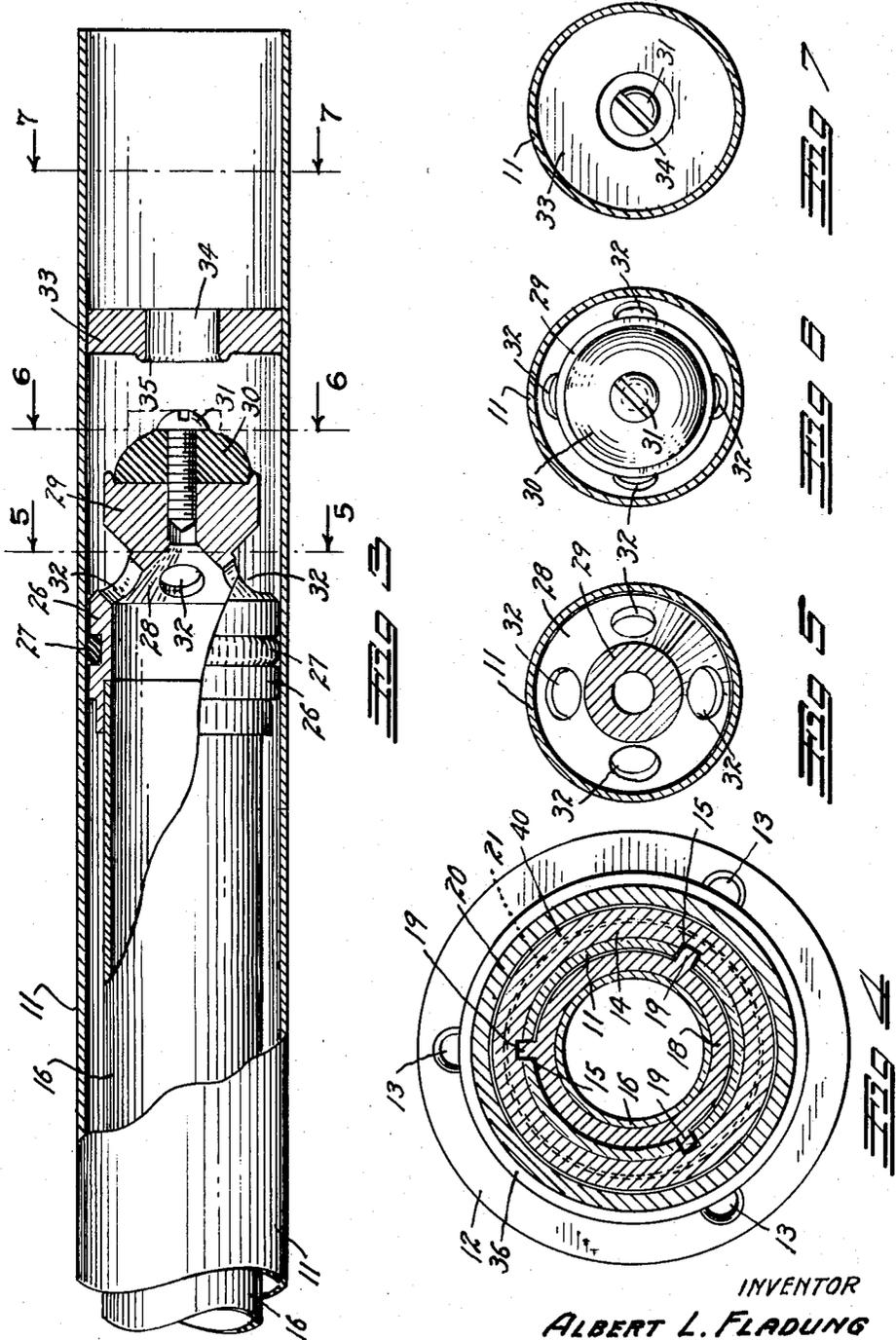
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SILL FAUCETS

Albert L. Fladung, Denver, Colo.

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1 Claim. (Cl. 137—360)

This invention relates to what is commercially known as a sill cock or sill faucet, that is, a faucet of the type that is mounted on buildings and residences for receiving an external sprinkling hose.

The principal object of this invention is to provide a sill faucet which will not freeze during subfreezing weather so that the water need not be turned off during the winter.

Another object of the invention is to provide a simple and economical valve construction wherein all of the water-retaining parts will be positioned inside of a building wall while all of the operating parts are positioned on the exterior thereof.

A further object of the invention is to so construct the improved sill faucet that all hand wheels, valve operating handles and the like will be eliminated and in which the parts subject to wear and disintegration will be easily accessible for replacement and renewal.

Other objects and advantages reside in the detail construction of the invention, which is designed for simplicity, economy, and efficiency. These will become more apparent from the following description:

In the following detailed description of the invention, reference is had to the accompanying drawing which forms a part hereof. Like numerals refer to like parts in all views of the drawing and throughout the description.

In the drawing:

Fig. 1 is a side view of the improved sill faucet illustrating, in broken lines, the relation of the faces of a building wall thereto;

Fig. 2 is an enlarged, fragmentary side view of the outer extremity of the improved sill faucet partially broken away to show the internal construction;

Fig. 3 is a similarly enlarged side view of the inner extremity thereof similarly broken away to show the interior construction;

Fig. 4 is a cross section through the improved sill faucet taken on the line 4—4, Fig. 2; and

Figs. 5, 6 and 7 are cross sections through the improved sill faucet taken on the lines 5—5, 6—6, and 7—7, respectively, Fig. 3.

In Fig. 1, the position of the outer face of a conventional building wall is indicated in broken line at 10 and the position of the inner face thereof at 10'.

The improved sill faucet employs a relatively long outer tube 11 of sufficient length to extend through and project from both faces of the wall. The outer tube 11 is provided, adjacent its outer extremity, with an escutcheon plate 12 which is fixedly formed on, or sweated to, the tube. The escutcheon plate contains suitable screw holes 13 by means of which it may be attached to the outer surface 10 of the wall. A threaded sleeve 14, provided with relatively coarse external threads 40, is formed on or soldered to the outer extremity of the outer tube 11 flush with the terminal of the tube. The outer extremity of the tube 11 is slotted to form a plurality of longitudinally extending key slots 15 which extend into

and form grooves in the internal surface of the threaded sleeve 14. The tube 11 is provided with an internal valve seat disc 33 adjacent its inner extremity.

An inner tube 16, of smaller diameter and less length than the outer tube 11, is positioned within the latter. The outer extremity of the inner tube 16 is fixedly sealed in a threaded hose nipple 17. A circumferential key band 18 is also fixedly mounted on the inner tube 16 adjacent its outer extremity. The key band 18 is provided with one or more radially projecting keys 19 which slidably engage the key slots 15 in the outer tube 11 to prevent relative rotation between the two tubes.

A cup-shaped valve barrel 20, provided with internal threads 21, is threaded upon the threads 38 of the threaded sleeve 14. The barrel 20 is preferably provided with raised bands 36 provided with suitable knurling 37 to provide a secure hand grip. The forward face or bottom of the valve barrel, indicated at 22, is provided with a concentric opening 23 through which the inner tube 16 passes. The barrel bottom 22 is positioned between the hose nipple 17 and a set collar 24 fixedly mounted in the inner tube 16 so that relative longitudinal movement between the inner tube 16 and the barrel 20 is prevented. The barrel 20 is locked against removal from the threaded sleeve 14 by means of a resilient snap ring 25 which is detachably snapped into a receiving groove in the interior of the inner extremity of the barrel 20. The snap ring 25 contacts the inner extremity of the sleeve 14 when the barrel is threaded outwardly its maximum distance as shown in Fig. 2.

The inner extremity of the inner tube 16 is fixedly mounted in a terminal cap 26 provided with a ring groove containing a resilient sealing ring 27, of the O-ring type, which completely seals the intervening space between the inner tube 16 and the outer tube 11. The terminal cap 26 is formed with a conically inclined portion 28 which concentrically supports a washer seat 29. The washer seat 29 is designed to receive a conventional faucet washer 30 secured thereto by means of the usual washer screw 31. The inclined portion 28 of the terminal cap contains a plurality of open water ports 32.

The set collar 24 and the key band 18 may be formed on the inner tube 16 as integral parts thereof or may be sweated thereto by means of hard solder. The hose nipple 17, however, should be sweated on the inner tube 16 after the barrel 20 is in place thereon. The terminal cap 26 may be attached to the inner tube 16 in any desired manner, such as by means of threads, sweating, etc. The valve seat disc 33 may be formed as an integral part of the outer tube 11 or may be soldered, braised, threaded or otherwise attached therein. The disc 33 is provided with a concentric valve port 34 surrounded by an annular raised valve seat 35.

The sill faucet is assembled by simply slipping the inner tube 16 into the outer tube 11 with the sealing ring 27 in place and with the keys 19 aligned with the key slots 15. The barrel is then threaded onto the threaded sleeve 14 and the snap ring 25 is snapped into place to maintain the faucet assembled.

It can be seen that if the valve barrel 20 be rotated in a clockwise direction upon the stationary threaded sleeve 14, it will cause the barrel to move inwardly. As it moves inwardly, the bottom 22 of the barrel will act against the set collar 24 to force the inner tube 16 inwardly until the washer 30 is seated on the valve seat 35 to close the faucet. The barrel 20 can then be rotated in a counter clockwise direction to reverse the action and cause the bottom 22 to act against the nipple 17 so as to draw the washer 30 from its seat 35. This will allow water to flow through the valve port 34 around the washer seat 29 through the water ports 32 into the in-

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terior of the inner tube 16 and thence to the hose nipple 17 and the attached hose.

The inner extremity of the outer tube 11, as illustrated, is designed to receive a sweated pipe coupling such as used in modern plumbing. It could, of course, be provided with threads if desired to receive threaded pipe couplings. It is preferred to space the valve disc 33 inwardly from the inner extremity of the outer tube 11 a sufficient distance to prevent damage to the washer and its seat from the heat of the fitting sweating operation.

It can be seen that when the improved sill faucet is installed through a wall, only the inner extremity thereof will be filled with water when the valve is closed. This inner extremity will, of course, receive heat from the building interior so as to prevent freezing of the water. The remainder of the faucet is fully open so that it may freely drain at all times, and access can be quickly had for washer replacement by simply removing the snap ring 25. It can also be seen that all external valve handles, wheels, etc. have been completely eliminated.

It is preferred to turn the two extremities of the snap ring 25 outwardly, as shown at 38, through a notch 39 in the barrel 20. This facilitates removal of the snap ring, as the latter can be quickly contracted by simply gripping the extremities 38 between the thumb and finger.

While a specific form of the improvement has been described and illustrated herein, it is desired to be understood that the same may be varied within the scope of the appended claim, without departing from the spirit of the invention.

Having thus described the invention, what is claimed and desired secured by Letters Patent is:

A faucet comprising: an outer tube of sufficient length to extend through a normal building wall; a sleeve fixedly mounted on said outer tube and forming an enlarged circumferential abutment on the outer extremity of said outer tube, said sleeve being provided with external threads; an inner tube of smaller diameter and of less length than said outer tube and positioned within and in

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spaced relation to the latter and projecting outwardly therefrom a cylindrical, male threaded hose nipple fixedly mounted on said inner tube and forming an enlarged circumferential abutment on the outer extremity of said inner tube; a rotatable, cylindrical, cup-shaped valve barrel threaded upon the external threads on said sleeve; an inturned outer end on said barrel extending radially inward to said inner tube so as to bear against the abutment formed by said hose nipple; a set collar mounted on and projecting radially outward from said inner tube adjacent said inturned end and acting to prevent said latter end from separating from said abutment; an internal snap ring fitted into the inner extremity of said barrel and positioned to engage the abutment formed by said sleeve to limit outward movement of said barrel; a key band affixed to and surrounding said inner tube within said sleeve; keys projecting from said key band and engaging longitudinal key slots formed through said inner tube and into said sleeve to prevent rotation of said inner tube; a terminal cap fitted over and secured to the inner extremity of said inner tube to close the annular space between the two tubes; an annular sealing ring inset in said cap and acting to seal the latter to said outer tube; a washer seat positioned concentrically on said cap; a valve washer carried by said seat; a valve seat disc mounted in said outer tube inwardly from said washer and provided with a port adapted to be closed by said washer; and water ports communicating through said cap with the interior of said inner tube.

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