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TELESCOPIC ELBOW FITTINGS FOR INTERCONNECTING FLUSH TANKS AND TOILET BOWLS

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Fig. 1.

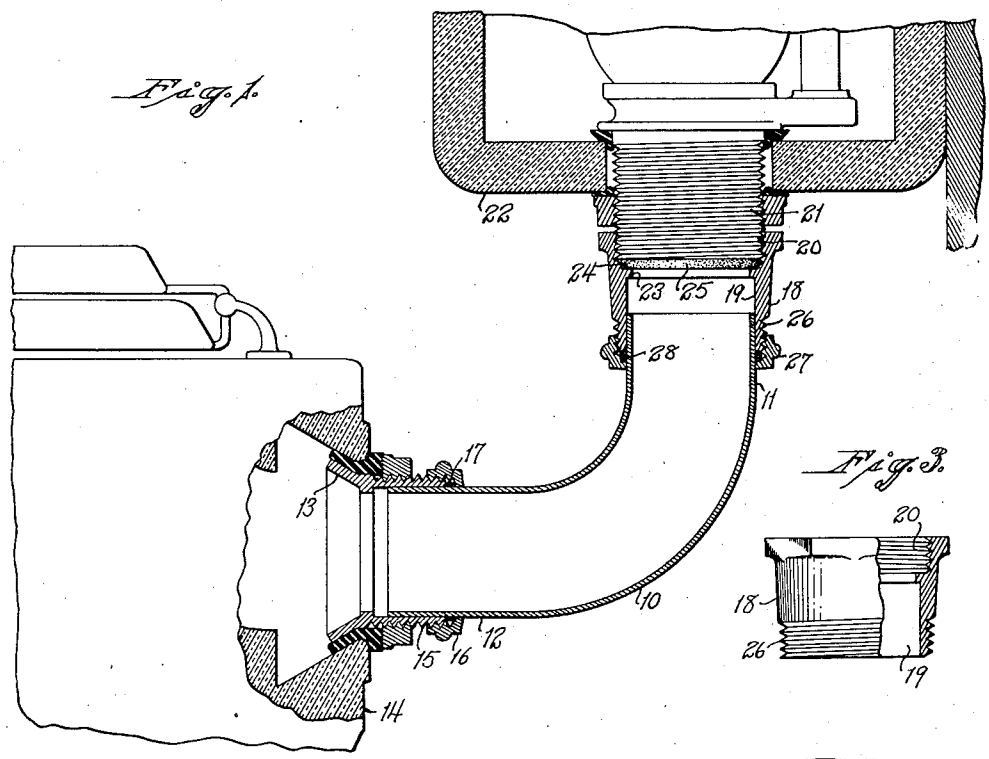
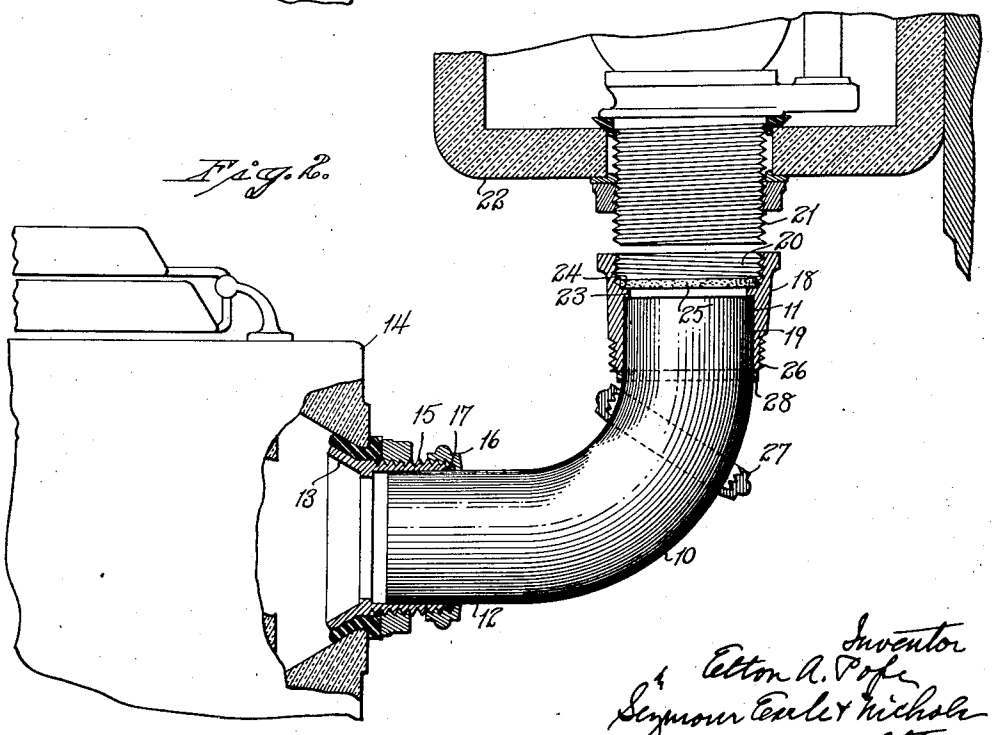


Fig. 3.

Fig. 2.



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TELESCOPIC ELBOW-FITTINGS FOR INTERCONNECTING FLUSH-TANKS AND TOILET-BOWLS

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1 Claim. (Cl. 285—4)

This invention relates to an elbow-fitting for interconnecting flush-tanks and toilet-bowls and relates in particular to an improved fitting of the type described having telescopic characteristics.

One-piece flush-elbows as heretofore employed and as now most generally in use have been open to many objections, especially as regards the time and labor necessary for their connection to and their removal from the flush-tanks and toilet-bowls which they interconnect. The operations necessary for the removal or replacement involve the bodily displacement of either the bowl or the tank (usually the latter) and in the case of removing such an elbow, the tank must be drained and the water-supply thereto disconnected.

Efforts have been made to overcome the objections above referred to by providing two-piece elbows which could be readily separated and removed and replaced in sections without disturbing the bowl, tank or the water-supply connections to the latter. These two-piece elbows offered as a remedy for the objections first above recited have in themselves, however, certain objections, such, for instance, as a clumsy and unworkmanlike appearance, relative complexity of parts, and unwanted facility for collecting dirt, etc. Furthermore, the parts of such two-piece elbows necessarily were made special and, therefore, manufacturers, jobbers and plumbers are required to stock a considerable variety of sizes to meet various installation requirements.

One of the main objects of my present invention is to provide at a low cost for manufacture a flush-elbow fitting for the purpose described which may employ for one of its component parts standard elbows commonly found in the stocks of manufacturers, jobbers and plumbers, the said fitting being characterized by ease and facility of installation and removal, with a minimum expenditure of time and labor.

A further object of my present invention is to provide a superior flush-elbow fitting which presents a neat workmanlike appearance when installed and with a minimum number of projections for the collection of dirt.

Other objects will appear to those skilled in the art from the following, taken in conjunction with the appended claim and the accompanying drawing.

In the accompanying drawing:

Fig. 1 is a fragmentary view partly in vertical section and partly in elevation, illustrating one form which a telescopic elbow-fitting constructed in accordance with my invention may assume, the said fitting being shown in place for interconnecting a flush-tank and toilet-bowl;

Fig. 2 is a view corresponding to Fig. 1 but showing the extension-member disconnected from the threaded stem extending from the flush-tank and telescoped downwardly over the vertical leg of the elbow; and

Fig. 3 is a view partly in side elevation and partly in central longitudinal section of the body-portion of the extension-member.

The particular embodiment of my invention herein chosen for illustration includes a tubular elbow 10 having complementary diverging legs 11 and 12, each of which latter has a smooth cylindrical periphery. The said elbow is of standard form and has its leg 12 inserted within an inlet-spud 13 rearwardly projecting from the toilet-bowl 14 and externally threaded as at 15 for the reception of a packing-gland, which includes a compression-nut 16 and a compressible gasket 17 of usual form.

Applied over the upper end of the leg 11 of the elbow 10 is a tubular extension-member 18 having in its lower end a smooth cylindrical bore 19 for the telescopic engagement with the said leg 11 and having its upper end provided with an internally-threaded bore 20 for engagement with an outlet stem 21 projecting downwardly from a flush-tank 22. Interposed between the internally-threaded bore or socket 20 of the said extension-member 18 and the smooth cylindrical bore or socket 19 thereof, is an internal annular rib or flange 23 inwardly offsetting the cylindrical bore 19 and providing a seat or shoulder 24 for either direct engagement with the lower end of the stem 21 or for engagement with a packing-washer 25 interposed between the said stem and the said seat 24.

The lower end of the extension-member 18 before referred to is provided externally with threads 26 for the reception of an internally-threaded compression-nut 27 forming a feature of a packing-gland, which includes, also, a compressible packing-ring or gasket 28.

In installing my improved telescopic flush-elbow fitting under the particular conditions shown in the drawing, the leg 12 of the elbow proper 10 first has sleeved over it a compression-nut 16 and then the gasket 17; after which it is slipped within the interior of the spud 13 of the bowl 14. The compression-nut 27 and gasket 28, as well as the lower end of the extension-member 18, are now sleeved over the leg 11 of the elbow 10. The

elbow is now shifted as may be necessary to align the extension-member 18 with the outlet-stem 21, after which the said extension-member is lifted axially and screwed over the said stem until the gasket 25 is brought to a bearing against the lower end of the said stem and compressed between the same and the shoulder 24 to thus provide a watertight connection between the said stem 21 and the extension-member 18. The compression-nuts 16 and 27 are now screwed in place respectively upon the spud 13 and the externally-threaded lower end of the extension-member 18. This latter operation results in the compression of the gaskets 17 and 28 to respectively provide a watertight connection between the leg 12 and spud 13 and also between the leg 11 of the said elbow and the extension-member 18.

Now in the event that for any reason it should be desired to disconnect the connection between the flush-tank 22 and the bowl 14, this may be effected by first loosening or removing the compression-nut 27 with respect to the threaded lower end of the telescoping extension-member 18, after which the latter may be turned for unscrewing its upper end from the outlet-stem 21. The extension-member 18 may now be telescoped downwardly over the leg 11 of the elbow 10 into the position shown in Fig. 2 of the drawing, at which time it will be noted that the under face of the rib or flange 23 serves as a locator or stop. The elbow 11, together with the extension-member 18, compression-nut 27 and gasket 28 may now be turned in the spud 13, if desired, to move the upper end of the member 18 out of alignment with the outlet-stem 21 or, if desired, the compression-nut 16 on the spud 13 may be loosened and the elbow and the parts carried thereby completely removed.

The extension-member 18, by virtue of its telescopic interfitting over the one leg of the elbow 10, provides for spanning the gap between the same and the outlet-stem 21, so that appreciable variations in the length of the elbow may be thus compensated for.

Furthermore, since the extension-member 18 is adapted for telescopic interengagement with standard elbows commonly found in the stocks of manufacturers, jobbers and plumbers, any given elbow may be telescopically assembled with the extension-member 18 to meet the exigencies of any given installation.

It will be understood by those skilled in the art that my invention may assume varied physical forms without departing from my inventive concept, and I, therefore, do not limit my invention to the specific embodiment herein chosen for illustration.

I claim:

In a construction including a flush-tank with an externally-threaded, tubular, outlet-stem extending outwardly from said tank, and a toilet-bowl having an inlet-spud, and a one-piece elbow interconnecting said outlet-stem and said inlet-spud and having unthreaded ends and being so constructed and arranged that one end of said elbow can be slid into and out of said inlet-spud: means for detachably connecting the other end of said elbow to said outlet-stem comprising an extension-member having an internally-threaded upper end for engagement with the threads of said outlet-stem and having a lower end provided with a bore adapted to have telescopic engagement with said other end of said elbow, said extension-member also having an internal, annular flange rigid therewith and inwardly offsetting from said bore, said annular flange being so constructed and located that the extension-member can be backed off below said outlet-stem to bring said annular flange into stop engagement against said other end of said elbow, said annular flange also being adapted to carry a packing washer for sealing against the end of said outlet-stem.

ELTON A. POPE.