July 3, 1945. F. A. WARREN 2,379,669

FITTING FOR PLUMBING SYSTEMS

Filed Aug. 11, 1941

FIG. 1.

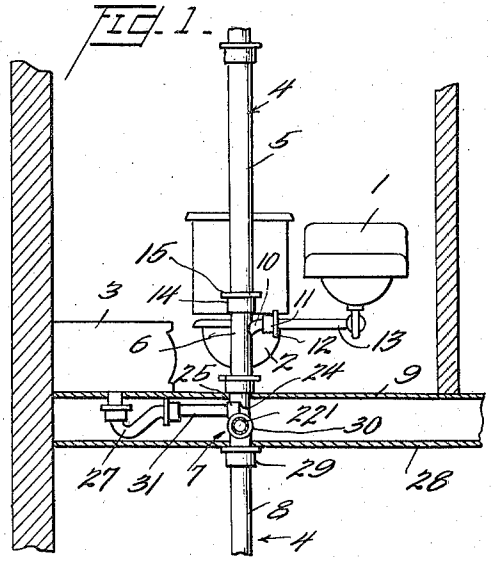


FIG. 2.

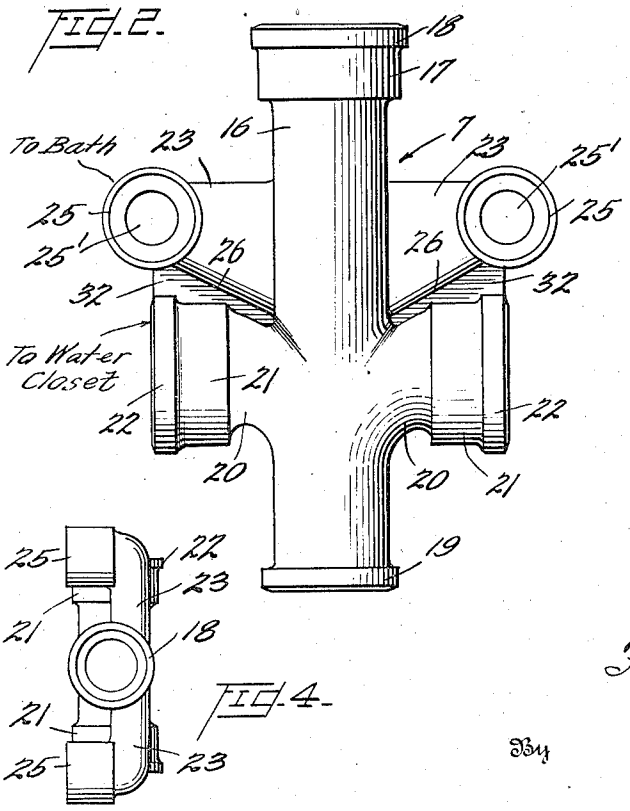


FIG. 3.

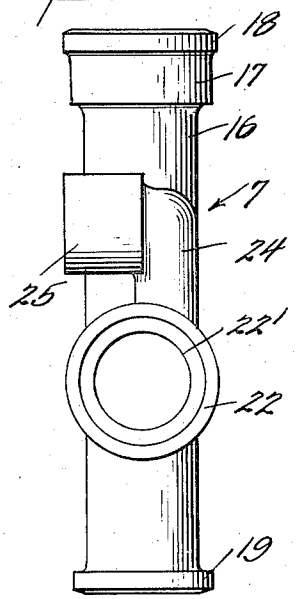


FIG. 4.

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FITTING FOR PLUMBING SYSTEMS

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5 Claims. (Cl. 285—210)

Generically this invention relates to a fitting used in plumbing systems and especially in connection with bath tubs, water closets, wash basins, etc.

One object of this invention is the provision of a single casting for plumbing stack fitting known to the trade as a gang fitting and is a combined closet and bath waste and vent fitting adapted to occupy a minimum of space and to save labor in installation.

An important object of this invention is the provision of a plumbing stack fitting made in a single form known as a T and also in a double form known as a cross or code-cross adapted to eliminate extra vents with a comparatively small opening for bath tub connections, and below, a large opening for closet bowl outlet, and so positioned as to eliminate calked joints and bends heretofore required in waste fittings.

One of the principal objects of this invention is the provision of a plumbing fitting comprising an integral casting formed with a main soil or waste passage, lower large closet waste passage extending at right angles from said main passage and upper smaller similarly extending bath waste passage communicating with said main passage, the upper part of said main passage acting as a vent to prevent siphonage of bath traps, thereby eliminating extra vents, the relative positions of said upper and lower passages being such that when the fitting is operatively positioned in the main soil or stack line, calked joints, bends and extra connections are eliminated.

With these and other objects in view, which will become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawing, in which like characters of reference indicate like parts throughout the several figures, of which:

Fig. 1 is a similar view showing the arrangement with my improved T or code-cross fitting.

Fig. 2 is an elevation of my improved fitting.

Fig. 3 is a view at right angles to Fig. 2.

Fig. 4 is a top plan view of Fig. 2.

Briefly, my plumbing stack fitting, T or code-cross fitting is a combined closet and bath waste and vent fitting comprising an integral casting having a large opening for closet waste, and above, a small opening for bath waste. The upper wall of bath opening communicating with the vent opening at right angles while the lower wall may vary in degree of flow toward vent opening, the bath opening located at a point whereby, when said fitting is placed in waste stack the large lower opening pointing directly to closet bowl outlet, the upper smaller bath opening is automatically on a direct line with bath tub waste, thereby eliminating extra vents, calking joints and bends heretofore required, and also designed to save time and labor in installation in connection with the furring of ceiling in order to conceal the plumbing pipes, etc.

In Fig. 1 there is shown a wash basin 1, closet bowl 2, bath tub 3, and stack waste line 4.

The portion of the stack or main soil line 4 as shown in Fig. 1 comprises sections 5, 6, code-cross section 7, and section 8. Section 6 is positioned just above the floor 9 and is formed adjacent its upper end with a branch 10 formed with hub 11, terminating in flange 12 adapted to receive one end of pipe 13, the other end of which is connected to basin 1, the upper end of said section 6 is formed with an enlarged upper end 14 terminating in flange 15 adapted to receive the lower end of section 5 as will be well understood.

My improved code-cross section 7 comprises a vertically extending pipe or main body portion 16 terminating at its upper end in the elongated hub and flange portions 17 and 18, respectively, and at its lower end in flange 19. Spaced above its lower end section 7 is formed with branches 20 extending substantially at right angles outwardly from diametrically opposite sides of portion 16 and terminating in the enlarged hub and flange sections 21 and 22, respectively, and constituting the closet openings 22' as will hereinafter more fully appear.

Above the branches 20 in substantial vertical alignment therewith and extending from pipe 16 are the diametrically opposite branches 23 formed with the right angularly extending portions 24 terminating in the enlarged hub portions 25 projecting at right angles to hub portions 21 and constituting bath openings 25' of smaller diameter than openings 22'. The branches 23 from the right angular extending portions 24 adjacent hubs 25 expand downwardly to section 16 at points immediately above branches 20 forming the inwardly and downwardly inclined walls 26. This construction provides large openings at points of intersection with the main body portion 16 and terminates in the comparatively small openings 25' located above the large closet openings 22' and connected to section 16 so that the upper part of said section acts as a vent and prevents the bath trap 27 from siphoning, as will directly more fully appear. Code-cross section 7

is mounted under floor 9 with hub portion 17 extending above the floor and adapted to receive the lower end of section 6 as clearly shown in Fig. 1, the lower end extending through the ceiling 28 and received by the hub portion 29 of main soil line 8.

The discharge end of closet bowl 2 is received in opening 22' of hub 21, the opposite opening 22', as at 30, adapted to be similarly connected to the lower end of closet 2 of an adjacent assembly, as shown in Fig. 1, located on the opposite side of a partition wall not shown. The trap 27 is suitably connected to the outlet of bath 3, and, by a suitable pipe 31 to inlet opening 25', the free end of which is adapted to be received by hub 25 and effects communication with said bath opening 25' as will be clear without further discussion. In this connection it will be noted that branches 20 and 23 are connected by the vertical web 32 which unites them into a unitary structure.

It will be noted that where only one bath installation is necessary, branches 20 and 23 on one side of the code-cross 7 may be plugged, thereby constituting in effect a single or T fitting, or a T casting formed with said branches on one side only may be installed, and in either case the fitting is compact, and Fig. 1 shows how the closet and bath can be connected to the single stack waste and vent line 4 within the space between 10'' joists, that being the distance between floor 9 and ceiling 28, and constituting a sanitary installation, and eliminating the vent or vents and the necessity of furring the ceiling below, as required in connection with the prevailing constructions.

It will be apparent that I have constructed a plumbing fitting adapted to occupy a minimum of space and which is a combined closet, bath waste, and vent fitting comprising an integral casting, the small bath openings being placed above the large closet openings and connected to the main body section 16 so that the upper part of said section acts as a vent and prevents siphonage of bath trap or traps. Such construction not only affords the advantages above noted but also eliminates additional vent piping, heretofore in use, as well as separate vents for the bath traps. Also the relation of the closet and bath openings and their location are such that when the T or code-cross fitting is operatively positioned in the stack or main soil line with the lower large openings pointing directly to the closet bowl outlet the upper small opening is automatically positioned in a direct line for connection with the bath waste outlet, thereby eliminating the calked joints and bends heretofore required.

From the above it will be apparent that by the use of my improved fitting the vent heretofore prevalent is eliminated as well as the added expense for vents for the respective bath traps, and by my construction the portion of the main body or stem disposed above the bath branches acts as a vent to prevent siphonage of the bath trap, and the relative positions and arrangement of the bath and closet branch outlets is such that when the fitting is operatively positioned in the soil line, for instance, with the large closet inlet opening facing the closet outlet, the bath inlet will be in a direct line with the bath trap outlet, thereby eliminating the prevailing calked joints and bends, and in addition I have provided an integral fitting, simple in construction, manufacturable at a minimum of expense, adapted to effect a saving in time and labor incident to installation, and efficient for the purposes intended.

Although in practice it has been found that the form of the invention illustrated in the accompanying drawing and referred to in the above description as the preferred embodiment is the most efficient and practical; yet realizing the conditions concurrent with the adoption of the invention will necessarily vary, I desire to emphasize that various minor changes in details of construction, proportion and arrangement of parts, may be resorted to within the scope of the appended claims without departing from or sacrificing any of the principles of this invention.

Having thus described my invention, what I desire protected by Letters Patent is as set forth in the following claims:

1. A gang fitting of the character described adapted to be inserted in the length and to form a continuation of a waste stack comprising a hollow stem portion, bath and closet branches extending from the stem portion and in spaced relation, that portion of the stem disposed above the bath branch acting therewith as a vent to prevent siphonage of the bath trap, said branches terminating in bath and closet inlets, said bath branch being formed with a horizontal and inclined wall portion forming a downwardly and outwardly flared passage opening into the stem portion whereby to provide superimposed paths for air and water.

2. A plumbing fitting adapted to be inserted in the length and to form a continuation of a waste stack comprising a hollow stem portion, said portion having a branch projecting therefrom spaced from its lower end for connection with a water closet outlet, and a similarly extending upper branch having an opening at its free end for connection with a bath outlet, that portion of the stem disposed above said bath branch acting therewith as a vent to prevent siphonage of the bath trap, said bath branch being formed with a horizontal and inclined wall portion forming an outwardly flared passage terminating in an enlarged opening communicating with the stem portion whereby to provide superimposed paths for air and water, the bottom wall of said branch inclining downwardly to the enlarged opening.

3. A plumbing fitting adapted to be inserted in the length and to form a continuation of a waste stack comprising a hollow stem portion, opposite closet branches extending from said stem, spaced from its lower end, and opposite similarly extending upper bath branches, that portion of the stem disposed above the bath branches acting as a vent to prevent siphonage of the bath traps, said branches teminating in closet and bath inlets, each of said bath branches being formed with a horizontal and inclined wall portion forming a downwardly and outwardly flared passage terminating in an enlarged opening communicating with the stem portion, the bottom wall of said branch inclining downwardly to the enlarged opening whereby to provide superimposed paths for air and water.

4. A plumbing fitting adapted to be inserted in the length and to form a continuation of a waste stack comprising a hollow stem portion, upper bath and lower closet branches in spaced relation extending from opposite sides of said stem portion, that portion of the stem disposed above the bath branches acting therewith as a vent to prevent siphonage of the bath traps, said branches terminating in bath and closet inlets

normal to each other, said bath branches being formed with horizontal and inclined wall portions forming downwardly and outwardly flared passages terminating in enlarged openings communicating with the stem portion whereby to provide superimposed paths for air and water, the bottom walls of said branches inclining downwardly to the enlarged openings.

5. A plumbing fitting of the character described adapted to be inserted in the length and to form a continuation of a waste stack comprising a hollow stem section, said section having a branch projecting therefrom spaced from its lower end terminating in a substantially large inlet opening for direct connection with a water closet, and an upper similarly extending branch terminating at its free end in a smaller inlet opening normal to said large opening for direct connection with a bath, that portion of the stem disposed above said bath branch acting therewith as a vent to prevent siphonage of the bath trap, said bath branch being formed with a horizontal and inclined wall portion forming a downwardly and outwardly flared passage terminating in an enlarged opening communicating with the stem portion whereby to provide superimposed paths for air and water, the bottom wall of said branch inclining downwardly to the enlarged opening.

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