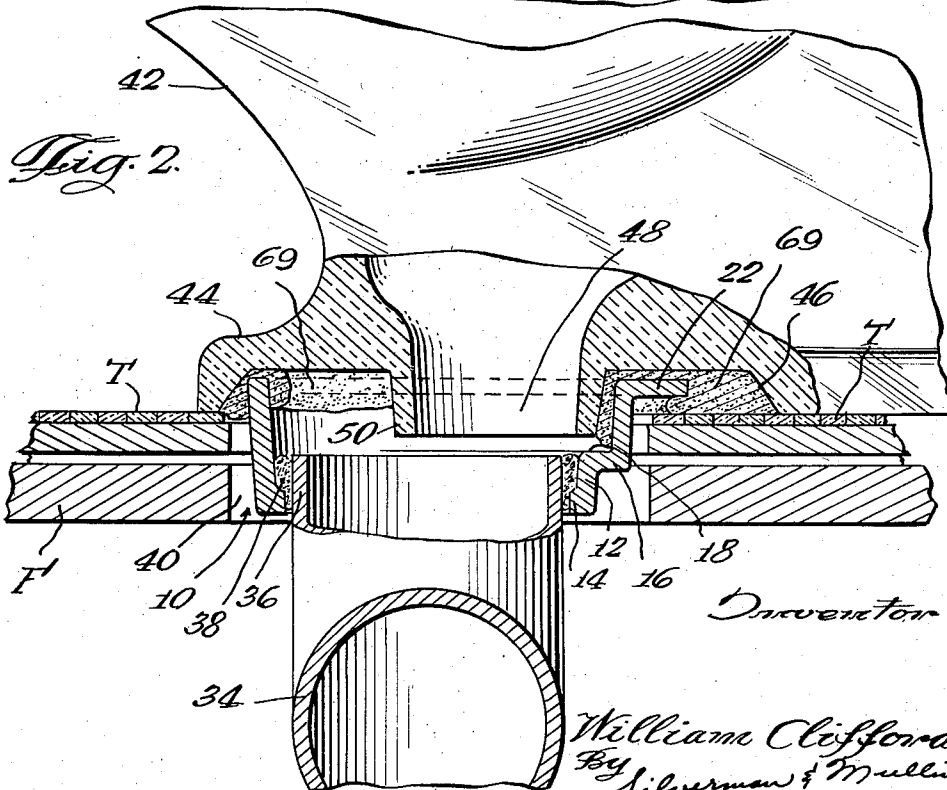


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2 Sheets-Sheet 1



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Aug. 18, 1959

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2,899,690

ADJUSTABLE WATER CLOSET COLLAR

Filed Nov. 16, 1955

2 Sheets-Sheet 2

Fig. 3.

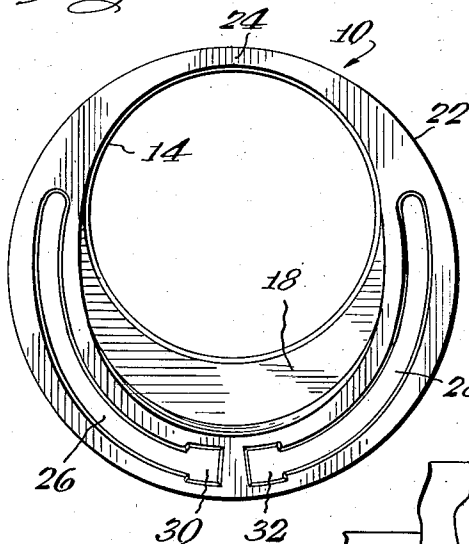


Fig. 4.

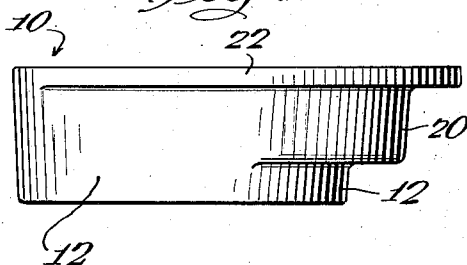


Fig. 5.

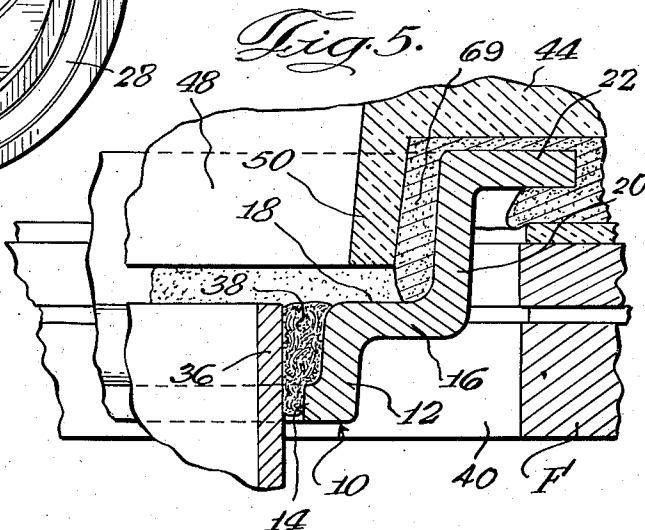


Fig. 6.

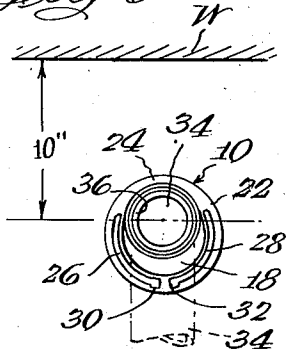


Fig. 7.

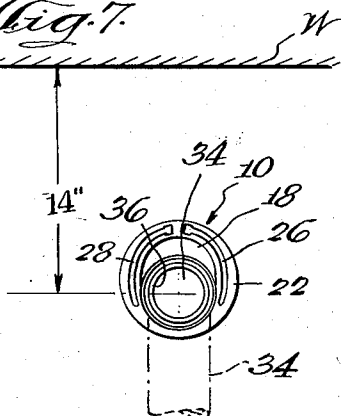
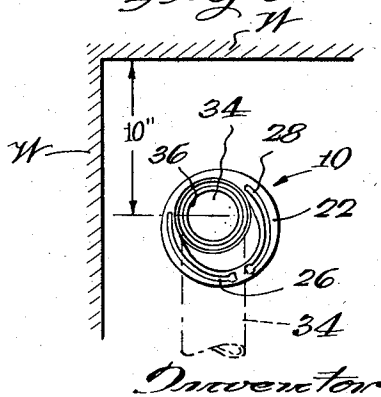


Fig. 8.



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2,899,690

ADJUSTABLE WATER CLOSET COLLAR

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Application November 16, 1955, Serial No. 547,146

5 Claims. (Cl. 4—252)

This invention relates to improvements in collars for use in mounting water closet bowls and more particularly the invention pertains to an improved collar design whereby the collar may be adjusted to adapt a water closet bowl in proper fitting mounted relationship over the plumbing pipe bend during the initial installation or replacement of the fixture.

In the art of plumbing it is well known that collars are used to adapt the water closet outlet to the mouth of the pipe bend during the mounting and installation of the fixture. Heretofore such collars have been provided with flanges having openings adapted to cooperate with aligned openings in the base flange of the closet bowl so that the closet bowl could be secured by means of bolts threaded through the collar flange openings and the bowl flange openings. The design and structure of these collars were such that no variation whatsoever from the pre-planned location and dimensions of the fixture was permitted, since they could not be accommodated or adapted to properly fit or be secured to the existing plumbing system, which ordinarily was already installed during the earlier phases or steps of construction.

It is important to note that water closet fixtures are presently designed and manufactured in such a manner that the distance between the wall of the bathroom and the parallel center line of the mouth of the pipe bend is either ten, twelve or fourteen inches. Thus before the plumbing system was installed the plumber had to have knowledge of the type of fixture to be installed so that he could so install the pipe bend that it would be aligned with the outlet of the closet bowl. Moreover the artisan laying the tile floor of the bathroom or the like, likewise had to leave a proper opening, the exact location of which would permit alignment with, and mounting of, the closet bowl over the collar and closet bend.

Heretofore, however, in the event of any inadvertent variation from the original plans, either by the plumbing contractor or the tile floor installer, there was no method for compensating for this error except by the installation of a different closet bowl fixture or by tearing out and rebuilding the floor or plumbing installation. For example, if the original plans called for a closet bowl fixture of the type wherein the bowl would be spaced fourteen inches from the wall but for some reason or other the floor opening was positioned twelve inches instead of fourteen inches from the wall, it became necessary to order and obtain a closet bowl fixture in which the bowl was positioned twelve inches rather than fourteen inches from the wall.

Obviously there oftentimes was some delay in exchanging the initially ordered fixture for the one now necessitated under the above explained conditions. In the event that the water-closet fixture was of standard white color, the delay was usually not excessive. However in those cases where a color other than white was specified, oftentimes the delay stretched into a matter of months until the particular color and the particular type (10", 12" or 14" space from wall) could be obtained. Obviously such

2

delays were most objectionable, but heretofore no practical solution to the problem was available.

It is therefore an important object of this invention to provide a novel, adjustable combination collar and adaptor which will overcome all of the disadvantages mentioned hereinabove.

Another important object is to afford adjustable collar means capable of being installed in the present standard water closet system without requiring any change in design or structure thereof.

A further object is to provide an adaptor closet-bend collar designed to accommodate therein in adjustable but sealing relationship the outlet end of a water closet bowl, the position of which may be varied, within limits, in relationship to the center line of the pipe bend.

Yet another object is to provide a collar of the type described hereinabove designed so that the closet bowl outlet and pipe bend may be operationally joined together in solid leakproof relationship.

Yet a further object is to provide an adjustable closet-bend collar designed so that it may accommodate, within limits, a plurality of variations in the relative position of a water closet bowl fixture with respect to the wall of the bathroom and further with respect to the pre-planned floor opening.

Still another object is to afford a closet-bend collar of the type described hereinabove, of simple inexpensive construction, yet sturdy and effective.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel features of construction, arrangement and a combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of my invention, I have illustrated in the accompanying drawings a preferred embodiment thereof, from an inspection of which, when considered in connection with the following description, my invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

Fig. 1 is a fragmentary front elevational view showing an assembly of a water closet bowl, a pipe bend and closet collar mounted in operational position through the floor of a bathroom or the like;

Fig. 2 is a fragmentary side elevational view partially in section of the closet assembly illustrated in Fig. 1 of the drawings;

Fig. 3 is a top plan view of the collar member embodying the principles of my invention;

Fig. 4 is a side elevational view of the same;

Fig. 5 is an enlarged fragmentary sectional view of a portion of the assembly illustrated in Fig. 2 of the drawings;

Fig. 6 is a top plan view of the collar illustrated in Fig. 3 of the drawings shown in operational position for mounting a closet bowl fixture of a type spaced only ten inches from the wall;

Fig. 7 is a view similar to Fig. 6 but showing the collar in position for accommodating a closet bowl fixture spaced fourteen inches from the wall; and

Fig. 8 is a view similar to Figs. 6 and 7 showing yet another position for adapting a water closet bowl to the plumbing system.

Referring first to Figs. 3 and 4 of the drawings, it will be noted that reference numeral 10 indicates generally the collar embodying the principles of my invention and which is designed with a bottom cylindrical portion 12 having an inwardly directed flange 14 formed at the bottom end thereof. The upper end of at least a portion of the cylindrical wall 12 is integrally formed with a horizontal wall portion 16 forming a seat 18 in a portion of the collar, the purpose of which will become apparent as the description proceeds.

The front portion of the seat 18 is defined by an upright wall portion 20 which in turn is continuous and integrally formed with that portion of the cylindrical wall 12 extending to the top of the collar. Thus it will be perceived that that portion of the central collar opening extending above the seat 18 is oval rather than cylindrical in shape as best shown in Fig. 3 of the drawings.

The upper edge of the collar walls 12 and 20 terminate in an integrally-formed horizontally-disposed flange 22 which is non-symmetrical about the horizontal axis although it is symmetrical about the vertical axis as viewed in Fig. 3 of the drawings. Thus the flange 22 varies in width from zero inches from the point 24 as shown in Fig. 3 of the drawings to a maximum width of approximately one inch throughout that portion of the flange positioned below the horizontal axis of the collar as viewed in Fig. 3 of the drawings. The reason for this novel non-symmetrical shaped flange will become apparent as the description proceeds.

A pair of arcuate slots 26 and 28 may be formed medially in the flange 22, each of said slots terminating in enlarged square openings such as 30 and 32 positioned in adjacent but spaced relationship one with the other. The slots 26 and 28 may extend respectively from the openings 30 and 32 to points beyond the horizontal axis of the collar again as shown in Fig. 3 of the drawings. It should be appreciated that the collar 10 may be made of any suitable material such as cast iron, aluminum or the like. The function of the openings 30 and 32 will become apparent as the description proceeds.

Attention is now directed to Figs. 1, 2 and 5 of the drawings for the purpose of describing the installation and function of the collar 10. It will be noted that the collar 10 is mounted on the upper end of a pipe bend 34 so that the same is seated thereon with a portion of the pipe bend wall 36 protruding above the bottom collar flange 14. A water-tight juncture between the pipe wall 36 and the collar wall 12 may be achieved by packing the space therebetween with caulking materials such as lead or oakum 38. It will be noted that when so positioned, the seat 18 is aligned with the top of the bend wall 36. Furthermore it will be noted that the assembled collar and pipe bend protrude through an opening such as 40 formed in the floor F of a room, the floor F being covered with tile such as T with the upper end of the collar 10 protruding above the tiles T.

Positioned above the opening 40 is a closet bowl fixture 42 having a bottom flange member 44. The bottom flange member 44 has formed therein an annular cavity such as 46 surrounding a centrally positioned closet-bowl outlet 48 as defined by an outlet pipe 50.

To secure the closet bowl fixture 42 to the flange member 10, a pair of bolts such as 52 and 54 are inserted first through the openings 30 and 32 and then positioned one in each of the slots 26 and 28. The bolts may then be threaded through openings such as 58 and 60 formed in diametrically opposed positions through the closet bowl flange 44 as best shown in Fig. 1 of the drawings. It will be noted that the bolts 52 and 54 are each formed with an enlarged head such as 62 positioned below the bottom of the slots 26 and 28 so that they extend beyond the sides thereof and bear against the bottom of the collar flange 22 thereby being retained in position. Nuts such as 64 may be threaded over the top of the bolts 52 and 54

and when tightened, secure the fixture 42 on the collar 10. Nut covers such as 66 and 68 may be used to conceal the nuts and bolts again as shown in Fig. 1 of the drawings. Again a suitable packing or caulking material such as for example putty 69 may be packed around the outlet pipe 50 and within the closet bowl cavity 46, as shown in the several figures of the drawings, in order to maintain a tight-fitting and secure mounting relationship.

In Figs. 1 and 2 of the drawings it will be noted that the closet bowl outlet pipe 50 is considerably smaller in size than the inside dimension of the collar opening and that in Fig. 2 of the drawings, the outlet pipe 50 is positioned in an offset relationship. Thus it will be apparent that within the limits of the inside diameter of the collar opening, the outlet pipe of the closet bowl may be varied in position from one end to the other and from one side to the other while still permitting the collar and closet bowl to be bolted together in the proper manner.

Referring now to Figs. 6, 7 and 8 of the drawings, it will be noted that the adaptability of the collar is achieved primarily because the flange 22 may be rotated or positioned to accommodate variations in the position of the closet bowl outlet pipe. Thus, for example, the closet bowl outlet pipe may be positioned with its center line spaced ten inches from the wall W as shown in Fig. 6 of the drawings. The collar may be positioned with the wider portion of the flange 22 directed away from the wall W so that the bolts 52 and 54 may then be positioned through the slots 26 and 28 at points near the outer ends of said slots and spaced approximately ten inches from the wall W. Spacing variations up to approximately twelve inches may likewise be accommodated by this specific collar location.

In the event that the horizontal center line of the mouth of the bend 34 is found to be spaced fourteen inches from the wall W, then the collar 10 may be rotated through an arc of 180° so that the wider portion of the flange 22 is directed toward the wall W. Again the bolts 52 and 54 may be threaded through the slots 26 and 28 and positioned fourteen inches from the wall W. Obviously variations in positions between ten and fourteen inches are readily accommodated with the bolts 52 and 54 sliding to the proper position in the slots 26 and 28 and with the outlet pipe 50 positioned correspondingly at any accommodating position within the elongated oval shaped opening in the collar.

In Fig. 8 of the drawings it will be noted that the collar 10 may be rotated and positioned to accommodate installations in room corners, especially installations requiring close spacing to both walls of the room.

From the above description and drawings it should be readily apparent that I have provided a novel, water closet collar so designed that it will readily adapt the closet bend to the closet bowl fixture even though the mouth of the closet bend and the closet bowl outlet are not aligned in the proper position. Thus inadvertent deviations from construction plans may be compensated without necessitating the replacement of the originally ordered fixture or correction in the floor construction or plumbing layout.

It is believed that my invention, its mode of construction and assembly, and many of its advantages should be readily understood from the foregoing without further description, and it should also be manifest that while a preferred embodiment of the invention has been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variation within the purview of my invention as defined in the appended claims:

What I claim and desire to secure by Letters Patent of the United States is:

1. An adjustable water closet collar for operably con-

necting a closet bowl discharge outlet with the inlet of a closet bend pipe spaced below but aligned with an opening in a floor comprising; an integral hollow member having an irregularly annular vertical inner wall including a circular portion defining a circular opening at the bottom end of the collar the diameter of which is greater than the diameter of the inlet, an elongated portion defining an elongated opening at the top end of the collar, said elongated opening having major and minor axes and being symmetrical about both said axes, the major axis of said elongated opening being greater than the diameter of the outlet, the major axis of the elongated opening being disposed perpendicular to and passing through the axis of the circular opening, a flange encircling said elongated end positioned exterior of the elongated opening, medial portions of said flange having arcuate slots adapted to receive fastening members therethrough for securing the collar to the water closet, said collar being rotatable on the vertical axis of said circular portion whereby said elongated portion is rotated eccentrically to permit adjustment of mis-registry of said closet bowl discharge outlet and closet bend pipe inlet upon installation of the water closet.

2. The closet collar of claim 1 in which said flange is of non-uniform width varying from minimum width at one position to maximum width at a diametrically opposed position.

3. A closet collar as described in claim 2, in which the outer marginal edge of said flange, including that portion of the collar adjacent the minimum width portion of the flange, describes a true circle.

4. A closet collar as described in claim 1, in which said slots are two in number with the ends thereof spaced one from the other, those slot ends in closet proximity one to

the other being of enlarged substantially rectangular configuration.

5. A water closet collar for connecting a closet bowl outlet in operational registry with the inlet of a closet bend pipe positioned below and in alignment with a floor aperture comprising; an integral hollow pre-formed member having a circular wall portion at one end and an elongated wall portion at the other end, said elongated wall portion having major and minor axes and being symmetrical about both said axes, the major axis of the elongated wall portion being disposed perpendicular to and passing through the axis of the circular wall portion, a flange partially encircling the outer end of said elongated portion, said flange having arcuate slots formed in medial portions thereof adapted to receive fastening bolts therethrough for securing the collar to the water closet with the opposite circular end telescoped over the inlet and the outlet disposed inside said elongated end, said collar being rotatable on the vertical axis of said circular portion for selectively displacing the geometrical center of the elongated portion laterally to adjust any mis-registry of said outlet and inlet upon installation of the water closet.

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