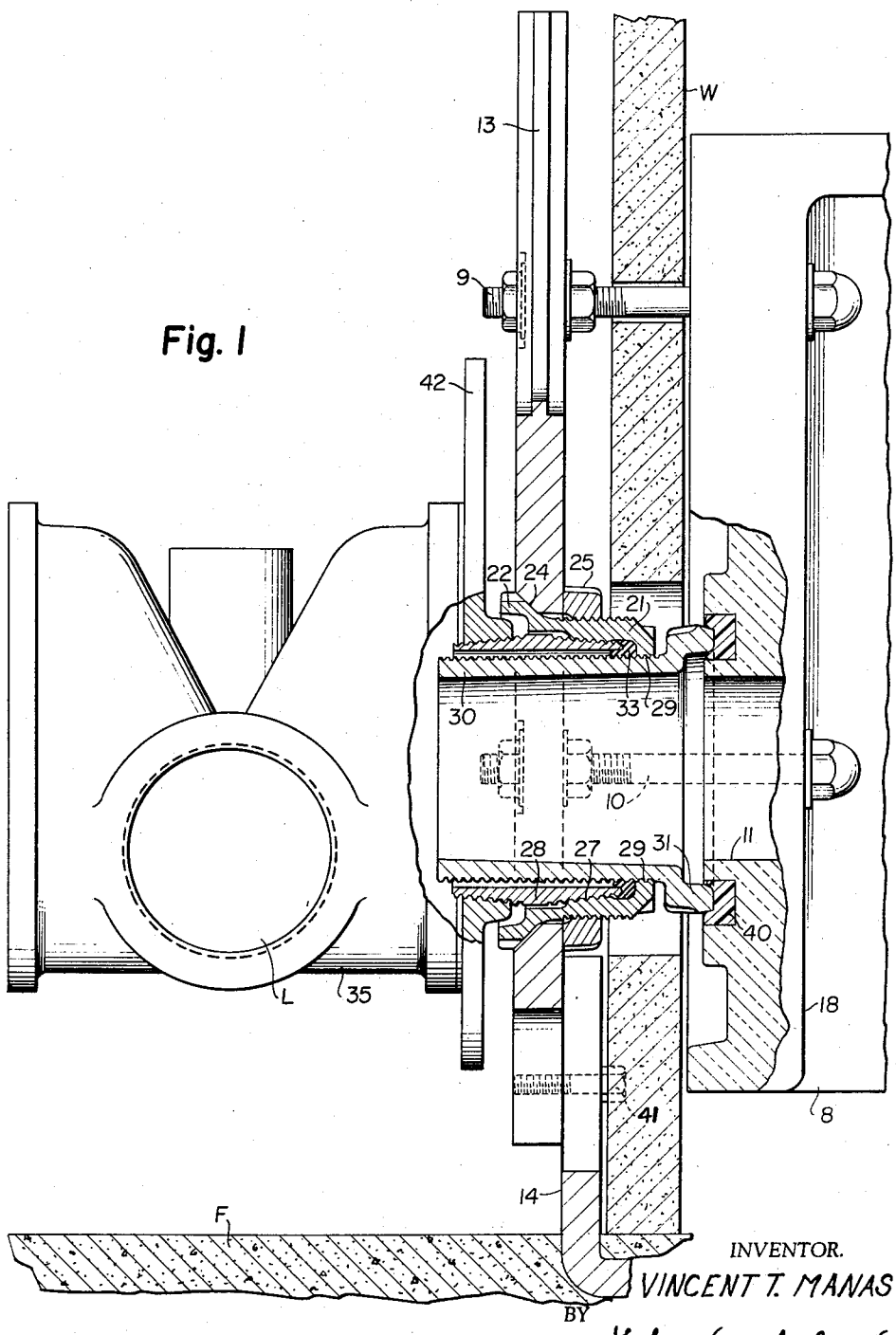
Sept. 1, 1959 V. T. MANAS 2,901,754

FIXTURE CARRIER AND COUPLING

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Fig. 1



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FIXTURE CARRIER AND COUPLING

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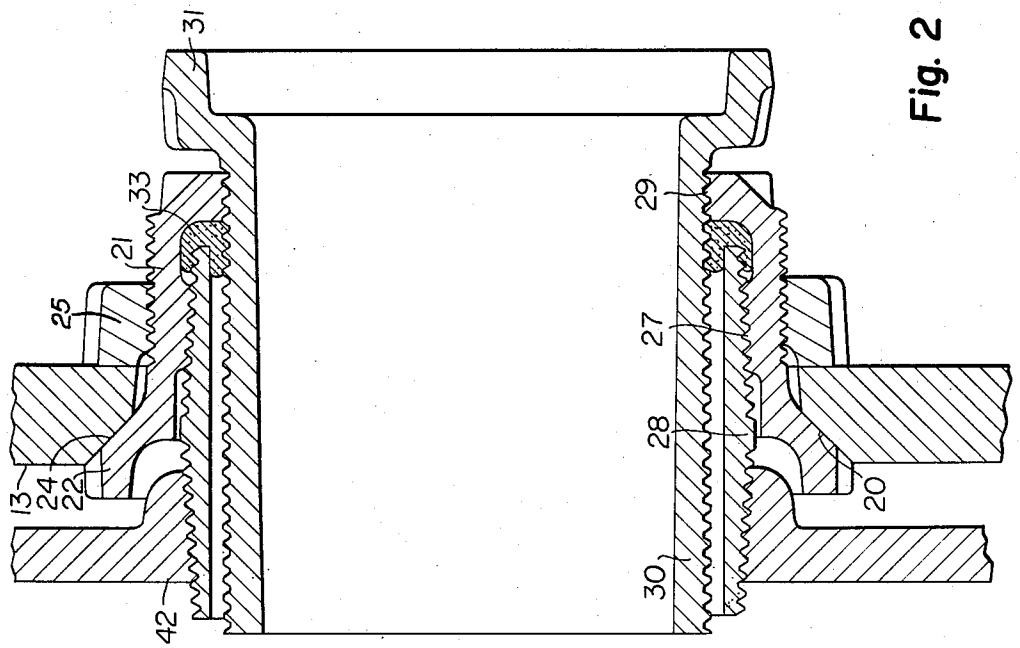


Fig. 2

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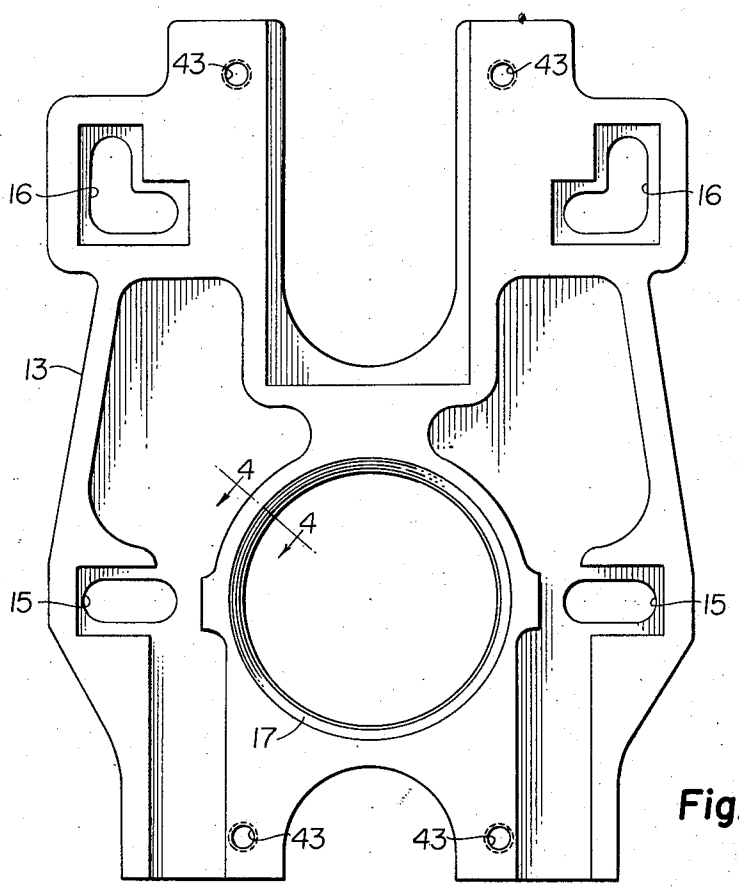


Fig. 3

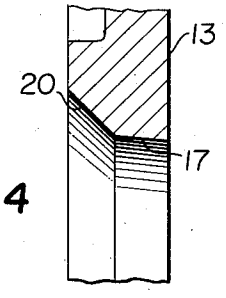


Fig. 4

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2,901,754

FIXTURE CARRIER AND COUPLING

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Application October 30, 1956, Serial No. 619,233

3 Claims. (Cl. 4—252)

This invention is directed to improvements in plumbing connections and more particularly to connections adapted to connect a toilet fixture of the so-called wall hung type to a soil pipe line.

The general purpose of the present invention is the provision of a bowl-soil pipe line connection which is devised to serve as a centering means for a carrier or chair whereby the bolt means on the carrier will be aligned or centered with respect to the bolt holes formed in the attaching flange of the bowl or fixture.

A more specific object of the present invention is the provision of a novel coupling for the soil pipe line to wall hung bowls of plumbing fixtures which can be adjusted to a sealed tight condition in a simple manner.

Other objects of my invention will hereinafter more fully appear to those skilled in the art and the essential characteristics thereof are summarized in the claims.

In the drawings Fig. 1 is a side elevation of a so-called wall hung closet of the syphon jet type with a carrier and connection incorporating my invention;

Fig. 2 is an elevational view of part of the carrier member, soil line extension and coupling between carrier, soil line and bowl fixture of the syphon jet type bowl shown in cross section;

Fig. 3 is a rear elevation of the carrier member; and

Fig. 4 is a cross sectional detail of a camming surface formed about the perimeter of the main opening for passage of the soil pipe connection and taken substantially along the line 4—4 of Fig. 3.

For several decades it has been the practice to make a soil pipe connection to a toilet bowl fixture through the use of various mountings which would afford the exertion of pressure on a gasket arranged about the discharge opening or horn of the fixture. The art developed to have carriers or chairs which would support the weight of the fixture and the weight of the user while avoiding dependance upon the building wall to support the fixture free of the floor.

The manufacture of fixtures usually made of vitreous china is an industry separate from the manufacture of the plumbing fittings required to install the fixture with the result that each fixture manufacturer produced bowls with bolt openings in the mounting base or flange of the bowl spaced from the center of the bowl outlet which varied somewhat from the practice of each of the other fixture manufacturers.

The present invention contemplates the provision of a carrier plate and coupling, the carrier plate being provided with median bolt receiving openings which will encompass the locations of the bolt openings of the fixture regardless of the source of manufacture of the fixture where the outlet structure of the fixture is centered on the soil pipe connection. This is effected by providing a centering means acting on the soil pipe and carrier to bring about alignment of the median openings of the carrier with the bolt hole openings of the fixture. This is accomplished, in the present instance, by providing a camming surface on the carrier in the form of a conic

surface countersunk about the perimeter of the main opening in the carrier, through which the soil pipe coupling to the bowl outlet extends.

A centering sleeve having a conic surface fitting the countersink of the carrier is centered upon a ferrule centering on the outlet horn of the fixture and is carried by the sleeve.

Referring to the drawings I show in Fig. 1 a syphon jet type of bowl or fixture **8** suspended upon pairs of bolts **9** and **10** supporting fixture flange **18**, the bolts of each pair being equally radially spaced from the centerline of the horn structure **11** of the bowl **8**. The bolts are supported on a carrier plate **13** which is universal in its adaptability to support the bolts of a blowout type and a syphon jet type of bowl structures of different manufacturing sources as demonstrated in my copending application Serial Number 619,215, filed October 30, 1956.

The carrier plate **13** has an attached foot structure **14** embedded in the floor structure. Pairs of median openings **15** and median openings **16** formed in the carrier plate, are in shape the composite of all of the openings of bowl fixtures obtained from various sources of manufacture of the syphon jet type and which require four suspension bolts.

The centering means whereby the bolt openings **15—16** are brought into alignment with the fixture bolt openings comprises a tapering camming surface **20** formed as a countersink about the perimeter of the main carrier opening **17** into which extends a locking sleeve **21** having a tapered centering flange **22**, the tapered or camming surface **24** of which aligns the sleeve with the center of the main opening **17** of the carrier when drawn into engagement with the countersink or cam surface **20** of the carrier.

The sleeve **21** is externally threaded and a locking ring **25** is in threaded engagement with the sleeve and when the ring is tightened against the forward face of the carrier, the tapered flange **22** of the sleeve centers the sleeve with the main opening **17** of the carrier.

The centering sleeve has an internal pipe thread **27** to tightly fit the threaded soil pipe nipple **28** and also an internal straight thread **29** for the reception of an adjustable sleeve or ferrule **30**. The outer end of the ferrule is provided with a head **31** which fits about the horn structure **11** of the bowl fixture and the connection compresses the horn gasket **40** when the ferrule and the bolt nuts are adjusted properly. A packing gland **33** is provided with the centering sleeve **21** and the gland by reason of its disposition serves the purpose of sealing the sleeve and ferrule to the threaded connection.

The manner of use or installation is as follows: the main soil line L and fitting connection **35** with soil pipe extension or nipple **28** are installed before wall W or floor F are completed. The locking or centering sleeve **21** carrying the ferrule **30** are attached to the nipple **28** with the packing gland **33** in place. The chair or carrier plate **13** is placed upon the locking sleeve **21** and locking ring **25** is then placed on the sleeve **21** to draw the carrier plate and sleeve together. The final tightening action of the ring exerting a clamping force axially of the sleeve **21** causes the camming or tapered surface **24** on the sleeve to act upon the camming surface **20** of the carrier to center the sleeve with respect to the carrier bolt openings **15—16** or vice versa to definitely located the bolt openings **15—16** of the carrier with respect to the center of the ferrule **30**. Since the head **31** of the ferrule centers about the annular horn structure **11** or outlet structure of the fixture, the carrier median bolt openings **15—16** will always be brought in alignment with the bolt openings in the flange of the fixture irrespective of

the dimensional variations of the fixture bolt hole locations.

The foot **14** may then be attached by bolts **41** to the carrier bottom region in threaded openings **43** formed in the carrier there being provided two sets of threaded openings **43** at top and bottom regions of the carrier in order that the carrier may be reversed vertically as disclosed in the aforementioned application for the mounting of syphon jet type or blow out type of fixture.

The wall structure W is then finished and floor F is finished after the soil pipe line has been tested and inspected and the ferrule is then adjusted to obtain proper seal with the horn gasket **40** while the flange **18** of the fixture is spaced about one sixteenth of an inch from the surface of the finished wall W. Horizontal leveling of a plurality of bowls connected to a common main soil pipe line is obtained in a convenient manner in the disclosed arrangement.

While the drawings show the connection to syphon jet type bowl the disclosure of the referred to application shows the manner of adapting the carrier to the support of a blow out type bowl by vertically reversing the carrier plate and by using a single centrally located lower bolt connected to an adjustable stay plate carried by the carrier.

I claim:

1. A carrier plate and coupling construction adaptable to connection to a wall hung toilet bowl fixture comprising: a soil-line-connected pipe nipple, a carrier plate having median fixture bolt receiving openings and a main opening for the passage therethrough of the nipple for connection of the nipple to the outlet of a toilet bowl fixture, said carrier plate having a counter-sunk carrier camming surface formed at the rear and about the perimeter of said main opening, a centering sleeve disposed in said main opening and pipe-thread-connected to the nipple and having a rearwardly disposed coniform flange comprising a camming surface complementary to said carrier camming surface and the centering sleeve being externally threaded, an internally threaded lock ring on the sleeve disposed forwardly of the carrier plate and acting on carrier plate and sleeve to draw said camming surfaces together whereby the sleeve is centered relative to the median bolt openings of the carrier plate, a straight internal thread being formed in the sleeve of less diameter than the internal diameter of the nipple, and an adjustable ferrule engaged by the internal thread of the sleeve, said ferrule being adjustable relative to a wall of a building at the locus of installation of the fixture.

2. A carrier plate and coupling construction adaptable to connection to a wall hung toilet bowl fixture comprising: a carrier plate having a main opening for the passage therethrough of a soil pipe connection to the outlet of the bowl, said carrier plate having a counter-sunk carrier camming surface formed about the perimeter of said central opening at the rear of the carrier plate, an internally and externally straight threaded centering sleeve disposed in said main opening having a rear flange provided with a camming surface acting on the said carrier camming surface, said sleeve having also internal pipe threads, a lock ring forwardly of the carrier plate on the external threads of the sleeve and acting on carrier plate and sleeve to draw said camming surfaces together whereby the carrier plate is centered relative to the sleeve, a soil pipe nipple thread-engaged by the internal pipe threads of the sleeve, and adjustable ferrule within the nipple and in straight-threaded engagement with the internal straight threads of the sleeve, and a packing gland acting on the nipple and ferrule and compressed by the sleeve to seal the ferrule to the forward end of the sleeve.

3. A carrier plate and coupling construction adaptable to connection to a wall hung toilet bowl fixture comprising: a carrier plate having a central opening for the passage therethrough of a soil pipe connection to the outlet of the bowl, said carrier plate having median bolt openings spaced from the central opening and a counter-sunk carrier camming surface formed at the back of the carrier plate about the perimeter of the central opening, an exteriorly threaded centering sleeve disposed in said central opening having a rear flange with a camming surface complementary to said carrier camming surface, a lock ring in threaded engagement with the external threads of the sleeve and acting on carrier plate and sleeve to draw said camming surfaces together whereby the sleeve is centered relative to the median bolt openings of the carrier plate, said sleeve having first internal pipe threads, a soil pipe nipple threadedly engaged by the said internal pipe threads of the sleeve, second internal threads formed in the sleeve and being of less diameter than the internal diameter of the nipple, and an adjustable ferrule engaged by the second named internal threads of the sleeve and telescoping into the nipple.

References Cited in the file of this patent

UNITED STATES PATENTS

858,865	Forster et al.	July 2, 1907
1,179,588	Watrous	Apr. 18, 1916
1,398,985	Wadley	Dec. 6, 1921
1,650,057	Wernle	Nov. 22, 1927
1,706,285	Frye	Mar. 19, 1929
1,709,132	Hinsdale	Apr. 16, 1929
1,890,006	Swift	Dec. 6, 1932
2,564,302	Fraser	Aug. 14, 1951