

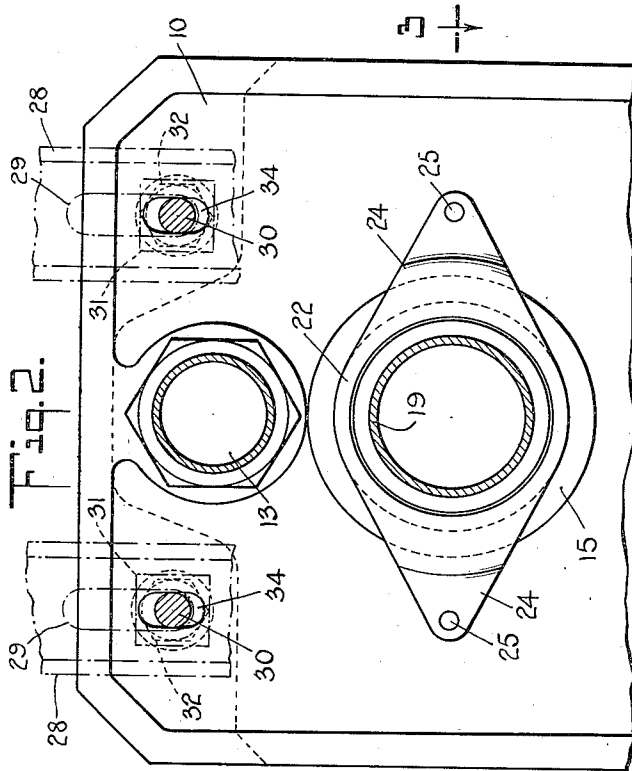
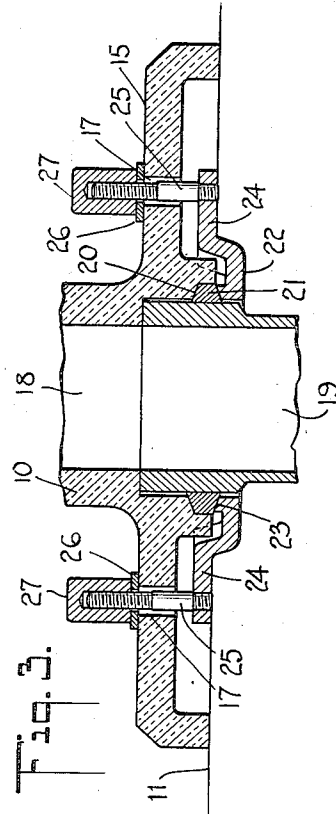
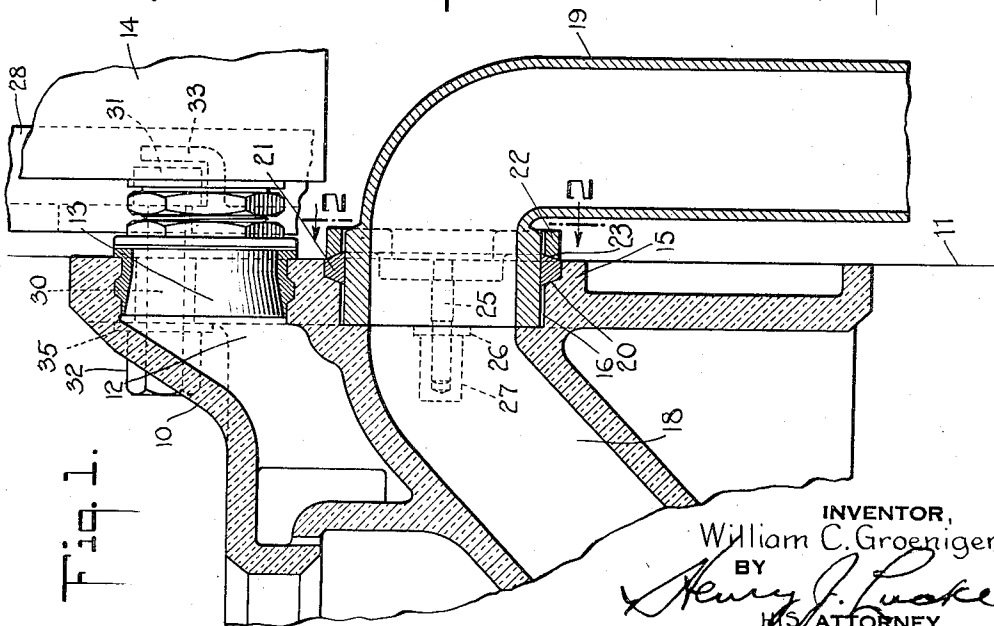
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PLUMBING CONNECTION

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2,096,240

PLUMBING CONNECTION

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2 Claims. (Cl. 4—252)

My present invention relates to plumbing systems and more particularly to an improved combination of a suspending means for a plumbing fixture and a connection between the plumbing fixture and discharging means therefor.

Specifically, my present invention relates to means for making an air and gas-tight connection between a plumbing fixture, suspended from or supported on a wall or upright, and the long leg of a syphon associated with but separate from the plumbing fixture, the syphon long leg being arranged to discharge into a soil or drain pipe. In order to maintain the integrity of the syphon structure between the plumbing fixture and the soil or drain pipe, and in order to ensure that no noxious gases escape into the room in which the plumbing fixture may be located, my invention provides for the suspension of the plumbing fixture in a manner wholly relieving the stated connection from support of the plumbing fixture.

A feature of my invention is an improved supporting means for plumbing fixtures in combination with a joint connection for the discharge parts of the fixture.

A feature of my invention is an improved means for securing and holding the fixture on a wall or other like support in combination with a readily accessible air and gas-tight joint connection between the discharge passage of a plumbing fixture and the long leg of a syphon.

Further features and objects of the invention will be more fully understood from the following detail description and the accompanying drawing, in which

Fig. 1 is a vertical section through a portion of a syphon discharge type of plumbing fixture, such as a defecator, attached to a supporting wall, and illustrating a preferred type of air and gas tight connection between the syphon parts.

Fig. 2 is a vertical section taken on line 2—2 of Fig. 1.

Fig. 3 is a horizontal section taken on line 3—3 of Fig. 2.

Referring to the drawing, 10 designates a plumbing fixture, here illustrated as a defecator, suspended from a vertical face of a wall 11.

Such suspension is afforded by channel uprights 28, which may be component parts of the wall structure 11, but in practice preferably rest upon the floor of the building, and are suitably attached to an inner part of the building wall 11. The channel uprights 28 may each be provided with a vertical slot 29, of a width to allow free sliding vertical movement of the therein positioned bolts 30, to afford a range of adjustment of

positioning of the fixture. Each of the bolts 30 is provided with a multi-sided head 31, its other end being threaded to receive a cap nut 32, see Fig. 1.

Such channel uprights 28 may have secured thereto, or formed integral therewith, a member 33 extending from one lateral wall of the channel to the other, thereby forming a pocket in which is housed the heads of the bolts 30. It is preferable to initially install the uprights 28, then to place the bolts 30 in position in the respective slots 29 by passage of each bolt through the aforesaid pocket, the heads of the bolts 30 being retained in such pockets, and being thus precluded from rotation. Thereafter the cap nuts 32 may be screwed onto the threaded ends of bolts 30 from the front of the wall 11, to position and support the defecator, as will later appear. The portions of the wall 11, adjacent to the protruding bolts 30 and other stated parts may be cut away to permit vertical movement of such bolts in the slots 29 in the uprights 28, also to afford access to the stated pockets, etc.

The upper portion of the apron of the illustrated defecator 10 is shown provided with elongated vertical slots 34 through which freely pass the bolts 30. The height of the bolts 30 above the floor of the building is such that the seat portion of the defecator 10, when the same is in position, is at approximately the correct height above the floor. Because of the presence of the elongated slots 29, in the uprights 28 and the slots 34 in the defecator 10 respectively, the position of the defecator 10 with respect to the floor of the building may be accurately determined after which the cap nuts 32, above referred to, when tightened, secure the defecator rigidly in position, care being taken to place washers 35, or equivalent, between the cap nuts 32 and the outer face of the defecator 10.

The plumbing fixture 10 has been illustrated and referred to as a defecator but obviously such fixture may be a sink, tub, lavatory or the like, the maintenance of the joint of its trapway or other sealed discharge being essential and prescribed by public health laws. The inlet of the defecator is indicated at 12 and such inlet is connected by any suitable fitting 13, to the flush tank 14, or equivalent, from which water or other flushing fluid is supplied and by means of which the defecator is flushed. Below the inlet 12 and as an integral part of the defecator 10, is formed a flange 15 provided with a discharge opening 16; the flange 15 is provided on opposite sides of the

opening 16 with perforations 17, for a purpose to be hereinafter described.

The defecator 10 is provided with a discharge up-flow leg 18 which constitutes the short leg of a syphon and which communicates with the discharge opening 16. The opening 16 is preferably annular in form, and is adapted to receive and house the open or entrance end of the long leg of a syphon, the internal diameter of which is substantially equal to the diameter of the discharge up-flow leg 18 of the defecator 10. Such long leg of a syphon is indicated by the reference numeral 19 and the entrance end thereof is of a diameter slightly less than the diameter of the opening 16 in the flange 15 of the defecator 10. The syphon leg 19 may be of any desired material, such as brass, lead or iron, and advantageously has the structural characteristics set forth in my co-pending application Ser. No. 4,620 filed February 2nd, 1935, entitled Evacuator.

The discharge opening 16 in the flange 15 of the defecator 10 is counter-bored as indicated at 20. The lower or inner end of such counter-bored portion 20 may be bevelled as shown in Figs. 1 and 3. In such counter-bored portion 20, and surrounding the end of the syphon leg 19, is a packing 21, of any suitable material, such as of rubber, cork, wicking, asbestos or the like.

Surrounding the long syphon leg 19 is a ring 22, the inner diameter of which is substantially equal to the diameter of the opening 16. Formed integral with the ring 22 and on the face thereof is an annular gland 23, the end of which may be bevelled, as shown in Figs. 1 and 3. The outer diameter of the gland 23 is slightly less than the diameter of the counter-bored portion 20 of the opening 16.

Formed integral with the ring 22, and arranged diametrically with respect to such ring are outwardly extending ears 24. Adjacent to the ends of such ears 24 are provided studs 25. The free ends of the studs 25 are threaded, as shown, and extend through the perforations 17 in the flange 15 of the defecator 10. On the threaded end of the studs 25 are arranged washers 26 and nuts 27. The nuts 27 are employed to adjustably secure the ring 22 onto the defecator 10 and to simultaneously force the gland 23 into the counter-bored portion 20 for the purpose of compressing packing 21 and thereby forcing such packing into engagement with the counter-bored portion 20 and the outer face of the end of the syphon leg 19.

As the connection between the discharge passage 18 of the plumbing fixture and the syphon leg 19 is wholly free from strains and the stresses incident to the support of the defecator 10, and the load when in use, the air or gas-tight joint between the elements constituting the syphon is normally assured. The type of joint is such, as shown, to afford full installation and adjustment from the front of the fixture 10.

From the above, it appears that the joint of the fixture to be sealingly closed is located rear-

wardly of the fixture and, usually concealed in a wall of a building or like normally inaccessible location. However, by my improvement, the joint is completed in assembly and later adjusted by suitable instrumentalities accessible from the front of the fixture.

While I have necessarily shown the preferred embodiment of my invention somewhat in detail, I may vary the size, shape and arrangement of parts comprising my improved device within relatively wide limits without departing from the spirit of the invention.

I claim:

1. In combination with a plumbing fixture suspended laterally from a supporting structure, and having a lateral discharge, means rigidly tying the plumbing fixture to the supporting structure, and a water-tight, gas-tight joint functioning as the connection for discharge between the plumbing fixture and discharge piping, the said water-tight, gas-tight joint comprising a recess in the plumbing fixture at the location of discharge, discharge piping fitting into said recess, an enlargement of said recess at its outer margin and peripherally thereof, said enlargement defining seating means, packing means disposed within said enlargement for cooperation with said seating means, a flange, a gland member formed integral therewith and engaging the packing, studs located on the flange and extending through the perforations in the plumbing fixture, threaded members on the studs on the outside of the plumbing fixture and operable to move the gland into position to effect pressure on the packing means and thus affording the required water-tightness and air-tightness for said joint.

2. In combination with a plumbing fixture suspended laterally from a supporting structure, and having a lateral discharge, means rigidly tying the plumbing fixture to the supporting structure, and a water-tight, gas-tight joint functioning as the connection for discharge between the plumbing fixture and discharge piping, the said water-tight, gas-tight joint comprising a recess in the plumbing fixture at the location of discharge, an abutment stop defined by said recess, discharge piping fitting against the abutment stop in said recess, an enlargement of said recess at its outer margin and peripherally thereof, said enlargement defining seating means, packing means disposed within said enlargement for cooperation with said seating means and a flange having a gland formed integral therewith and engaging with the packing means and said flange having lateral extensions provided with studs extending through perforations in the plumbing fixture, and internally threaded means engaging with the studs to move the flange and associated gland into engagement with the packing means to compress the same and thereby effect a water-tightness and air-tightness for said joint.

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