Oct. 19, 1937. B. B. PIESLAK 2,096,307

COMBINED CLOSET BOWL AND TANK STRUCTURE

Original Filed March 18, 1937 2 Sheets-Sheet 1

Fig. 2.

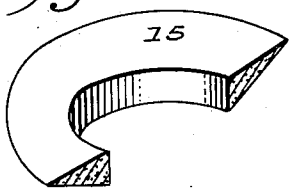


Fig. 3.

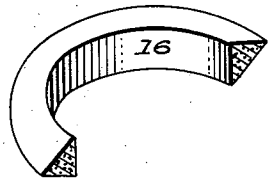


Fig. 1.

Fig. 4.

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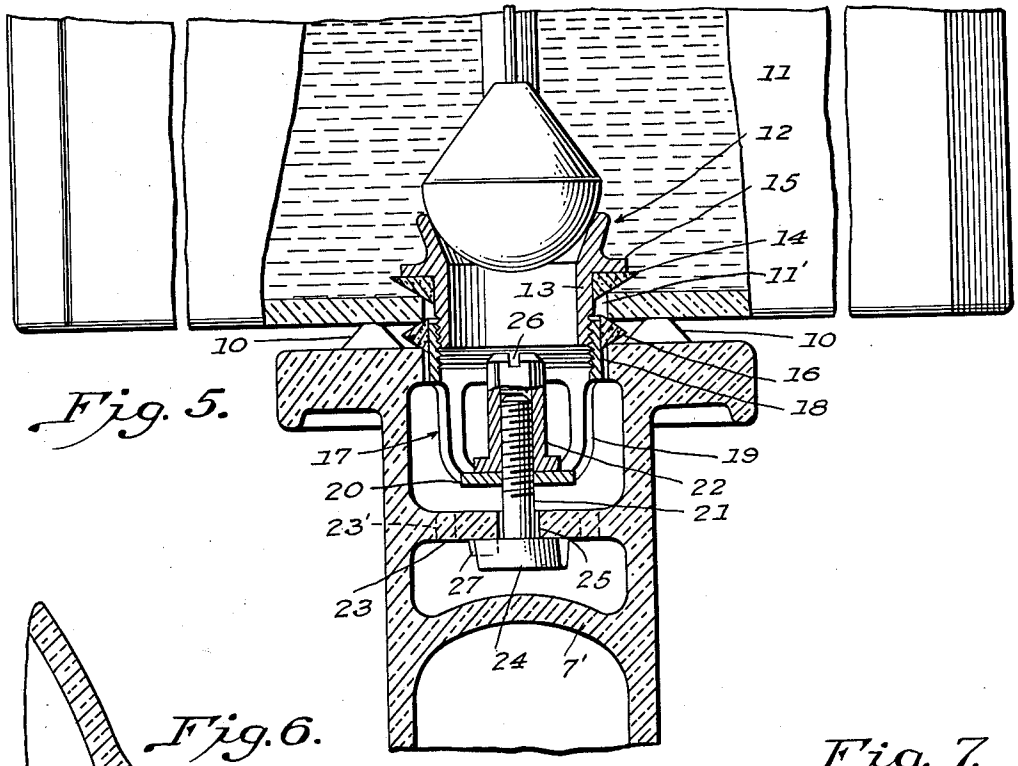


Fig. 5.

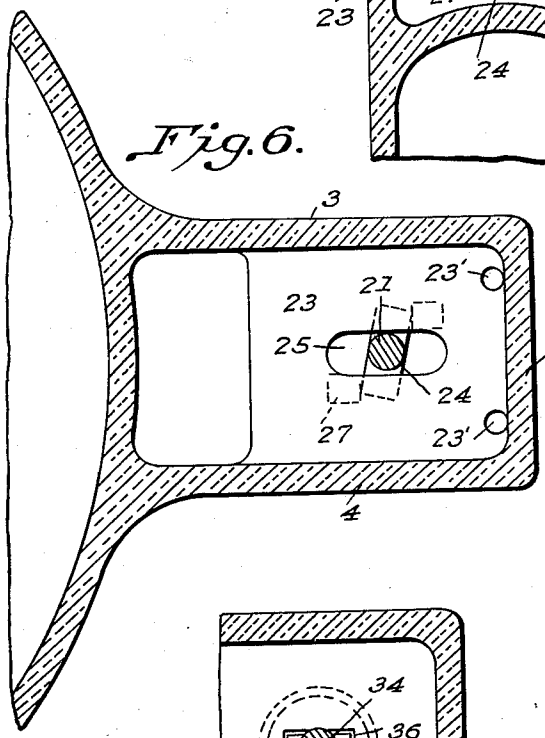


Fig. 6.

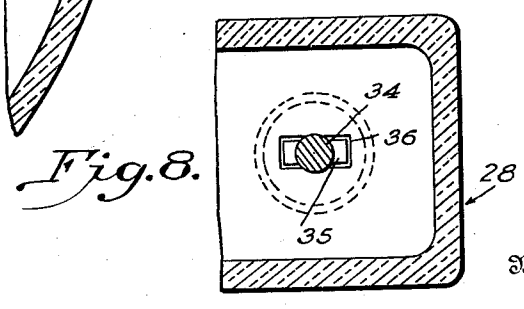
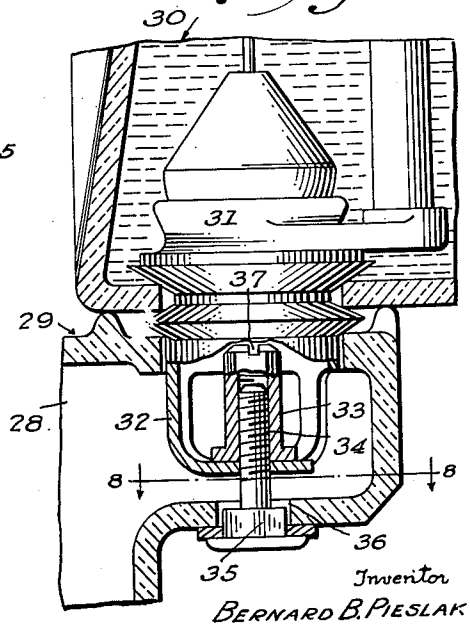


Fig. 8.

Fig. 7.



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UNITED STATES PATENT OFFICE

2,096,307

COMBINED CLOSET BOWL AND TANK STRUCTURE

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Original application March 18, 1937, Serial No. 131,604. Divided and this application June 14, 1937, Serial No. 148,230

7 Claims. (Cl. 4—12)

This invention relates to an improved means for securing a flush tank upon the shelf of a closet bowl, and is a division of my prior application, Serial No. 131,604, filed March 18, 1937, entitled Combined closet bowl and tank structures.

An object of the invention is to provide improved securing means of a simple, efficient nature that will be readily accessible and can be more easily adjusted in connecting the tank to the closet bowl shelf.

Another object of the invention is to provide improved means for securing the tank to the bowl shelf, which will avoid the necessity of providing an opening in the bottom wall of the hollow shelf and the provision of packing at this point, and which will be positioned wholly within the hollow shelf.

The invention, with other objects and advantages thereof, and the particular construction, combinations and arrangements of parts comprising the same, will be understood from the hereinafter contained detailed description, when considered in connection with the accompanying drawings, forming part hereof and illustrating two embodiments of the invention.

In the drawings:

Figure 1 is a vertical central section through adjoining parts of a water closet bowl and tank structure constructed in accordance with the present invention;

Figs. 2 and 3 are fragmentary perspective views of gaskets employed respectively between the flush valve structure and tank outlet, and between the tank outlet and bowl inlet;

Fig. 4 is a detailed sectional view on the line 4—4 of Figure 1, looking downwardly;

Fig. 5 is a vertical transverse section on the line 5—5 of Figure 1, looking in the direction of the arrows;

Fig. 6 is a horizontal section on the line 6—6 of Figure 1;

Fig. 7 is a vertical section from front to rear through the joint and adjoining closet bowl and tank parts of a modified construction, and

Fig. 8 is a section on the line 8—8 of Figure 7.

While two specific embodiments of the invention are illustrated in the drawings it will of course be understood that minor changes and modifications may be made in the particular constructions shown, and the invention may be embodied in other forms, as will appeal to those skilled in the art and falling within the scope of the appended claims, without departing from the spirit of the invention.

Referring to a detailed description of the particular embodiment of the invention illustrated in Figures 1 to 6 of the drawings, 1 designates the water closet bowl provided with a rearwardly extending hollow shelf having a top wall 2, and side walls 3, 4 and 5, the latter being continuous with the rear wall 6 of the downleg 7 of the syphon, and the wall 7' of the syphon forming the bottom wall of the shelf. The top wall 2 of the shelf is provided with an opening 8. Forwardly of this opening, the shelf has a transverse rib 9, and to the rear of the opening at either side are raised portions 10.

11 designates the flush tank supported on the shelf on the transverse rib 9 and raised portions 10 with the opening 11' in its bottom aligned with the opening 8 of the shelf. Within the tank is a conventional flush valve structure 12 having the threaded portion 13 projecting below the bottom of the tank. 14 designates a rubber gasket interposed between a flange 15 on the valve structure and the bottom wall of the tank, and 16 is a gasket between the top wall 2 of the shelf and the bottom of the tank. The valve structure 12 is held in place by a threaded tubular coupling member or sleeve 17 at the exterior of the tank engaging the threaded portion 13 of the valve structure. The coupling member, which is open at its sides, is shown as comprising a threaded sleeve portion 18 with spaced depending arms 19 joined at their lower ends by a transversely extending centrally apertured plate portion 20.

Means for securing the flush tank 11 to the hollow shelf is provided comprising a bolt 21 and nut 22 cooperating with the coupling member 17 and with an anchoring wall portion 23 located within the hollow shelf, said wall portion being joined to the side walls 3, 4, 5, of the shelf and extending horizontally in spaced relation with the top and bottom walls of the shelf below the coupling member 17. The anchoring wall portion may be and preferably is provided, as shown, with water passages 23'. The bolt has an elongated rectangular shaped head 24 and is detachably engaged with the anchoring wall by passing the head 24 of the bolt through a correspondingly shaped slot 25 in the anchoring wall. The bolt extends upwardly through the aperture in the transverse plate portion 20, and the nut 22 fits against the upper side thereof. The nut is provided at the top with a transverse slot 26 for engagement by a screw driver in adjusting the same. Lugs 27 are provided on the under face of the anchoring wall 23 to prevent turning of the bolt. As will be understood, in assembling the

parts, the bolt 21 is first engaged with the anchoring wall 23, the coupling member 17 connected with the valve structure is threaded over the shank of the bolt, and the nut 22 is then put on the bolt and turned up to securely clamp the parts together, the adjustment of the nut being readily accomplished from the interior of the tank 11.

It will be noted that by the special construction and arrangement of parts hereinbefore set forth means of a simple, efficient nature is provided for securing the tank to the shelf of the closet bowl. The securing means is readily accessible in assembling and for adjustment, and the necessity for providing an opening in the bottom wall of the hollow shelf with accompanying packing is avoided.

In the modified construction illustrated in Figures 7 and 8 of the drawings, the means for securing the tank to the shelf of the closet bowl is similar to that hereinbefore described to the extent that it provides for more easy access thereto but in this construction the fastening bolt is engaged with the bottom wall of a shelf instead of an anchoring wall located within the same. In Figures 7 and 8, 28 designates the water closet bowl provided with a hollow shelf 29. 30 is the tank, 31 the valve structure, 32 the tubular coupling member connected with the valve structure, and 33 and 34 the securing nut and bolt, the latter in this instance having laterally projecting lugs 35 engaging slot 36 in the bottom wall of the shelf to hold the bolt against rotation during the adjustment of the nut, which, as in the construction illustrated in Figures 1 to 6, is provided with a slot 37 in the top thereof for engagement by a tool to turn and thereby lock the assembled structure.

What I claim is:

1. The combination with a water closet bowl having a laterally projecting hollow shelf provided with an opening in its top wall, a flush tank adapted to be supported on said shelf, a flush valve structure within the tank having a threaded portion projecting from the bottom wall thereof, a threaded coupling sleeve at the exterior of the tank engaging said threaded portion of the valve structure to hold the same in place, said coupling sleeve having a transversely extending apertured portion, and means for securing the tank to said shelf including a screw member extending through the bottom wall of the shelf and the transversely extending apertured portion of said sleeve, and a nut engaging said screw member and fitting against the upper side of the transversely extending apertured portion of the coupling sleeve.

2. The combination of a water closet bowl having a laterally projecting hollow shelf provided with an opening in its top wall, a flush tank adapted to be supported on said shelf, a flush valve structure within the tank having a threaded portion projecting from the bottom wall thereof, a threaded coupling sleeve at the exterior of the tank engaging said threaded portion of the valve structure to hold the same in place, said coupling sleeve having a transversely extending apertured portion, and means for securing the tank to said shelf including a screw member extending through the bottom wall of the shelf and the transversely extending apertured portion of said sleeve, a nut engaging said screw member and fitting against the upper side of the transversely extending apertured portion of the coupling sleeve, and means on the screw member engaging a portion on the bottom wall of said shelf to hold the screw member fixed against rotation relatively thereto.

3. The combination of a water closet bowl having a laterally projecting hollow shelf provided with an opening in its top wall, a flush tank adapted to be supported on said shelf, a flush valve structure within the tank having a threaded portion projecting from the bottom wall thereof, a threaded coupling sleeve at the exterior of the tank engaging said threaded portion of the valve structure to hold the same in place, said coupling sleeve having a transversely extending apertured portion, and means for securing the tank to said shelf including a bolt extending upwardly through the bottom wall of the shelf and the transversely extending apertured portion of said sleeve with its head disposed at the under side of said bottom wall, and a nut on said bolt fitting against the upper side of the transversely extending apertured portion of the coupling sleeve.

4. The combination of a water closet bowl having a laterally projecting hollow shelf provided with an opening in its top wall, a flush tank adapted to be supported on said shelf, a flush valve structure within the tank having a threaded portion projecting from the bottom wall thereof, a threaded coupling sleeve at the exterior of the tank engaging said threaded portion of the valve structure to hold the same in place, said coupling sleeve having arms extending inwardly from its lower part joined by a transversely extending central portion, and means for securing the tank to said shelf including a bolt extending upwardly through the bottom wall of the shelf and the transversely extending apertured portion of said sleeve with its head disposed at the underside of said bottom wall, and a nut on said bolt fitting against the upper side of the transversely extending apertured portion of the coupling sleeve.

5. The combination of a water closet bowl having a laterally projecting hollow shelf provided with an opening in its top wall, a flush tank adapted to be supported on said shelf, a flush valve structure within the tank having a threaded portion projecting from the bottom wall thereof, a threaded coupling sleeve at the exterior of the tank engaging said threaded portion of the valve structure to hold the same in place, said coupling sleeve having a transversely extending apertured portion, and means for securing the tank to said shelf including a bolt extending upwardly through the bottom wall of the shelf and the transversely extending apertured portion of said sleeve with its head disposed at the underside of the bottom wall, and a nut on said bolt fitting against the upper side of the transversely extending apertured portion of the coupling sleeve, and a lug on the bolt to engage a recess in the bottom wall of the shelf to hold the bolt fixed against rotation relatively thereto.

6. The combination of a water closet bowl having a laterally projecting hollow shelf provided with an opening in its top wall, a flush tank adapted to be supported on said shelf, a flush valve structure within the tank having a threaded portion projecting from the bottom wall thereof, a threaded coupling sleeve at the exterior of the tank engaging said threaded portion of the valve structure to hold the same in place, said coupling sleeve having a transversely extending apertured portion, and means for securing the tank to said shelf including a screw member ex-

tending through the bottom wall of the shelf and the transversely extending apertured portion of said sleeve, and a nut engaging said screw member and fitting against the upper side of the transversely extending apertured portion of the coupling sleeve, said nut having a tool engaging slot in the top thereof.

7. The combination with a water closet bowl, of a separate flush tank, said bowl and tank having communicating openings, and connecting means between the bowl and tank formed and arranged to be manipulated from inside the tank to effect clamping of said connecting means in place to secure the tank to the bowl.

BERNARD B. PIESLAK.