(No Model.)

H. C. MEYER.

WATER CLOSET.

No. 245,196. Patented Aug. 2, 1881.

Fig. 1.

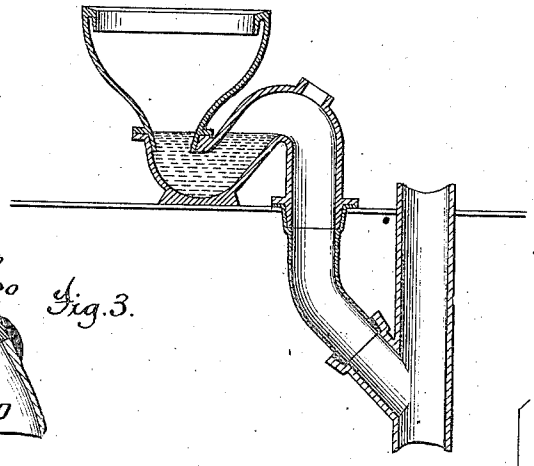


Fig. 3.

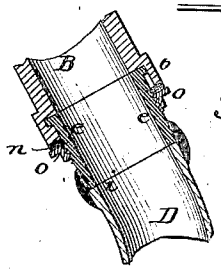


Fig. 2.

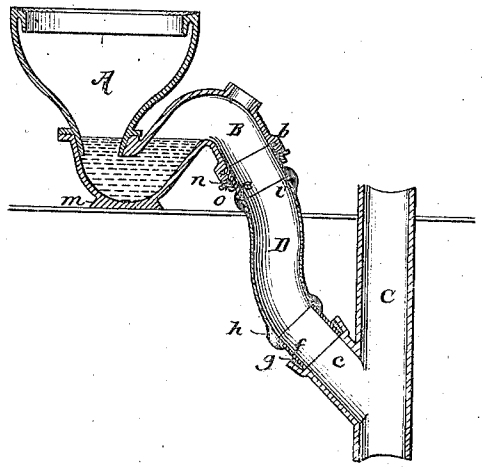


Fig. 4.

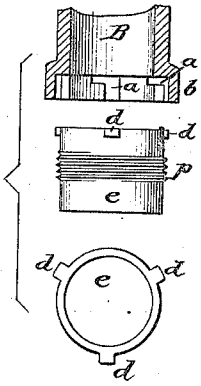
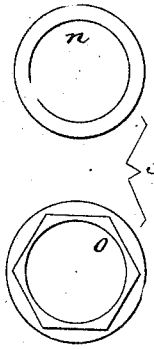


Fig. 5



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HENRY C. MEYER, OF NEW YORK, N. Y.

WATER-CLOSET.

SPECIFICATION forming part of Letters Patent No. 245,196, dated August 2, 1881.

Application filed March 5, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. MEYER, of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Water-Closets; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this application.

My invention relates to a novel mode of connecting the trap-like tubular device or portion of porcelain or other earthenware water-closet bowls with the soil-pipe, into which such bowls discharge their contents.

Previous to my invention it has been customary to connect the lower end or leg of the earthenware trap with the branch nozzle of the soil-pipe (the latter being usually of cast iron) by means of a short pipe, preferably of lead, jointed at its lower end to the said soil-pipe branch, in the usual manner of joining such pipes, and having its upper end joined to the lower flanged leg of the earthenware trap by means of a cement or "putty" joint, with the lead-pipe end flanged over onto the floor of the apartment, and with the flange of the trap-leg resting on top of said lead-pipe flange, in a manner familiar to those skilled in the art.

At Figure 1 of my drawings I have illustrated this usual mode of attachment of the trap to the pipe, forming the connection between its lower end and the soil-pipe. The objections to this mode of putting up this kind of water-closet apparatus are that, in the first place, the putty joint or cement joint is one which cannot, under any circumstances, be relied upon for that perfection, in a sanitary point of view, which can be found in the use of a soldered joint; and, in the next place, by reason of the inevitable warpage, settling, or otherwise effected change of position of the floor-surface relatively to the united metal and earthenware devices, the joint between the lower end of the trap-leg and the upper end of the connecting-pipe will sooner or later be strained and become leaky, in which event of course all benefit of trapping the closet is lost, since any sewer-gas in the soil-pipe may escape into the house at the point of the defective joint.

I propose by my invention to entirely overcome these objections and provide for use an apparatus or contrivance which, while it shall involve little or no extra cost in plumbing a house, shall afford for use a water-closet having its earthenware portions so perfectly united with the soil-pipe that there can be no possibility of any impairment to the joints between the trap-leg and the soil-pipe, no matter to what extent the relative positions of the parts of the apparatus may be changed by the warpage or shrinkage of the wood-work or the settling of the walls of the house.

To these ends and objects my invention consists in the employment, in combination with the earthenware trap portion of the bowl and the usual soil-pipe, of a lead or other flexible connecting-pipe, and metallic ferrules or thimble-like devices tightly joined to the said trap portion of the bowl and to the soil-pipe branch, and soldered at their more adjacent ends to the opposite ends of the lead connecting-pipe, all substantially in the manner hereinafter to be more fully explained, whereby I am enabled to make perfectly and durably tight connections between the earthenware trap and the metallic soil-pipe.

To enable those skilled in the art to which my improvement relates to make and use my invention, I will now proceed to fully describe the construction and operation of a water closet apparatus embracing it, referring by letters to the accompanying drawings, forming part of the specification, and in which—

Figure 2 is a vertical section of a water-closet bowl and its connections with the soil-pipe, together with so much of the last-named device as it is necessary to show in order to fully illustrate my invention. Fig. 3 is a detail sectional view of the jointed parts at the vicinity of the lower end of the leg of the trap, drawn on a somewhat enlarged scale. Fig. 4 is a view (on the same enlarged scale) showing in detail and separated the brass ferrule or nipple device, which is combined with the leg of the trap, and also the end portion of the earthenware trap-leg; and Fig. 5 shows in detail, and detached, the washer and nut used in connection with the parts seen at Fig. 4.

In these several figures the same part, wherever it occurs, will be found designated by the same letter of reference.

A is the bowl, of ordinary construction, except as to the leg portion of the trap B, which, in lieu of being made as usual, is somewhat shorter, and preferably of the form seen at Fig. 2, so that it does not reach down to the floor or level of the base *m* of the bowl.

C is the ordinary soil-pipe, having the usual branch nozzle at *c* for the water-closet to connect with.

D is a lead or other suitably-flexible pipe connecting the earthenware trap B to the soil-pipe, but which, instead of being applied in the usual manner, has its ends soldered fast to ferrule-like metallic devices, made preferably of tinned brass, which are respectively tightly jointed to the trap B of earthenware and to the metal soil-pipe, in a manner which I will now explain.

The end of the trap-leg B is made with an enlargement, *b*, at its open end, in the interior of which enlarged portion *b* are formed angular depressions *a*.

e is a tinned-brass ferrule or nipple, about cylindrical in form, provided at one end with projecting lugs *d*, as shown, that are adapted to engage with the depressions *a* of the portion *b* of the trap B. Said ferrule *e* has a screw-thread, *p*, located exteriorly of its body, near the middle lengthwise of it, for the accommodation of a nut, *o*, the flange of which is designed and adapted to compress and hold in place the washer *n*. (See Fig. 3.) The ferrule *e*, by means of its lugs *d*, placed in engagement with the depressions *a* molded in *b*, is held fast to *b* longitudinally, after the fashion of any two devices united by what is commonly called a "bayonet-fastening," and when so united has placed over it and seated against the edge or mouth of *b* a leather or other flexible washer or packing-ring, *n*. The nut *o* is then put over the ferrule *e* until it engages with the thread *p* of the latter, and, being screwed on, forces the washer or packing-ring *n* home against the end of *b*, and also spreads it, causing its interior edge to bear hard against the exterior of ferrule *e*, thus perfectly packing or making perfectly tight the joint between said ferrule and the end *b* of the earthen trap.

One end of the lead pipe D is securely soldered, as at *i*, to the outer end of the ferrule *e*, and the other end of said pipe is in like manner soldered to the upper end of the ferrule *f*, as shown at *h*. (See Fig. 2.) The lower end of the ferrule *f* is inserted into the enlarged or flanged end of the branch *c* of the soil-pipe, and is therein secured so as to form a perfectly tight joint by means of metal packing in the usual manner of making such joints, as shown at *g*.

Now, it will be seen that in a water-closet constructed as herein described and shown not only are the connections between the earthenware bowl and the metallic soil-pipe of such a nature that they can be made perfectly tight to start with, but the combination of devices employed, and their arrangement and co-operative action, are such that no usual amount of displacement of the earthenware portion of the apparatus relatively to the branch *c* of the soil-pipe (by the usual causes of such relative displacement of the parts) can loosen or injuriously strain the joints, for the ferrules *e* and *f* are each rigidly and securely fastened by soldering, as described, to one end of the flexible pipe D, and the ferrule *f* may be jointed to the branch *c* in the permanent manner possible, while the ferrule *e* has a tightly-packed joint with the end *b* of the trap B, which not only will remain tight, but can be tightened, if necessary, by turning the jam-nut *o*. Furthermore, in case of any necessity therefor, the bowl, with its trap B, can be removed or changed in position after having been set by simply loosening the nut *o* and washer *n* and separating *b* from *e* by bending the flexible pipe D and turning and lifting out the earthenware device B without injury to the soldered joints and in first setting up the water-closet the solder joints at *i* and *h* can be made for the close attachment of the ferrules *e* and *f* to the pipe D before said pipe and ferrules are connected to the other parts, thus enabling the workman to more conveniently make the solder joints and make them with greater perfection than is possible in soldering together parts under inconveniences in working at them.

What I claim as new, and desire to secure by Letters Patent, is—

In combination with the trap-like portion of the earthenware bowl and a flexible metal connecting-pipe, D, adapted to connect the closet with the soil-pipe, a metallic ferrule-like device, *e*, adapted to be connected at one end to the part B, as described, and to be soldered at its other end to the said flexible pipe D, and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 24th day of February, 1881.

HENRY C. MEYER.

In presence of—
JACOB FELBEL,
H. C. JANVIER.