No. 859,302. PATENTED JULY 9, 1907.

J. F. KELLY.

WATER CLOSET.

APPLICATION FILED FEB. 16, 1907.

Fig. 1.

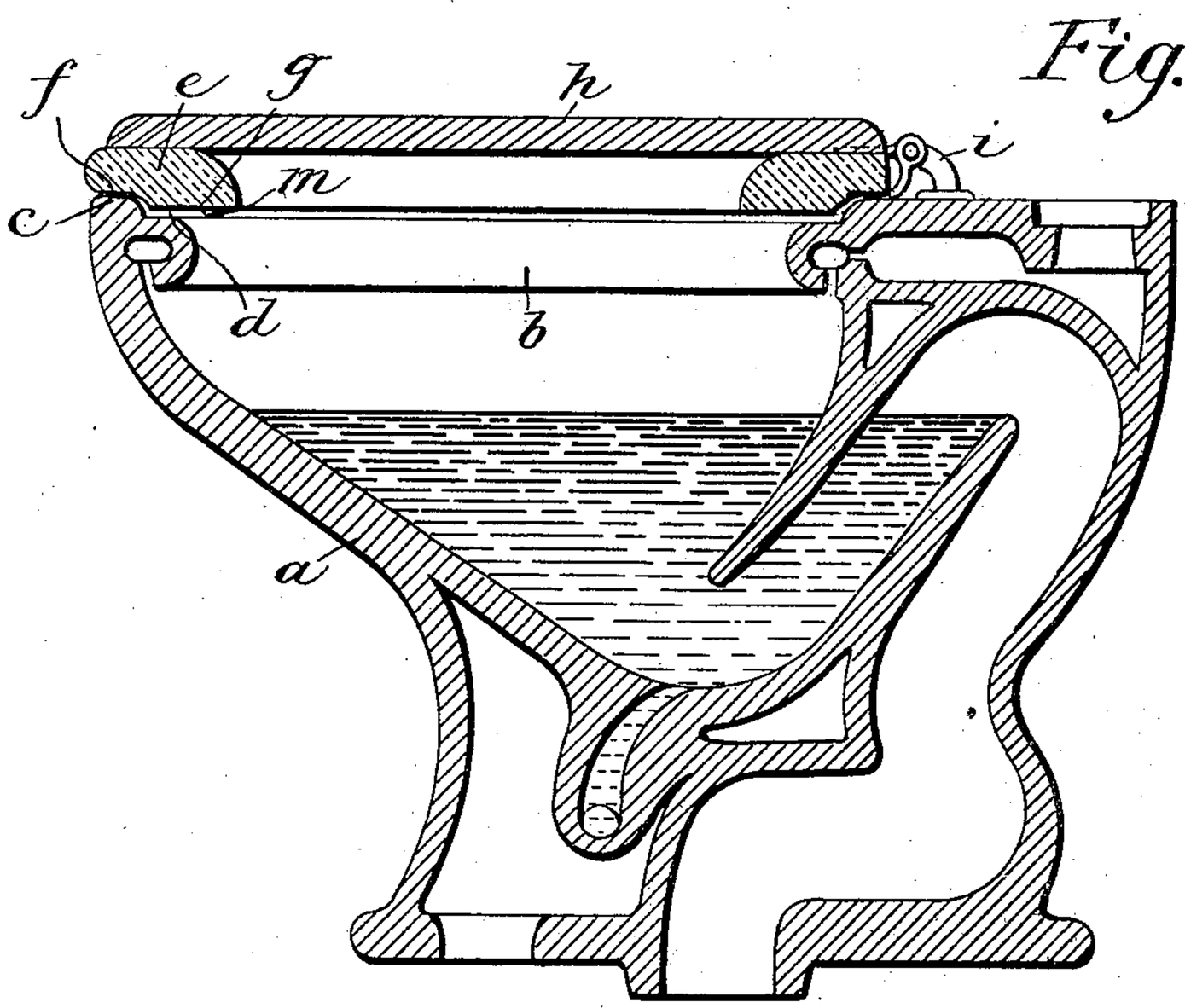
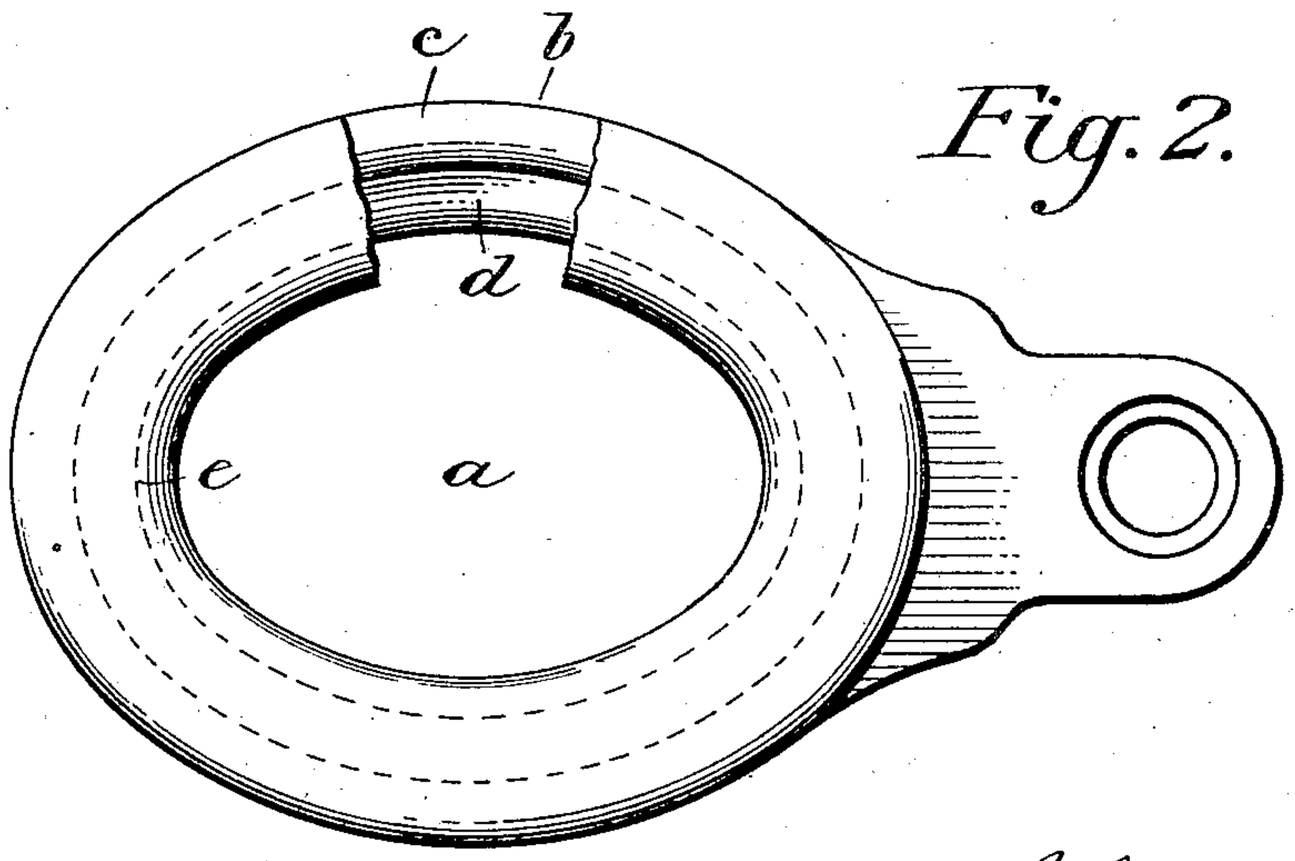



Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## WATER-CLOSET.

No. 859,302. Specification of Letters Patent. Patented July 9, 1907.

Application filed February 16, 1907. Serial No. 357,631.

*To all whom it may concern:*

Be it known that I, JOHN F. KELLY, a citizen of the United States, residing at Trenton, county of Mercer, State of New Jersey, have invented certain new and useful Improvements in Water-Closets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to waterclosets and has for its object to provide an improved form of closet which will prevent drip or seepage of urine down the front of the bowl, more particularly when the closet is used by the females; the invention also contemplates the provision of a closet, of vitreous ware or the like in which the usual form of hinged seat may be dispensed with.

To these ends the invention comprises a closet bowl having an up-standing flange on the rim thereof associated with a seat with an extension on its under surface lying behind said flange and co-operating therewith to form a seal or shield to prevent water or urine, that is directed in a substantially horizontal plane near the top of the bowl, escaping over the edge thereof and finding its way down the front or sides of the bowl to the floor.

A convenient form of the invention includes the provision of an annular recess or countersink in the top rim of the bowl to form an out-lying and up-standing flange combined with a seat having its inner or central portion made relatively thick so as to cause the same to lie within the countersink of the rim and thereby constitute between the seat and the rim a tortuous channel which will prevent the escape of drippings or urine from the interior of the bowl.

In the accompanying drawings: Figure 1 is a vertical longitudinal section through a standard water-closet embodying the invention. Fig. 2 is a plan view of a closet having a modified form of seat, a portion of the latter being broken away to show the relative arrangement of the parts.

Referring to the drawings, *a* indicates a water-closet bowl, which may be of any convenient or preferred type, which is provided with a special form of seat *e* and cover *h*, connected to the bowl by duplex hinges *i* to permit the seat and cover to be swung back in the usual manner.

In the ordinary types of closet, as heretofore constructed and employed, it has been found that, particularly in the case of women users, the urine striking the bowl at the front near the rim, frequently passes between the seat and the upper surface of the rim and falls upon the floor or runs down the front of the bowl to the floor producing unpleasant and unsanitary conditions. It has been attempted to avoid this difficulty by providing the seat with a pendent apron or shield on its under face near the front, or by constructing the front edge of the bowl with an isolated vertical rib rising above the general surface of the bowl rim and cutting away the fore part of the seat to accommodate this lip-like construction. These constructions have not proved satisfactory for the reason that they are either difficult to maintain in sanitary condition or so far weaken the seat as to render quite easily broken.

In the construction involving the isolated lip on the front of the bowl rim considerable difficulty has been experienced in the manufacture of the bowls owing to the fact that they cannot be placed vertically, resting on the rim, in the sagger; and furthermore, the extra material and labor due to the presence of the lip entails greater expense in the making and also introduces several strains on the portions of the rim adjacent to the lip in the baking or drying operation.

According to the present invention, the difficulties, hereinbefore enumerated as characterizing former types of closets, have been avoided by providing the rim of the closet with an up-standing flange *c* around its outer edge, or, what is to the same effect, providing the upper surface of the rim with a countersink or annularly recessed portion *d;* the top surfaces of both the up-standing flange *c* and the countersink *d* are substantially plane, the latter being preferably given an inward and downward inclination sufficient to cause any liquid that may accumulate thereon to run back into the bowl.

Co-operating with the rim of the bowl to prevent the escape of liquid over the edge of the rim, is the seat *e* which is provided at its inner or central portion with a reinforce or relatively thickened area *g* which may be conveniently extended around the entire under surface of the seat leaving the outer and under peripheral edge of the seat as an under-cut or rabbet *f*, the junction between the portions *f* and *g* forming a shoulder which lies adjacent the inner face of the up-standing flange *c* and constitutes a seal which will effectively prevent the escape of any liquid between the seat and the rim of the bowl, even though the liquid be directed outwardly in a horizontal direction. The under surface of the portion *g* may be conveniently provided with the usual rubber buffers *m* which rest upon the upper plane surface of the countersink *d*.

Where it is preferred the seat *e* may be hinged to the bowl, in the usual manner, as at *i*, and also may be provided with the ordinary form of cover *h* which

is likewise attached to the hinge *i*. The invention, however, contemplates the employment of a loose seat, which is not hinged or otherwise positively connected to the bowl, and the peculiar co-operation of the under side of the seat and the upper surface of the bowl rim renders the employment of a loose seat not only feasible but decidedly advantageous.

It will be noted that the peripheral rabbet on the under surface of the seat and the up-standing flange *c* on the bowl fit neatly together and prevent the seat being displaced except in a vertical direction, thereby preventing the seat being accidentally disarranged. The advantages of a loose and removable seat are, of course, obvious, but it may be remarked that some of the more important advantages are the facility with which the bowl may be cleansed in all its parts by removing the seat and the absence of the hinge members and their connections with the bowl, seat and cover which have always proved a source of unsanitary conditions owing to the fact that the metal parts corrode and also serve to condense and retain moisture thereon and in their immediate neighborhood. Where the seat is free from connecting members and may be instantly removed from the bowl, it will readily be seen that not only the bowl but the seat itself may be kept absolutely clean and sanitary.

What I claim as my invention is:

1. In a watercloset, the combination with the bowl having a rim comprising a plain upper surface and an up-standing flange surrounding the same, and a seat having an extension on the under surface lying behind said flange and above the plain portion of said rim.

2. In a water closet the combination with the bowl having a rim comprising a plain upper surface and an up-standing flange surrounding the same, and a seat having its lower peripheral edge under cut to coöperate with the flange on the rim.

3. In a water closet the combination with the bowl having a recessed or countersunk portion around the inner portion of the rim forming a plain surface, and a seat having a relatively thick inner portion adapted to lie within the countersink of the rim and above said plain surface.

In testimony whereof I affix my signature, in presence of two witnesses.

JOHN F. KELLY.

Witnesses:
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