J. F. KELLY AND E. S. THOMPSON.

BIDET.

APPLICATION FILED DEC. 9, 1919.

1,369,283.

Patented Feb. 22, 1921.

2 SHEETS—SHEET 1.

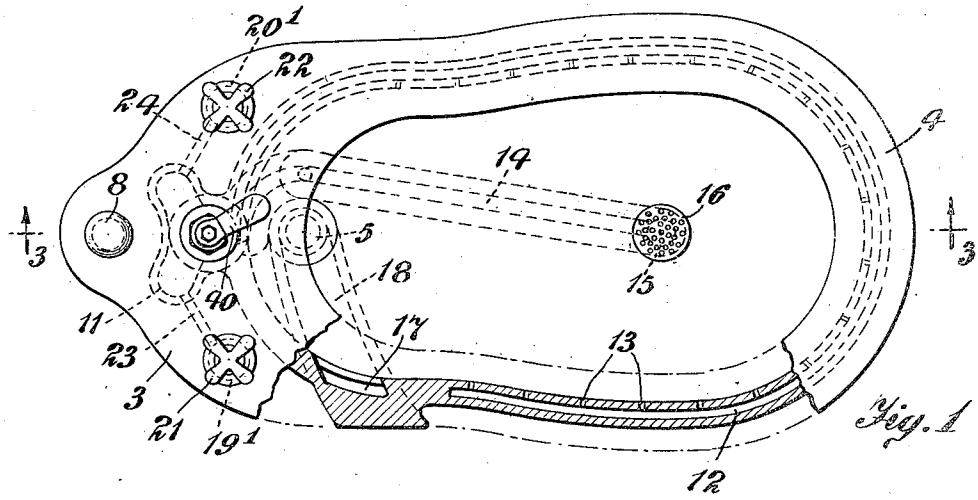
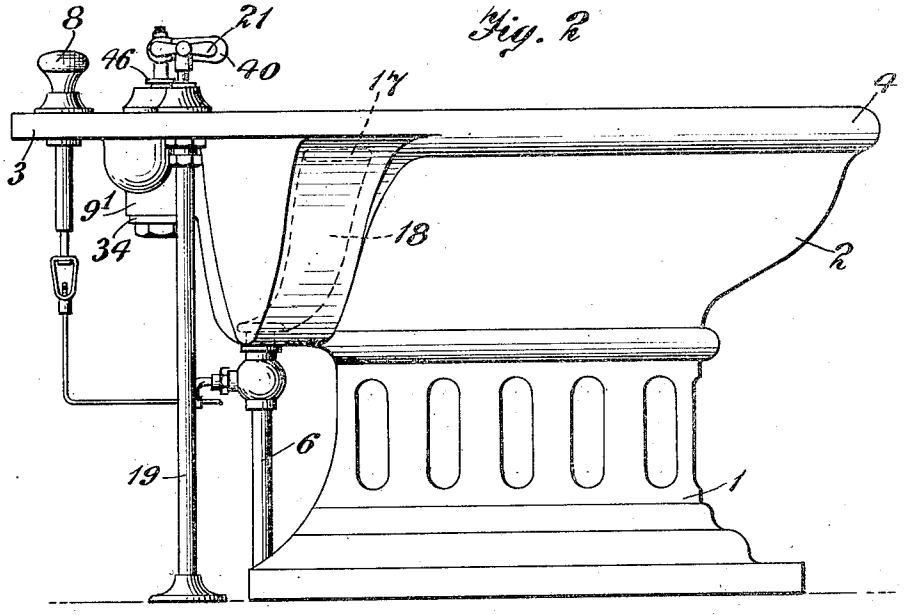


Fig. 1

Fig. 2



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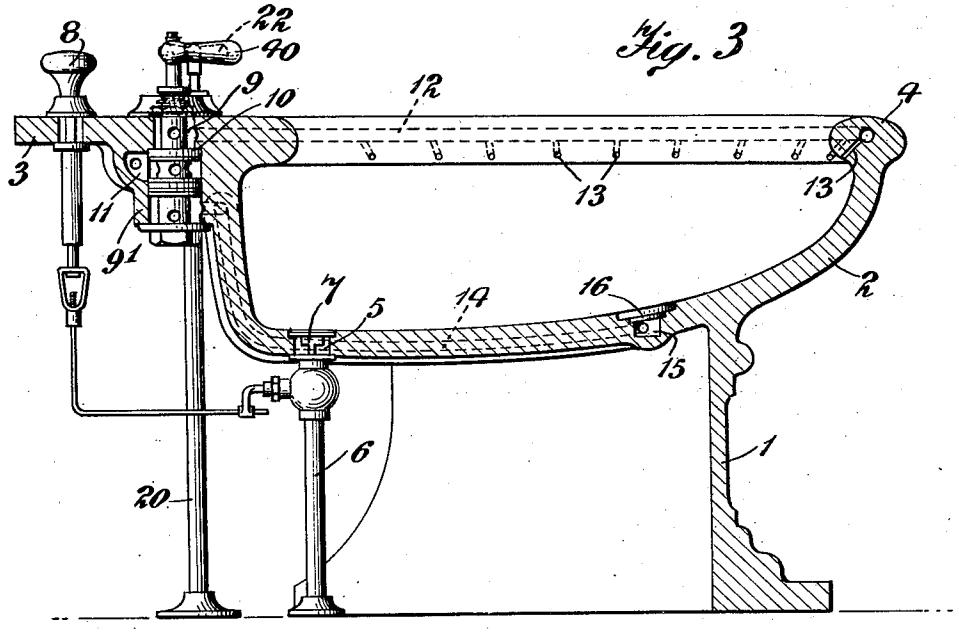
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2 SHEETS—SHEET 2.

Fig. 3



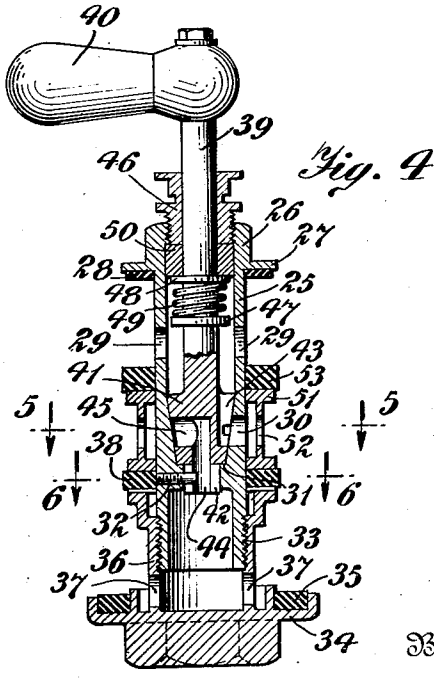


Fig. 4

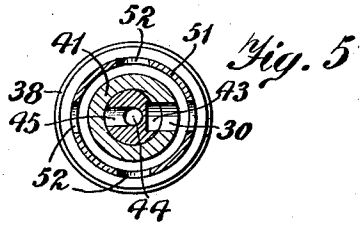


Fig. 5

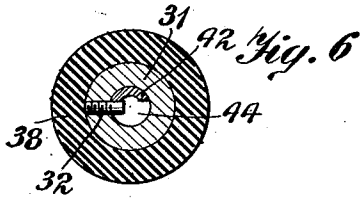


Fig. 6

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UNITED STATES PATENT OFFICE.

JOHN F. KELLY AND EDWIN S. THOMPSON, OF TRENTON, NEW JERSEY, ASSIGNORS TO THOMAS MADDOCK'S SONS COMPANY, OF TRENTON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

BIDET.

1,369,283. Specification of Letters Patent. Patented Feb. 22, 1921.

Application filed December 9, 1919. Serial No. 343,454.

To all whom it may concern:

Be it known that we, JOHN F. KELLY and EDWIN S. THOMPSON, citizens of the United States, and residents of Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Bidets, of which the following is a specification.

Our invention relates to bidets or that class of lavatory fixtures the principal function of which is to impinge a stream or spray of water upwardly against the body of the user when the fixture is sat upon.

The usual construction of bidet of which we have knowledge comprises a bowl having a perforated flushing rim whereby streams of water may be directed to the bowl for cleansing the same and a douche or nozzle in the base of the bowl for impinging a stream or spray of water upwardly against the body of the user. Hot and cold water supply pipes with their attendant valves or faucets adapted to be operated by the user are connected with the flushing rim and separate hot and cold water supply pipes with operating valves or faucets are connected with the douche thus necessitating in all four supply pipes and valves with the necessary elbows and other connections and accordingly making the cost of the fixture prohibitive in many cases. Furthermore, this type of bidet is objectionable for the reason that a person would run the risk of scalding himself if the mixture of hot and cold water supplied to the douche was not first properly regulated and was found to be too hot.

The principal objects of our invention are to obviate the objections hereinbefore set forth by lessening the number of pipes and valves and other parts ordinarily necessary, and consequently decreasing the cost of production of the fixture, and by so constructing the device as to permit the same mixture of hot and cold water to flow from the flushing rim where its temperature may be felt by the hand before the mixture is finally directed to the douche after the proper temperature has been obtained and ascertained.

A further object of our invention is the casting of the supply passages leading to the douche integrally with the bidet body thus obviating the necessity of using a separate metal pipe with a water tight coupling and other accompanying parts.

A still further object of the invention is the production of a bidet having a single valve which is hereinafter designated as the "transfer valve" the operation of which will direct the same mixture of hot and cold water either to the flushing rim or to the douche at the will of the operator.

Other and further objects of the invention will appear from the accompanying drawings, the invention consisting in the novel parts and combinations of parts hereinafter more particularly described and then specified in the claims.

Referring in detail to the drawings:

Figure 1 is a plan view (partly broken away) of my improved bidet.

Fig. 2 is a side elevation of the same.

Fig. 3 is a horizontal section on the line 3—3 of Fig. 1.

Fig. 4 is an enlarged central cross-section taken through the transfer valve.

Fig. 5 is a horizontal section on the line 5—5 of Fig. 4.

Fig. 6 is a horizontal section on the line 6—6 of Fig. 4.

Referring more particularly to the several figures of the drawings:

1 indicates the base of our improved bidet, which is preferably made of porcelain, having mounted thereon a bowl portion 2. Said bowl portion is provided with a fixture shelf 3 extending horizontally therefrom and with a flushing rim 4 encircling said bowl, all of said parts being cast or formed preferably as an integral structure. The bottom of said bowl portion 2 is provided at the rear with a discharge opening 5 connecting with a discharge pipe 6. Mounted in said discharge opening is a pop-up waste stopper 7 and 8 indicates a knob mounted on the fixture shelf 3 and which is connected through the fixture shelf and discharge pipe 6 by means of the usual rods and other parts to said pop-up waste fixture, the arrangement of which is old and requires no detailed description. By means of the knob 8 the pop-up stopper may be raised or

lowered as desired in an obvious manner to open or close the entrance to the discharge pipe 6.

Extending vertically through the fixture shelf 3 is an opening 9 having a depending wall 9′ cast integral with the bowl and fixture shelf and adapted to receive the transfer valve as will presently be described, said depending wall adjacent said opening being provided with a shoulder 10. 11 indicates a mixing chamber which connects with the opening 9 and the inclosing walls of which are cast integrally with the fixture shelf. Connecting with the opening 9 and adjacent the top thereof is the passage 12 encircling the flushing rim and provided at spaced intervals with the discharge openings or nozzles 13 extending downwardly therefrom under the rim itself whereby streams of water may be directed downwardly against the inner surface of the bowl in order to cleanse or flush the same.

14 indicates a supply passage formed in the bottom and side wall of the bowl and connecting at one end with the opening 9 adjacent its lower end and at its other end with an opening 15 in the lower wall or bottom of the bowl. Said opening 15 is provided with a douche or spray nozzle 16 suitably fitted therein so that water flowing through said supply passage 14 will be impinged or directed upwardly through said douche or nozzle, in a stream or streams, against the body of a person sitting upon the bowl. The spray nozzle 16 may be formed integrally with the bowl 2 if desired. To prevent the bowl from overflowing when the pop-up waste fixture 7 is closed I have provided the side wall of the bowl beneath the flushing rim with an overflow vent or opening 17 forming the mouth of a passageway 18 which is cast integrally in the side wall and which connects with the discharge opening 5.

19 and 20 indicate hot and cold water pipes extending upwardly into suitable openings or chambers 19′ and 20′ in the fixture shelf 3. Said pipes are provided at their ends with supply valves 21 and 22 of any desired construction, whereby hot and cold water or both may be admitted into the mixing chamber 11 through the passageways 23, 24 within the fixture shelf and which connect the mixing chamber with the openings 19′ and 20′.

The transfer valve may be of any suitable construction but is preferably constructed as illustrated in Fig. 4 and shown in Fig. 3 in operative position. This preferred form of valve is constructed as follows:—

25 indicates a pipe provided with a hollow interiorly screw-threaded nut 26 constituting the upper end thereof, a flange 27 integral therewith and a rubber washer 28 preferably engaging the under side of said flange 27. Said pipe is provided with upper openings 29, a central opening 30, an interior flange or seat 31 carrying a stop 32 and a lower exteriorly threaded screw-threaded end 33. 34 indicates a nut carrying a rubber washer 35. Said nut 34 is provided with an integral upwardly extending interiorly screw-threaded pipe portion 36 adapted to engage the lower screw-threaded end 33 of pipe 25. The pipe portion 36 of the nut 34 is provided with openings 37 and the upper end of said pipe portion is adapted to have seated thereon the washer 38. 39 indicates a stem or spindle carrying a removable operating handle 40 on the upper end thereof and having a lower cone-shaped body 41 fitting snugly within pipe 25 and seating against the flange or seat 31 thereof and having a depending finger 42 fastened to the lower end of the body and adapted to engage the stop 32 to limit a rotary movement of the stem in either direction. The body 41 of the stem is cut out or slotted as at 43, said cut out or slotted portion being adapted to register with the central opening 30 in the pipe 25. The said body 41 of the stem also has an opening 44 in the bottom thereof extending upwardly partially through the body and communicating with an opening 45 in the side of the body. Said opening 45 in the side of the body is adapted to register with the opening 30 in the pipe 25. 46 indicates a nut having a depending exteriorly screw-threaded body adapted to engage the screw-threaded nut 26. 47 indicates an annular flange preferably integral with the stem 39 and 48 is a washer loosely carried by the stem. A spring 49 is interposed between the flange 47 and washer 48 and packing 50 of any suitable type is interposed between the washer 48 and the body of the nut 46. When the stem 39 is forced down into position within the pipe 25 by screwing the nut 46 into tight engagement with the nut 26 of pipe 25 and thereby compressing the packing 50 and spring 49, the action of spring 49 tends to retain the stem in that position with the bottom of the cone-shaped body 41 seated against the flange or seat 31. 51 indicates an annular sleeve loosely carried by the pipe 25 and provided with a series of openings 52 therein. Said sleeve which is constructed so that a space obtains between the same and the pipe 25 rests on the washer 38 and has an additional rubber washer 53 resting or seated on the top thereof.

When the transfer valve is properly mounted in the opening 9 the washer 28 engages the top of the fixture shelf 3, the washer 53 engages the shoulder 10 and the washer 35 of nut 34 engages the flat lower end of the depending wall 9′. A tight engagement between these parts is obtained by holding the nut 34 firmly and screwing down

the nut 26. As clearly illustrated in Fig. 3 the washers 53 and 38 are of such size as to fit snugly in the opening 9 and to prevent the passage of water between the washers and the wall of the opening.

To permit hot or cold water or both to flow to the mixing chamber the supply valves 21 or 22 are operated, as has been explained, and the water flows into said chamber from the pipes 19 and 20 and through the passageways 23 and 24. When the operating handle is in closed or neutral position, while the water from the mixing chamber may flow freely into the space of the opening 9 intermediate the washers 53 and 38 and through the openings 52 of the sleeve 51, it can flow no farther due to the fact that the wall of the body 41 of the stem 39 closes the central opening 30 of the pipe 25. To permit the mixture of water to enter the passageway 12 in the flushing rim and to flow out of the discharge openings or nozzles 13 where its temperature may be felt by the hand, the operating handle 40 is turned or rotated into extreme position to one side, said movement being limited by engagement of the depending finger 42 with stop 32. This movement permits the slot 43 of the body 41 of the stem to register with the opening 30 of the pipe 25 so that the mixture of water will flow from the mixing chamber into the space of opening 9 intermediate washers 53 and 38, through the openings 52 of sleeve 51, through the opening 30 of the pipe 25, through the slot 43 of the body 41 of the stem, through the pipe 25, out of the upper openings 29 of said pipe, into the opening 9 intermediate washers 28 and 53 and into the passageway 12. When the proper temperature of the mixture of water is obtained by regulating the valves 21 and 22, the water may then be directed to the douche 16 by an extreme reverse movement of the operating handle 40, said movement of the operating handle being limited by the depending finger 42 engaging the stop 32. When the transfer valve is in this reverse position the opening 45 in the body 41 of the stem registers with the opening 30 of the pipe 25 and the water will flow from the mixing chamber into the space 9 intermediate washers 53 and 38, through the openings 52 of sleeve 51, through the openings 30 and 45, through the opening 44 in the body of the stem, through the lower part of pipe 25, out of openings 37, into the lower portion of opening 9 intermediate washers 35 and 38, into the passageway 14 and through the douche 16.

What we claim as our invention is:—

1. In a bidet, a porcelain bowl, a flushing rim for said bowl, a douche in said bowl and a mixing chamber having supply passageways in said bowl leading to said flushing rim and douche whereby water may be directed from said mixing chamber to said flushing rim and douche, said bowl, mixing chamber and supply passageways being all cast together as an integral structure.

2. In a bidet, a porcelain bowl having a discharge opening in the bottom thereof and a passageway in the wall thereof leading from said discharge opening to an overflow vent, a flushing rim encircling said bowl, a douche in the bottom of said bowl and a mixing chamber having supply passageways in said bowl leading to said flushing rim and douche whereby water may be directed from said mixing chamber to said flushing rim and douche, said bowl, mixing chamber and all of said passageways being cast together as an integral structure.

3. In a bidet, a bowl, a flushing rim for said bowl, a douche, a mixing chamber, hot and cold water supply pipes connecting with said mixing chamber, a transfer valve mounted on said bowl and communicating with said mixing chamber and adapted to permit the water in said mixing chamber to flow either to said flushing rim or said douche, means for regulating the flow of hot water to said mixing chamber and independent means for regulating the flow of cold water to said chamber.

4. In a bidet, a bowl having an opening therein, a flushing rim for said bowl, a douche in the bottom of the bowl, a mixing chamber, hot and cold water supply pipes connecting with said mixing chamber, passageways integral with said bowl connecting the bowl opening and the flushing rim and the bowl opening and the douche, a transfer valve mounted in the bowl opening and communicating with said mixing chamber and adapted to be operated by a suitable handle to permit the water in said mixing chamber to flow either through the passageway to the flushing rim or through the passageway to the douche, means for regulating the flow of hot water to said mixing chamber and independent means for regulating the flow of cold water to said chamber.

5. In a bidet, a porcelain bowl, a flushing rim for said bowl, a douche in said bowl, a mixing chamber having supply passageways leading to said flushing rim and douche whereby water may be directed from said mixing chamber to said flushing rim and douche and hot and cold water supply pipes having supply passageways connecting with said mixing chamber, said bowl, flushing rim, mixing chamber and all of said supply passageways being cast together as an integral structure.

6. In a bidet, a bowl, a fixture shelf and a flushing rim therefor, a douche outlet for said bowl, a mixing chamber, hot and cold water supply pipes connecting with said

mixing chamber, a transfer valve for directing the water in said mixing chamber to said flushing rim and said douche outlet and having means on said fixture shelf for operating the same, means mounted on said shelf and connected to the hot water supply pipe for regulating the flow of water therefrom to said mixing chamber and independent means mounted on said shelf and connected to the cold water supply pipe for regulating the flow of water therefrom to said mixing chamber.

Signed at Trenton, in the county of Mercer and State of New Jersey, this 7th day of October, A. D. 1919.

JOHN F. KELLY.
EDWIN S. THOMPSON.

Witnesses:
HAROLD E. SEXTON,
EGBERT B. LANE.