March 4, 1969 J. ZOBERG 3,430,268

BIDET SYSTEM

Filed Sept. 26, 1967 Sheet 1 of 6

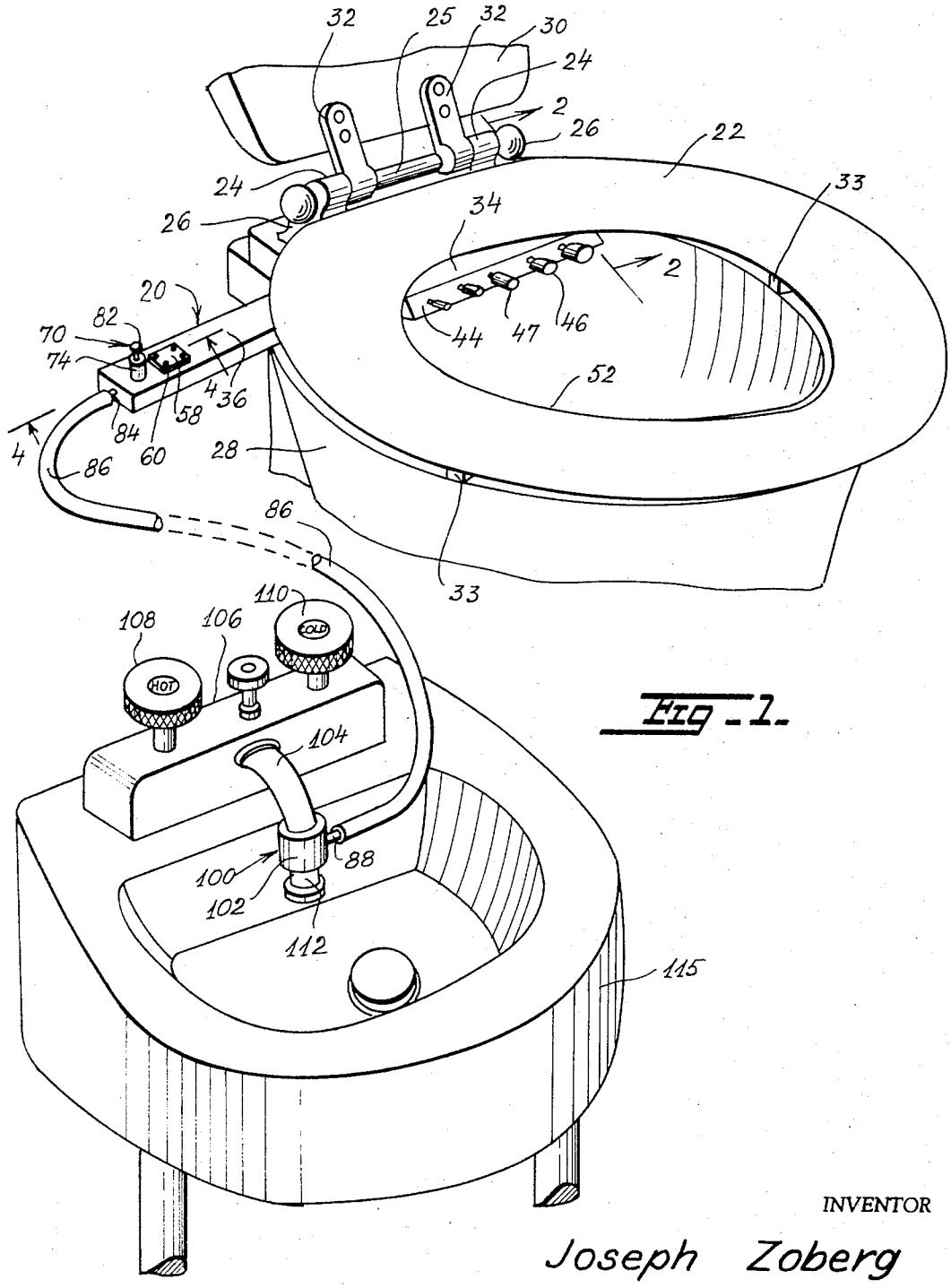


Fig. 1.

INVENTOR

Joseph Zoberg

BY Polachek & Saulsbury

ATTORNEYS

March 4, 1969 J. ZOBERG 3,430,268

BIDET SYSTEM

Filed Sept. 26, 1967 Sheet 2 of 6

Fig. 2.

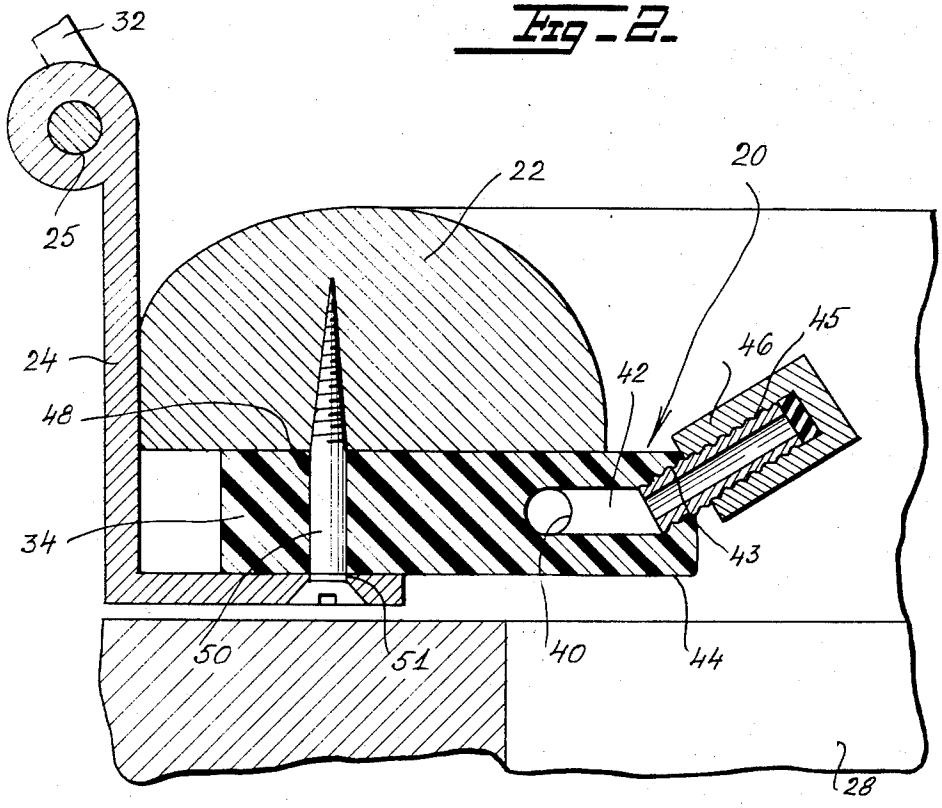
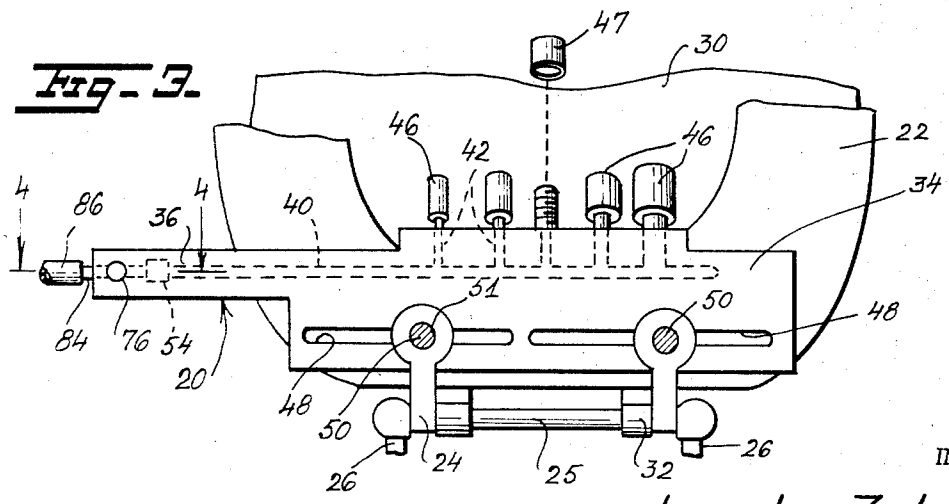


Fig. 3.



INVENTOR

Joseph Zoberg

BY Polachek & Saulsbury

ATTORNEYS

March 4, 1969 J. ZOBERG 3,430,268

BIDET SYSTEM

Filed Sept. 26, 1967 Sheet 3 of 6

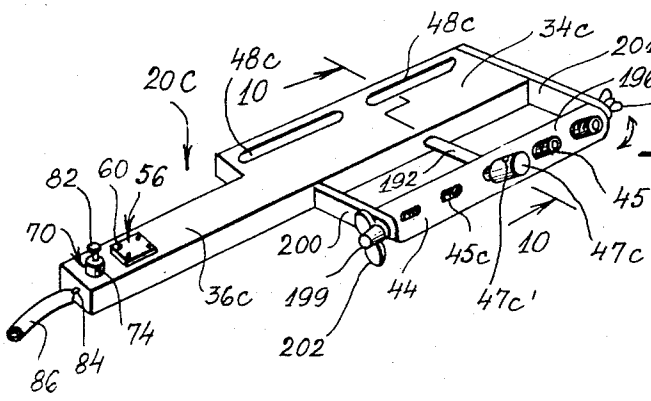
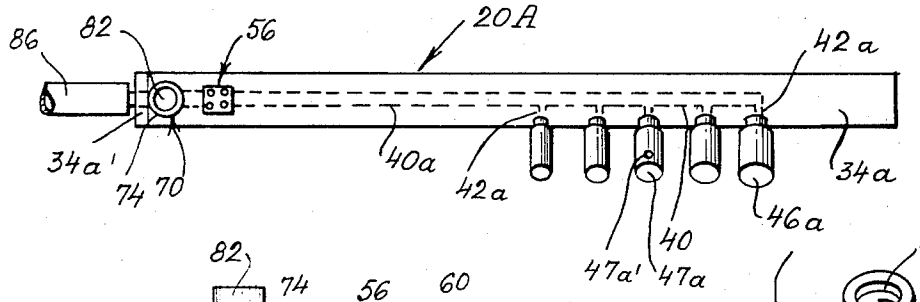


Fig-9-

Fig-5-



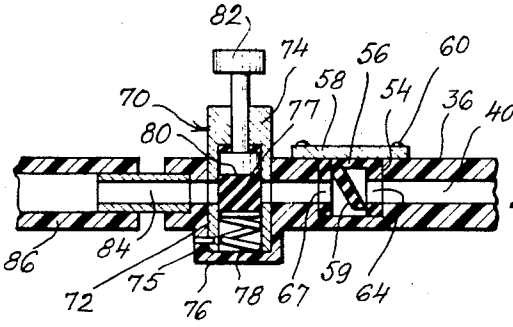


Fig-4-

Fig-6-

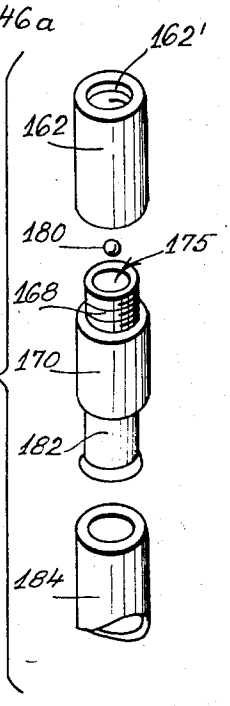
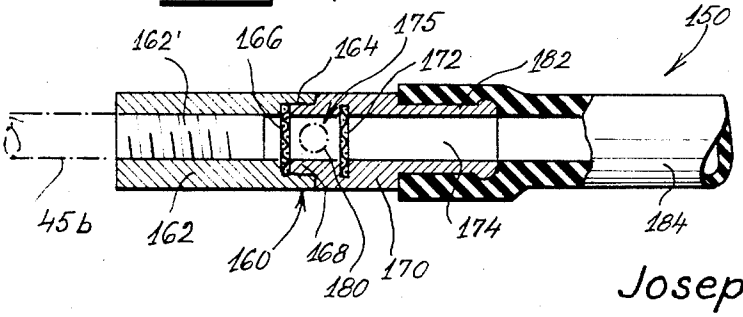


Fig-7-



INVENTOR

Joseph Zoberg

BY Pollock & Saulsbury

ATTORNEYS

March 4, 1969 J. ZOBERG 3,430,268

BIDET SYSTEM

Filed Sept. 26, 1967 Sheet 4 of 6

Fig. 6.

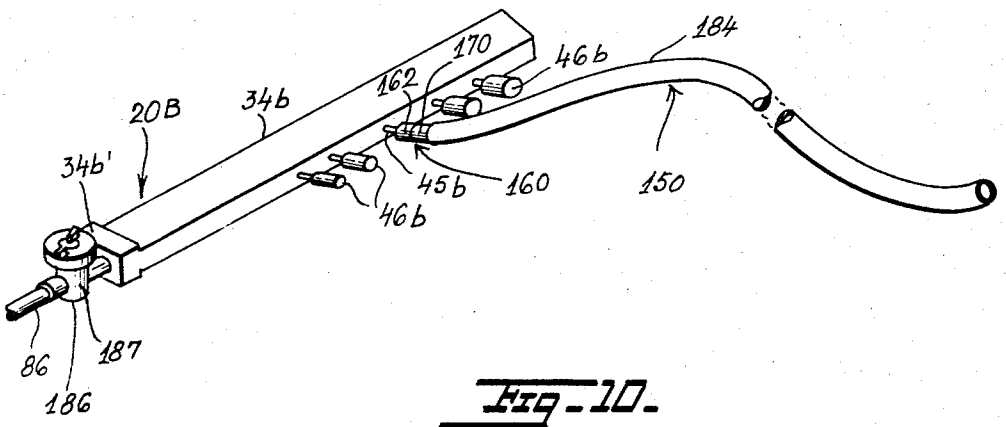
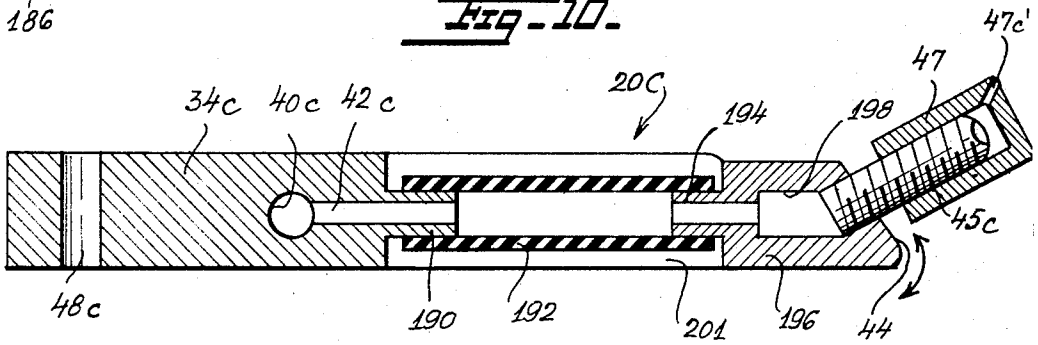


Fig. 10.



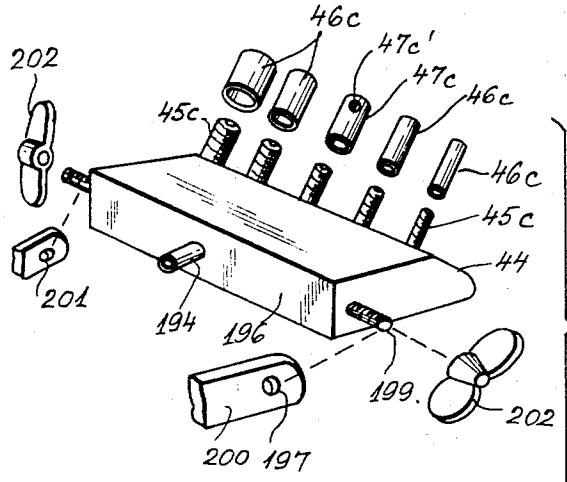


Fig. 19.

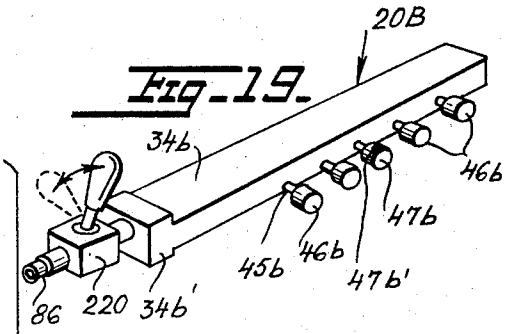


Fig. 11.

INVENTOR

Joseph Zoberg

BY Polachek & Saulsbury

ATTORNEYS

March 4, 1969 J. ZOBERG 3,430,268

BIDET SYSTEM

Filed Sept. 26, 1967 Sheet 5 of 6

Fig-12.

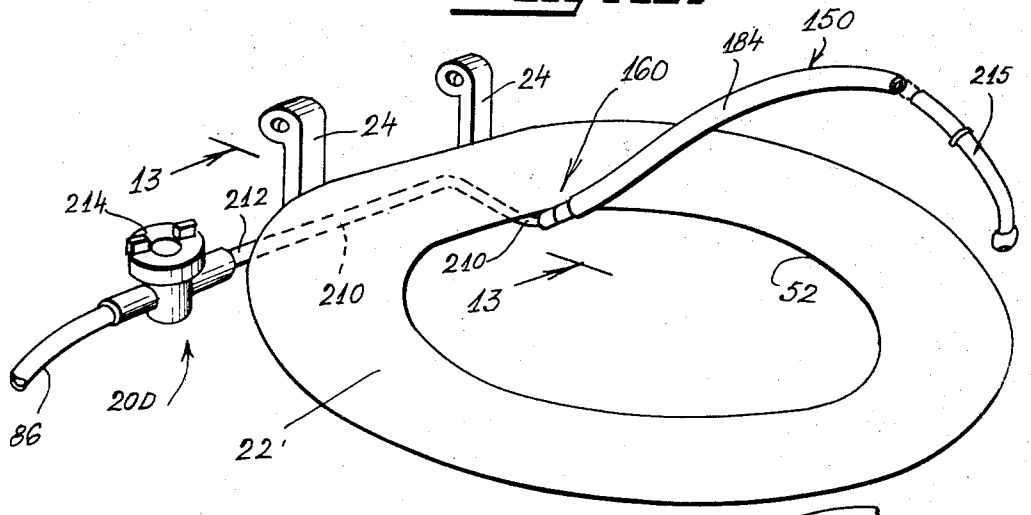


Fig-13.

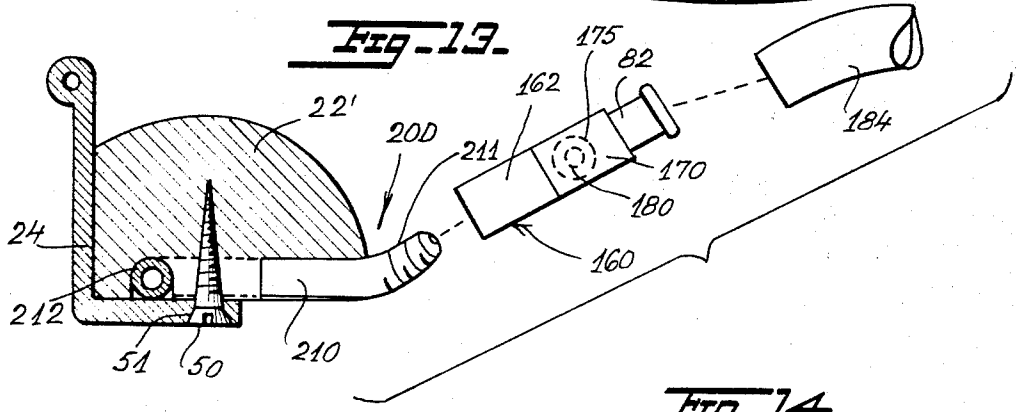


Fig-14.

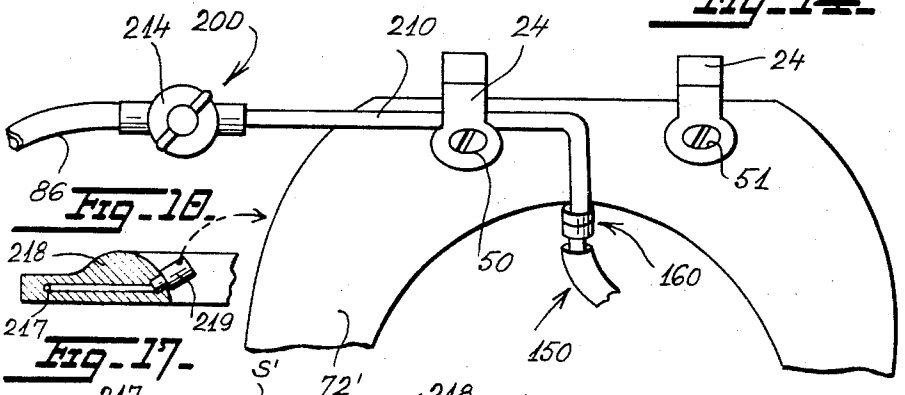
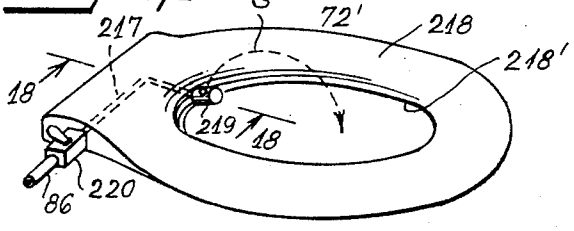


Fig-16.

Fig-17.



INVENTOR

Joseph Zoberg

BY Polachek & Saulsbury

ATTORNEYS

March 4, 1969 J. ZOBERG 3,430,268

BIDET SYSTEM

Filed Sept. 26, 1967 Sheet 6 of 6

Fig. 15

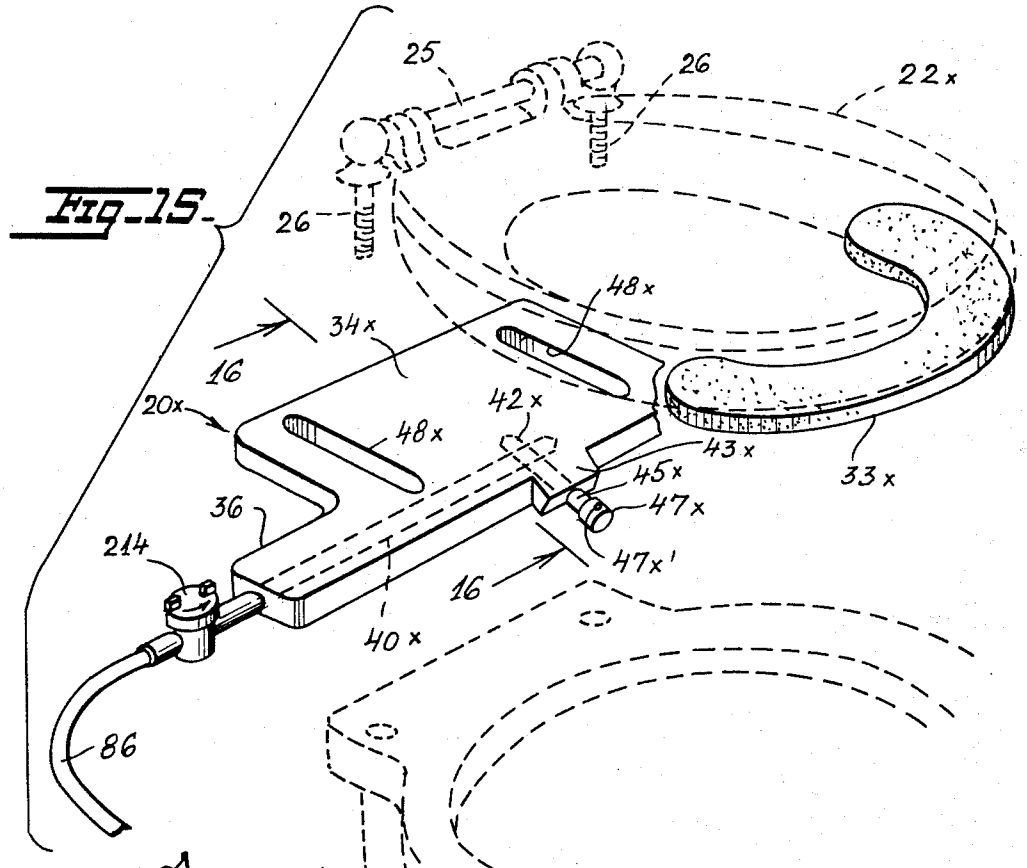
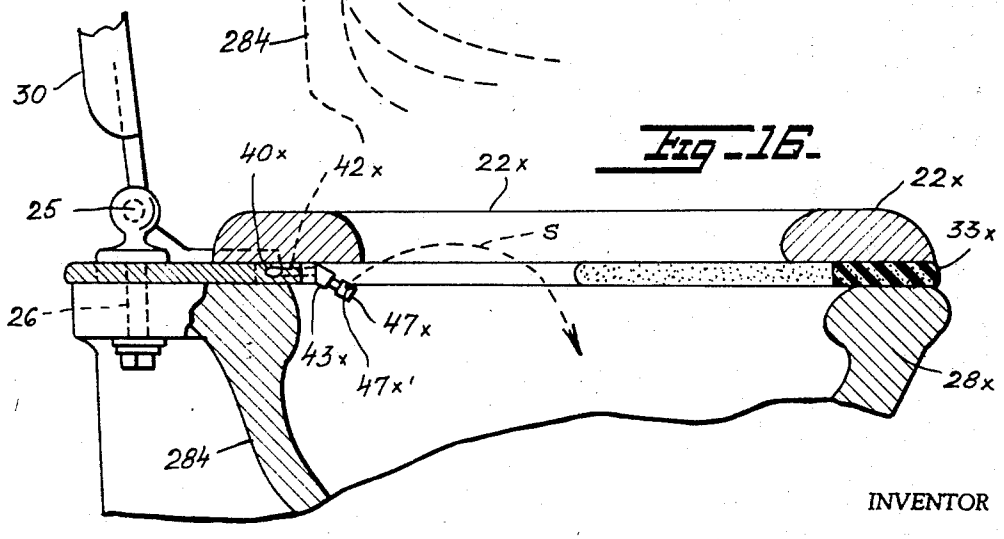


Fig. 16



INVENTOR

Joseph Zoberg

BY Polachek & Saulsbury

ATTORNEYS

United States Patent Office 3,430,268
Patented Mar. 4, 1969

3,430,268

BIDET SYSTEM

Joseph Zoberg, 590 Winthrop Road,
Teaneck, N.J. 07666

Filed Sept. 26, 1967, Ser. No. 670,745
U.S. Cl. 4—7 8 Claims
Int. Cl. A47k 3/22, 11/08

ABSTRACT OF THE DISCLOSURE

The disclosure describes a bidet appliance adaptable for mounting on a toilet seat or bowl to emit a spray of water of desired temperature. The water temperature can be regulated by a water diverter mounted on a hot and cold water mixing faucet. The appliance has nozzles at spaced locations of different size and can be adjustably positioned with respect to the toilet bowl for best location and different size.

This invention concerns an improved bidet for toilet seats and bowls.

Heretofore, water-ejecting appliances employed in toilets have been custom designed for a particular size or shape of toilet bowl and have included operating equipment including pumps, heaters, controls, etc. The devices have been limited to single size and force of spray. The spray ejecting nozzles were limited to a fixed direction and were not adjustable. The devices could not be used interchangeably in different sizes and shapes of bowls and have been of specially shaped, hollowed and molded toilet seats. The devices were not adapted to provide douches.

The present invention is directed at overcoming the above difficulties, limitations and disadvantages.

One object of the invention is to provide a bidet which can be adjustably positioned on a toilet seat regardless of the size and shape of the toilet bowl.

Another object is to provide a bidet wherein a douche attachment providing a medicated spray can be attached to the device and conveniently located for use.

Another object is to provide a bidet in which a nozzle can be adjusted to direct a water spray in any desired vertical angular position or pattern.

A further object is to provide a bidet having an associated water diverter whereby the temperature of water supplied can be tested.

A still further object is to provide a bidet with an easily accessible pushbutton toggle or turn valve for controlling the flow of water therethrough.

A still further object of the invention is to provide a bidet device which is built-in to the toilet seat.

For further comprehension of the invention and of the objects and advantages thereof, reference may be had to the following description taken with the accompanying drawings and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the drawings forming a material part of this disclosure:

FIGURE 1 is a perspective view of a bidet assembly embodying the invention with parts broken away.

FIG. 2 is an enlarged fragmentary sectional view taken on line 2—2 of FIG. 1.

FIG. 3 is an elevational view of the bottom of the bidet appliance shown mounted on a toilet seat which is turned to an upright position, parts of the seat being broken away.

FIG. 4 is an enlarged fragmentary sectional view taken on line 4—4 of FIG. 1.

FIG. 5 is a top plan view of a modified bidet appliance.

FIG. 6 is a perspective view of another modified bidet appliance with a douche attachment, part of which is broken away.

FIG. 7 is an enlarged sectional view through a germicide-containing adapter fitting used for the attachment of a douche tube thereto.

FIG. 8 is an exploded perspective view of parts of the adapter.

FIG. 9 is a perspective view of another modified bidet appliance with an adjustable nozzle member.

FIG. 10 is an enlarged sectional view taken on line 10—10 of FIG. 9.

FIG. 11 is an exploded perspective view of parts of the bidet appliance of FIGS. 9 and 10.

FIG. 12 is a perspective view of still another modified bidet appliance formed of a single pipe mounted on a toilet seat.

FIG. 13 is an enlarged exploded and sectional view taken on line 13—13 of FIG. 12.

FIG. 14 is a fragmentary bottom plan view thereof.

FIG. 15 is an exploded view similar to FIG. 1 but of still another modified bidet assembly.

FIG. 16 is a fragmentary vertical sectional view taken generally on line 16—16 of FIG. 15, through the center of the toilet bowl and seat and the bidet, with parts being broken away.

FIG. 17 is a top perspective view of a toilet seat having a built-in bidet device.

FIG. 18 is a fragmentary vertical sectional view taken on line 18—18 of FIG. 17, and

FIG. 19 is a top perspective view of a bidet assembly similar to FIG. 6.

Referring first to FIGS. 1 to 4, there is shown a bidet assembly in which a bidet appliance 20 is mounted on the underside of a toilet seat 22. The toilet seat 22 is of conventional construction and is provided with hinges 24 rotatable upon cross bar 25. The cross bar 25 is attached by bolts 26 to the back of toilet bowl 28. A seat cover 30 is pivotally secured by hinges 32 to cross bar 25. Pads 33 space seat 22 from the top edge of the bowl 28. To the extent described the seat, cover and bowl are entirely conventional.

The bidet appliance 20 in FIGS. 1 to 4 has an elongated generally rectangular body 34 of suitable plastic material with a rectangular tubular extension 36 of reduced width at one end. In extension 36, and body 34, there is a longitudinal passage 40. A plurality of spaced transverse passages 42 intersect and communicate with passage 40. Each of passages 42 terminate in a threaded hole 43 disposed at an angle to the horizontal as viewed in FIG. 2. Each of holes 43 have a different size. Screwed into each hole 43 is a short externally threaded angularly inclined upward pipe 45 of different size to each of which a closure cap 46 is attached at the front end of the bidet appliance. The threaded pipes are angularly inclined upwardly as best shown clearly in FIG. 2. The center size pipe 45 is provided with a nozzle of similar shape to the cap 46 but having a small discharge hole at the top for discharging a trajectory-like stream of water to the anus of the individual seated upon the seat 22.

Near the rear edge of body 34 are aligned transverse slots 48. Screws 50 extend through holes 51 in seat hinges 24 and through slots 48 to secure the bidet 20 to underside of the seat 22.

It will be apparent that before the screws are tightened the appliance 20 can be adjusted in position longitudinally of itself or transversely of the toilet bowl so as to center any desired pipe 45 near the center of the rear edge of opening 52 in the seat depending upon the volume size of water stream desired.

Fitted in an opening 54 in extension 36 as best shown in FIG. 4 is a check valve 56. The valve is covered by a

plate **58** secured by screws **60** to the top face of body **34**. In valve **56**, is a flexible valve element **59** normally slightly spaced from opening **67** which is aligned with passage **40**. Water can freely pass from left to right through the valve and through opening **64** and continue in passage **40**, but if back pressure develops from right to left the valve element **58** will close opening **67**. A ball valve arrangement may be similarly used.

A further manually controllable or press valve **70** is fitted in an opening **72** in the extension **36**. This valve **70** has a cylindrical housing **74** secured against rotation by pin **75** in a cup-shaped projection **76** at the bottom of extension **36**. In housing **74**, there is a resilient valve core **77** movable inwardly or downwardly against tension in coil spring **78**. The valve **70** is normally closed, with core passage **80** in core **77** held out of alignment with passage **40**. A pushbutton **82** connected to core **77** extends out of the top of housing **74**. This pushbutton can be depressed to open the valve aligning passages **80** and **40** to permit water under pressure to pass through passage **40** and out of the one open nozzle **47**.

Water is supplied to the appliance **20** from a nipple **84** at the outer end of the extension **36**. Attached to this nipple is a flexible hose **86**. In the system shown in FIG. 1, the hose **86** terminates at lateral branch nipple **88** of a water diverter **100**. The water diverter is of conventional construction, and may be of a type described in United States Patent No. 2,934,474. With such a diverter, its cylindrical body **102** is attached to a mix hot-cold faucet **104** of a bathroom basin fixture **106**. Hot and cold water handles **108**, **110** permit water of desired temperature to pass through faucet **104** and body **102**. When valve member **112** of the water diverter is lowered as shown in FIG. 1, water is diverted laterally and will pass through diverter nipple **88** and hose **86**. When the valve member **112** is raised or retracted manually into the body **102** then the water will be cut off from hose **86** and instead will come out of the bottom of body **102** and drain into basin **115**.

In operation of the system of FIG. 1, after the appliance **20** is installed as shown with one nozzle **47** open the others closed by caps **46**, the user sits on seat **22**. He manaully raises valve member **112** and adjusts the hot and cold water handles **108**, **110** until water of desired temperature flows out of body **102**. Then the user lowers valve member **112** and water of the desired temperature is diverted into hose **86**. The user then depresses pushbutton **82** so that a force spray of water of desired temperature will be emitted from the open nozzle **47** to wash the anus and adjacent parts of the body of the seated user.

In FIG. 5, an elongated slab body **34***a* of an appliance **20**A is of uniform width throughout its full length and by its flat top face will be adhered to the underface of the toilet seat and extend outwardly to one side thereof. At the extended end, there is provided the press valve **70** and a check valve assembly **56**, both above described and shown in detail in FIG. 4, in a longitudinal water passage **40***a* that can supply any of five nozzle passages. From the nozzle passages **42***a* upwardly inclined different size threaded fittings **45***a* to which different size nozzles **47***a* are attached when the selected water stream has been picked by positioning the slab body **34***a* on the toilet seat according to the size nozzle desired. Each nozzle **47***a* sprays from a different size hole **47***a'*. Different size closure caps **46***a* are placed over the unused fitting **45***a*. An enlarged end portion **34***a'* is provided for nipple **84** and hose **86** from water diverter **100**.

A vaginal douche attachment **150** upon an appliance **20**B may replace nozzle **47***a* as shown in FIGS. 6–8, for elongated bidet body **34***b*. This attachment has an adapter fitting **160**. Fitting **160** is best shown in FIG. 7 with a cylindrical internally-threaded nipple **162** which screws on one of nipples **45***b*, other nipples are closed by closure caps **46***b*. The nipple has an internally threaded bore **164** at its outer end across which is fitted a screen **166**. In the open end bore **164** is screwed externally-threaded end **168** of another nipple **170**. Another screen **172** is provided inside of and extends across passage **174** in nipple **170**. A chamber **175** is defined between the screens **166** and **172**. A medicated or germicidal pill **180** can be disposed in chamber **175** through the open end of nipple **170** when it is detached from nipple **162** as illustrated in FIG. 8. Nipple **170** has a beaded end **182** on which engages one end of a flexible soft plastic or rubber vaginal tube **184**. This tube **184** can be about twenty inches or so in length. A medicated water spray can be obtained through tube **184** under manual control of a turn valve **186** on a nipple **187** in enlarged head **34***b'* of the bidet appliance **34***b*. The pill **180** will dissolve in the water in chamber **175** which is in communication with passages **162'** and **170'** of the respective nipples **162** and **170**.

In FIGS. 9, 10 and 11 another bidet appliance **20***c* which is generally similar to appliance **20** and corresponding parts are identically numbered. In body **34***c* of appliance **20***c*, a transverse passage **42***c* communicates with longitudinal passage **40***c* and terminates in nipple **190**. A short flexible tube **192** is engaged on nipple **190** and terminates on a nipple **194** extending rearwardly from an angularly adjustable water distributor housing **196**. Threaded fittings **45***c* of different widths extend forwardly and upwardly from housing **196**. A single longitudinal passage **198** in housing **196** communicates with nipple **194** and each of threaded fitting **45***c*. All but one of the fittings **45***c* will normally be closed by internally threaded caps **46***c*. A nozzle **47***c* is fitted on the selected fitting **45***c* and has spray hole **47***c'*.

Threaded studs **199** extend out of opposite ends of housing **196**. These studs extend through holes **197** in flanges **200** and **201**, that extend forwardly from body **34***c* of the appliance. Wing nuts **202** can engage on studs **199** and effectively hold the housing **196** in any desired vertically inclined position with respect to body **34***c* so that the one open nozzle **47***c* can extend upwardly and forwardly at any desired angle. A vaginal douche attachment **150** can be employed with appliance **20***c* by engagement on one of the fittings **45***c* as explained in connection with FIGS. 6–8. Longitudinally-extending tandem-arranged slots **48***c* will accommodate cross bar bolts **26** for retaining the appliance **20***c* in place on the toilet bowl **30** to permit longitudinal adjustment with respect thereto. A press valve **74** and check valve **56** is provided in extension **36***c*.

In FIGS. 12–14, is shown another bidet appliance **20**D which is simplified and consists generally of an L-shaped pipe **210** shaped at its end into a forwardly upwardly-extending threaded nozzle end **211**. The pipe **210** is secured to the underside of seat **22**, by one hinge **24** and screw **50** in hole **51**. A turn valve box **214** is provided on the outer pipe end **212**, and may include a check valve. Hose **86** extends from the valve box **214**. Douche adapter fitting **160** for douche attachment **150** can be engaged on threaded nozzle **211**, see FIGS. 12–14. The tube **184** extends from the fitting **160** and may have a douche nozzle **215**.

In FIGS. 15 and 16, still another modified form of bidet assembly **20**X is illustrated which differs from the bidet assembly **20** of FIG. 1 in that attaching slots **48**X extend transversely of bidet body **34**X rather than longitudinally thereof. A single arcuate-shaped pad **33***x* is interposed between the front end of seat **22***x* and toilet bowl **28***x* to keep them spaced and prevent leakage of water or urine over the front top of the toilet bowl **28***x*.

Bidet appliance **20***x* differs further from appliance **20** in that only a single transverse passage **42***x* intersects a longitudinal passage **40***x* in the body **34***x* of the appliance. A nipple **45***x* is positioned in the passage **42***x* on end of projection **43***x* and is provided with a perforated nozzle head **47***x*. Slots **48***x* receiving the cross bar bolts **26** for fore and aft positioning of bidet appliance **20***x* upon the toilet bowl. A stream of water S is projected forwardly from hole **47***x'* on the nozzle **47***x*.

In FIGS. 17 and 18 a water passage **217** is provided in a seat **218** and terminates at the rear of opening **218'** with a nozzle **219** adapted to direct water stream S' forwardly. A toggle switch over valve **220** is connected to one side of seat **218** and is supplied with mixed hot and cold water from hose **86**.

In FIG. 19, is a bidet appliance **20B'** having nozzle fittings **45*b*** with closure caps **46*b*** and a nozzle **47*b*** having hole **47*b'***. A slab body **34*b*** has an enlargement **34*b'*** to which is fitted a toggle valve **220**.

All of the bidet appliances are readily adaptable for installing on any type of toilet seat. Most of said appliances are adjustable for optimum efficiency. They can all be provided with douche attachments. If desired, they can be mounted to the toilet bowl itself by means of bolts **26** instead of to the toilet seat.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and that various changes and modifications will be made within the scope of the invention.

What is claimed is:

1. A bidet assembly, comprising a body mountable between a toilet bowl and a toilet seat hinged thereto, said body having a passage therethrough for passing water under pressure, nozzle means communicating with said passage and extending forwardly from said body for emitting a stream of water therefrom, a manually controllable valve supported by said body and arranged to control flow of water through the passage in said body, a hose connected to said body for supplying water under pressure from a source thereof, means for adjustably positioning said body transversely of said toilet bowl and seat, said nozzle means including a plurality of nozzle fittings of different sizes, all of said nozzles being secured to said body and communicating with said passage, and a plurality of caps for selectively closing all the nozzle fittings except one, whereby the one open nozzle can be adjustably located to direct a selected size stream of water radially and centrally of said bowl and seat.

2. A bidet assembly as recited in claim **1**, further comprising a water diverter having an inlet connectable to a mixed hot and cold water source of water under pressure, said diverter having main and lateral outlets and valve means for selectively diverting water to either one of the main and lateral outlets, said hose being connected to said lateral outlet, whereby the temperature of the water provided by said source can be determined when said valve means in said diverter is set to divert the water through the main outlet and whereby the water enters said hose when the valve means in said diverter is set to divert water to the lateral outlet.

3. A bidet assembly as recited in claim **2**, further comprising a check valve in said body to prevent water under back pressure from passing in reverse direction through the open manually-controllable valve and hose.

4. A bidet assembly as recited in claim **1**, wherein the seat has a cavity in its underside, said body being set in said cavity.

5. A bidet assembly as recited in claim **1**, further comprising a douche attachment, said attachment having an adapter fitting including two detachably engaged nipples, one of said nipples being detachably engaged on said one nozzle, a flexible spray tube engaged at one end thereof on the other nipple, said other nipple having a chamber therein for receiving a germicidal pill, both of said nipples having aligned passages communicating with said chamber so that the pill is exposed to water passing through the adapter.

6. A bidet assembly as recited in claim **1**, wherein said body further comprises a water distributor, said nozzles being supported by said water distributor, and means adjustably supporting said water distributor for selectively setting the angle at which said spray of water is directed from said one nozzle with respect to the bowl and seat.

7. A bidet assembly as recited in claim **5**, further comprising a water diverter connected to a mixed hot and cold water source having an inlet connectable to a source of water under pressure, said diverter having main and lateral outlets and valve means for selectively diverting water to either one of the main and lateral outlets, said hose being connected to said lateral outlet, whereby the temperature of the water provided by said source can be determined when said valve means in said diverter is set to divert the water through the main outlet and whereby the water enters said hose when the valve means in said diverter is set to divert water to the lateral outlet, and whereby the water will pass through said body and through said douche attachment when said manually controllable valve is opened.

8. A bidet assembly as recited in claim **1** wherein the nozzle extends forwardly and downwardly and wherein an arcuate-shaped pad is mounted in front of the nozzle and interposed between the toilet bowl and toilet seat to keep them spaced.

References Cited

UNITED STATES PATENTS

723,346	3/1903	Wells	4—7
1,962,014	6/1934	Guidetti	4—7
1,990,268	2/1935	Crane	4—7
2,504,257	4/1950	Dunn	4—7
2,939,474	6/1960	De Simone et al.	
3,247,524	4/1966	Umann	4—7

H. HAMPTON HUNTER, *Primary Examiner.*