April 7, 1936. I. SALVONI 2,036,985

BIDET ATTACHMENT FOR WATER CLOSETS

Original Filed March 21, 1935 2 Sheets-Sheet 1

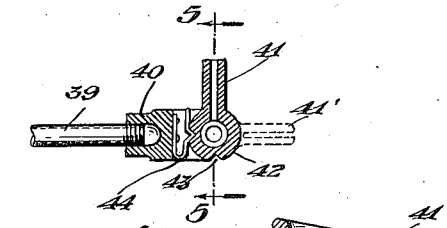


Fig: 4

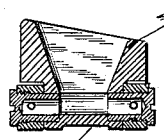


Fig: 5

Fig: 1

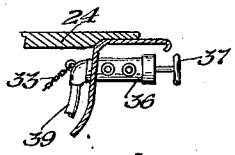


Fig: 3

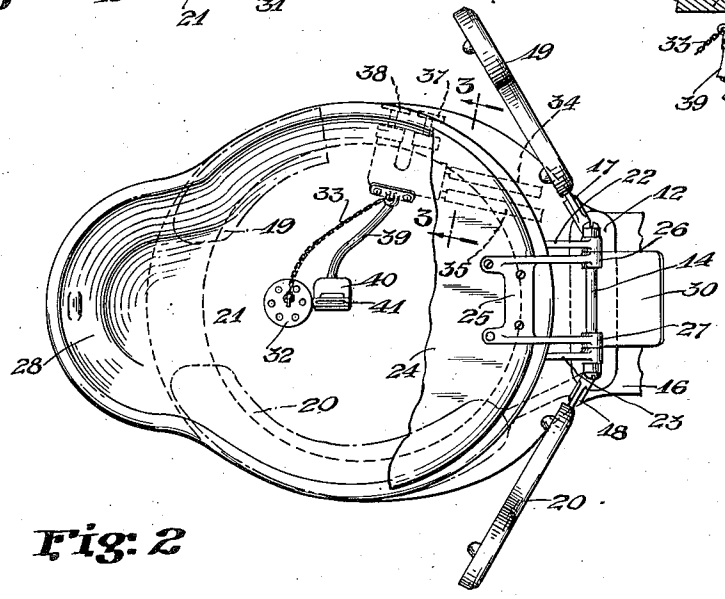


Fig: 2

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BIDET ATTACHMENT FOR WATER CLOSETS

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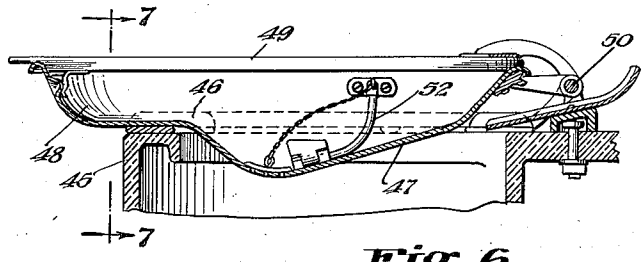


Fig. 6

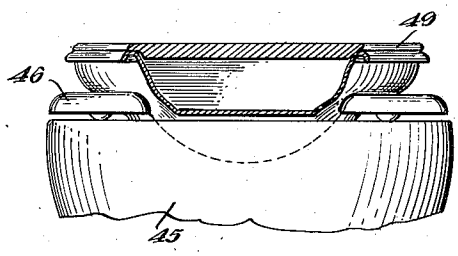


Fig. 7

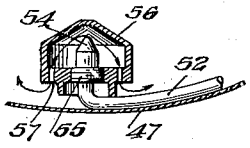


Fig. 9

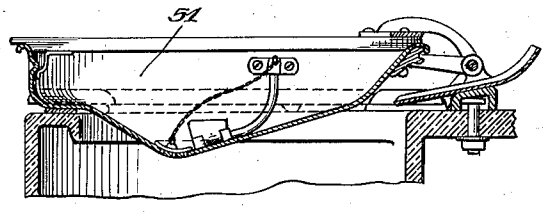


Fig. 8

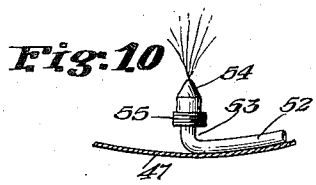


Fig. 10

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UNITED STATES PATENT OFFICE

2,036,985

BIDET ATTACHMENT FOR WATER CLOSETS

Ippolito Salvoni, New York, N. Y., assignor of forty-four per cent to Riccardo Salmona and twelve per cent to Edward Q. Jackson, both of New York, N. Y.

Application March 21, 1935, Serial No. 12,239
Renewed January 31, 1936

11 Claims. (Cl. 4—7)

This invention relates to sanitary appliances and more particularly refers to improvements in combined water closets and bidets.

Attempts have heretofore been made towards equipping an ordinary water closet with a bidet attachment by providing a basin-like structure, constituting the bidet proper, in place of the cover ordinarily used over the toilet seat. However, in such structures as have come to my notice the peripheral outline of the bidet substantially corresponds to the outline of the opening in the seat, so that the bidet extends downwardly through said opening and is supported by a peripheral flange resting on the marginal portion of the seat around the opening.

Such a structure perforce limits the size of the bidet to that of the opening in the toilet seat and, therefore, results in an arrangement which is ill-adapted to the purpose for which it is intended, because of the difficulty of access for the hand of the user which must be inserted within the bidet in order to perform the necessary bathing or cleansing operations.

In a co-pending application for patent entitled, "Combined toilet and bidet", Serial No. 6,062, of which the present application is partly a continuation, I have described and claimed a bidet adapted to be used in combination with an ordinary water closet, the principal character of said bidet being that it is so designed that it affords ample room for the performance of the service for which it is intended.

To this end, the bidet is formed with a front portion preferably extending beyond the closet bowl and is also preferably wide enough to provide a generous amount of room, enabling the user to efficiently bathe the exposed part of the body.

However, when the bidet is used on top of the seat, in order to provide sufficient depth for its front portion permitting the hand to be inserted in place without difficulty, it is necessary to raise the top of the bidet well above the level of the seat so that in some instances the height of the bidet from the floor may cause some discomfort to the user.

The primary object of the present invention is to provide the combination of a water closet, equipped with a seat of the type open at the front end, and a bidet, which while not extending to any objectionable level above the level of the seat, still provides sufficient depth at its front end for the free insertion of the user's hand.

Another object is to provide, in combination with a bidet, novel and improved means for supplying water thereto, said means including a special nozzle, adapted, if desired, to spray water directly against the body of the user.

A further object of the invention is to provide an improved arrangement of bidet and toilet seat, whereby the said seat and bidet may be raised or lowered in position without interfering with each other.

A still further object is to provide in a device of the character specified, means for supplying water to the interior of the bidet, comprising a valve structure attached to the side of the bidet within convenient reach of the user, said valve structure being adapted for attachment to a source of water supply by means of flexible tubing, permitting free tilting movement of the bidet about its pivotal support.

Other objects and advantages of the present invention will more fully appear as the description proceeds and will be set forth and claimed in the appended claims.

My invention is illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a vertical longitudinal section through the top of a water closet bowl, equipped with a device embodying my invention;

Fig. 2 is a plan view of the same with parts broken away;

Fig. 3 is a detail vertical section through line 3—3 of Fig. 2.

Fig. 4 is a detail sectional view in an enlarged scale of the type of discharge nozzle illustrated in Fig. 1, through line 4—4 of Fig. 1;

Fig. 5 is a vertical section through line 5—5 of Fig. 4;

Fig. 6 is a vertical longitudinal view through the top of a closet bowl equipped with a device embodying my invention in an alternative form;

Fig. 7 is a vertical cross section through line 7—7 of Fig. 6;

Fig. 8 is a view similar to Fig. 6, illustrating the use of a bidet devoid of a front projecting portion;

Fig. 9 is a fragmentary vertical section in an enlarged scale, illustrating the construction of the nozzle shown in Figs. 6, 7, 8; and

Fig. 10 is a similar view illustrating the same nozzle with the deflector removed.

As stated in the premises, my improved bidet is adapted for use on a water closet bowl in combination with a seat of the open-front type, so that the front part of the bidet can be made deep enough to reach all the way down to the rim of the bowl. This characteristic feature of my invention can be applied either in connection with a seat copivotal with the bidet, in which case the bidet rests directly on the seat when lowered in position, or else in connection with a seat of the type shown in Fig. 8 of my co-pending application above mentioned and shown in Figs. 1 and 2 of the present application, in which the seat is composed of two side portions, independently movable from each other from a position on top of the bowl to an upright position, in which they remain spread apart in order to be

entirely clear of the bidet when moved up or down. In either case, the pivotal support for the seat and the bidet can be made in the form of a single structure, adapted to be retained in position by bolts passing through the hinge bolt openings ordinarily provided in closet bowls of standard construction.

Referring to Figs. 1 to 5, 10 designates the upper portion of a closet bowl formed with a rim portion 11, and 12 designates a pivotal supporting structure for the seat and the bidet, comprising a frame 13 and a pivotal transversal bar 14 carried thereby, said frame 13 being fastened in position by means of bolts 15 inserted through the rear bowl extension 16.

Besides pivotal transversal bar 14, the structure also comprises two end pivotal extensions 17, 18, which are frontwardly inclined with respect to bar 14. Pivotal extension 17 carries one-half of the seat, 19, and pivotal extension 18 carries the other half of the seat, 20, said two half-seats being shown in full lines in Figs. 1 and 2 in their raised position, when, due to the inclination of extensions 17, 18, they are spread apart. When lowered over the bowl said half-seats will rest over the sides of the rim of the bowl, as shown in dotted lines in Fig. 2, together forming an open-front seat, usable in the ordinary manner.

The cross bar 14 serves as a pivotal support for the bidet 21, which is provided with rearwardly extending pivotal arms 22, 23, and for the cover 24, which is provided with a hinge plate 25, having rearwardly extending pivotal arms 26, 27.

The bidet 21 is provided with a front extension 28, which rests directly on top of the front portion of the bowl, preferably through the intermediary of a packing 29, so that in order to provide sufficient depth for the insertion of the hand at the front it is not necessary for the top of the bidet to remain at a much higher level than the top of the seat; so that as a consequence no particular discomfort will be experienced by the user through excessive height of the bidet from the floor.

In this type of arrangement the two halves composing the seat are designed so that they will form an open-front seat when lowered in position, principally because when in their raised position they have to provide sufficient clearance between them for the passage of bidet 21 and cover 24 from the raised position shown in dotted lines at 21', 24', to their operative position shown in full lines in Fig. 1. Frame 13 is also equipped with a drain plate 30, extending inwardly towards the inside of the bowl, said plate being so arranged that it will catch the drippings from the bidet when the said bidet is raised from its operative to its inoperative position, directing them to the inside of the bowl.

The bottom of the bidet is provided with a discharge outlet 31, controlled by a stopper 32, carried by a chain 33 attached to the side of the bidet.

The bidet is preferably connected by means of a flexible tubular connection or connections 34, 35, to a source or sources of water supply, preferably to both hot and cold water supply, the flexible connections having the object of providing a permanent non-leaking connection, permitting free tilting movement of the bidet from one of its extreme positions to the other.

Means should be provided within convenient reach of the user for regulating the liquid flow through each connection, in order to control the temperature of the water delivered to the bidet.

Such regulating means may be placed at any convenient point along the pipe line, or else they may be mounted directly onto the side of the bidet, as clearly shown in Figs. 2 and 3. In the same it is seen that flexible tubular connections 34, 35, lead to a valve structure attached to the side of the bidet, said valve structure comprising a body 36, two valves 37, 38, controlling the flow through connections 34, 35, respectively, and a common outlet pipe 39 extending within the bidet at a point located substantially along the central longitudinal line of the bidet.

Outlet pipe 39 is preferably arranged so as to be adapted to optionally discharge water in the form of an upwardly directed jet or spray, or else to discharge it in an other than upward direction within the basin of the bidet itself. In the one case, the water issuing through the nozzle of the outlet pipe will be projected directly against the exposed part of the user's body and in the other the water will merely fill the bidet without danger of the user's clothes getting wet.

In the arrangement illustrated I make use of a special nozzle which is shown in detail in Figs. 4 and 5. In the same it is seen that at its outer end the pipe 39 carries a forked head 40, provided with a nozzle 41, which is tiltable from a substantially horizontal position shown in dotted lines at 41' in Fig. 4, to the vertical position shown in full lines in the same figure.

When the nozzle is in the position shown in dotted lines, water will be discharged therefrom in a direction substantially tangential to the inner surface of the bidet, whereas when the nozzle is tilted to its vertical position the water will be projected upwardly for direct bathing.

In order to insure setting of the nozzle at the proper position its hub portion 42 is shown provided with two peripheral notches, such as 43, adapted to be engaged by a snap spring 44, as Fig. 4 clearly shows.

It will be observed that in the arrangement shown the bidet rests on top of the closet bowl and is, therefore, at least as wide as the bowl itself, so that ample room is provided not only in a front to rear direction but also transversely thereof.

However, I have found that in practice if sufficient room is provided at the front for the insertion of the user's hand, the width of the bidet proper becomes of secondary importance, although it is always an advantage for the bidet to be wide enough to expose a major portion of the user's body.

My inventive idea can also be applied in connection with toilet seats of the open-front type where the bidet can be lowered directly on top of the seat, the front portion of the bidet extending downwardly between the two front ends of the seat to substantially reach the upper surface of the bowl.

By virtue of this arrangement, the distance separating the top of the bowl from the top of the seat is utilized for increasing the depth of the front portion of the bidet, so that the top of the bidet need not unduly project above the top of the seat. Such an arrangement permits the use of the same pivotal support for the bidet and the seat, as Figs. 6, 7, clearly show.

In the same it is seen that 45 designates the closet bowl, provided with an open-front seat 46,

and **47** designates the bidet, which is preferably formed with a front extension **48**, both the seat and the bidet, as well as the bidet cover **49**, being pivoted on the same pivotal support **50** at the rear, and providing a structure which is simpler to operate than that shown in Figs. 1 and 2, in that it is not necessary to raise the seat in order to lower the bidet.

In Fig. 8 I illustrate the possibility of using the same arrangement with a bidet **51**, which does not extend beyond the front of the closet bowl, such an arrangement being preferable to those previously described only when lack of space prevents the use of the longer type of bidet. The width of the bidet in both cases is not dependent upon the width of the seat, but can be narrower or wider than said seat, or of equivalent width.

Fig. 7 illustrates a bidet which is somewhat narrower than the seat merely in order to prove that my invention is not subject to limitations as to width or length; but conversely it is to be understood that in practice I prefer to use a bidet about as wide as the toilet seat in order to increase the efficacy of its use.

In said Figs. 6, 7, 8, I show the bidet provided with an outlet pipe **52**, equipped at the end with a nozzle arrangement somewhat simpler than and different from that illustrated in Figs. 1 to 5. Said arrangement is shown in detail in Figs. 9 and 10, in which it is seen that outlet pipe **52** has its outer end **53** bent upwardly and provided with a nozzle **54**, having a threaded portion **55**. A deflecting shell **56**, provided with downwardly directed openings **57**, can be screwed onto the threaded portion **55** of the nozzle.

When deflecting shell **56** is inserted in position, as shown in Fig. 9, water issuing from the nozzle will be deflected downwardly through openings **57** against the bottom of the bidet and such an arrangement will normally be used when the bidet must be filled for a sponge or equivalent bath. When the deflecting shell is removed, as shown in Fig. 10, water will issue from the nozzle in an upwardly directed jet or spray, which will be projected against the body of the user.

From the foregoing it will be seen that I provide a bidet attachment for water closets, of an entirely practical construction, making it possible to materially extend the field of usefulness of the water closet itself.

The constructional details of my invention may vary from those shown without involving any material departure from the inventive idea. The drawings should, therefore, be understood as being intended for illustrative purposes only and not in a limiting sense.

I accordingly reserve the right to carry my invention into practice in all those ways and manners which may enter fairly into the scope of the appended claims.

I claim:

1. A bidet adapted to be placed on top of a water closet provided with a seat open at the front end, the front end portion of said bidet being adapted to project downwardly within the space left open at the front end of said seat.

2. A bidet adapted to be placed on top of a water closet provided with a seat open at the front end, the front end portion of said bidet being adapted to project downwardly within the space left open at the front end of said seat, and extending beyond said seat.

3. The combination, with a water closet comprising a bowl and a seat open at the front end, of a bidet hingedly attached onto said bowl, the front end portion of said bidet being adapted to project downwardly within the space left open at the front end of said seat.

4. The combination, with a water closet comprising a bowl having a rear extension, and a seat open at the front end hingedly attached onto said extension, of a bidet also hingedly attached onto said extension, said bidet being adapted to be lowered over said seat, the front end portion of said bidet projecting downwardly within the space left open at the front end of said seat, when lowered into operative position.

5. The combination, with a water closet comprising a bowl and a bidet hingedly attached onto said bowl, of an open end seat formed of two separate longitudinal sections, each section being pivotally mounted at an angle to the pivotal axis of said bidet, so as to spread apart when raised from their lowermost to their uppermost position, thereby clearing the passage therebetween for said bidet.

6. In a device of the class described, a bidet having an outlet for discharging water within said bidet, said outlet being adapted to optionally discharge said water in the form of an upwardly directed spray or in an other than upward direction in order to fill the bidet.

7. The combination, with a water closet bowl, of a bidet hingedly attached onto said bowl, a valve structure mounted at one side of said bidet, said valve structure having inlet means adapted for attachment of a flexible tubular connection thereto, outlet means directing liquid into said bidet, and hand operable means for regulating the flow of liquid from the former to the latter.

8. The combination, with a water closet bowl, of a bidet hingedly attached onto said bowl, a valve structure mounted at one side of said bidet, said valve structure having hot and cold water inlet means each adapted for attachment of a flexible tubular connection thereto, outlet means directing water into said bidet, and hand operable means for regulating the flow of water through each inlet.

9. The combination, with a water closet bowl, of a bidet hingedly attached onto said bowl, a valve structure mounted at one side of said bidet, said valve structure having inlet means adapted for attachment of a flexible tubular connection thereto, outlet means directing liquid into said bidet, hand operable means for regulating the flow of liquid from the former to the latter, and a nozzle associated with said outlet means, adapted to optionally discharge said liquid in an upward or in an other than upward direction.

10. In a bidet, an outlet for discharging water within said bidet, said outlet comprising an upwardly directed nozzle, and a removable deflecting cap therefor, adapted to deflect downwardly the upwardly directed jet issuing from said nozzle.

11. The combination, with a water closet bowl, of a bidet hingedly attached onto said bowl, said bidet comprising a basin accessible to the hand of the user, and an upwardly directed nozzle for discharging water within said basin in the form of an upwardly directed jet.

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