March 31, 1942. A. BIGIO 2,278,055

WATER CLOSET DOUCHE

Filed March 27, 1941

Fig. 1.

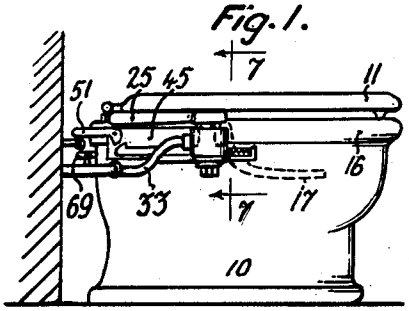


Fig. 4.

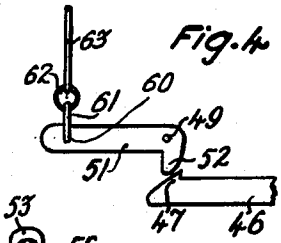
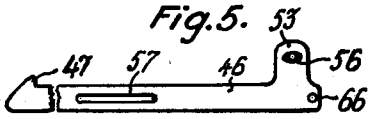


Fig. 5.



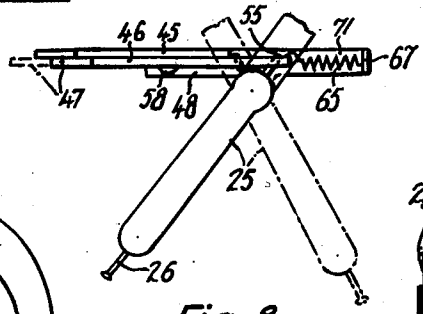


Fig. 8.

Fig. 2.

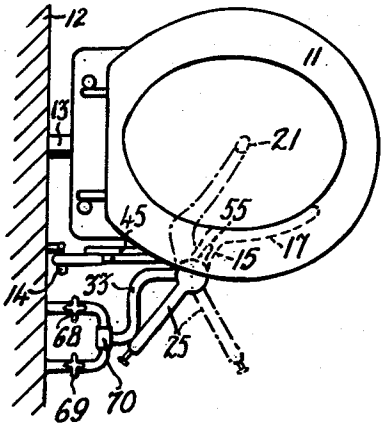
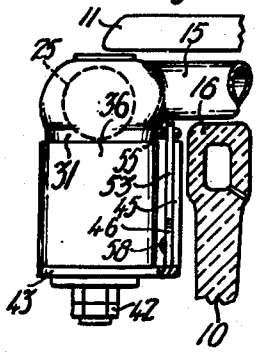


Fig. 7.



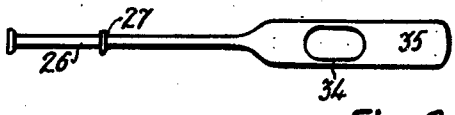
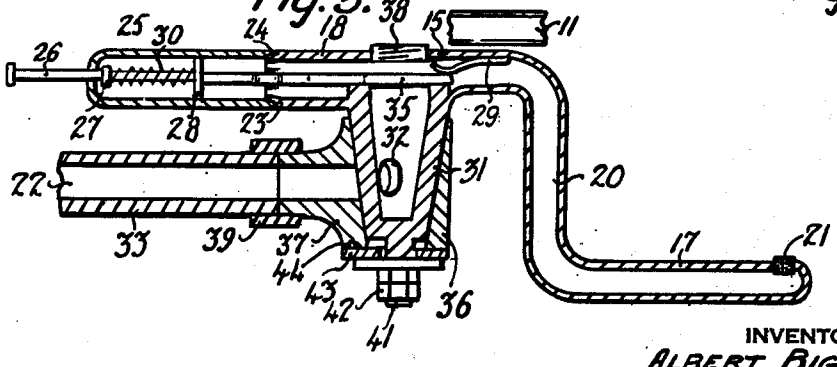


Fig. 6.

Fig. 3.



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WATER CLOSET DOUCHE

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Application March 27, 1941, Serial No. 385,503

9 Claims. (Cl. 4—7)

This invention relates generally to water closets and has particular reference to attachments for toilet bowls.

One of the objects of the invention is the provision of an attachment of this type, in the form of a douche or washing device, by which a user of a toilet seat may perform a washing operation in a sanitary manner, and may also substantially coincident with such operation, or immediately subsequent thereto, flush the toilet bowl, wherein no paper is used that may clog the siphon or sewer.

Another of the objects at present involved resides in the provision of a washing and cleansing toilet bowl attachment of a simplified nature, eliminating as it does the necessity of using bidet appliances, said attachment including tubular structures which serve double purposes, thereby also resulting reduction of parts, as compared with prior art devices.

More specifically stated, and in accordance with yet other objects of this invention, the disclosure is directed to an attachment in which a tubular handle is disposed in controlling connection with a water or fluid delivery pipe. Extending from the pipe, and adapted to be moved to different places within the bowl, above the water level thereof, is a douche member, the latter being movable by said handle, and it is another feature of the tubular handle that it has therein a member of the control means, so that the douche may be caused to operate or discharge its fluid only when in the correct or desired position.

Connected with the foregoing, and in order to secure still other objects of the invention, since the body portion or anus of the user of the seat is completely cleared of excrements, on using said handle, and means being also provided to regulate the temperature of the water or fluid, use of toilet paper, as heretofore practised, may be substantially avoided. The hands of the user are therefore maintained in an unsoiled and sanitary condition; risks of contamination, as when toilet or bath room appliances, of this nature, are used by different persons, are avoided.

Substantially all of the water striking the body will fall back into the bowl by force of gravity. The few remaining or adhering drops will quickly dry due to the heat of the body, thus eliminating the unsanitary operation of touching the body with any towel or paper.

Paper is sometimes thrown aside after being used and serves to contaminate the surroundings. Insects alight on it and spread disease by carrying the microbes and even cause epidemics.

The washing of the lower parts of the body with cold water during summer stimulates the circulation so that in warm climates especially, the douche may be used to tone the body at times of fatigue.

The trouble of supplying large establishments with toilet paper is eliminated. Water is needed for flushing the toilets and no additional arrangements need be made to insure a supply. The army can greatly benefit by not being encumbered with carrying large quantities of paper which take up large amounts of valuable space. The avoidance of the use of paper will prevent outbreaks of dysentery, typhoid fever and other sickness that spread where a large number of people are together. The poor people which are the majority of the population must economize on toilet paper and resort to using newspaper, market paper and other harsh and contaminated papers. This is another reason for much sickness among the poor. If the douche is used, the poor will not be forced to economize on toilet paper and it will result in better health among those who need good health most. The douche will always be available while toilet paper is missing sometimes due to poverty and sometimes due to carelessness.

If the hands are accidentally soiled when toilet paper is used there are not always facilities for washing them. The person must then go about with soiled hands, spreading microbes, until he reaches home or a friend's house or office. By using the douche, all such dangers are avoided.

With the above indicated objects and advantages in view, as well as others which will hereinafter appear, the invention resides in certain novel constructions and arrangements of parts, the essential features of which are herein clearly described, and fully illustrated in the accompanying drawing, in which—

Fig. 1 is a side elevational view of a toilet bowl, on which the instant cleansing device is mounted;

Fig. 2 is a top plan view of the structure of Fig. 1;

Fig. 3 is an enlarged longitudinal, central, vertical section of a douche assemblage;

Fig. 4 is an enlarged detail view, in which a modification of structure is shown;

Fig. 5 is a side elevation of an actuating bar;

Fig. 6 is a top plan view of a valve member;

Fig. 7 is a partial section on the line 7—7 of Fig. 1; and

Fig. 8 is a diagrammatic top plan view showing different working positions.

Referring in detail to said drawing, in which is shown a toilet bowl 10, the latter has thereon a hinged seat member 11, and may also have for the seat a cover, not shown, these members being well known in the art. Connected with the bowl 10, at a wall 12, is a pipe 13, through which the bowl is flushed, a handle 14, for performing the flushing operation being also shown. The lever of the handle 14 operates a flushing tank of well known construction.

The douche assembly includes a tubular body, preferably of cast metal and including a transverse portion 15, which is flattened and of particular oblate cross section, as seen in Figs. 2 and 3. The portion 15 is freely seated on the usual bead 16, or top, slightly expanded rim, of the bowl 10, and continuous with the portion 15 are an internally disposed portion including a tube 17 and an external handle having a portion 18.

Between the portions 15 and 17 of the inner extension of the douche, these portions being horizontal, is a vertical connecting part 20, and as the wall of the bowl 10, on its inner face, is substantially engaged by the arm or part 17, the latter is slightly curved and has at the end thereof a nozzle 21. To receive the nozzle 21, an aperture in the arm 17 is threaded, and in said nozzle is a group of apertures, or water discharge openings, as indicated in broken lines, Fig. 3.

The external portion 18 has at its end 23 a flange, on which are external threads, and on a flange 24 of a handle section 25 are threads which removably engage the threads 23. Within the tubular parts 25, 18 is a valve member having a finger piece 26, and fast on the stem of the finger piece 26, within the section 25, is a collar 27. Also fast in the bore of the section 25 is a perforated disc 28, through which the stem 26 passes, and as a coil spring 30 urges said disc and the collar 27, the finger piece 26 is always normally held extended.

The section 18 of the handle has integral therewith a depending hollow bearing 31, in which is a port 32, and the arrangement includes a rigid and relatively strong water supply pipe 33, the bore 22 of which, on selected occasions communicates interiorly with the member 31, this being through the port 32.

Said valve member, having the finger piece 26, has an opening 34 in its blade or leaf 35, so that on urging the blade 35 inwardly by the member 26, against the action of the spring 30, the opening 34 becomes aligned with the bore of the member 31, and therefore, on turning the handle 25, as to the position shown in dot-and-dash lines, Fig. 2, this being to align the port 32 with the bore 22 the pipe 33, water flows through the assemblage and discharges through the nozzle 21, which is then in the central position, as shown in dot and dash lines.

The side edges of the blade 35 of the valve member are formed so as to slide freely in the members 18 at its maximum diameter, and said member at its inner end is also slidable in the flattened portion 15. A threaded plug 38 is shown in the member 18 opposite the bore of the bearing 31, and pressing the blade 18 against the top seat of the bearing 31 is a leaf spring 29. The spring 29 is metallically attached to the member 15, and the plug 38 may be used to give access, for any reason, to the interior of the member or nipple 31.

Said bearing 31 is journalled in a T-union or socket 36, an arm 37 of which is threaded externally, to receive a collar 39. The collar 39 also threadedly holds the pipe 33, and the bore of the arm 37 registers with the bore 22 of said pipe, in the assembled position, thus making a reliable support for the toilet bowl douche.

The bearing 31 has a threaded tang 41, on which are nuts 42, holding the assembled members, the latter including a washer, as shown. Held against turning movement with the member 31 is a plate 43, said plate having thereon a projection or pin 44, which finds a seat in a corresponding recess in the fixed socket or union member 36.

Rising from the plate 43 is an arm 45 (Figs. 7, 1 and 2) which extends backwardly and forms a guide and support for elements which include a slide bar 46, having a shouldered or hooked end 47. The arm or plate 45 at its rearmost end has thereon a pin, as shown, in an aperture 49, and said pin pivotally holds a lever 51, having a short arm or cam 52.

The long arm of the lever 51 rests on the handle 14, in operating relation therewith, and it is a function of the bar 46 that it slides backwardly and forwardly, there being rigid with the portion 31 of the handle 25, (see Figs. 2, 7 and 8) a pin 55. The pin 55 passes through an aperture 56 in a lug 53 of the bar 46, rearwardly of the arm 45, so that as the handle 25 is moved from the full line position of Figs. 2, 8, to the broken line position, the bar 46 is moved backwardly.

The bar 46, by virtue of a horizontal flange 48 of the plate 43 (Fig. 7), and because of a slot 57, and pin 58, the latter being fast in the flange 45, is limited to horizontal movement, and as the shoulder 47 moves backwardly thereby to strike and push the cam 52, the arm 51 of the lever is raised, and cleared from the handle 14. Accordingly, there is thus no movement of said handle, and the shoulder 47 passes the cam 52, so that the arm 51 again seats itself on the handle 14. At this time the handle 25 is in the broken line position. The port 32 and bore 32 are aligned, and water is delivered through the nozzle 21 in such quantities, or for periods of such duration as desired, this being by manipulation of the finger piece 26, for selectively aligning the opening 34 with the hollow of the member or nipple 31.

While the handle 25 is positioned as just above indicated, the bowl is not flushed, but on return movement of the handle 25, after the washing operation, the shoulder 47 of the bar 46, which bar is returned by the pin 55, strikes the cam 52 with a drawing movement, urging said cam forwardly or in the return direction, and depressing the arm 51, thereby also depressing the handle 14, to flush the bowl 10. As the shoulder 47 passes the cam 52, on the return movement, said cam, and the arm 51 again return to their normal positions, as seen in Fig. 4.

If and when the handle 25 is released by the operator, while in the initially moved or broken line position, said handle is returned to the full line position automatically, there being a draw spring 65 (Fig. 8) with one end held in an aperture 66 in the bar 46, and with an opposite end held in a lug 67 of an extension 71 of the plate 43. In said Fig. 8 is illustrated operation of the pin 55, it being seen that, in the broken line position, the end 47 of the bar 46 travels a distance similar to that of the approximate end of the

pin 55, thereby to locate the bar 44 in position for operating the arm 51.

A hot water pipe having control means 68, and a cold water pipe with control means 69, are connected with the douche apparatus, there being a T-union or mixer 70, which connects with the pipe 33, so that water of the required temperature may be available.

The modification of Fig. 4 is identical with the apparatus of the other figures, except that in said modification the arm 51 is provided with an aperture 60. In the aperture 60 is a ring 61, and the ring 61 cooperates holdingly with a ring 62. A cord 63 or chain, having the ring 62 thereon, depends from a usual flush tank, and these members 61—63 give the same result, with a high tank, as the member 14 gives with a low tank.

Variations other than that shown may be resorted to within the scope of the invention and parts of the improvements may be used without others.

I claim:

1. An attachment for a water closet having a flush valve comprising in combination a laterally swingable douche member whereby said member may be swung substantially radial to the center of said closet and retracted to a position alongside the bead of the closet, and valve actuating means cooperating with said member whereby said valve is operated when said member is swung to retracted position.

2. An attachment for a water closet having a flush valve comprising a laterally swingable douche member whereby said member may be swung to a position substantially radial to the center of said closet and retracted to a position alongside the inner face of the bead of said closet and valve actuating means cooperating with said member whereby said member may be swung to radial position without actuating said valve and whereby the valve is operated by retracting said member.

3. An attachment for a water closet having a flush valve mechanism, comprising in combination a socket having a bearing bore and mounted adjacent the outer face of the bead of said closet; a bearing in said bore; a handle mounted thereon; a pin projecting radially from said bearing, and flush valve actuating means engaging said pin whereby on forward movement of the handle said means is raised and allowed to fall into operative position against said mechanism, and on rearward movement, said means will be depressed, to actuate said mechanism and then allow the mechanism to be released.

4. An attachment for a water closet, having a flushing mechanism comprising in combination a socket having an axially vertical bearing bore and mounted adjacent the outer face of the bead of said closet; a bearing in said bore; a handle mounted thereon and perpendicular thereto; an elongated, flat substantially horizontal guide mounted in a vertical plane on said bearing; a flat bar face to face with said guide and mounted for longitudinally slidable movement on said guide, the forward end of said bar being provided with an aperture; a pin opposite said handle and projecting radially from said bearing, and loosely received in said aperture; the rear end of said bar having an upwardly projecting shoulder provided with a perpendicular face toward the forward end of the bar and a downwardly sloped face to the rear; an L-lever pivotally over said bar and in the plane therewith, one arm of said lever projecting to the rear of said level and the other arm pending downwardly to be engageable with said shoulder, whereby on forward movement of the handle the rear arm of the lever is raised and allowed to fall into operative position against a flushing mechanism, and on rearward movement, said arm will be depressed, to actuate said mechanism and then allow the mechanism to be released.

5. A flush valve actuating device for use with a swinging douche comprising an elongated, flat substantially horizontal guide mounted in a vertical plane, a flat bar face to face with said guide and mounted for longitudinally slidable movement on said guide, the forward end of said bar being provided with an aperture to loosely receive a swinging pin mounted on said douche and the rear end of said bar having an upwardly projecting shoulder provided with a perpendicular face toward the forward end of the bar and a downwardly sloping face to the rear; an L-lever pivotally mounted over said bar and in the plane therewith, one arm of said lever projecting to the rear of said bar and the other arm pending downwardly to be engageable with said shoulder, whereby on rearward movement of the bar said shoulder and pending arm cooperate and the rear arm of the lever is raised and allowed to fall into operative position against a flushing mechanism and on forward movement, said arm will be depressed, and actuate said mechanism and then allow the mechanism to be released.

6. An attachment for a water closet, having a water supply pipe, comprising in combination a socket connected to said pipe; a traversely swingable element mounted in said socket; said element comprising a bearing in the bore of said socket, a handle and a douche tube mounted thereon the latter projecting into the bowl of said closet and swingable by said handle from a region adjacent the bead of said bowl so as to be substantially radial to the center of the bowl; an elongated, flat substantially horizontal guide mounted in a vertical plane on said bearing; a flat bar face to face with said guide and mounted for longitudinally slidable movement on said guide, the forward end of said bar being provided with an aperture; a pin opposite said handle and projecting radially from said bearing, and loosely engaging said aperture; the rear end of said bar having an upwardly projecting shoulder provided with a downwardly sloped face to the rear; an L-lever pivotally mounted over said bar and in the plane therewith, one arm of said lever projecting to the rear of said lever and the other arm pending downwardly to be engageable with said shoulder, whereby on forward movement of the handle the rear arm of the lever is raised and allowed to fall into operative position against a flushing mechanism and the douche tube swung in operative position, and on rearward movement, the tube will be retracted, said arm will be depressed to actuate said mechanism and then allow the mechanism to be released.

7. An attachment for a water closet, comprising a bearing having one end terminating with a flat smooth surface and provided with a channel extending through said surface to form a valve port; a tubular member substantially perpendicular to the axis of said bearing and enclosing said end; a closure for said port slidably mounted in said member and having a blade portion engaging said surface, said blade portion being provided with an aperture registerable with said port; a finger piece to slide said

blade to allow said aperture and port to register; and a spring to hold said blade in engagement against said surface and absorb the shock of a water hammer resulting from the closing of said port against a stream of water passing therethrough.

8. An attachment for a water closet, having a water supply pipe, comprising in combination a socket connected to said pipe and having an opening for communication between the bore of said socket and the interior of said pipe; a swingable douche element mounted in said socket; said element comprising a bearing in said bore and having one end terminating with a flat smooth surface and provided with a channel registrable with said opening and extending through said surface to form a valve port; a tubular member substantially perpendicular to the axis of said plug and enclosing said end on one of the end portions of said member forming a handle; a closure for said port longitudinally slidably mounted in said handle and having a blade portion engaging said surface, said blade portion being provided with an aperture registerable with said port; a spring to hold said blade in engagement with said surface and to absorb the shock of a water hammer resulting from the closing of said port against a stream of water passing therethrough; a finger piece to slide said blade to allow said aperture and port to register; and a spring to return the blade to close said port.

9. An attachment for a water closet, having a water supply pipe, comprising in combination a socket connected at a point adjacent the exterior face of the bead of said closet and to said pipe and having an opening for communication between the bore of said socket and the interior of said pipe; a swingable douche element mounted in said socket; said element comprising a plug rotatably mounted in said bore and having one end terminating with a flat smooth surface and provided with a channel registerable with said opening and extending through said surface to form a valve port; a tubular member substantially perpendicular to the axis of said plug and enclosing said end, the end portions of said member forming a handle and douche tube respectively; a closure for said port slidably mounted in said handle and having a blade portion engaging said surface, said blade portion being provided with an aperture registerable with said port; a spring to hold said blade in engagement with said surface and absorb the shock of a water hammer resulting from the closing of said port against a stream of water passing therethrough; a finger piece projecting from the end of said handle to slide said blade to allow said aperture and port to register; and a spring to return the blade to close said port, whereby the element may be swung into operative position by one hand of the user and a flow of water therethrough be simultaneously controlled by the pressing of said finger piece with the thumb of the same hand.

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