

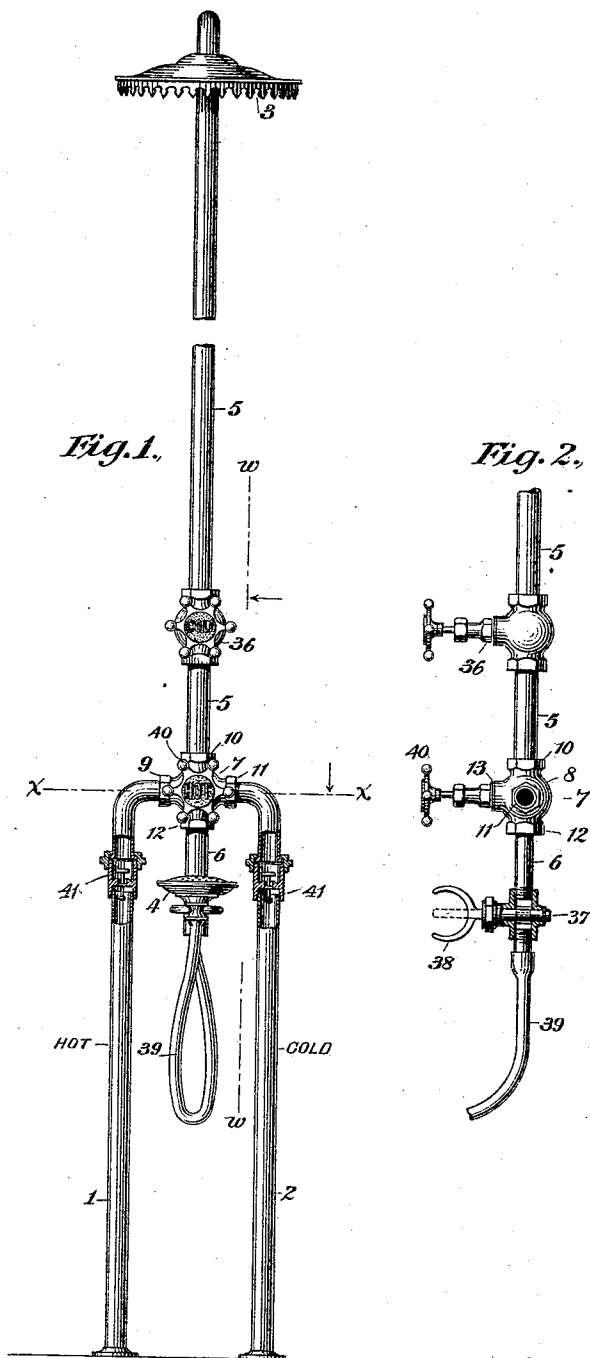
(No Model.)

2 Sheets—Sheet 1.

W. BUNTING, Jr.
BATHING APPARATUS AND VALVE THEREFOR.

No. 459,506.

Patented Sept. 15, 1891.



Witnesses
Geo. W. Breck.
Edward Thorpe.

By his Attorney

Inventor
William Bunting Jr.
Jacob Felbel.

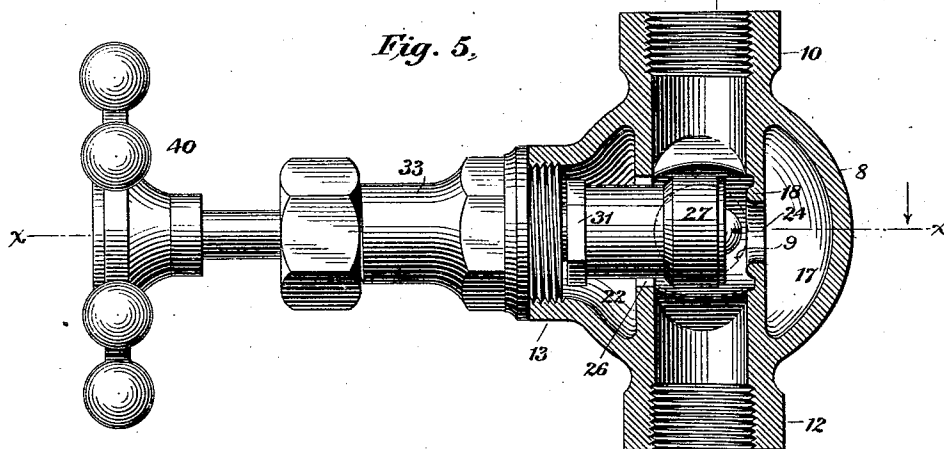
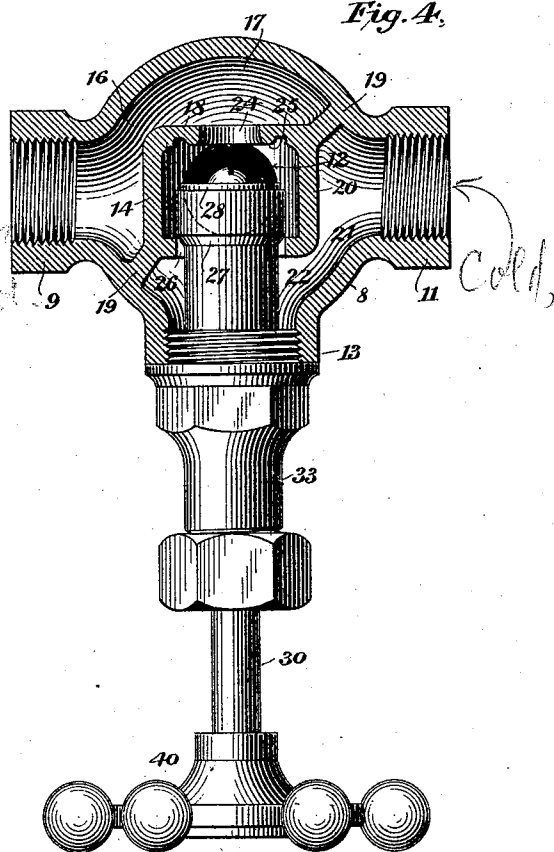
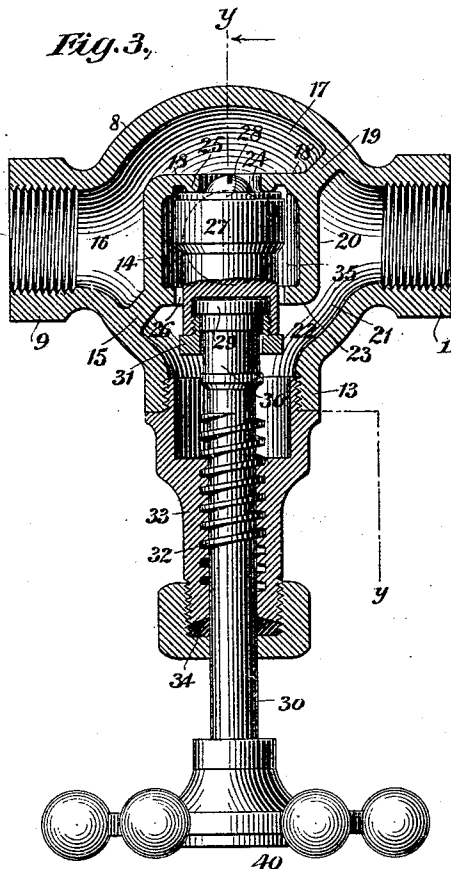
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UNITED STATES PATENT OFFICE.

WILLIAM BUNTING, JR., OF FLUSHING, ASSIGNOR TO THE MEYER-SNIFFEN COMPANY, LIMITED, OF NEW YORK, N. Y.

BATHING APPARATUS AND VALVE THEREFOR.

SPECIFICATION forming part of Letters Patent No. 459,506, dated September 15, 1891.

Application filed May 7, 1891. Serial No. 391,900. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM BUNTING, JR., a citizen of the United States, and a resident of Flushing, in the county of Queens and State of New York, have invented certain new and useful Improvements in Bathing Apparatus and Valves Therefor, of which the following is a specification.

My invention relates to bathing apparatus and cocks or valvular contrivances therefor, and has for its main objects to provide a construction whereby the hot water is compelled to mix with the cold water before it can discharge, and a construction whereby the temperature of the water discharging may be regulated to suit the desires of the user.

To these main ends my invention consists in the various features of construction and combinations of devices hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a front elevation of a bathing apparatus embodying my improvements. Fig. 2 is a partial side section thereof, taken at the line *w w*, Fig. 1. Fig. 3 is a horizontal section taken at the line *x x*, Figs. 1 and 5, of my improved valve. Fig. 4 is a similar section with the working parts in a different position. Fig. 5 is a vertical section taken at the line *y y* of Fig. 3, with the hot-water valve open.

In the several views the same part will be found designated by the same numeral of reference.

1 designates the hot-water-supply pipe and 2 the cold-water-supply pipe of a bathing apparatus, which may be of any desired construction, and which may be provided with devices for giving any of the known kinds of baths—viz., needle-spray, shower, douche, liver-spray, shampoo, &c.

In the drawings I have shown for the sake of simplicity only a shower and a shampoo device, the former being marked 3 and the latter 4.

5 is a discharge-pipe leading to the shower device, and 6 is a discharge-pipe leading to the shampoo device.

7 designates as an entirety my novel valve contrivance, to which is connected the hot and

cold water supply pipes and the pipe or pipes for effecting the discharge.

8 is a valve casing or shell, made globular, and in the case shown provided with five radiating threaded arms or horns 9, 10, 11, 12, and 13, the horns 9 and 11 and the horns 10 and 12 being, respectively, diametrically opposite each other. The hot-water-supply pipe 1 is connected to the horn 9, the shower-discharge pipe is connected to the horn 10, the cold-water-supply pipe is connected to the horn 11, and the shampoo discharge-pipe is connected to the horn 12.

The interior of the shell or casing is peculiarly constructed. 14 is a wall or partition on the hot-water-ingress side, formed integral with the shell and provided with a lateral web or extension 15. The top of the wall 14 joins the shell above the horn 9 and the bottom of the wall joins the shell below the horn 9, while the web 15 connects the wall with the shell at one side of the horn. By this construction there is formed a water-way 16 at the rear side of the wall 14, leading to a chamber 17, formed between a transverse wall 18 and the shell. The said wall 18 is joined to the shell at its top and bottom and also at one side by a web or extension 19. 20 is another wall or partition parallel with the wall 14, joining the shell at its top above the horn 11 and at its bottom below the horn 11, and at its rear side formed integral with the web or extension 19. At its front side the wall 20 is disconnected from the shell to form a passage-way 21 into a chamber 22, between the shell and a partition or wall 23, arranged parallel with the wall 18, and which joins the shell at its top above the horn 13 and at its bottom below said horn, and which at one side is made integral with the web or extension 15. The wall 18 is formed with an opening 24 and a valve-seat 25, and the wall 23 is also formed with an opening 26 in line therewith.

27 is a valve adapted to the opening 26, and 28 is another valve at the inner end of the valve 27, adapted to the seat 25. The valve 27 is made hollow at its outer extended end to receive a circular head 29 on the inner end of a valve-stem 30, and the said hollow por-

tion is threaded interiorly to receive a nut 31 for holding the valve to its stem in a manner to permit it to turn or swivel independently. The valve-stem is threaded at 32 to work in a threaded nut or support 33, screwed to the horn 13 and provided with suitable packing, as at 34. The valve portions operate in a chamber 35, formed by the four partitions or walls referred to, and the escape-horns 10 and 12 communicate directly with said chamber. The hot water from pipe 1 can enter the chamber 35 only through the opening 24, and the cold water from the pipe 2 can enter said chamber only through the opening 26. The water entering said chamber 35 can discharge therefrom either through the horn 10 and its discharge-pipe 5 or through the horn 12 and its discharge-pipe 6, according as to which pipe may be open.

In the pipe 5 is arranged an ordinary screw-valve 36 for controlling the discharge from the shower-giving device, and in the pipe 6 is a cock 37 for controlling the discharge from the shampoo-giving device. The cock 37 is provided with a bifurcated handle 38, upon which may be hooked the spray or rose of the shampoo. When the said handle is in a horizontal position, as shown at Fig. 1 and by dotted lines at Fig. 2, and thus adapted to support the spray, the cock 37 is closed, and there can be no discharge from the pipe 6 through the flexible tube or hose 39, which is connected thereto and provided with the device for giving the shampoo.

The valves 27 and 28 are shown in their normal positions at Fig. 3, the valve 28 being seated. In this condition of the apparatus the cold water from pipe 2 enters the chamber 35 through the opening 26, which is of greater diameter than the reduced extended end of the valve 27, and passes directly through the horns 10 and 12 into the pipes 5 and 6, which may be supposed now to be closed by their respective cocks. If it be desired to obtain a cold-water shower, the cock or valve 36 may be opened to permit the egress of the water from the device 3. If a cold-water shampoo or spray should be wanted, the device 4 may be unhooked from the handle of the cock 37 and the handle turned to a vertical position, as shown at Fig. 2, to open the cock. In case the bather should want a warm or hot discharge from either of the pipes 5 or 6 the hand portion 40 of the valve-stem 30 may be turned to unseat the valve 28 and allow the hot water to pass from the chamber 17 into the chamber 35 and mix with the cold water therein and in the discharge-pipes 5 and 6. The temperature of the discharging water may be regulated to suit the wish of the bather by opening the valve 28 more or less and allowing a large or smaller quantity of hot water to enter the chamber 35. The cold water cannot be entirely excluded from the chamber 35 for the reason that the valve 27 is seatless, the opening 26 being slightly greater in diameter than the valve 27. By

reason of this construction cold water can always enter the chamber 35; but the quantity of cold water entering the chamber 35 may be regulated or controlled by means of the valve 27. In the position of the valve 27 at Fig. 3 the maximum quantity of cold water may pass into the chamber 35, while in the position of said valve at Fig. 4 the minimum quantity of cold water may enter said chamber. The water-area of the opening 26 is preferably equal to that of the opening 24, so that when the valves 27 28 stand in the position shown at Fig. 5 equal volumes of hot and cold water may be admitted to the mixing-chamber 35 for discharge. It will thus be seen that by the one contrivance the temperature of the water may be regulated or graduated from cold to hot, in accordance with the desires of the bather. It will be seen, further, that upon withdrawing the valve 28 from its seat the incoming hot water must encounter the cold water and commingle therewith before it can discharge, thus obviating any liability of scalding the bather, and it will be observed, moreover, that at all times there is more or less ingress of cold water to reduce the temperature of the hot water when its valve is unseated.

In the supply-pipes 1 and 2 I prefer to employ ordinary check-valves 41 to prevent the establishment of a circulation in said pipes when the valve 27 is open and the cocks in the discharge-pipes 5 and 6 are closed or open so slightly as not to permit the escape of all the water passing up from the hot and cold water supply pipes.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the hot and the cold water supply pipe and one or more discharge-pipes, a shell or casing having a hot-water passage-way and a cold-water passage-way, a mixing-chamber arranged within said shell or casing and provided with a hot-water opening and a cold-water opening, and valves for controlling the admission of water through said openings to said chamber, substantially as set forth.

2. In combination with the hot and the cold water supply pipe and one or more discharge-pipes, a shell or casing having a hot-water passage-way and a cold-water passage-way, a mixing-chamber arranged within said shell or casing and provided with a hot-water opening and a cold-water opening, the latter being arranged to permit at all times the ingress of cold water, and a valve for controlling the admission of hot water to said chamber, substantially as set forth.

3. In combination with the hot and the cold water supply pipe and one or more discharge-pipes, a shell or casing having a mixing-chamber provided with a hot-water opening and a cold-water opening, and a compound valve arranged within said mixing-chamber and adapted to govern the admission of both hot and cold water, and thus regulate the tem-

perature of the discharge, substantially as set forth.

4. In combination with the hot and the cold water supply pipe and one or more discharge-pipes, a shell or casing having a mixing-chamber provided with a hot-water inlet and a cold-water inlet, a valve adapted to open or close the hot-water inlet, and a valve adapted to the cold-water inlet, but incapable of entirely closing the same, substantially as set forth.

5. In combination with the hot and the cold water supply pipe and one or more discharge-pipes, a shell or casing having a mixing-chamber provided with a hot-water opening and a cold-water opening, a valve adapted to close the hot-water opening, and a valve for controlling the admission of cold water smaller in size or diameter than that of the cold-water opening, substantially as set forth.

6. In combination with the hot and the cold water supply pipe and one or more discharge-pipes, a shell or casing having a mixing-chamber provided with hot and cold water openings on opposite sides, a compound or duplex valve arranged within said chamber and axially of said openings, a threaded support attached to said casing, and a threaded valve-stem swiveled to said compound valve, substantially as set forth.

7. In combination with the hot and the cold water supply pipe, each containing a check-valve, a shell or casing, a mixing-chamber arranged within said shell or casing and formed integral therewith and provided with a hot-water inlet and a cold-water inlet, valves arranged within said mixing-chamber and con-

trolling said inlets, and one or more discharge-pipes leading directly from said mixing-chamber, substantially as set forth.

8. A shell or casing having a hot-water horn or inlet, a cold-water horn or inlet, a hot-water passage-way, a cold-water passage-way, a mixing-chamber arranged within said shell or casing and between said passage-ways adapted to receive at separate points both the hot and cold water, valves for controlling the admission of water to said chamber, and one or more outlets or horns adapted to permit the escape of water from said chamber, substantially as set forth.

9. A shell or casing having a hot-water horn or inlet, a cold-water horn or inlet, a hot-water passage-way, a cold-water passage-way, a mixing-chamber arranged within said shell or casing and formed with an opening for the admission of the hot water, and an opening for the admission of the cold water, the said chamber being so constructed and the said openings so arranged that the hot water and the cold water can unite only after passing into said chamber through said openings, valves adapted to said openings for controlling the admission of water into said chamber, and one or more outlets or horns leading from said chamber, substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 5th day of May, A. D. 1891.

WILLIAM BUNTING, JR.

Witnesses:

JACOB FELBEL,
MARTIN COHEN.