R. SWIMMER.

SANITARY CURTAINLESS SOAP AND WATER SPRAY.

APPLICATION FILED JUNE 24, 1915.

1,220,704.

Patented Mar. 27, 1917.

2 SHEETS—SHEET 1.

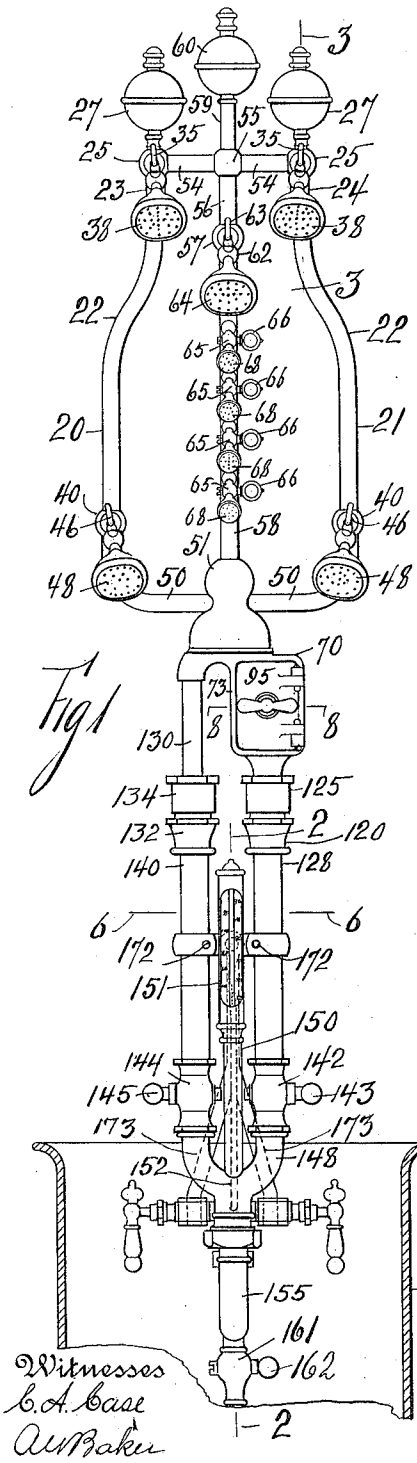


Fig 1

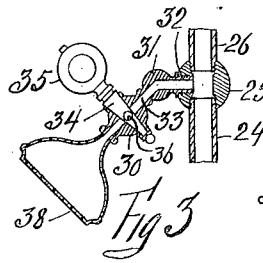


Fig 3

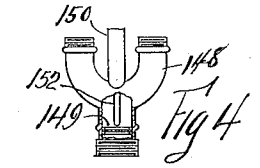


Fig 4

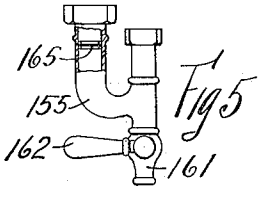


Fig 5

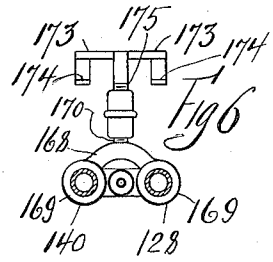


Fig 6

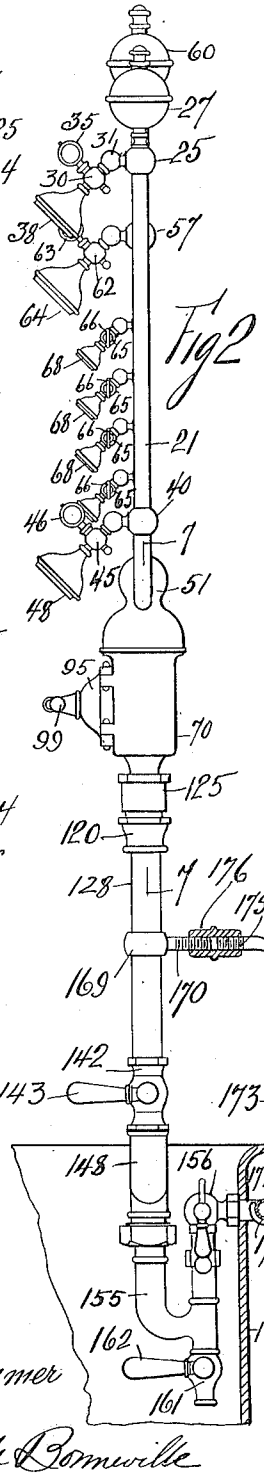


Fig 2

Witnesses
C. A. Case
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2 SHEETS—SHEET 2.

Fig 7

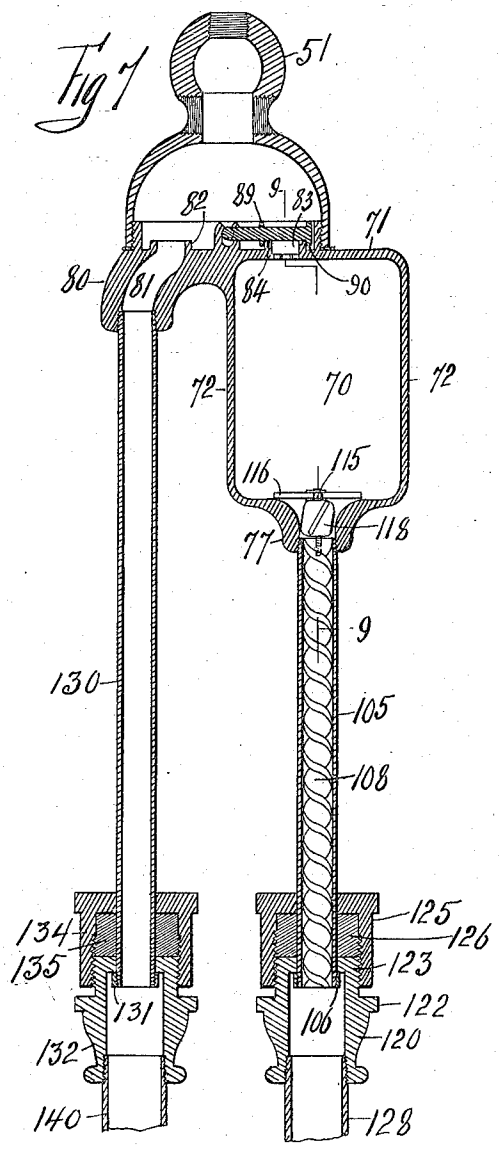


Fig 8

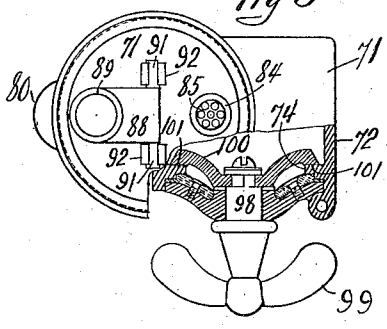
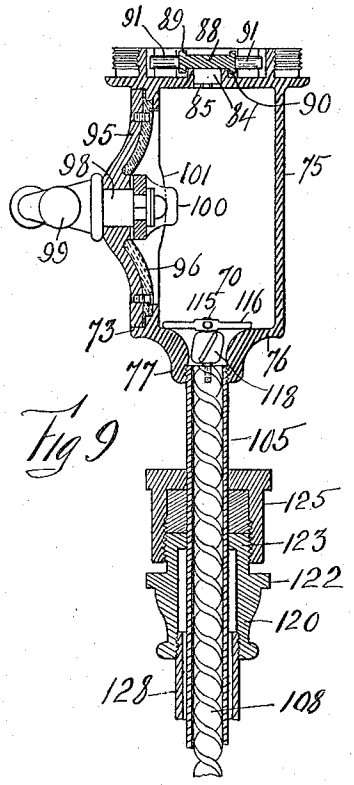


Fig 9



Witnesses:

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UNITED STATES PATENT OFFICE.

ROBERT SWIMMER, OF NEW YORK, N. Y.

SANITARY CURTAINLESS SOAP AND WATER SPRAY.

1,220,704. Specification of Letters Patent. Patented Mar. 27, 1917.

Application filed June 24, 1915. Serial No. 36,049.

To all whom it may concern:

Be it known that I, ROBERT SWIMMER, a citizen of the United States, and a resident of the borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Sanitary Curtainless Soap and Water Sprays, of which the following is a specification.

This invention relates to a sanitary curtainless soap and water spray. Its organization comprises special novel and adjustable means to direct sprays of fluid that will intersect each other and remain within predetermined limits, like the edges of an ordinary bath tub or shower room.

Appurtenances are provided to shut off any of the sprays, to obtain any combination thereof that may be desirable. The invention is further characterized by a novel construction to dissolve a solvent material, soap, tablets, salt or the like. Appurtenances are provided to give the fluid that flows through a receptacle containing the solvent material a twirling movement, to enhance dissolving said material in an efficient manner. This novel feature is produced by the coaction of a spiral guide and a propeller wheel.

In the accompanying drawings Figure 1 represents a front elevation of an exemplification of the invention connected to the faucet of a bath tub; Fig. 2 shows a right hand side view of Fig. 1 with a partial section as on the line 2, 2, of Fig. 1; Fig. 3 shows an enlarged section of Fig. 1 on the line 3, 3; Fig. 4 represents an elevation of a detail partly in section; Fig. 5 shows an elevation of a detail partly in section; Fig. 6 is a section of Fig. 1 on the line 6, 6; Fig. 7 represents an enlarged section of Fig. 2 on the line 7, 7; Fig. 8 is a top plan view of some details and an enlarged partial section of Fig. 1 on the line 8, 8; Fig. 9 shows a section as on the broken line 9, 9 of Fig. 7.

The spray is shown to comprise the pipe frame having the two main vertical members 20, 21, which converge with easy sweeps 22 to the converged members 23, 24. Spherical connections 25 are connected to the upper ends of the converged members 23 and 24. Nipples 26 extend from the spherical connections 25 and support the air chambers 27. Valve casings 30, with the bulbs 31 and nipple ends 32 are in threaded engagement with the spherical connection 25. The axial line of the nipple end 32 is inclined to the axial line of the casing 30. Each casing 30 with its appurtenances has formed therein a port 33. A plug valve 34 with the handle 35 and port 36 coacts with a seat formed in the valve casing 30. A spray head 38 extends from the casing 30.

Spherical connections 40 similar to the connections 25 are connected to the lower ends of the two main vertical members 20 and 21.

To the spherical connections 40 are connected valve casings 45 with appurtenances which are similar to the valve casing 30 and its appurtenances. The handle of the plug valve in the casing 45 is designated by the numeral 46 and the spray head for the latter casing is designated by the numeral 48. Lower curved members 50 of the frame have each one end connected to its accompanying spherical connection 40, and the other ends of the members 50 are secured to the combined spherical fitting and bonnet 51.

Cross pipes 54 have one end each connected to its accompanying spherical connection 25, and the other ends of said cross pipes are connected to the spherical connection 55. A vertical pipe 56 connects the spherical connection 55 with the spherical connection 57 and a central vertical pipe 58 connects the spherical connection 57 with the combined spherical connection and bonnet 51. A pipe 59 extends from the spherical connection 55 and an air chamber 60 caps the pipe 59. To the spherical connection 57 is connected a valve casing 62 with appurtenances which are similar to the valve casing 30 and its appurtenances. The handle of the plug valve in the casing 62 is designated by the numeral 63, and the spray head for the latter casing is designated by the numeral 64.

To the central vertical pipe 58 are fitted a plurality of valve casings 65 with appurtenances which are similar to the valve casing 30 and its appurtenances. The handle of the plug valve in each casing 65 is designated by the numeral 66 and the spray head for each of the latter valve casings is designated by the numeral 68.

The combined spherical fitting and bonnet 51 is in threaded engagement and supported upon the receptacle designated in its entirety by the numeral 70. The receptacle

comprises the roof 71, side walls 72, front wall 73 with the opening 74, rear wall 75, bottom wall 76 with the tapered pipe connection 77. The roof 71 has formed therewith the by-pass pipe connection 80, with the port 81 and the valve seat 82.

A port 83 with the valve seat 84 is formed in the roof 71 and a screen 85 is secured in the port 84. A valve 88 with the annular flanges 89 and 90 and the hinge pins 91 are hinged in hinge lugs 92 extending from the roof 71. To the front wall 73 of the receptacle 70 is hinged a door 95 which has connected to its inner face packing material 96. A pivot 98 with the handle 99 is pivoted in the door 95 and has fastened thereto the latch bar 100 which bears against curved bearing lugs 101 which are formed on the inner surface of the front wall 73 of the receptacle 70. A vertical inlet pipe 105 has its upper end in threaded engagement with the pipe connection 77 and its lower end has a collar 106. A helical guide 108 is secured within the pipe 105 and from its top end extends a journal pin 115. A cross bar 116 is fastened to the upper end of the pin 115 and a propeller wheel 118 is journaled on said pin. A pipe fitting 120 has formed therewith the roof 121 which has an opening for the pipe 105. The fitting 120 has formed therewith the hexagonal portion 122 and above the latter is formed the threaded portion 123. A cap 125 has an opening for the pipe 105 and is in threaded engagement with the threaded portion 123. Packing 126 surrounds the pipe 105 in the cap 125 and with it constitutes a stuffing box for the pipe 105. A pipe 128 has its upper end in threaded engagement with the fitting 120, and is of a size to telescope the pipe 105. A pipe 130 with the collar 131 has its upper end in threaded engagement with the by-pass pipe connection 80. A fitting is indicated at 132 which is similar to 120, and the pipe 130 passes through its roof 133. A cap 134 similar to the cap 125 is in threaded engagement with the upper end of the fitting 132. Packing 135 surrounds the pipe 130 in the cap 134 which with the latter constitutes a stuffing box for said pipe 130. A vertical inlet by-pass pipe 140 has its upper end in engagement with the fitting 132, and is of a diameter to telescope the pipe 130. At the lower end of the pipe 128 is connected the regulating valve 142 with its operating handle 143, and at the lower end of the pipe 140 is connected the regulating valve 144 with its operating handle 145.

A Y shaped fitting 148 having the screen 149 is connected to the two valves 142 and 144. A barrel 150 extends up from the fitting 148 and has connected thereto a thermometer 151, the tube 152 of which extends into the lower portion of the fitting 148.

An elbow shaped fitting 155 is connected to and supports the Y shaped fitting 148, and is in turn connected to the faucet fitting 156 of a bath tub 160. A valve 161 with the operating handle 162 is connected to the elbow shaped fitting 155 beyond the channel in the same.

A screen 165 is secured in the fitting 155.

A detachable clamp 168 with the collars 169 and threaded stud 170 is clamped to the pipes 128 and 140 by means of the screws 172. A clamping bracket has formed therewith the members 173 having the heels 174 and a stud 175. A right and left hand coupling 176 connects the studs 170 and 175. When the spray is in position the heels 174 engage the piping 178 connected to the bath tub 160.

To operate the invention the spray is connected to the faucet fitting 156 of the bath tub with the clamping bracket having the members 173 in place. In case clear streams of water are to be discharged from the spray heads the valve 144 is turned to its open position and the valve 142 is turned to its closed position, the valve 161 being located in its closed position. The water from the piping 178 flows through the fitting 155, and after passing through one leg of the Y 148 enters the pipe 140. From the latter it enters the pipe 130 from which it is discharged into the combined spherical fitting and bonnet 51. From the latter the water enters the curved members 50 of the frame. The water then travels up the vertical members 20, 21 and the central vertical pipe 58, to be discharged from the different spray heads, the air chambers 27 and 60 preventing water hammer. The number of outlets depends upon the number of plug valves like 34 which the user has placed in an open position. For a direct shower all of the valves that control the discharge from the spray heads are open. For a spine shower all of the spray heads are placed out of commission excepting those connected with the vertical central pipe 58.

If sprays at a low elevation are required, all the spray heads except those indicated by the numerals 48 are maintained out of commission.

If the water to be discharged from the spray heads is to be soap water, or have dissolved therein any solvent material, which may be placed in the receptacle 70, the valve 144 is placed in its closed position and the valve 142 is turned to its open position and the valve 161 is still maintained in its closed position. With the valves located as just described the water flows up the pipe 105 and is given a twirling movement by the helical guide 108. The water impinges against the propeller wheel 118, rotating the latter violently and twirls rapidly around the cake of soap or other material that may be in the receptacle 70. The momentum of

the fluid as it leaves the said receptacle opens the valve 88 and automatically swings it from the valve seat 84 to the valve seat 82.

The spray head can be adjusted to different levels by raising or lowering it as required, the friction of the packing 126 and 135 maintaining the pipes 105 and 130 in various different positions.

The directions of discharge from the spray heads can be changed to various positions by turning the nipple ends like 32 to different positions with respect to its spherical connection like 25.

Having described my invention what I desire to secure by Letters Patent and claim is:

1. In a spray of the character described the combination of a pipe frame consisting of two main vertical members, a converged member formed at the upper end of each main vertical member, a lower curved member at the lower end of each main vertical member, a combined fitting and bonnet connecting the lower curved members, a fitting at the top of each converged member, an air chamber for the latter fitting, cross pipes extending from the latter fittings, a fitting connecting the cross pipes, a central vertical pipe between the latter fitting and the said combined fitting and bonnet, a pipe extending up from the fitting connecting the cross pipes, an air chamber for the latter pipe, valve casings adjustably connected to the frame, a valve for each valve casing and a spray head for each valve casing.

2. In a spray of the character described the combination of a frame, spray heads for the frame, means to adjust the spray heads to different positions, a combined fitting and bonnet supporting the frame, a receptacle for a material to be dissolved supporting the combined fitting and bonnet and having a port with a valve seat and having a by pass connection with a port and valve seat, a valve hinged between the valve seats to coact with either one automatically, means to conduct a fluid through the frame by way of the receptacle and means to conduct a fluid through the frame by way of the by-pass connection.

3. In a spray of the character described the combination of a frame, spray heads for the frame, a combined fitting and bonnet supporting the frame, a receptacle having a by-pass connection supporting said combined fitting and bonnet, a pipe leading to said by-pass connection, a pipe leading to said receptacle, a stuffing box at the inlet end of each of said pipes, a pipe leading to each stuffing box, the first two pipes clamped by said stuffing boxes and each of diameters to descend into the pipe leading to its accompanying stuffing box, a valve in each pipe leading to the stuffing boxes, a Y shaped fitting supporting the two latter pipes and a thermometer connected to the Y shaped fitting.

4. In a spray of the character described the combination of a frame, spray heads for the frame, a receptacle having a by-pass connection coacting with the frame at its inlet end, a pipe leading to the by-pass connection, a pipe leading to the receptacle, a pipe leading to each of said pipes and to telescope with the same, a valve in each of the latter pipes, a Y shaped fitting supporting the latter two pipes, an elbow shaped fitting supporting the Y shaped fitting, a valve connected to the latter fitting, the latter fitting connected to the faucet fitting of a bath tub and adjustable and detachable clamping means connecting the spray to said bath tub.

5. In a spray of the character described the combination of a frame, spray heads for the frame, a pair of pipes leading to said frame, a second pair of pipes to telescope with said first pair of pipes and valves for each of the latter pipes, a Y shaped fitting supporting said valves, a fitting connecting the Y shaped fitting and the faucet fitting of a bath tub, a detachable clamp fastened to the latter two pipes, a stud formed with said clamp and a clamping bracket having a stud at one end and heels at the other end interposed between said detachable clamp and the piping of the bath tub.

Signed at the borough of Manhattan in the county of New York and State of New York this 14th day of June, A. D. 1915.

ROBERT SWIMMER.

Witnesses:

A. A. DE BONNEVILLE,

C. A. CASE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."