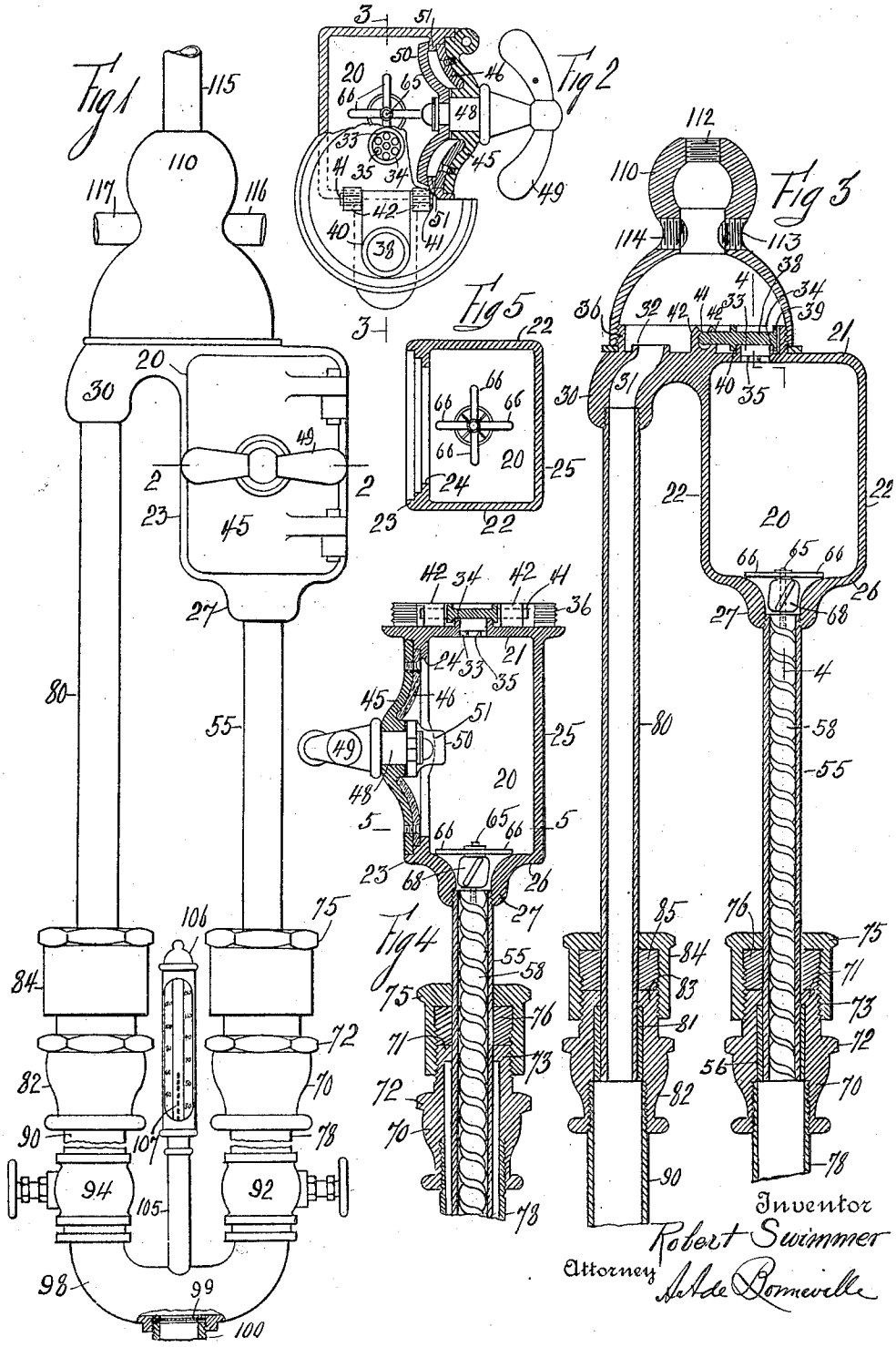
R. SWIMMER.

SOAP DISPENSING APPARATUS.

APPLICATION FILED JAN. 14, 1918.

1,397,344. **Patented Nov. 15, 1921.**



UNITED STATES PATENT OFFICE.

ROBERT SWIMMER, OF NEW YORK, N. Y.

SOAP-DISPENSING APPARATUS.

1,397,344. Specification of Letters Patent. Patented Nov. 15, 1921.

Application filed January 14, 1918. Serial No. 211,744.

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, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in a Soap-Dispensing Apparatus, of which the following is a specification.

This invention relates to a soap dispensing apparatus. Its object is the production of an apparatus the features of which are shown and described in my Letters Patent for sanitary curtainless soap and water spray, numbered 1,220,704 and dated March 27th, 1917. The invention is primarily used to dissolve and dispense soap with water or other fluid, but the invention can be used for other various materials or liquids that are to be dissolved or mixed with the fluid which is to be dispensed. The invention contains a receptacle or container for the material (generally soap) to be dissolved. Appurtenances are provided to give the fluid that flows through the receptacle a violent twirling movement, to enhance dissolving the material therein. This novel feature is produced by the coaction of a spiral guide and propeller wheel.

In the accompanying drawings Figure 1 represents a front elevation of the invention; Fig. 2 shows a partial top plan-view of Fig. 1 with an element removed and a partial section of Fig. 1 on the line 2, 2; Fig. 3 shows a section with some parts in full as on the line 3, 3 of Fig. 2; Fig. 4 is a section as on the line 4, 4, of Fig. 3; and Fig. 5 represents a section as on the line 5, 5 of Fig. 4.

A receptacle is indicated in its entirety by the numeral 20. It comprises the roof 21, the side walls 22, the front wall 23 with the opening 24, the rear wall 25 and the bottom wall 26 with the tapered pipe connection 27. The roof 21 has formed therewith the by-pass connection 30, having the port 31 and the valve seat 32. A port 33 with the valve seat 34 is formed in the roof 21, and a screen 35 is secured in the port 33. An annular flange 36 extends up from the roof 21 and by-pass connection 30. A valve 38 has formed therewith the annular flange 39 on one face thereof and the annular flange 40 on the opposite face. Hinge pins 41 on said valve engage hinge lugs 42 extending from the roof 21. To the front wall 23 of the receptacle 20 is hinged a door 45 which has connected to its inner face packing material 46. A pivot 48 with the handle 49 is pivoted in the door 45 and has fastened thereto the latch bar 50, which bears against curved bearing lugs 51, that are formed on the inner face of the front wall 23 of the receptacle 20.

A vertical inlet pipe 55 has its upper end in threaded engagement with the pipe connection 27 and its lower end has a collar 56.

A helical guide 58 is secured within the pipe 55 and from its top end extends a journal pin 65. A brace with four arms 66 is fastened to the upper end of the pin 65 and bears upon the inner face of the bottom wall 26. A propeller wheel 68 is journaled in the pin 65. A pipe fitting 70 has formed therewith the roof 71 in which latter is formed an opening for the pipe 55. The fitting 70 has formed therewith the hexagonal portion 72 and above the latter is formed the threaded portion 73. A cap 75 has an opening for the pipe 55 and is in threaded engagement with the threaded portion 73. Packing 76 surrounds the pipe 55 in the cap 75 and with it constitutes a stuffing box for the pipe 55. A pipe 78 has its upper end in threaded engagement with the fitting 70 and is of a size to telescope with the pipe 55. A pipe 80 with the collar 81 has its upper end in threaded engagement with the by-pass connection 30. A fitting is indicated at 82 which is similar to 70, and the pipe 80 passes through its roof 83. A cap 84 similar to the cap 75 is in threaded engagement with the upper end of the fitting 82. Packing 85 surrounds the pipe 80 in the cap 84, which with the latter constitutes a stuffing box for the pipe 80. An inlet by-pass pipe 90 has its upper end in threaded engagement with the fitting 82, and is of a diameter to telescope with the pipe 80. At the lower end of the pipe 78 is connected the regulating valve 92, and at the lower end of the pipe 90 is connected the regulating valve 94.

A Y shaped fitting 98 with a screen 99 is connected to the two valves 92 and 94 and a main supply pipe 100 connects with the fitting 98. A barrel 105 extends up from the fitting 98 and has connected thereto a thermometer 106. The tube 107 of the thermometer extends into the lower portion of the fitting 98. A combined spherical fitting and bonnet 110 is in threaded engagement with the flange 36. It has the threaded out-

lets 112, 113 and 114, respectively for the outlet pipes 115, 116 and 117. The said pipes 115 to 117 are usually elements of a bath spray not shown.

To use the invention it is first determined whether clear water or soap water is to be discharged from the pipes 115, 116 and 117. In case clear water is to be discharged, the valve 94 is turned to its open position and the valve 92 is turned to its closed position. The water from the supply pipe 100 flows through the fitting 98 and then up and through the pipes 90 and 80. In case the valve 38 is covering the port 31 the water will force said valve open and swing it to cover the port 33. The water then enters the combined spherical fitting and bonnet 110 on its way to be discharged from the latter without entering the receptacle 20.

If the water to be discharged is to be soap-water, or has dissolved therein any solvent material, or mixed therewith any material which may be placed in the receptacle 20, the valve 94 is closed and the valve 92 is opened. The fluid or water then flows up the pipes 78 and 55. When the water flows up the pipe 55 it is given a violent twirling movement by the helical guide 58. The water in passing the propeller wheel 68, rotates the latter violently and the twirling movement of the water is enhanced. The water then twirls rapidly around the cake of soap or other material that may be in the receptacle 20.

The momentum of the fluid as it leaves the said receptacle 20 uncovers the valve 38 from the port 33, in case it covers the latter and automatically swings said valve to cover the port 31.

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

1. In an apparatus of the character described the combination of a receptacle having a by-pass connection, a valve automatically coacting between the receptacle and the by-pass connection by means of the momentum of the fluid used in the apparatus, a pipe leading to the by-pass connection, a pipe leading to the receptacle and a propeller wheel journaled in the receptacle over the opening of the pipe connected thereto.

2. In an apparatus of the character described the combination of a receptacle having a by-pass connection, a valve automatically coacting between the receptacle and the by-pass connection by means of the momentum of the fluid used in the apparatus, a pipe leading to the by-pass connection, a valve in said pipe, a pipe leading to the receptacle, a valve in the latter pipe, a helical guide in the latter pipe and a propeller wheel journaled in the receptacle over the outlet opening of the latter pipe.

3. In an apparatus of the character described the combination of a receptacle for soap and the like and having a by-pass connection, a valve automatically coacting between the receptacle and the by-pass connection by means of the momentum of the fluid used in the apparatus, a pipe leading to the by-pass connection, a valve in said pipe, a pipe leading to the receptacle, a valve in the latter pipe, a helical guide in the latter pipe, a propeller wheel journaled in the receptacle over the outlet opening of the latter pipe, a combined fitting and bonnet for the receptacle and by-pass connection, and a pipe leading from said fitting and bonnet.

4. In an apparatus the combination of a receptacle, a pipe for a fluid leading to the receptacle, a helical guide in the receptacle to give the fluid a twirling movement and a propeller wheel at the discharge end of said pipe to enhance the twirling movement of said fluid.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York, this 27th day of December, A. D. 1917.

ROBERT SWIMMER.

Witnesses:
A. A. DE BONNEVILLE,
LOUIS F. STUMPF.