

Oct. 9, 1928.

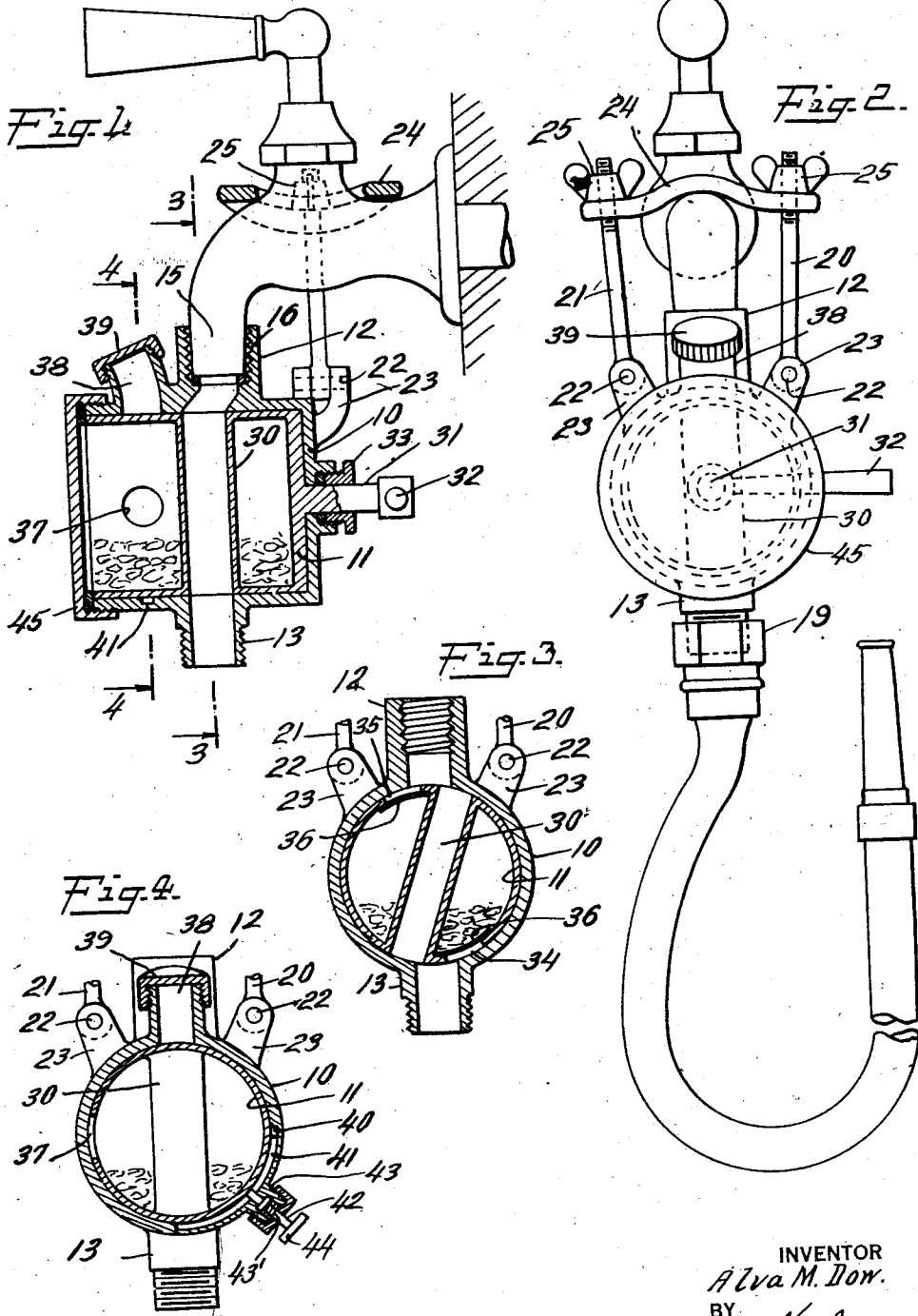
1,687,085

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SPRAYING APPARATUS

Filed Sept. 22, 1926

2 Sheets-Sheet 1



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Fig. 5.

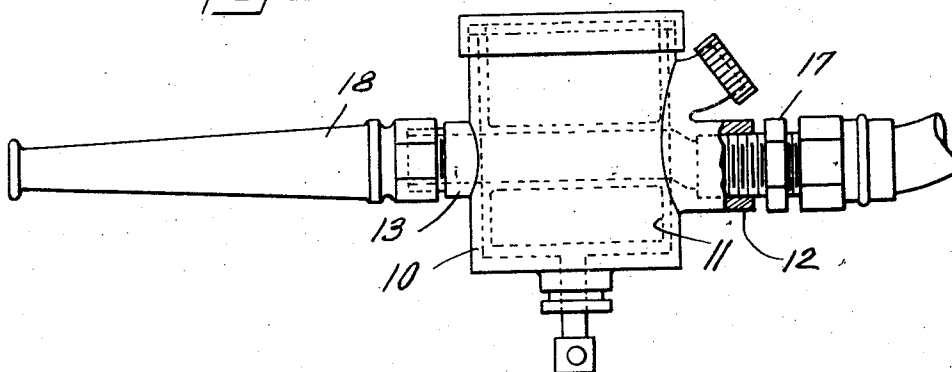


Fig. 6.

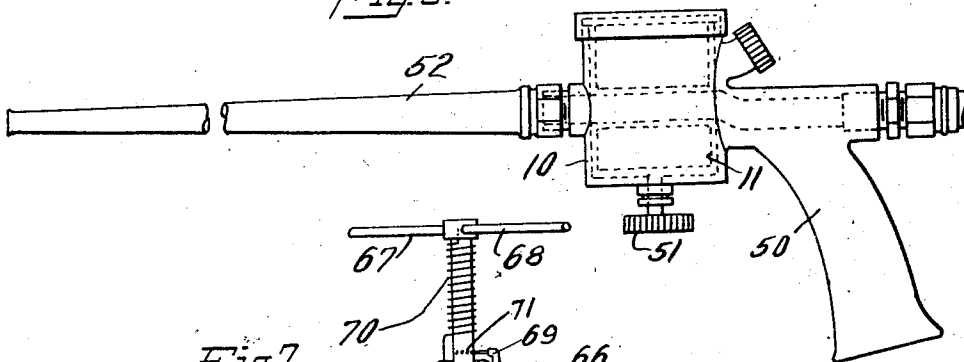
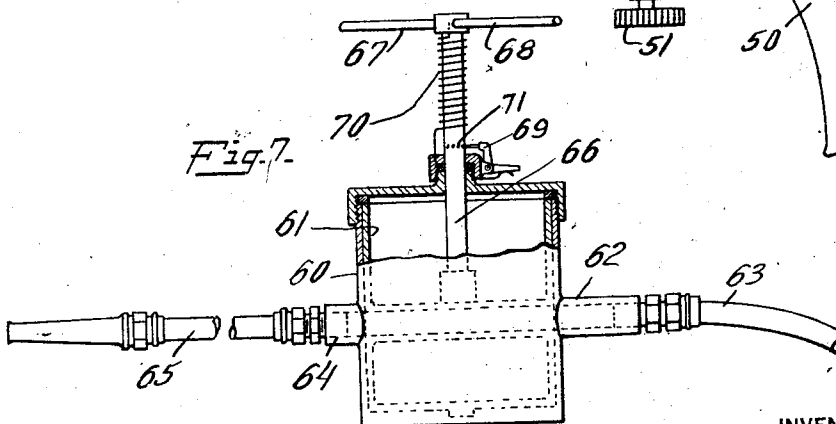


Fig. 7.



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SPRAYING APPARATUS.

Application filed September 22, 1926. Serial No. 137,002.

This invention relates to a device for directing a stream of water or treated liquid against an article to be cleansed or treated with the liquid delivered by the device.

5 The device embodying the invention may be utilized for various purposes, namely, for washing or cleansing dishes, for cleaning automobiles or any other desired article, and furthermore, for spraying or treating animals, trees or shrubs with insecticides, etc.

10 Various devices have been designed and placed on the market for directing a stream of water or soap and water against dishes for washing the dishes. Such devices usually place solid soap in the path of the stream of water and rely on the passage of the water over the soap to dissolve a part of the soap. This, however, is not satisfactory since the water is not in contact with the soap a sufficient length of time to dissolve enough soap to provide an effective cleansing solution.

25 This invention has for its salient object to provide a simple and practical device of the character specified so constructed and arranged that an effective solution will be produced thereby, and furthermore, so arranged that the strength of the solution can be controlled by the user.

30 Another object of the invention is to provide a device of the character described so constructed and arranged that soft soap or jellied soap can be used therein to provide an effective cleansing solution.

35 Another object of the invention is to provide a device of the character described so constructed that the adjustable portions thereof can be easily and readily adjusted, and furthermore, having means whereby the supply of soap or other substance therein can be renewed without removing the device from the source of supply of the liquid, such as a water faucet or hose.

45 Further objects of the invention will appear from the following specification taken in connection with the drawings, which form a part of this application, and in which

Fig. 1 is an elevational view partly in section showing one form of device constructed in accordance with the invention;

50 Fig. 2 is a front elevation of the device shown in Fig. 1;

Figs. 3 and 4 are sectional elevations taken

substantially on lines 3—3 and 4—4 of Fig. 1;

Fig. 5 is an elevational view showing the device illustrated in Figs. 1 to 4 connected to a hose and provided with a nozzle for directing the stream of liquid discharged therefrom;

Fig. 6 is an elevational view showing another form of device embodying the invention; and

Fig. 7 is an elevational view showing another form of the invention.

The invention briefly described consists of a device comprising an outer casing and an inner casing rotatably mounted in the outer casing. The outer casing is adapted to be attached to a source of water or liquid supply and the inner casing has a conduit extending therethrough and adapted to establish communication between the inlet opening in the outer casing and the discharge opening of the outer casing. The inner casing also has oppositely disposed openings therein adapted to register respectively with the inlet and discharge openings of the outer casing. These oppositely disposed openings are preferably screened so that soft soap or jellied soap or substances of like consistency can be used in the device and placed in the inner casing. Furthermore, liquid chemicals, powders or any other desired materials or substances can be placed in the inner casing for injection into or mixing with the flowing stream or spray.

85 Provision is also made for renewing the supply of material in the inner casing and to accomplish this the outer casing has a filling opening and the inner casing has an opening adapted to register therewith in one position of adjustment of the inner casing. Means is provided whereby the inner casing can be adjusted to many different positions within the outer casing so as to regulate the composition or strength of the stream of liquid delivered by the device. Further details of the invention will appear from the following description.

100 In the embodiment of the invention shown in Figs. 1 to 4 inclusive, the device illustrated is particularly adapted for use as a dish washer. This device comprises an outer casing 10 and an inner casing 11 rotatably mounted in the outer casing.

The outer casing 10 has an apertured boss 12 formed thereon and extending laterally or upwardly therefrom and also has an apertured boss 13 located substantially in alignment with the boss 12 and on the opposite side of the casing. The boss 12 forms the inlet opening for the water or other liquid and the boss 13 forms the outlet opening. The boss 12 is adapted to be secured over a water faucet 15 and is threaded internally as shown at 16 to permit the attachment of a hose coupling 17 thereto, as shown in Fig. 5. The outlet boss 13 is also threaded to permit the attachment thereto of a nozzle, as shown at 18 in Fig. 5, or if desired, of a hose coupling 19, as shown in Fig. 2.

Means is provided for securing the device in position over a discharge end of a water faucet and in the particular form of the invention shown this means consists of a pair of bolts 20 and 21 hinged at 22 to lugs 23 formed on the casing 10. A yoke or cross-tree 24 is secured to the bolts at the upper ends thereof and forms with the bolts a clamp which is adjusted by thumb nuts 25.

Any other form or means for attaching the device to a faucet may be used, such for instance as a spring which may be attached to the lugs 23 and extend over the faucet.

The inner casing 11 has a conduit 30 extending diametrically therethrough and adapted in the position of adjustment shown in Figs. 1 and 4 to establish direct communication between the inlet opening of the casing 10 formed by the boss 12 and the outlet opening formed by the boss 13. The casing 11 also has secured thereto or formed thereon, a laterally projecting spindle 31 which extends through an opening in one end wall of the casing 10 and has secured to the outer end thereof a handle 32 for rotating the spindle and casing 11 within the casing 10. A bushing 33 surrounds the spindle 31 and, if desired, packing may be secured between the bushing and the casing 10.

The casing 11 also has formed therein oppositely disposed openings 34 and 35 which are preferably screened as shown at 36. A further opening 37 is formed in the casing 11 and is adapted to register with an opening 38 formed in the outer casing 10. A boss 39 having an opening therethrough communicates with the opening 38 and forms a filling mouth for receiving material and renewing the charge of material in the inner casing.

The inner casing 11 is provided with a laterally projecting stud 40 which, as shown in Fig. 4, is disposed in an elongated groove 41 formed in the inner wall of the outer casing 10. A pin 42 is slidably mounted in a boss 43 formed on the outer casing and is normally spring pressed into the groove 41 by means of a spring 43'. The pin has a head 44 on the outer end thereof.

Referring to Fig. 4 it will be seen that when

the stud 40 is disposed at one end of the groove 41 the conduit 30 registers with the inlet and discharge openings of the outer casing and establishes direct communication between these openings. Therefore, in this position of adjustment of the inner casing, clear liquid or untreated liquid will be discharged through the device. When the inner casing is rotated to a position in which the stud 40 engages the pin 42, the opening 35 will register with the inlet opening in the outer casing and the opening 34 will register with the outlet opening. The liquid will therefore pass through the inner casing and dissolve a portion of the substance therein, such as soap or any other desired material. Between these two positions of adjustment, such for instance as the position shown in Fig. 3, a part of the liquid will pass through the conduit 30 and a part will pass through the inner casing.

When it is desired to replenish the supply of material within the inner casing, the inner casing is further rotated by retracting the pin 42 to permit the stud 40 to pass to the left hand end of the groove 41 (viewing Fig. 4). In this position the opening 37 in the inner casing will register with the filling opening 38 at the outer casing.

If desired, the casing 10 may have a cap 45 at the end thereof opposite the spindle 31 and the supply of material may be replenished by removing this cap.

The device above described is particularly adapted for use as a dish washer. The device may, however, be used as shown in Fig. 5 for washing automobiles or any other article that requires cleaning.

In Fig. 6 there is shown a form of the invention particularly suited for use in washing automobiles. In this form there is shown a handle consisting of a pistol grip 50 which facilitates directing the stream in the desired direction and the adjustment of the inner cylinder is obtained by means of the rotation of a disc 51 disposed in a position to be engaged by the finger of the user. A nozzle 52 is secured to the discharge end of the device.

It will be evident that the device above described and particularly the device shown in Fig. 6 can be utilized for many purposes. For instance, such a device can be used for directing a supply of liquid such as a chemical liquid against shrubs or trees or for spraying insecticides on animals. Also, the device is adapted for use in spraying paints or other coloring matter, sand or abrasive materials in which case air, gas, steam or water pressure can be used as the projection vehicle.

Another form of the invention is illustrated in Fig. 7. This form is particularly adapted for garage use in washing cars and consists of a large container 60 having rotatably mounted therein an inner casing 61. The outer casing has an inlet connection 62 adapt-

ed to be coupled to a hose 63 and has an outlet connection 64 adapted to have connected thereto a discharge hose or nozzle 65.

The inner casing 61 is rotated to its various positions of adjustment by means of a shaft 66 to the upper end of which is secured a handle having arms 67 and 68. If desired a spring 70 may be secured to the shaft 66 to rotate the shaft and inner casing 61 in a direction to return the casing to a position in which the stream will be directed straight through the casing. A pawl 69 has a pin adapted to enter notches or holes 71 in shaft 66 to hold the shaft and casing 61 in adjusted position. Thus upon release of the pawl the spring will return the shaft and casing to the position above described. Stop means similar to those shown in Fig. 4 may be used to limit the movement of the shaft and casing 61 by the spring.

Although certain specific embodiments of the invention have been particularly shown and described, it will be understood that the invention is capable of modification and that changes in the construction and in the arrangement of the various cooperating parts may be made without departing from the spirit or scope of the invention, as expressed in the following claims.

What I claim is:

1. A device of the character described comprising a casing having an inlet opening and a discharge opening, a second casing rotatably mounted in said first casing and having a conduit therethrough but not communicating therewith, said conduit being adapted in one position of adjustment of the inner casing to establish direct communication between said inlet and outlet openings, and oppositely disposed openings in said second casing adapted to register with said inlet and outlet openings.

2. A device of the character described comprising a casing having an inlet opening and a discharge opening, a second casing rotatably mounted in said first casing and having a conduit therethrough but not communicating therewith, said conduit being adapted in one position of adjustment of the inner casing to establish direct communication between said inlet and outlet openings, and oppositely disposed openings in said second casing adapted to register with said inlet and outlet openings, said oppositely disposed openings being screened.

3. A device of the character described comprising a casing having an inlet opening and a discharge opening, a second casing rotatably mounted in said first casing and having a conduit therethrough but not communicating therewith, said conduit being adapted in one position of adjustment of the inner casing to establish direct communication between said inlet and outlet openings, and oppositely disposed openings in said second cas-

ing adapted to register with said inlet and outlet openings, and means extending through the outer casing and secured to the inner casing for rotatably adjusting said inner casing in the outer casing.

4. A device of the character described comprising a casing having an inlet opening and a discharge opening, a second casing rotatably mounted in said first casing and having a conduit therethrough adapted in one position of adjustment of the inner casing to establish direct communication between said inlet and outlet openings, oppositely disposed openings in said second casing adapted to register with said inlet and outlet openings, and a filling opening in the outer casing and an opening in the inner casing adapted to register therewith.

5. A device of the character described comprising an outer casing, an inner casing adjustable therein, an inlet and a discharge opening in the outer casing, a conduit in the inner casing extending through but not communicating with said inner casing adapted in one position of adjustment of the inner casing to establish direct communication between said inlet and discharge openings, and oppositely disposed openings in the inner casing adapted to register with the inlet and discharge openings in the outer casing.

6. A device of the character described comprising an outer casing, an inner casing adjustable therein, an inlet and a discharge opening in the outer casing, a conduit in the inner casing extending through but not communicating with said inner casing adapted in one position of adjustment of the inner casing to establish direct communication between said inlet and discharge openings, and oppositely disposed openings in the inner casing disposed adjacent to and on opposite sides of said conduit and adapted to register with the inlet and discharge openings in the outer casing.

7. A device of the character described comprising a substantially cylindrical outer casing, a substantially cylindrical inner casing adjustable therein, an inlet and a discharge opening in the outer casing, a diametrically disposed conduit in the inner casing extending through but not communicating with said inner casing adapted in one position of adjustment of the inner casing to establish direct communication between said inlet and discharge openings, and diametrically disposed openings in the inner casing adapted to register with the inlet and discharge openings in the outer casing.

8. A device of the character described comprising a casing having an inlet opening and a discharge opening, a second casing rotatably mounted in said first casing and having a conduit therethrough adapted in one position of adjustment of the inner casing to establish direct communication between said

inlet and outlet openings, oppositely disposed openings in said second casing adapted to register with said inlet and outlet openings, a filling opening in the outer casing and an opening in the inner casing adapted to register therewith, and stop means for locating the positions of adjustment of the inner casing to register the conduit with the inlet and outlet openings in the outer casing, to register the oppositely disposed openings in the inner casing with the inlet and outlet openings, and to register the filling opening in the inner casing with the filling opening in the outer casing.

In witness whereof, I have hereunto set my hand, this 13th day of September, 1926.

ALVA M. DOW.