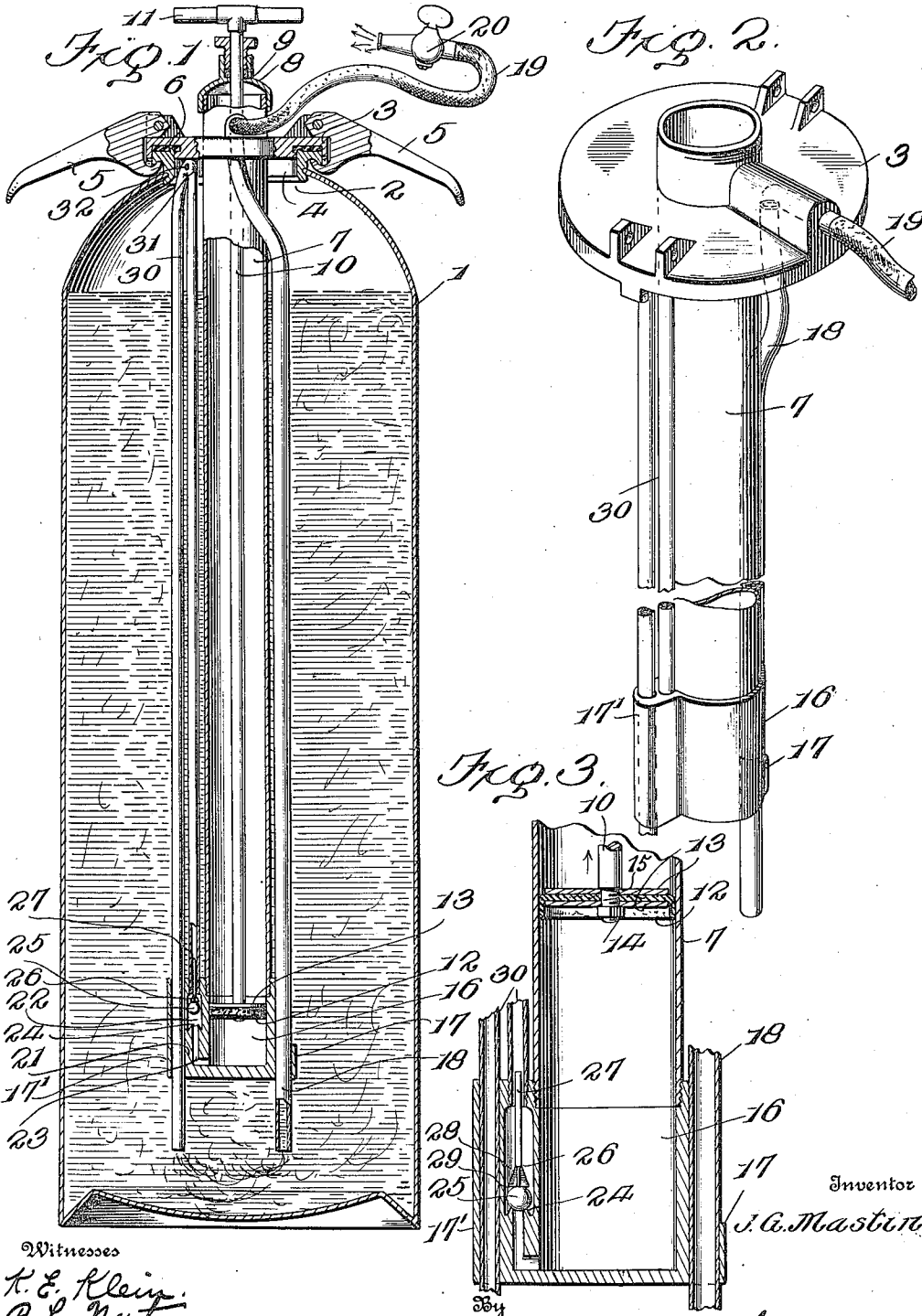


J. G. MASTIN.
 SPRAYING MACHINE.
 APPLICATION FILED JAN. 26, 1908.

961,456.

Patented June 14, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES G. MASTIN, OF CHICAGO, ILLINOIS.

SPRAYING-MACHINE.

961,456.

Specification of Letters Patent. Patented June 14, 1910.

Application filed January 26, 1909. Serial No. 474,302.

To all whom it may concern:

Be it known that I, JAMES G. MASTIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Spraying-Machines, of which the following is a specification.

My invention relates to certain new and useful improvements in spraying machines in which the liquid to be sprayed is forced out of the machine by compressed air, and the object of my invention is to produce a machine of this character which is particularly adapted for spraying solutions of varying density, such as insecticides, disinfectants, whitewash, cold water paints and the like, and which is self-contained, simple in construction, being composed of few parts and not likely to get out of order.

With these and other objects in view my invention consists in certain constructions, combinations and arrangements of parts, the preferred form of which will be first described in connection with the accompanying drawings, and then the invention particularly pointed out in the appended claims.

Referring to the drawings wherein the same part is designated by the same reference numeral wherever it occurs, Figure 1 is a longitudinal sectional view of a spraying machine embodying my invention; Fig. 2 is a perspective view of the cover plate and its attached parts removed from the tank; Fig. 3 is an enlarged sectional view of the lower end of the pump cylinder and its connected parts.

1 designates the container casing having an opening 2 in its upper end in which is secured the cover plate or cap 3, which carries all the mechanism of my invention. In the construction shown I have illustrated as a means for securing the cover plate over the opening in the container that shown in my Patent No. 890,154, granted June 9, 1908, the same consisting of a ring 4, secured around the opening 2, and the cover 3 being provided with the locking levers 5, which engage the edge of the ring and force the cover onto the ring.

6 is a rubber gasket inserted between the cover plate and the ring to make an airtight joint.

The pump barrel 7 extends through an opening formed in the cover plate and is

preferably closed at its upper end by the cap 8, perforated at 9, through which perforation loosely extends the piston rod 10 provided with the operating handle 11 at its upper end. The lower end of the rod 10 carries a plunger 12 preferably made of leather and secured between a pair of washers 13 held onto the lower end of the plunger by means of the nut 14 pressing the washers against the shoulder 15 formed by reducing the lower end of the rod. The lower end of the pump barrel 7 is closed by a cap piece 16 into the upper edge of which the pump barrel is secured by brazing or other suitable manner, the cap piece being formed on one side thereof with the lug 17, in which the fluid delivery pipe 18 is secured, the delivery pipe at its upper end passing through the cover plate 2, and at the upper end of the delivery pipe is secured the hose 19, and to the outer end of the hose I provide a nozzle 20 of any desired form. It is obvious that if desired the nozzle might be secured directly to the upper end of the delivery pipe. The cap piece 16 is formed on one side with an enlargement 21 having a chamber 22 formed in the upper end thereof, which is connected with the lower end of the interior of the cap piece by the passage way 23, whereby the lower portion of the pump barrel is connected to the chamber 22. Preferably the bottom of the chamber 22 is formed conical, as shown at 24, with the passage way 23 extending through the apex of this conical bottom, and 25 is a ball which loosely fits the chamber 22 and is a check valve for closing the end of the passage way 23.

26 is a weight which may be placed on the ball to insure its seating, the weight being shown as having an elongated tongue 27 extending upwardly, and an enlarged base portion 28 having its bottom formed with a conical face 29 which rests upon the top of the ball.

30 is a U-shaped pipe one arm of which is secured in the upper end of the chamber 22 by being brazed or otherwise secured therein, the pipe extending upwardly, so that its turn is preferably in contact with the under side of the cover plate 2 and secured to the cover plate at 31 by being brazed or soldered thereto. The other arm of the pipe preferably extends down below

the pump barrel, so that its lower end, when the parts are in position, is close to the bottom of the tank, as clearly shown in Fig. 1, this arm of the pipe being secured to the cap piece by passing through the perforated lug 17', formed on the side of the enlargement of the cap piece. At 32 I preferably provide a small vent opening which will prevent the liquid in the tank from rising in the descending arm of the tube and passing over into the pump. This vent is however so small that when the pump is operated only a very small portion of the air can pass therethrough, the major portion of the air being delivered from the end of the pipe at the bottom of the tank.

When the parts are assembled in the manner described and as shown with a liquid, such as a solution which it is desired to spray filling the tank, the operation of the pump will force air into the bottom of the tank, from which it will pass up through the liquid, causing it to "boil", and thus operate to stir up the liquid and prevent the material in solution from settling to the bottom of the tank. The result is that a proper mixture will be delivered from the nozzle and consequently the liquid delivered will always have the same strength of material in solution.

I realize that considerable variation is possible in the details of construction and arrangement of parts without departing from the spirit of my invention, and I therefore do not intend to limit myself to the specific form shown and described.

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

1. In a spraying machine, the combination with a container, of a cap for closing the container, an air pump mounted upon the cap and extending into the container, a U-shaped pipe connected at one end to the bottom of the pump and extending up along side the pump and having its lower end extending substantially to the bottom of the container, the upper portion of said pipe being provided with a small opening, and a liquid delivery pipe extending from within the container to the exterior.

2. In a spraying machine, the combination with a container, of a cover for closing the container, an air pump mounted upon the cover and extending nearly to the bottom of the container, said air pump being provided with a projection on one side of its lower portion, a valve for controlling the flow of air from the pump mounted in the projection, a U-shaped tube connected at one end to the upper end of said projection and extending up along side the pump and having its lower end passing through the projection and extending substantially to the bottom of the container, and a liquid delivery pipe extending from within the container to the exterior.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES G. MASTIN.

Witnesses:

THOS. F. ROBINSON,
G. L. ROBINSON.