

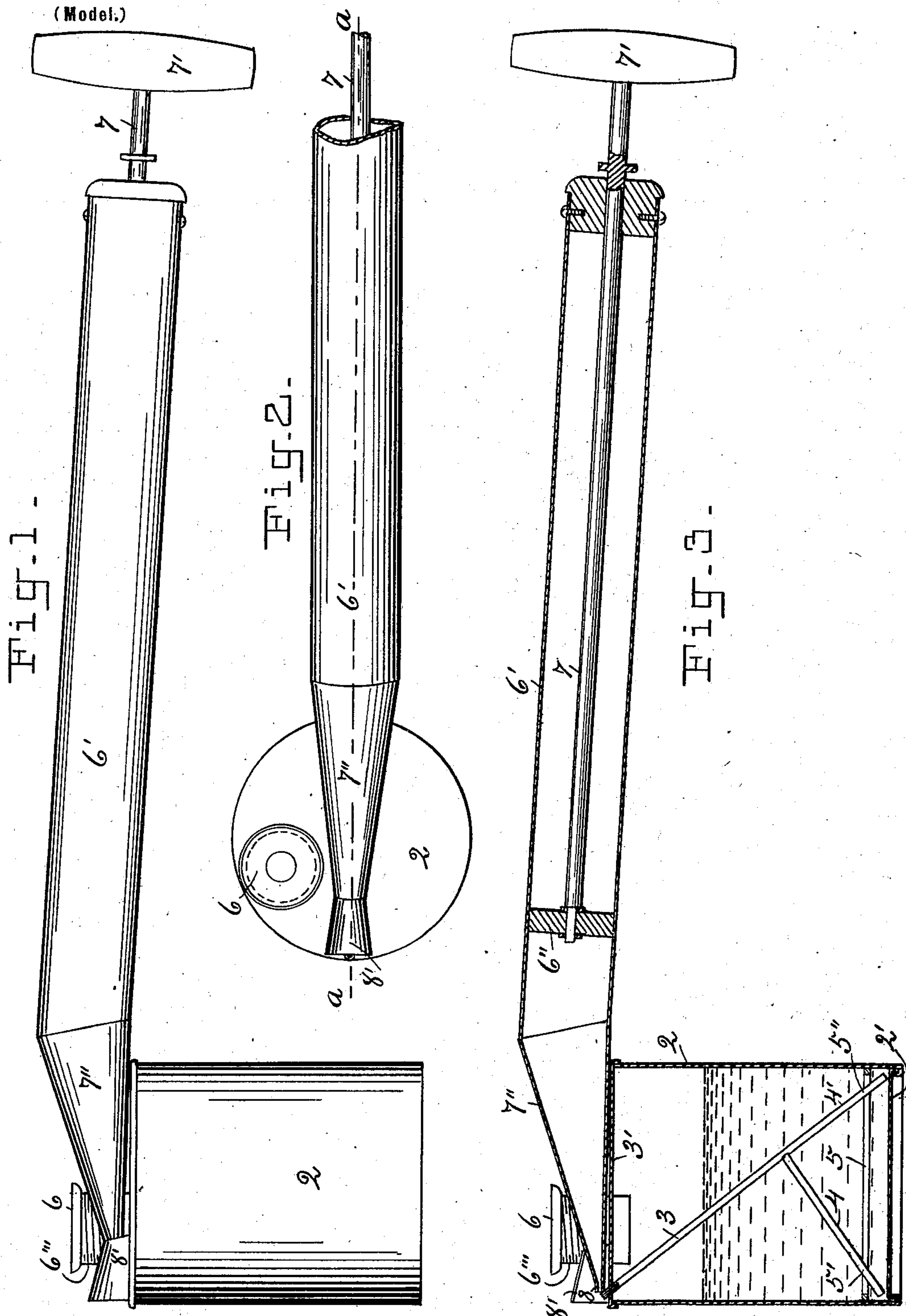
No. 700,282.

Patented May 20, 1902.

I. & J. ZIMMERMANN.

SPRAYING DEVICE.

(Application filed Feb. 9, 1901.)



Witnesses:  
E. B. Bolton  
John Deuber

Inventors  
Isidore Zimmermann  
Joseph Zimmermann



# UNITED STATES PATENT OFFICE.

ISIDORE ZIMMERMANN AND JOSEPH ZIMMERMANN, OF BROOKLYN,  
NEW YORK.

## SPRAYING DEVICE.

SPECIFICATION forming part of Letters Patent No. 700,282, dated May 20, 1902.

Application filed February 9, 1901. Serial No. 46,616. (Model.)

*To all whom it may concern:*

Be it known that we, ISIDORE ZIMMERMANN and JOSEPH ZIMMERMANN, citizens of the United States, and residents of New York, Brooklyn borough, in the county of Kings and State of New York, have invented certain new and useful Improvements in Spraying Devices, which improvements are fully set forth in the following specification and accompanying drawings, and in the latter—

Figure 1 is a side elevation view of a spraying device embodying our said improvements. Fig. 2 is a plan view of said device. Fig. 3 is a central longitudinal section as on the line *a a* of Fig. 2.

Similar reference-numerals denote like parts throughout the respective views of the drawings.

This invention relates to improvements in structures of that class commonly known as "spraying devices," the same being utilized for containing a liquid element and for discharging such element therefrom in the form of spray.

The object of the invention is to provide a spraying device which shall be simple, inexpensive, and novel as regards construction, which shall embody specially-braced delivery-tubes, in which the liquid-receptacle and the air-pump employed shall be relatively arranged at an acute angle, and which shall possess certain well-defined advantages over prior analogous structures.

The invention consists in the novel disposition and arrangement of the various parts of the device, whereby the attainment of the above-named advantages is rendered practicable, in certain combinations of such parts, and in certain details of construction, all of which will be specifically referred to hereinafter and set forth in the appended claims.

Having reference to the accompanying drawings, 2 denotes the liquid-receptacle, of any desired form in cross-section and having a bottom portion 2' arranged at an angle with the side walls thereof.

Within the receptacle 2 we arrange a main delivery-tube 3, the upper end portion of which extends through the closure 3' and terminates at a point somewhat beyond such closure in a single delivery end. The tube 3 is

arranged at its lower portion so as to be capable of receiving, even though the position of the receptacle 2 be materially varied in the practical use thereof, the liquid contained in the receptacle 2 at variable points along and adjacent to the apex of the angle between the bottom portion 2' and the side walls of said receptacle. The tube 3 is here shown as terminating at its lower portion in a plurality of minor members, as 4 4', each in the form of a tube, which members lead from variable points along and adjacent to the angle of the receptacle 2 aforementioned, and each communicates at all times with said delivery-tube.

5 is a brace fixed transversely within the receptacle 2 and to which the members 4 4' are firmly secured, as by soldering, at the points 5' 5''. The brace 5 is desirable in that it permits the receptacle 2 to be suitably moved for the purpose of agitating the contents thereof without undue displacement of the delivery-tube or weakening the joint between such tube and the closure 3'.

6 represents a screw-cap for closing the nozzle 6''' at the usual opening, whereby access to the interior of the receptacle is had.

6' is an air-pump cylinder, in which works the piston 6'', fitted with the rod 7, having a handle 7', which parts are of ordinary construction. The cylinder 6' is provided at its front end with a tapered section 7'', which is secured, as by soldering, to the top of the receptacle 2 and terminates in a single discharge-nozzle 8 in operative relation to the delivery end of the tube 3, and it will be observed that the cylinder 6' is arranged at a somewhat acute angle to the receptacle 2. This is desirable in that it allows the discharge end of the device as a whole to be materially elevated in service without exposing the intake end of the member 4 above the surface line of the contained liquid.

8' represents a hood for protecting the delivery end of the tube 3 and the delivery end of the section 7''.

The receptacle 2 is filled by way of the usual opening at the nozzle 6''', and in operation the contents of the receptacle 2 are delivered by way of the tube 3 through the passage of a current of air under force over and contiguous to the delivery end of said tube, such



current of air being provided through proper manipulation of the piston 6'', as by means of the handle 7' and rod 7, the piston 6'' being moved within the cylinder 6' in the usual  
5 manner.

Where a sprayer or spraying device is constructed as herein described, the contents thereof may be completely delivered from the receptacle by moving the piston thereof, as  
10 above stated. No abnormal outflow of the contents thereof by way of the delivery-tube can take place. It is materially strengthened by means of the braced tube members within the liquid-receptacle, and it is not necessary  
15 to elevate the discharge or delivery end thereof to such a height as in instances where the air-pump and receptacle are arranged with an angle other than an acute one therebetween.

20 It will be seen that the device is particularly well adapted for the purpose for which it is designed and that the same may be modified to some extent without material departure from the spirit and principle of our invention.  
25

Having fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. A device of the class herein described  
30 comprising a liquid-receptacle having its bottom arranged at an angle to the side walls thereof; a delivery-tube within said receptacle and held against movement with respect thereto, the said tube projecting somewhat  
35 outwardly from said receptacle at the top thereof and terminating in a single delivery end; means whereby communication between the opposite end of said delivery-tube and variable points along and contiguous to the apex  
40 of the angle aforementioned of said receptacle, is established; and a one-nozzle air-pump situated to deliver air under pressure at the delivery end of said delivery-tube.

2. A device of the class herein described  
45 comprising a liquid-receptacle having its bottom portion arranged at an angle to the side walls thereof; a main delivery-tube within said receptacle, the said tube having its delivery end projecting somewhat outwardly  
50 from the liquid-receptacle, and having at its opposite end a plurality of minor members, the latter all communicating with said main delivery-tube and situated so that the intake ends thereof will occupy variable points along  
55 and contiguous to the apex of the angle afore-

named of said receptacle; and an air-pump situated to deliver air under pressure at the delivery end of said main delivery-tube.

3. A device of the class herein described comprising a liquid-receptacle having its bot- 60 tom portion arranged at an angle to the side walls thereof; a delivery-tube within said receptacle, the said tube having its delivery end projecting somewhat outwardly from the liquid-receptacle, and having its opposite end 65 braced and arranged to receive the contents of said receptacle at variable points along and contiguous to the apex of the angle aforementioned of said receptacle; and an air-pump situated to deliver air under pressure at the 70 delivery end of said delivery-tube.

4. A device of the class herein described comprising a liquid-receptacle having its bot- 75 tom portion arranged at an angle to the side walls thereof; a main delivery-tube within said receptacle, the said tube having its delivery end projecting somewhat outwardly from the liquid-receptacle, and having at its opposite end a plurality of braced minor mem- 80 bers, the latter all communicating with said main delivery-tube and situated so that the intake ends thereof will occupy variable points along and contiguous to the apex of the angle aforementioned of said receptacle; and an air-pump situated to deliver air under 85 pressure at the delivery end of said main delivery-tube.

5. A device of the class herein described comprising a liquid-receptacle having its bot- 90 tom arranged at an angle to the side walls thereof; a delivery-tube within said receptacle and held against movement with respect thereto, the said tube projecting somewhat outwardly from the liquid-receptacle at the top thereof and terminating in a single de- 95 livery end; means whereby communication between the opposite end of said delivery-tube and variable points along and contiguous to the apex of the angle aforementioned of said receptacle, is established; and a one- 100 nozzle air-pump secured exteriorly to said receptacle, arranged at an acute angle thereto, and adapted to deliver air under pressure at the delivery end of said delivery-tube.

ISIDORE ZIMMERMANN.  
JOSEPH ZIMMERMANN.

Witnesses:

JOHN LUBER,  
THOS. F. ROSS.