

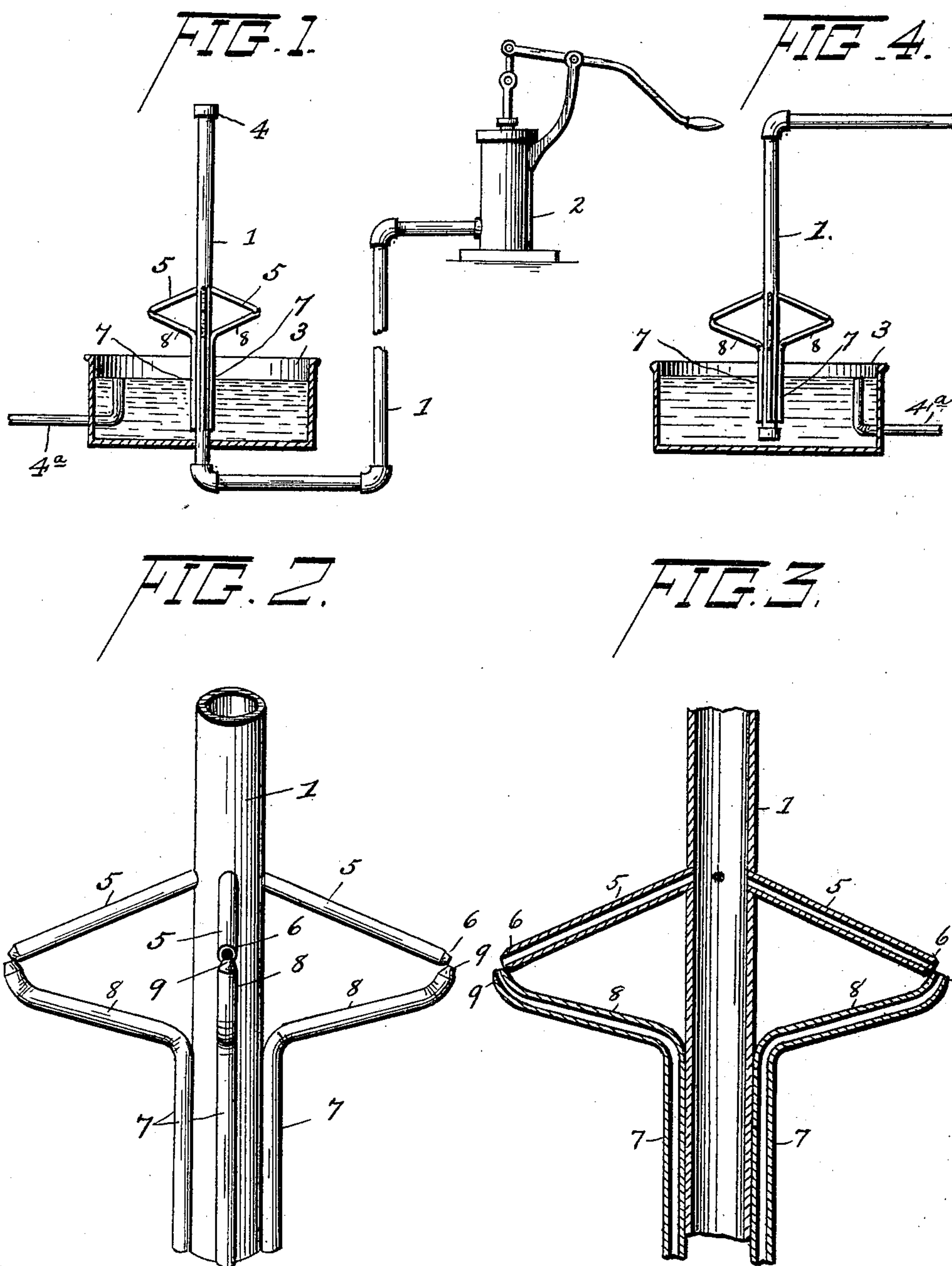
No. 632,186.

Patented Aug. 29, 1899.

A. L. JONES.  
SPRAYING DEVICE.

(Application filed Sept. 12, 1898.)

(No Model.)



Witnesses.  
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# UNITED STATES PATENT OFFICE.

ARTHUR L. JONES, OF MONTGOMERY, ALABAMA.

## SPRAYING DEVICE.

SPECIFICATION forming part of Letters Patent No. 632,186, dated August 29, 1899.

Application filed September 12, 1898. Serial No. 690,783. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR L. JONES, a citizen of the United States, residing at Montgomery, in the county of Montgomery and State of Alabama, have invented certain new and useful Improvements in Spraying Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an apparatus for producing a spray of liquid for various purposes; and it consists of the details of construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

The object of the invention is to provide means of spraying liquids with considerable force and in a satisfactory manner for use in the several manufactories or for other purposes. The apparatus being simple in construction, effective in operation, easily set up in operative position, and not liable to become disarranged or injured, is therefore very durable and economical.

In the accompanying drawings, Figure 1 is a diagrammatical view, in sectional elevation, of an apparatus embodying the invention. Fig. 2 is an enlarged perspective view of the spraying device. Fig. 3 is a section through the device shown by Fig. 2. Fig. 4 is a sectional elevation of the improved device, showing a slight modification.

Referring to the drawings, wherein similar numerals are utilized to indicate corresponding parts in the several views, the numeral 1 designates an air-pipe, which is shown in Fig. 1 as intended to be attached to a suitable air-pressure device 2, which may be varied in form, and the character of such device as illustrated is not necessarily essential, but merely used in this form to show the application. The said air-pipe 1 may be of any suitable length and, as shown by Fig. 1, extends upwardly in a vertical line through the center of a water-receptacle 3, and on the upper end said pipe has a closing-cap 4.

In Fig. 4 a variation in the arrangement of the air-pipe 1 is shown, and in this instance said pipe extends downwardly into a receptacle 3 from above and does not pass through

the bottom thereof. In this instance the pipe 1 is closed at its lower end, and the said modification is intended solely to demonstrate that a variation of the arrangement of the said air-pipe can be made without in the least affecting the operation sought.

The water-receptacle 3 is continuously supplied with a quantity of water by a pipe 4<sup>a</sup> of any suitable length and which can be provided with valves of the requisite character. While water is referred to in the receptacle 3 for convenience in explaining the construction and use of the device, it will be understood that any liquid might be similarly contained and formed into a spray through the medium of the pressure in the pipe 1 and by the use of the attachments which will now be specifically described.

At regular intervals the pipe 1 has a series of downwardly-projecting radially-arranged air-feeding pipes 5, which have outer beveled or reduced ends 6.

Rising from near the bottom of the receptacle 3 and surrounding the air-pipe 1 are a series of water-supply pipes 7, which extend up parallel with the said pipe 1 and terminate in obliquely-projecting branches 8, which are upwardly inclined and have nozzles 9 at their free ends close to the ends 6 of the pipes 5 and so that the air from said latter pipes will be forced directly across said nozzles 9. The ends 6 of the pipes 5 and the nozzles 9 are so positioned relatively to each other that the extreme free ends of said nozzles stand in the same plane as the pipes 5 and so that the openings of said latter pipes are parallel with the said ends of the nozzles. This avoids forcing air downwardly through the branches 8, and in operation when the air is forced through the pipes 5 it passes over the extreme ends of the nozzles 9 and creates a suction in the branches 8, which is carried into the pipes 7 and the water or other liquid drawn upwardly from the receptacle 3 and comminuted by the air under pressure and blown out into spray for a considerable distance away from the said pipes.

The plurality of pipes in radial lines, as specified, causes the spray to enter an inclosure in the various directions or to be projected over any surface a greater extent and more quickly attain the operation desired.



By having the pipes 5 downwardly deflected or inclined the spray as created is given an initial downward impulse and is forced out in such manner against the resistance of the surrounding atmosphere and institutes a dissemination thereof in a direction to best serve its purpose of saturation and prevented from rising to an elevation above the level of the spraying devices soon after its emission, which would result if the said air-feeding pipes 5 were disposed horizontally.

The number of pipes 5 and 6 may be varied, and their dimensions and proportions can also be changed at will to suit various applications, and, furthermore, changes in the construction might be resorted to without in the least departing from the nature or spirit of the invention.

Having thus described the invention, what is claimed as new is—

The combination of a liquid-containing tank or receptacle, a main air-pipe arranged

vertically in the center thereof and adapted to be in part surrounded by the liquid in said tank, a series of liquid-conveying pipes having vertical portions arranged parallel with and fastened to the liquid-surrounded portion of said main air-pipe, the upper parts of said series of pipes extending upwardly at an angle and outward in radial lines and the terminations having abrupt bends also in an upward direction, and a series of air-feeding pipes secured to the main air-pipe and radially extending therefrom at a downward angle reversely to and having their outer ends engage the abrupt terminations of the series of liquid-conveying pipes below.

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

ARTHUR L. JONES.

Witnesses:

T. T. CHARLES,  
J. T. JONES.