No. 832,097. PATENTED OCT. 2, 1906.

R. H. THOMAS.

SPRAYING DEVICE.

APPLICATION FILED JAN. 25, 1904.

Fig. 1

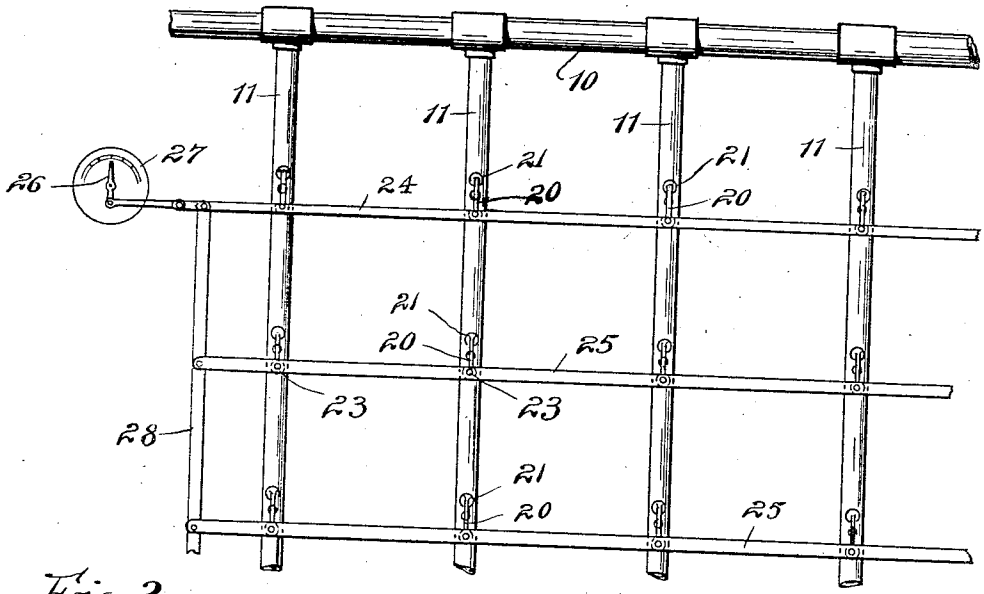


Fig. 2

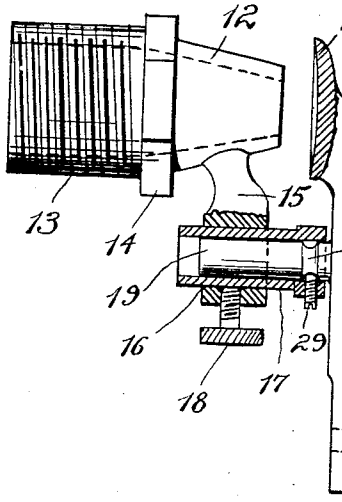


Fig. 3

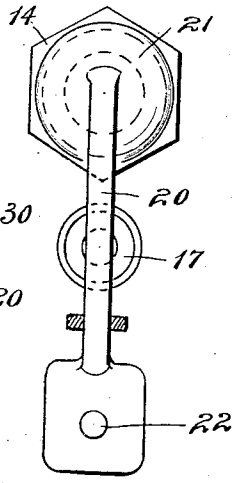


Fig. 4

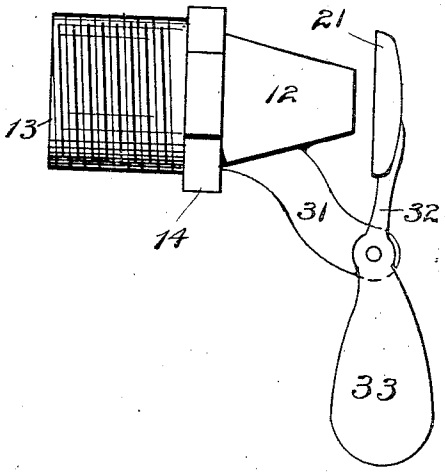
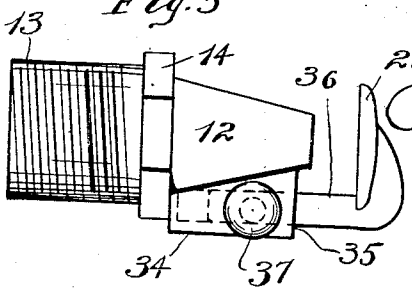


Fig. 5



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SPRAYING DEVICE.

No. 832,097. Specification of Letters Patent. Patented Oct. 2, 1906.

Application filed January 25, 1904. Serial No. 190,578.

To all whom it may concern:

Be it known that I, RICHARD H. THOMAS, 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 Devices, of which the following is a specification.

This invention relates to improvements in a spraying device, and while it is more especially designed or intended for lowering or cooling the temperature of a room or condensing-chamber, yet it is applicable for various other purposes; and it consists in certain peculiarities of the construction, novel arrangement, and operation of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The principal object of the invention is to provide a simple, inexpensive, and effective device for spraying, distributing, or changing the direction of liquids or fluids when discharged under pressure, which shall be of such construction that the spray or discharging element may be regulated thereby so as to produce a thin or veil-like sheet or a more dense or voluminous discharge.

Another object of the invention is to so construct the device that the impeding or retarding plate or disk will be so arranged with respect to the discharging-nozzle that said plate or disk may be adjusted at a suitable distance from the discharging end of the nozzle, so as to produce spray or discharge of different volumes or may be removed from the nozzle, so that the same can be cleaned or freed of obstructions.

Other objects and advantages of the invention will be disclosed in the subjoined description and explanation.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a view in elevation of a part of a spraying apparatus, showing a number of spraying devices embodying my invention mounted thereon. Fig. 2 is a side view, partly in section and partly in elevation, of a spraying device embodying one form of my invention. Fig. 3 is a front view thereof. Fig. 4 is a side view in elevation of a modified form of the spraying device, and Fig. 5 is a similar view of another modification thereof.

Like numerals of reference refer to corresponding parts throughout the different views of the drawings.

In Fig. 1 is shown a part of a spraying apparatus which consists of a main or supply pipe 10, which communicates at one of its ends with a source of water or other fluid under pressure (not shown) and has communicating therewith a number of service-pipes 11, in which my spraying devices are seated, usually in parallel rows, as shown. Each of the spraying devices consists of a discharging-nozzle 12, which has a screw-threaded portion 13 to enter and engage a suitable opening in the service-pipe. The front portion of the nozzle 12 is preferably tapered toward its free end, as shown in Fig. 2, and has on its enlarged part an angular flange 14, which will be found useful for turning the nozzle by means of a wrench when it is desired to screw it into place on or remove it from the service-pipe. Extending from the nozzle 12 is an arm 15, which is provided with a transverse opening 16 to receive an adjusting-sleeve 17, which is movably located therein and may be fixed by means of a set-screw 18, located in the free end of said arm. Located in the sleeve 17 is a cylindrical projection 19 on the regulating-lever 20, which is provided on one of its ends with a retarding or impeding disk or plate 21, which is slightly concave on its surface adjacent to the free end of the nozzle, as is clearly shown in Fig. 2 of the drawings. The other end of the lever 20 is provided with an opening 22 to receive a pin or bolt 23, which pivotally connects it to an operating-bar 24, which unites several of said levers, as is clearly shown in Fig. 1 of the drawings, in which figure other or auxiliary operating-bars 25 are shown as connecting the levers 20 of the spraying devices in rows parallel with those connected by the main operating-bar 24, which is shown as having one of its ends pivotally connected to a pointer 26, which is pivoted on an indicating-dial 27, which may be suitably supported at the proper place. Connecting the bars 25 with the main operating-bar 24 at or near one of their ends is a bar 28, which will cause the bars 25 to move in unison with the main operating-bar 24 when it is desired to remove the impeding or retarding plates or disks 21 from the free ends of the nozzles 12, so that the same may be cleaned or any obstructions therein blown or forced out. As will be observed in Fig. 2

of the drawings, the front end of the sleeve 17 is provided with a set-screw 29, which fits into an annular groove 30 in the stem 19 near its juncture with the lever 20, and thus rotatably secures the said stem in position, but prevents its longitudinal movement.

In Fig. 4 I have shown a modification in the construction of the device which consists in providing the nozzle 12 with a forwardly-extending arm 31, near the free end of which is pivotally secured a regulating-lever 32, which, as in the other construction, has on one of its ends a retarding or impeding disk or plate 21, located near the front end of the nozzle. In this modification the other end of the lever 32 is formed or provided with an enlargement or weight 33, which normally holds the plate 21 close to the free end of the nozzle, but when the pressure of the discharging element is sufficient will allow or cause the disk or plate to be moved farther from the free end of the nozzle, thus increasing the volume of the discharge.

In Fig. 5 is shown still another modification in which the nozzle 12 is provided with an arm or enlargement 34, which has a longitudinal opening 35 to receive a stem 36 on the retarding or impeding disk or plate 21, which, as in the other construction, is normally located near or in alinement with the free end of the nozzle. The enlargement 34 is provided with a set-screw 37, which passes into the opening 35 and engages the stem 36, so as to fix it and the disk 21 in the desired position. By loosening the screw 37 it is evident that the stem may be moved longitudinally in the opening 35 therefor, so that the disk or plate 21 may be located at a suitable point with respect to the free end of the nozzle or so that it may be turned to either side thereof to allow the nozzle to be cleaned.

By reference to Fig. 2 it will be seen and clearly understood that when it is desired to adjust the plate or disk 21 with respect to the nozzle the set-screw 18 may be loosened, when the sleeve 17 may be slid in either direction in the opening therefor, when it may again be fixed in position by tightening the set-screw.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a spraying device, the combination with a nozzle having an arm provided with an opening and a set-screw, of a sleeve located in said opening, a regulating-lever carrying at one of its ends an impeding-plate and provided at about its middle with a stem to fit in said sleeve, and means on the sleeve to prevent longitudinal movement of the stem, substantially as described.

2. In a spraying device, the combination with a nozzle having an arm provided with an opening and a set-screw, of a sleeve located in said opening and provided near its front end with a set-screw, a regulating-lever having at one of its ends an impeding-plate and at about its middle an annularly-grooved stem to fit in said sleeve, and means connected to the other end of said lever to move it laterally with respect to the nozzle, substantially as described.

3. In a spraying device, the combination with a pipe, of a nozzle communicating therewith and having an arm provided with an opening and a set-screw, a sleeve located in said opening, a regulating-lever having at one of its ends an impeding-plate and at about its middle a stem to fit in said sleeve, means to prevent longitudinal movement of said stem, and means connected to the end of the lever opposite the said plate to move the lever laterally with respect to the nozzle, substantially as described.

4. In a spraying device, the combination with a series of pipes of a number of nozzles communicating therewith and each having an arm provided with an opening and a set-screw, a sleeve located in said opening, a regulating-lever having at one of its ends an impeding-plate and at about its middle a stem to fit in said sleeve, means to prevent the longitudinal movement of said stem, and a bar connecting the end of the levers opposite the impeding-plates, substantially as described.

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