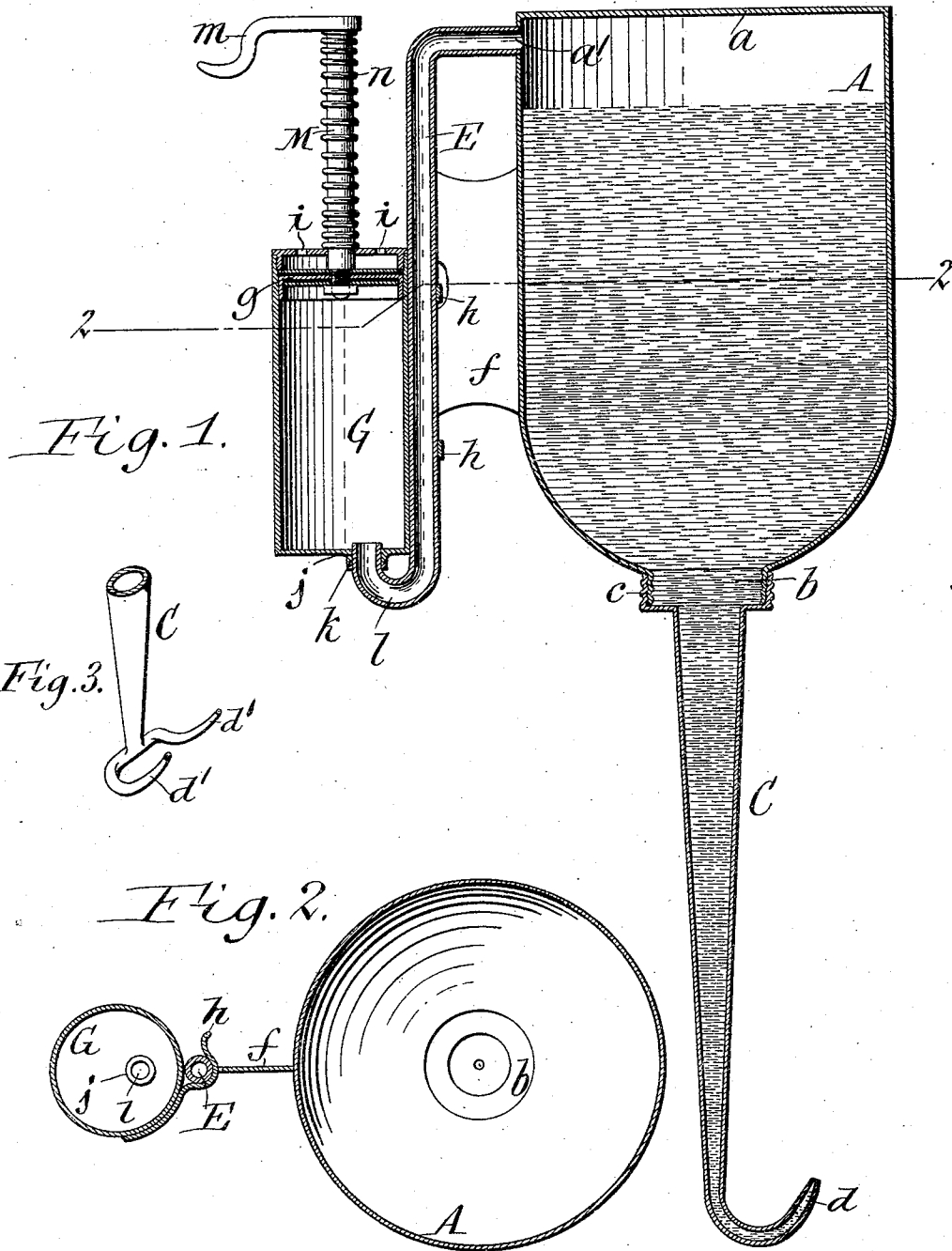


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SPRAYER.

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938,144.

Patented Oct. 26, 1909.



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UNITED STATES PATENT OFFICE.

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SPRAYER.

938,144.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD HARRY, a citizen of the United States, and resident of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Sprayers, of which the following is a specification.

This invention relates to a sprayer or sprinkler which is more particularly designed for sprinkling clothes before they are ironed and which may also be used for sprinkling flowers and for similar purposes.

The object of this invention is the provision of a simple and convenient device for this purpose whereby clothes or other objects may be readily and uniformly sprinkled with a fine spray and in less time than has been heretofore necessary for this purpose.

In the accompanying drawings: Figure 1 is a vertical longitudinal section of my improved sprinkler, showing the same in position for use. Fig. 2 is a horizontal section thereof in line 2—2, Fig. 1. Fig. 3 is a perspective view, showing a modified construction of the discharge nozzle of the delivery pipe.

Similar letters of reference indicate the corresponding parts throughout the several views.

A represents the supply tank or reservoir which is adapted to contain the supply of water or other liquid which is to be sprinkled or sprayed. This reservoir is provided at its upper end with a flat top *a* and an air inlet *a'* which is preferably arranged at one side thereof. The lower end of the reservoir narrows downwardly to a central outlet *b* for the liquid contents thereof.

C represents a downwardly tapering delivery spout or discharge pipe which is detachably connected at its upper large end by a screw joint *c* with the outlet of the reservoir and provided at its lower end with an upwardly turned goose neck or jet nozzle *d*. The end portion of this nozzle and the delivery pipe diverge upwardly and the discharge opening of this nozzle is made very small like a pin hole, whereby the water first issues from the nozzle under pressure in the form of an upwardly inclined fine stream and then breaks up into a fine spray or vapor. This spray or vapor when falling upon the clothes which are to be sprinkled moistens the same moderately and uniformly with a minimum expenditure of water and

permits of ironing the same immediately after they have been moistened. In the methods heretofore employed for sprinkling clothes, large drops of water were usually scattered irregularly over the clothes which made it necessary to roll them up for a time until the moisture distributed itself over the clothes before the same could be ironed, thereby incurring an unnecessary delay in completing laundry work.

The water is permitted to escape freely from the reservoir through the discharge nozzle by reason of the admission of air through the port or inlet *a'* into the upper end of the reservoir as the water level in the same descends. When the reservoir is empty the same may be again refilled by turning the same upside down and resting it on its flat top after which the delivery pipe may be removed and a new charge of water or liquid poured into the reservoir through the outlet opening *b* thereof.

In order to prevent the water from escaping through the air inlet, while thus inverted and being refilled or when not in use, a trap is provided consisting of a pipe E arranged lengthwise on the outer side of the reservoir and connected at its upper end with the air inlet *a'* while its lower end terminates in line or nearly so with the lower end of the reservoir. When the reservoir is thus inverted the water in the same enters the trap pipe and rises therein to the same level as the water in the reservoir which at no time is higher than the top of the latter, thereby preventing the escape of any water from the reservoir at this time.

The main or central portion of the trap pipe is preferably separated from the reservoir and connected with the latter by a web or brace *f* so that these parts serve as a handle for holding the sprinkler or sprayer.

When only a moderate amount of spray or vapor is required, gravity alone may be relied upon for delivering the water from the reservoir through the nozzle, but if a larger volume of spray is desired this may be obtained by exerting an artificial pressure against the top of the water in the reservoir. The means for this purpose shown in the drawings are constructed as follows:—

G represents the cylinder of an air pump and *g* the plunger reciprocating therein. This cylinder is preferably arranged parallel with the trap pipe and detachably connected therewith by means of one or more

spring jaws or catches *h* arranged on the cylinder and engaging with the trap pipe, as shown in Fig. 2, two of such catches being preferably employed, as shown in Fig. 1.

5 At its upper end the pump cylinder is provided with air inlets or openings *i* and at its lower end the same is provided with an air outlet opening *j* which is connected by a slip joint *k* with the upturned portion
10 or goose neck *l* at the lower end of the trap pipe. Upon raising the plunger, the air in the cylinder passes around the edge of the piston which is of the usual flexible cup-shaped construction and upon depressing
15 this plunger the air in the cylinder in front of the piston or plunger is discharged under pressure through the trap pipe into the upper end of the water reservoir and caused to forcibly expel the water from the reser-
20 voir through its discharge nozzle. The pump plunger or piston may be operated by various means but preferably by means of a vertical plunger rod *M* passing through a central opening in the upper head of the
25 pump cylinder or barrel and connected at its lower end with the plunger, a finger piece or handle *m* applied to the upper end of the plunger rod, and a spring *n* surround-
30 ing said rod and bearing with its lower end against the upper cylinder head while its upper end bears against the under side of the plunger rod handle *m*. The latter may extend downwardly a short distance toward
35 the cylinder, as shown in Fig. 1, so that the sprinkler may be held and operated with one hand, the fingers engaging the handle of the reservoir and the thumb with the handle of the plunger, leaving the other hand free to
40 manipulate the clothes or other articles which are being sprinkled.

If desired more than one discharge nozzle may be arranged at the lower end of the delivery pipe, two of such nozzles *d*¹, *d*² being shown in Fig. 3 at the lower end of the
45 delivery pipe C.

If desired, this device may be used for

providing a shower bath by suspending the reservoir in an elevated position and the same may also be used for other purposes which require a finely divided liquid spray 50 or vapor.

It will be noted that in this spraying device the vapor is not produced by an air jet operating on the liquid as in an atomizer, this being effected solely by projecting the 55 liquid upwardly in a fine stream which upon striking the air is finely divided thereby.

I claim as my invention:

1. A sprayer comprising a liquid reservoir having an air inlet at its upper end 60 and a liquid outlet at its lower end, a discharge spout or pipe connected at its upper end with the outlet of the reservoir and provided at its lower end with an upturned discharge nozzle, a trap pipe connected at 65 its upper end with said air inlet and terminating with its lower end substantially in line with said outlet, an air pump having its cylinder communicating with the passage in said pipe, and a catch arranged on the 70 cylinder and engaging with said pipe, substantially as set forth.

2. A sprayer comprising a liquid reservoir having an air inlet at its upper end and a liquid outlet at its lower end, a discharge 75 spout or pipe connected at its upper end with the outlet of the reservoir and provided at its lower end with an upturned discharge nozzle, a trap pipe connected at its upper end with said air inlet and provided at its 80 lower end with an upturned neck, and an air pump having its cylinder connected with said neck by a slip joint and provided with catches engaging with said trap pipe, sub- 85 stantially as set forth.

Witness my hand this 2nd day of July, 1907.

EDWARD HARRY.

Witnesses:

THEO. H. POPP,
ANNA HEIGIS.