

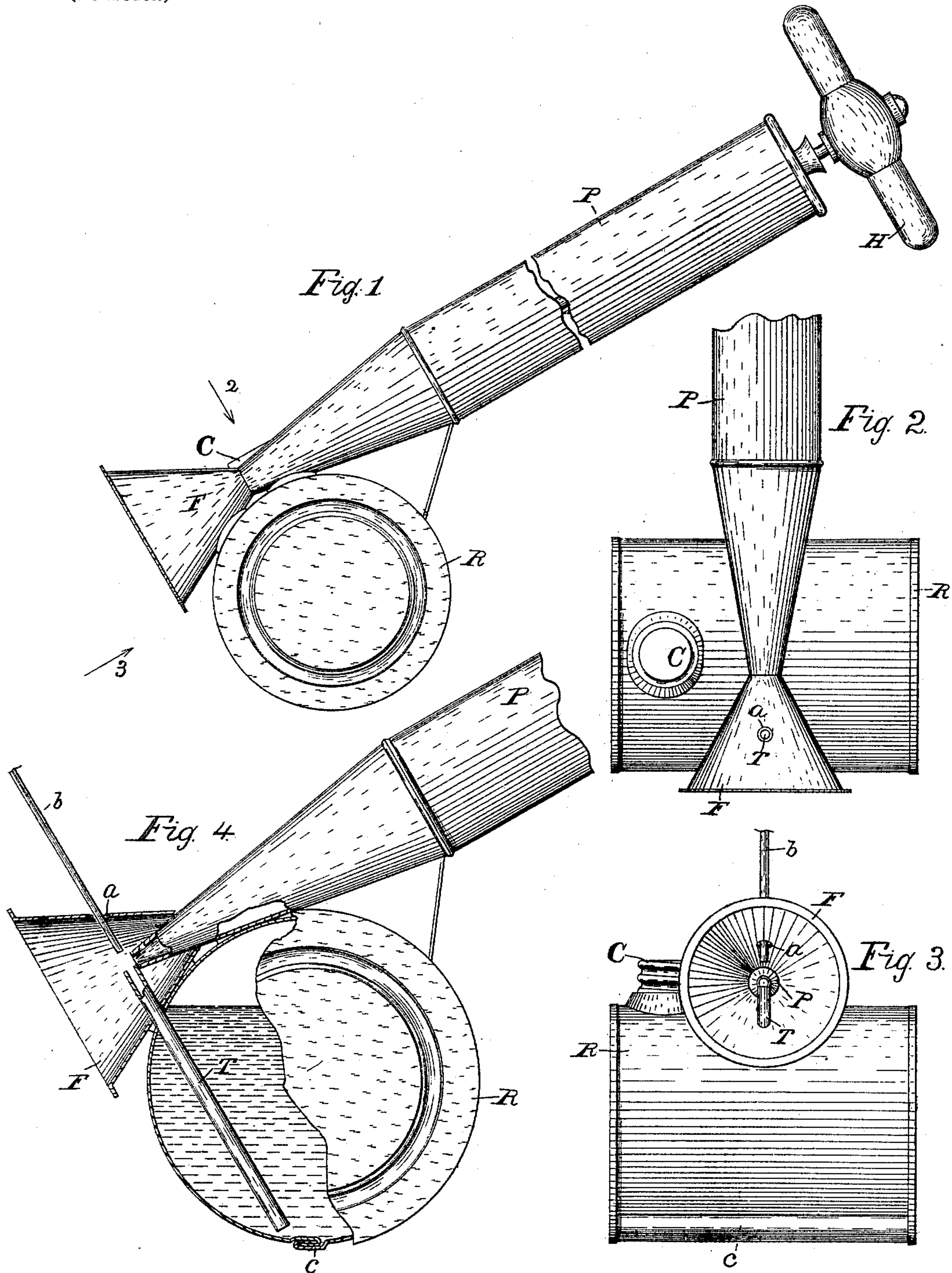
No. 619,257.

Patented Feb. 7, 1899.

W. A. JUDD.  
SPRAYING DEVICE.

(Application filed Oct. 17, 1898.)

(No Model.)



Attest:  
M. L. Winston.  
L. K. Nash.

Inventor:  
W. A. Judd,  
By E. B. Whitmore,  
Atty.



# UNITED STATES PATENT OFFICE.

WILLIAM A. JUDD, OF CLIFTON SPRINGS, NEW YORK, ASSIGNOR TO JUDD,  
LELAND & STEVENS, OF SAME PLACE.

## SPRAYING DEVICE.

SPECIFICATION forming part of Letters Patent No. 619,257, dated February 7, 1899.

Application filed October 17, 1898. Serial No. 693,790. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM A. JUDD, a citizen of the United States, residing at Clifton Springs, in the county of Ontario and State  
5 of New York, have invented a new and useful Improvement in Spraying Devices, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

10 My invention is a sprayer for shrubs, plants, or other vegetation to be used in the hands of the operator.

The object of the invention is to produce a hand-sprayer constructed so that the parts  
15 which directly act to break the liquid into spray shall be rigidly fixed with relation to each other, so that atomization shall always result while using the device.

20 A further object of the invention is to so construct the device that the jet of spray may be more certainly directed against the object to be sprayed.

25 A further object of the invention is to construct the device with a small or reduced number of parts and to provide for the ready clearing of the induction-tube supplying the liquid.

30 Following is a full and clear description of the invention, the feature of novelty being particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of the sprayer, condensed as to length. Fig. 2 is a plan of parts at the forward end of the device, seen as indicated by  
35 arrow 2 in Fig. 1. Fig. 3 is a front end view seen as indicated by arrow 3 in Fig. 1. Fig. 4, drawn to a larger scale, is a side elevation of parts, partly in section transverse to the reservoir and in line with the axis of the  
40 pump-barrel.

Referring to the parts shown, P is an air-pump of common construction with reduced forward end for forcing air for the purpose of producing the spray, H being the handle  
45 for operating the pump.

R is a sheet-metal reservoir for holding the spraying liquid, secured rigidly to the pump P.

50 F is a conical-shaped part or funnel secured rigidly both to the pump and the reservoir, the axes of the funnel and the pump coinciding. The reduced end of the pump pierces

the funnel at its apex and terminates within the funnel.

A tube T, Figs. 2, 3, and 4, is provided for conveying the liquid, piercing the side of the  
55 funnel and terminating therein. The tube also pierces the adjacent wall of the reservoir where the funnel and the reservoir are joined, said tube being rigid with both the funnel and the reservoir. The tube is rela-  
60 tively so placed that its axis and the axes of the pump and the funnel are in a vertical plane, the upper end of the tube and the forward reduced end of the pump being adjacent, as shown in Figs. 3 and 4. The tube,  
65 the reservoir, the funnel, and the pump being rigid with one another, the jet of air forced out of the pump will always fairly cross the axis and caliber of the tube and so with certainty break the liquid into spray as it flows  
70 upward through the tube.

In spraying devices where the induction-tube is movable or detachable from the other parts the tube is liable to get out of line with the pump, and so the liquid is liable not to  
75 be drawn up and formed into spray by the action of the pump. Furthermore, by placing the funnel so that its axis is in line with the axis of the pump it uniformly surrounds the jet of spray, and thus serves better to  
80 project the spray against the object and ward off unfavorable air-currents.

It sometimes occurs that the liquid-supply tube becomes fouled internally and needs to be cleared out. For this purpose an open-  
85 ing *a* is formed through the upper side of the funnel opposite to and in line with the axis of the tube, so that a rod *b* may be inserted in the tube for the purpose of clearing the  
90 latter.

In this construction of sprayers I introduce the spraying liquid into the reservoir through an opening covered by an ordinary screw-  
cap C.

In constructing the reservoir pains are taken  
95 to bring the longitudinal seam *c*, Figs. 3 and 4, at the lower side of the reservoir or on the side opposite the pump, so as to strengthen and protect the reservoir against becoming injured where most exposed to injury while  
100 in use and in packing the devices for shipment.

What I claim as my invention is—

1. A spraying device comprising a funnel, a pump coaxial therewith having a reduced open end piercing the funnel at its apex and  
5 extending therein, a receptacle rigidly connected to the pump and funnel and a tube extending from the interior of the receptacle and terminating within the funnel at the reduced extremity of the pump, substantially  
10 as specified.

2. A spraying device comprising a funnel open at its apex and provided with diametrically-opposed apertures, a pump having a conical end extending into the funnel through  
15 its apex, a receptacle rigidly secured to the pump and funnel and a tube extending from the interior of the receptacle through one of the apertures in the funnel and terminating at the inner end of the pump, substantially  
20 as specified.

3. A spraying device comprising a funnel provided with diametrically-opposed apertures, a pump provided with a conical end piercing the apex of the funnel and terminating in alinement with the adjacent edges of  
25 the apertures, a receptacle fixed to the funnel and pump and provided with a lapped seam at its bottom and a tube extending from the interior of the receptacle through one of  
30 the apertures in the funnel and having its extremity in contact with the inner end of the pump, substantially as specified.

In witness whereof I have hereunto set my hand, this 13th day of October, 1898, in the presence of two subscribing witnesses.

WILLIAM A. JUDD.

Witnesses:

Z. H. HANEY,  
R. L. LELAND.