

No. 609,843.

Patented Aug. 30, 1898.

DE WANE B. SMITH.
SPRAYER.

(Application filed Mar. 19, 1898.)

(No Model.)

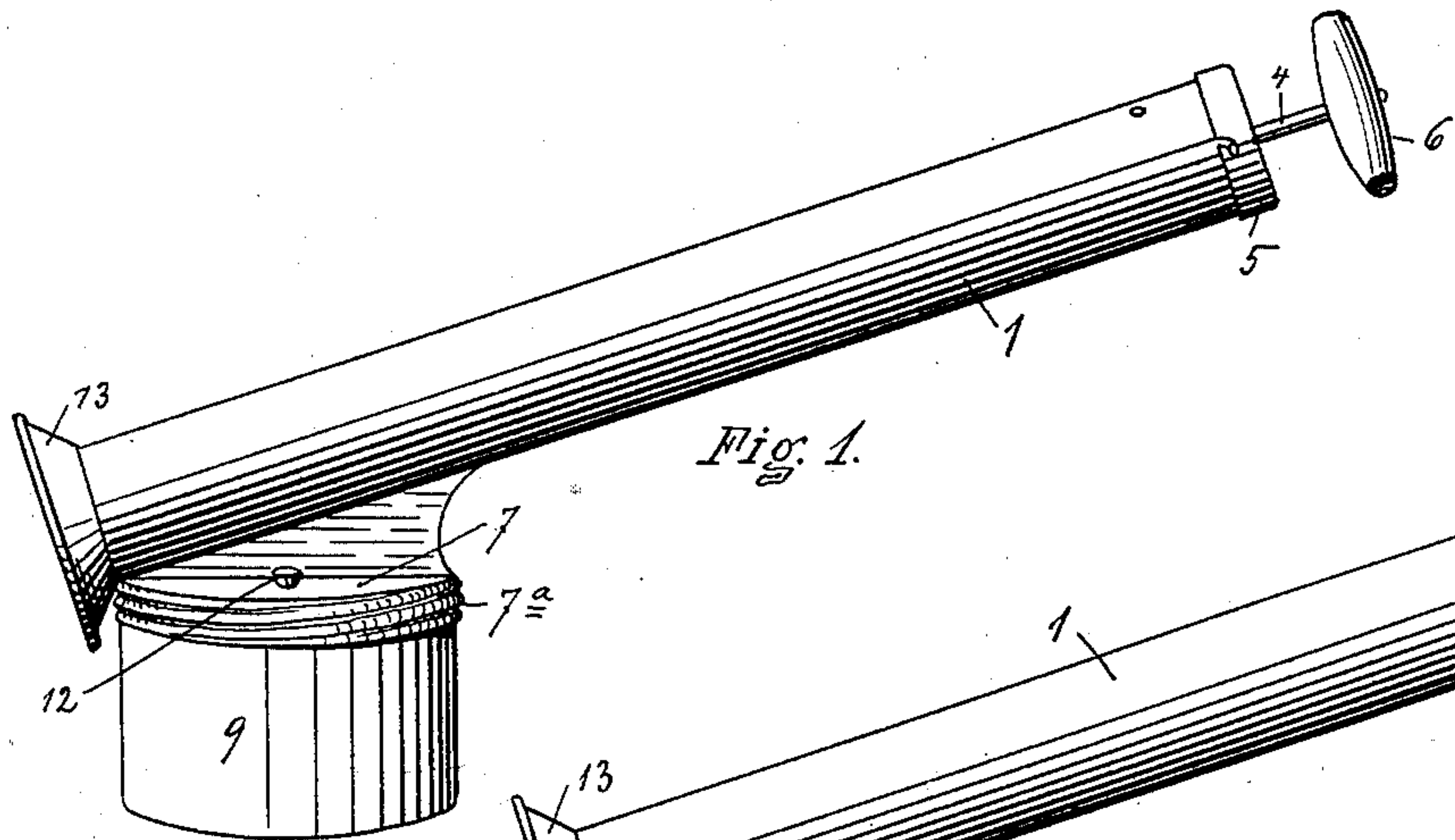


Fig. 1.

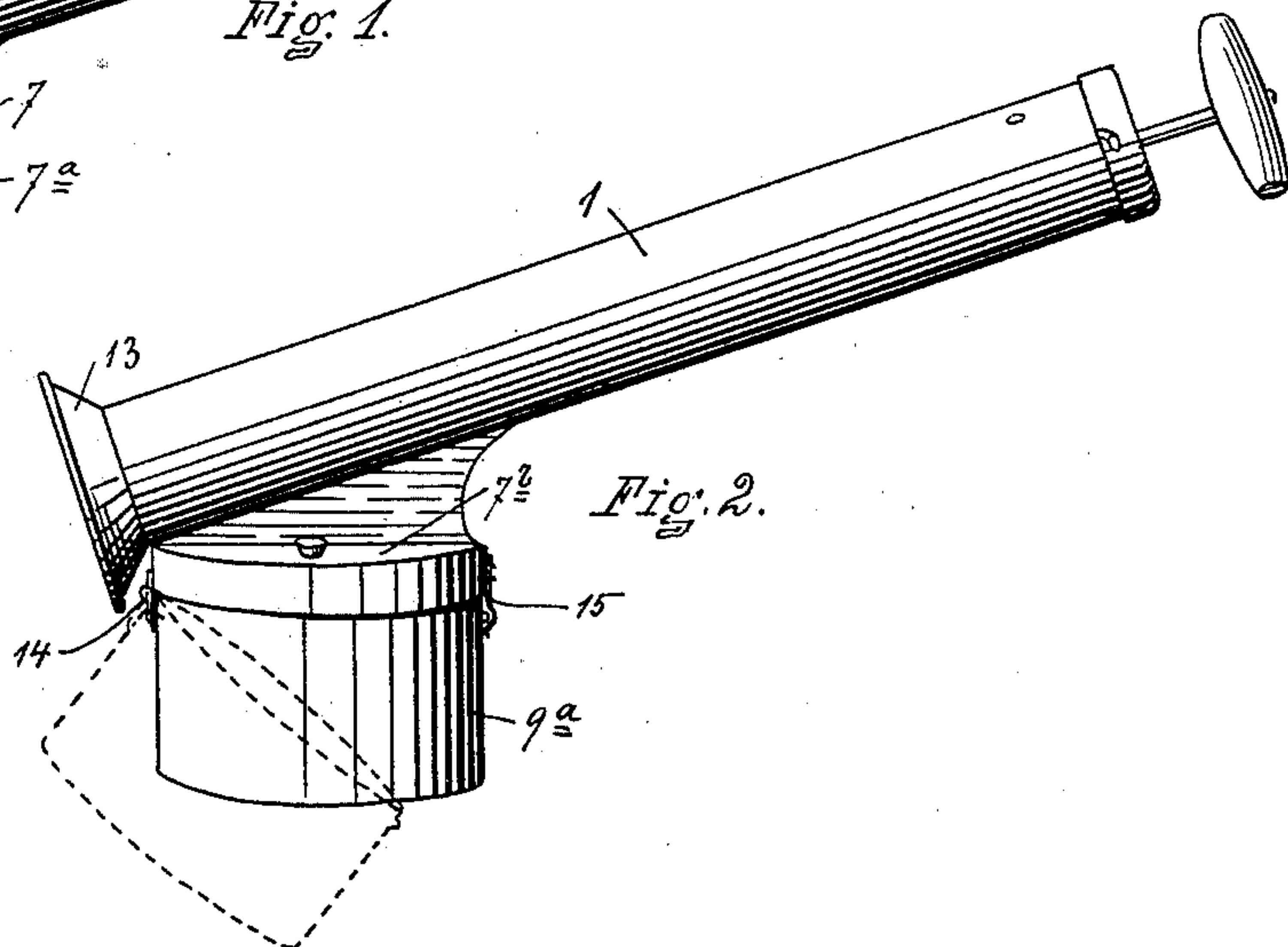


Fig. 2.

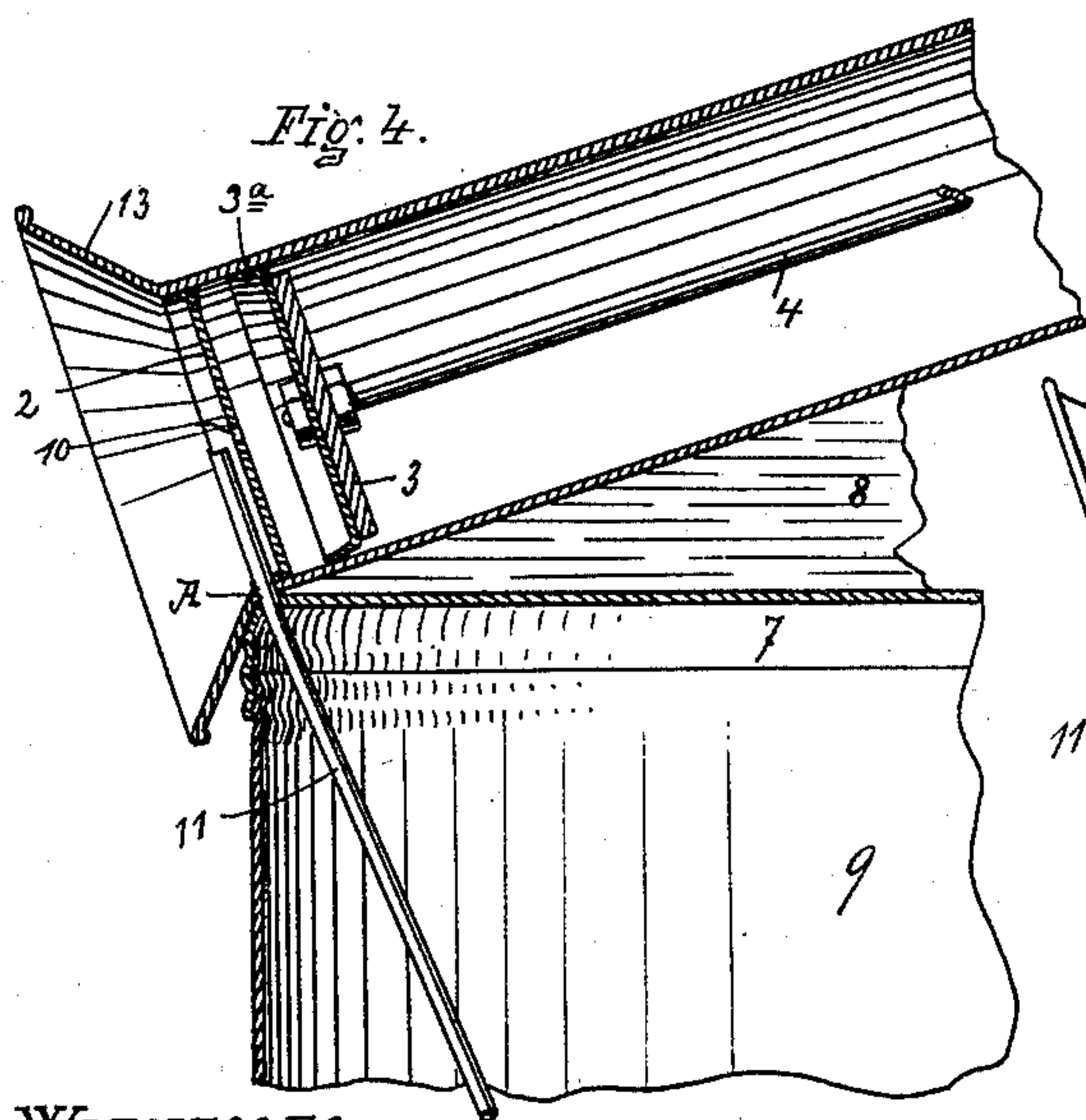


Fig. 4.

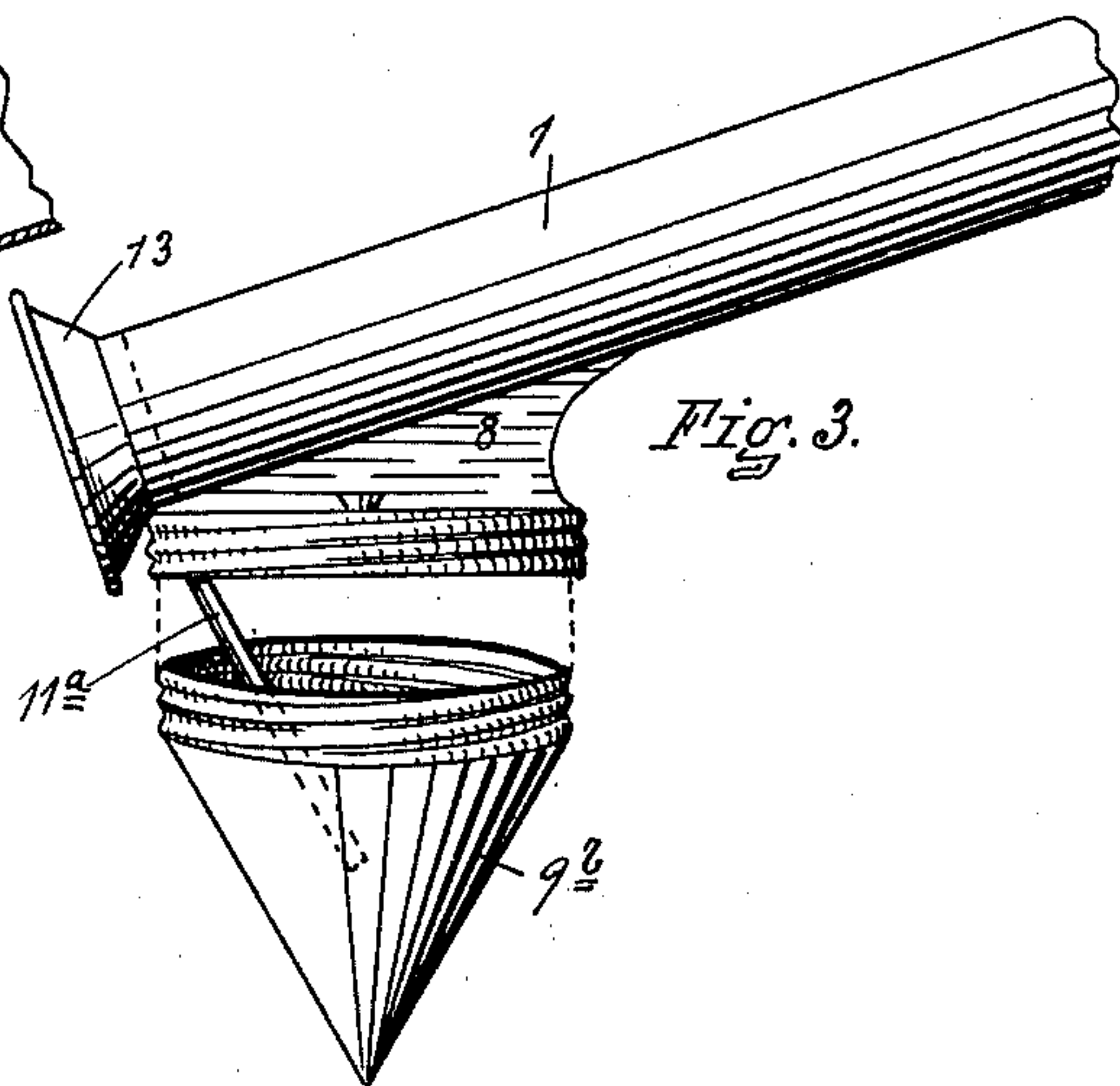


Fig. 3.

WITNESSES
Rich. A. George
E. W. Jones

INVENTOR
DE WANE B. SMITH
BY Milton E. Robinson
ATTORNEY.

UNITED STATES PATENT OFFICE.

DE WANE B. SMITH, OF DEERFIELD, NEW YORK.

SPRAYER.

SPECIFICATION forming part of Letters Patent No. 609,843, dated August 30, 1898.

Application filed March 19, 1898. Serial No. 674,422. (No model.)

To all whom it may concern:

Be it known that I, DE WANE B. SMITH, of Deerfield, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Sprayers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form part of this specification.

Figure 1 shows a side elevation of my improved sprayer. Fig. 2 shows a side elevation of a slightly-modified form of construction. Fig. 3 shows a side elevation of another modified form of construction, the parts being removed or separated to better exhibit the construction. Fig. 4 shows a vertical section of portions of the device of the form of construction shown in Fig. 1.

Referring to the reference letters and figures in a more particular description of the device, 1 indicates the cylinder or barrel of the sprayer, which is provided with a fixed head 2 and is adapted to receive the plunger 3, secured on the inner end of the piston-rod 4. The piston-rod passes through the cap 5 and is provided on its outer end with a handle 6. The corner 7 of the receptacle is secured at an acute angle with the barrel or cylinder 1 by a web 8, with one side or edge of the cover 7 projecting beyond the head of the cylinder, as shown at A in Fig. 4. In or on the depending rim 7^a of the fixed head 7 is provided, in the form of construction shown in Figs. 1 and 4, a screw-thread, as shown, pressed in the sheet material of which the flange or web is formed. A removable receptacle 9 is provided, having on its upper edge a screw-thread adapted to be received by the screw-thread of the flange 7^a in securing the receptacle to the body of the device. In the head 2 of the barrel is provided an aperture or opening 10. From a position approximate to the opening 10 on the outside of the head 2 extends a suction-tube 11 down through the head 7 at the point which extends beyond the head of the cylinder and to a point adjacent to the bottom of the receptacle 9.

This device is more particularly intended

for spraying plants with paris-green or other insect poison for the purpose of killing bugs or insects which infest the plants, and when using the operation is as follows: The receptacle 9 is filled with a strong solution or mixture of the paris-green or other poison either through the stopped opening 12 in the head 7 or when the body of the receptacle is removed. When the plunger is drawn toward the end of the barrel on which the handle is operated, there is no action, for the packing 3^a on the plunger is flanged toward the front end of the device and fails to act to any material extent on the backward movement. On the forward movement the air in the cylinder is expelled forcibly through the opening or aperture 10, and the blast, acting across the upper open end of the tube 11, sucks the contents of the receptacle therefrom and sprays it wherever the device may be directed, and the operation may be repeated as often as desired while the contents of the receptacle remains unexhausted. The suction-tube 11, extending nearly to the bottom of the receptacle, as shown, operates to withdraw substantially all the contents of the receptacle, even while the body of the instrument is held at an angle, as usual, and substantially in the position shown in Fig. 1.

The body of the receptacle 9 is removable, among other things, to enable it to be thoroughly cleaned inside—a very important consideration in view of the fact that the poisons or powders are liable to become lodged in the corners of the receptacle and, if not removed, injure it by rusting and otherwise.

The device as shown in Figs. 1 and 4, as well as the other figures, is provided with a flared end 13, which serves in a measure to direct the spray and also serves to protect the aperture 10 and the tube 11 on the outside of the head 10 from injury, this tube being more or less small and delicate.

In the modified form of construction shown in Fig. 2 the body of the receptacle 9^a instead of being screw-threaded to the head 7^b of this construction is hinged at one side at 14 and secured at the other side by a catch 15. By this arrangement ready access may be had to the interior of the receptacle, and the same may be removed by removing the hinge-pin of the hinge, if desired.

In the modified form of construction shown in Fig. 3 the receptacle 9^b is of a conical shape, and the arrangement of the suction-tube 11^a is such that when the receptacle is in position 5 the lower end of the tube will take a position substantially at the apex of the cone, whereby substantially all the contents of the receptacle may be withdrawn in the use of the device, and this without reference to the angle at 10 which the instrument is held, within reasonable limits, of course.

Another advantage of the receptacle being removable which may be noted is that when removed access is allowed to the tube 11 to 15 free it from obstructions or otherwise, it being somewhat liable to become frequently obstructed.

I have found from experiment that the small opening, as 10, in the thin head-piece 20 of the cylinder is far more effective in forming the desired spray than the discharge-opening at the end of a cone which may be connected with the cylinder.

It is evident that other modifications than 25 those herein described and suggested may be made without departing from the equivalents of my construction.

What I claim as new, and desire to secure by Letters Patent, is—

30 1. The combination in a sprayer of a barrel or cylinder having a head with an opening therein, a plunger in the cylinder, a receptacle-head secured to and suspended under the barrel, the removable receptacle adapted to 35 be secured to said head and a suction-pipe extending from the position substantially at

the bottom of the receptacle to a point approximating said opening in the head at the outside, substantially as set forth.

2. The combination in a sprayer of the barrel 40 having the head with an opening therein, a plunger in the barrel, the receptacle-head secured to and suspended under the barrel at an acute angle with the barrel as shown, the removable receptacle-body and suction-pipe, 45 substantially as set forth.

3. The combination in a sprayer of the plunger, the barrel having a head with an opening therein, the receptacle-cover secured to the barrel and having one side projecting in ad- 50 vance of the head, the removable receptacle and the suction-tube passing through the projecting edge of the cover, substantially as set forth.

4. The combination in a sprayer of the barrel 55 having an apertured head, a plunger, a receptacle-cover secured to the under side of the barrel at an acute angle therewith and having one edge projecting beyond the end of the barrel, a removable receptacle and 60 means for securing it to the cover and the suction-tube passing through the projecting edge of the cover and having its discharge end in close proximity to the aperture in the barrel-head, substantially as set forth. 65

In witness whereof I have affixed my signature, in presence of two witnesses, this 14th day of March, 1898.

DE WANE B. SMITH.

Witnesses:

PHEBE A. TANNER,
RICH. A. GEORGE.