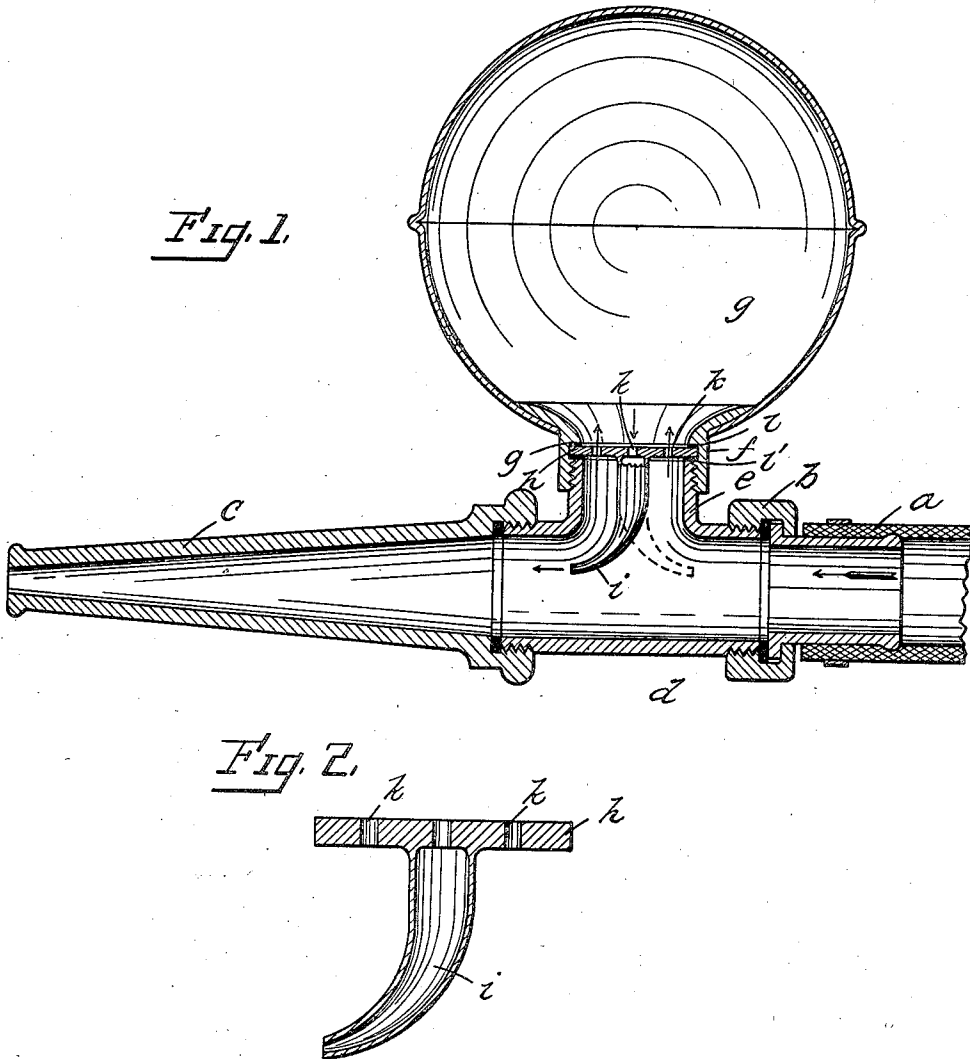


No. 804,378.

PATENTED NOV. 14, 1905.

J. F. CASS.
SPRAYING DEVICE.
APPLICATION FILED MAY 31, 1904.



WITNESSES:

Ross W. Tullwack
P. B. Cooper

INVENTOR.
James F. Cass.
BY
Pierre Barnes
ATTORNEY.

UNITED STATES PATENT OFFICE.

JAMES F. CASS, OF SEATTLE, WASHINGTON.

SPRAYING DEVICE.

No. 804,378.

Specification of Letters Patent.

Patented Nov. 14, 1905.

Application filed May 31, 1904. Serial No. 210,602.

To all whom it may concern:

Be it known that I, JAMES F. CASS, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Spraying Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a new and improved apparatus for combining soap, fertilizing, insecticide, or other compounds with water and finally discharging the mixture as spray or a compact stream, as required.

The object of my invention is to provide a simple and efficient device of this character which is automatic in its action without the use of valves and free from unnecessary complications in its structure.

The construction and advantages of the invention will be hereinafter explained, and illustrated in the accompanying drawings, in which—

Figure 1 is a sectional elevation of apparatus embodying my invention, and Fig. 2 is a similar enlarged view of certain details shown therein.

The reference-letter *a* designates the end portion of a watering-hose provided with a union coupling-nut *b*, and *c* is a nozzle which may be provided with controlling devices (not shown) for regulating and causing it to discharge the conducted water as a spray or an unbroken stream. Inserted in the line between the parts *a* and *c* is a tubular fitting *d*, having a branch *e*, and which for convenience in coupling with adjoining parts the several ends thereof are provided, preferably, with screw-threads, as shown. Connected to said branch by a neck *f* is a receptacle *g*, preferably globular in shape, which is charged with the substances or compounds, which upon being mixed or dissolved with water forms the spraying solution. Between the outer extremity of the branch and an annular shoulder *g* interiorly of the receptacle-neck is a disk or diaphragm *h*, which is formed or provided with a curved or bent conducting-tube *i*, extending downwardly into and having its orifice directed toward or from the hose-nozzle *c*. This disk is likewise provided with one or more perforations *k*, which make communication between said fitting and the receptacle exteriorly of the conducting-tube, whereby water may enter the receptacle to replace substances as forced or drawn there-

from through the aforesaid conducting-tube when the latter is directed as shown by full lines in Fig. 1, or where it is reversed, as indicated by broken lines therein, the circulation or flow will be opposite. Gaskets *l* and *l'* may advantageously be used between the faces of the diaphragm and the opposing surfaces of the said annular shoulder and the end of the branch for the purpose of preventing any leakage thereat.

In the construction shown the receptacle is charged by removing the same and filling it through the neck, when, upon being replaced, the device is ready to operate, and which is accomplished by the combined action of the water in flowing by the protruding end of the conducting-pipe and the pressure of water to make an unbalanced pressure and create a positive circulation within the receptacle. The amount of the efflux of substances within the receptacle will vary according to the pressure and velocity of the water and also the direction in which the conducting-tube is disposed. The device may be used for a great variety of purposes, such as washing windows with a soap solution, spraying trees with a sulfate or other compound, for distributing fertilizer or greening compounds upon lawns, destroying vermin in chicken-houses with insecticides, &c., and, as before alluded to, the stream may be delivered in its most suitable shape by the use of a hose-nozzle provided with stream-regulating attachments or by separate nozzles for each special requirement.

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

1. In a spraying apparatus, the combination with a water-conduit and a nozzle therefor, of a receptacle communicatively connected with the hose, a disk positioned in said connection and provided with a plurality of perforations and a conducting-tube carried by said disk and projecting into said conduit.

2. In a spraying apparatus, the combination of a tubular fitting having a branch, a receptacle adapted to be secured to said branch, a disk provided with a plurality of perforations intermediate the fitting and the receptacle, and a curved conducting-pipe extending from the disk and projecting into the fitting, said pipe being in open communication with one of the perforations in the disk.

3. In a spraying apparatus, the combination of a tubular fitting having a branch, a recep-

tacle carried by said branch, a revoluble disk arranged between the receptacle and the fitting, a curved conducting-pipe carried by said disk, the said disk being provided with a plurality of perforations, one of which opens into
5 said conducting-pipe.

4. In a spraying apparatus, the combination of a tubular fitting having a lateral exteriorly-screw-threaded branch, a receptacle having a
10 neck screwing onto said branch, a revoluble disk located in said neck, a curved conducting-

pipe formed integral with the disk, said disk being provided with a central perforation leading into said conducting-pipe and with a plurality of perforations lateral of said central
15 perforation.

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

JAMES F. CASS.

Witnesses:

PIERRE BARNES,
HENRY S. NOON.