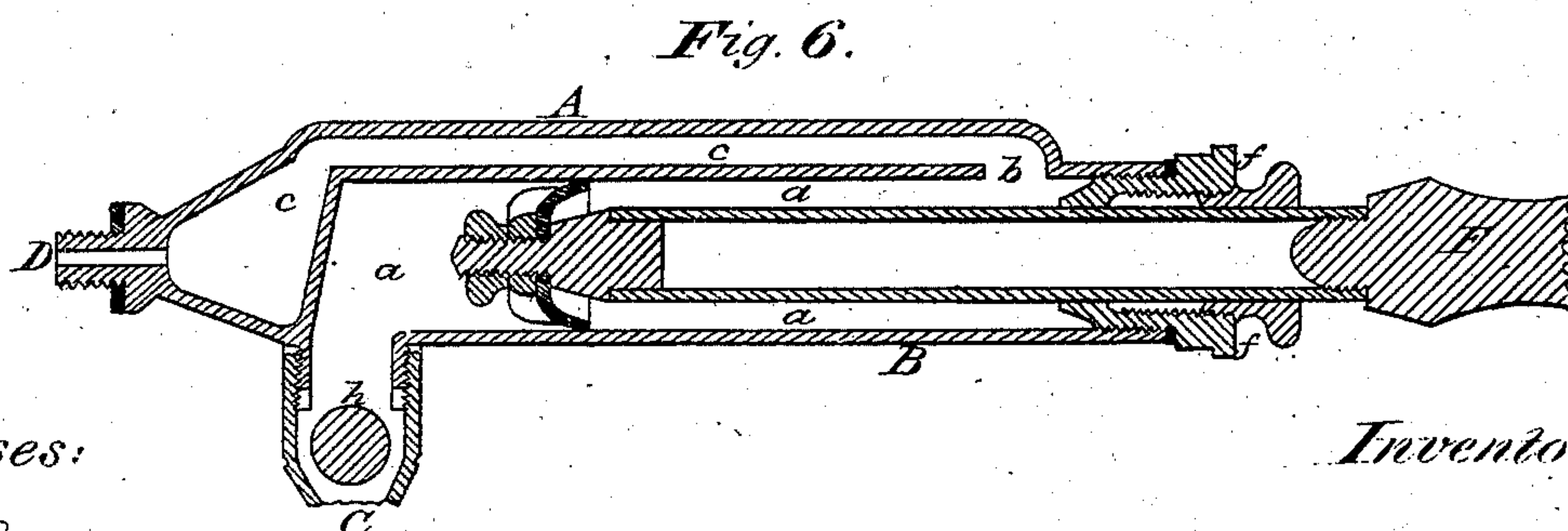
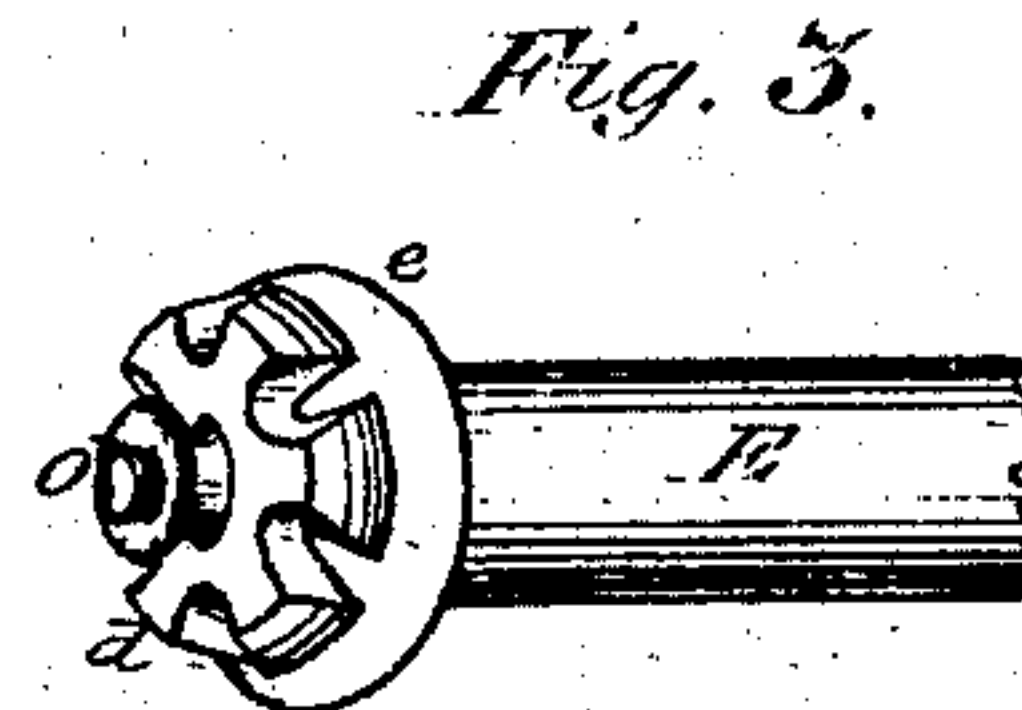
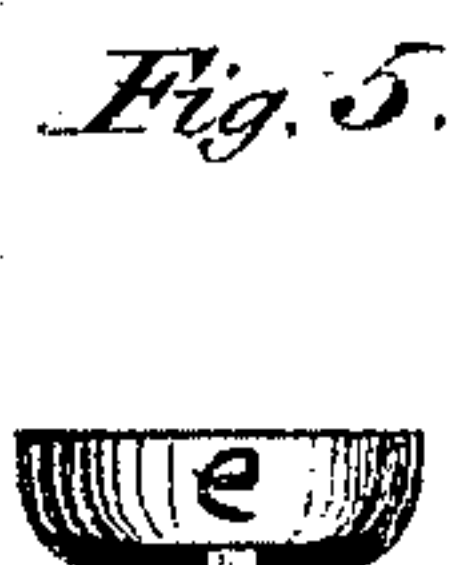
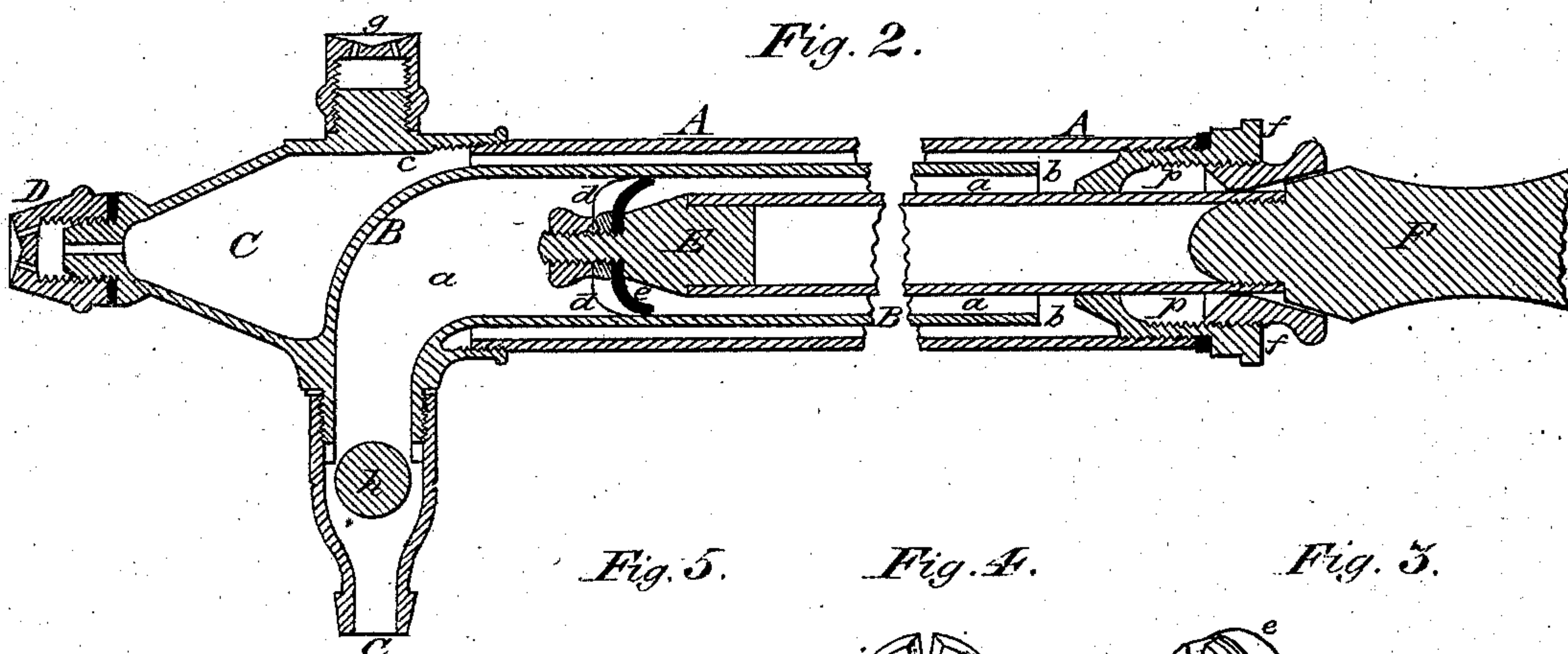
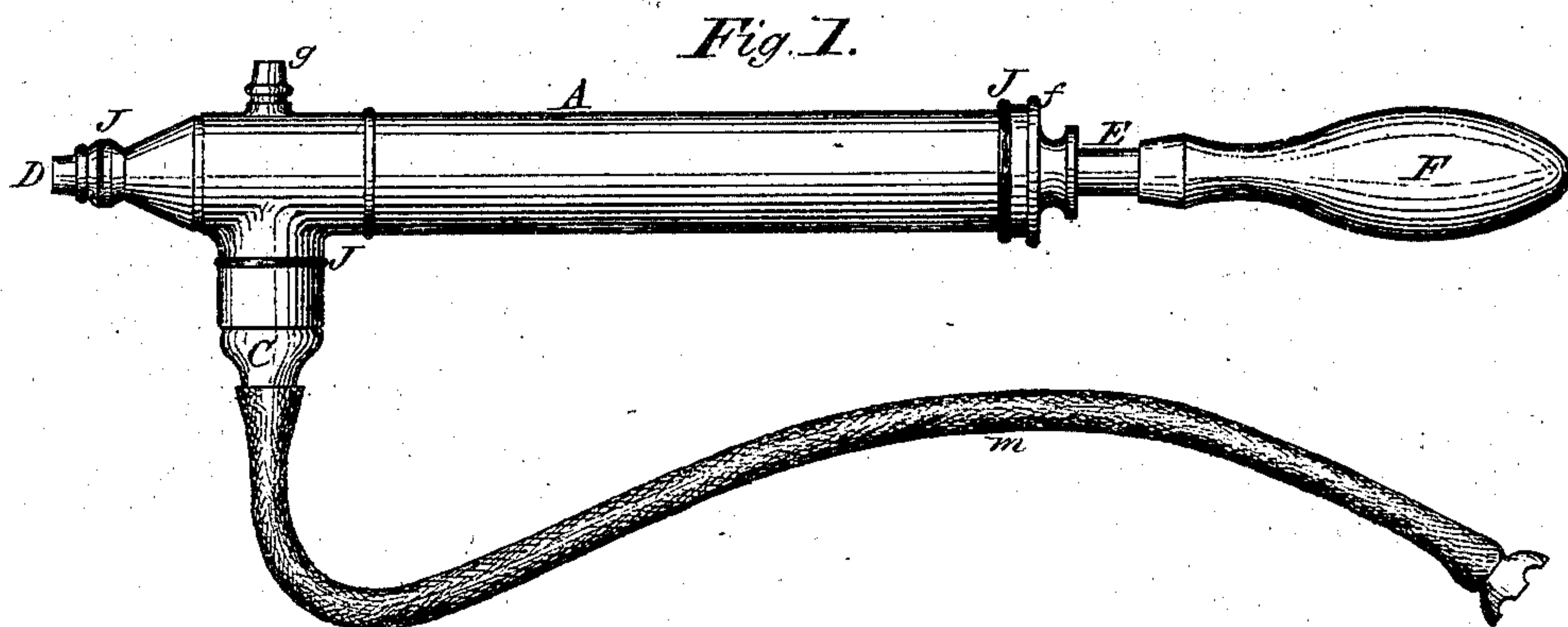


W.J. Johnson Garden Syringe.

116599

PATENTED JUL 4 1871



Witnesses:

J. M. Pugh
A. B. Ely.

Inventor:

W. J. Johnson

UNITED STATES PATENT OFFICE.

WILLIAM J. JOHNSON, OF NEWTON, MASSACHUSETTS.

IMPROVEMENT IN GARDEN-SYRINGES.

Specification forming part of Letters Patent No. 116,599, dated July 4, 1871.

To all whom it may concern:

Be it known that I, WILLIAM J. JOHNSON, of Newton, in the State of Massachusetts, have invented certain new and useful Improvements in Garden-Syringes, of which the following, with the drawing, is a description:

Figure 1 is a view of the syringe. Fig. 2 is a section of the same. Fig. 3 is a view of part of piston-rod and valve. Fig. 4 represents the valve and check-nuts on the front side. Fig. 5 is a section of the leather valve-bucket. Fig. 6 is a section of a modified form of the syringe.

A is the outer cylinder-case, having an outlet at D. B is an inner cylinder-case, having an inlet at C, and being open at its rear end *b*. E is the piston-rod, with handle F. *c* is the space between the inner and outer cylinder-cases, and below the inner one *d* is a valve-nut, having recesses or water-ways *i i* to allow the water to pass; and *o* is a check-nut on the inner end of the piston. *e* is a leather valve or cup behind the valve-nut. *h* is a ball-valve in the inlet C. J J are packings of joints. *f* are hollow nuts, one screwed to the outer casing, and the other, through which the piston passes, screwed to the former, forming the stuffing-box *p*. *g* is an extra nose or sprinkler to the outlet D, or a place for one. *m* is a suction-pipe with nose *n*.

When the piston is drawn back the water flows in at C and fills the inner cylinder. When the piston is pushed forward the water being retained by the valve *h* is displaced and flows over the open rear of the inner cylinder at *b*, filling the space *c* between that and the outer case. When the piston is again drawn back the valve-cup *e* draws back the water in *a*, which represents the interior of the inner cylinder, forcing it over *b*

into *c* and out at D. The piston being again forced forward displaces the water which flowed in on its last backward movement, and forces again so much over *b* into *c* and out at D. The piston, in passing forward, passes through the water, by means of the openings *i i* and the shape and action of the leather valve-cup *e*. By this means the piston lifts in one way and forces in both ways of its action.

Fig. 6 shows a modification where the inner cylinder is placed against the side or bottom of the outer one, so that the water-way space *c* does not extend round or inclose it wholly. The water-way *c* may lie outside of *a*, and be connected by a pipe. In these cases the space *c* between the outer and inner, or the two cylinders or the separate space *c*, forms a water-way, through which the water is forced to the outlet at each and by either stroke of the piston.

In using the syringe, fill a pail with the fluid to be ejected upon a bush or plant, insert the suction-pipe, hold the pail and support the syringe with the left hand, and guide and operate the syringe with the right hand.

I know of no other syringe using an outer cylinder as a water-way, and operating with the ease, simplicity, and force of mine.

What I claim is—

The double-chambered garden-syringe, constructed and operating substantially as described.

In testimony whereof I have hereunto subscribed my name.

WM. J. JOHNSON.

Witnesses:

A. B. ELY,
J. W. PRESTON.