

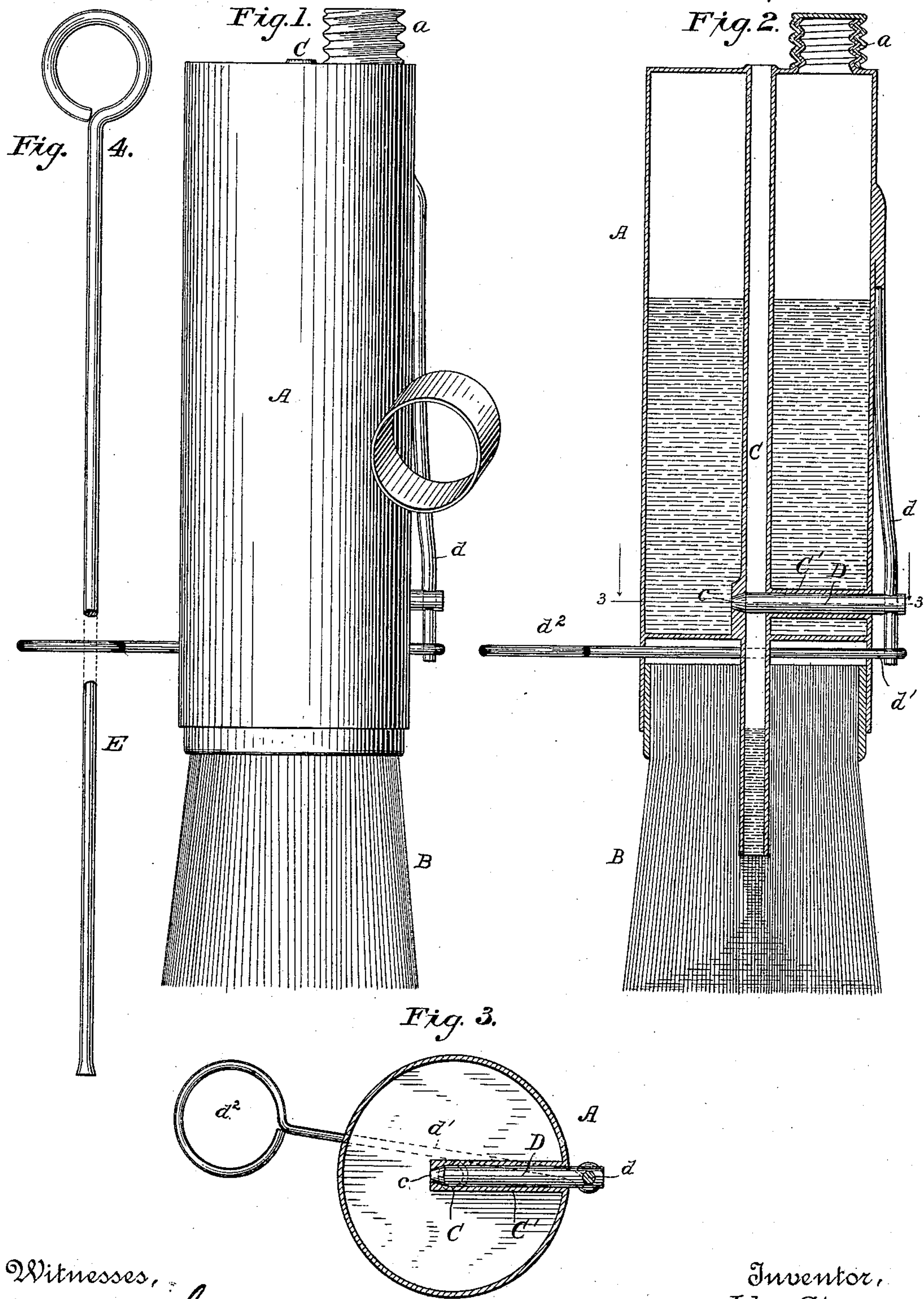
(No Model.)

2 Sheets—Sheet 1.

J. STEVENS.
FOUNTAIN BRUSH.

No. 397,946.

Patented Feb. 19, 1889.



Witnesses,

Wm. A. Shirk,
H. W. Elmore,

Inventor,
John. Stevens.

By his Attorneys

[Signature]

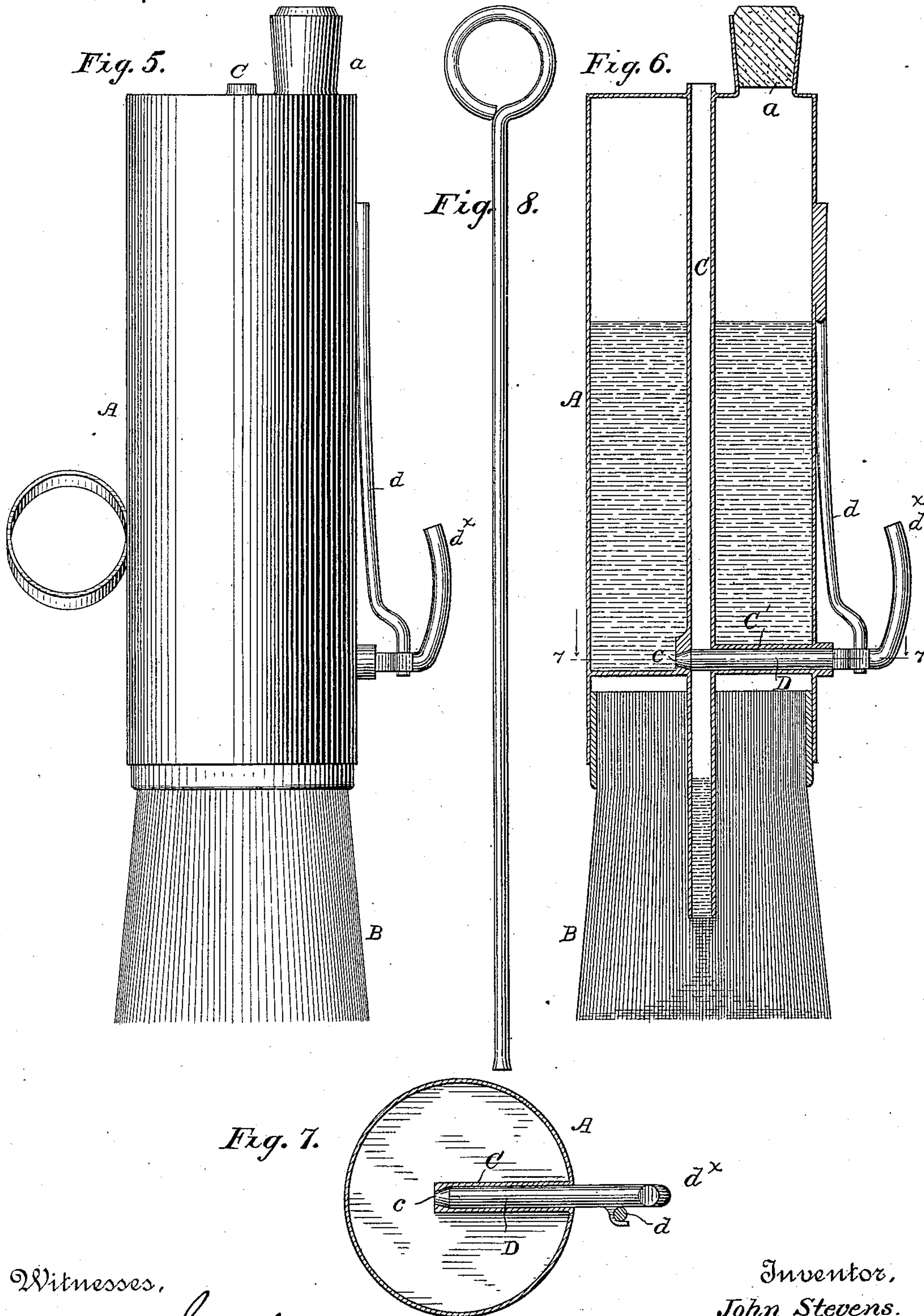
(No Model.)

2 Sheets—Sheet 2.

J. STEVENS.
FOUNTAIN BRUSH.

No. 397,946.

Patented Feb. 19, 1889.



Witnesses,

Wm A. S. S. S.

H. W. Elmore.

By his Attorneys.

Inventor,
John Stevens.

John Stevens

UNITED STATES PATENT OFFICE.

JOHN STEVENS, OF NEENAH, WISCONSIN.

FOUNTAIN-BRUSH.

SPECIFICATION forming part of Letters Patent No. 397,946, dated February 19, 1889.

Application filed July 5, 1884. Serial No. 136,798. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEVENS, of Neenah, in the county of Winnebago and State of Wisconsin, have invented certain new and
5 useful Improvements in Fountain-Brushes, of which the following is a specification.

My invention has for its object to bring the supply of fluid from the fountain or reservoir to the brush under more perfect control, and
10 to provide improved means whereby the tube or fluid-duct will be kept from clogging.

Letters Patent of the United States No. 288,598 were granted to me on the 13th day of November, 1883, showing and describing a
15 fountain-brush in which a tube led from the fluid-receptacle to the brush and was traversed by a clearing-plunger. A feed-aperture through one side of this tube was closed by a valve connected with a diaphragm in the
20 wall of the reservoir, the valve-stem passing through and being exposed to the fluid contents and the valve acting to close the aperture at the same side that the fluid entered it. Thus the valve mechanism was constantly
25 exposed to the corroding effects of the paint or other fluid within the reservoir, and there was a tendency of sediment and coagulated matters to collect in the valve-seat and be packed therein by the valve clogging the flow.
30 The top of the tube also opened into the reservoir, and if the plunger was withdrawn the contents would flow therethrough without obstruction from the valve. If air-pressure was needed, it could only be obtained by unscrewing the cap at the head of the reservoir.
35

In the present case I propose to carry the main or fluid tube entirely through the reservoir, opening to the external air at the top or outer end thereof, as well as into the brush.
40 A lateral tube therefrom connects with the external wall of the reservoir and receives the valve-stem, which is thereby entirely shielded and protected from the fluid. A feed-aperture is formed through the wall of the main
45 tube opposite to the lateral tube and advisably flares from the exterior toward the interior of said main tube, so that whatever can enter its diminished opening into the reservoir may pass freely through and into the
50 fluid-duct; but whatever stops in that diminished opening may be pushed back into the reservoir by the point of the valve when closed. The valve-stem also is of such di-

ameter as to close the main tube when passed thereacross, and thus cut off the pressure of
55 the air upon the liquid fed to the brush, permitting the clearing-plunger to be withdrawn and laid aside, if desired. An external spring presses upon the valve-stem and holds the valve normally closed, while a finger-piece,
60 operated either by pressure or by pulling, according to its location or the intermediate mechanism, enables the valve to be opened whenever a fresh supply of fluid is to be delivered to the brush.
65

In the drawings hereto annexed, Figure 1 is a view in elevation of a stencil-brush, showing the means for holding it and operating the paint-supply. Fig. 2 is a sectional elevation showing the working parts in detail. Fig.
70 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 shows the clearing-rod. Figs. 5, 6, 7, and 8 are views similar to those above described, except that the paint-supply valve is operated from the side from which it projects
75 instead of from the opposite side, as shown in Figs. 1 and 2.

Similar letters indicate like parts.

A is the handle forming the reservoir and filled through a suitable aperture, *a*, provided
80 with a screw-cap, and B the brush or distributor fixed to said reservoir at the proper end or in suitable relation thereto.

C is a tube rising from within the brush through the reservoir and extending there-
85 from, so as to freely admit air from the outside as well as fluid from the reservoir into the body of the brush, thus insuring a sufficiently rapid supply. This tube is perfectly
90 straight and of the same diameter throughout, thereby enabling me to employ the clearing-rod, presently described, to eject any clogging matter. An opening, *c*, is made through
95 the side of this tube just above the bottom of the reservoir, so that the contents of the latter may flow therefrom into the tube and be entirely drained down to the level of the aperture before refilling, the slight space be-
100 neath that level allowing for the deposit of sediment, and thus lessening the danger of clogging. This feed-aperture, instead of being of the same diameter through the entire wall of the tube, flares immediately from the point where it debouches into the reservoir
105 to the point where it terminates in the cylindrical chamber of the tube, so that any par-

ticle sufficiently small to enter its diminished end may readily pass therefrom into the tube.

From the feed-tube C, at a point opposite
5 the opening c, extends laterally a branch or
guide tube, C', which passes entirely through
the reservoir, extending beyond its wall, and
is loosely fitted with a valve or valve-stem,
10 D, which is thereby protected from the sur-
rounding body of fluid. This valve is suit-
ably formed to close the feed-aperture from
the reservoir—that is, it is shaped so that its
sides will conform to the outline of the seat—
and when the seat is flaring, as just described,
15 the valve or its contact portion will of course
be conical, as shown. Its stem moves freely
in the guide-tube, crossing and filling the
transverse area of the main tube and normally
closing the feed-aperture, against which it is
20 held by a spring, d, preferably located on the
exterior of the reservoir.

To the spring d is attached a rod, d', which,
as shown in Fig. 2, passes across the under
side of the reservoir and terminates in a finger-
25 piece, d², located in such position that it can
be conveniently manipulated by the opera-
tor's hand while the brush is being used.

In Figs. 5, 6, 7, and 8 is shown a modifica-
30 tion of the above, the plunger D, to which the
spring is attached in any suitable manner, be-
ing continued upward at its outer end, form-
ing a finger-piece, d^x, at a suitable distance
from the handle.

The action of the plunger in closing the
35 opening c and that of the spring upon the
plunger is the same in both cases, the differ-
ence being that in the first instance the finger-
piece is pressed inward to open the paint-
valve, while in the second the finger-piece is
40 pulled outward to produce the same result.
In either case, when the valve is opened, paint
is discharged from the reservoir into the
main tube, which in turn discharges into the
interior of the brush. A plunger or clearing-
45 rod, E, of sufficient length to pass entirely
through the tube, is provided. With it any
obstruction which may form or become fast
in the tube may be dislodged and pushed
clear of the tube and bristles of the brush.
50 When used in this way, the brush should be
inverted to prevent the fluid escaping while
the valve is withdrawn from across the main
tube to permit the passage of the clear-
ing-rod. The brush or distributor may be of
55 bristles, sponge, or any suitable material, and
brushes constructed in accordance with the
principle of my invention may be severally
used as paint or stencil brushes, dampening-
brushes, or blacking or polishing brushes for
60 shoes, and many other purposes.

It is not essential, as to other features of
my invention, that the main tube should ex-
tend entirely through the reservoir, as air may
be admitted to the upper portion of the res-
65 ervoir by loosening the cap or cork, or in
other ways; or the reservoir will discharge
when shaken rapidly, as is done when the

brush is in use. If it is not extended through
the reservoir, the cleaning may be done from
its lower end; but in my opinion the form 70
shown is best adapted to perform the work.
The superiority of the feeding devices in the
present invention will be obvious to any one
who has experienced the difficulty of main-
75 taining a regular and rapid flow of paint to
the brush, the upper end of the main tube
being always open for the admission of air,
and, the valve controlling the flow of paint,
the condition of the brush can at all times be
80 regulated to a nicety.

I claim as my invention—

1. The combination, substantially as here-
inbefore set forth, in a fountain-brush, of a
reservoir, a brush or distributor, a fluid-tube
passing from the reservoir into the body of 85
the brush or distributor, and having an in-
wardly-flaring opening through its wall within
the reservoir to admit the contents of the lat-
ter, a lateral tube entering the fluid-tube op-
posite said opening, and extending thence 90
through the wall of the reservoir, a valve and
valve-plunger playing in said lateral tube and
across the fluid-tube, and a spring pressing
upon the valve-plunger to force the valve
against said feed-opening. 95

2. The combination, substantially as here-
inbefore set forth, in a fountain-brush, of a
reservoir, a brush or distributor, a fluid-tube
leading from the external air through the res- 100
ervoir into the brush or distributor, and hav-
ing a lateral feed-opening into the reservoir,
a guide-tube connecting said fluid-tube oppo-
site the feed-aperture with the wall of the res-
ervoir, and a spring-pressed valve-plunger
within said guide-tube adapted to normally 105
close the feed-aperture and fluid-tube.

3. The combination, substantially as here-
inbefore set forth, in a fountain-brush, of a
reservoir, a brush or distributor, a straight
fluid-tube passing entirely through the reser- 110
voir and into the body of the brush, open at
one end to admit air and receive a clearing-
rod and at the other to discharge fluid, and
having a lateral feed-aperture opening into the
reservoir, a guide-tube entering the fluid-tube 115
opposite said aperture and extending through
the exterior wall of the reservoir, a valve-
plunger playing through said guide-tube and
across the fluid-tube to close it and the feed-
aperture, a spring connected to said plunger 120
to hold the valve closed, and means whereby
the valve may be opened by the finger.

4. The combination, substantially as here-
inbefore set forth, in a fountain-brush, of a
reservoir, a brush or distributor, the tube C, 125
with aperture c, the cross-tube C', valve-plun-
ger D, spring d, and rod d', passing from said
spring across the under side of the reservoir
to the opposite side thereof, whereby the press-
ure of a finger may open the valve.

JOHN STEVENS.

Witnesses:

ALEX. MCNAUGHTON,
ROBT. SHIELLS.