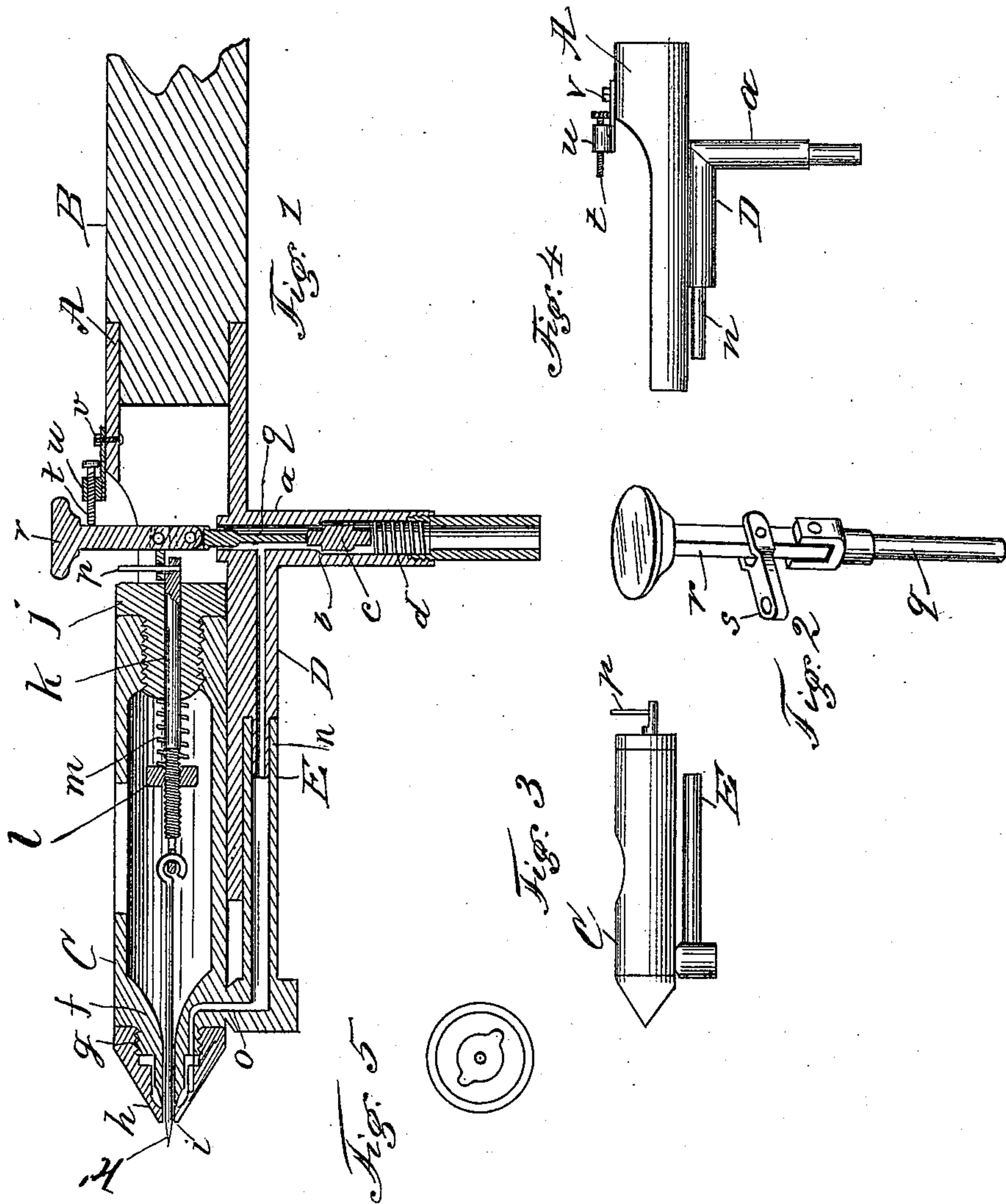


(No Model.)

J. S. OVERMAN.
AIR BRUSH.

No. 545,526.

Patented Sept. 3, 1895.



WITNESSES
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JOSEPH S. OVERMAN, OF CANTON, OHIO.

AIR-BRUSH.

SPECIFICATION forming part of Letters Patent No. 545,526, dated September 3, 1895.

Application filed March 15, 1895. Serial No. 541,939. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH S. OVERMAN, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have
5 invented a new and useful Improvement in Air-Brushes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

10 My invention relates to an improvement in air-brushes, and consists in providing a self-centering needle-valve and mechanism for operating the needle and a regulating device.

With these objects in view my invention
15 relates to certain features of construction or combination of parts, as will be hereinafter described and claimed.

Figure 1 of the drawings is a sectional view of the invention enlarged. Fig. 2 is a perspective of the valve-operating lever enlarged. Fig. 3 is a similar view of the color
20 fountain or tube, natural size. Fig. 4 is a similar view of the tube-holder, and Fig. 5 is a cross-section of the end piece.

25 A denotes the body or tube holder, and B the handle. The body portion A is preferably made of brass tubing of any desired size, preferably about three-eighths of an inch in diameter. Both ends of the tube are open to
30 receive the handle B and the color-tube C. A portion of the top is cut away, as shown. At the bottom side of the body A is provided an air-tube D, having a branch *a* leading to a place of supply of compressed air. In the
35 branch *a* is provided a valve-seat *b*, a valve *c*, and a coiled spring *d*, that hold the valve in position on the seat. The front end of the tube D is reduced and slightly tapering.

The color-tube C is preferably made of
40 brass tubing of such size as to fit into the holder or body A. The front end of the tube C is closed by a plug *f*, centrally apertured to allow the color to flow through from the tube. On the plug or end piece *f* is provided an annular screw-thread *g*, on which is turned a truncated nose-piece *h*, having a small central
45 aperture *i*, through which the color is ejected. At the rear end of the color-tube C is provided a removable plug *j*, that serves to close the
50 end of the tube and as a support for the needle-valve rod *k*, on the end of which is loosely

secured a small self-centering needle-valve *k'*, by which the flow of the color from the tube C may be regulated. The front end of the
55 needle-valve *k'* is tapered to a point and adapted to close the aperture *i* in the nose *h* on the tube. On the valve-stem is provided a threaded collar *l*, adapted to the thread on the valve-rod *k*, and a coiled spring *m*, one end of which rests against the plug *j* and the
60 other against the movable collar *l*. The energy of the spring is exerted to hold the valve in the aperture *i* to stop the flow of the fluid color from the tube C. At the rear end of the valve-rod *k* is provided an upwardly-pro-
65 jected pin *p*, by which the movement of the valve-rod and needle-valve is controlled. At the lower side of the tube C is provided an air-tube E to embrace the tube D, a conduit
70 *o* connecting the tube E with the space inside the nose *h*.

To operate the valves *b* and *k'* simultaneously an actuating device or lever, as shown
in Fig. 2, is provided, having a pin portion *q* to pass down through the body A and tube D, as
75 shown, to engage the end of the valve *c*. To this pin is pivotally secured a lever *r*, to which is pivotally secured a link *s* to engage the pin *p* on the needle-rod *k*.

At the rear of the lever *r* and loosely se-
80 cured to the body A is provided a regulating mechanism comprising a screw *t* and support *u*. The support *u* is secured to the body by a screw *v* in such manner as to allow it to be turned to one side to allow of a full move-
85 ment of the lever *r* and be turned back to arrest the movement of the lever and thereby the movement of the needle-valve *k'*. As heretofore constructed, the needle-rod has been made to extend forward and serve as
90 a valve to regulate the flow of the color; but in practice such structure has been found defective, in that the point of the needle-valve was not self-centering in the aperture *i* of the nose-piece, and for that reason the di-
95 rection of the flow of the color from the end of the nose could not be determined, as the needle-rod was too rigid to be influenced by the flow of the current of air. The prime ob-
jects of this invention are to provide a thin 100

wire needle-valve k' , loosely hung on the end of the rod k , that will be blown to the center of the aperture i by the current of air that carries forward the color from the tube, the pressure being equal on all sides.

To regulate the size of the line to be drawn I have provided a gage by which the strength or size of the line to be drawn may be determined from a so-called hair-line to a line two inches in width. To produce the latter the gage may be swung to one side to allow a full throw of the lever r .

Having thus fully described the nature and object of my invention, what I claim is—

1. The combination in an air brush, of a color tube, having an aperture in the forward end thereof, an air duct leading thereto, a valve rod, a lever to move said rod longitudinally in the tube, a needle valve loosely secured to said rod, and adapted to close the said aperture in the color tube, whereby the color is carried forward and the needle valve laterally controlled or held central to the ap-

erture by the air blast, substantially as described and for the purpose set forth.

2. The combination in an air brush of a color tube, and holder, of the rod and needle valve loosely secured thereto, an actuating lever and a gage adapted to arrest the rearward movement of the lever, and to swing laterally out of the way of the lever, substantially as described and for the purpose set forth.

3. In an air brush, the combination with a color tube and an air tube adapted to eject the coloring matter from the former tube, of a valve for controlling the discharge from the color tube, said valve being loosely held in said color tube and adapted to be centered in the discharge opening of said color tube by the air blast, substantially as set forth.

In testimony whereof I have hereunto set my hand this 5th day of March, A. D. 1895.

JOSEPH S. OVERMAN.

Witnesses:

W. K. MILLER,
CHAS. R. MILLER.