

No. 879,891.

PATENTED FEB. 25, 1908.

J. A. PAASCHE.
AIR BRUSH.

APPLICATION FILED JUNE 27, 1907.

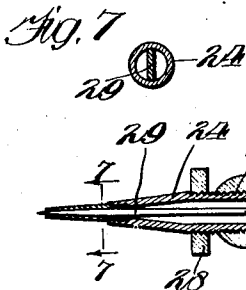
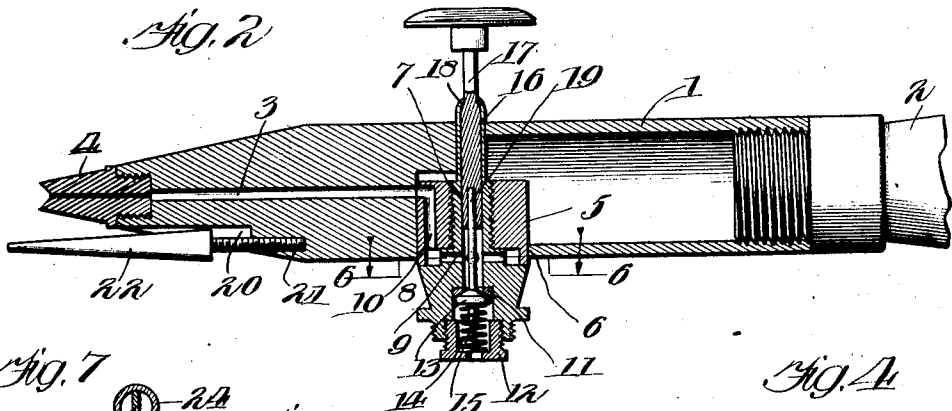
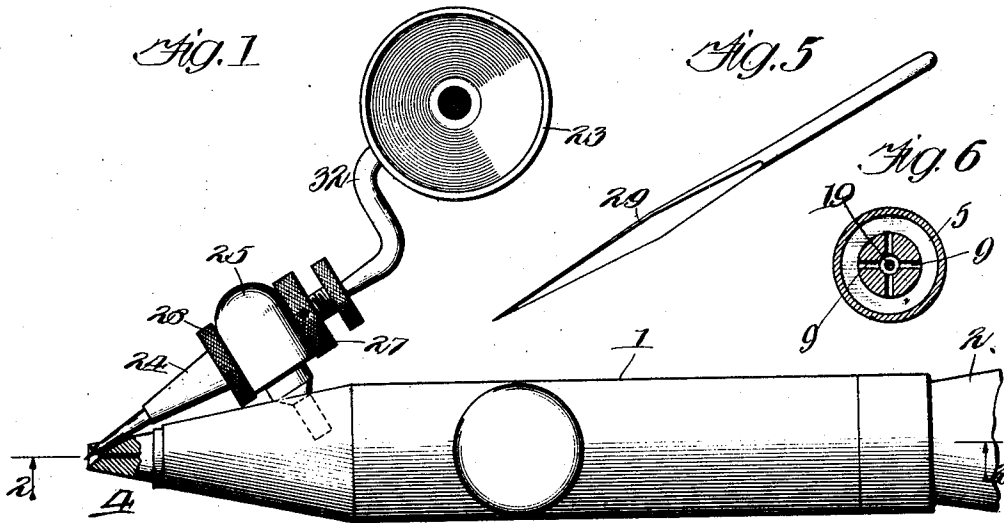


Fig. 3

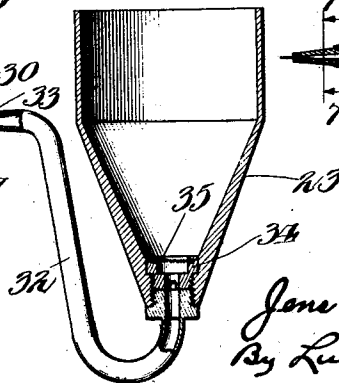
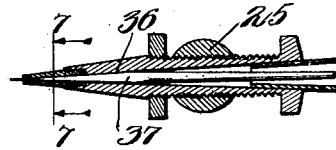


Fig. 4



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JENS A. PAASCHE, OF CHICAGO, ILLINOIS.

AIR-BRUSH.

No. 879,891.

Specification of Letters Patent.

Patented Feb. 25, 1908.

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To all whom it may concern:

Be it known that I, JENS A. PAASCHE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Air-Brushes, of which the following is a specification.

One of the objects of this invention is the provision of means for conveniently clearing out the color discharge orifice of an air brush.

Another object of the invention is to provide an improved means for adjusting the size of the color discharge orifice.

A further object is to provide means for adjusting the relative position of the color discharge orifice and the air discharge orifice.

The invention further relates to improvements in the location of the pigment cup, providing ample space between the latter and the body of the brush for the operator's hand.

The invention also relates to the general improvements of air brushes with a view to reducing the mechanism thereof to the minimum.

In the accompanying drawings, Figure 1 represents a plan view of an air brush embodying my invention with the tip partly in section, and the handle broken away. Fig. 2 represents a vertical central section through the air brush taken on dotted line 2 2 of Fig. 1. Fig. 3 represents a vertical central section through the pigment cup and the nozzle, and illustrates a means for cleaning the discharge orifice. Fig. 4 represents a simpler construction of said cleaning means. Fig. 5 shows an enlarged perspective view of the cleaning needle. Fig. 6 represents a cross section of the air valve taken on dotted line 6 6 of Fig. 2. Fig. 7 represents a cross section of the nozzle tip showing the needle in place, said view being taken on dotted line 7 7 of Fig. 4.

In the present embodiment of the invention, the body of the brush consists of the pointed stem 1 and the attached handle 2, making the tool of suitable size and form to be held in the hand in pencil fashion. In the forward portion of the stem 1 is an axial air passage 3 extending to the tip 4. The air valve is situated in a position to be operated by the index finger, the casing of said air valve comprising a cylindrical block 5 fixed in an opening 6 in the stem 1. This cylindrical block is threaded to admit the tubular

stem 7 of the section 8 of the valve casing. At the lower end of the tubular stem 7 one or more ports 9 furnish communication between said stem and the port 10 in the cylindrical block 5. The latter port opens direct passage for air to the opening 3 in the stem 1. In the lower end of the valve casing is located the valve seat 11 which may be of rubber or any other suitable material. The lower end of said casing is threaded to hold the open spring seat 12 and to carry any suitable means for attaching an air tube (not shown). A valve disk 13 is arranged to close against the seat 11, said valve disk being normally held seated by a coiled spring 14. The valve disk carries on the under side a lug 15 which holds the spring 14 in place. The upper end of the stem 7 is extended in a tube 16 which incloses the valve plunger 17 and retains the same by internal flanges 18 on said tube. The valve disk is unseated against the action of the spring 14 by said plunger, the latter being attached to the valve stem 19 in any suitable manner.

At the forward end of the stem 1 is a groove 20 and a tapped opening 21 which hold the guard 22, said guard projecting a suitable distance beyond the tip 4.

The pigment cup 23 and the nozzle 24 are held in position by the lug 25 which is threaded into the stem. The nozzle 24 and the cup 23 are supported upon the side of the brush and at an angle with the axis of the stem 1 so as to provide space between the cup and the stem for the fingers of the operator. The nozzle 24 lies in a screw-threaded opening 26 in the lug 25, and may readily be adjusted toward and away from the tip 4 by turning the knurled flange 27, and locked in position by the lock nut 28. A needle 29, which is flattened on two opposite sides and acts as a cleaner when rotated, is attached to a tubular thumb screw 30 seated in the rear end of the nozzle. The discharge orifice in the nozzle may be enlarged or reduced by the rotation of said thumb screw. This thumb screw carries a plain surface in its threading which serves as a bearing for the set screw 31. The latter is inserted in the flange 27 of the nozzle 24, and clamps the tubular thumb screw 30 in adjusted position.

The pigment cup is attached at its lower end to one end of a tube 32 which is looped up and its tapered upper end 33 inserted in the correspondingly tapered outer end of the tubular thumb screw 30. The tube 32 is

firmly held in said thumb screw by reason of said taper formation, but may be readily withdrawn from the nozzle by the operator. At the lower end of said cup an open cap screw 34 is placed to carry a strainer 35, said cap screw having a slot in its lower end adapted to admit a screw driver blade.

In Fig. 4 an alternative construction of the orifice-cleaning device is shown. The nozzle 36 is substantially similar to the nozzle 24. The needle 37 lies within said nozzle and may be rotated by hand when the cup 23 has been removed.

When in use the brush is held in the hand as a pencil is held, and the valve operated by means of the plunger 17, as before described. The compressed air is carried by any suitable means to the valve. When the valve is open the air passes through the ports 9 and 10 into the passage 3 and out of the tip 4. The suction thereby created draws pigment from the nozzle 24, which, as already described, is directly connected with the pigment cup 23. The flow of color is regulated by the adjustment of the needle 29. The ease with which the pigment cup 23 may be removed enables the operator to apply any number of colors with the same brush, by providing a plurality of pigment cups and attaching them to the brush interchangeably.

The valve is opened and closed by the plunger 17 and the spring 14. In case the nozzle 24 becomes clogged it may be cleaned by rotating the cleaning needle by the thumb screw 30, as in Fig. 3, or by hand, as in Fig. 4. The projecting guard 22 attached to the stem 1 prevents injury to the work from too close application of the brush.

It will be seen that I have provided an exceedingly simple tool, there being no mechanism or moving parts in it, save the air valve, with consequent freedom from liability to derangement and wear.

It is evident that the construction herein described may be modified in various ways to meet requirements of manufacture and use without departing from the spirit and scope of the invention.

I claim as my invention:

1. An air brush having a removable pigment receptacle provided with an attaching tube, said tube being tapered at one end, and a member having a tapered opening into which said tapered end is adapted to be removably inserted and frictionally held.

2. In an air brush, in combination, a pencil-like body having an air discharge opening at its forward end; an air valve located at the under side of said body; means upon the upper side of said body for operating said air valve; a color discharge nozzle outside of and near the forward end of said body, said nozzle extending at an angle with the direction of the air current; and a pigment receptacle attached to the rear end of said nozzle,

the angular position of said nozzle and receptacle providing a space between said receptacle and said body for the fingers of the operator.

3. An air brush comprising a body having an air discharge opening at its forward end, a color discharge nozzle located at one side of said body and adjustable toward and away from said air discharge opening, and a pigment receptacle removably attached to and carried by said nozzle.

4. In an air brush, in combination, a body comprising a stem having an air discharge opening at its forward end; an air valve located in said stem and having a plunger operable from the upper side of said stem; a color discharge nozzle located at one side of said body; and a pigment receptacle attached to said nozzle.

5. An air brush having a color-discharge nozzle; and a needle rotatably mounted in said nozzle, and provided with a scraping edge adapted to clear said nozzle of obstructions.

6. An air brush having a color-discharge nozzle; a tubular member lying within and having a screw-thread connection with said nozzle; a needle attached to said member; and a pigment receptacle communicating with said tubular member.

7. An air brush having a color discharge nozzle, a tubular thumb screw seated in said nozzle, and a needle and a pigment receptacle attached to said thumb screw.

8. In an air-brush, in combination, a body provided with air-discharge means; a color-discharge nozzle structure having a tapered opening therein; a pigment receptacle; and a tube attached to the lower end of said receptacle, said tube being curved upwardly and tapered at its upper end to enter and be frictionally held within said tapered opening.

9. An air-brush comprising a pencil-like body adapted to be held between the fingers of the hand and having an air-discharge opening at the forward end of said pencil-like body; a color-discharge nozzle mounted upon the outer side of said body near the forward end of said body, and extending at an angle with the direction of the air current; and a pigment receptacle attached to the rear end of said nozzle.

10. An air-brush comprising a body having an air-discharge opening at its forward end; a stud projecting from one side of said body near the forward end thereof; a color-discharge nozzle mounted in said stud to move toward and away from said air-discharge opening, said nozzle extending at an angle with the direction of the air current; and a pigment receptacle communicating with said nozzle.

11. An air-brush comprising a body having an air-discharge opening at its forward end; a stud projecting from the forward

portion of said body; a color discharge nozzle supported in and having a screw thread engagement with said stud, said nozzle extending at an angle with the direction of the
5 air current; and a pigment receptacle communicating with said nozzle.

12. An air-brush comprising a body having an air-discharge opening at its forward end; a stud projecting from said body near
10 the forward end thereof; a color-discharge

nozzle supported in and having a screw-thread engagement with said stud; a screw needle-valve controlling said nozzle; and a pigment receptacle communicating with said nozzle.

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Witnesses:

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