Nov. 3, 1925. 1,559,790

F. W. SCHNEIDER

PNEUMATIC PAINTBRUSH

Filed Dec. 5, 1923

Fig. 1.

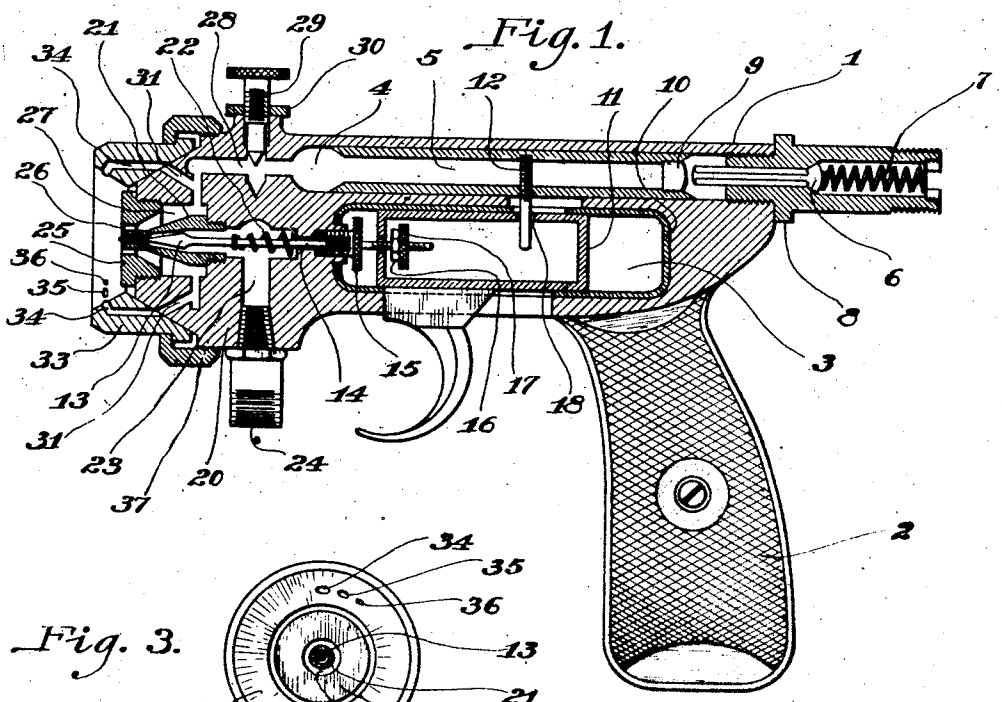


Fig. 3.

Fig. 2.

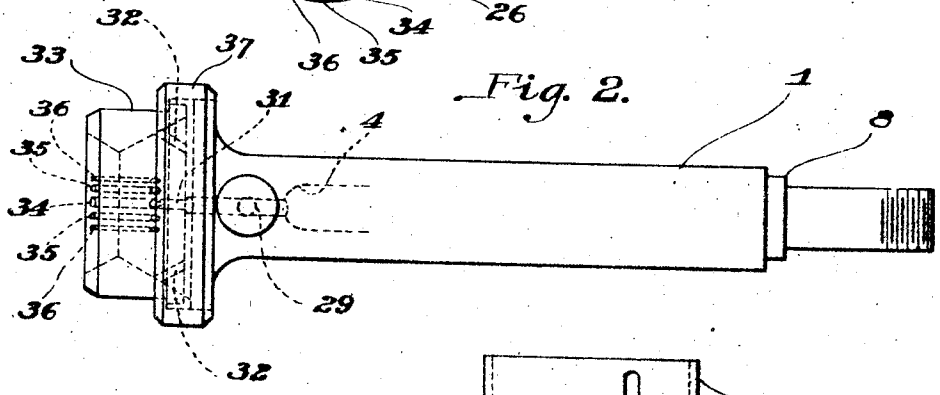
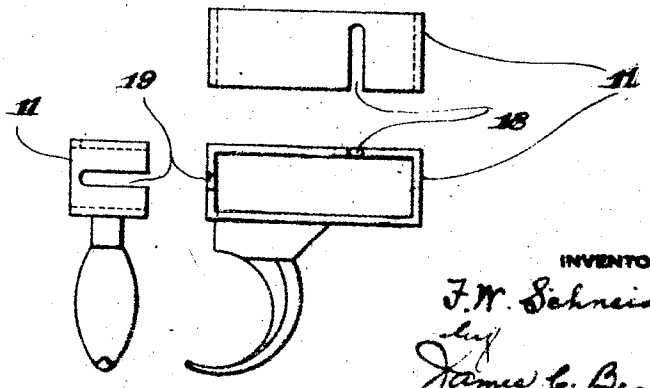


Fig. 4.



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UNITED STATES PATENT OFFICE.

FREDERICK W. SCHNEIDER, OF BALTIMORE, MARYLAND, ASSIGNOR TO PITTSBURGH PLATE GLASS COMPANY, A CORPORATION OF PENNSYLVANIA.

PNEUMATIC PAINTBRUSH.

Application filed December 5, 1923. Serial No. 678,591.

To all whom it may concern:

Be it known that I, FREDERICK W. SCHNEIDER, a citizen of the United States, and a resident of Baltimore, in the county of Baltimore City and State of Maryland, have made a new and useful invention in Improvements in a Pneumatic Paintbrush, of which the following is a specification.

The invention relates to pneumatic paint brushes or guns and has for its principal objects the provision of a construction having improved means for regulating the width of the spray when such spray is of the flat type, and having improved operating mechanism for the air and paint valves intermediate such valves and the trigger. A further object is the provision of improved means for varying the area of the air discharge opening at the center of the nozzle. One embodiment of the invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a vertical section through the device. Fig. 2 is a plan view. Fig. 3 is an end view of the head of the device. And Fig. 4 is a series of detail views of the trigger member.

Referring to the drawings, 1 is the body portion of the gun provided with the handle pieces 2 held on by screws and having a transverse recess 3 extending clear through the body portion and longitudinally thereof. Above the recess 3 is a passage 4 in which is slidably mounted the tube 5 for operating the valve 6. This valve is normally held closed by the spring 7 and has a fluted stem 8 adapted to be engaged by the plate 9 set edgewise in the end of the tube 5.

The recess 3 is provided with a liner 10 which carries the trigger member 11, such member being slidable longitudinally in the liner. The recess 3 is closed at the sides by suitable cap members (not shown) which engage the edges of the liner and are held together by a screw. The tube 5 is connected with the trigger member 11 by means of the downwardly projecting pin 12 which is screwed into the tube. The trigger member also operates the valve 13 controlling the supply of paint through the head. This valve is provided with a rearwardly projecting stem 14 passing through the stuffing box 15 and into the trigger member 11. The rear end of this stem is screw threaded and carries the nuts 16 and 17, one of which acts as a lock nut.

The trigger member 11 is preferably made hollow as illustrated, and provided with the pair of slots 18 and 19, the slot 18 receiving the pin 12, while the slot 19 receives the stem 14 of the paint valve. The use of these slots in conjunction with the hollow trigger member provides a convenient means for assembling and disassembling the parts, and when the cover plates for the recess 3 are removed, access is given to the nuts 16 and 17 for adjusting the valve 13.

The head 20 of the device is provided with a removable nozzle 21 in which the valve 13 seats, the valve being held in forward position by means of the spring 22. A lost motion connection is provided between the trigger member and the nuts 16 and 17, so that in operating the trigger member, the air valve 6 controlled by the tube 5 is opened in advance of the opening of the paint valve and the paint valve is closed in advance of the air valve. Paint is supplied to the passageway 23 from the pipe 24 to which a paint receptacle or paint supply tube is connected.

Seated in the end of the head is the removable disc 25 having the orifice 26 of larger diameter than the diameter of the paint nozzle to provide an annular air outlet, the annular space 27 back of such disc being supplied from the air passage 28. The flow through this air passage is regulated by means of the screw 29 held in adjusted position by means of the lock nut 30. The apparatus is provided with a plurality of discs 25 having orifices 26 of different diameters so that the quantity of air forced through the nozzle may be varied to meet requirements. The end of the head is made in conical form as indicated in Fig. 1 and provided with two pair of supplemental air passages 31 and 32, such pairs of passages being arranged at 90 degrees from each other. Secured for rotary adjustment upon the conical head is the cap 33, such cap being clamped in position by means of the flanged nut 37. The cap is provided with three pairs of passages 34, 35 and 36 of different diameter as indicated in Fig. 3 and any one of these pairs of passages may be made to register with the passages 31 or 32 so that the supply of air transversely of

the axis of the gun in order to give a flat spray may be varied to meet requirements and this result is accomplished without the necessity of changing the head. When it is desired to use a round spray instead of a flat one, the cap 33 is rotated so that the passages 31 and 32 are out of registration with any of the passages 34, 35 and 36 of the cap.

What I claim is:

1. In combination in an air brush, a body provided with a head having at its center concentric air and paint discharge passages and a pair of supplemental air passages on opposite sides of said passages, and a cap mounted for rotary adjustment on the head and provided with a plurality of pairs of passages of different diameters directed transversely of the passages at the center of the head and adapted to register successively at their inner ends with said supplemental air passages in the head, as the cap is rotated from one position of adjustment to another.

2. In combination in an air brush, a body provided with a head having at its center concentric air and paint discharge passages and a pair of supplemental air passages on opposite sides of said passages, a cap mounted for rotary adjustment on the head and provided with a pair of oppositely disposed passages directed transversely of the passages at the center of the head and adapted to register at their inner ends with said supplemental air passages, and a removable perforated disc screw threaded into the head and constituting the orifice of said air passage at the center of the head.

3. In combination in an air brush, a body portion provided with a paint and air discharge head, a guide recess back of the head in line therewith and an air supply passage extending longitudinally of the body above said guide recess, a valve controlling the flow of air through said air supply passage, an operating member for the valve slidably mounted in said air passage, a paint controlling valve in the head having a stem extending rearwardly into said guide recess, and a trigger member slidably mounted in said recess and having connection with said operating member and said stem.

4. In combination in an air brush, a body portion provided with a paint and air discharge head, a guide recess back of the head in line therewith and an air supply passage extending longitudinally of the body above said guide recess, a valve controlling the flow of air through said air supply passage, an operating member for the valve slidably mounted in said air passage, and having a pin projecting into said recess, a paint controlling valve in the head having a stem extending rearwardly into said recess, and a hollow trigger member slidably mounted in said recess and having a pair of transverse slots receiving said pin and stem, the stem being provided with an adjusting nut located inside the trigger member.

5. In combination in an air brush, a head having central paint and air discharge passages, and a pair of air supply passages on opposite sides of the discharge passage at 180 degree from each other, and a cap mounted for rotary adjustment on the head and provided with a plurality of pairs of discharge passages of different diameters adapted to register with the first pair and with the members of each pair at 180 degrees from each other and directed transversely of the central passages.

6. In combination in an air brush, a body portion provided with a head having air and paint discharge nozzles, a central paint supply passage, a transverse passage leading into said passage, and a longitudinal passage leading to the air nozzle above the central passage, an admission valve for controlling the supply of air to said longitudinal passage, an operating member slidably mounted in said longitudinal passage, a controlling valve for the paint nozzle movable longitudinally of said central passage, a trigger member slidably mounted in the body portion beneath said operating member for movement longitudinally of the body portion and connections between said trigger member and the operating member and the paint controlling valve.

In testimony whereof, I have hereunto subscribed my name this 20th day of November, 1923.

FREDERICK W. SCHNEIDER.