

W. J. SMART.
 ATOMIZING APPARATUS.
 APPLICATION FILED NOV. 10, 1910.

1,021,951.

Patented Apr. 2, 1912.

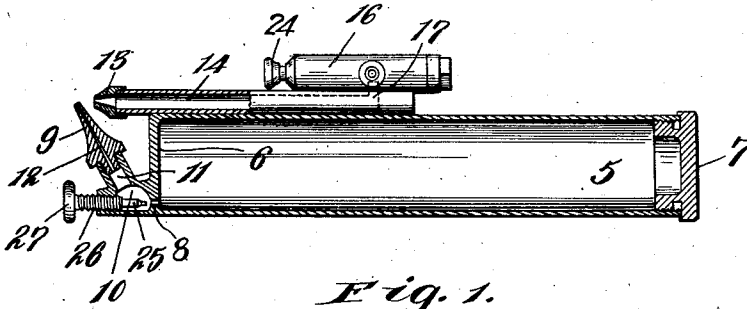


Fig. 1.

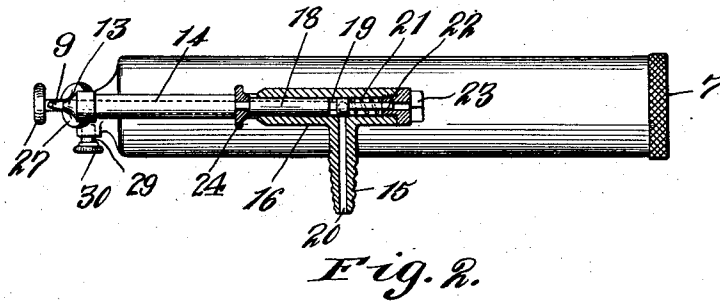


Fig. 2.

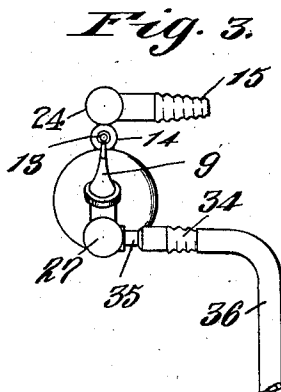


Fig. 3.

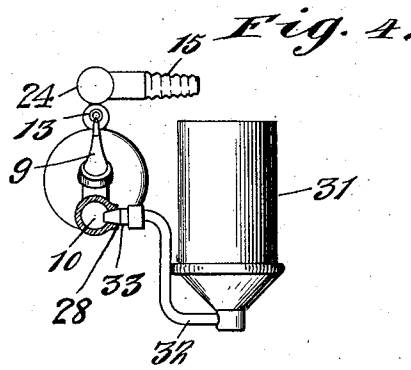


Fig. 4.

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UNITED STATES PATENT OFFICE

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ATOMIZING APPARATUS.

1,021,951.

Specification of Letters Patent.

Patented Apr. 2, 1912.

Application filed November 10, 1910. Serial No. 591,545.

To all whom it may concern:

Be it known that I, WALTER J. SMART, a citizen of the United States, residing in the city of New York, borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Atomizing Apparatus, of which the following is a full, clear, and exact specification.

10 This invention relates to atomizing apparatus and has for its object to provide a device of this character wherein a single atomizing head may be employed interchangeably for discharging material from
15 a plurality of receptacles.

While applicable to many forms of atomizing apparatus, the present improvement is particularly well adapted for use in connection with air brushes. The device is compact and capable of utilizing material from a self-contained reservoir which may, for convenience, be the handle of the apparatus, from a detachable reservoir which may be in the form of a cup, or from a vessel located
25 at a distance, which vessel may in practice be a bottle and the attachment comprise a rubber tube. These features peculiarly adapt the device for use as an artist's air brush.

30 In the illustration the atomizer head and associated parts are mounted exteriorly of an elongated reservoir which constitutes the handle of the apparatus. Thus it will be seen that none of the operating parts is
35 within the reservoir, all of them being located on the outside of the same.

In the drawings accompanying and forming a part of this specification, a practicable embodiment of a form of my invention is
40 illustrated. The drawings show in full size the application of the invention to an air brush for artists' use.

Figure 1 is a vertical longitudinal section. Fig. 2 is a top view, partly in horizontal section. Fig. 3 is an end elevation showing a hose connection to the atomizing head; and Fig. 4 is an end view showing a cup attached to the atomizing head.

50 The handle portion of the device is illustrated as an elongated tubular or cylindrical body comprising a reservoir 5. One

end of the reservoir is shown closed by an integral head 6, the other end carrying a removable closure 7. The reservoir may be filled upon the removal of the closure 7. 55 The interior of the reservoir is free and clear, the operating parts being all mounted on the exterior of the walls thereof. The head 6 is shown provided with an opening, conduit as it were, 8, by which the contents
60 of the reservoir will pass to the atomizing head through the nozzle 9, which nozzle 9, owing to the fact that the contents of the reservoir will generally, in practice, be liquid, will be herein designated the "liquid
65 nozzle." The port or conduit 8, opens into a chamber 10, disposed between the reservoir 5 and liquid nozzle. There is shown a port or conduit 11 exteriorly from the chamber 10, which conduit registers with the
70 orifice 12 of the liquid nozzle.

The wall of the opening constituting the port or conduit 11 is shown screw-threaded for affording means of adjustment of the liquid nozzle relative to the coöperative
75 nozzle. Since air under pressure is at the present time ordinarily employed in atomizing the material applied by in air brushes, this nozzle will be termed an "air nozzle" and its associated parts and connections
80 "air connections," etc. The air nozzle is also adjustable relative to the liquid nozzle. These nozzles are adjustable on intersecting axial lines. An air tube 14, is mounted exteriorly on one side of the reservoir handle
85 and is shown projecting beyond the end 6 thereof. The air nozzle is carried by a screw-threaded connection with tube 14.

The discharge orifice 12 is shown disposed at an acute angle to the horizontal axis of
90 the reservoir and directed upwardly. These definitions of position are such as the parts assume in the illustration. The compressed air, assuming, of course, as before stated, that air is the fluid coöperating with the
95 material supplied to the "liquid nozzle," will be furnished from some suitable source of supply and may be supplied through a tube having connection with a nipple opening into a valve chamber 16, shown mounted
100 on top of the tube 14, and having a port 17 communicating therewith. There is

shown a plunger form of valve reciprocally mounted in the valve chamber and having a body portion 18, provided with a circumferential groove 19 adapted to register with the opening 20 in the nipple 15 and the port 17, and its normal portion to close communication between these ports, when the plunger is forced outward by the coiled spring 21. This spring is shown encircling a stem 22, an extension of the plunger, which extension stem is also guidedly supported by a closure nut 23 at the end of the valve chamber. A head or engaging portion 24 is applied to the outside end of the plunger and this is located in proper position for easy manipulation when the device is held in the hand. The passage of the contents of the reservoir 5 to the chamber 10 is controlled in the present illustration by a valve 25, constructed and adapted and located in position to seat on the ground seat formed at the outer face of the head 6 and at the port 8. The valve-stem 26 is shown screw-threaded and provided with a knurled head 27. This valve will regulate the amount of material passing from the reservoir 5, or may shut off all passage therefrom.

When material other than that contained in the reservoir 5 is required, the valve 25 will be actuated to shut off the flow therefrom and another source of supply connected with the liquid nozzle, in the present illustration with the chamber 10. The wall of the chamber 10 is shown provided with a port 28. This port is associated with a coupling device. In the present showing the coupling device is of simple construction, that is, a boss having a tapering seat 29 registering with the port 28. This tapering seat will receive a mating closure 30, when no outside source of supply is required, and will also receive mating connections from some outside source of supply when such outside supply is to be utilized. Sometimes material will be furnished from a receptacle in the form of a cup 31, having a relatively-rigid tube 32, provided with a tapering connection 33 for engaging the seat 29. In some instances the outside source will be furnished from a vessel at a distance, such, for instance, as a bottle. A nipple 34, having a taper connection 35, for the seat 29, is shown in Fig. 3. To this nipple a tube 36 will extend from the vessel containing the supply. Thus it will be seen that it is possible to use the liquid from three sources of supply; first from the handle reservoir 5; second by closing the valve 25, the handle receptacle is shut off and by removing the side plug 30 and attaching the cup 31, material may be sucked from the cup. The third way is to insert the hose nipple 34 in place of cup and attach the rub-

ber tube 36, running the same into a bottle or receptacle located wherever desired and sucking the color from same. The cooperating nozzles will be adjusted one in respect of the other to cause the required spray to be delivered as occasion may demand.

While I have shown a practicable form of my device which has been put on the market by me, I do not limit myself to the details herein shown, since my invention is of larger scope.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In an air brush, the combination with a cylindrical reservoir having a free and clear interior and constituting the handle of the device, of an air tube mounted on one side of the reservoir and extending beyond one end thereof, a nozzle mounted on the said tube and longitudinally adjustable thereon, an extension from the other side of the said cylinder end provided with a chamber, there being a port from the cylinder to such chamber, a needle valve for controlling the port, a nozzle connection on such extension, a nozzle on the connection adjustable toward and from the air nozzle.

2. In an air brush, the combination with a cylindrical reservoir having a free and clear interior and constituting the handle of the device, of an air tube mounted on one side of the reservoir and extending beyond one end thereof, a nozzle mounted on the said tube and longitudinally adjustable thereon, an extension from the other side of the said cylinder end provided with a chamber, there being a port from the cylinder to such chamber, a needle valve for controlling the port, a nozzle connection on such extension, a nozzle on the connection adjustable toward and from the air nozzle, and a port entering said chamber from the outside.

3. In an air brush, the combination with a cylindrical reservoir, of an air tube mounted on one side of the reservoir, a nozzle mounted on the said tube and longitudinally adjustable thereon, an extension from the other side of the cylinder provided with a chamber, there being a port from the cylinder to such chamber, a needle valve for controlling the port, a nozzle carried by such extension and adjustable toward and from the air nozzle, and a port entering such chamber and provided with a combined plug and coupling seat.

4. In an air brush, the combination with a tubular reservoir having one end closed, of a removable closure at the other end of the said reservoir, an air tube mounted upon one side of the reservoir and having an adjustable nozzle extending beyond the closed end thereof, a chamber associated with such closed end and having a port com-

municating with the reservoir, a nozzle adjustable toward and from the air nozzle and having communication with the said chamber, a hose connection to the air tube
5 and a valve between the connection and air tube.

In witness whereof I have hereunto set

my hand in the presence of two subscribing witnesses.

WALTER J. SMART.

Witnesses:

ISADORE BERNSTEIN,
ANNA KANE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
