

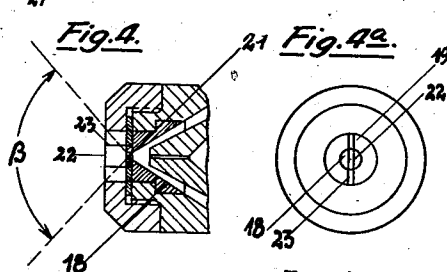
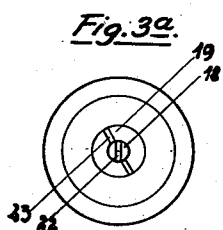
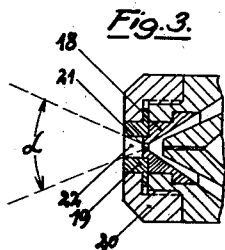
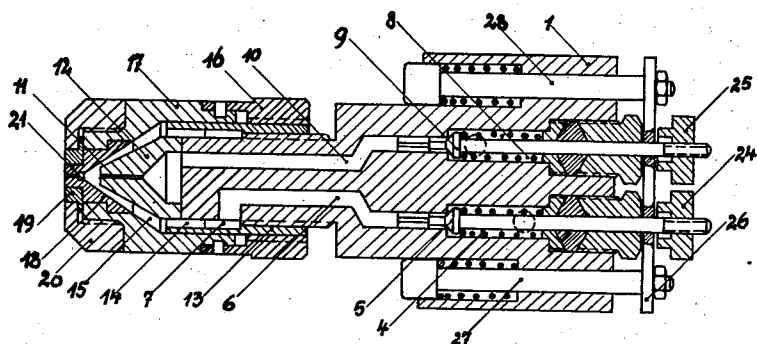
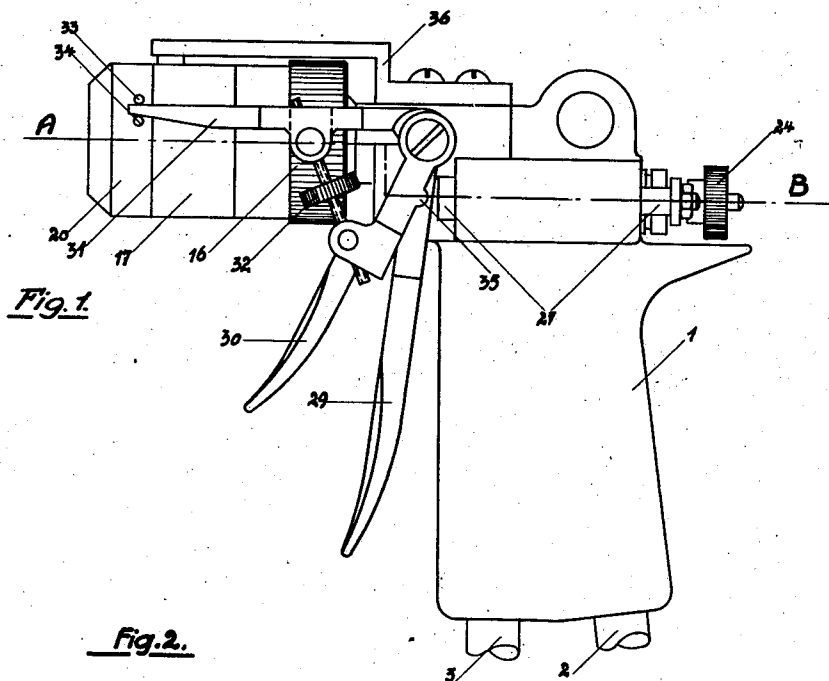
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ATOMIZING DEVICE

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ATOMIZING DEVICE

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3 Claims. (Cl. 299-140)

This invention relates to a device for atomizing pigments or the like by means of compressed air, more particularly a spraying pistol, as used for instance for applying varnish and the like, and consists in very simple and suitable means for operating this device, more particularly for selectively producing a wide and a narrow jet.

According to the present invention a mouthpiece is provided comprising a central nozzle for the pigment and two parts each having a slot therein and arranged over the said nozzle, the slot of the one part being positioned to receive the pigment from the nozzle, one of said parts being rotatable with respect to the other from a position in which the slots are in alignment with one another to form a continuous long slot to produce a wide ribbon-like jet into a position in which the slots are out of alignment to produce a narrow ribbon-like jet only through the slot receiving the pigment from the nozzle, an operating lever being provided for the rotatable part which has means thereon for engagement with the operating lever for turning the said part.

The arrangement may also be such that, on the wide jet being operated by a lever or the like, simultaneously with the rotation of one part of the mouthpiece the quantity of pigment delivered is greater than for the narrow jet, for instance through the valves which control the supply of pigment and compressed air being opened further by the lever. The levers may be forked and act on two spring-loaded pins disposed slidably on either side of the pistol body, which pins themselves act for instance by means of a transverse member on the air and pigment valves.

A constructional form of the invention is shown in the accompanying drawing, in which

Fig. 1 is an elevation of the spraying pistol,

Fig. 2 a horizontal section on line A-B of Fig. 1, the operating lever being omitted, and

Figs. 3 and 4 are vertical sections through the front part of the pistol, containing the nozzle and the mouthpiece, showing the parts of the mouthpiece in the two different positions relative to one another and Figs. 3a and 4a are end views of the front part of the pistol corresponding to Figs. 3 and 4, respectively.

Into the butt 1 of the piston body supply tubes 2 for the compressed air and 3 for the pigment are introduced. The compressed air enters into a chamber 4 which is closed by a valve 5, by opening which the compressed air is allowed to pass through the bores 6 into an annular chamber 7. In a corresponding manner the pigment

is conveyed into a chamber 8 closed by a valve 9 and through bores 10 to the central nozzle passage 11. The rear hollow cylindrical part 13 of the conical nozzle body 12 is screwed to the pistol body and is interrupted by bores 14 which connect the chamber 7 for the compressed air with the conical annular chamber 15. This chamber is bounded on one side by the conical nozzle body and on the other side by the outer closing member 17 which is screwed on to the nozzle body by means of the nut 16.

Into the part 17 is inserted the inner part 18 of the mouthpiece and over the latter is screwed the outer part 19 of the mouthpiece which is rigidly connected to the adjusting nut 20. The inner part of the mouthpiece is interrupted by a short cylindrical bore 21 and a slot 22 and the outer part of the mouthpiece by a slot 23 which can be turned for instance by adjusting the nut 20 out of the position shown in Fig. 3 into that shown in Fig. 4.

The stems of the valves 5 and 9 are extended backwards through stuffing boxes and are provided with nuts 24 and 25. A transverse member 26 is placed over the valve stems and is guided by spring-loaded pins 27 and 28, the heads of which bear against a forked lever 29 which is adapted by compressing the springs to displace the pins to the right and to open by a definite amount the valves 5 and 9 by means of the transverse member 26.

30 is another lever which together with the lever arm 31 forms a bell crank, the angle of which can be adjusted by an adjusting screw 32. The end of the lever arm 31 engages in the gap between two pins 33 and 34 fixed to the nut 20 and can in this way turn the nut 20 for instance in opposition to a retractile spring (not shown) and with it the part 19 of the mouthpiece with the slot 23. A boss 35 on the lever 30 is adapted, on pressure being exerted on the latter, to bear against the head of the pin 27, the idle motion of the lever being made such that the valves can be opened further by the lever 30 than by the lever 29. 36 indicates the manner of securing the closing piece 17 against turning.

The operation is as follows: By pressing the lever 29 towards the butt of the pistol body the pins 27 and 28 can be displaced by a certain amount to the right. At the same time the transverse member 26 bears against the nuts 24 and 25 and opens the valves 5 and 9. The compressed air will then flow through the passage 6 into the conical annular chamber 15 and atomize the pigment emerging out of the passage 10 and the

nozzle passage 11. The jet will then emerge through the opening 21 of the nozzle mouthpiece in front of the said passages. The position of the mouthpiece for this purpose is indicated in Fig. 3. The slots 22 and 23 cross one another so that the jet is restricted by the inner bore of the outer part of the mouthpiece and can only play over an angle α .

In Fig. 4 the position for the wide jet is shown. For this purpose the lever 30 is pressed towards the butt causing the lever arm 31 to turn the nut 20 and to bring the slot 23 in alignment with the slot 22. The jet thus assumes an angle β . At the same time the valves are opened further by the boss 35 so that more pigment is supplied to correspond to the greater width of jet.

Through turning the knurled nut 16 after releasing the safety catch 36, the width of the annular chamber 15 can be adjusted. While in operation, however, the annular chamber remains unchanged, so that a uniform operation of the arrangement is always ensured.

What I claim is:

1. In a spraying pistol for atomizing pigments and the like by means of compressed air, a mouthpiece comprising a central nozzle for the pigments and two parts each having a slot therein and arranged over said nozzle with the slot of one part positioned to receive pigment from the nozzle and the other part mounted thereon and capable of rotation with respect thereto, from a position with the slots in alignment with one another to form a continuous long slot to produce a wide jet into a position with the slots out of alignment to produce a narrow jet only through the slot receiving the pigment from the nozzle, an operating lever for said rotatable part and means on said part in engagement with said operating lever for turning the said part.

2. In a spraying pistol for atomizing pigments and the like by means of compressed air, a mouthpiece comprising a central nozzle for the pigments and two parts each having a slot therein and ar-

ranged over said nozzle with the slot of one part positioned to receive pigment from the nozzle said part being rotatable with respect to the nozzle and the other part being capable of rotation with respect to the said part from a position with the slots in alignment with one another to form a continuous long slot to produce a wide jet into a position with the slots out of alignment to produce a narrow jet only through the slot receiving the pigment from the nozzle, and an operating lever for the second-mentioned part pivoted on the pistol and operatively connected to the second-mentioned part for turning said part with respect to the first-mentioned part.

3. In a spraying pistol for atomizing pigments and the like by means of compressed fluid, a pistol body having a conduit for the supply of pigment and a conduit for the supply of compressed air therein, a mouthpiece comprising an inner part having a radial slot therein positioned to receive pigment and compressed air from said conduits an annular outer part surrounding said inner part and having a radial slot therein, one of said parts being rotatable with respect to the other part from a position in which the slots are out of register and the pigment is ejected in the form of a narrow jet from the slot in the inner part only into a position in which the slots are in register endwise so that the slots in the inner and outer parts constitute an elongated radial slot from which the pigment supplied to the slot in the inner part issues in the form of a wide jet, an actuating member operatively connected to the rotatable part for turning said part with respect to the other part and control means in the said conduits for regulating the supply of pigment and the supply of compressed air to the slot in the inner part, said actuating member arranged to actuate the control means to increase the supply of pigment and compressed air in the position of the rotatable part in which the two slots in the parts are in register with one another.

OTTO SEIZER.