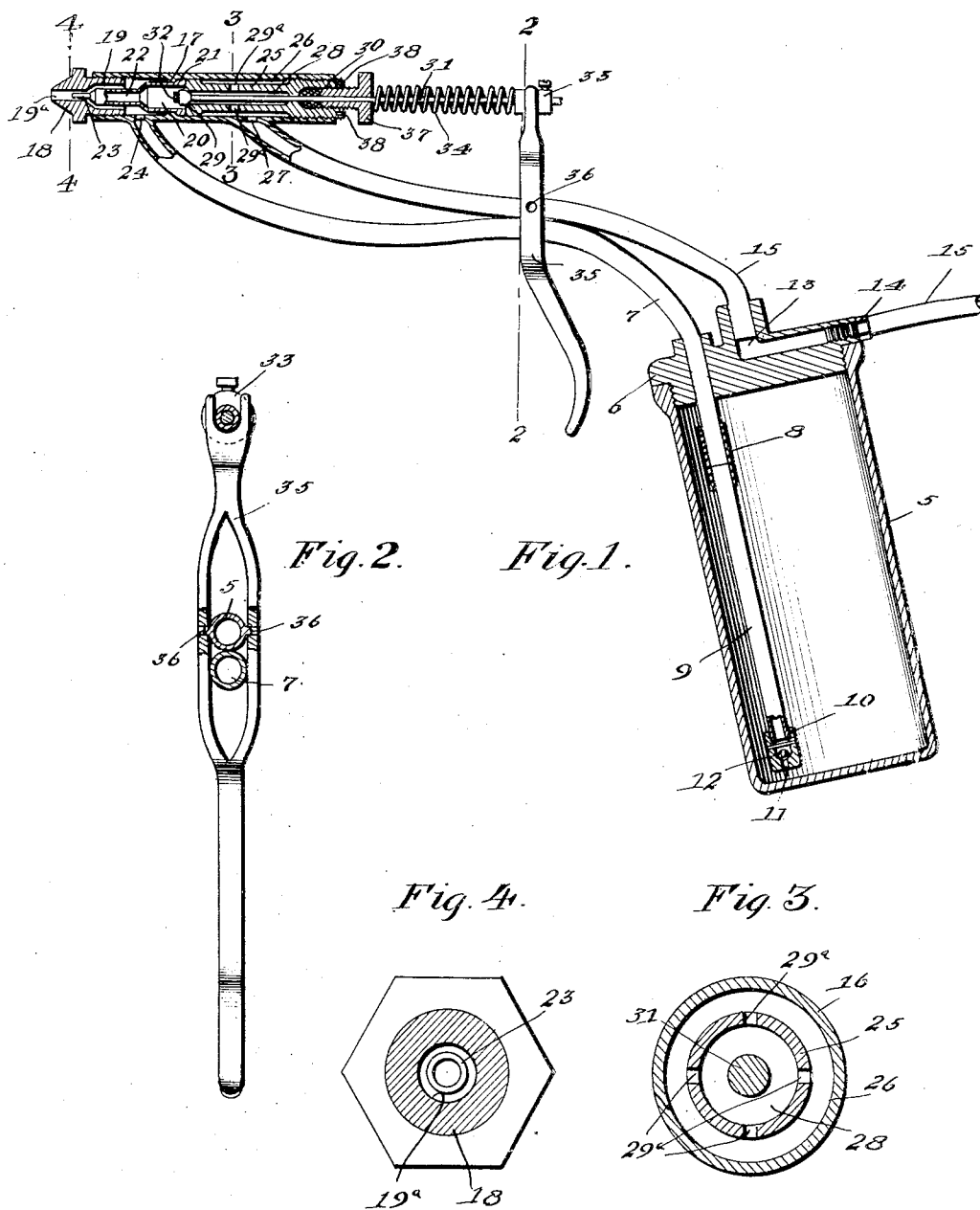


O. R. PLUMMER.
PAINT SPRAYER.
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PAINT-SPRAYER.

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To all whom it may concern:

Be it known that I, ORLA R. PLUMMER, a citizen of the United States, residing at Napoleon, in the county of Henry and State of Ohio, have invented new and useful Improvements in Paint-Sprayers, of which the following is a specification.

This invention relates to spraying devices, particularly to spraying devices for the application of paint, and has for its object the provision of a paint sprayer or atomizer which is so constructed as to be readily held by the operator, the reservoir serving as the handle and a trigger member being provided to control the passage of compressed air through the device.

A further object is the provision of a device of this character in which the spray nozzle is adjustable whereby the quantity of paint discharged therethrough may be regulated independently of the quantity of compressed air passing therethrough.

A further object is the provision of a device of this character which will be simple and inexpensive in manufacture, the parts of which may be quickly and easily disassembled for cleaning, which will be efficient and durable in use, and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction to be hereinafter more fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal sectional view through the device,

Fig. 2 is a cross sectional view on the line 2—2 of Fig. 1,

Fig. 3 is a cross sectional view on the line 3—3 of Fig. 1, and

Fig. 4 is a cross sectional view on the line 4—4 of Fig. 1.

Referring more particularly to the drawings, the numeral 5 designates a reservoir of suitable size which has threaded within the upper portion thereof a closure plug 6 through which extends an outlet pipe 7 which extends somewhat into the reservoir and which is connected at this end by means of a flexible rubber sleeve 8 with a tube 9 extending downwardly within the reservoir and provided at its end with a valve cage 10 having an opening 11 normally closed by a ball 12. Formed through the plug 6 but having no communication with the interior

of the reservoir, is a passage 13 into the lateral end of which is threaded a nipple 14 to which is connected a rubber tube or the like 15 leading to a suitable source of compressed air supply, not shown. Also connected with the plug 6 at the vertical portion of said passage 13 therein, is a tube 15 which extends in substantially parallel relation to the tube 7. The paint to be applied is initially disposed within the reservoir 5, the plug 6 being removed to permit this operation.

The nozzle portion of the device comprises a cylindrical shell 16 which is internally threaded at both ends, as shown, and which is provided intermediate its ends with a stop flange 17. Threaded into one end of the casing 16 is a nozzle proper 18 having formed therein a chamber 19 communicating with a relatively small passage 19^a.

Disposed within the casing 16 is a nipple 20 which is provided at one end with an outwardly extending flange 21 engaging the stop flange 17 on the inner periphery of the casing 16 and having its other end formed as a reduced extension 22 extending within but in spaced relation to the walls of the chamber 19 in the nozzle 18. This extension 22 terminates in still another extension 23 which is of very small diameter and which is disposed parallel within the passage 20 in the nozzle 18. The tube 7, which is metallic as is also the tube 15, is connected through a hole 24 with the space surrounding the nipple 20.

Disposed within the casing 16 is a member 25 which bears at one end against the enlarged portion or flange 21 of the nipple 20. The central portion of this member 25 is reduced, as shown, to provide an annular chamber 26 surrounding this member and the tube 15 is connected with the casing 16 and communicates with the chamber 26 through an opening 27 in the casing 16. At its other end, the member 25 is threaded into the casing 16. The member 25 is provided throughout substantially half of its length with a chamber 28 terminating in a valve seat 29 opening into the nipple 20. The intermediate portion of the member 25 is provided with holes 29^a which establish communication between the chambers 26 and 28. The outer end of the member 25 is provided with a stuffing box 30 and passing

through this stuffing box and through the chamber 28 is a valve rod 31 carrying at its inner end a valve 32 adapted to close the seat 29. At its outer end the valve rod 31 carries a grooved collar 33 between which and the stuffing box is disposed a coil spring 34 normally forcing the collar 33 away from the casing 16 and resulting in holding the valve 32 closed. The trigger member 35 engages the collar 33 at one end, straddles the tubes 7 and 15 and is pivotally connected with the tube 15, as shown at 36, and has its lower end disposed adjacent the upper end of the reservoir 5 and curved for convenient engagement by the fingers of the operator.

In the operation of the device, compressed air is supplied through the tube 14 and tube 15, through the hole 27 into the chamber 28 between the member 25 and casing 16, and through the holes 29^a into the chamber 28. When the operator presses upon the trigger 35 and moves the valve stem 31 against the resistance of the spring 34 the valve 32 will be unseated to a greater or less extent, depending upon the degree of movement of the trigger and the compressed air will then pass through the valve seat 29 into the nipple 20, extension 22, reduced extension 23 and out through the passage 19^a. As the compressed air follows this course it will create a certain degree of suction in the chamber 19 which will result in drawing paint from the reservoir 5, through the tube 7, through the hole 24, into the chamber 19 and out through the passage 19^a. The paint will be discharged in the form of a spray which is highly suitable for certain types of painting, particularly automobile wheels and the like.

As pointed out above, the amount of compressed air passing through the device is controllable by varying the movement of the valve 32. The amount of paint discharged from the device with the compressed air is regulated by turning the nozzle proper 18 in either direction so as to vary the opening between the juncture of the passage 19^a with the chamber 19 and the juncture of the extension 22 with the reduced extension 23, as will be apparent.

In order that the device may be very quickly and easily assembled or disassembled as for instance to facilitate cleaning, it is preferable that the nozzle proper 18 be formed angular whereby it may be conveniently engaged by a wrench, and it is advisable that the adjusting screw 37 of the stuffing box 30 be milled or knurled or else formed angular, and that the outer end of the member 25 be provided with holes 38 for engagement by a suitable wrench.

From the foregoing description and a study of the drawing it will be apparent that I have thus provided a simple and efficient device whereby paint may be readily sprayed onto a surface by means of compressed air, the device being so constructed as to be capable of quick assembling or disassembling, and means being provided for varying the passage of compressed air and also for varying the quantity of paint sprayed, irrespective of the amount of compressed air discharged from the device.

While I have shown and described the preferred embodiment of my invention, it is of course to be understood that I reserve the right to make such changes in the form, construction, and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:—

A device of the character described comprising a reservoir shell, a nozzle formed as a cylindrical casing provided intermediate its ends with an internal flange, a nozzle member disposed within said casing and having at one end a flange engaging said internal flange, said nozzle member including an extension, and a reduced extension formed at the end of said first named extension, a discharge nozzle threaded into one end of said casing and provided with a chamber spaced from the outer periphery of said extension and further provided with a relatively small passage receiving said reduced extension, a tube communicating with said reservoir shell, connected with said casing, and communicating with the chamber in said discharge nozzle, a member disposed within the other end of said casing and abutting at its inner end against said second named flange, said member being provided with a chamber terminating in a valve seat, said member being reduced intermediate its ends, whereby to define an annular chamber, said member being provided with a plurality of openings establishing communication between the chamber therein and the chamber formed by said reduced portion, a second tube leading from a source of compressed air connected with said casing and communicating with said annular chamber, a valve stem slidable through said member and carrying at one end a valve engaging said seat, means normally holding said valve closed, and a trigger member pivoted upon said tubes, connected with the free end of said valve stem and disposed adjacent said reservoir shell.

In testimony whereof I affix my signature.
ORLA R. PLUMMER.