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ADJUSTABLE STOP FOR SPRAY GUN VALVE SPINDLES

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Fig. 1.

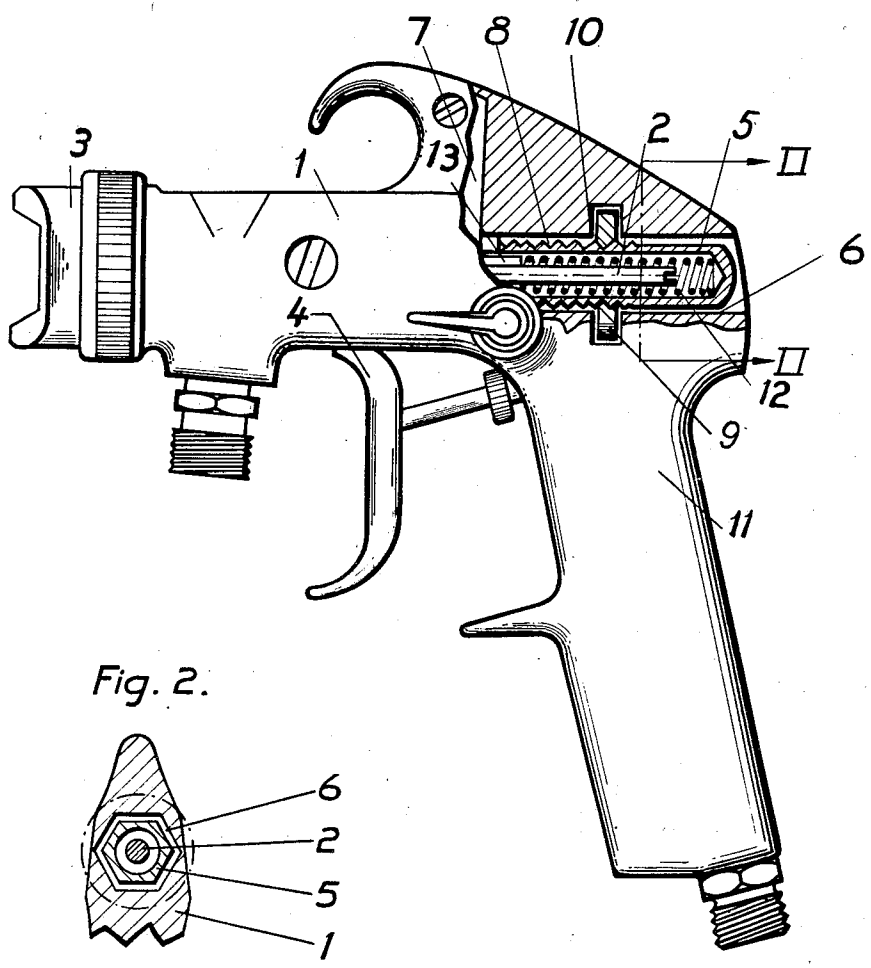


Fig. 2.

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ADJUSTABLE STOP FOR SPRAY GUN VALVE SPINDLES

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10 Claims. (Cl. 299—150)

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This invention relates to spray guns having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger. Such spray guns are commonly used for spraying paint or other materials discharged through a nozzle of the spray gun controlled by a spray material valve.

One object of the invention is to provide a spray gun which is simple and cheap in manufacture. A further object of the invention is to provide means for adjustably limiting the movement of the spray material valve spindle in such spray guns.

For these and other purposes I provide a spray gun having a gun body and a nozzle valve controlling spindle movable in the gun body by means of a trigger, an adjustable spindle stop for limiting spindle movement rearwardly in the gun body displaceable in the direction of movement of the spindle but locked against rotation, and adjusting means accessible from the outside of the gun body and engaging said stop for moving the stop and for holding the stop in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

In the accompanying drawing one embodiment of a spray gun according to the invention is illustrated by way of example, it being understood, however, that the invention is not limited to spray guns of this particular design but may be employed in spray guns of other designs known by those skilled in the art.

In the drawing Fig. 1 is a side elevation and partial section of a paint spray gun according to the invention, and Fig. 2 a partial section on line II—II of Fig. 1.

In the drawing 1 designates the gun body in the longitudinal direction of which a spray material nozzle valve controlling spindle 2 is movable axially of the spindle. The nozzle valve controls the discharge of spray material from a nozzle 3 in conventional manner. The spindle 2 is movable longitudinally by means of a trigger 4. The rear portion of the spindle 2 visible in Fig. 1 projects into a sleeve 5 of hexagonal external cross section. Such sleeve is movable longitudinally of the spindle in a correspondingly hexagonal prismatic guide 6 formed in the gun body but is prevented due to the shape of the cross section from turning in the guide. The guide 6 traverse the gun body from its rear end to a central cavity 7, into which the trigger 4 extends and which is traversed by the spindle 2. The sleeve 5 is screw threaded along a portion of its length extending toward the cavity 7 as indicated at 8, and an adjusting nut 9 accessible from the outside of the gun body engages the screw threads 8 with corresponding screw threads. The adjusting nut 9 is disposed in a narrow opening 10 in the gun body and projects laterally somewhat out of said opening at the two sides of the gun body, as indicated in chain dotted lines in Fig. 2, so that the nut is accessible and may be manipulated from the outside of the gun body, for instance by means of the thumb of a hand holding the spray gun. The bottom of the sleeve 5 forms a stop, which limits the rearward movement of the spindle 2 when the trigger 4 is pressed towards the handle 11 of the spray gun. A helical spring 12 is provided in the sleeve 5 around the spindle 2. At one end the spring bears on the bottom of the sleeve 5 and at the other end bears on an abutment flange 13 provided on the spindle 2 so that the spindle is normally pressed forwardly in the gun body towards closing position of the spray material nozzle.

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When the adjusting nut 9 is turned in one direction or the other the sleeve 5 is displaced forwardly or rearwardly, respectively, in the guide 6 in the gun body, and, consequently, the spindle 2 is stopped in different retracted positions depending upon the position of adjustment of the sleeve 5. In the manufacture of spray guns embodying the invention the guide 6 may be formed in connection with the casting of the gun body so that machining of the guide is superfluous. The opening 10 may be also be formed in the process of casting the gun body.

The spray gun above described and illustrated in the drawing should only be considered as an example and the invention may be modified in several different ways within the scope of the claims. The guide 6 in the gun body may naturally have any other suitable cross section than the hexagonal cross section illustrated in the drawing, and the cross section may, for instance, be of rectangular or any other non-circular shape. The sleeve 5 or the like does not have to be shaped with the same cross sectional shape as the guide 6 as long as the sleeve and the guide are only so formed that the sleeve is prevented from turning in the guide.

What I claim is:

1. A spray gun having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger, an adjustable spindle stop for limiting spindle movement rearwardly in the gun body displaceable in the direc-

tion of movement of the spindle but locked against rotation, and adjusting means accessible from the outside of the gun body and engaging said stop for moving the stop and for holding the stop in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

2. A spray gun having a gun body and a nozzle valve controlling spindle axially movable in said gun body by means of a trigger, an axially adjustable spindle stop for limiting spindle movement axially rearwardly in the gun body and locked against rotation, and adjusting means accessible from the outside of the gun body and engaging said stop for moving the stop and for holding the stop in positions of axial adjustment and rotatable in the gun body but locked against axial displacement in the gun body.

3. A spray gun having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger, an adjustable spindle stop for limiting spindle movement rearwardly in the gun body displaceable in the direction of movement of the spindle but locked against rotation, external screw threads on said spindle stop, and adjusting means accessible from the outside of the gun body and provided with screw threads engaging said external screw threads for moving the stop and for holding the stop in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

4. A spray gun having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger, an adjustable spindle stop of at least partially uniform non-circular cross section for limiting spindle movement rearwardly in the gun body displaceable in the direction of movement of the spindle, a guide for said stop having at least partially uniform non-circular cross section permitting displacement of the stop in the direction of movement of the spindle but preventing rotation of the stop in said guide, and adjusting means accessible from the outside of the gun body and engaging the stop for moving the stop in the guide and for holding the stop in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

5. A spray gun having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger, an adjustable spindle stop of at least partially uniform non-circular cross section for limiting the spindle movement rearwardly in the gun body displaceable in the direction of movement of the spindle, a guide for said stop cast in the material of the gun body having at least partially uniform non-circular cross section permitting displacement of the stop in the direction of movement of the spindle but preventing rotation of the stop in said guide, and adjusting means accessible from the outside of the gun body and engaging the stop for moving the stop in the guide and for holding the stop in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

6. A spray gun having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger, an adjustable spin-

dle stop sleeve of at least partially uniform non-circular cross section for limiting the spindle movement rearwardly in the gun displaceable in the direction of movement of the spindle, an external screw thread along a portion of said sleeve, a guide in the gun body for the sleeve having at least partially uniform non-circular cross section permitting displacement of the sleeve in the direction of movement of the spindle but preventing rotation of the sleeve in said guide, and an adjusting nut accessible from the outside of the gun body and screw threaded for engagement of the sleeve for moving the sleeve in the guide and for holding the sleeve in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

7. A spray gun having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger, an adjustable sleeve of at least partially uniform non-circular cross section displaceable in the direction of movement of the spindle but locked against rotation, a bottom in said sleeve forming a spindle stop for limiting spindle movement rearwardly in the gun body, and adjusting means accessible from the outside of the gun body and engaging said sleeve for moving the sleeve and for holding the sleeve in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

8. A spray gun having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger, an adjustable sleeve of at least partially uniform non-circular cross section displaceable in the direction of movement of the spindle but locked against rotation, a bottom in said sleeve forming a spindle stop for limiting spindle movement rearwardly in the gun body, an abutment on the valve spindle, a spring surrounding the valve spindle in said sleeve interposed between said abutment and said bottom of the sleeve, and adjusting means accessible from the outside of the gun body and engaging the sleeve for moving the sleeve and for holding the sleeve in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

9. A spray gun having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger, an adjustable spindle stop of at least partially uniform non-circular cross section for limiting the spindle movement rearwardly in the gun body displaceable in the direction of movement of the spindle, a cavity in the gun body accommodating said trigger and traversed by the spindle, a guide in the gun body for said stop having at least partially uniform non-circular cross section permitting displacement of the stop in the direction of movement of the spindle but preventing rotation of the stop in said guide and traversing the gun body from said cavity rearwardly in the gun body, and adjusting means accessible from the outside of the gun body and engaging the stop for moving the stop in the guide and for holding the stop in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

10. A spray gun having a gun body and a nozzle valve controlling spindle movable in said gun body by means of a trigger, an adjustable spin-

dle stop for limiting spindle movement rearwardly in the gun body displaceable in the direction of movement of the spindle but locked against rotation, a lateral opening in said gun body, and adjusting means accessible from the outside of the gun body through said lateral opening and engaging said stop for moving the stop and for holding the stop in positions of adjustment and rotatable in the gun body but locked against displacement in the direction of movement of the spindle in the gun body.

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