Dec. 11, 1951 W. P. DALRYMPLE 2,578,402

SPRAY GUN

Filed Dec. 3, 1947

Fig. 1

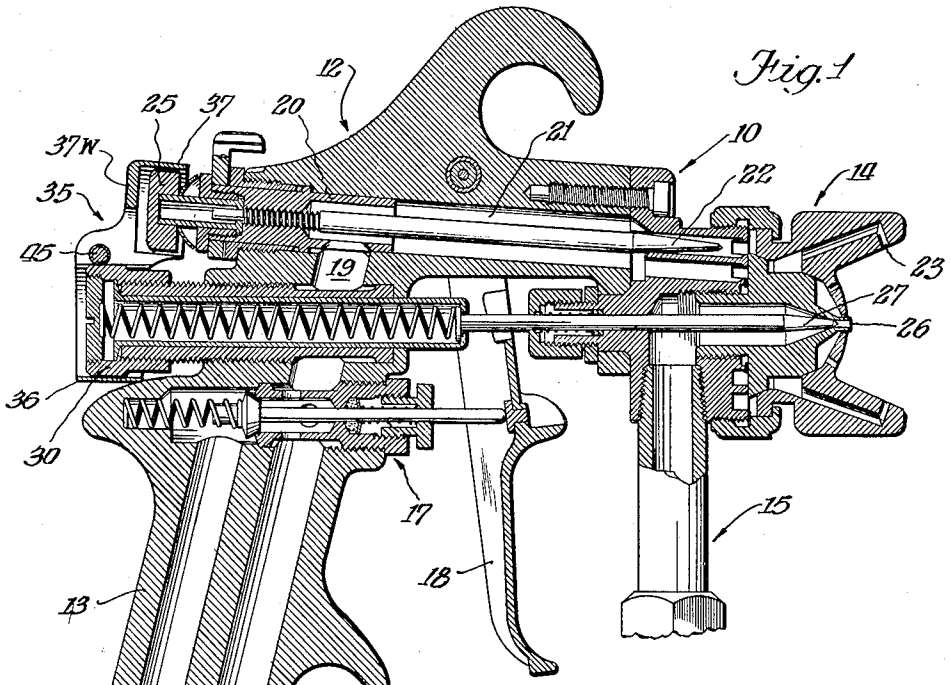


Fig. 2

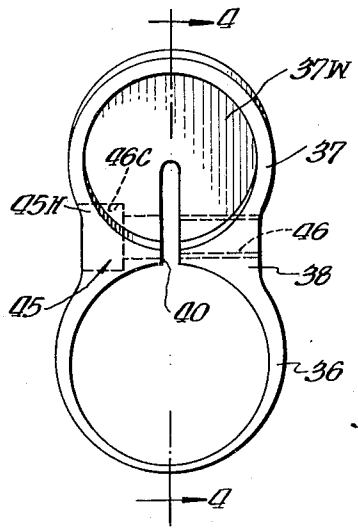
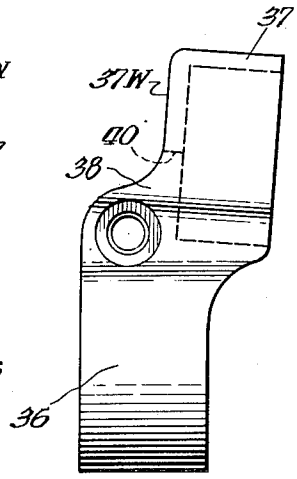


Fig. 3



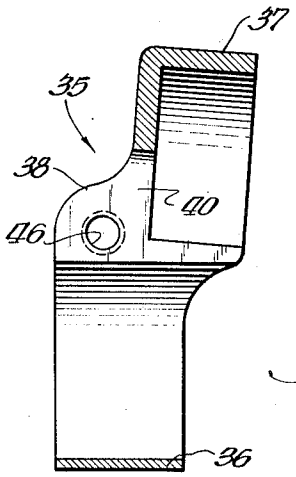


Fig. 4

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UNITED STATES PATENT OFFICE

2,578,402

SPRAY GUN

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Application December 3, 1947, Serial No. 789,482

2 Claims. (Cl. 299—141)

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This invention relates to spray guns and particularly to a locking means whereby the adjustment of the spray gun may be preserved.

In spray guns of the wing jet type that are used in spraying paint or similar substances, provision is usually made for accurately adjusting the relationship of the supplemental or wing jet air supply and the paint supply so as to produce a particular spray pattern, and to produce the best application of the paint to the work in large painting establishments, such adjustment of the spray guns is usually done by the head painter or by someone else who is particularly skilled in adjusting the valve mechanisms of the spray guns. It has been found in practice that there is a tendency on the part of the workmen to endeavor to change or adjust the supplemental air supply and paint supply in such guns in the course of the use thereof, and because of this it often happens that the resulting work is not up to the desired standard. It is therefore the primary object of this invention to enable the adjusting means of the spray gun to be readily and easily locked in adjusted position, and an object related to the foregoing is to enable this to be accomplished by means that are simple and economical in character.

Other and further objects of the present invention will be apparent from the following description and claims and are illustrated in the accompanying drawings which, by way of illustration, show a preferred embodiment and the principles thereof and what I now consider to be the best mode in which I have contemplated applying those principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claims.

In the drawing:

Fig. 1 is a vertical section through a spray gun equipped with the locking means of the present invention;

Fig. 2 is an end elevational view of the locking means;

Fig. 3 is a side elevational view of the locking means; and

Fig. 4 is a vertical sectional view taken along the line 4—4 of Fig. 2.

In the form chosen for disclosure herein, the invention has been illustrated as it is applied to a spray gun 10 of the form illustrated in my copending Serial 734,819, filed March 14, 1947, now

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Patent No. 2,559,407. This spray gun 10 is of the pistol-grip type, having a main body 12 with a downwardly extending handle 13 on what may be termed the rear end of the body, and having a wing jet discharge or spray head 14 at the forward end of the body 12. As disclosed in detail in my aforesaid copending application, paint is supplied to the discharge head 14 through an inlet pipe 15, while operating pressure air is supplied through a passage 16 that extends longitudinally upwardly through the handle 13. A main valve mechanism 17 is governed by a control lever or trigger 18, and the air which passes the main valve mechanism 17 is led upwardly through the passage 19 and a valve sleeve 20 into a generally horizontal passage 21 that extends forwardly to the spray head 14. A needle valve 22 extended through the passage 21 controls the adjustment of air that is to be supplied through wing jet ports 23, that are afforded in the spray head 14, and adjustment of the needle valve 22 is effected by a knurled head 25 that is operatively connected with the rear end of the needle valve 22 so that the head 25 extends rearwardly from the rear end of the body 12.

The paint supply from the inlet 15 to the main paint discharge port 24G is governed by a needle valve 27 which, as described in my aforesaid copending application, is adjusted by means including a knurled head 30 that is disposed below and somewhat rearwardly of the adjusting head 25.

The adjustments that are effected by the heads 25 and 30 are considered to be the most vital adjustments in producing the most satisfactory operation of the spray gun, and under the present invention, the adjustments of the members 25 and 30 may be readily maintained by a locking member 35 which may be secured in position about the members 25 and 30 so as to prevent rotation of these adjusting members. As will be noted in Figs. 2, 3, and 4, the locking member 35 comprises a pair of annular or sleeve-like elements 36 and 37 that are connected by an intermediate web portion 38. The annular member 37 is adapted to surround and enclose the adjusting head 25, and this annular member 37 has a rear wall 37W which, as shown in 31, is disposed just rearwardly of the head 25 when the locking device 35 is in position. When the locking device is thus located on the spray gun, the lower sleeve like portion 36 surrounds the head 30, and thus when the locking device 35 is in this position, the two adjusting heads 25 and 30 are so enclosed that they cannot be engaged man-

ually to impart adjusting movements thereto. The locking member **35** may be secured in position by clamping the same onto one of the two adjusting heads. In enabling this to be accomplished, the wall **37W** has a milled slot **40** formed therein so as to extend upwardly through this wall and through the adjacent wall portions of the sleeve-like members **36** and **37**. This milled slot **40** is in fact extended upwardly through the connecting portion **38** of the locking device, and hence the lower sleeve like member **36** may be clamped to the outer edge surfaces of the adjusting head **30** by drawing the walls of the slot **39** toward each other. This is accomplished by extending a clamping screw **45** through a transverse bore **46** that is disposed just above the lower end of the slot **40** and perpendicular to the plane of the slot **40**. The head **45H** of the screw **45** is seated in a counter-bore **46C**, and the head **45H** may be of the Allen head type so as to facilitate operation thereof in clamping and unclamping the portion **36** with respect to the lower head **30**.

When the locking device **35** is thus in position about the two adjusting heads **25** and **30**, the workman who is using the spray gun cannot conveniently operate the adjusting heads **25** and **30**, and therefore undesired disturbances of the adjustment of these adjusting heads is avoided in most instances.

From the foregoing it will be apparent that the present invention enables the adjusting devices of a spray gun to be readily and easily locked against undesired disturbances, and this is accomplished by means that are of a simple and inexpensive character. Moreover, the use of the present locking means does not require modification of the spray gun in any way, and hence the use of the present locking device may be accomplished economically.

Thus, while I have illustrated and described the preferred embodiments of my invention, it is to be understood that these are capable of variation and modification and I therefore do not wish

to be limited to the precise details set forth, but desire to avail myself of such changes and alterations as fall within the purview of the following claims.

I claim:

1. In a spraying appliance of the class described which includes a body having a forwardly opening air passage, a needle valve arranged for controlling said air opening passage, a port for discharging spraying material, a needle valve arranged for controlling the opening of said discharge port, means for adjusting each of said needle valves, the improvement which comprises a locking means for said needle valve adjusting means, said locking means consisting of a pair of cylindrical shaped members for engagement over the ends of said needle valve adjusting means, said locking means comprising a unitary structure detachably mounted on the body of said spraying appliance by a transverse clamping screw.

2. In a spraying appliance structure as claimed in claim 1 wherein said cylindrical shaped members are connected by a web portion and the uppermost cylindrical member for engagement over the outer end of one of the needle valve adjusting means is at least partially closed by a rear wall.

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