Feb. 18, 1930. A. B. HULL 1,747,670

SPRAY GUN

Filed July 30, 1927

Fig. 1.

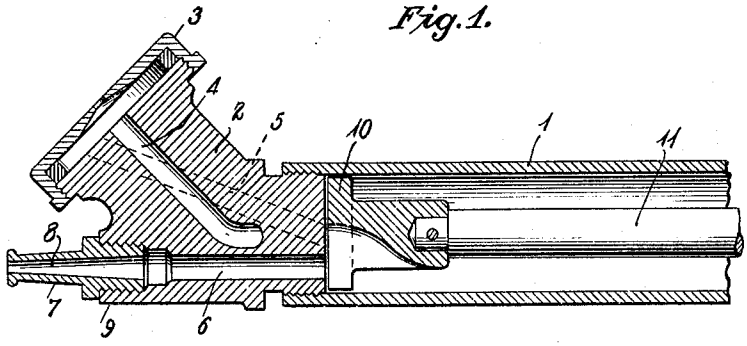


Fig. 2.

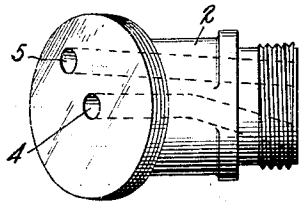


Fig. 4.

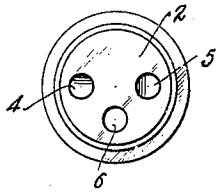
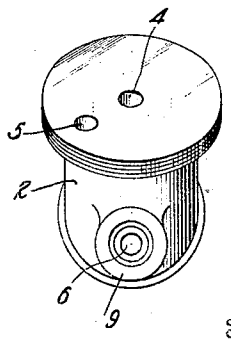


Fig. 3.



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UNITED STATES PATENT OFFICE

ARTHUR B. HULL, OF GASPORT, NEW YORK, ASSIGNOR TO FRIEND MANUFACTURING COMPANY, OF GASPORT, NEW YORK, A CORPORATION OF NEW YORK

SPRAY GUN

Application filed July 30, 1927. Serial No. 209,527.

This invention relates to a novel spray gun construction and more particularly to a multi-purpose nozzle head therefor.

The primary object of my invention is to increase the range of usefulness of devices of this character by providing a nozzle head capable of performing an enlarged variety of work.

Other objects relate to features of construction and design conducive of simplicity and cheapness of manufacture.

An illustrative embodiment of my invention is found in the accompanying drawings wherein:

Fig. 1 is a longitudinal sectional view of a spray gun constructed in accordance with my invention;

Fig. 2 is a plan view of the nozzle head;

Fig. 3 is an end view of the discharge end of the nozzle; and

Fig. 4 is an end view of the inlet end of the nozzle.

My improved nozzle construction is embodied in a spray gun having a cylindrical fluid chamber 1 provided at its open end with threads or other suitable securing means for receiving thereinto the projecting end of a nozzle structure. Fluid under pressure may be introduced into the cylinder 1 in any convenient manner and the passage of such fluid from the cylinder may be controlled by a valve spindle 11 projecting through the opposite end of the cylinder and provided with a handle or by other equivalent means as desired.

My improved nozzle construction comprises a body 2 of substantially elbow formation and having an inlet face disposed substantially at right angles to the axis of the cylinder 1 and an outlet face at the opposite end of the elbow-shaped body disposed at an angle to the axis of the cylinder. A cap 3 having a centrally disposed aperture is adapted to have threaded or other suitable connection with the outer end of the nozzle body and covers the discharge face thereof and the discharge passages to be hereinafter described. A passage 4 extends inwardly from the center of the discharge face of the nozzle and communicates with an angularly disposed bore leading to the inlet face of the nozzle at a point eccentric to the axis thereof. A second bore or fluid passage 5 extends in a straight line from the inlet face at a point eccentric to the axis thereof to an eccentric opening in the discharge face. A suitable valve is employed within the cylinder to selectively control the passage of fluid under pressure through these two passages. The bore which terminates at the center of the discharge face affords a straight solid stream whereas the bore which terminates at a point eccentric to the axis of the discharge face affords a diffused or what is known as an angle wide spray. Streams of these characters have been found suitable for quite a variety of work and working conditions but it has been found in practice to be desirable to have in addition, a direct or straight drive spray. This I have accomplished by forming on the nozzle body at the bend thereof, a boss of suitable dimensions to receive a nozzle or other fluid discharging device communicating with a third fluid passage leading to the inlet face of the nozzle.

The boss is represented by the numeral 9 and is interiorly threaded to receive a small nozzle 7. The nozzle 7 is provided with a tapered or other suitable form of passage which communicates with a straight bore 6 leading to the inlet face of the nozzle body.

By means of the valve disk 10 and spindle 11, the fluid under pressure within the cylinder 1 may be selectively discharged through any one or any combination of the passages 4, 5 and 6. This arrangement provides for a solid stream, an angle wide spray, and a direct or straight drive through the auxiliary nozzle 7 as described above. It will be noted that each of the three passages terminates at

the inlet face of the nozzle in eccentric relation to the axis thereof and equi-distant from said axis.

The structure shown in the drawings and herein described is but one of many structural forms in which the principle of my invention might be embodied and I therefore do not intend that my invention shall be limited otherwise than by the limitations appearing in the appended claims.

What I claim is:

1. In a spray gun, the combination with a fluid supply chamber, of a nozzle body secured thereto, said body being of substantially elbow form and terminating in inlet and discharge faces substantially normal to the axis of the respective arms thereof, a plurality of discharge passages extending through said body and terminating at the respective faces thereof, a boss integral with said body substantially at the apex thereof, said boss having a passage therethrough terminating at the inlet face of said body and means coacting with said inlet face for selectively controlling the admission of fluid to said passages.

2. In a spray gun, the combination with a cylindrical fluid chamber, of a nozzle body secured to the open end of said chamber, said body comprising an inlet face and two discharge faces, a plurality of angularly related passages for straight and angle spraying respectively in said body and extending from said inlet face to one of said discharge faces and terminating in spaced relation and a passage extending from said inlet face to the other of said discharge faces and means for selectively controlling said passages.

3. In a spray gun, the combination with a cylindrical fluid chamber, of a nozzle body secured to the open end of said chamber, said body comprising inlet and discharge faces, said discharge face being disposed at an angle to said inlet face, a plurality of angularly disposed passages for straight and angle spraying respectively extending from said inlet face to said discharge face and terminating in spaced relation, an apertured cap secured to said body over said discharge face and in spaced relation thereto, a further passage extending through said body in parallel relation to the axis of said chamber and body and terminating at the inlet face of the latter and means within said chamber for selectively controlling said passages.

4. A spray gun nozzle comprising a body of curved elbow-like form having inlet and discharge faces arranged substantially normal to the axis of said body at the inlet and discharge faces respectively thereof, a boss formed integral with said body and extending in a substantial axial direction from the surface of greatest curvature thereof, said boss being threaded for the reception of an auxiliary nozzle, a passage extending in a substantially axial direction through said body and boss, a plurality of angularly related passages extending through said body from the inlet to the outlet faces thereof and terminating in spaced relation at said outlet face, all of said passages terminating in spaced relation to each other at the inlet face and eccentric thereto, and a valve for selectively controlling said passages.

In testimony whereof I affix my signature.

ARTHUR B. HULL.