April 23, 1957 W. W. BLOOM ET AL 2,789,867

SPRAY GUN

Filed April 26, 1955

FIG. 1.

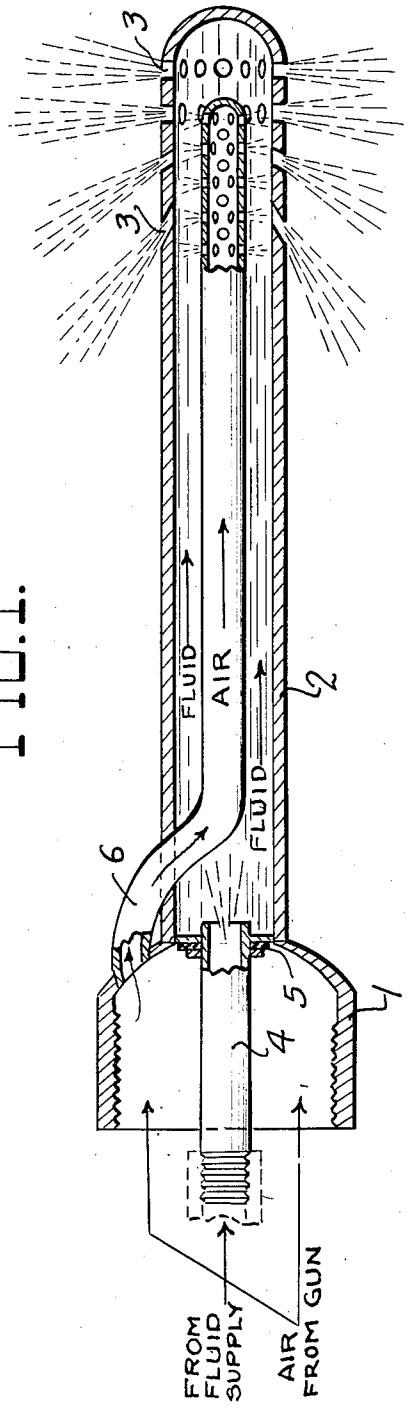
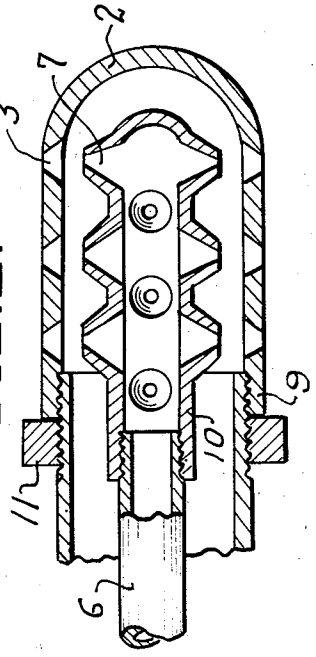


FIG. 2.



INVENTOR.
Wilbur W. Bloom
BY Donald L. Remy
Owen & Owen
ATTORNEYS

United States Patent Office 2,789,867 Patented Apr. 23, 1957

2,789,867

SPRAY GUN

Wilbur W. Bloom and Donald L. Remy, Tiffin, Ohio

Application April 26, 1955, Serial No. 504,052

1 Claim. (Cl. 299—140)

This invention relates to spray guns, and particularly to one adapted to be projected through small openings and into small chambers or spaces, such for instance as the spaces occurring interiorly of automobile walls and doors to permit spray coating of the interior wall surfaces of such spaces.

In the use of automobiles, airplanes and other apparatus exposed in use to weather conditions, and having hollow metal walls, doors and other parts, rusting of such walls frequently occurs by reason of moisture collecting on the interior surfaces thereof due to condensation within the spaces or to water entering the spaces from outside. When such rusting occurs it is necessary or desirable to replace or patch the rusted panels or walls at a considerable expense and annoyance to the owner.

The object of this invention is to prevent the occurrences of such rusting by the provision of a spray gun having an elongated nozzle for projection into a wall or other space through a small opening therein and particularly adapted and constructed to spray a rust-preventing coating onto the interior wall surfaces of the space in an efficient, rapid and economical manner.

Another object of the invention is the provision of a spray gun having a long narrow tubular nozzle into which both the coating material and ejecting air pressure are separately introduced and mixed interiorly of the nozzle at or adjacent to the area of discharge of the material from the nozzle.

Further objects and advantages of the invention will be apparent from the following detailed description, and from the accompanying drawings illustrating one embodiment thereof, and in which—

Fig. 1 is a central vertical sectional view, with parts shown in full lines and parts broken away of a spray gun embodying the present invention, and

Fig. 2 is an enlarged fragmentary view, in vertical section, of a modified form of the invention.

In treating the interior metal wall surfaces of spaces in which water may accumulate or condensation occur, whereby to prevent such surfaces from rusting and consequent deterioration, it is necessary to provide, preferably at the bottom or at a place not noticeable from the outside, a hole of sufficient size to receive a gun nozzle and then to project the nozzle therethrough and into the space. As the spraying occurs the nozzle may be moved around within the space so that the discharging spray coating, which is preferably laterally from the nozzle, may reach all wall surfaces of the space. The nozzles may be made of different lengths to suit the size of the space in which spraying occurs. The coating material is intended to be continuously supplied to the interior of the nozzle during use and this is discharged in spray form from the nozzle through orifices therein by air pressure which is discharged in small streams into the material within the nozzle toward and in the area of the nozzle orifices.

The gun, in the present instance, comprises a cap-like inner end portion 1 adapted to be screwed or otherwise securely mounted on the air nozzle of a spray gun of the generally used type, or it may be connected in any other suitable manner to a source of air pressure supply. Projecting from the forward closed end of this part 1 is a long narrow tubular nozzle 2 that has its outer end closed and is provided preferably adjacent to such end with an annular series of discharge orifices 3 which may be radial or inclined to the nozzle axis as may be desired.

The coating material to be applied is of a fluent nature, such as the undercoating material used on automobiles, and is introduced into the rear end of the nozzle 2 through a tube 4 that may be connected to any suitable source of supply and which is projected through the part 1 and into the rear end of the nozzle 2. The joint of the tube 4 with the inner end of the nozzle is sealed by a suitable packing 5.

An air tube 6 leads from the hollow of the part 1 at its forward end and enters the nozzle 2 through a side thereof at its rear end and then extends forwardly within the nozzle axially thereof and to near its forward end, or at least to a point within the area defined by nozzle discharge orifices 3. This tube is smaller in diameter than the interior diameter of the nozzle so as to provide a space therebetween, and is provided at or adjacent to its forward end with a series of orifices 7 directed toward the nozzle orifices 3 so that a discharge of air therefrom will effect an air supported spray discharge of coating material from the nozzle. The air discharge streams are preferably centrally aligned with the nozzle orifices, as shown in Fig. 2, so that in passing through the latter they have a suction action on the coating material and induce its discharge in spray form from the nozzle.

It is preferable to provide the outer end of the nozzle and air tubes 2 and 6 with removable sections 9 and 10, respectively, as shown in Fig. 2, to facilitate cleaning. This also permits using discharge heads having different arrangements and sizes of orifices to suit the work to be performed. When a separable nozzle head is used, it is preferable to secure it with its orifices in proper relation to the air tube orifices by use of a lock-nut 11.

We wish it understood that our invention it not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes without departing from the spirit of the claim.

We claim:

A spray gun for coating interior surfaces of wall cavities or the like, comprising a cap-like member for attaching to the air discharge nozzle of a spray gun, an elongated tubular nozzle projecting outwardly from said member and having its outer end closed and having a series of lateral discharge orifices adjacent to said end and terminating flush with the exterior of the nozzle surface, an air tube extending within said nozzle lengthwise thereof and providing a space therebetween, the inner end of said tube adapted to connect through said member with a source of air pressure supply, the outer end of said tube being closed and having, rearwardly therefrom, a series of lateral discharge orifices within the area of said nozzle orifices, and means projecting through said member to connect the rear end of the nozzle with a liquid coating supply source.

References Cited in the file of this patent

UNITED STATES PATENTS

1,702,784	Koplin	Feb. 19, 1929
1,796,130	Szodomka	Mar. 10, 1931