

Title (en)
HIGH VOLUME LOW PRESSURE AIR SPRAY GUN

Publication
EP 0381072 A3 19910731 (EN)

Application
EP 90101583 A 19900126

Priority
US 30651789 A 19890203

Abstract (en)
[origin: EP0381072A2] A high volume low pressure air spray gun (20) has an atomizing air orifice (76) for atomizing a stream of liquid coating material into a conical spray and opposed side port air orifices (88) for flattening the spray into a fan-shaped pattern. The gun receives air at pressures up to about 100 psi, and an air flow restriction in the form of a venturi (110) is in an air supply passage in the gun barrel. A valve stem (54) for controlling the flow rate of air to the side port orifices (88) extends through the venturi (110), and is configured to vary the venturi air flow area in response to changes in the flow rate of air to the side port orifices. When the valve stem (54) is positioned for maximum air flow to the side port orifices (88), it establishes a maximum air flow area through the venturi (110) , such that a high pressure of air at the gun air inlet, after flowing through the venturi, results in a high volume low pressure air flow at the atomizing and side port orifices (88). When the valve stem (54) is positioned to reduce air flow to the side port orifices (88), it correspondingly reduces the flow area through the venturi (110) to maintain the pressure of air at the atomizing orifice below a selected maximum value. The gun may carry a paint cup (124), in which case the cup is pressurized by air downstream from the venturi to prevent overpressurization of the cup.

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B05B 7/0081 (2013.01); **B05B 7/0815** (2013.01); **B05B 7/0838** (2013.01); **B05B 7/241** (2013.01)

Citation (search report)
• [XP] US 4817872 A 19890404 - MATTSON ROY D [US]
• [A] US 2864649 A 19581216 - ADAMS JOHN R
• [A] FR 819971 A 19371029
• [A] DE 8911932 U1 19900118
• [A] US 4744518 A 19880517 - TOTH DENNIS W [US]

Cited by
US5441077A; ES2151778A1; EP0706832A1; US5460203A; EP0503804A1; US5284299A; ES2149057A1; AU690706B2; EP0509367A1; US5209405A; WO9601154A1; WO9313869A1; WO9313870A1

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