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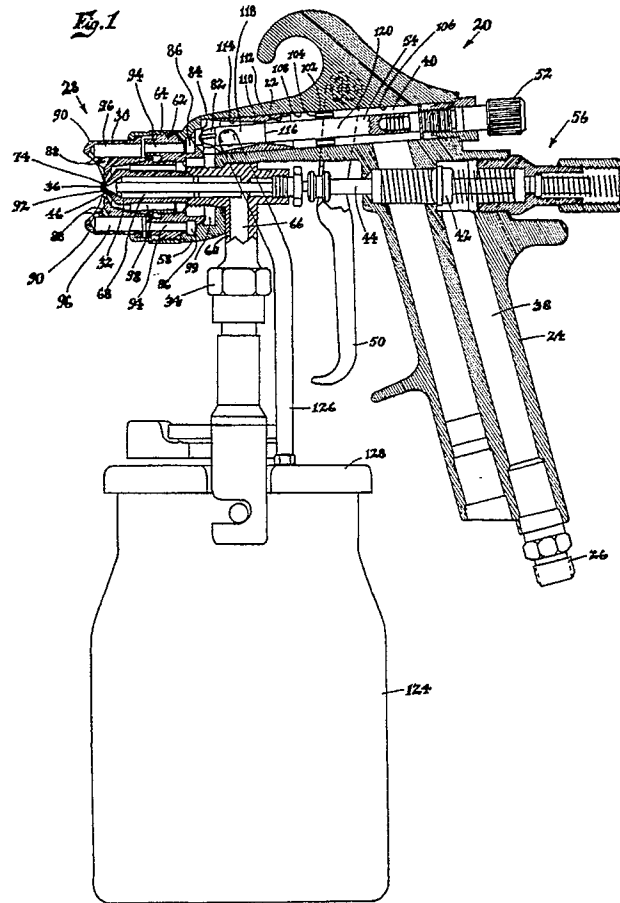
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54 **High volume low pressure air spray gun.**

57 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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EUROPEAN SEARCH
REPORT

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
P,X	US-A-4 817 872 (MATTSON) * Whole document *	1-7, 13-17, 27-29,31	B 05 B 7/08 B 05 B 7/24
A	US-A-2 864 649 (J.R. ADAMS) * Column 1, lines 38-47; column 2, line 66 - column 3, line 55; column 4, line 67 - column 5, line 20; figures 1-4 *	1,8,9,13, 16	
A	FR-A-8 199 71 (JENKINS) * Page 1, lines 33-42; page 4, lines 3-18; page 7, lines 50-75; figures 1,6 *	1,2,4,7, 13,16,19, 27,31	
A	DE-U-8 911 932 (BERSCH & FRATSCHER GmbH) * Fig.; page 2, lines 8-32 *	1,13,12, 18,26	
A	US-A-4 744 518 (TOTH) * Abstract; figure 2 *	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			B 05 B
The present search report has been drawn up for all claims			
Place of search		Date of completion of search	Examiner
The Hague		12 April 91	GUASTAVINO L.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone</p> <p>Y : particularly relevant if combined with another document of the same category</p> <p>A : technological background</p> <p>O : non-written disclosure</p> <p>P : intermediate document</p> <p>T : theory or principle underlying the invention</p> <p>E : earlier patent document, but published on, or after the filing date</p> <p>D : document cited in the application</p> <p>L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			