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(54) **PAINT SPRAY GUN WITH A GRADUATED SCALE**

(57) The invention relates to a paint spray gun with a graduated scale that allows quickly and easily establishing the correct positioning angles of the paint spray gun, which allows optimizing its position for painting correctly and for recording the inclination parameters with respect to the horizontal and vertical position of the men-

tioned gun. Said gun comprises a body (1) which incorporates a graduated numerical scale (2) and respective signs (3) engraved on its surface in its upper portion (1a); and where at least one of its sides (1c) incorporates a second graduated scale (4) on its surface.

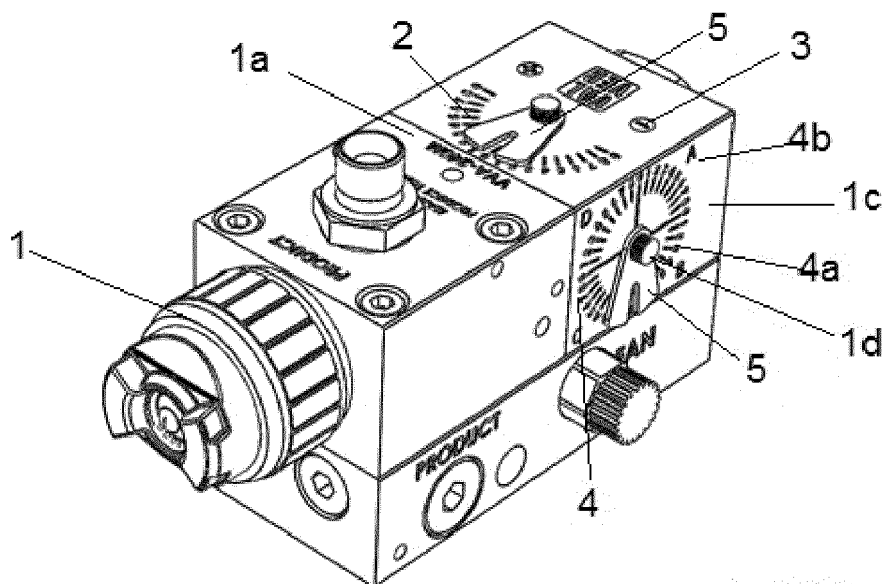


FIG.1

Description

Object of the Invention

[0001] The object of the present invention is a paint spray gun with a graduated scale that allows quickly and easily establishing the correct positioning angles of the paint spray gun for the "incidence" on the part to be painted, which thereby makes its initial installation faster and allows optimizing its position for correctly painting and recording the inclination parameters with respect to the horizontal and vertical position of said gun for future tasks according to the model of the part to be painted, or possible later assemblies of the paint spray gun after maintenance or repair.

Background of the Invention

[0002] Paint spray guns today are often used in a wide range of operations, such as painting parts off a manufacturing line, for example, where each part will be painted independently either manually (by means of an operator) or else by means of an automated element (painting robot).

[0003] Although in both cases the result of the similarity or correct painting of the parts will be determined by the degree of adjustment of the painting, i.e., it is determined by the expertise of the operator or by the efficiency of the robot.

[0004] This means that in one and the same batch of parts, there may be significant differences as regards the quality thereof because in order for the painting to be optimal, it would have to be done the same way throughout the entire work day.

Description of the Invention

[0005] The technical problem that the present invention solves is that it obtains a paint spray gun, providing a tool that can quickly and simply define a horizontal and vertical angle of incidence for painting the part. To that end, the paint spray gun incorporates several graduated scales, object of the present invention, characterized in that it comprises a body which, in its upper portion, has a graduated numerical scale and respective signs + - for recording the direction of the horizontal angle, engraved on its upper surface, and where, on both sides or at least on one of its sides it incorporates a second graduated scale on its surface with 4 areas a-b-c-d for recording the direction of the vertical angle.

[0006] As a result of its design, the operator may adjust its positioning with simple parameters in the gun itself on the optimal degree of "incidence" for painting the part, which in the long-run will provide optimal results in painting same, and therefore, fewer parts will be rejected due to deficiencies or significant differences between the painting of the parts from a batch.

[0007] Therefore, an operator could initially perform a

series of adjustments or tests to optimize painting the part correctly and later record the vertical and horizontal position angles of the gun according to the numbers, signs +- and quadrants a-b-c-d in the graduated scale engraved on the paint spray gun, leaving the optimal painting mode set so that any operator will know how the gun should be positioned in a quick and simple manner following the previously recorded parameters, either according to the model of the part to be painted or else the reassembly after a malfunction, improving the worker and production output.

[0008] In turn, the paint spray gun could be fitted to a robotic painting arm, such that the information in the graduated scale of the gun is programmed in the robot, optimizing robotic arm output and minimizing possible minor graduation deficiencies that the mentioned arm may have.

[0009] This will allow the gun herein described to be used in any robotic system, whether it is for painting an immobile part or for painting parts moving on a conveyor belt.

[0010] Throughout the description and claims the word "comprises" and its variants do not seek to exclude other technical features, additions, components or steps. For those skilled in the art, other objects, advantages and features of the invention will be deduced in part from the description and in part from putting the invention into practice. The following examples and drawings are provided by way of illustration and do not seek to restrict the present invention. Furthermore, the present invention covers all the possible combinations of particular and preferred embodiments indicated herein.

Brief Description of the Drawings

[0011] A set of drawings that help to better understand the invention and which are expressly related to an embodiment of said invention presented as a non-limiting example thereof are very briefly described below.

Figure 1 shows a perspective view of an embodiment of the paint spray gun with a graduated scale, object of the present invention.

Figure 2 shows a top view of the gun herein described.

Figure 3 shows a side view of the gun, object of the present invention.

Figure 4 shows a first side perspective view of the gun.

Figure 5 shows a front perspective view of the gun.

Figure 6 shows a second side perspective view of the gun.

Preferred Embodiment of the Invention

[0012] The attached drawings show a preferred embodiment of the invention. More specifically, the paint spray gun with a graduated scale, object of the present specification, is characterized by comprising a body (1) in the form of a gun of those commonly used in the state of the art, and it is characterized in that said body (1) comprises a graduated numerical scale (2) and respective signs (3) engraved on its surface in its upper portion (1a). 5 10

[0013] In a preferred embodiment, the signs (3) will be a positive sign and a negative sign, as shown in Figure 1.

[0014] The body (1) further comprises a central opening (1b) housing a screw which secures an essentially V-shaped metal plate (5) which will allow precisely setting the correct position on the graduated numerical scale (2) so that the operator will know the correct painting angle. 15

[0015] Likewise, the body (1) has a second graduated scale (4) engraved on at least one of the side surfaces (1c) of the body (1). 20

[0016] This second graduated scale (4) will be numerical and divided into four quadrants (4a) referenced with a letter (4b), said quadrants (4a) having an essentially circular shape. 25

[0017] In turn, as a complement, the side (1c) will incorporate a second central opening (1d) the function of which is identical to the central opening (1b) located on the surface (1a) of the body (1). 30

Claims

1. A paint spray gun with a graduated scale, comprising a body (1) in the form of a gun and **characterized in that** said body (1) comprises a graduated numerical scale (2) and respective signs (3) engraved on its surface in its upper portion (1a); and where at least one of its sides (1c) incorporates a second graduated scale (4) on its surface. 35 40
2. The gun according to claim 1, wherein the signs (3) are a positive sign and a negative sign.
3. The gun according to any of claims 1-2, wherein the second graduated scale (4) is numerical and essentially circular-shaped, and is divided into four quadrants (4a) referenced with a letter (4b) for each quadrant A, B, C, D. 45 50
4. The gun according to any of claims 1-3, wherein the upper surface (1a) and at least one side surface (1c) incorporate respective central openings (1b, 1d) where each of them houses a screw which secures the essentially V-shaped metal plate (5), allowing a free 360° rotation, and which allows accurately setting the vertical and horizontal angles according to the numbers on the scale (2, 4) and the orientation 55

according to the signs (3, 4b) in order to know the correct position on the graduated numerical scales (2, 4), facilitating the correct painting angle.

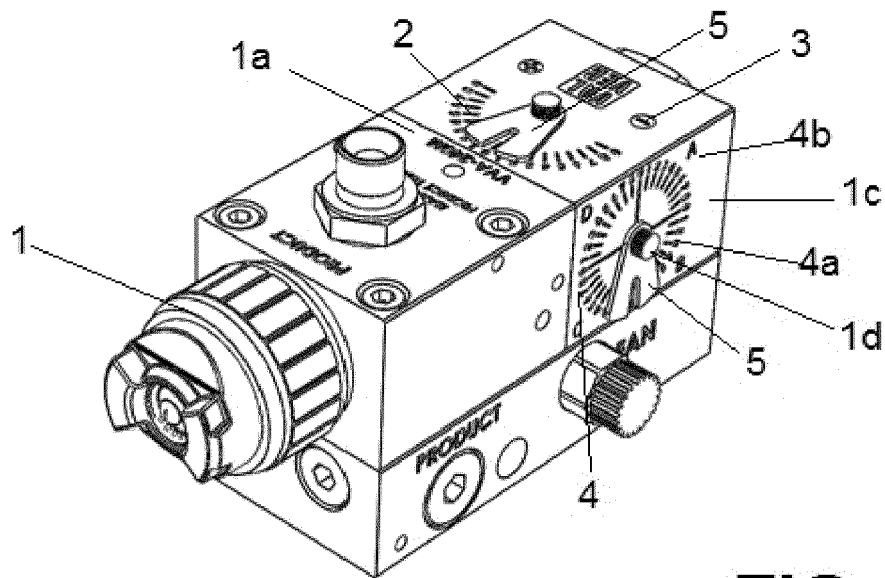


FIG.1

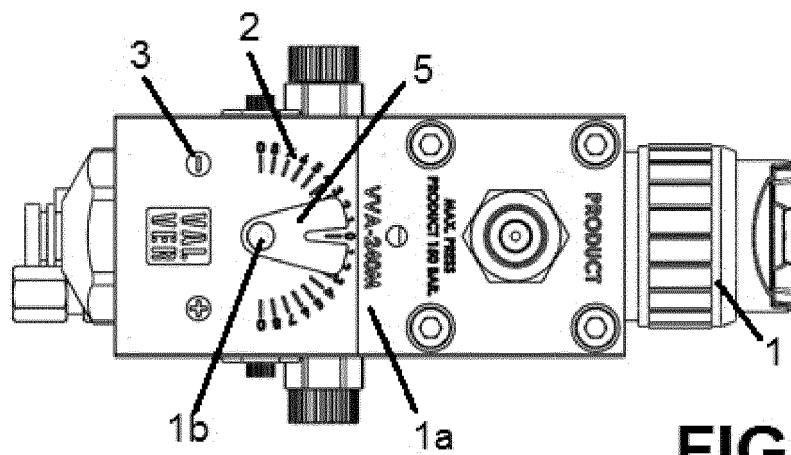


FIG.2

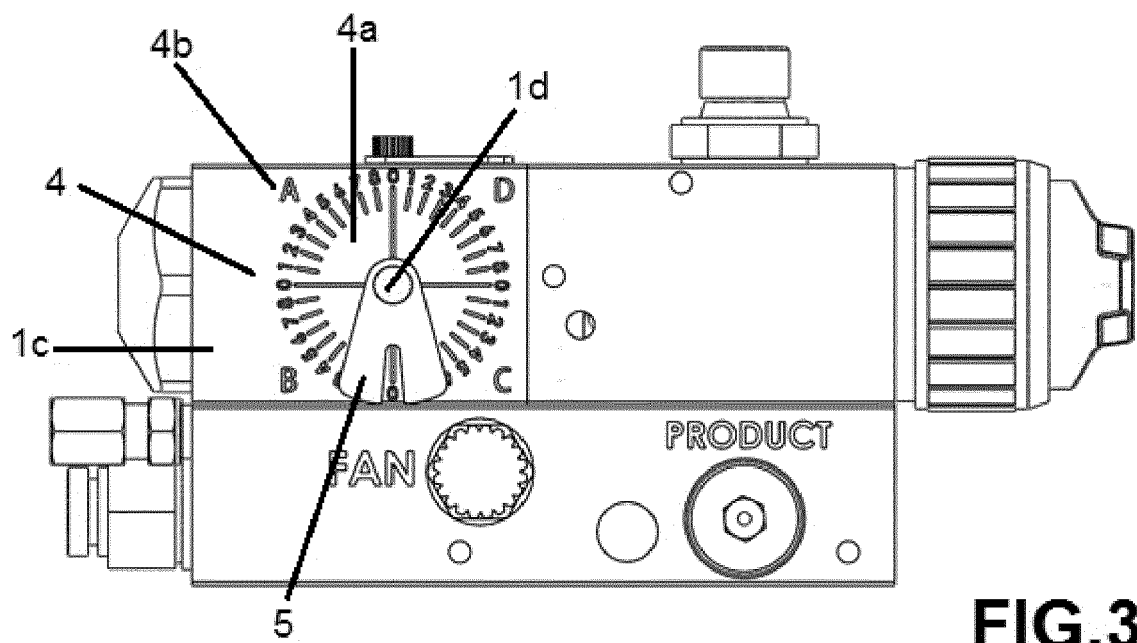


FIG.3

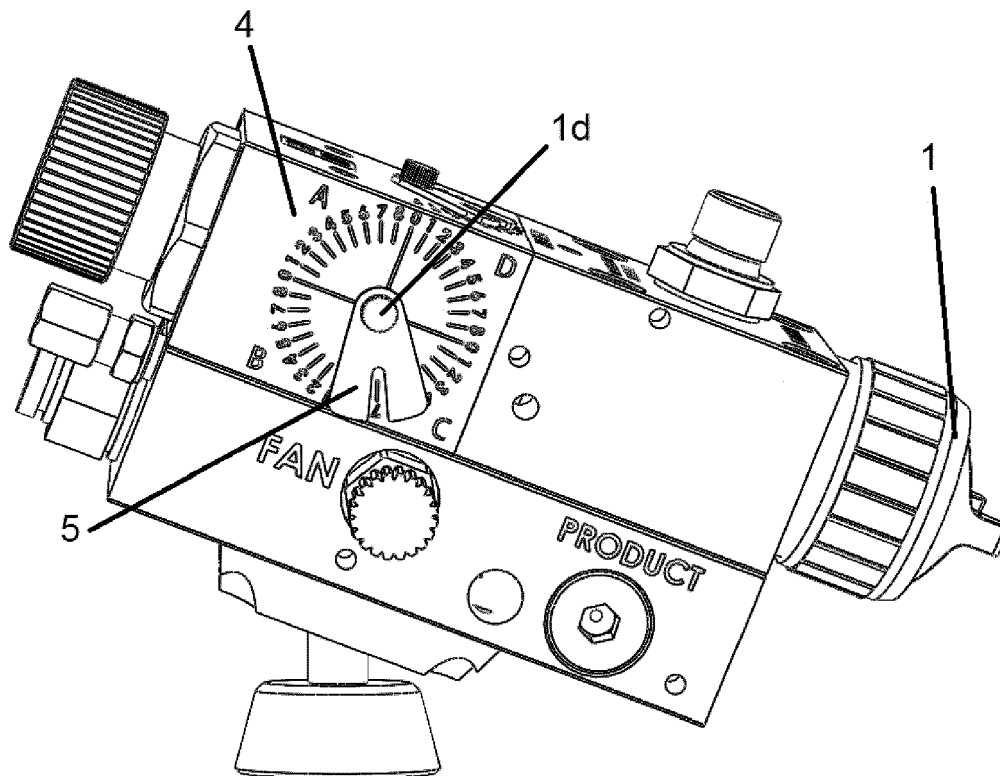


FIG. 4

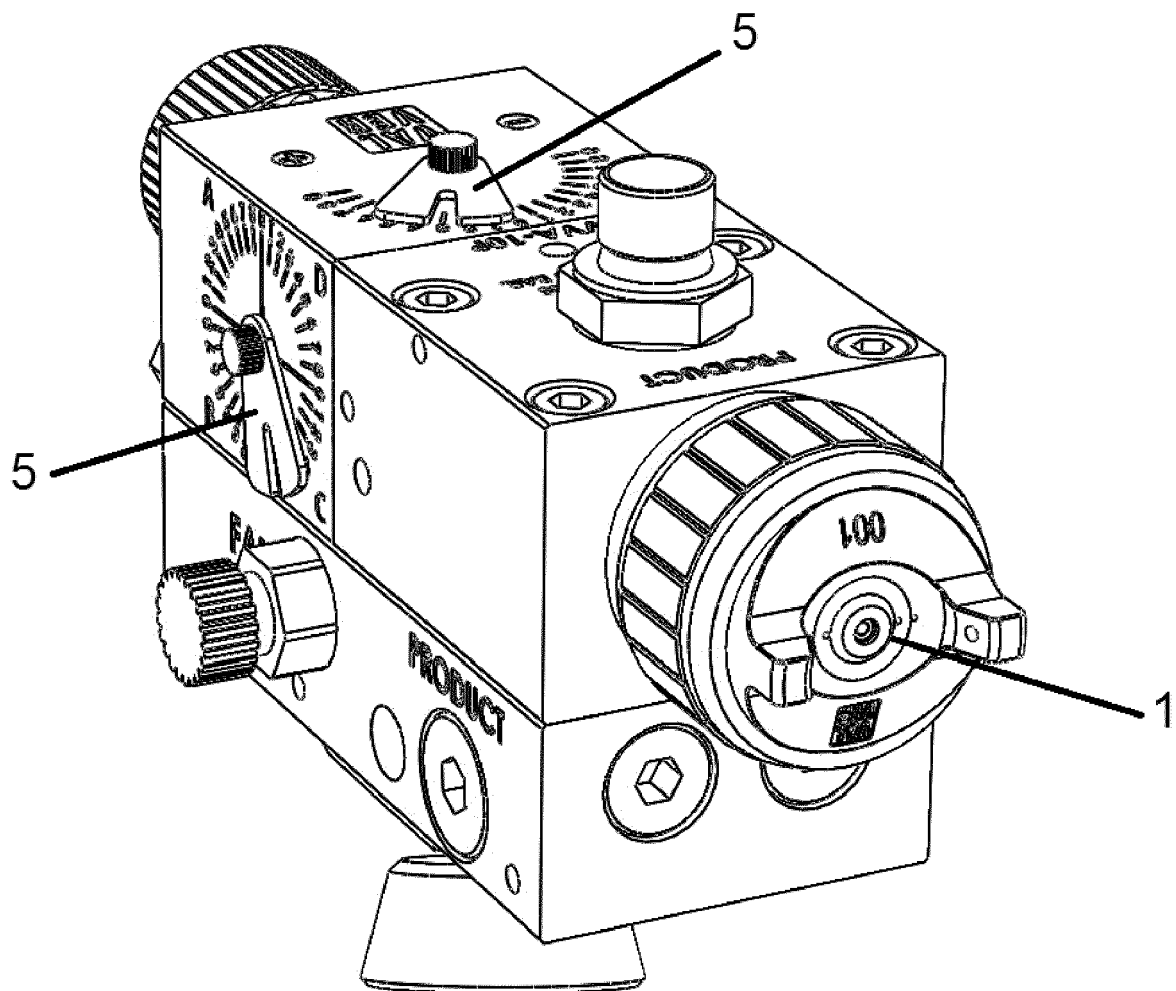


FIG.5

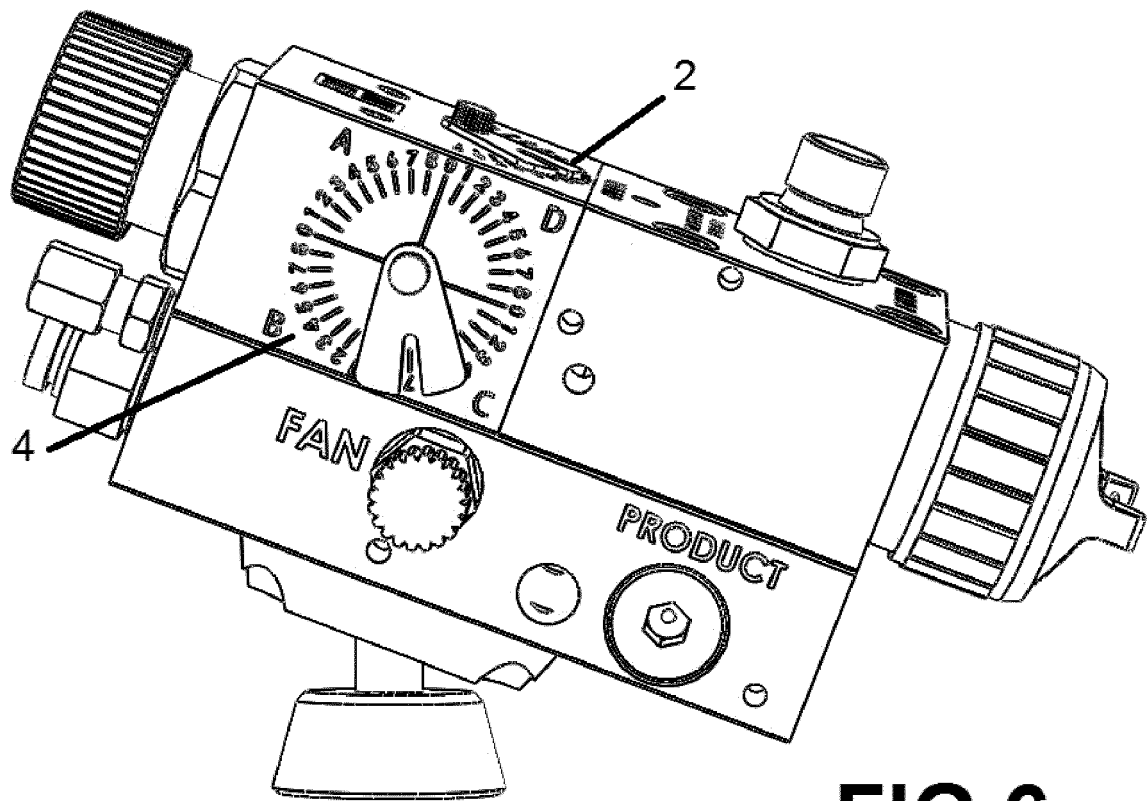


FIG.6



EUROPEAN SEARCH REPORT

Application Number
EP 16 38 2256

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2007/071235 A1 (NIRO ATOMIZER AS [DK]; NOWAK MARTIN [DK]) 28 June 2007 (2007-06-28) * abstract; figures 1-7 * * page 9, line 8 - page 11, line 22 *	1-3	INV. B05B15/08
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			TECHNICAL FIELDS SEARCHED (IPC)
			B05B B01D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 10 November 2016	Examiner Frego, Maria Chiara
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 16 38 2256

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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10-11-2016

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