



(12)

EUROPEAN PATENT APPLICATION

- (88)

Date of publication A3:
29.05.2024 Bulletin 2024/22
- (43)

Date of publication A2:
06.03.2024 Bulletin 2024/10
- (21)

Application number: 23208529.0
- (22)

Date of filing: 23.09.2019
- (51)

International Patent Classification (IPC):
B05B 12/08 (2006.01) B05B 9/08 (2006.01)
B05B 12/00 (2018.01) B05B 15/14 (2018.01)
- (52)

Cooperative Patent Classification (CPC):
B05B 9/0861; B05B 12/00; B05B 12/004;
B05B 12/085; B05B 15/14

- (84)

Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR
- (30)

Priority: 24.09.2018 US 201862735524 P
02.11.2018 US 201862755181 P
07.01.2019 US 201962789219 P
14.01.2019 US 201962792107 P
- (62)

Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
22197868.7 / 4 144 443
19782893.2 / 3 856 420
- (71)

Applicant: Graco Minnesota Inc.
Minneapolis, MN 55413 (US)
- (72)

Inventors:
• MANSHEIM, Michael J.
Burnsville, MN 55337 (US)
• REATH, Nicholas H.
Anoka, MN 55303 (US)
• JOHNSON, Daniel R.
Maple Grove, MN 55369 (US)
• ROBB, Kevin C.
Otsego, MN 55374 (US)
• GUNDERSEN, Robert J.
Otsego, MN 55330 (US)
• KOPEL, Andrew J.
Stanchfield, MN 55080 (US)
- (74)

Representative: Lewis Silkin LLP
Arbor
255 Blackfriars Road
London SE1 9AX (GB)

(54)

PAINT SPRAYER DISTRIBUTED CONTROL AND OUTPUT VOLUME MONITORING ARCHITECTURES

(57) A sprayer for spraying fluid includes a pump, a motor that drives the pump, a drive cycle indicator, a wireless module configured to send and receive information, and control circuitry. The drive cycle indicator outputs an indication of cycle status of the pump. The control circuitry is configured to receive the plurality of cycle status indications of the pump, determine a plurality of output values representing paint spray fluid output volume over a plurality of time windows based on the plurality of cycle status indications of the pump, store the plurality of output values in memory, and cause the wireless module to transmit one or more of the stored plurality of output values externally from the sprayer.

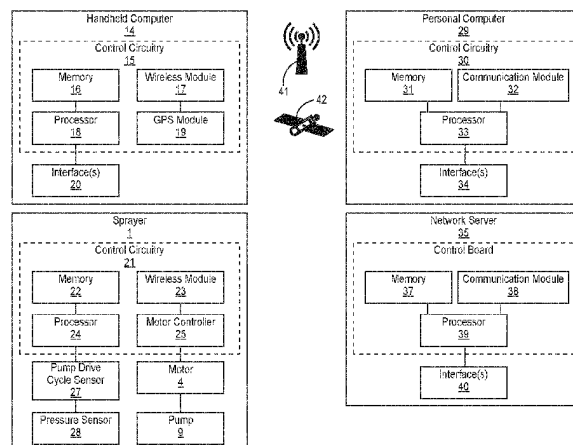


FIG. 3



EUROPEAN SEARCH REPORT

Application Number

EP 23 20 8529

5

10

15

20

25

30

35

40

45

50

55

1

EPO FORM 1503 03.82 (P04C01)

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2018/132790 A1 (GRACO MINNESOTA INC [US]) 19 July 2018 (2018-07-19) * page 10, line 25 - line 30; figure 2 * -----	1-12	INV. B05B12/08 B05B9/08 B05B12/00 B05B15/14
X	US 2003/101931 A1 (ESTELLE PETER W [US] ET AL) 5 June 2003 (2003-06-05) * paragraph [0031]; figure 2A * -----	1-12	
X	US 6 259 220 B1 (HAYS LYMAN V [US] ET AL) 10 July 2001 (2001-07-10) * column 3, line 36 - line 44 * * column 4, line 37 - line 39 * * column 4, line 53 - line 59 * -----	1-12	
A	WO 2016/140953 A1 (WAGNER SPRAY TECH CORP [US]) 9 September 2016 (2016-09-09) * paragraph [0024] * -----	1-12	
			TECHNICAL FIELDS SEARCHED (IPC)
			B05B B08B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 17 April 2024	Examiner Gineste, Bertrand
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	

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

EP 23 20 8529

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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

17-04-2024

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2018132790 A1	19-07-2018	CN 110167681 A	23-08-2019
		EP 3568238 A1	20-11-2019
		US 2019356253 A1	21-11-2019
		US 2022239241 A1	28-07-2022
		WO 2018132790 A1	19-07-2018

US 2003101931 A1	05-06-2003	DE 10150230 A1	25-07-2002
		JP 2002200445 A	16-07-2002
		US 6517891 B1	11-02-2003
		US 2003101931 A1	05-06-2003

US 6259220 B1	10-07-2001	NONE	

WO 2016140953 A1	09-09-2016	AU 2016226582 A1	06-04-2017
		CN 106999966 A	01-08-2017
		EP 3265242 A1	10-01-2018
		US 2016256883 A1	08-09-2016
		WO 2016140953 A1	09-09-2016
