



(86) Date de dépôt PCT/PCT Filing Date: 2012/05/18

(87) Date publication PCT/PCT Publication Date: 2013/11/21

(45) Date de délivrance/Issue Date: 2020/08/11

(85) Entrée phase nationale/National Entry: 2014/11/12

(86) N° demande PCT/PCT Application No.: US 2012/038590

(87) N° publication PCT/PCT Publication No.: 2013/172851

(51) Cl.Int./Int.Cl. *B67D 1/00* (2006.01),
B67D 1/07 (2006.01)

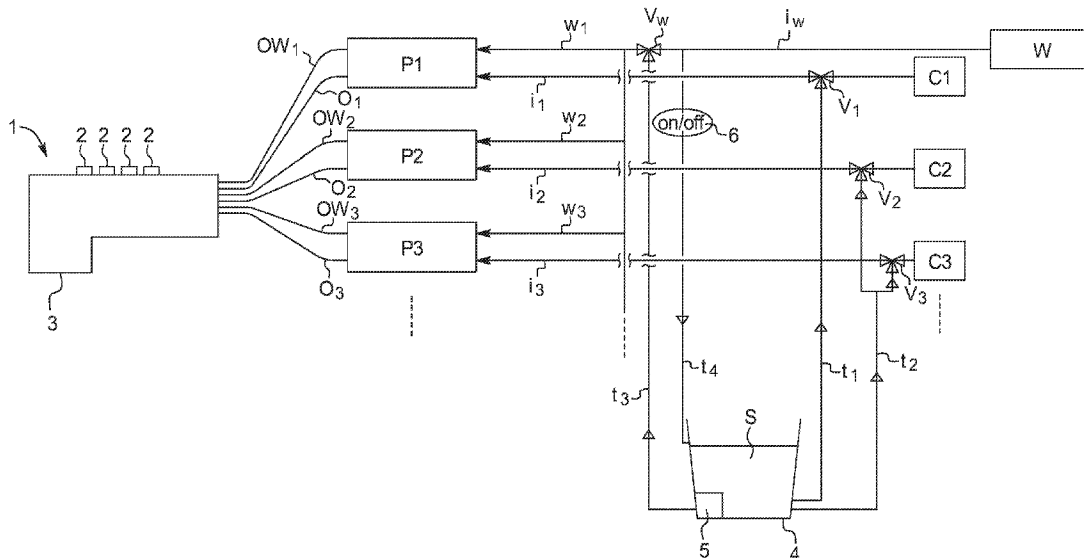
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(54) Titre : PROCEDE POUR NETTOYER UN DISTRIBUTEUR DE PISTOLET A EAU GAZEUSE

(54) Title: METHOD FOR CLEANING A BARGUN DISPENSER



(57) Abrégé/Abstract:

A method for cleaning a bargun dispenser, the clean in place method comprising the following steps : - providing a cleaning assembly comprising : a reservoir (4), a pump (5) and fluid connection tubes (t1, t2, t3, t4), - connecting the clean in place assembly to the bargun dispenser by : . connecting the concentrate inlet line (i1, i2, i3) to the reservoir in place of the source of concentrate with one of the fluid connection tubes (t1, t2), . connecting the water inlet line (iw) to the reservoir in place of the water supply with one of the fluid connection tubes (t3), - filling the reservoir with a cleaning solution (S), - activating the pump of the reservoir, and - activating the bargun handle buttons for opening the pump outlet lines until the reservoir is empty

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property

Organization

International Bureau

(43) International Publication Date

21 November 2013 (21.11.2013)



(10) International Publication Number

WO 2013/172851 A1

(51) International Patent Classification:

B67D 1/00 (2006.01) B67D 1/07 (2006.01)

(21) International Application Number:

PCT/US2012/038590

(22) International Filing Date:

18 May 2012 (18.05.2012)

(25) Filing Language:

English

(26) Publication Language:

English

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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

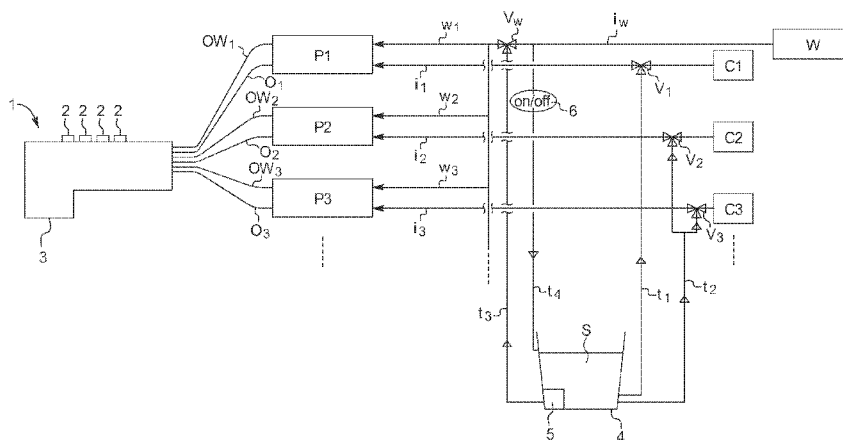
— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

Published:

— with international search report (Art. 21(3))

(54) Title: METHOD FOR CLEANING A BARGUN DISPENSER

FIG. 1



(57) Abstract: A method for cleaning a bargun dispenser, the clean in place method comprising the following steps • - providing a cleaning assembly comprising : a reservoir (4), a pump (5) and fluid connection tubes (t1, t2, t3, t4), • - connecting the clean in place assembly to the bargun dispenser by : • connecting the concentrate inlet line (il, i2, i3) to the reservoir in place of the source of concentrate with one of the fluid connection tubes (t1, t2), • connecting the water inlet line (iw) to the reservoir in place of the water supply with one of the fluid connection tubes (t3), • - filling the reservoir with a cleaning solution (S), • - activating the pump of the reservoir, and • - activating the bargun handle buttons for opening the pump outlet lines until the reservoir is empty



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METHOD FOR CLEANING A BARGUN DISPENSER

Field

The present invention relates to the cleaning of barguns.

5

Background

Barguns are typically comprised of a handle having a multiplicity of buttons thereon and a nozzle situated typically perpendicular to the handle, for dispensing a pre-selected fluid. Bar guns are well-known in the art.

10 Each button activates the dispensing of a concentrate and a diluent at a specific ratio. The bargun handle is provided with the pressurized concentrate and the pressurized diluent at this specific ratio by means of a proportioning pump associated to the concentrate and the diluent. A typical proportioning pump suitable for the invention is the SHURflo Brix Pump such as described in publication 911-332 Rev. J 1/98. This publication describes the process
15 for cleaning the proportioning pump which consists in disconnecting the concentrate inlet tube from the concentrate source and placing this tube in a bucket of cleaning solution. The pump is then activated in a first step according to a sanitizing mode and then in a second step according to a dispensing mode.

The cleaning process described in this publication presents the inconvenient of not
20 enabling a complete cleaning of all the lines in a single operation because according to the pump sanitizing operation of the manual there are two different operations that must be successively handled by the operator. Besides if the operator does not make them correctly he must restart the operations from the beginning. For bargun dispensers which are configured for dispensing several concentrates, the cleaning operation must be repeated for as many
25 pumps as there exist concentrates which can become fastidious for the operator.

Consequently there is need for simplifying the cleaning operation of a bargun implementing proportioning pumps.

Summary

30 According to a first aspect the invention concerns a method for cleaning in place a bargun dispenser, the bargun dispenser comprising :

- at least one source of concentrate delivering a concentrate to a concentrate inlet line,
- a source of water delivering water to a water inlet line,

- at least one proportioning pump pumping the concentrate from the concentrate inlet line and the water from the water inlet line in a determined ratio and separately delivering the pumped concentrate to a concentrate pump outlet line and the pumped water to a water pump outlet line to a bargun handle comprising buttons for opening the pump outlet lines and comprising
 5 a nozzle for mixing the pumped concentrate and the pumped water,
 the cleaning method comprising the following steps :

- providing a cleaning assembly comprising : a reservoir, a pump and fluid connection tubes,
- connecting the cleaning assembly to the bargun dispenser by :
 - . connecting the concentrate inlet line to the reservoir in place of the source of concentrate
 10 with one of the fluid connection tubes,
 - . connecting the water inlet line to the reservoir in place of the water supply with one of the fluid connection tubes,
- filling the reservoir with a cleaning solution,
- activating the pump of the reservoir, and
- 15 - activating the bargun handle buttons for opening the pump outlet lines until the reservoir is empty.

The dependent claims further define the invention.

According to a second aspect the invention concerns a clean in place (CIP) kit for
 20 cleaning a bargun dispenser, said bargun dispenser comprising :

- sources of concentrates delivering concentrates to concentrate inlet lines,
 - a source of water delivering water to a water inlet line,
- the kit comprising :
- a cleaning assembly comprising : a reservoir, a pump and fluid connection tubes,
 - 25 - three-way connecting valves adaptable on the concentrates inlet lines and on the water inlet line, each presenting an outlet configured for cooperating with one of the fluid connecting tubes.

Detailed description of the drawings

30 The characteristics and advantages of the invention will be better understood in relation to Figure 1 which is a schematic diagram of the fluid system of a bargun dispenser and a clean in place assembly implemented in the method of the present invention.

Figure 1 illustrates a the bargun dispenser comprising three sources of concentrate C1, C2, C3 each delivering a concentrate to a concentrate inlet line i1, i2, i3. The bargun

dispenser is not limited to 3 concentrates and more concentrates could be delivered. The dispenser is linked to a source of pressurized water W which simultaneously delivers the water for diluting the concentrates but also to drive the concentrates pumps. Water is introduced through a water inlet line iw that is divided in three pump inlet lines w1, w2, w3.

5 The dispenser comprises three proportioning pump P1, P2, P3, one for each of the concentrate : each pump pumps the concentrate from the concentrate inlet line and the water from the water inlet line in a determined ratio and separately delivers the pumped concentrate to a concentrate pump outlet line o1, o2, o3 and the pumped water to a water pump outlet line ow1, ow2, ow3. The bargun dispenser comprises a bargun handle 1 comprising buttons 2 for
 10 opening the pump outlet lines and comprising a nozzle 3 for mixing and dispensing the pumped concentrate and the pumped water.

According to the invention, for cleaning the bargun dispenser, a clean in place assembly is provided. The clean in place assembly comprises :

- a reservoir 4 for holding a cleaning or sanitizing solution or rinsing water,
- 15 - a pump 5 for pumping the liquid from the reservoir,
- fluid connection tubes t1, t2, t3, t4 for connecting the reservoir to the bargun dispenser.

Usually the reservoir comprises fluid connection fittings so that the tubes can be rapidly attached to the reservoir.

20 The method for cleaning the bargun dispenser with the clean in place assembly consists in the following steps. First the clean in place assembly is connected to the bargun dispenser. The connection consists in :

- connecting all the concentrate inlet lines i1, i2, i3 to the reservoir 4 in place of the sources of concentrates. These connections are made by using one of the fluid connection tubes like
 25 t1 or t2. This tube is configured for connecting at least two concentrate inlet lines i2, i3 to the reservoir in place of their respective sources of concentrates C2, C3.
- connecting the water inlet line iw to the reservoir 4 in place of the water supply W with one of the fluid connection tube t3. This connection is preferably configured so that the pump can provide pressurized liquid to the fluid connection tube t3 and consequently to the inlets of the
 30 pumps P1, P2, P3.

Then the reservoir 4 is filled with a cleaning solution S. According to a preferred embodiment, during the precedent step of connecting the clean in place assembly to the bargun dispenser, the water source W can be connected to the reservoir 4 in place of the bargun dispenser with a fluid connection tube t4 comprising an on/off valve 6. Then it

becomes easy to fill the reservoir 4 with water from the water source W by simply opening the valve 6 until the requested quantity is reached. Specific cleaning agents can then be added to the water in the reservoir.

5 Preferably all the fluid connection tubes are joined together in form of a bundle to help their handling by the operator.

According to the preferred embodiment each of the concentrate inlet lines i1, i2, i3 and the water inlet line iw comprises a three-way valve v1, v2, v3, vw to which the fluid connection tubes t1, t2, t3, t4 of the clean in place assembly can be connected. These three-way valves remain in the bargun dispenser and are not dismantled between two cleaning
10 operations. They enable the operator to quickly connect the tubes. Then he just has to manually turn all the valves in the same "cleaning" position to operate the cleaning.

Then the pump of the reservoir is activated and the bargun handle buttons for opening the pump outlet lines are activated until the reservoir is empty. The solution dispensed by the bargun nozzle is sent to drain.

15 The clean in place assembly can comprise a sensor for detecting the pressure downstream to the pump 5 and for stopping the pump when the pressure is higher than a predetermined value, which corresponds to the case where the bargun handle buttons are not activated.

The cleaning method can be repeated with different cleaning solutions and finally with
20 rinsing water. The operator simply has :

- to fill the reservoir with the required cleaning solution, preferably by opening the valve of tube t4 to get the volume of water needed for preparing the cleaning solution and eventually adding a sanitizing or cleaning component.
- activating the buttons of the bargun handle to dispense the cleaning solution or the rinsing
25 water.

CLAIMS

1. A method for cleaning a bargun dispenser, the bargun dispenser comprising:
 - at least one source of concentrate delivering a concentrate to a concentrate inlet line,
 - a source of water delivering water to a water inlet line,
 - at least one proportioning pump pumping the concentrate from the concentrate inlet line and the water from the water inlet line in a determined ratio and separately delivering the pumped concentrate to a concentrate pump outlet line and the pumped water to a water pump outlet line,
 - a bargun handle comprising buttons for opening the pump outlet lines and comprising a nozzle for mixing and dispensing the pumped concentrate and the pumped water,
 - the cleaning method comprising the following steps:
 - providing a clean in place assembly comprising :
 - a reservoir, a pump and fluid connection tubes,
 - connecting the clean in place assembly to the bargun dispenser by:
 - connecting the concentrate inlet line to the reservoir in place of the source of concentrate with one of the fluid connection tubes,
 - connecting the water inlet line to the reservoir in place of the water supply with one of the fluid connection tubes,
 - filling the reservoir with a cleaning solution,
 - activating the pump of the reservoir, and
 - activating the bargun handle buttons for opening the pump outlet lines until the reservoir is empty.
2. The method according to claim 1 wherein:
 - during the step of connecting the clean in place assembly to the bargun dispenser, the water source is connected to the reservoir in place of the bargun dispenser with a fluid connection tube comprising an on/off valve,
 - the reservoir is filled with a cleaning solution by opening said valve.

3. The method according to claim 1 or 2, wherein each of the concentrate inlet line and the water inlet line comprises a three-way valve to which the fluid connection tubes of the clean in place assembly can be connected.
4. The method according to claim 3, wherein the three-way valves are manually and/or electronically controllable.
5. The method according to any one of claims 1 to 4, wherein the clean in place assembly comprises a sensor for detecting the pressure downstream to the pump and stopping the pump when the pressure is higher than a predetermined value.
6. The method according to any one of claims 1 to 5, wherein the fluid connection tubes are joined together in form of a bundle.
7. The method according to any one of claims 1 to 6, wherein the bargun dispenser comprises several sources of concentrates and several proportioning pumps associated to each concentrate.
8. The method according to any one of claims 1 to 7, wherein at least one of the fluid connection tubes is configured for connecting at least two concentrate inlet lines to the reservoir in place of their respective sources of concentrates.

