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# (54) METHOD AND SYSTEM FOR DISPLACING A FLUID FROM A SUPPLY CONTAINER TO A DELIVERY COMPONENT

(57) System, particularly for use in industrial laundry, for displacing a first fluid (1) from a supply container (2) to a delivery component (3).

A first identifiable delivery component (3.1) is configured to hold a first fluid (1.1) and a second identifiable delivery component (3.2) is configured to hold a second fluid (1.2).

A coupling component (4) for mutually coupling the supply container (2) and a delivery component (3) for the purpose of displacing fluid (1) via the coupling component (4) from the supply container (2) to the coupled delivery component (3), the coupling component (4) being provided with at least one identification means (7) ccomprising a programmable identification element,

- a database with a plurality of programmable cross-references, each of which being formed by an identification of a coupling component (4) and at least one value which is dependent on the identification of the supply container (2) and/or the delivery component (3),

- a control unit (8) connected to the database for verifying, on the basis of the identified coupling component (4) and the cross-reference from the database related thereto, whether the fluid (1) coming from the supply container (2) is allowed to flow through the identified coupling component (4). The programmable identification element is configured to store identifying information of at least one adjacent component coupled to the coupling component (4), the adjacent component being formed by: the supply container (2) or the delivery component (3) and at least one other identified coupling component.

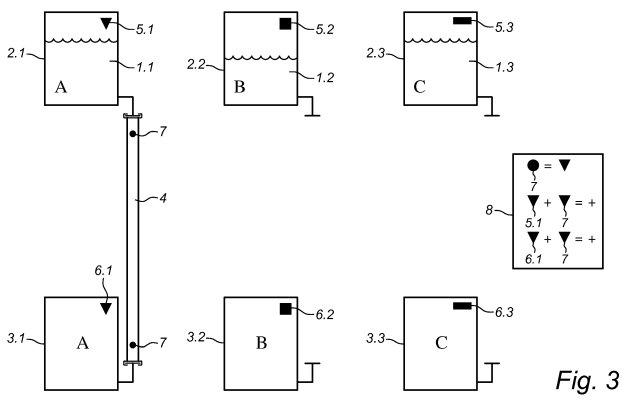


*Fig. 3*

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## Description

**[0001]** The invention relates to a method for displacing a fluid from a supply container to a delivery component, in particular a buffer tank. The invention also relates to a system for displacing a fluid from a supply container to a delivery component, in particular a buffer tank, particularly by applying the method according to the invention and more particularly for use in industrial laundry, such as for instance an industrial textile laundry.

**[0002]** When storage tanks, also referred to as buffer tanks, are replenished at a location with fluids, such as detergents or liquid bleaching agents, from mobile (bulk) supply containers, also referred to as transport packages, in particular transport tanks, it is of great importance that the correct fluid goes to the correct buffer tank, on the one hand in order to prevent contamination of the fluid and on the other to prevent hazardous situations as a result of fluids reacting with each other. It is possible here to envisage coupling each (bulk) supply container to an associated buffer tank by means of a unique coupling, so that erroneous coupling of a (bulk) supply container to a buffer tank can be prevented, although this option is relatively laborious and expensive and is therefore generally not recommended from a practical viewpoint, since simplicity and standardization are particular aims in practice. An example of such a system has already been described in WO 2012/031323 A1, in which diverse (bulk) supply containers can be coupled to diverse buffer tanks. In order to prevent hazardous situations as a result of an undesired coupling, use is made of identifiers which are read during coupling of a (bulk) supply container and a buffer tank. Only if a correct coupling is detected will transport of fluid take place.

**[0003]** The identification of diverse identifiers in order to prevent undesired couplings is also described in WO 03/086952 A1, wherein supply containers, conduits and buffer tanks are provided with a tag comprising product-specific information. During coupling of the diverse components it will be possible to read a code, which is compared to a code prestored in a database. If the code corresponds, displacement of fluids will take place.

**[0004]** A further standardization and simplification of the displacement of fluids from a (bulk) supply container to a buffer tank at a location is the application of only a shared (universal) transfer conduit. While the use of a shared transfer conduit to couple a (bulk) supply container to a buffer tank enhances the desired simplicity, it does not however prevent the transfer conduit being coupled to the wrong supply container and/or the wrong buffer tank, whereby fluid contamination occurs during the transfer process, which is undesirable and can even result in hazardous situations.

**[0005]** The invention has for its object to provide an improved method for displacing a fluid from a (bulk) supply container to a delivery component in relatively simple manner, wherein the chance of fluid contamination is greatly reduced.

**[0006]** The invention provides for this purpose a method of the type stated in the preamble, comprising the steps of: A) identifying a supply container provided with a fluid and/or a delivery component configured to receive fluid supplied by a supply container, B) selecting at least one coupling component for coupling the supply container to the delivery component, which coupling component is provided with at least one identification means, C) coupling the supply container to the delivery component via the at least one coupling component, D) verifying, on the basis of the identification means, the coupling of the at least one coupling component and at least one adjacent component realized during step C), which at least one adjacent component is formed by at least one component chosen from a group consisting of: the supply container, the delivery component and at least one other identified coupling component, and E) displacing fluid from the supply container via the at least one coupling component to the delivery component if the verification during step D) is successful, wherein the at least one identification means comprises a programmable identification element, which programmable identification element is configured to store (program) information identified during step A). The method according to the invention relates to maintaining control over which fluids may be guided through the at least one coupling component to a delivery component, formed in particular by a buffer tank, and under which condition(s). The method according to the invention more particularly relates to checking whether the at least one coupling component is correctly coupled to an adjacent component, so that at least this part of the transfer process can be performed in monitored manner, whereby the chance of displacing of fluid through incorrectly connected coupling components can be prevented.

**[0007]** A primary check thus takes place of the prevention of erroneous connection of coupling components, and therefore of the guiding of fluid through incorrectly connected coupling components, whereby contamination of a delivery component with a fluid not intended for this delivery component, in particular this buffer tank, can be prevented. The at least one coupling component will be identified here during the selection, after which the identification element connected to the coupling component will be programmed (depending on purpose, particularly depending on fluid), wherein after coupling of the coupling component a final verification is performed by verifying the realized coupling, and only if this coupling is verified successfully will the actual transfer of fluid from the supply container to the delivery component then take place.

**[0008]** When at least two identification components are coupled a unique combination of identities is created, and linked thereto a unique code combination of unique identity codes, which code combination can be verified during step D). This created code combination will generally be compared to a pre-generated code combination which is for instance stored in a database and, if they correspond, the coupling will in that case be permissible. A coupling component formed by a conduit ABC will thus be applied for instance for the purpose of transporting a fluid X from a supply container 123

to a delivery component, such as a buffer tank 456. The conduit can for instance be assigned the code X, ABCX, ABC123, ABC456 or ABC123456, whereby the coupling between the supply container and the conduit can result in the combination code (composite code) 123-X and the coupling between the conduit and the buffer tank X-456, on the basis of which a verification can be performed during step D).

**[0009]** Verification will optionally also take place here during step D) of whether the supply container and the buffer tank match each other. In the above stated example would then be verified whether the code combination 123-456 is a permissible code combination and/or whether the two containers are configured to hold the same fluid X. Further details of this latter optional addition are further elucidated below.

**[0010]** The method according to the invention preferably takes place at a location (final location) where the fluid will also be used, such as for instance in an industrial textile laundry. The (bulk) supply container is mobile and is usually positioned temporarily at this location, generally carried by a vehicle. The supply container can be of very diverse nature and can for instance be formed by a metal or plastic tank placed on a vehicle, although the supply container can for instance also be formed by a jerrycan.

**[0011]** The term "fluid" must be interpreted broadly in the context of this patent document; the fluid can also comprise solid or gaseous constituents and can also be formed by a mixture of several fluids.

**[0012]** The at least one coupling component applied is generally of shared nature, this meaning that this coupling component is configured to be (successively) coupled directly or indirectly to a plurality of buffer tanks and a plurality of supply containers, at least within a determined location. This universal feature makes it possible to limit the number of coupling components to a minimum, which is advantageous from an economic and logistical viewpoint.

**[0013]** The coupling component is for instance formed by a pump (for forced displacement of fluid from the supply container to the delivery component), a shut-off valve or a conduit. The conduit can be connected to the supply container here and can also be inserted at least partially, for instance as a lance, into the supply container.

**[0014]** A plurality of coupling components are usually applied in practice which are mutually connected in series to enable a connection to be realized between the supply container and a buffer tank. Each coupling component will here preferably be individually identified, programmed for the specific transfer purpose, coupled, and identified once again as final check to enable identification of the couplings between the coupling components, after which the fluid will be displaced from the supply container to the buffer tank if this verification is successful.

**[0015]** Fluid will generally be guided through the at least one coupling component and so flow through the at least one coupling component. It is however also possible to envisage the at least one coupling component coming into contact with the fluid in other manner, for instance in that the fluid can also flow around a coupling component instead of flowing therethrough or in addition to flowing therethrough.

**[0016]** The delivery component is configured to receive fluid transported by the supply container via the at least one coupling component, wherein the delivery component is, as stated, preferably formed by a buffer tank. This buffer tank is a local (on-site) supply container from which the fluid can be utilized, for instance for use in for instance an industrial textile laundry or for other (cleaning) purposes. The delivery component can however also be formed by a different type of delivery component which is not configured primarily for storage of the fluid, but generally rather for throughflow (and direct delivery) of the fluid. An example of such a different type of delivery opening is a nozzle, a metering pump and/or a (transport) pump, via which fluid can be delivered, for instance to a washing chamber of an industrial textile laundry. Where reference is made to a buffer tank below, it is also possible to envisage replacing this buffer tank with another type of delivery component.

**[0017]** The identification of the supply container and/or the delivery component as according to step A) preferably takes place by scanning a tag connected to respectively the supply container and the delivery component, which tag comprises information related to the fluid. The tag preferably comprises a 'static' identification means provided with static information. The tag is possibly provided by a supplier or manufacturer of the supply container and/or the delivery component with a 'dynamic' identification means, wherein the tag is (re)programmable. The tag can be formed by a dynamic identification means such as an RFID tag or a static identification means such as a barcode and/or a two-dimensional barcode, in particular a QR code (both static).

**[0018]** The tag present on the supply container and/or the delivery component can comprise direct information from which the identity of the fluid can be derived. It is however also possible to envisage the tag comprising information which leads to a digital location. The identity of the fluid will preferably be determined here during or after scanning of the tag by retrieving data which identify the fluid from a database on the basis of the scanned information. This database can be installed locally, be installed locally with a third party and/or be installed on a web server (in the Cloud). An example of a record (cross-reference) from the database is shown in table 1:

Table 1. Record for programmed identification code: ABC1234X1XYZ

| Component | ID | Description |
|---|---|---|
| Supply container | ABC | Container, supplier Y |

(continued)

| Component | ID | Description |
|---|---|---|
| Fluid | 1234 | Peracetic acid (5%) |
| Coupling component | X | Conduit 3 |
| Delivery component | 1XYZ | Tank (blue), application Z |

**[0019]** Both the supply container and the delivery component are preferably identified during step A). The supply container and the delivery component will possibly each have their own (differing) identification code. The fluid which is stored in the supply container and which has to be transported to the delivery component, preferably by means of a pump, generally has substantially the same identity. Preferably also verified during step D) is whether it is permitted to displace fluid from the identified supply container to the identified delivery component. It is for instance possible for this purpose to compare whether the identity of the fluid in the supply container corresponds (sufficiently) to the identity of the delivery component, for instance the buffer tank. It is also possible to compare whether the identity of the supply container and the identity of the buffer tank occur as cross-reference in a database. It is also possible to envisage the coupling component being permanently (non-releasably) connected to the delivery component, whereby the above stated additional identification during step A) is not necessary.

**[0020]** At least some of the above stated information (identity supply container, identity delivery component, identity fluid) can further be used to program the programmable identification element. The programmable identification element will generally be formed by a physical tag which is fixed on or to the coupling component, generally at or close to a connecting location of the coupling component. Each connecting location (inlet or outlet) of the coupling component is preferably provided with at least one programmable identification element, which can generally considerably facilitate verification of a finally realized coupling.

**[0021]** The identification means of the at least one coupling component can preferably be read, generally by making use of a (handheld) scanner, using which the programmed data are read or digitally retrieved.

**[0022]** The indication means of the at least one coupling component can be provided with a (re)programmable chip (dynamic/programmable identification element) and can for instance be formed by an RFID tag. It is however also possible to envisage the identification means comprising a programmable identification element formed by a static representation, in particular a static code, such as a barcode and/or a two-dimensional barcode, in particular a QR code, via which static code programmed and therefore dynamic digital information can be retrieved, for instance from a database.

**[0023]** The term "dynamic"/"programmable" must therefore be interpreted relatively broadly in the context of this patent document. If for instance peracetic acid is identified during step A) as the fluid for displacement, the identity of this fluid can be linked to the programmable identification element of the at least one coupling element, either directly by programming this fluid identity on or in the identification element, or indirectly via a digital cross-reference which is accessible via the identification element, for instance via Internet. The programmable identification element is preferably programmed via the database, wherein an identification of the programmable identification element is stored in the database.

**[0024]** It is also possible to envisage the identification means of the at least one coupling component also comprising a static identification element in addition to a programmable identification element. Such an embodiment provides the option of identifying the coupling component by means of a standard (static) code. It is therefore no longer necessary to incorporate the identity of the coupling component into the programmable (dynamic) code.

**[0025]** As already noted, the coupling component can be of diverse nature. If the coupling component is formed by a pump, it is then advantageous for the pump to be activated during step E) if the verification during step D) is successful. This activation will generally start the process of displacing the fluid. If the coupling component is formed by a shut-off valve it is advantageous for the shut-off valve to be opened during step E) if the verification during step D) is successful.

**[0026]** The selection of the one or more coupling components to be used can take place in relatively simple manner. It is even possible here to envisage use being made each time, during each fluid displacement, of the same coupling component(s), whereby making a selection from a larger number of available coupling components can be dispensed with. The purpose of the selection during step B) is that the at least one coupling component used is identified so that it can be subsequently and/or simultaneously programmed with situation-specific (situation-dependent) information which can then, generally after coupling of the coupling component, be checked (read) for the purpose of verification in combination with information relating to a directly or indirectly coupled component. A situation can be described here by way of example in which a coupling component formed by a conduit ABC is used in a situation to transport a hydrogen peroxide (HP) from a supply container 123 to a specific buffer tank 456. The identity of the conduit is designated with the static code ABC, and this static code can be related to an application-dependent dynamic code for instance the code HP related to the fluid. After coupling of the conduit ABC to both supply container 123 and buffer tank 456 the overall

code combination 123-ABC-HD results on one end surface of the conduit ABC, and the overall code combination ABC-HD-456 on an opposite end surface of the conduit ABC. The two code combinations can be scanned and verified (in manual or automated manner), generally by making use of a database. If these code combinations are approved, for instance because the scanned code combinations correspond to pre-generated code combinations, displacement of the fluid can be initiated (step E).

**[0027]** If a plurality of coupling components which are mutually coupled during step C) for the purpose of realizing a connection between the supply container and the delivery component are selected during step B) it is advantageous for a plurality of coupling components to be programmed on the basis of the information identified during step A). All realized couplings of at least one coupling component and at least one adjacent component will generally be verified here during step D). The sequence of connection of the coupling components can optionally also be predetermined here and checked during the verification step as according to step D). A situation can be described here by way of example in which a coupling component, formed by a conduit ABC, and a pump DEF are used in a situation to transport a hydrogen peroxide (HP) from a supply container 123 to a specific buffer tank 456. The identity of the conduit is designated with the static code ABC, and this static code can be related to an application-dependent dynamic code, for instance the code HP related to the fluid. The identity of the pump is designated with the static code DEF, and this static code can also be related to an application-dependent dynamic code, for instance the code HP related to the fluid (or to the identity of the supply container and/or buffer tank). After coupling of the conduit ABC to the buffer tank 456 and the pump DEF and coupling of the pump DEF to the supply container 123 (different) code combinations once again result at the position of the connecting locations, in this case for instance 123-DEF-HP, DEF-HP-ABC-HP, ABC-HP-456, which can be checked (verified), for instance on the basis of a database and/or code generator. If all code combinations and therefore all couplings are approved, for instance because the scanned code combinations correspond to pre-generated code combinations, displacement of the fluid can be initiated (step E). The pump will usually be activated automatically here.

**[0028]** When step D) is performed use is preferably made of a control unit and at least one database coupled to the control unit for the purpose of comparing the identification of the at least one coupling component to the identification of at least one coupled adjacent component and/or comparing a combination of identities of the at least one coupling component and the adjacent combination to a predefined combination which is preferably stored digitally in the database. If the physically created combination occurs in the database, the verification of this specific coupling will generally be successful during step D).

**[0029]** The verification during step D) is preferably performed on the basis of at least one predetermined criterion. This criterion can for instance be that the identification of a created combination of identified components occurs in a database. This is generally the simplest criterion. Component A with dynamic identification AD can thus for instance be coupled to component B with dynamic identification BD, whereby the code combination ADBD or BDAD is obtained, which can be recognized by applying the database. The at least one criterion can however also be more complex, for instance by determining in advance that component A with dynamic identification AD may be coupled to component B with dynamic identification BD or to component C with static identification C, whereby multiple code combinations are deemed permissible. It is also possible to determine in advance that a buffer tank and/or an applied coupling component may come into contact with a fluid with a concentration differing from that of the same fluid which has previously come into contact with the buffer tank and/or the applied coupling component, and so on.

**[0030]** Step B) can be performed prior to step A). The sequence of determined steps of the method can therefore be changed.

**[0031]** The invention also relates to a system for displacing a fluid from a supply container to a delivery component, particularly by applying the method according to the invention, more particularly for use in an industrial textile laundry, comprising: at least one identifiable supply container provided with a fluid, a plurality of delivery components, wherein at least one first identifiable delivery component is configured to hold a first fluid and at least one second identifiable delivery component is configured to hold a second fluid differing from the first fluid, at least one coupling component for mutually coupling the supply container and a delivery component for the purpose of displacing fluid via the at least one coupling component from the supply container to the coupled delivery component, which at least one coupling component is provided with at least one identification means, at least one database provided with a plurality of programmable cross-references, wherein each programmable cross-reference is formed by an identification of a coupling component and at least one value which is dependent on the identification of the supply container and/or the delivery component, and at least one control unit connected to the database for the purpose of verifying, on the basis of the identified coupling component and the cross-reference from the database related thereto, whether the fluid coming from the supply container may flow through the identified coupling component, wherein the at least one identification means comprises a programmable identification element, which programmable identification element is configured to store (program) identifying information relating to at least one adjacent component coupled to the coupling component, which at least one adjacent component is formed by at least one component chosen from a group consisting of: the supply container, the delivery component and at least one other identified coupling component.

**[0032]** Advantages and embodiment variants have already been described at length in the foregoing.

**[0033]** The system preferably comprises a scanning device connected to the control unit (verification device) for the purpose of scanning the identification means of the at least one coupling component. This scanning device preferably comprises a handheld scanner. A handheld scanner is a practical aid for scanning tags (identification elements) at the position of the realized couplings to enable the correctness of the coupling to be checked and, if successful, initiating displacement of fluid. The handheld scanner is preferably configured here for wireless communication with the control unit, whereby the handheld scanner can be applied in relatively practical manner.

**[0034]** The supply container, the coupling component(s) and the delivery components are preferably provided with an identification element (tag), whereby each realized coupling can be checked for correctness by the control unit, such as a computer, in relatively simple manner by means of scanning the tags.

**[0035]** As stated, the coupling component can be of diverse nature and can for instance be formed by a conduit, a lance, a shut-off valve, a coupling piece, a pump and so on. The supply container will generally be coupled to a (selected) delivery component via a plurality of coupling components connected in series. The supply container is generally carried by a vehicle.

**[0036]** When the system is applied in or close to an industrial textile laundry, it is advantageous for at least one delivery component to be connected to an industrial textile washing device, such as for instance a so-called tunnel washer, or for at least one delivery component to form part of the industrial textile washing device, such as for instance a nozzle, metering pump or other type of (transport) pump, in the device. This makes it possible to supply a fluid such as a detergent or a bleaching agent to the textile laundry directly from the delivery component. The system can also comprise a plurality of supply containers, wherein each supply container is provided with mutually differing fluids. It is possible here to transport different fluids simultaneously from different supply containers to different buffer tanks.

**[0037]** Various aspects have already been elucidated in the foregoing and will also be further elucidated in the following figure description.

**[0038]** The method and the system according to the invention are particularly, though not exclusively, suitable for application in or close to an industrial textile laundry. Catering linens and/or work clothing are for instance laundered in such textile laundries. It is however also possible to envisage the method and the system according to the invention being applied for other purposes, such as for instance the industrial cleaning of installations, systems, blocked conduits, tanks, hard surfaces and/or (commercial) premises.

**[0039]** The invention will be elucidated on the basis of non-limitative exemplary embodiments shown in the following figures. Herein:

- figure 1 shows schematically a system according to the present invention particularly suitable for performing a method according to the invention;
- figure 2 shows schematically the programming of a coupling element according to the present invention;
- figure 3 shows schematically the verification of a correct coupling of the coupling element according to the present invention;
- figure 4 shows schematically a system according to the present invention provided with a scanner; and
- figure 5 shows schematically the verification of an incorrect coupling of the coupling element according to the present invention.

**[0040]** Figures 1-4 show schematically a method for displacing a fluid according to the present invention with a programmable coupling hose. Figures 1-4 also show schematically a system and a method according to the present invention for displacing a fluid (1) from a supply container (2) to a buffer tank (3) while making use of a coupling element (4).

**[0041]** Figure 1 shows the system of fluid (1), supply container (2), buffer tank (3) and coupling element (4). According to an embodiment of the present invention, there are several fluids (1.1, 1.2, 1.3) in a plurality of supply containers (2.1, 2.2, 2.3) which can be displaced to associated buffer tanks (3.1, 3.2, 3.3) by means of a single coupling element (4). Each supply container (2.1, 2.2, 2.3) is provided with a static identification means (5.1, 5.2, 5.3) and each buffer tank (3.1, 3.2, 3.3) is also provided with a static identification means (6.1, 6.2, 6.3).

**[0042]** A coupling element (4) is used to enable displacement of fluid from a supply container (2.1, 2.2, 2.3) to a buffer tank (3.1, 3.2, 3.3). This coupling element (4), shown as coupling hose (4), is also provided with an identification means (7). Identification means (7) of coupling element (4) is dynamic such that it can be programmed, for instance by a computer (8). Computer (8) is for instance provided with a database with a plurality of cross-references, wherein each cross-reference indicates which supply container (2.1, 2.2, 2.3) and which buffer tank (3.1, 3.2, 3.3) may be coupled to each other by coupling element (4).

**[0043]** Figure 2 shows the system of figure 1, wherein coupling element (4) is programmed by means of dynamic identification means (7) and computer (8). In the shown example of figure 2 the dynamic identification means (7) is programmed to correspond to the static identification means (5.1) of a supply container (2.1) and the static identification means (6.1) of a first buffer tank (3.1).

**[0044]** Figure 3 shows the system of figures 1 and 2, wherein coupling element (4) brings about a connection between

a supply container (2.1) and a buffer tank (3.1). Coupling element (4) allows displacement of the fluid (1.1) when the identification means (5.1, 6.1 and 7) allow this as according to computer (8). In the shown example the combination of the static identification means (5.1) of supply container (2.1) and the programmed dynamic identification means (7) is permissible as according to computer (8), as is the combination of the static identification means (6.1) of buffer tank (3.1) and the programmed dynamic identification means (7) (illustrated by the plus sign on computer (8)), and fluid (1.1) may be transported from supply container (2.1) to buffer tank (3.1).

**[0045]** The identification means (5.1, 5.2, 5.3, 6.1, 6.2, 6.3, 7) can include various types, such as a barcode or an RFID tag. Figure 4 shows the system of the foregoing figures, wherein the system also comprises a scanning device (9) such as a barcode scanner or an RFID tag scanner for reading the identification means (5.1, 5.2, 5.3, 6.1, 6.2, 6.3, 7), such as a barcode or an RFID tag on supply container (2.1, 2.2, 2.3), buffer tank (3.1, 3.2, 3.3) and coupling element (4). Such a scanning device (9) is for instance connected (wirelessly) to computer (8) in order to transmit the scanned information, so that it is possible to verify on the basis of this information and the cross-reference related thereto from database (8) of computer (8) whether it is permissible to displace fluid (1.1, 1.2, 1.3) from supply container (2.1, 2.2, 2.3) to buffer tank (3.1, 3.2, 3.3) by means of coupling element (4).

**[0046]** Figure 5 shows schematically the system of figures 1 and 2, wherein coupling element (4) brings about a connection between a supply container (2.2) and a buffer tank (3.1). Coupling element (4) allows the displacement of the fluid (1.2) when the identification means (5.2, 6.1 and 7) allow this as according to the computer (8). In the shown example the combination of the static identification means (5.1) of supply container (2.2) and the programmed dynamic identification means (7) is not permissible as according to the computer (8) (illustrated by the minus sign on computer (8)). The combination of the static identification means (6.1) of buffer tank (3.1) and the programmed dynamic identification means (7) is permissible (illustrated by the plus sign on computer (8)). Fluid (1.2) may not therefore be transported from supply container (2.2) to buffer tank (3.1).

**[0047]** It will be apparent that the invention is not limited to the exemplary embodiments shown and described here, but that within the scope of the appended claims numerous variants are possible which will be self-evident to the skilled person in this field.

## Claims

1. Method for displacing a fluid (1) from a supply container (2) to a delivery component (3), particularly for use in industrial laundry, comprising the steps of:

   A) identifying a supply container (2) provided with a fluid (1) and/or a delivery component (3), in particular a buffer tank, configured to receive fluid (1) supplied by a supply container;
   B) selecting at least one coupling component (4) for coupling the supply container (2) to the delivery component (3), which coupling component (4) is provided with at least one identification means (7);
   C) coupling the supply container (2) to the delivery component (3) via the at least one coupling component (4),
   D) verifying, on the basis of the identification means (7), the coupling of the at least one coupling component (4) and at least one adjacent component realized during step C), which at least one adjacent component is formed by at least one component chosen from a group consisting of: the supply container (2), the delivery component (3) and at least one other identified coupling component; and
   E) displacing fluid (1) from the supply container (2) via the at least one coupling component (4) to the delivery component (3) if the verification during step D) is successful,

   wherein the at least one identification means (7) comprises a programmable identification element, which programmable identification element is configured to store information identified during step A).

2. Method as claimed in claim 1, wherein the at least one coupling component (4) is of shared nature.

3. Method as claimed in claim 1 or 2, wherein the identification of the supply container (2) and/or the delivery component (3) as according to step A) takes place by scanning a tag (5, 6) connected to respectively the supply container (2) and the delivery component (3), which tag (5, 6) comprises information related to the fluid (1).

4. Method as claimed in claim 3, wherein the identity of the fluid (1) is determined during or after scanning of the tag (5, 6) by retrieving data which identify the fluid (1) from a database on the basis of the scanned information.

5. Method as claimed in any of the foregoing claims, wherein both the supply container (2) and the delivery component (3) are identified during step A).

6. Method as claimed in claim 5, wherein verification also takes place during step D) of whether it is permitted to displace fluid (1) from the identified supply container (2) to the identified delivery component (3).

7. Method as claimed in any of the foregoing claims, wherein an identification of the programmable identification element is stored in a database and wherein the programmable identification element is programmed via the database.

8. Method as claimed in any of the foregoing claims, wherein the coupling component is formed by a pump and/or a shut-off valve and wherein the pump is activated during step E) and/or the shut-off valve is opened during step E) if the verification during step D) is successful.

9. Method as claimed in any of the foregoing claims, wherein a plurality of coupling components (4) are selected during step B), which coupling components (4) are mutually coupled during step C) for the purpose of realizing a connection between the supply container (2) and the delivery component (3).

10. Method as claimed in claim 9, wherein all realized couplings of at least one coupling component (4) and at least one adjacent component are verified during step D).

11. Method as claimed in any of the foregoing claims, wherein the verification during step D) takes place by making use of a control unit (8) and at least one database coupled to the control unit (8) for the purpose of comparing the identification of the at least one coupling component (4) to the identification of at least one adjacent component.

12. System for displacing a fluid (1) from a supply container (2) to a delivery component (3), particularly by applying the method as claimed in any of the foregoing claims, more particularly for use in industrial laundry, comprising:

- at least one identifiable supply container (2) provided with a fluid (1),
- a plurality of delivery components (3.1, 3.2, 3.3), wherein at least one first identifiable delivery component (3.1) is configured to hold a first fluid (1.1) and at least one second identifiable delivery component (3.2) is configured to hold a second fluid (1.2) differing from the first fluid (1.1),
- at least one coupling component (4) for mutually coupling the supply container (2) and a delivery component (3) for the purpose of displacing fluid (1) via the at least one coupling component (4) from the supply container (2) to the coupled delivery component (3), which at least one coupling component (4) is provided with at least one identification means (7),
- at least one database provided with a plurality of programmable cross-references, wherein each programmable cross-reference is formed by an identification of a coupling component (4) and at least one value which is dependent on the identification of the supply container (2) and/or the delivery component (3), and
- at least one control unit (8) connected to the database for the purpose of verifying, on the basis of the identified coupling component (4) and the cross-reference from the database related thereto, whether the fluid (1) coming from the supply container (2) may flow through the identified coupling component (4),

wherein the at least one identification means (7) comprises a programmable identification element, which programmable identification element is configured to store identifying information of at least one adjacent component coupled to the coupling component (4), which at least one adjacent component is formed by at least one component chosen from a group consisting of: the supply container (2), the delivery component (3) and at least one other identified coupling component.

13. System as claimed in claim 12, wherein the system comprises a scanning device (9) connected to the control unit (8) for the purpose of scanning the identification means (7) of the at least one coupling component (4).

14. System as claimed in claim 13, wherein the supply container (2) and optionally the delivery component (3) are provided with at least one tag (5, 6), which tag (5, 6) is provided with information identifying the fluid (1) received in the supply container (2) and/or delivery component (3), and wherein the scanning device (9) is configured to scan the tag (5, 6).

15. System as claimed in any of the claims 12-14, wherein the at least one coupling component (4) is of shared nature, and is particularly a shared transfer conduit.

16. System as claimed in any of the claims 12-15, wherein the at least one coupling component (4) is formed by a pump

and/or a shut-off valve.

**17.** System as claimed in claim 16, wherein the control unit (8) is configured to activate the at least one coupling component (4) when the performed verification is successful.

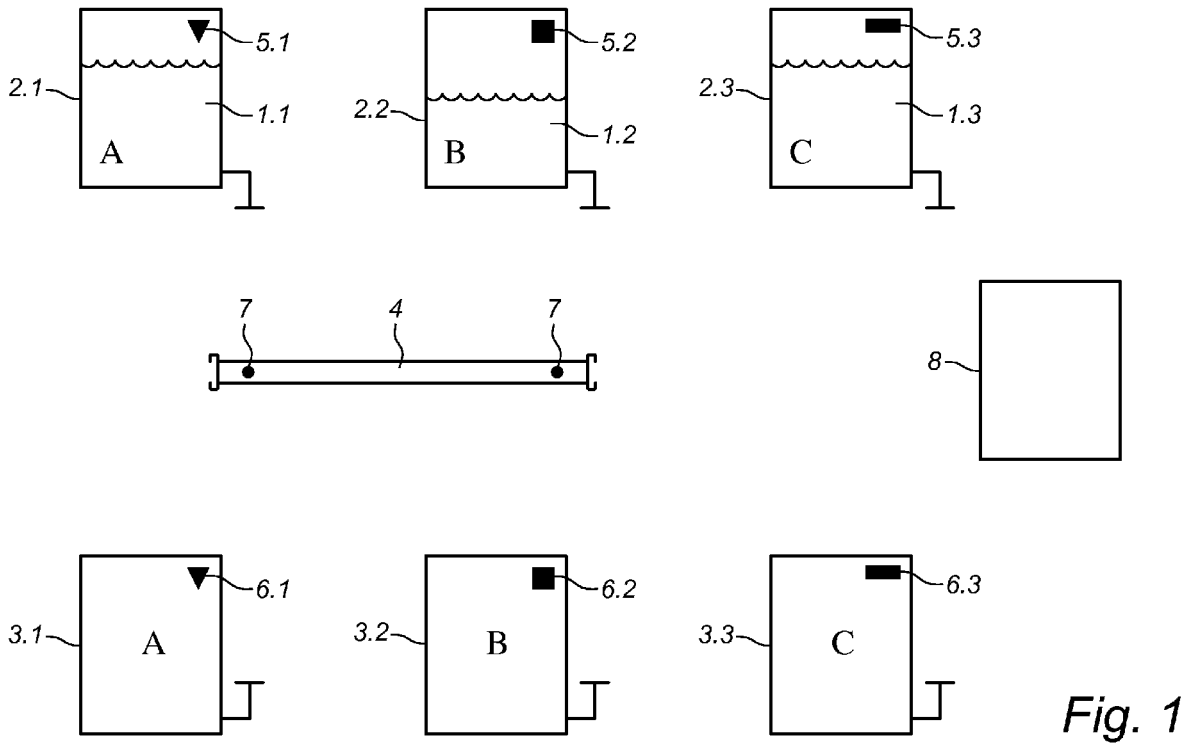


Fig. 1

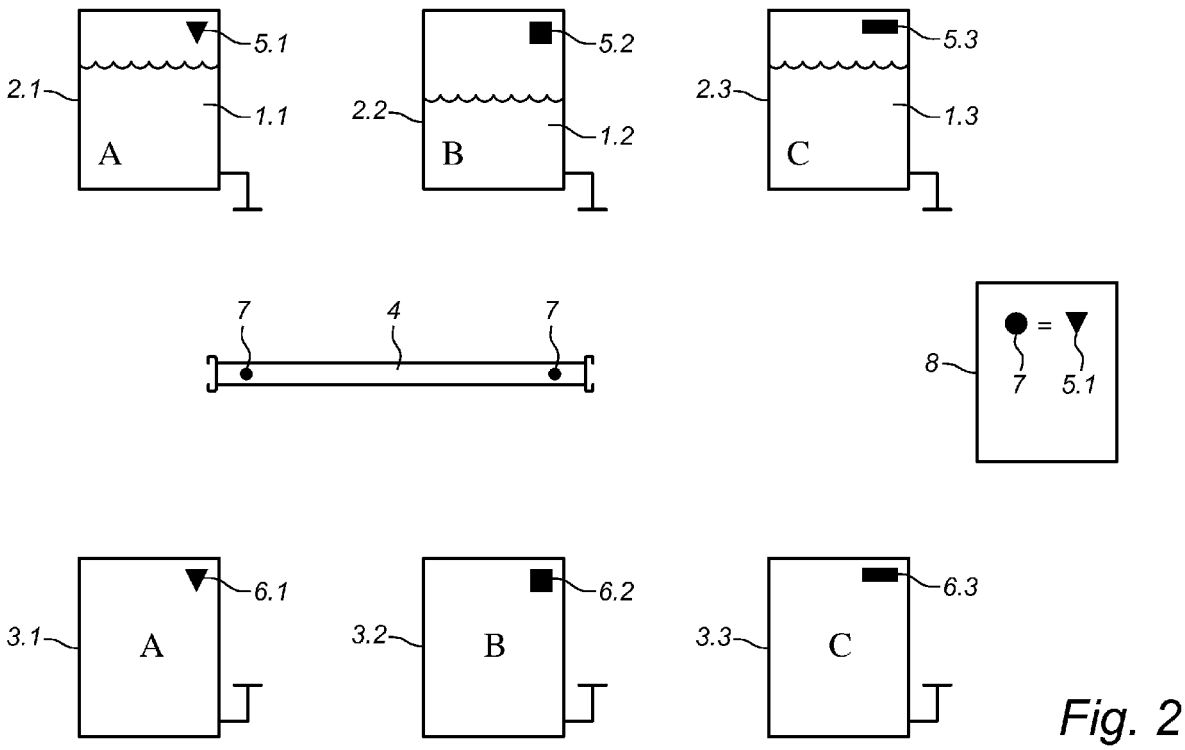


Fig. 2

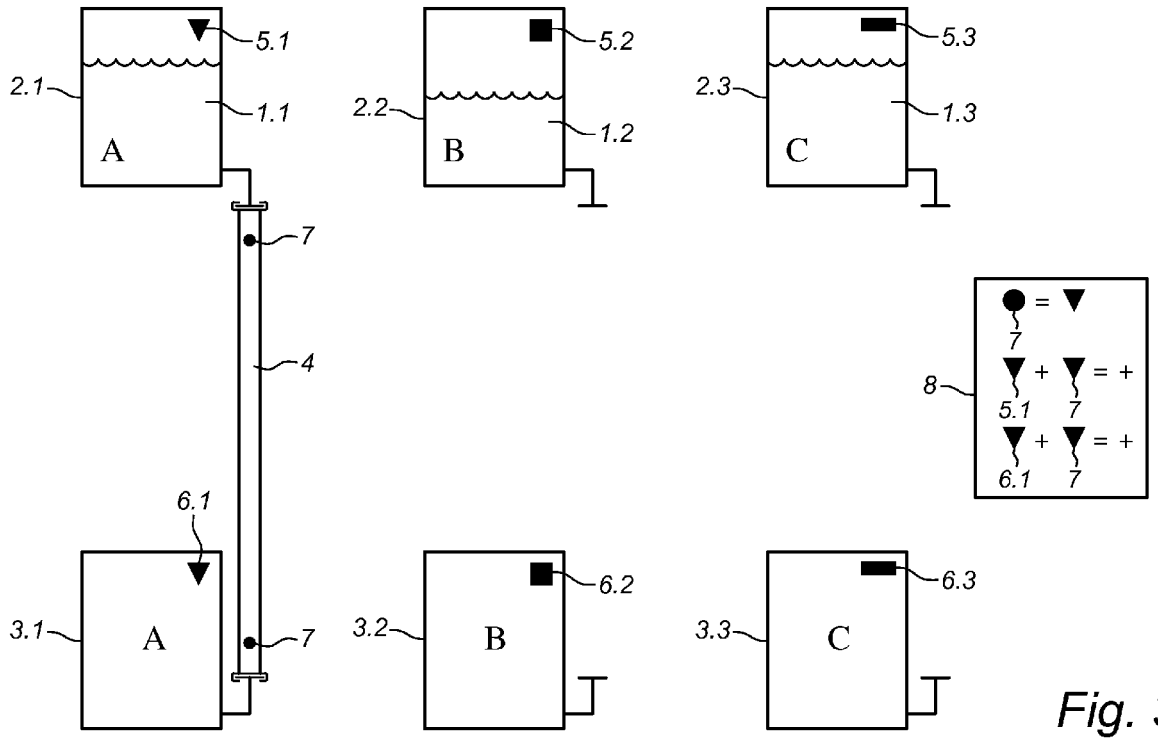


Fig. 3

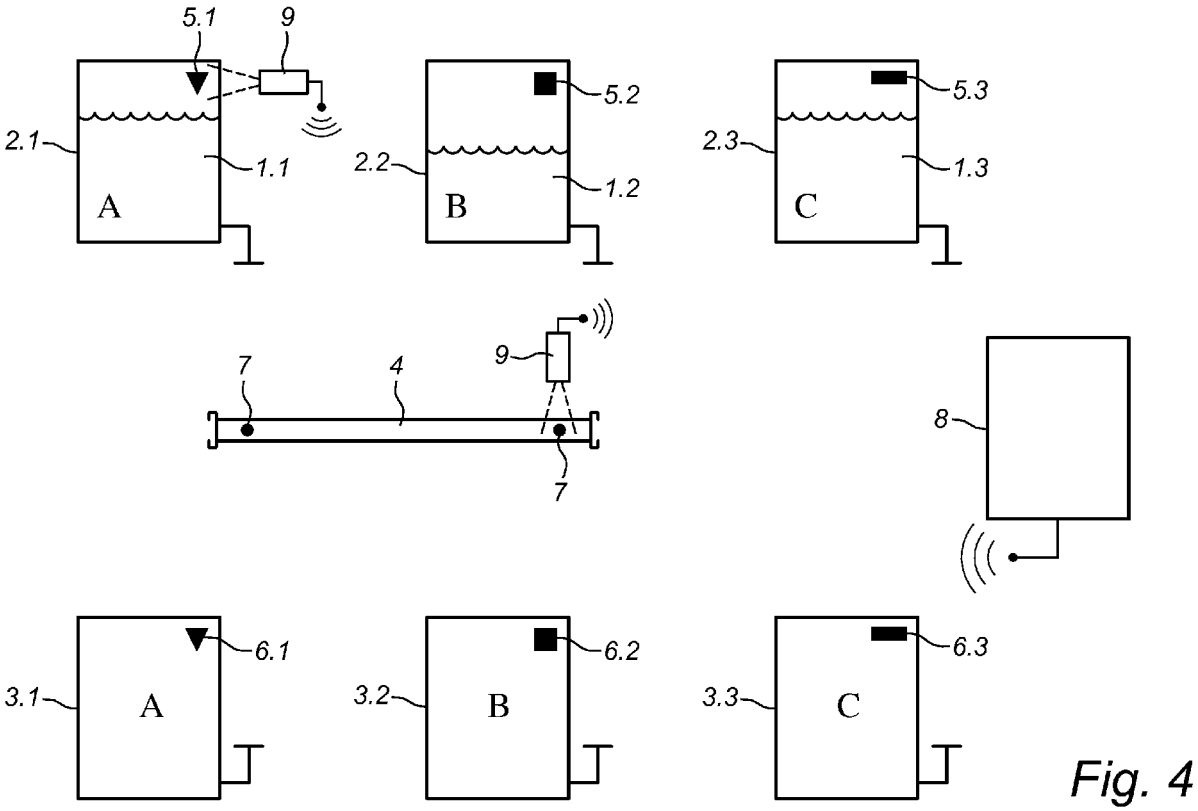


Fig. 4

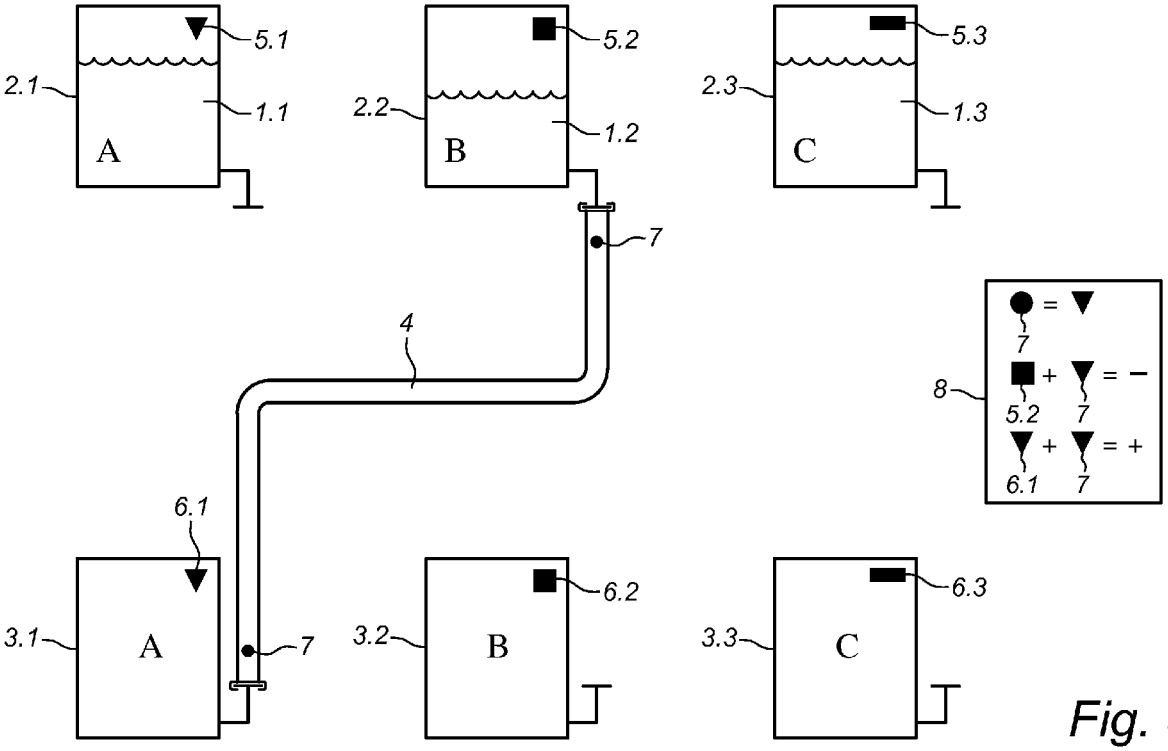


Fig. 5

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# EUROPEAN SEARCH REPORT

Application Number
EP 15 16 9196

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