



(11) **EP 4 230 106 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
23.08.2023 Bulletin 2023/34

(51) International Patent Classification (IPC):
A47L 13/51^(2006.01) A47L 13/58^(2006.01)

(21) Application number: **23154342.2**

(52) Cooperative Patent Classification (CPC):
A47L 13/51; A47L 13/58

(22) Date of filing: **31.01.2023**

(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 ME MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA
Designated Validation States:
KH MA MD TN

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(30) Priority: **22.02.2022 IT 202200003287**

(54) **WETTING DEVICE OF FLOOR CLEANING CLOTHS AND TROLLEY FOR CLEANING SURFACES COMPRISING SUCH WETTING DEVICE**

(57) The present invention relates to a wetting device (1) of floor cleaning cloths comprising:
(1) of floor cleaning cloths comprising:
- a container (2) having a compartment (20) adapted to contain a cleaning liquid;
- a tank (4), placed in fluid communication with the compartment (20) of the container (2), having an impregnation zone (Z) adapted to accommodate the floor cleaning cloth (100);
- pumping means (5) configured to transfer cleaning liquid from the compartment (20) to the tank (4);
- a plurality of nozzles (6), placed at the tank (4) and in fluid communication with the pumping means (5), configured to direct the cleaning liquid towards the impregnation zone (Z).

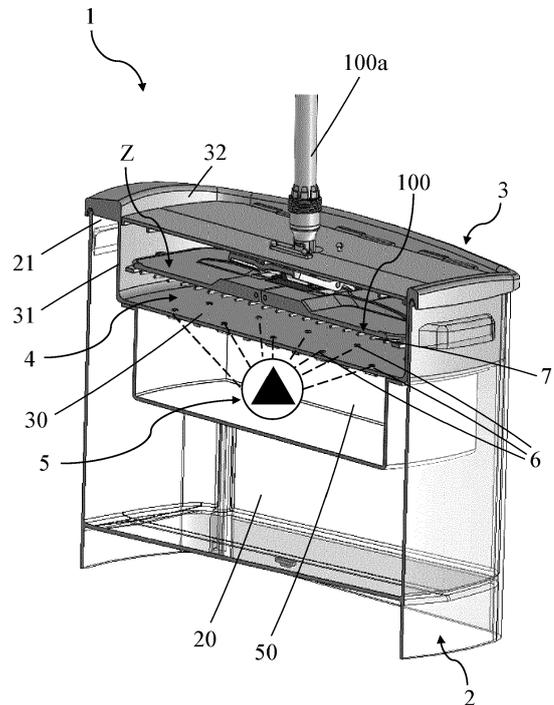


Fig. 2

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Description

Technical Field

[0001] The present invention relates to a wetting device of floor cleaning cloths and a trolley for cleaning surfaces comprising such a wetting device.

[0002] The present invention pertains to the field of professional equipment for cleaning and sanitising surfaces. In particular, it is useful in hospital facilities and health-care residences, but also, more generally, in private or public environments such as offices, restaurants, stations, airports, or schools.

State of the art

[0003] To wet cloths, buckets containing cleaning liquids are typically used.

[0004] The floor washing cloths, once immersed in the liquids collected in the buckets, must be squeezed manually or mechanically to remove the excess cleaning liquid collected. Such squeezing operations are notoriously cumbersome and time-consuming and difficult to quantify in terms of costs.

[0005] Devices are known in the state of the art for wetting floor cleaning cloths comprising a bucket and a tray which can be inserted inside the bucket. Such a tray is shaped to contain a sufficient amount of cleaning liquid to impregnate a single floor cleaning cloth, so as to avoid or minimise the subsequent squeezing operations.

[0006] In detail, the bucket is shaped to keep the tray raised with respect to the free surface of the cleaning liquid contained in the bucket and, in use, a cleaning operator pours part of the liquid contained in the bucket into the tray. Specifically, by means of the head of the mop itself, the operator tilts the tray towards the inside of the bucket, mechanically engaging a top portion of the specially shaped tray.

[0007] Disadvantageously, the operation of pouring the cleaning liquid from the bucket to the tray requires a certain handiness of the operator, thus being not immediate and slow.

[0008] Furthermore, disadvantageously, the tray is not capable of ensuring a homogeneous distribution of the cleaning liquid on the surface of the cloth, especially if the operator does not insert it correctly.

Object of the invention

[0009] In this context, the technical task underlying the present invention is to propose a wetting device of floor cleaning cloths which overcomes the drawbacks of the prior art mentioned above.

[0010] In particular, it is an object of the present invention to provide a wetting device for floor cleaning cloths capable of quickly providing a quantity of liquid suitable for impregnating the floor cleaning cloth.

[0011] Furthermore, it is a further object of the present

invention to ensure a homogeneous distribution of the cleaning liquid on the surface of the cloth, so as to minimise the amount of cleaning liquid required.

[0012] It is also an object of the present invention to minimise the manual activities required to impregnate the floor cleaning cloth so as to reduce operator fatigue and the randomness of results.

SUMMARY OF THE INVENTION

[0013] The present invention relates to a wetting device configured to impregnate a floor cleaning cloth with a certain dose of a cleaning liquid.

[0014] Such wetting device comprises a container having a compartment adapted to contain cleaning liquid, and a tank placed in fluid communication with the compartment. In detail, the tank has an impregnation zone adapted to accommodate the floor cleaning cloth.

[0015] The wetting device object of the present invention further comprises pumping means configured to transfer the cleaning liquid from the compartment of the container to the tank, and a plurality of nozzles placed in fluid communication with the pumping means. Such nozzles are arranged at the tank and are configured to direct the cleaning liquid towards the impregnation zone.

[0016] It should be noted that to wet the floor cleaning cloth, the operator of the wetting device object of the present invention must simply place the cloth to be wetted inside the impregnation zone of the tank. In fact, once the floor cleaning cloth is placed in the tank, the pumping means, through the plurality of nozzles, direct the cleaning liquid onto the floor cleaning cloth.

[0017] Therefore, it is clear that the wetting device object of the present invention is easy to use and is capable of providing a quantity of liquid suitable for impregnating the floor cleaning cloth in a short time.

[0018] Furthermore, the plurality of nozzles allow to distribute the cleaning liquid in different areas of the impregnation zone, thus obtaining a homogeneous distribution of the cleaning liquid on the surface of the cloth and allowing to minimise the amount of cleaning liquid required.

[0019] Further, the wetting device object of the present invention allows to keep the amount of liquid employed in the various impregnation operations constant, thus facilitating the estimation of the cleaning costs attributable to the consumption of the cleaning liquid.

LIST OF FIGURES

[0020] Further features and advantages of the present invention will become more apparent from the exemplary, and therefore non-limiting, description of a preferred but not exclusive embodiment of a wetting device of floor cleaning cloths and a trolley for cleaning surfaces, as illustrated in the appended drawings, in which:

- Figure 1a shows a first embodiment of a trolley for

- cleaning surfaces comprising a wetting device for floor cleaning cloths in accordance with the present invention;
- Figure 1b shows a second embodiment of a trolley for cleaning surfaces comprising a wetting device for floor cleaning cloths in accordance with the present invention.
 - Figure 2 shows a perspective sectional view of a wetting device of floor cleaning cloths according to the present invention;
 - Figure 3 shows a sectional side view of the wetting device of Figure 2;
 - Figure 4 shows a component of the wetting device of Figure 3;
 - Figure 5 shows a perspective view of the wetting device of Figure 2 in a first operating configuration;
 - Figure 6 shows a perspective view of the wetting device of Figure 2 together with a floor washing tool;
 - Figure 7 shows a perspective view of the wetting device of Figure 2 in a second operating configuration;
 - Figure 8 shows a block diagram depicting the electronic connection of some components of the wetting device of Figure 2;
 - Figure 9a is a first perspective view of a first embodiment of a component of the wetting device of figure 3;
 - Figure 9b shows a perspective view from below of the component of Figure 9a;
 - Figure 9c shows a second embodiment of a component of the wetting device of Figure 3.

DETAILED DESCRIPTION

[0021] With reference to figures 1a and 1b, the present invention relates to a trolley 1000 for cleaning surfaces, in particular floors of public or private environments such as healthcare facilities, schools, offices, shopping centres, hospitals, airports, stations, cinemas and the like.

[0022] The trolley 1000 comprises a base 1001 extending substantially in a plane XY. Plane XY is intended as a plane defined by a first main extension direction X and a second main extension direction Y. The first X and the second Y main extension direction are perpendicular to each other.

[0023] Said base 1001 comprises a support surface R, configured to accommodate cleaning devices. Preferably, such a support surface R is substantially flat and extends along the first and the second main extension direction X, Y of the base 1001.

[0024] Preferably, the base 1001 has a perimeter profile P surrounding the support R. Still more preferably, the perimeter profile P is raised with respect to the support surface R so as to prevent the fall of any cleaning devices supported on the latter.

[0025] The trolley 1000 further comprises movement means 1002 connected to the base 1001 and configured to allow the trolley 100 to be moved on a walking surface

(not shown in the figures). In the embodiments shown in figures 1a and 1b the movement means 1002 comprise a plurality of wheels.

[0026] Preferably, the base 1001 is modular, i.e., it comprises a plurality of modules 1001a which can be mutually assembled to vary the extension of the support surface R. Figure 1a shows a first embodiment of the trolley 1000 of the present invention having a single base module, figure 1b shows a second embodiment of the trolley 1000 having a pair of modules 1001a mutually assembled to form a single base 1001. From the comparison of figures 1a and 1b it can be seen that, according to needs, by assembling several modules 1001a it is possible to extend the support surface R and thus the number of cleaning devices which can be placed on the trolley 1000.

[0027] Preferably, the trolley 1000 comprises control means 1003 associated with respective cleaning devices and configured to operate them. More details regarding the control means 1003 and the operation thereof will be provided in a later part of the present disclosure.

[0028] The cleaning devices which can be placed on the support surface comprise a wetting device 1 of floor cleaning cloths, also an object of the present invention.

[0029] Figures 1a and 1b depict the wetting device 1 placed on the support surface R of the trolley 1000, figures 2-7 instead depict the wetting device 1 individually.

[0030] It should be specified that in the context of the present invention, the term wetting device is intended as a device configured to impregnate a floor cleaning cloth 100 with a dose of a cleaning liquid. Such a cleaning liquid can simply be water, or a specific liquid product for cleaning tiles, parquet, cement or the like.

[0031] With reference to figures 2-7, the wetting device 1 object of the present invention comprises a container 2 configured to contain cleaning liquid. More precisely, the container 2 has a compartment 20 inside which the cleaning liquid can be accumulated. Preferably, the compartment has a capacity between 5 and 30 litres, in particular 15 litres.

[0032] Such a container 2 can have different geometries, however, it preferably has a prismatic or frustoconical shape to optimise its arrangement and encumbrance on the trolley 1000.

[0033] Preferably, as shown in figure 2, the container 2 has an opening 21 adapted to allow access to the compartment 20, in particular configured to allow the introduction of the cleaning liquid. Even more preferably, the opening 21 extends for the totality of an end portion of the container 2. In the embodiment shown in figures 2-7, the container 2 is substantially a bucket having a straight parallelepiped geometry with a rectangular base.

[0034] The wetting device 1 further comprises a tank 4 configured to accommodate the floor cleaning cloth 100 therein.

[0035] In detail, the tank 4 has an impregnation zone Z inside which the floor cleaning cloth 100 can be placed. Preferably, as shown in figure 2, the impregnation zone

Z is configured to accommodate the floor cleaning cloth 100 in an extended - not ruffled - form so as to allow its entire and homogeneous wetting. Even more preferably, the floor cleaning cloth 100 is insertable in the tank 2, in particular in the impregnation zone Z, while it is fixed to a floor cleaning tool 100a which, in use, allows it to be moved on the surface to be cleaned.

[0036] Preferably, the tank 4 comprises a bottom 30 facing the impregnation zone R, and an insertion mouth 32 arranged on the opposite side of the impregnation zone R with respect to the bottom 30. It should be specified that the insertion mouth 32 is suitably sized to allow the insertion of the floor cleaning cloth 100 in an extended form and fixed to the floor cleaning tool 100a.

[0037] Furthermore, preferably, according to what is shown in figures 2 and 5, the wetting device 1 comprises a support grid 7 adapted to abuttingly receive the floor cleaning cloth 100 and arrange it in the impregnation zone Z. In detail, the support grid is arranged in the tank 4 at the impregnation zone Z. Therefore, the support grid 7 is interposed between the insertion mouth 32 and the bottom 30. Preferably, the support grid 7 is spaced from the bottom 30 and extends parallel to the latter.

[0038] Preferably, the wetting device 1 object of the present invention comprises a cover 3 configured to be connected to the container 2 so as to close the opening 21. Thereby, the cover 3 allows to avoid spillage of the cleaning liquid from the compartment 20 of the container 2 in case of jolts or overturning.

[0039] Even more preferably, the tank 4 is obtained on such a cover 3, i.e., the cover 3 is shaped to define the tank 4.

[0040] The wetting device 1 object of the present invention further comprises pumping means 5 configured to transfer cleaning liquid from the compartment 20 of the container to the tank 4. More details on the pumping means 5, in particular on their arrangement and their operation, will be provided in a later part of the disclosure.

[0041] The amount of liquid dispensed and the weight of the cloth will be configured so as to ensure the disinfection of a defined area (max 25 sqm).

[0042] With reference to figure 3, the wetting device 1 comprises a plurality of nozzles 6 positioned at the tank 4 and in fluid communication with the pumping means 5. Such a plurality of nozzles 6 is configured to direct the cleaning liquid towards the impregnation zone Z of the tank 4. In detail, in use, each nozzle 6 is fed by the pumping means 5 and is configured to generate a jet of cleaning liquid towards the impregnation zone Z. It should be specified that the nozzles 6 are configured to direct the cleaning liquid towards different areas of the impregnation zone Z, so as to evenly wet the floor cleaning cloth 100.

[0043] Preferably, each nozzle 6 is configured to generate a vaporised or nebulised jet of cleaning liquid. However, it is not to be excluded that in alternative embodiments the nozzles 6 are configured to generate a continuous liquid jet.

[0044] In a first embodiment shown in figures 9a, 9b,

each nozzle 6 comprises a hollow cylindrical body 6b extending along a longitudinal direction X-X between a first open end 6' and a second closed end 6". In detail, said cylindrical body 6b comprises an inner channel 6c accessible by means of the first end 6' and closed at the second end 6". The cylindrical body 6b further comprises a recess 6d and a pair of openings 6e extending along a radial direction with respect to the longitudinal direction X-X and adapted to put the inner channel 6c in fluid communication with the recess 6d. Further, the cylindrical body comprises a pair of grooves 6f obtained on the second closed end 6". In use, the pressurised cleaning liquid enters the channel 6c of the nozzle 6 by means of the first open end 6', and then exits from the second end 6" through the pair of openings 6e, the recess 6d and finally through the grooves 6f.

[0045] In a second embodiment shown in figure 9c, each nozzle 6 comprises a screw body 6a rotatable about a respective rotation axis R-R. In detail, the screw body 6a is configured to be rotated by the hydraulic pressure generated by the pumping means 5 and to vaporise the cleaning liquid.

[0046] Advantageously, the plurality of nozzles 6 allows to evenly distribute the dispensing of the cleaning liquid on the surface of the floor cleaning cloth 100, avoiding excessively damp regions and other dry cloth regions.

[0047] Furthermore, advantageously, the plurality of nozzles 6 is configured to homogenise the dispensing of the cleaning liquid in the impregnation zone Z allows to avoid waste, thus minimising the dose of cleaning liquid necessary for wetting the floor cleaning cloth 100.

[0048] Still, advantageously, the plurality of nozzles 6, fed by the pumping means 5, allows to quickly wet the entire surface of the floor cleaning cloth. Therefore, the wetting device 1 object of the present invention allows to speed up the operations of preparing the cloth for cleaning surfaces.

[0049] Preferably, the plurality of nozzles 6 are arranged, at least in part, homogeneously at the bottom 30 of the tank 4. Still more preferably, the nozzles 6 are at least partly inserted in the bottom 30 of the tank 4.

[0050] In the embodiment shown in figures 2 and 3, the plurality of nozzles 6 are equally distributed on the bottom 30 of the tank 4. It should be specified that equally distributed is intended as the plurality of nozzles 6 organised in an equidistant manner on the bottom 30 of the tank 4, for example in grids organised on rows and columns.

[0051] In a possible embodiment, the plurality of nozzles is interposed between the bottom 30 and the support grid 7. Each nozzle 6 is configured to direct the cleaning liquid from the bottom 30 of the tank 4 towards the support grid 7 arranged in the impregnation zone Z.

[0052] Preferably, with reference to figures 3b and 4, the wetting device 1 comprises a distribution body 11 fixed to the bottom 30 of the tank 4 and adapted to distribute the pressurised cleaning liquid dispensed by the pumping means 5 to the plurality of nozzles. In detail,

said distribution body 11 comprises at least one pair of channels 11a within which several nozzles 6 are at least partially arranged. Each channel 11a is placed in fluid communication with the pumping means 5 by means of respective supply openings 11b.

[0053] In use, the pumping means 5 feed pressurised cleaning liquid inside the channels 11a of the distribution body 11 by means of the supply openings 11b which distribute it to the plurality of nozzles 6.

[0054] Preferably, a watertight seal (not shown in the figures) is interposed between the distribution body 11 and the bottom 30 of the tank 4.

[0055] According to what is shown in figures 2-7, preferably, the cover 3 comprises a chamber 50 adapted to accommodate the pumping means 5 therein. In detail, said chamber 50 extends from the opposite side of the bottom 30 with respect to the tank 4. Therefore, when the cover 3 is connected to the container 2, the chamber 50 is located inside the compartment 20.

[0056] The pumping means 5, arranged inside the chamber 50, are configured to draw the cleaning liquid from the compartment 20 of the container 2, for example by means of a suction duct (not shown in the figures) extending from the chamber 50 of the cover 3 into the compartment 20 of the container 2 when the cover 3 is connected to the container 2.

[0057] In a possible embodiment, the bottom 30 of the tank 4 has a plurality of holes 60 associated with the nozzles 6, and each nozzle 6 extends from the chamber 50 into the tank 4 through a respective hole 60. In alternative embodiments, the holes 60 themselves can be the nozzles, in which case it is necessary to fluid-dynamically connect the pumping means 5 to the plurality of holes 60.

[0058] Turning now to the pumping means 5, they can comprise an electric hydraulic pump 5a configured to draw the cleaning liquid from the compartment 20 of the container 2 and feed it pressurised to the plurality of nozzles 6 which will direct it onto the impregnation zone Z. In alternative embodiments, the hydraulic pump 5a can be manually operated, for example a crank or a pedal.

[0059] With reference to figure 8, to electronically control the operation of the hydraulic pump 5a, the wetting device 1 comprises a control unit 8 placed in signal communication with the hydraulic pump 5a itself. In detail, the control unit 8, by means of an electronic dispensing signal, is configured to operate the pump 4a for a time interval such that a predetermined dose of cleaning liquid is dispensed into the impregnation zone Z by means of the nozzles 6. It should be specified that the predetermined dose of cleaning liquid is the minimum amount of liquid which allows a sufficient wetting of the cloth. Such a predetermined dose of cleaning liquid is typically identified experimentally, however this does not preclude its analytical or analytical-experimental determination.

[0060] Preferably, the time interval during which the dispensing of the cleaning liquid occurs is constant for each dispensing.

[0061] The electronic dispensing signal can come

from the control means 1003 of the trolley 1000 associated with the wetting device 1. In detail, the operator, after placing the floor cleaning cloth 100 inside the tank 4, acting on the control means 1003 - for example by pressing a button - sends the electronic dispensing signal to the hydraulic pump 5a. It is therefore evident that in this case the trolley control means 1003 are placed in signal communication with the pumping means 5 of the wetting device 1.

[0062] Alternatively, the electronic dispensing signal can be generated automatically upon insertion of the floor cleaning cloth 100 inside the tank 4. In this case, referring to figure 8, the wetting device 1 object of the present invention comprises detection means 9 configured to detect the presence of the floor cleaning cloth 100 inside the detection zone Z of the tank 4. Such detection means 9 are arranged at the tank 4, preferably near the detection zone Z. Moreover, in this case, the control unit 8 is placed in signal communication with the detection means 9, so as to operate the pump 4a only when the latter detect the presence of the floor cleaning cloth 100 inside the impregnation zone Z.

[0063] The detection means 9 can also be used to avoid the accidental activation of the pumping means 5 when the floor cleaning cloth 100 is not inserted in the tank 4, thus preventing the dispensing of the cleaning liquid outside the wetting device 1. In other words, the detection means 9 are employable as electronic consent to the dispensing of the cleaning liquid.

[0064] Such detection means 9 can for example comprise a photocell (not depicted in the figures) adapted to detect the presence of the floor cleaning cloth 100 inside the impregnation zone Z.

[0065] Alternatively to or in addition to the photocell, the detection means 9 can comprise magnetic means (not depicted in the figures) adapted to detect the approach of an external magnetic element fixed to the floor cleaning cloth 100, or more generally to the floor cleaning tool 100a.

[0066] With reference to figures 2-7, preferably, the cover 3 comprises a door 10 configured to switch between a use configuration in which it closes the floor cleaning cloth 100 in the tank 4, and a rest configuration in which it allows the insertion or extraction of the floor cleaning cloth 100 inside the impregnation zone Z of the tank 4. Preferably, the door 10 comprises a pair of doors 10a rotatably fixed to the cover 3 at the insertion mouth 32 of the tank 4.

[0067] Preferably, when in the use configuration the door 10 defines a passage opening 10b for the floor cleaning tool 100a to which the floor cleaning cloth 100 is secured.

[0068] In a preferred embodiment, the switching of the door 10 from the rest configuration to that of use is operated by acting on the support grid 7 by means of the floor washing cloth 100. In detail, the support grid 7 is connected to the door 10 and is movable from and towards the bottom 30 of the tank 4. For example, the move-

ment of the support grid 7 towards and away from the bottom 30 of the tank 4 is obtainable by means of mechanical guides (not depicted in the figures). The connection between the support grid 7 and the door 10 is configured to control the switching of the latter from the rest to the use configuration when the grid approaches the bottom 30. Therefore, in use, by inserting the floor cleaning cloth 100 in the tank 4, and pushing it against the support grid 7 by means of the floor cleaning tool 100a, the user is capable of switching the door 10 from the rest configuration to that of use. Subsequently, after dispensing, it is possible to switch the door 10 from the use configuration to the rest configuration, for example by means of elastic elements (not shown in the figures) arranged so as to preload upon the approach of the support grid 7 to the bottom 30. Alternatively, the door 10 can switch from the use configuration to the rest configuration due to the mechanical action of the floor cleaning tool 100a on the door itself during the removal of the floor cleaning cloth 100.

[0069] In alternative embodiments, the movement of the door 10 can be electronic and controlled by the control unit 8.

[0070] Advantageously, the door 10 allows to avoid splashing outside the tank during the use of the wetting device 1.

Claims

1. Wetting device (1) of floor cleaning cloths, said wetting device (1) being configured to impregnate a floor cleaning cloth (100) with a dose of a cleaning liquid, said wetting device (1) comprising:
 - a container (2) having a compartment (20) adapted to contain the cleaning fluid;
 - a tank (4) in fluid communication with the compartment (20) and having an impregnation zone (Z) for the floor cleaning cloth (100);
 - pumping means (5) configured to transfer cleaning liquid from the compartment (20) to the tank (4);

characterised in that it comprises a plurality of nozzles (6) placed at the tank (4) and in fluid communication with the pumping means (5), said nozzles (6) being configured to direct the cleaning liquid towards the impregnation zone (Z).
2. Wetting device (1) according to claim 1, wherein:
 - the tank (4) has a bottom (30) facing the impregnation zone (Z);
 - at least part of the plurality of nozzles (6) are arranged at the bottom (30) of the tank (4).
3. Wetting device (1) according to the preceding claim, wherein the nozzles (6) are at least partially inserted in the bottom (30) of the tank (4).
4. Wetting device (1) according to any one of the preceding claims comprising a support grid (7) arranged in the tank (4) at the impregnation zone (Z), said support grid (7) being configured to abuttingly receive the floor cleaning cloth (100) and arrange it in the impregnation zone (Z).
5. Wetting device (1) according to claim 4, wherein the support grid (7) is spaced from the bottom (30) and the nozzles (6) configured to direct the cleaning liquid from the bottom (30) towards the support grid (7).
6. Wetting device (1) according to any one of the preceding claims, comprising a distribution body (11) fixed to the bottom (30) of the tank (4), said distribution body (11) comprising at least one pair of channels (11a) within which more nozzles (6) are at least partially arranged, each channel (11a) being placed in fluid communication with the pumping means (5) by means of respective supply openings (11b).
7. Wetting device (1) according to any one of the preceding claims, wherein:
 - the container (2) has an opening (21) adapted to allow access to the compartment (20);
 - the wetting device (1) comprises a cover (3) configured to be placed to close the opening (21) of the container (2);
 - the tank (4) is obtained on the cover (3).
8. Wetting device (1) according to preceding claim, wherein the cover (3) comprises a chamber (50) adapted to accommodate the pumping means (5), said chamber (50) extending from the opposite side of the bottom (30) with respect to the tank (4).
9. Wetting device (1) according to any one of the preceding claims, wherein:
 - the pumping means (5) comprise a hydraulic pump (5a) configured to draw the cleaning fluid from the compartment (20) of the container (2) and feed it pressurised to the plurality of nozzles (6);
 - the wetting device (1) comprises a control unit (8) placed in signal communication with said pump (4a), said control unit (8) being configured to operate said pump (4a) and dispense a predetermined dose of cleaning liquid into the impregnation zone (Z) by means of the nozzles (6).
10. Wetting device (1) according to the preceding claim, wherein:

- the wetting device comprises detection means (9) arranged at the tank (4) and configured to detect the presence of the floor cleaning cloth (100) within the detection zone (Z);
- the control unit (8) is placed in signal communication with the detection means (9) and is configured to operate the pump (4a) only when the detection means (9) detect the presence of the floor cleaning cloth (100) within the impregnation zone (Z).

11. Wetting device (1) according to any one of the preceding claims, wherein the cover (3) comprises a door (10) switchable between a use configuration in which it is configured to close the floor cleaning cloth (100) in the tank (4) and a rest configuration in which it allows the insertion or removal of the floor cleaning cloth (100) within the impregnation zone (Z) of the tank (4).

12. Wetting device (1) according to claims 3 to 10, wherein:

- the support grid (7) is movable towards and from the bottom (30) of the tank (4);
- the support grid (7) being kinematically connected to the door (10) to switch it between the use and rest configuration.

13. Trolley (1000) for cleaning surfaces, comprising:

- a base (1001) having a support surface (R);
- a movement means (1002) connected to the base and configured to allow the movement of the carriage (1000) on a walking surface;

characterised in that it comprises a wetting device (1) according to any one of the preceding claims positionable on the support surface (R) of the base (1001).

14. Trolley (1000) according to the preceding claim, wherein the trolley comprises control means (1003) placed in signal communication with and configured to operate the pumping means (5) of the wetting device (1).

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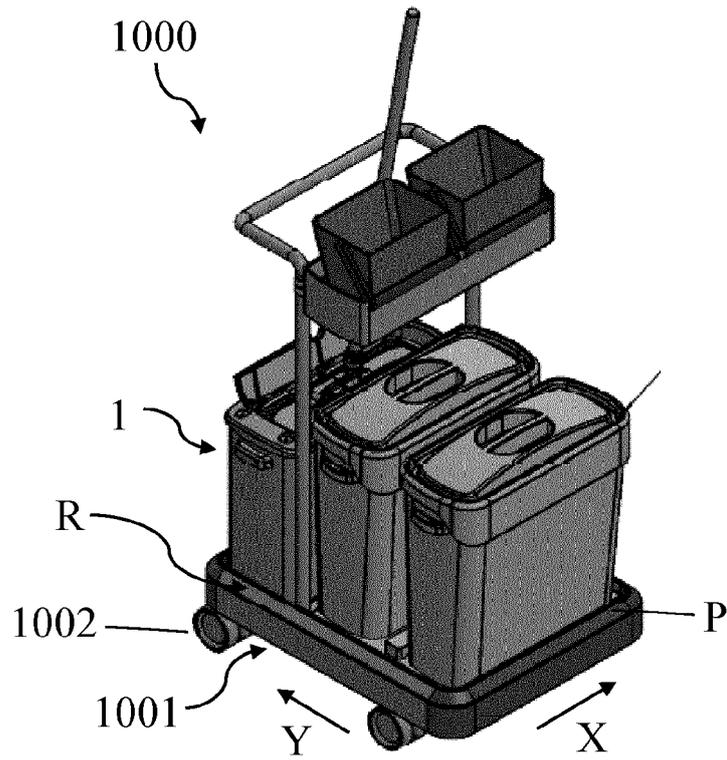


Fig. 1a

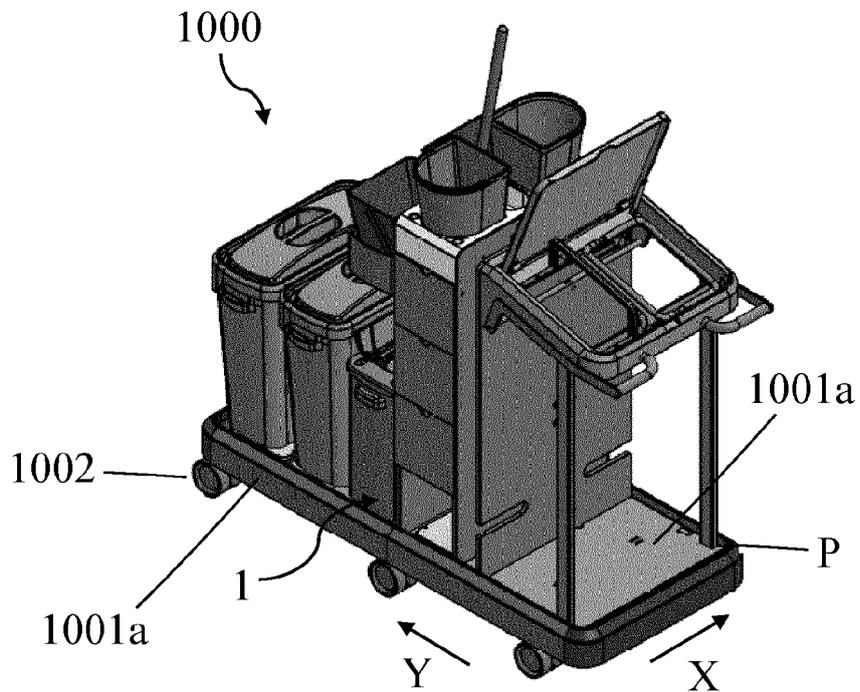


Fig. 1b

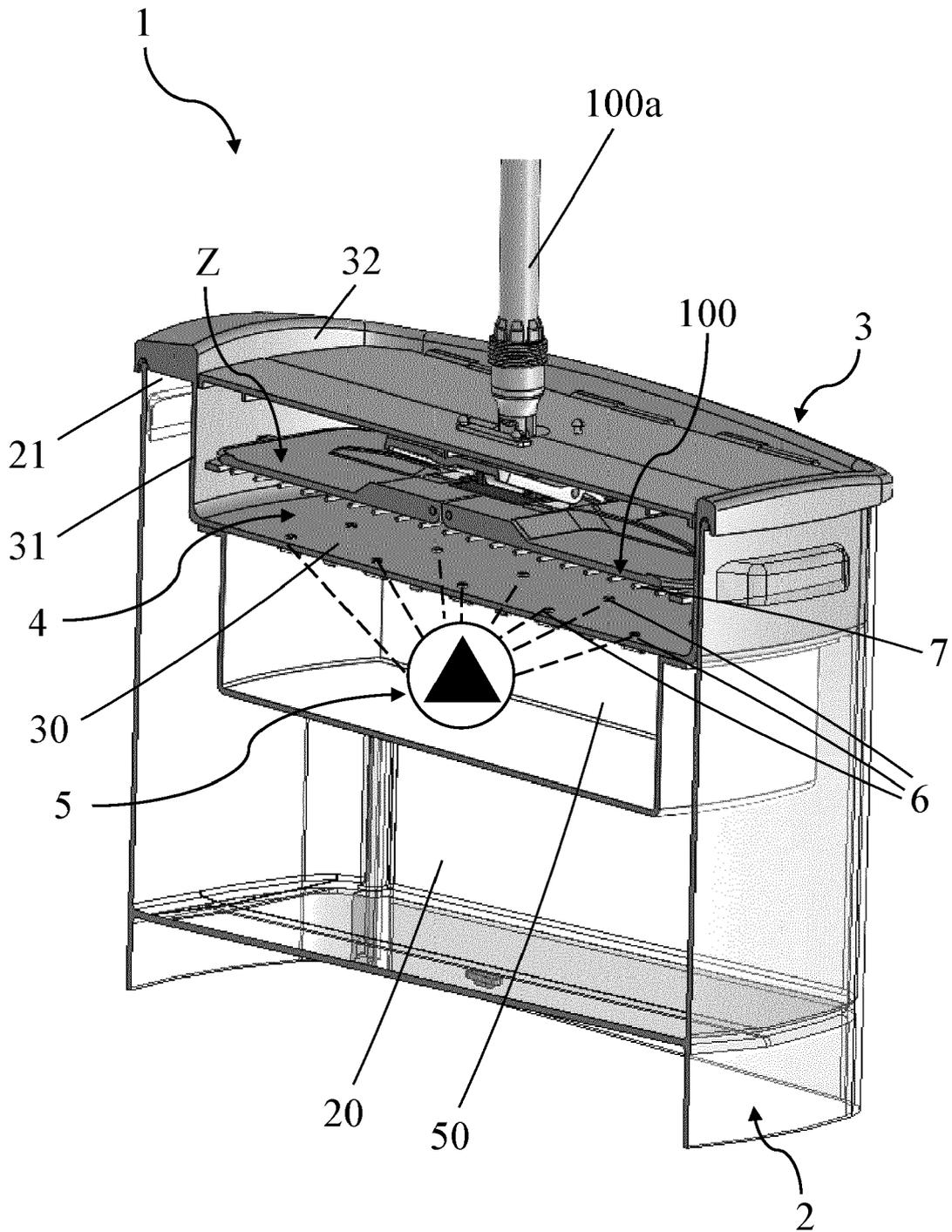


Fig. 2

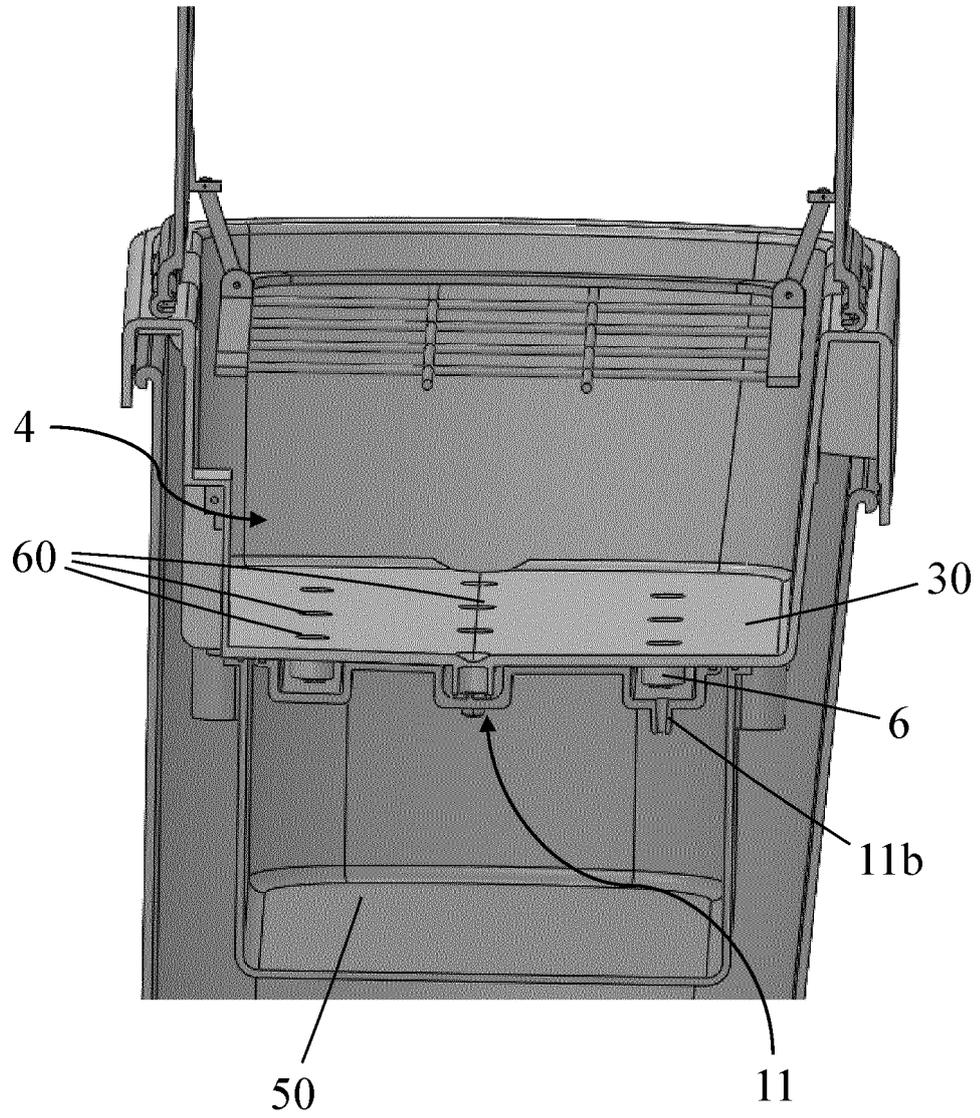


Fig. 3

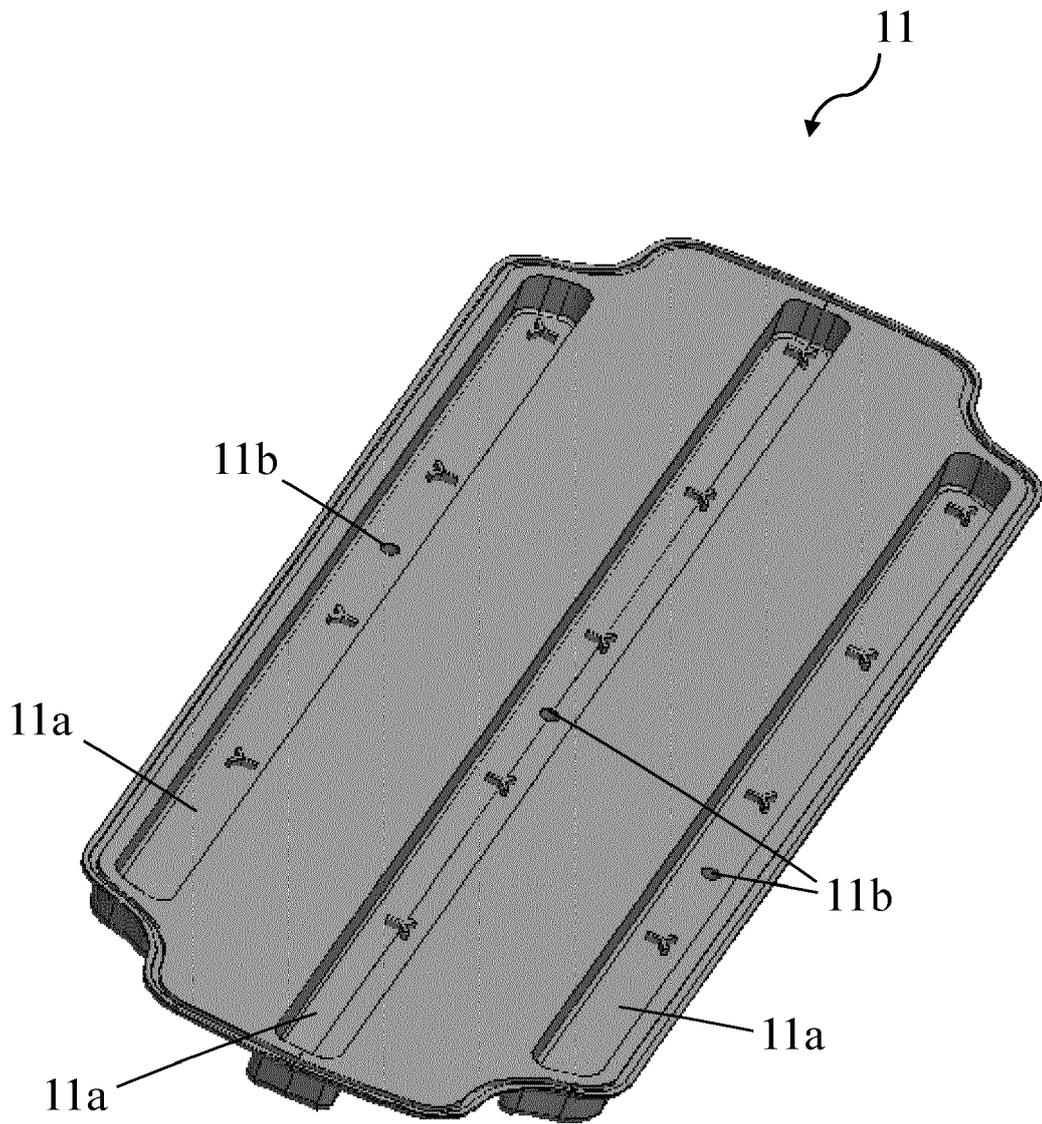


Fig. 4

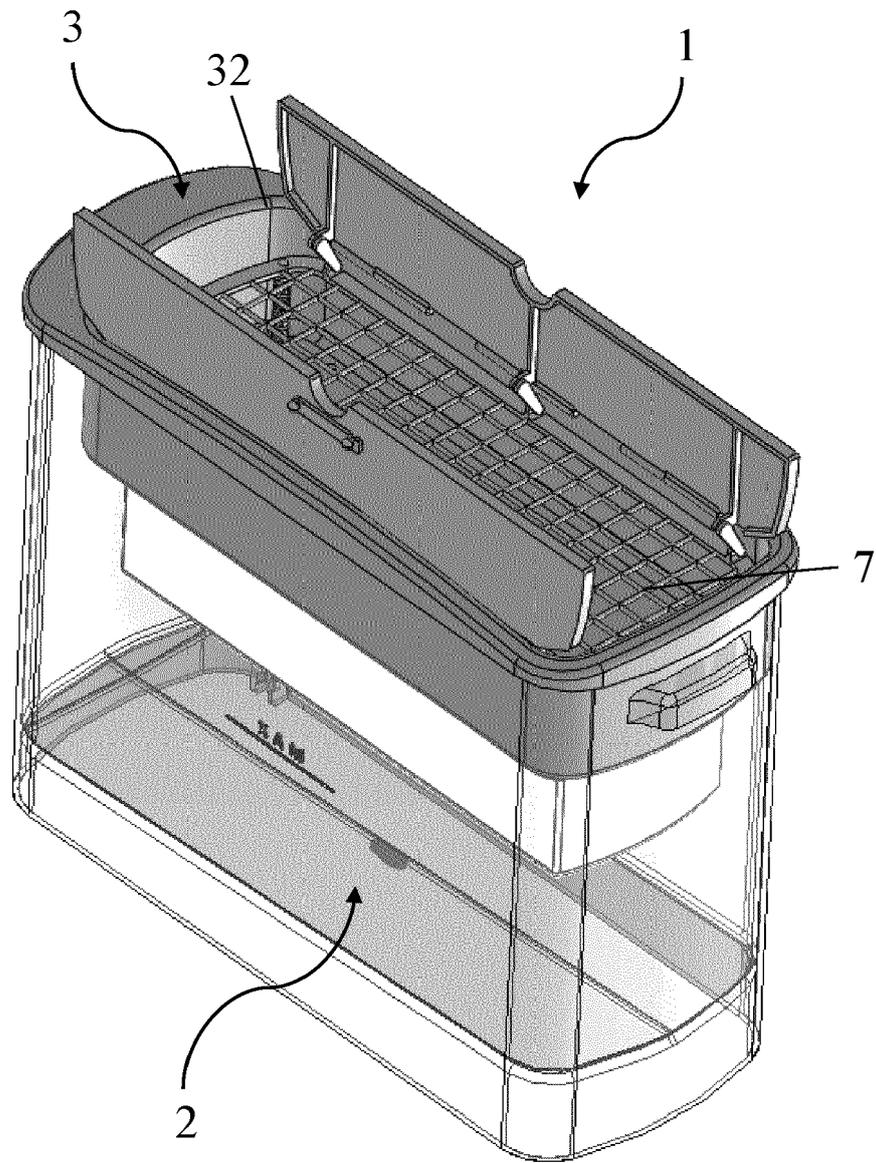


Fig. 5

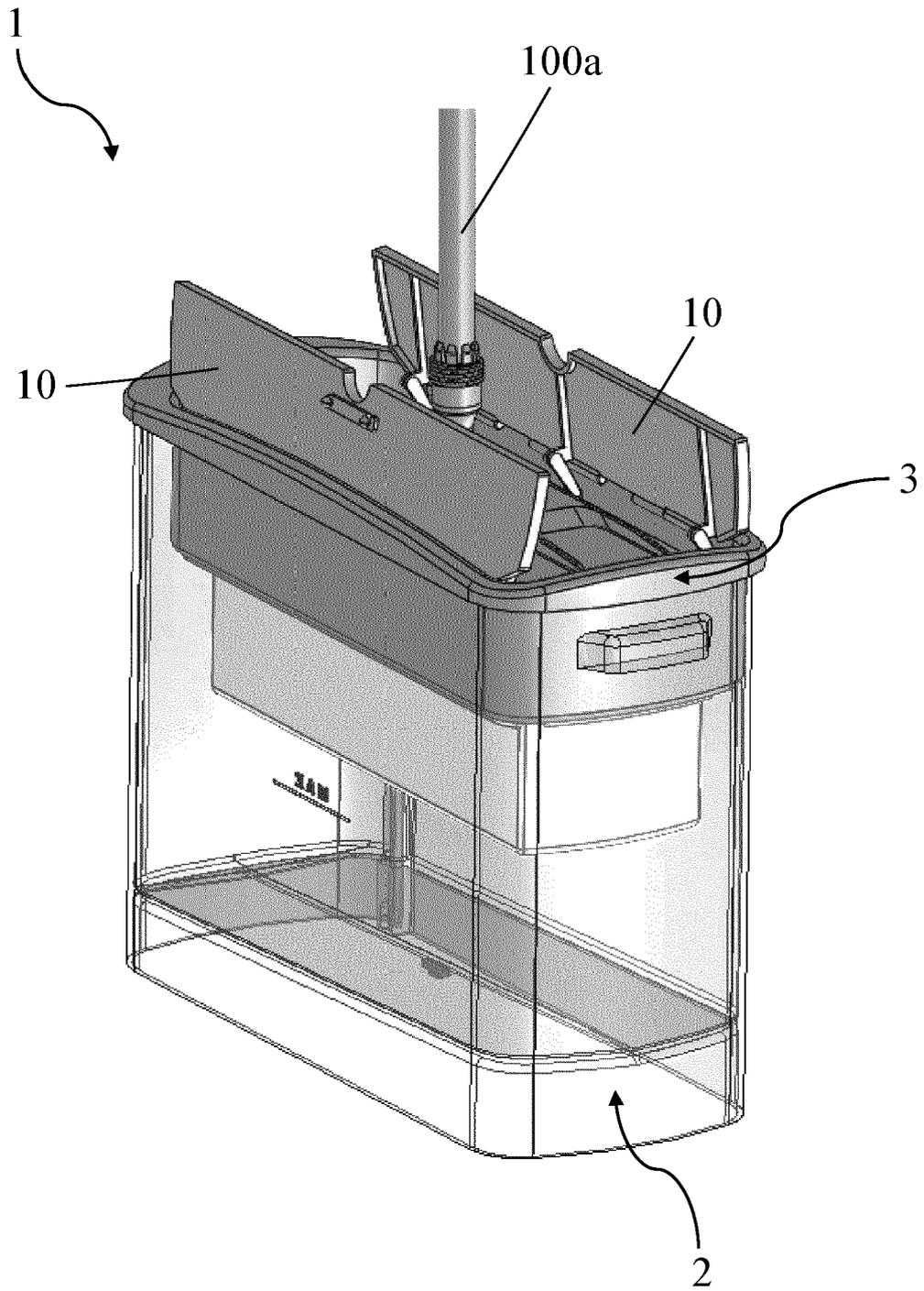


Fig. 6

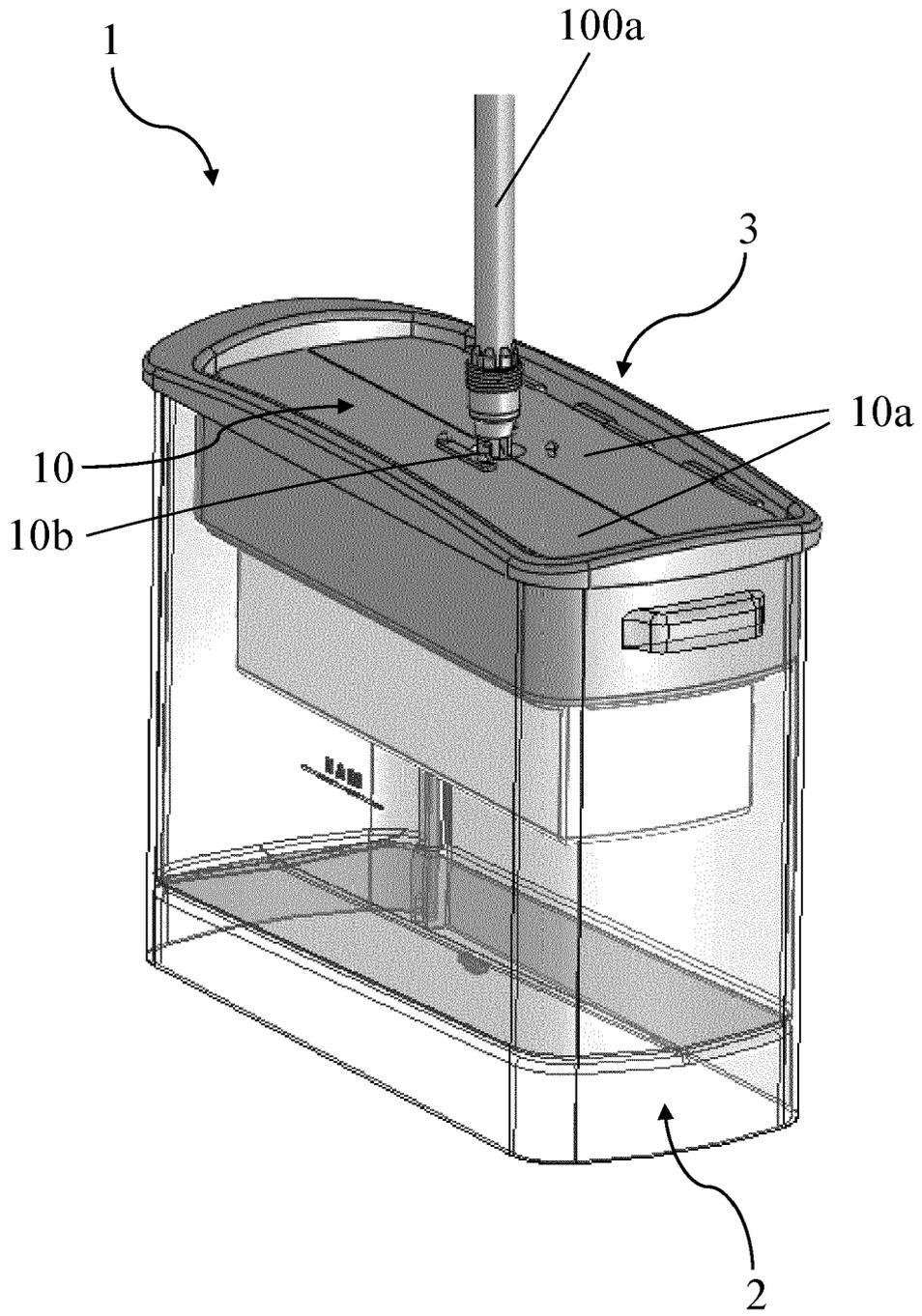


Fig. 7

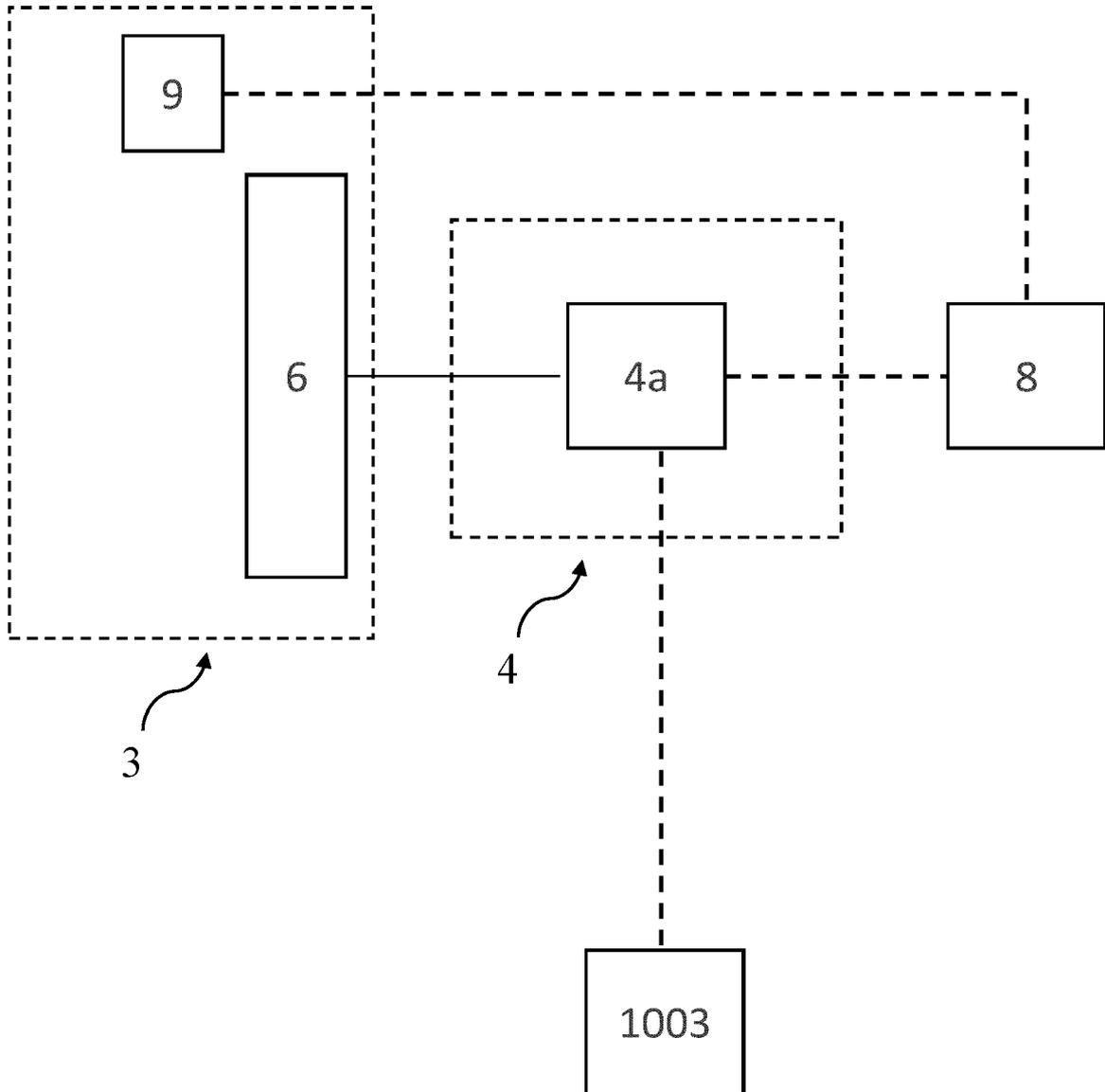


Fig. 8

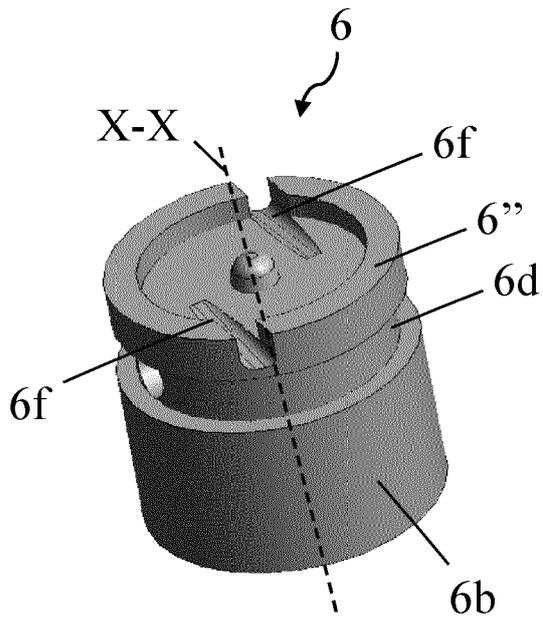


Fig. 9a

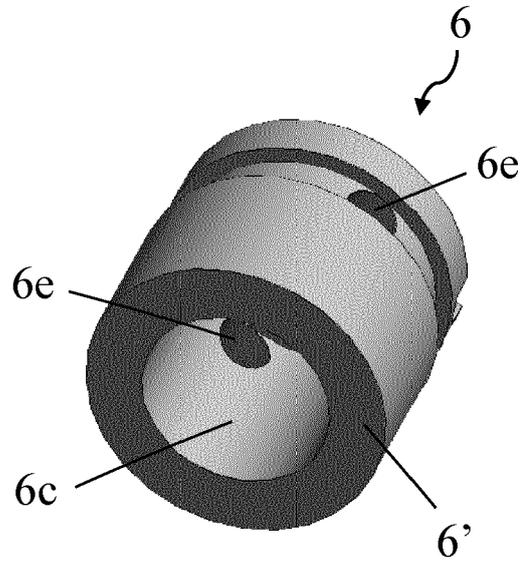


Fig. 9b

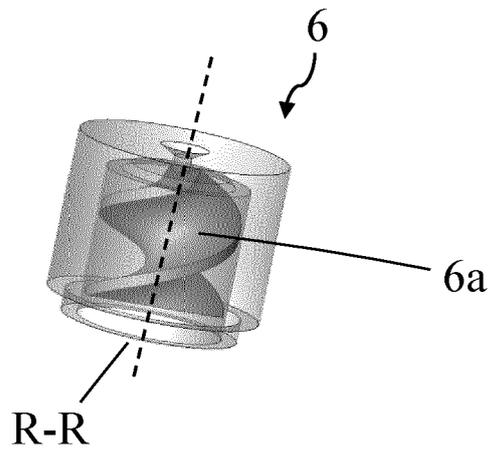


Fig. 9c



EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT

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A47L

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The present search report has been drawn up for all claims

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Place of search Munich	Date of completion of the search 10 July 2023	Examiner Eckenschwiller, A
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