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(54) **Apparatus for dispensing alimentary liquids in bulk, particularly beverages**

(57) An apparatus for dispensing alimentary liquids in bulk, particularly beverages, has a supporting structure which supports a dispensing system connected to a vessel suitable to contain liquid to be dispensed. The apparatus includes an automatic dispenser means for the automated management of the distribution and sale of the liquid.

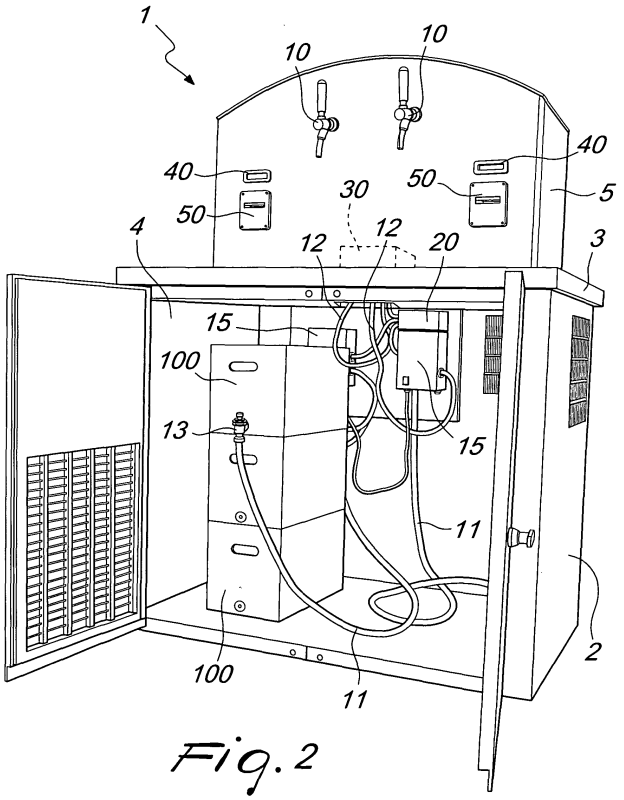


Fig. 2

EP 2 199 995 A1

Description

[0001] The present invention relates to an apparatus for dispensing alimentary liquids in bulk, particularly beverages, suitable for self-service distribution of wine but also usable for beverages, oils and other food liquids.

[0002] As is known, as a consequence of the growing attention to protecting and safeguarding the environment, a kind of consumption is developing that is more mindful of recyclability, of waste reduction and of minimizing packaging in terms of weight and volume.

[0003] In the market of large-scale organized distribution and of modern trade as well, a growing number of consumers are trying to implement behaviors that reduce the environmental impact of their consumption.

[0004] In particular, there is a growing demand for products to be purchased in bulk, rather than individually packaged at the source, purchased in a quantity that is suitable for one's own needs by means of reusable containers, therefore with minimal impact on the environment.

[0005] Although many examples in this regard are already present in points of sale, mainly with dry products such as pasta and rice, the offer of products in bulk does not yet relate to alimentary liquids, such as for example wine, beverages, oils, etcetera.

[0006] The distribution of alimentary liquids in bulk, and in particular of beverages, is in fact limited to traditional drawing systems installed in wine shops or in other points of sale, which can be used exclusively by assigned personnel.

[0007] The aim of the invention is to provide an apparatus for dispensing alimentary liquids in bulk, particularly beverages, that is optimized for the needs of modern distribution and at the same time allows to reduce the environmental impact.

[0008] Within the scope of this aim, a particular object of the invention is to provide an apparatus for dispensing alimentary liquids in bulk that allows to dispense wine in bulk without the intervention of specialized personnel, especially in the market of large-scale retailing.

[0009] Another object of the invention is to provide an apparatus for dispensing alimentary liquids in bulk that allows management by a centralized warehouse system, providing the dispensers with large disposable containers.

[0010] Another object of the invention is to provide an apparatus for dispensing alimentary liquids in bulk that is simple to use, hygienic in dispensing and compliant with currently applicable metrological requirements.

[0011] A further object of the invention is to provide an apparatus for dispensing alimentary liquids in bulk that reinforces trust in the customer and ensures maximum flexibility for the consumer, allowing the consumer to use a personal container or to purchase one at the point of sale and fill it to the desired level, paying only what is actually drawn.

[0012] Another object of the invention is to provide an apparatus for dispensing alimentary liquids in bulk that allows to increase the efficiency of the resources used in the retail site.

[0013] This aim, as well as these and other objects that will become better apparent hereinafter, are achieved by an apparatus for dispensing alimentary liquids in bulk, particularly beverages, comprising a supporting structure which supports a dispensing system, said dispensing system being connected to at least one vessel suitable to contain liquid to be dispensed, said apparatus being **characterized in that** it comprises an automatic dispenser means for the automated management of the distribution and sale of said liquid.

[0014] Further characteristics and advantages will become better apparent from the description of a preferred but not exclusive embodiment of an apparatus for dispensing alimentary liquids in bulk, according to the invention, illustrated by way of non-limiting example in the accompanying drawings, wherein:

Figure 1 is a perspective view of an apparatus for dispensing alimentary liquids in bulk according to the invention;

Figure 2 is another perspective view of the apparatus of the preceding figure;

Figure 3 is another perspective view of the apparatus of the preceding figures during use.

[0015] With reference to the above figures, an apparatus for dispensing alimentary liquids in bulk, particularly beverages, generally designated by the reference numeral 1, comprises a supporting structure 2, which is substantially shaped like a counter and supports a dispensing system which is connected to one or more vessels 100 that contain the liquid to be dispensed.

[0016] Preferably the vessels 100 are disposable and can be constituted, among others, by so-called "bags in box", i.e., packages composed of a laminated metallized bag contained in a cardboard box and equipped with a tap.

[0017] The supporting structure 2 is preferably made of corrosion-resistant metal and forms a worktable 3. A compartment 4, which is designed to accommodate and store the vessels 100, is arranged below the worktable 3.

[0018] A framework 5 rises from the upper face of the worktable 3 and supports one or more taps 10.

[0019] Each tap 10 is installed at one end of the dispensing system and is connected to a pump 15 by a second plurality of ducts 12.

[0020] Each tap 10 is provided with a control device, not shown in the figures, which allows to operate the pump 15 upon opening the tap 10.

[0021] The pump 15 is connected to a vessel 100 by first ducts 11 that end with a quick-disconnection connector 13.

[0022] According to the invention, the apparatus 1 comprises an automatic dispenser means for the automated management of the distribution and sale of the

liquid contained in the vessels 100. The automatic dispenser means comprises a plurality of peripheral devices operated by a control unit 20 and designed so as to be able to interact with the dispensing system.

[0023] More particularly, the automatic dispenser means comprises a volumetric measurement device 30 which is integrated in the dispensing system in order to calculate the total quantity of dispensed liquid.

[0024] The value obtained from the volumetric measurement device 30, which conveniently is type-approved by the relevant authorities, is shown on a display 40 that is recessed in the framework 5.

[0025] The display 40 allows to view the dispensed total amount as well as other information, such as for example the type of dispensed liquid, its cost per liter, the total cost, and so forth.

[0026] All the data related to the dispensed product are transferred onto a label 51 by a printer 50, which also is inserted in the framework 5 and also prints a bar code on the label 51 for products having a variable weight, which can be read easily by a scanner connected to a cash register.

[0027] According to a further embodiment of the invention, which is not shown in the figures, the automatic dispenser means comprises at least one weight scale and one or more POS terminals connected to the control unit 20.

[0028] While the scale allows to determine the weight of the dispensed liquid, the POS terminal allows to perform transactions for electronic payment of the dispensed liquid.

[0029] The operation of the apparatus according to the invention is described hereinafter.

[0030] The opening of the tap 10, related to the product of interest, activates the control device, which actuates the pump 15.

[0031] The pump 15 aspirates the desired liquid from the vessel 100 and, after making it flow through the volumetric measurement unit 30, feeds it to the tap 10.

[0032] During dispensing, the display 40 displays the quantity of dispensed liquid.

[0033] Closure of the tap 10 causes the immediate halting of the pump 15 and also, if no further activations of the pump, due for example to additions or top-ups, occur within a subsequent preset period of time, it causes the activation of the printer 50.

[0034] The printer 50 prints, on a label 51, the values related to the quantity and cost of the dispensed liquid, as well as a bar code for variable-weight products, which can be read by a scanner connected to a cash register.

[0035] The apparatus 1 therefore appears particularly suitable for use without the intervention of specialized personnel except for the preparatory steps, which consist essentially in connecting the control unit 20 to the power supply grid and in storing the vessels 100 inside the compartment 4, connecting at least one of them to the dispensing system.

[0036] Each consumer 1000 can in fact autonomously draw the desired food liquid, simply by opening the tap 10 after placing a container 500 below the tap.

[0037] Once dispensing has occurred, it is sufficient to apply the label 51 to the container 500, which can be treated like a normal prepackaged product.

[0038] In practice it has been found that the apparatus for dispensing alimentary liquids in bulk, particularly beverages, according to the invention, fully achieves the intended aim, since it is optimized for the needs of modern distribution and at the same time allows to reduce environmental impact.

[0039] In particular, the apparatus according to the invention allows to dispense wine in bulk without the intervention of specialized personnel, ensuring simplicity in use, hygiene in dispensing and safety from the regulatory standpoint.

[0040] The apparatus according to the invention allows management by centralized warehouse, by supplying the dispensers with large disposable containers, and ensures maximum flexibility, allowing the consumer to use a personal container or to purchase one at the point of sale and fill it to the desired level, paying only what is drawn.

[0041] This application claims the priority of Italian Patent Application No. VI2008A000300, filed on December 17, 2008, the subject matter of which is incorporated herein by reference.

Claims

1. An apparatus for dispensing alimentary liquids in bulk, particularly beverages, comprising a supporting structure which supports a dispensing system, said dispensing system being connected to at least one vessel suitable to contain liquid to be dispensed, said apparatus being **characterized in that** it comprises an automatic dispenser, means for the automated management of the distribution and sale of said liquid.

2. The apparatus according to the preceding claim, **characterized in that** said automatic dispenser means comprises at least one volumetric measurement unit connected to a control unit, said volumetric measurement unit interacting with said dispensing apparatus in order to calculate the total quantity of liquid dispensed.

3. The apparatus according to one or more of the preceding claims, **characterized in that** said automatic dispenser means comprises at least a display which is connected to said control unit, said display being suitable to display a plurality of pieces of information related to the dispensed liquid.

4. The apparatus according to one or more of the preceding claims, **characterized in that** said automatic

dispenser means comprises at least one printer which is connected to said control unit, said printer being suitable to print labels that contain said information.

5. The apparatus according to one or more of the preceding claims, **characterized in that** said automatic dispenser means comprises at least one scale which is connected to said control unit, said scale being suitable to determine the weight of the dispensed liquid.

6. The apparatus according to one or more of the preceding claims, **characterized in that** said automatic dispenser means comprises at least one POS terminal connected to said control unit, said POS terminal allowing to perform transactions for electronic payment of the dispensed liquid.

7. The apparatus according to one or more of the preceding claims, **characterized in that** said dispensing system comprises at least one pump, said pump being connected to said vessel by a first plurality of ducts.

8. The apparatus according to one or more of the preceding claims, **characterized in that** said dispensing system comprises at least one tap, said tap being connected to said pump by a second plurality of ducts.

9. The apparatus according to one or more of the preceding claims, **characterized in that** it comprises an actuation device which can be operated by said tap, said control device interacting with said pump.

10. The apparatus according to one or more of the preceding claims, **characterized in that** said supporting structure comprises at least one compartment, said compartment being suitable to accommodate said vessel.

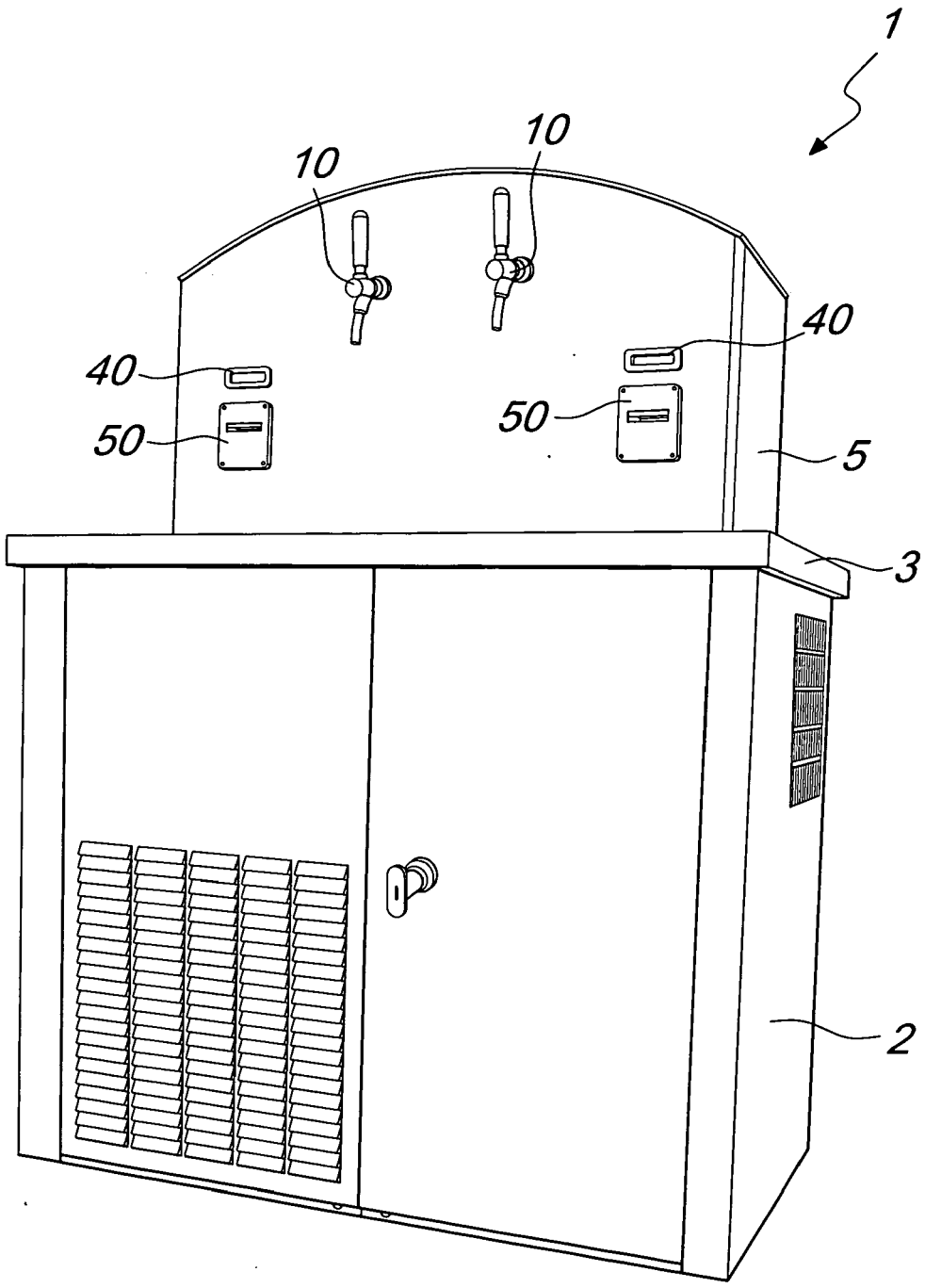


Fig. 1

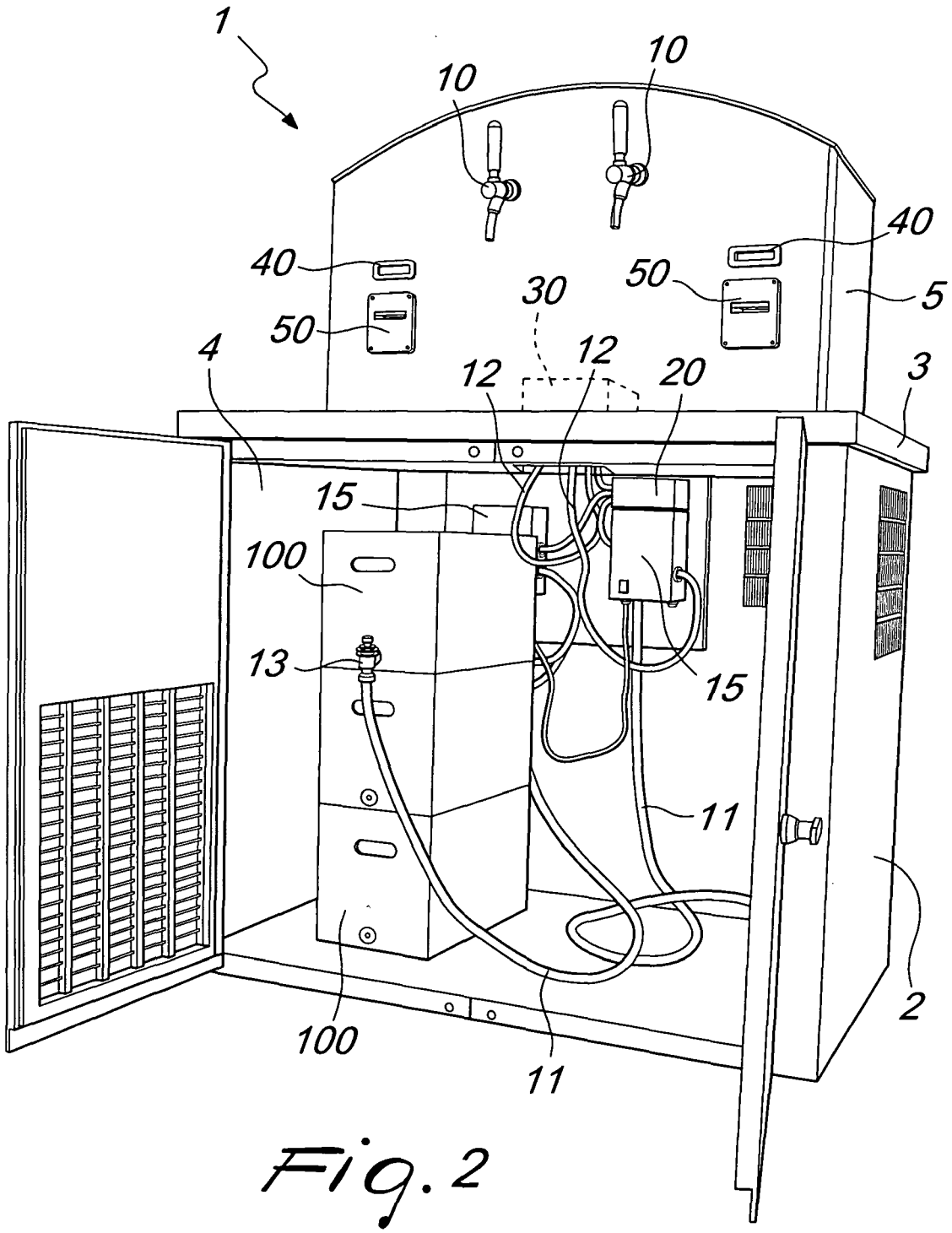


Fig. 2

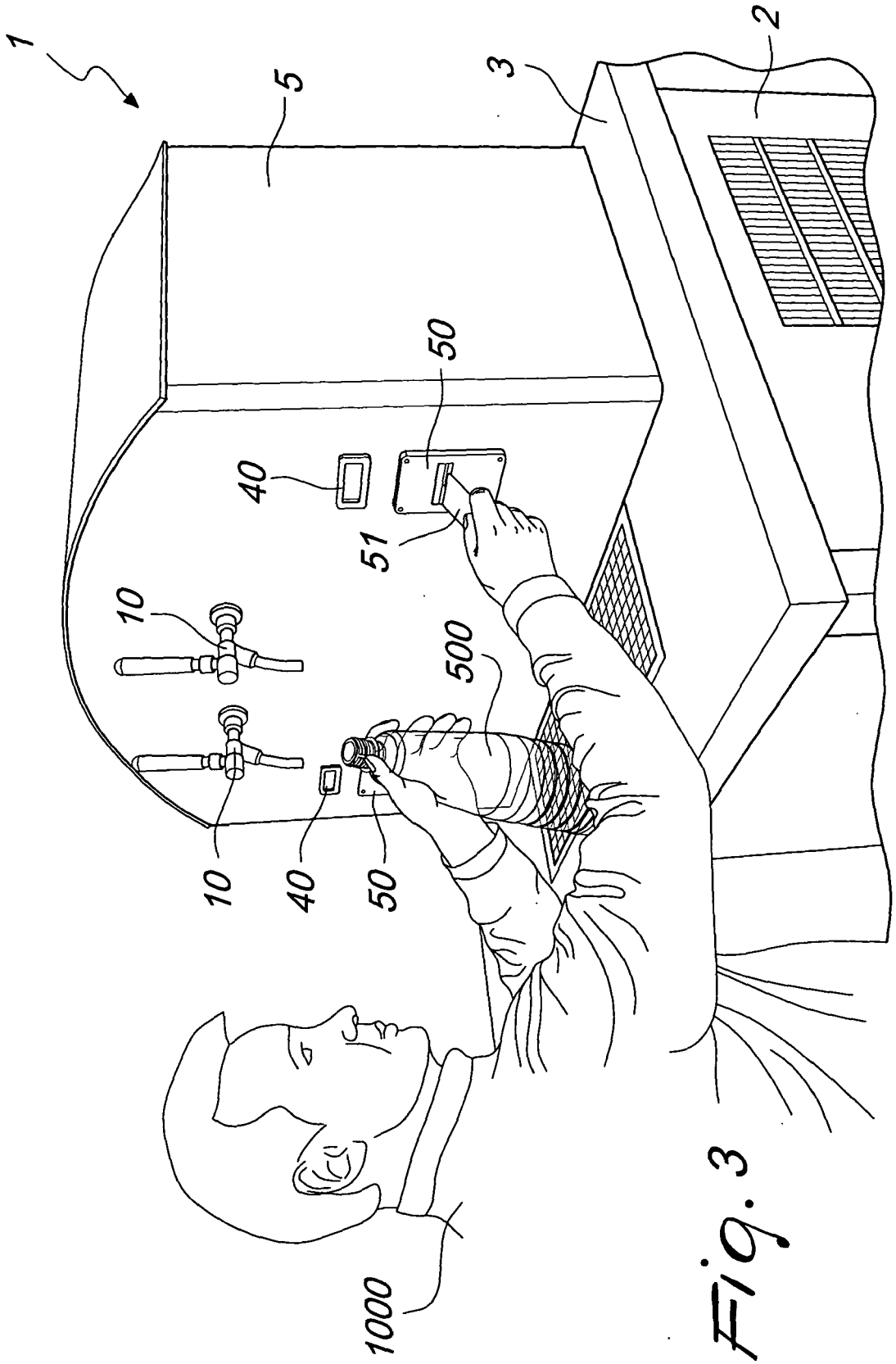


Fig. 3

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EUROPEAN SEARCH REPORT

Application Number
EP 09 01 4928

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	5 February 2010	Lavin Liermo, Jesus

CATEGORY OF CITED DOCUMENTS

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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