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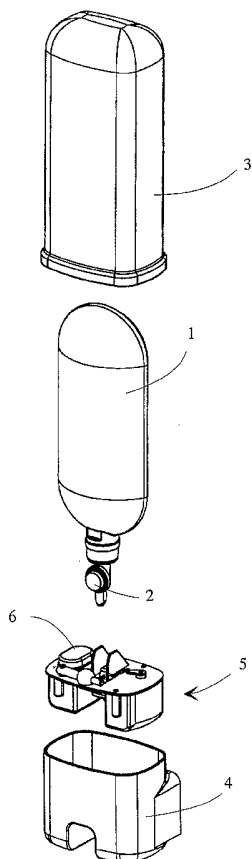
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[Continued on next page]

(54) Title: SOAP DISPENSER



(57) Abstract: The invention relates to a soap dispenser consisting of a hermetically sealed disposable bottle (1) filled with cleaning liquid and disposed in a dispenser that can be closed with a cover (3) and having a squeezer, by means of which the cleaning agent can be dispensed onto a person's hands. The squeezer consists of an actuator (5) having e.g. a battery-driven (6) press lever (8) and receiving an actuating impulse e.g. from an infrared eye, which senses a person's hands that have been put under the dispenser and dispenses a suitable amount of cleaning agent onto the person's hands.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Soap dispenser

This invention relates to a soap dispenser formed of a hermetically sealed
5 disposable bottle filled with cleaning liquid, the disposable bottle being disposed
within a dispenser that can be closed with a cover and comprises a squeezer, by
means of which the cleaning liquid can be dispensed onto a person's hands, the
squeezer being formed of an actuator having an e.g. battery-operated press lever and
10 receiving an actuating impulse from e.g. an infrared eye, which detects a person's
hands that have been put under the dispenser, and dispenses a suitable amount of
cleaning agent onto the person's hands.

This is a soap dispenser, in which disposable bottles filled with cleaning agent are
used, such as are commonly used in hospitals, for instance. The device operates
15 without being touched. Currently a manual dispenser is used for corresponding
hermetically sealed bottles. A manual dispenser provides cleaning liquid in a
suitable amount onto one hand of a person, while the person performs the
dispensing by actuating a dispensing lever protruding from the device with his other
elbow. Dispensers operating without being touched are also available on the market,
20 however, these dispensers do not comprise the cleaning agent in a sterilised
package. Practice has shown that dispensing by means of a dispensing lever and a
person's elbow results in the dispensed amount being far too small and being
dispensed onto one hand alone, which is not always enough for hygienic hand
cleaning.

25 The purpose of the present invention is to eliminate the shortcomings mentioned
above. The soap dispenser of the invention is characterised in the electronics of the
soap dispenser being combined with recording of the number of times the dispenser
is used, allowing surveillance of the times required in order to maintain an adequate
30 level of hygiene per ward/shift in a hospital, for instance.

Various embodiments of the invention are set forth in the dependent claims of the
set of claims.

35 The invention is explained below by means of an example and with reference to the
accompanying drawings, in which

- figure 1 illustrates the cover of the soap dispenser,
figure 2 illustrates a cleaning agent bottle and its valve,
figure 3 illustrates the actuator,
figure 4 illustrates the frame,
5 figure 5 is a top view of the actuator.

The soap dispenser consists of a disposable bottle 1 filled with cleaning liquid and having a valve 2 at its bottom part. The disposable bottle can be placed in a frame 4 that can be closed with a cover 3 and enclosing an actuator 5. The actuator 5 has a
10 press lever 8 driven by a battery 6 and a motor part 7. The valve of the disposable bottle 1 is placed into an opening 9 in the centre of the actuator 5, with the valve 2 at the end of the disposable bottle being disposed at the press lever 8. The turning lever 10 of the actuator 5 has a plurality of holes 11, allowing staggered adjustment of the squeezing movement of the press lever 8. The electronics of the actuator also
15 allows adjustment of the dispensed amount by means of one, two or more consecutive squeezing movements. The actuator receives an actuating impulse from an infrared eye provided below the dispenser as a person puts his hands under the soap dispenser. When there is no more cleaning agent, the empty disposable bottle 1 is removed and replaced with another bottle.

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Claims

1. A soap dispenser consisting of a hermetically sealed disposable bottle (1) filled with cleaning liquid and disposed in a dispenser that can be closed with a cover (3) and having a squeezer, by means of which a person can dispense the cleaning liquid onto his/her hands, the squeezer consisting of an actuator (5) having an e.g. battery-driven (6) press lever (8) and receiving an actuating impulse e.g. from an infrared eye, which detects a person's hands that have been put below the dispenser and dispenses a suitable amount of cleaning agent onto the person's hands, **characterised** in that the electronics of the soap dispenser has been combined with recording of the number of times the dispenser is used, allowing surveillance of the number of times required in order to attain an adequate level of hygiene per ward/shift in a hospital, for instance.
2. A soap dispenser as defined in claim 1, **characterised** in that the amount of dispensed cleaning liquid can be programmed in compliance with the particular cleaning agent by means of the electronics of the actuator.
3. A soap dispenser as defined in claim 1 or 2, **characterised** in that the squeezing movement of the press lever (8) can be step-wise adjusted by means of apertures (11) provided in the turning lever (10) of the actuator.
4. A soap dispenser as defined in any of the preceding claims, **characterised** in that the soap dispenser comprises a frame (4), which can be attached to a wall and contains an actuator (5), the end of the cleaning liquid bottle (1) being inserted into an opening (9) at the centre of the actuator in order to dispose a compressible valve (2) at the end of the cleaning liquid bottle at the press lever (8).

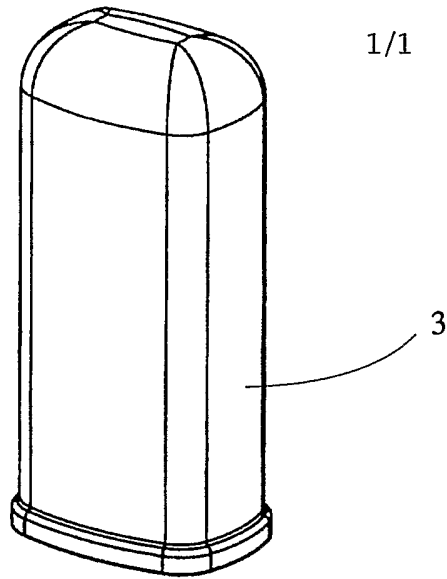


Fig. 1

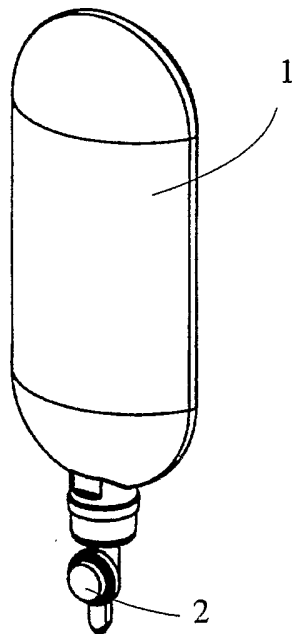


Fig. 2

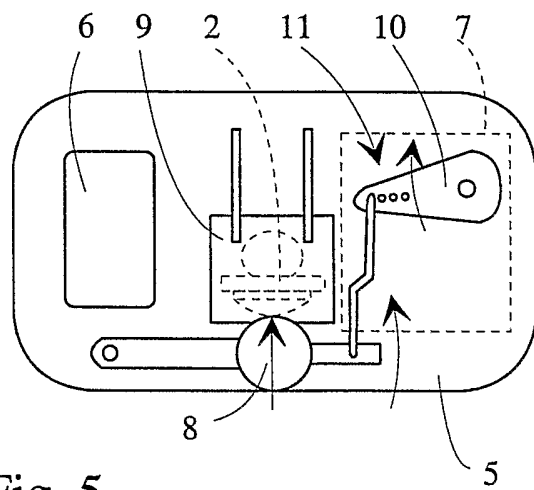


Fig. 5

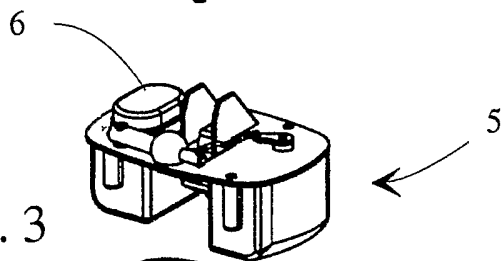


Fig. 3

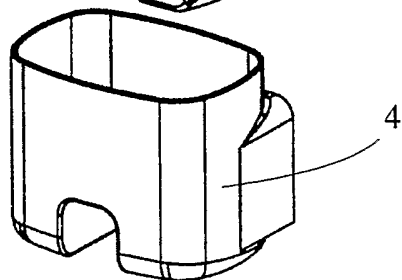


Fig. 4

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A47K 5/12 // B67D 5/22, G01F 15/06
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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-INTERNAL, WPI DATA, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2328868 A (HMS (EUROPE) LIMITED), 10 March 1999 (10.03.1999), page 1, line 26 - page 2, line 2, figure 1 --	1-4
X	US 5954069 A (FOSTER), 21 Sept 1999 (21.09.1999), column 1, line 32 - line 67, figure 3 --	1-4
X	US 5695091 A (WININGS ET AL), 9 December 1997 (09.12.1997), figures 2,3, abstract --	1-4
A	EP 0940110 A1 (LABORATORIES PRODENE KLINT), 8 Sept 1999 (08.09.1999), figure 1, abstract --	1-4

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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