



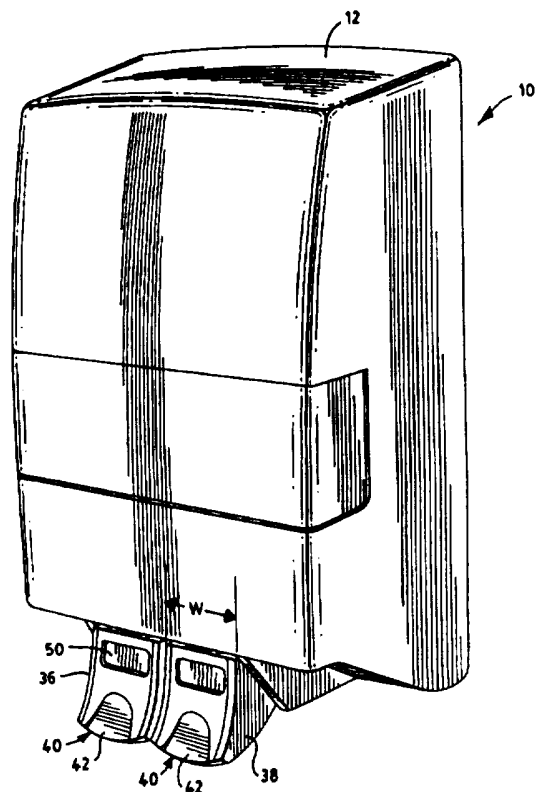
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(21) International Application Number: PCT/US96/16915 (22) International Filing Date: 22 October 1996 (22.10.96) (30) Priority Data: 08/551,324 1 November 1995 (01.11.95) US (71) Applicant: <b>KIMBERLY-CLARK WORLDWIDE, INC.</b> [US/US]; 401 North Lake Street, Neenah, WI 54957-0349 (US). (72) Inventors: <b>BRANDENBURG, Allen, E.</b>; 1307 Kittansett Cove, Austin, TX 78746 (US). <b>MALDONADO, John, E.</b>; 6000 Randolph Boulevard #213, San Antonio, TX 78233 (US). (74) Agents: <b>SIDOR, Karl, V. et al.</b>; Kimberly-Clark Worldwide, Inc., 401 North Lake Street, Neenah, WI 54956 (US).</p>		<p>(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p>

(54) Title: IMPROVED APPARATUS AND METHOD FOR DISPENSING A LIQUID HAND TREATMENT

(57) Abstract

An apparatus (10) for dispensing a liquid hand treatment such as soap into a consumer's hand in a public washroom includes first and second containers (20, 22) for storing liquid hand treatment, first and second nozzles (24, 26) and a pumping mechanism (32) for extracting liquid hand treatment from the first and second containers (20, 22) and expelling such liquid hand treatment, respectively, through the first and second nozzles (24, 26). The pumping mechanism (32) preferably includes a first actuator lever (36) for causing the pumping mechanism (32) to pump liquid hand treatment through said first nozzle (24), and a second actuator lever (38) for causing said pumping mechanism (32) to pump liquid hand treatment through said second nozzle (26), said first and second levers (36, 38) being independently operable, whereby liquid hand treatment may be dispensed electively through either container (20, 22). In addition, each actuator lever (36, 38) preferably includes indicia for instructing a consumer how to orient his or her hand when actuating the lever (36, 38), and the nozzle (24, 26) is oriented to deliver liquid hand treatment into the consumer's palm when the lever (24, 26) is actuated and the user's hand is so oriented. Accordingly, the liquid hand treatment will be deposited in the most useful location with a minimum of wastage.



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IMPROVED APPARATUS AND METHOD FOR DISPENSING  
A LIQUID HAND TREATMENT

BACKGROUND OF THE INVENTION

1. Field of the Invention

5 This invention relates to the field of public health and sanitation, and particularly to dispensers for liquid soap or other liquid hand treatments.

2. Description of the Prior Art

10 Dispensers for liquid soap are among the most common fixtures in public toilets and washrooms, both in the United States and throughout the world. Other liquid hand treatments, such as skin conditioners, different grades of soap or the like are also dispensable in such fixtures.

15 One type of dispenser that is presently being marketed by the owner of this invention, Scott Paper Company, is wall mounted and adapted to receive two containers of liquid hand soap. Each container is connected to a flexible hose that is mounted to be in contact with a pumping mechanism. The pumping mechanism includes an  
20 actuation lever, and is manually shiftable by the consumer or maintenance person between a first position for dispensing from the first container, and a second position for dispensing from the second container.

25 One problem with this type of dispenser is that shifting the pumping mechanism back and forth between the

two supply sources can be an annoyance. Another problem, which is nearly endemic among liquid soap dispensers as a class, is that poor registration between a user's hand and the position of the dispenser nozzle can result in a less than optimum deposition of soap into the user's hand. 5 Ideally, the soap should be deposited into the user's palm, but all too often this fails to occur, meaning that soap is wasted and hand washing is inefficiently performed.

It is clear that a need exists for an improved 10 dispenser for liquid hand treatment that avoids the need for manual shifting between supply sources, and that ensures effective deposition of the hand treatment into the palm of a user.

#### SUMMARY OF THE INVENTION

15 Accordingly, it is an object of the invention to provide an improved dispenser for liquid hand treatment that avoids the need for manual shifting between supply sources, and that ensures effective deposition of the hand treatment into the palm of a user.

20 In order to achieve the above and other aspects of the invention, an apparatus for dispensing a liquid hand treatment, such as soap, into a consumer's hand in a public washroom includes a container for storing liquid hand treatment; a nozzle; a pumping mechanism for extracting 25 liquid hand treatment from the container and expelling it through the nozzle, the pumping mechanism including an actuator lever; wherein said actuator lever includes indicia for instructing a consumer how to orient his or her hand when actuating the lever, and the nozzle is oriented to 30 deliver liquid hand treatment into the consumer's palm when the lever is actuated and the user's hand is so oriented, whereby the liquid hand treatment will be deposited in the most useful location with a minimum of wastage.

35 According to a second aspect of the invention, an apparatus for dispensing a liquid hand treatment such as soap into a consumer's hand in a public washroom includes

first and second containers for storing liquid hand treatment; first and second nozzles; a pumping mechanism for extracting liquid hand treatment from the first and second containers and expelling such liquid hand treatment, 5 respectively, through the first and second nozzles, the pumping mechanism including a first actuator lever for causing the pumping mechanism to pump liquid hand treatment through the first nozzle, and a second actuator lever for causing the pumping mechanism to pump liquid hand treatment 10 through the second nozzle, the first and second levers being independently operable, whereby liquid hand treatment may be dispensed electively through either container.

According to a third aspect of the invention, a method of dispensing a liquid hand treatment such as liquid 15 soap includes steps of (a) inserting two containers of liquid hand treatment into a dispenser that comprises first and second nozzles; a pumping mechanism for extracting liquid hand treatment from the first and second containers and expelling such liquid hand treatment, respectively, 20 through the first and second nozzles, the pumping mechanism including a first actuator lever for causing the pumping mechanism to pump liquid hand treatment through the first nozzle, and a second actuator lever for causing the pumping mechanism to pump liquid hand treatment through the second 25 nozzle, the first and second levers being independently operable; (b) closing the dispenser; and (c) actuating one of the levers, independently of the other lever, to dispense liquid hand treatment through the respective nozzle.

These and various other advantages and features of 30 novelty which characterize the invention are pointed out with particularity in the claims annexed hereto and forming a part hereof. However, for a better understanding of the invention, its advantages, and the objects obtained by its use, reference should be made to the drawings which form a 35 further part hereof, and to the accompanying descriptive matter, in which there is illustrated and described a preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a perspective view of an improved apparatus for dispensing a liquid hand treatment that is constructed according preferred embodiment of the invention;

5           FIGURE 2 is perspective view of the apparatus shown in FIGURE 1, in an open position;

          FIGURE 3 is a side elevational view of the apparatus that is shown in FIGURES 1 and 2; and

10           FIGURE 4 is a cross-sectional side view of the dispensers shown in FIGURES 1-3.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

Referring now to the drawings, wherein like reference numerals designate corresponding structure throughout the views, and referring in particular to FIGURE 15 1, An apparatus 10 for dispensing a liquid hand treatment such as liquid soap into a consumer's hand in a public washroom or similar location includes housing 12 that has an inner portion 14 that is secured to the wall of a washroom or similar surface, and an outer protecting portion 16, as 20 may be seen in FIGURE 2. A locking mechanism 18 is provided for securing the inner and outer portions 14, 16 together in the operative position that is shown in FIGURE 1.

Looking now to FIGURE 2, when made operative apparatus 10 will have first and second containers 20, 22 of 25 liquid hand treatment, such as soap, mounted securely within the inner portion 14 of the housing 12. A display window 34 is provided on the unit, as is typical in prior Scott Paper Company dispensers. The containers 20, 22 have built in first and second nozzles 24, 26 for directing the liquid 30 hand treatment from the first container 20 and second container 22, respectively, into the palm of a user. Conduits, which in the preferred embodiment comprise a first rubber hose 28 and a second rubber hose 30, connect the main bodies of first and second containers 20, 22 with the 35 dispensing nozzles 24, 26, respectively, as is clearly shown in FIGURE 2. Apparatus 10 further includes a pumping

mechanism 32 for extracting liquid hand treatment from the containers 20, 22 and expelling it through the nozzle 24, 26. In the preferred embodiment, pumping mechanism 32 is a peristaltic type pump that operates by kneading the liquid hand treatment through the respective rubber hoses 28, 30. According to one aspect of the invention, pumping mechanism 32 includes first and second separately actuatable levers 36, 38 which are constructed and arranged to cause pumping mechanism 32 to pump liquid hand treatment from the first container 20 or the second container 22, respectively. In other words, when a user actuates the first actuator lever 36, hand treatment is caused to flow from the first container 20 through first rubber hose 28 and out of first nozzle 24 into the palm of a user, which is usually the left hand palm, as may be readily be visualize in FIGURE 1. When second actuator lever 38 is actuated, typically by the right hand of a user, liquid hand treatment is caused to flow from second container 22 through second rubber hose 30 out of the second nozzle 26 into the palm of the user, which, again, is typically the right hand palm. Accordingly, pumping mechanism 32 permits a user to pump selectively from either the first container 20 or the second container 22, without the need for manually shifting between the two sources, as was necessary in prior generations of dispensers.

According to another important aspect of the invention, each of the first and second actuation levers 36, 38 have indicia 40 thereon for instructing a consumer how to orient his or her hand when actuating the respective lever 36, 38. In the preferred embodiment, indicia 40 comprises a recess 42 defined in the lever 36, 38 that is sized and shaped to accommodate the thumb of a user. As may be seen in FIGURES 1 and 3, the levers 36, 38 are substantially vertical at the point they are designed to contact the consumers hand 44, and the nozzles 24, 26 are also oriented substantially vertically. The indicia thus indicate to the consumer that the consumer's thumb is to be used to actuate the lever 36, 38, so that the consumer would actuate the

lever with his or her thumb 46, palm 48 up, and the liquid hand treatment will be deposited vertically downwardly from the nozzle 34, 36 into the consumer's hand 44, as is best shown in FIGURE 3. To further motivate the consumer to use his or her thumb on the lever 36, 38, the levers 36, 38 are constructed with a functional width W that is preferably not much larger than the width of a single finger or thumb. This will discourage the user from actuating the lever 36, 38 with more than one finger, encouraging use of the thumb. Preferably, width W is within the range of 0.5 inches to 1 inch, with a preferred value of about 5/8 of an inch.

Referring again to FIGURE 3, it will be seen that the nozzles 24, 26 are spaced inwardly of the lever 36, 38 a distance D by mounting structure on the unit, which roughly corresponds to the distance between a user thumb 46 and his or her palm 48.

In operation, a maintenance person would load the containers 20, 22 into the apparatus 10, as is shown in FIGURE 2, and will connect the rubber hoses 28, 30 to the respective nozzles 24, 26. The maintenance person will then close and lock the inner portion 14 of the housing 12 to the outer portion 16, thus placing the apparatus 10 in the operative position shown in FIGURE 1. A consumer will then approach the apparatus 10, and, if deposition of hand soap or other hand treatment into the right hand is desired, he or she will present the right hand to the second actuator lever 38, palm up, and will press the lever 38 inwardly with his or her right thumb, causing hand treatment to be pumped from the second nozzle 26 into his or her palm 48. If deposition of hand treatment into the left hand is desired, he or she will approach the first actuator lever 36 with the left hand, depressing the lever 36 with the left thumb and causing hand treatment to be deposited from the first nozzle 24 into his or her left palm.

Alternatively, apparatus 10 could be operated by placing different types of hand treatments in the first and second containers 20, 22. For example, the first container



20 could be used to dispense soap, while the second container 22 could be used to dispense skin conditioner. In this event, the consumer would be alerted to the chose of products available by the present of labels 50 that are  
5 inserted into respective recesses on the levers 36, 38, as may be seen in FIGURE 1. The consumer would than select the lever that corresponds to the desired hand treatment, without regard for whether it is the left hand or right hand in which deposition is desired.

10 It is to be understood, however, that even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the invention, the disclosure is illustrative only, and changes  
15 may be made in detail, especially in matters of shape, size and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

WHAT IS CLAIMED IS:

1. An apparatus for dispensing a liquid hand treatment such as soap into a consumer's hand in a public washroom, comprising:

5 a container for storing liquid hand treatment;  
a nozzle;  
a pumping mechanism for extracting liquid hand treatment from said container and expelling it through said nozzle, said pumping mechanism including an actuator lever;

10 wherein said actuator lever includes indicia for instructing a consumer how to orient his or her hand when actuating said lever, and said nozzle is oriented to deliver liquid hand treatment into the consumer's palm when said lever is actuated and the user's hand is so oriented,

15 whereby the liquid hand treatment will be deposited in the most useful location with a minimum of wastage.

2. An apparatus according to claim 1, wherein said nozzle is oriented substantially vertically, said lever is also substantially vertical at the point it is designed

20 to contact the consumer's hand, and said indicia indicates to the consumer that the consumer's thumb is to be used to actuate the lever, whereby the consumer will actuate the lever with his or her thumb, palm up, and the liquid hand treatment will be deposited vertically downwardly from the

25 nozzle into the consumer's hand.

3. An apparatus according to claim 1, wherein said indicia comprises a thumb-sized recess that is defined in said actuator.

4. An apparatus according to claim 2, wherein

30 said indicia comprises a thumb-sized recess that is defined in said actuator.

5. An apparatus according to claim 1, wherein said lever is oriented so as to be substantially vertical at the point it is designed to contact the consumer's hand, and said indicia indicates to the consumer that the consumer's thumb is to be used to actuate the lever, whereby the consumer will actuate the lever with his or her thumb, palm up, and the liquid hand treatment will be deposited vertically downwardly from the nozzle into the consumer's hand.

6. An apparatus according to claim 5, wherein said lever is further limited in width to the extent that would discourage a user from actuating the lever with more than one finger, whereby the user is more likely to actuate the lever with a thumb.

7. An apparatus for dispensing a liquid hand treatment such as soap into a consumer's hand in a public washroom, comprising:  
first and second containers for storing liquid hand treatment;  
first and second nozzles;  
a pumping mechanism for extracting liquid hand treatment from said first and second containers and expelling such liquid hand treatment, respectively, through said first and second nozzles, said pumping mechanism including a first actuator lever for causing said pumping mechanism to pump liquid hand treatment through said first nozzle, and a second actuator lever for causing said pumping mechanism to pump liquid hand treatment through said second nozzle, said first and second levers being independently operable, whereby liquid hand treatment may be dispensed electively through either container.

8. An apparatus according to claim 7, wherein said first and second levers are adjacent to each other and mounted for rotation about a common axis.

9. An apparatus according to claim 7, wherein said nozzles are oriented substantially vertically, and said levers are also substantially vertical at the point it is designed to contact the consumer's hand, and said levers are provided with indicia that indicates to the consumer that the consumer's thumb is to be used to actuate the lever, whereby the consumer will actuate at least one of said levers with his or her thumb, palm up, and the liquid hand treatment will be deposited vertically downwardly from the respective nozzle into the consumer's hand.

10. An apparatus according to claim 9, wherein said indicia comprises a thumb-sized recess that is defined in said actuator.

11. An apparatus according to claim 9, wherein said lever is further limited in width to the extent that would discourage a user from actuating the lever with more than one finger, whereby the user is more likely to actuate the lever with a thumb.

12. A method of dispensing a liquid hand treatment such as liquid soap, comprising:

- (a) inserting two containers of liquid hand treatment into a dispenser that comprises first and second nozzles; a pumping mechanism for extracting liquid hand treatment from said first and second containers and expelling such liquid hand treatment, respectively, through said first and second nozzles, said pumping mechanism including a first actuator lever for causing said pumping mechanism to pump liquid hand treatment through said first nozzle, and a second actuator lever for causing said pumping mechanism to pump liquid hand treatment through said second nozzle, said first and second levers being independently operable;
- (b) closing the dispenser; and

(c) actuating one of the levers, independently of the other lever, to dispense liquid hand treatment through the respective nozzle.

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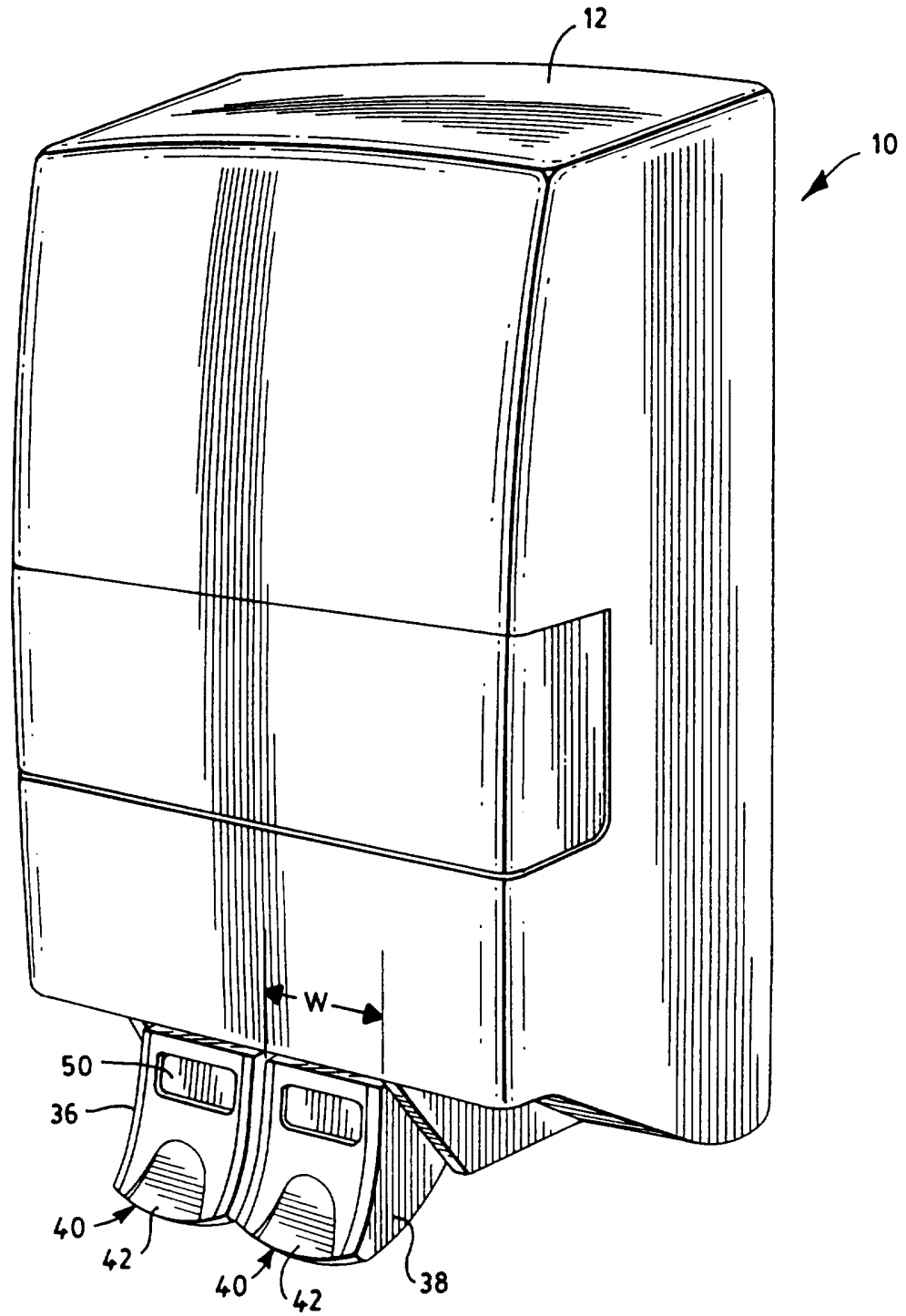


FIG.1

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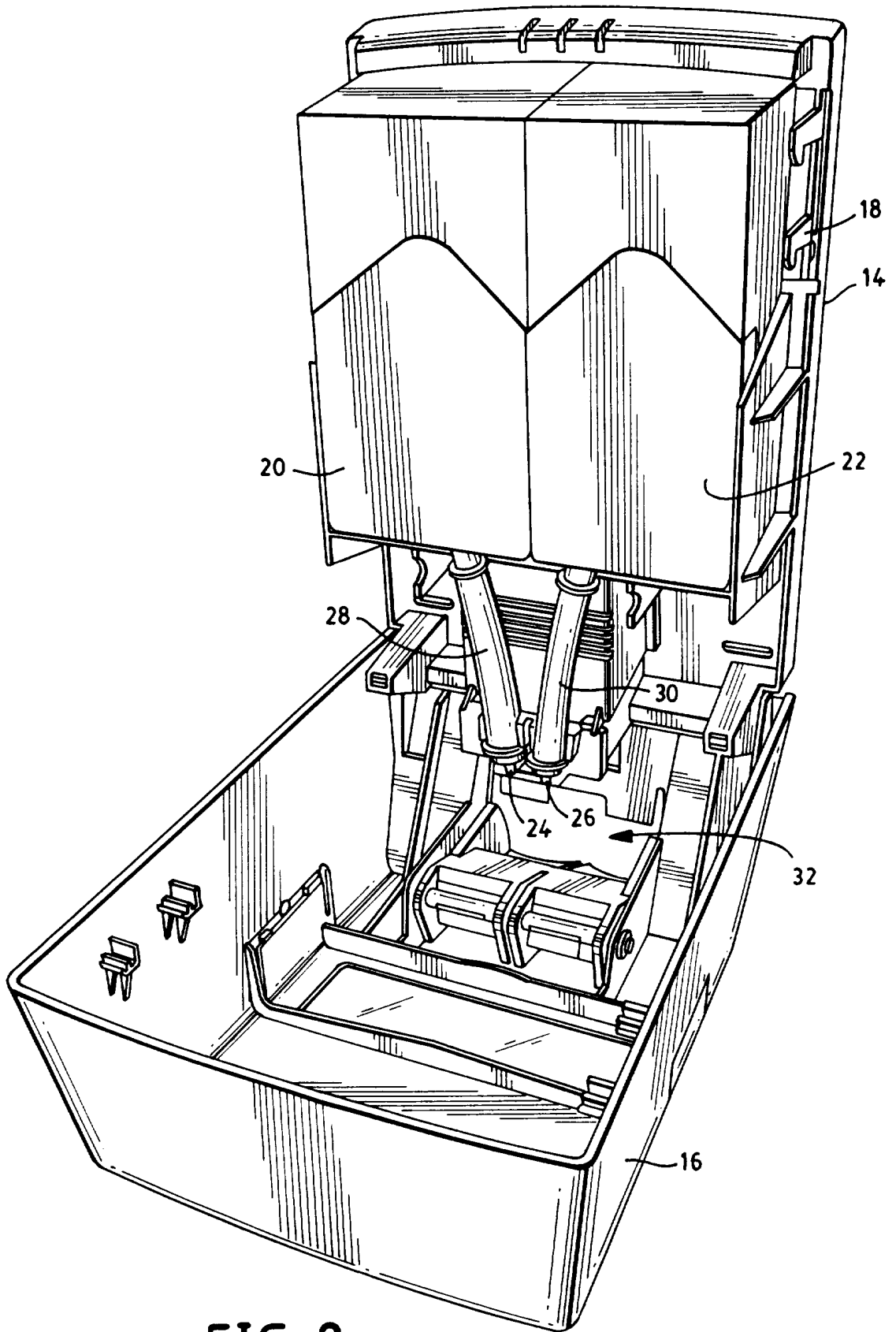


FIG. 2

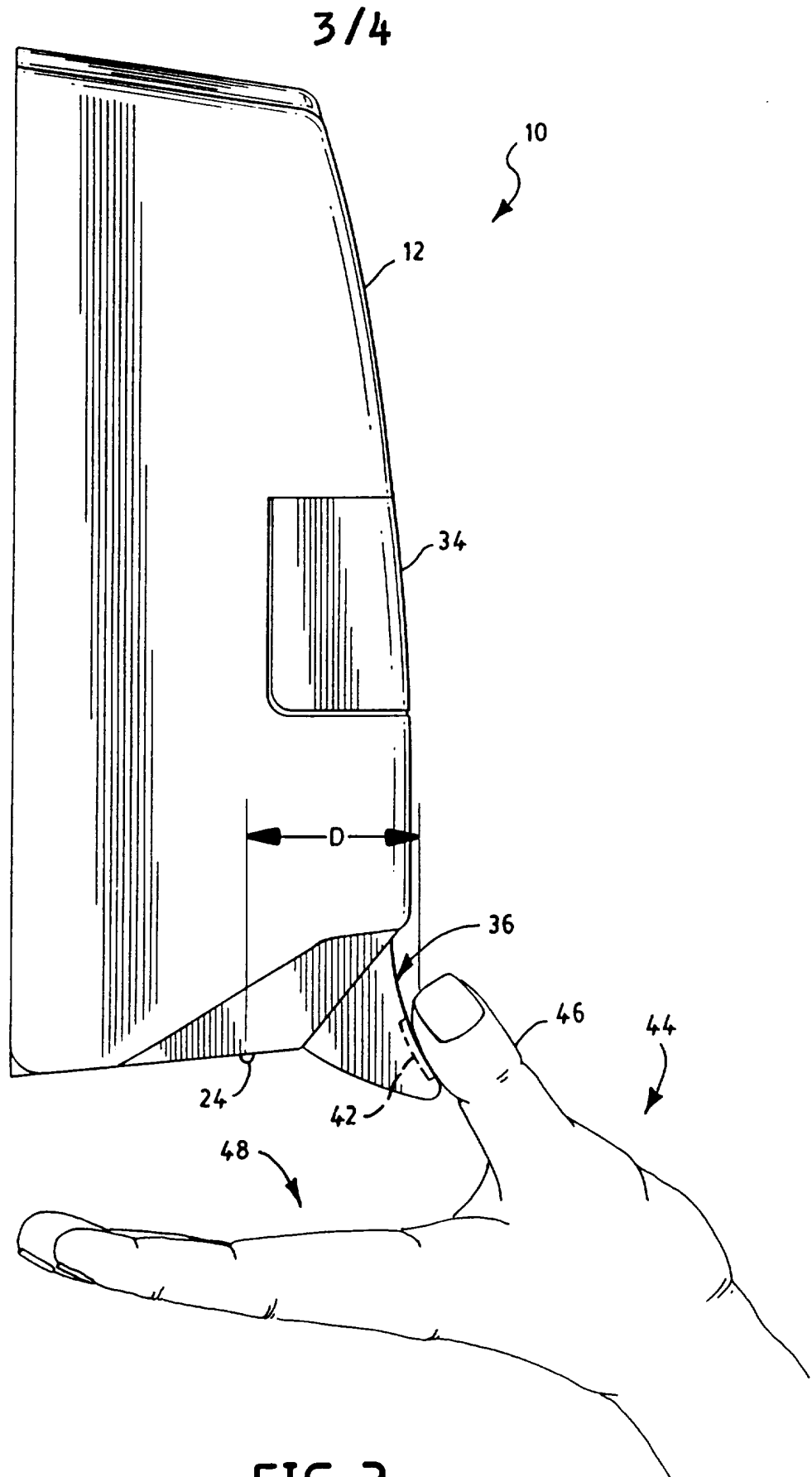


FIG. 3



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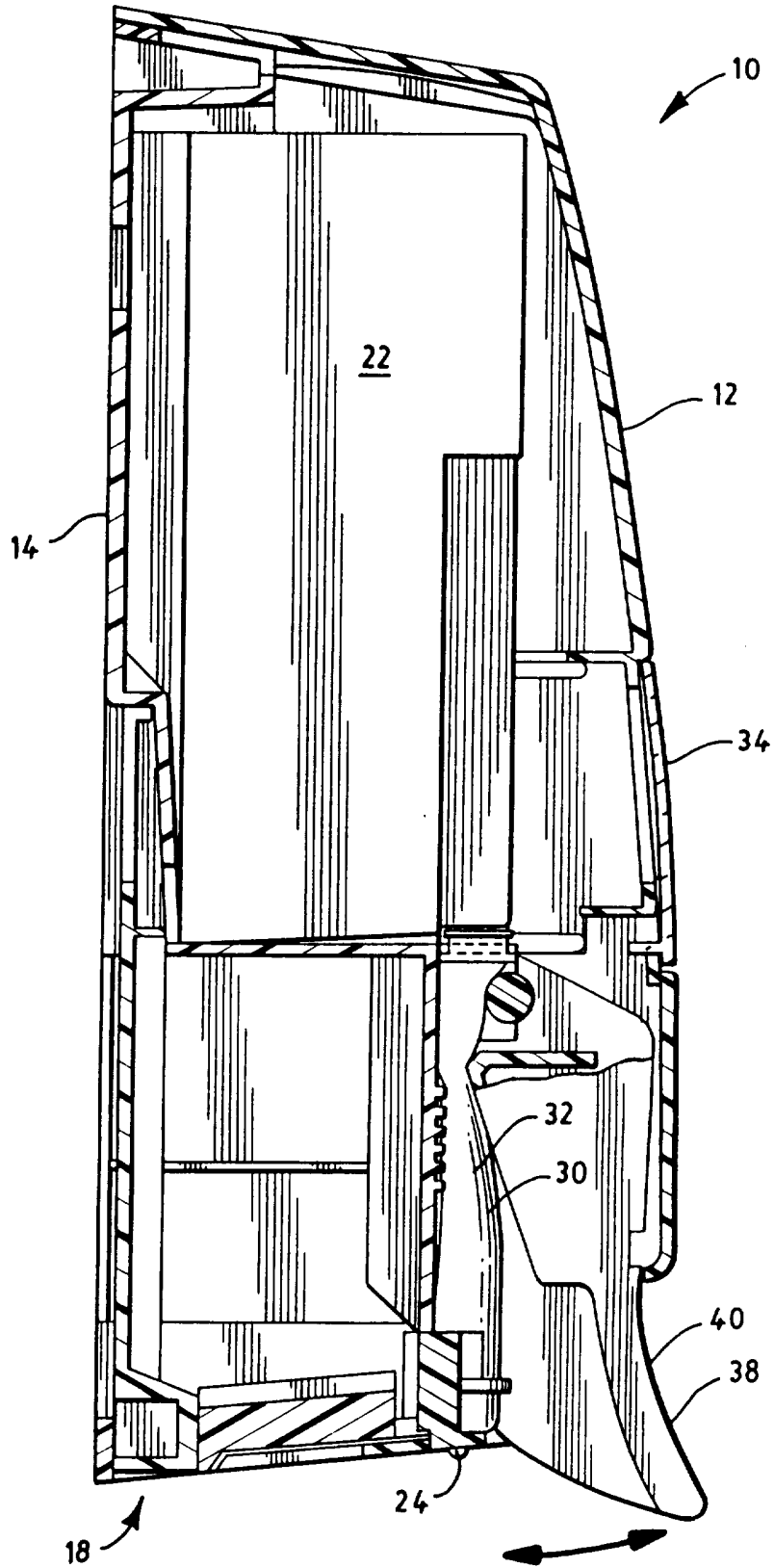


FIG. 4

# INTERNATIONAL SEARCH REPORT

Intern: al Application No  
PCT/US 96/16915

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 A47K5/12

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 6 A47K

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

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US,A,4 561 571 (CHEN JASON K S) 31 December 1985 see column 1, line 34 - column 2, line 33; figures 1,2	1,2,5,6
A	---	11
Y	US,A,4 564 127 (GARABEDIAN MICHAEL E ET AL) 14 January 1986 see column 4, line 27 - column 5, line 26; figures 3,5	1,2,5,6, 9
X	---	7,12
Y	US,A,5 413 251 (ADAMSON DAVID J) 9 May 1995 see column 2, line 14 - column 3, line 20; claim 1; figures 1-4	9
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Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

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23 January 1997

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**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US,A,5 385 272 (AOUN MICHEL M) 31 January 1995 see figures 3A-B ---	3,4,10
A	WO,A,92 13795 (BETTER LIVING PRODUCTS) 20 August 1992 -----	

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International Application No  
PCT/US 96/16915

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US-A-4564127	14-01-86	NONE	
US-A-5413251	09-05-95	NONE	
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		CA-A- 2103806	12-08-92
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