

(12) PATENT
(19) AUSTRALIAN PATENT OFFICE

(11) Application No. **AU 199718804 B2**
(10) Patent No. **709335**

(54) Title
An interactive display unit for the distribution of products, in particular a refrigerated display unit for food products such as ice cream and the like

(51)⁶ International Patent Classification(s)
G09F 027/00 G09F 023/00

(21) Application No: 199718804 (22) Application Date: 1997.03.04

(87) WIPO No: WO97/33269

(30) Priority Data

(31) Number	(32) Date	(33) Country
TO96U000046	1996.03.08	IT

(43) Publication Date : 1997.09.22
(43) Publication Journal Date : 1997.11.20
(44) Accepted Journal Date : 1999.08.26

(71) Applicant(s)
Societe Des Produits Nestle S.A.

(72) Inventor(s)
Stefano Bosi

(74) Agent/Attorney
BALDWIN SHELSTON WATERS, Level 21, 60 Margaret Street, SYDNEY NSW 2000

(56) Related Art
US 4274267
US 4359631
WO 89/07807



AU9718804

(12) PATENT ABRIDGMENT (11) Document No. **AU-B-18804/97**
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. **709335**

- (54) Title
AN INTERACTIVE DISPLAY UNIT FOR THE DISTRIBUTION OF PRODUCTS, IN PARTICULAR A REFRIGERATED DISPLAY UNIT FOR FOOD PRODUCTS SUCH AS ICE CREAM AND THE LIKE
- International Patent Classification(s)
(51)⁶ **G09F 027/00 G09F 023/00**
- (21) Application No. : **18804/97** (22) Application Date : **04.03.97**
- (87) PCT Publication Number : **WO97/33269**
- (30) Priority Data
- (31) Number (32) Date (33) Country
TO96U000046 08.03.96 IT ITALY
- (43) Publication Date : **22.09.97**
- (44) Publication Date of Accepted Application : **26.08.99**
- (71) Applicant(s)
SOCIETE DES PRODUITS NESTLE S.A.
- (72) Inventor(s)
STEFANO BOSI
- (74) Attorney or Agent
BALDWIN SHELSTON WATERS , Level 21, 60 Margaret Street, SYDNEY NSW 2000
- (56) Prior Art Documents
US 4274267
US 4359631
WO 89/07807
- (57) Claim

OPI DATE 22/09/97 APPLN. ID 18804/97
AOJP DATE 20/11/97 PCT NUMBER PCT/EP97/01074



AU9718804

I

I)

(51) International Patent Classification 6 : G09F 27/00, 23/00	A1	(11) International Publication Number: WO 97/33269 (43) International Publication Date: 12 September 1997 (12.09.97)
--	-----------	--

(21) International Application Number: PCT/EP97/01074
(22) International Filing Date: 4 March 1997 (04.03.97)
(30) Priority Data:
TO96U000046 8 March 1996 (08.03.96) IT

(71) Applicant (for all designated States except US): NESTLE
ITALIANA S.P.A. (IT/IT), Viale Giulio Richard, 5, I-20143
Milano (IT).

(72) Inventor; and
(75) Inventor/Applicant (for US only): BOSI, Stefano (IT/IT); Via
Bertucci, 24, I-43016 San Pancrazio Parmense (IT).

(74) Agents: QUINTERNO, Giuseppe et al.; Jacobacci & Perani
S.p.A., Corso Regio Parco, 27, I-10152 Torino (IT).

(71) SOCIETE DES PRODUITS
NESTLE S.A.

Case Postale 353
CH-1800 Vevey
Switzerland

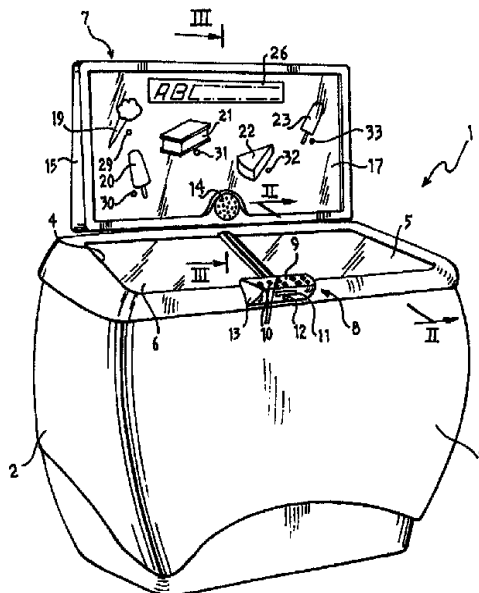
(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR,
BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE,
GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ,
PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT,
UA, UG, US, UZ, VN, YU, ARIPO patent (GH, 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).

Published
With international search report.

(54) Title: AN INTERACTIVE DISPLAY UNIT FOR THE DISTRIBUTION OF PRODUCTS, IN PARTICULAR A REFRIGERATED
DISPLAY UNIT FOR FOOD PRODUCTS SUCH AS ICE CREAM AND THE LIKE

(57) Abstract

The invention relates to a display unit (1) for the distribution of products, in particular a refrigerated display unit (1) for food products such as ice cream and the like, which includes a cabinet (2) in the form of a chest defining an environment (3) for containing the products and having a top opening (4) for access. The display unit includes an electric or electronic display panel (7) arranged near the opening (4) in the cabinet (2) and operable to generate a plurality of predetermined visual presentations, and control means (9; 12) which the user can manipulate to cause a predetermined visual presentation to be generated on the display panel (7).



AN INTERACTIVE DISPLAY UNIT FOR THE DISTRIBUTION OF
PRODUCTS, IN PARTICULAR A REFRIGERATED DISPLAY UNIT FOR
FOOD PRODUCTS SUCH AS ICE CREAM AND THE LIKE

The present invention relates to a display unit for the distribution of products, in particular to a refrigerated display unit for food products such as ice cream and the like.

More specifically, the subject of the invention is a display unit which comprises a cabinet in the form of a chest defining an environment intended to contain the products and having an access aperture at the top.

Cabinets of the above type are widely used for the distribution of products, in particular ice cream and the like, for example in supermarkets and other points of distribution/sale such as cafes and other commercial premises.

Prior art cabinets are essentially containers for conserving the products which, in use, are either removed directly by the customer or by a sales or distribution

assistant.

In the case of products such as ice cream and the like, the climate in such cabinets is regulated by thermostat-controlled refrigeration systems of a type known per se.

Until now, the design of such cabinets has generally been aimed at merely
5 fulfilling the essential functional requirement of containing the products, and possibly keeping them at a given temperature, and enabling them to be removed more or less easily.

In a few cases, while fulfilling the basic functional requirements, attention has been given to the aesthetics of the design, so as to give the cabinet a more attractive and
10 pleasing appearance.

The functional characteristics of such units have, however, remained essentially unchanged.

It is an object of the present invention to overcome or ameliorate at least one of the disadvantages of the prior art, or to provide a useful alternative.

15 According to the invention there is provided a display unit for the distribution of products, in particular a refrigerated display unit for food products such as ice cream and the like, comprising a cabinet defining an environment for containing the products and having a top access opening, including:

an electric or electronic display panel arranged near the said opening of the cabinet
20 and operable to generate a plurality of predetermined visual displays;

control means operable by a user in order to generate a predetermined visual display on the display panel; and



the display panel includes a display area showing static images of the products contained in the unit, and associated luminous devices which can be activated selectively by means of corresponding commands given by the user acting on the said control means.

5 Unless the context clearly requires otherwise, throughout the description and the claims, the words 'comprise', 'comprising', and the like are to be construed in an inclusive sense as opposed to an exclusive or exhaustive sense; that is to say, in the sense of "including, but not limited to".

Further characteristics and advantages of the invention will become apparent from
10 the detailed description which follows, provided purely by way of non-limitative example, with reference to the appended drawings, in which:

Figure 1 is a perspective view of an example of an embodiment of a unit according to the invention,

Figure 2 is a partially sectioned view taken on the line II-II of Figure 1,

15 Figure 3 is a section taken on the line III-III of Figure 1 and shows an example of the structure of a display panel forming part of a unit according to the invention,

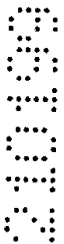
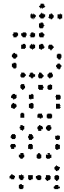


Figure 4 is a partial side view of a unit according to the invention, showing various possible positions of the display panel,

Figure 5 is a partially sectioned side view showing a detail of a unit according to the invention,

Figure 6 is a partial front view of the detail indicated VI in Figure 5, and

Figure 7 is a block diagram of the electric/electronic components of a cabinet according to the present invention.

In Figure 1, a display unit for the distribution of products, in particular a refrigerated unit for ice cream and the like, is generally indicated 1.

This unit comprises a container 2 in the form of a cabinet, defining therein an environment 3 (Figure 2) intended to contain the products (not shown). At the top, the container 2 has an opening 4 giving access to the environment 3.

In the embodiment illustrated by way of example, two lids 5 and 6 are associated with this opening 4, constituted

essentially by two sheets of transparent material, slidable in respective, parallel planes. Each of these lids extends for about half the extent of the opening 4 of the cabinet 2.

Other lid arrangements or equivalent closure elements are of course possible.

The display unit 1 shown in the drawings also includes an electric or electronic display panel, generally indicated 7. This panel is arranged along one side of the top opening 4 of the cabinet 2 and may, in particular, be hinged or otherwise pivoted on this side of the aperture 4.

As will be explained better later, the display panel 7 is generally designed to offer a plurality of predetermined visual presentations.

For preference, though not necessarily, the display panel 7 has essentially the same dimensions as the top opening 4 of the cabinet 2 and may be arranged in a raised, presentation position, shown in Figure 1, or in a



reclining or lowered position in which it acts as an additional lid closing the said opening 4, as illustrated in Figure 4.

The unit 1 also includes a control panel which in the embodiments illustrated by way of example in Figures 1, 5 and 6 is generally indicated 8. This panel can include a control keypad 9, for example of a sensitive membrane type. Light-emitting diodes or similar luminous devices may conveniently be associated with the keypad (see Figure 7).

The unit 1 can also include a temperature indicator, such as that indicated 11 in Figures 5 and 6, connected to a thermometer arranged in the environment 3 to indicate the temperature inside the cabinet.

The unit 1 may also include a proximity sensor, such as that indicated 12 in Figure 1 and in Figures 5-7, operable to detect the presence or the passage of a person in the vicinity of the unit and to emit a corresponding signal.

For convenience, though not necessarily, as shown in Figures 5 and 6, the keypad 9, the temperature indicator 11 and the proximity sensor 12 may be mounted in a common casing (indicated 13 in the said drawings) fixed to the front portion of the rim of the cabinet 2, as shown in particular in Figures 1 and 5.

The unit 1 may conveniently be equipped with at least one electro-acoustic transducer, such as a loudspeaker or the like, for the generation of acoustic signals and/or sound and/or vocal messages. In the embodiment illustrated by way of example, the unit 1 includes a loudspeaker 14 arranged in the lower portion of the display panel 7 (see Figures 1, 2 and 3).

The display panel 7 may be constructed, for example, as described hereafter, with particular reference to Figures 1 and 3.

In this embodiment, the panel 7 includes a casing or shell 15, of plastics material or sheet metal for example, with a front opening 16 in which is mounted a plate 17 of transparent material such as polycarbonate,

A second plate 18, also made, for example of polycarbonate, is arranged inside the shell 15, behind the protective plate 17. The plate 18 carries a plurality of iconographic images of the products contained in the unit 1, similar, for example, to the images indicated 18 to 23 in Figure 1. These images or illustrations may be applied to the plate 18 by screen printing for example. The plate 18 has corresponding light-emitting diodes, indicated 29-33 in Figure 1, next to the images 19-23 of the products.

An additional plate or sheet 24 of plastics material can also be arranged inside the shell 15, carrying a plurality of light bulbs or the like, indicated 39-43 in Figure 3, each of which is arranged in correspondence with a respective product image 19-33.

The plate 18 may also carry at least one display device of an alphanumeric type 26 (see Figures 1 and 3), for displaying messages to the users or customers.

The various electrical/electronic devices included in the display panel 7 are connected to a control unit,

indicated 50 in Figure 7, arranged in a special housing (not shown) preferably positioned in the rear portion of the cabinet 2.

The control panel 8 and the keypad 9, the light-emitting diodes and the proximity sensor 12, as well as the loudspeaker 14, are also connected to the unit 50.

With a display unit 1 according to the invention, equipped with the control keypad 9 the user or client can operate the buttons of the keypad in order to choose from the categories of products contained in the unit and shown on the display panel. In this event, the control unit 50 is pre-set to control the selective activation of the bulbs and the light-emitting diodes on the panel 7 which correspond to the category of products selected. In addition to this visual presentation of the selected products, in accordance with the command given by the customer using the keypad 9, the control unit 50 can cause the loudspeaker 14 to give out predetermined acoustic signals or sound and/or vocal messages.

If light emitting diodes 10 are connected to the keypad 9,

the control unit 50 may be regulated so as to activate them according to predetermined instructions, either in a stand-by condition, that is when there are no users near the unit 1, or upon a command given by means of the keypad 9. In the same way, the control unit 50 can be regulated so as to activate the light bulbs and the diodes on the panel 7 according to instructions which could be different, for example, for a stand-by condition and for responding to a command on the keypad from a user.

If the display panel 7 includes an alphanumeric display, the control unit 50 can be regulated so as to generate messages to "attract" customers in stand-by conditions and to issue predetermined messages in response to commands given by a user by means of the keypad 9.

The display panel could also be activated and/or acoustic signals or sound and/or vocal messages could be generated on detection by the proximity sensor 12 of the presence or passage of a user near the unit 1, instead of by a command on the keypad 9.

A unit according to the invention can also be manufactured without the keypad 9 and the associated light-emitting diodes but with only a proximity sensor to activate the display panel and/or emit acoustic signals or sound and/or vocal messages.

The display panel 7 may be made differently from the one described above with reference to Figures 1 and 3. In particular, this panel may be constituted by a video terminal of the type used, for example, for personal computers, for showing static and/or dynamic images. In this event, the electronic control unit 50 may be set up so as to control an interactive video game or the like, in which a customer can intervene by operating one or more push-buttons arranged for this purpose in the keypad 9 of the control panel.

The control unit 50 could also be equipped with a memory device in order to retain data or signals which could be used to reproduce musical tunes which could be selected by the customer by means of the keypad 9 of the control panel.

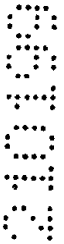
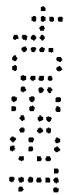
These tunes could then be reproduced by means of the electroacoustic transducer, or transducers, arranged in the display unit, such as the loudspeaker 14 described earlier.

A display unit according to a preferred embodiment of the invention may also be set up so as to operate a pseudo-random sequence and give a user a free product.

5 This can be achieved, for example, by means of a device, incorporated in the control unit 5, which generates a pseudo-random sequence of signals, and operable to emit a corresponding message, which may be visual, for example by means of the display panel 7, or acoustic or vocal by means of the loudspeaker 14.

Alternatively, the device for generating pseudo-random signals may be set up so as
10 to print, in a pseudo-random sequence, a message offering a free product by means of a printer (indicated 28 in Figure 7) associated with the unit 1.

According to a further variant, the keypad 9 of the



control panel of the display unit 1 may be used by the customer to transmit a code and the control unit 50 may include a generator of pseudo-random signals, set up to generate a randomly variable code each time a customer punches out a code, and a comparator for comparing the code punched out by the customer with that generated by the generator. Should the two coincide, the control unit 50 would control the emission of a visual, acoustic or vocal image announcing that a free product has been won.

Instead of the keypad 9, the user could use a bar-code reading device to enter a code, such as that indicated by block 38 in Figure 7, connected or otherwise associated with the display unit 1 and operable to read a code which would be carried by a support such as a card or a ticket which would, for example, be given to the user at the entrance to the commercial premises housing the display unit.

A display unit according to the invention may also have an electric motor (such as that indicated 37 in Figure 7) for controlling, by appropriate transmission means, the opening and closing of the lids 5, 6 associated with

the cabinet 2. For convenience, this motor is controlled by the control unit 50 and a user may turn it on by means of the keypad 9 of the control panel of the display unit.

Naturally, the principles of the invention remaining unchanged, the embodiments and manufacturing details thereof may vary widely from those described and illustrated purely by way of non-limitative example, the invention extending to all realisations which achieve the same utility by the same inventive concept as defined in the annexed Claims.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. A display unit for the distribution of products, in particular a refrigerated display unit for food products such as ice cream and the like, comprising a cabinet defining an environment for containing the products and having a top access opening, including:
5 an electric or electronic display panel arranged near the said opening of the cabinet and operable to generate a plurality of predetermined visual displays;
control means operable by a user in order to generate a predetermined visual display on the display panel; and
the display panel includes a display area showing static images of the products
10 contained in the unit, and associated luminous devices which can be activated selectively by means of corresponding commands given by the user acting on the said control means.
2. A display unit according to claim 1, including a plurality of light bulbs, each being arranged in a correspondence with a respective static image of the product and with a
15 respective associated luminous device.
3. A display unit according to any of the preceding claims, in which at least one movable lid is associated with the top opening of the cabinet, the position of which is controlled by means of a motor activated by the aforesaid control means.
4. A display unit according to any of the preceding claims, including a device for
20 generating signals in a pseudo-random sequence, announcing the offer of a free product to the user.
5. A display unit according to claim 4, wherein said device for generating pseudo-



random signals is pre-set to generate a visual or sound and/or vocal message announcing the offer of a free product.

6. A display unit according to either claim 4 or claim 5, wherein said device for generating pseudo-random signals is connected to a printer associated with the unit and
5 is set to print a message offering a free product in a pseudo-random sequence.

7. A display unit according to claim 6 including a device enabling a user to introduce a code, and in that the said pseudo-random signal generator is set to give out a code varying according to a pseudo-random pattern each time a user introduces a code by means of the device, a comparator device being provided for comparing the code
10 introduced by the user with the code generated by the said device and for emitting signals announcing the offer of a free product to the user should the two codes coincide.

8. A display unit according to claim 7, wherein said device for introducing the code includes a keypad.

9. A display unit according to claim 7, wherein said device for introducing the code
15 includes a bar code reader.

10. A display unit according to any one of the preceding claims, including memory means in which are stored signals or data for the reproduction of tunes from which the user can choose by means of the control panel.

11. A display unit according to any of the preceding claims, wherein said control
20 means includes a control panel with a plurality of control devices which are selectively operable by a user so as to determine, according to the command given, the generation on the display panel of a corresponding, predetermined visual display.

12. A display unit according to any of the preceding claims, including at least one



device which can be activated to generate acoustic signals or sound and/or vocal messages.

13. A display unit according to claim 12, wherein said acoustic signal or message generator is connected to the control means and is set so as to generate corresponding
5 predetermined acoustic signals or sound and/or vocal messages according to a command given by a user by means of the control panel.

14. A display unit according to any of the preceding claims, including at least one sensor device operable to detect the presence or the passage of a person near the display unit and to emit a corresponding signal activating the control means associated with the
10 display panel or with the said acoustic signal or sound and/or vocal message generator.

15. A display unit according to any of claims 12 to 14 wherein said device for generating acoustic signals or sound and/or vocal messages includes at least one electroacoustic transducer, such as a loudspeaker, arranged in the display panel.

16. A display unit according to any one of the preceding claims, wherein the display
15 panel is pivoted onto one side of the said opening in the cabinet and can be arranged in a raised presentation position and in a lowered position in which it acts as a lid for the said opening.

17. A display unit for the distribution of products substantially as herein described with reference to the accompanying drawings.

20 DATED THIS 21st Day of January 1999
SOCIETE DES PRODUITS NESTLE S.A.

25 Attorney: JOHN B. REDFERN
Fellow Institute of Patent Attorneys of Australia
of BALDWIN SHELSTON WATERS



1/5

FIG. 1

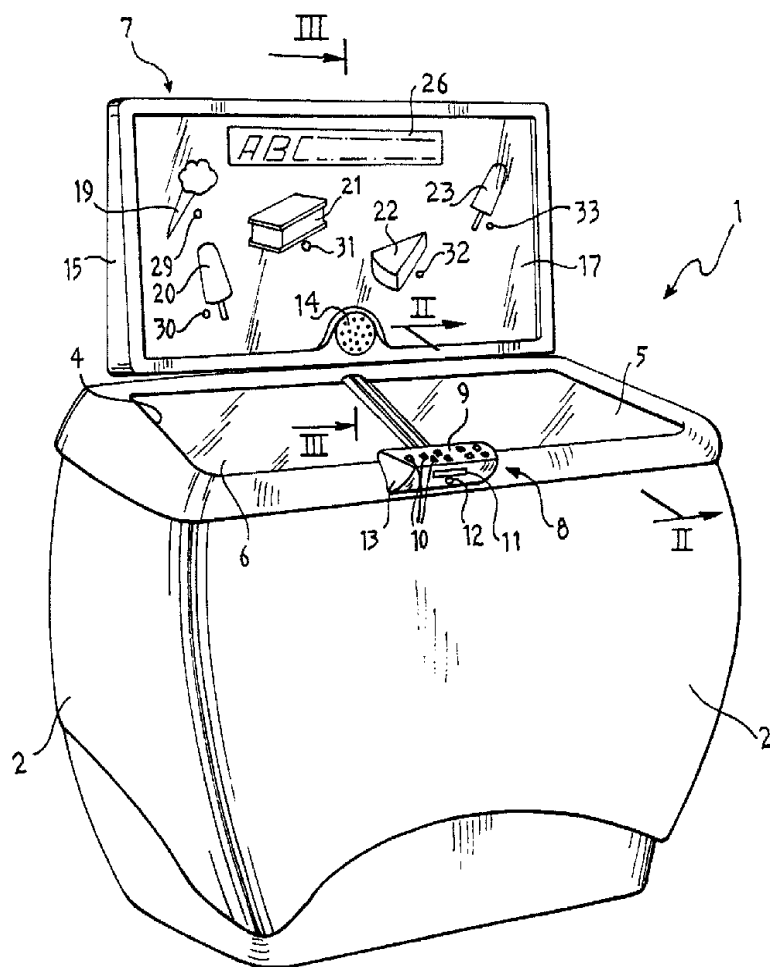
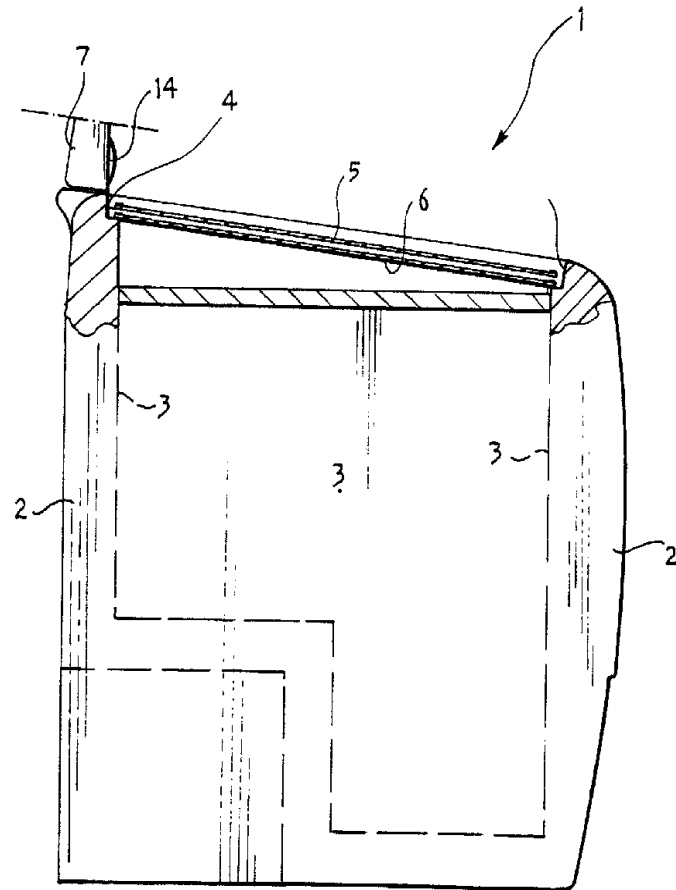


FIG. 2



3/5

FIG. 3

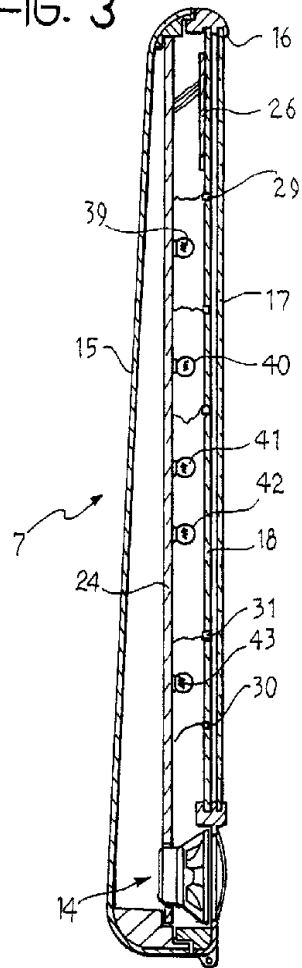


FIG. 7

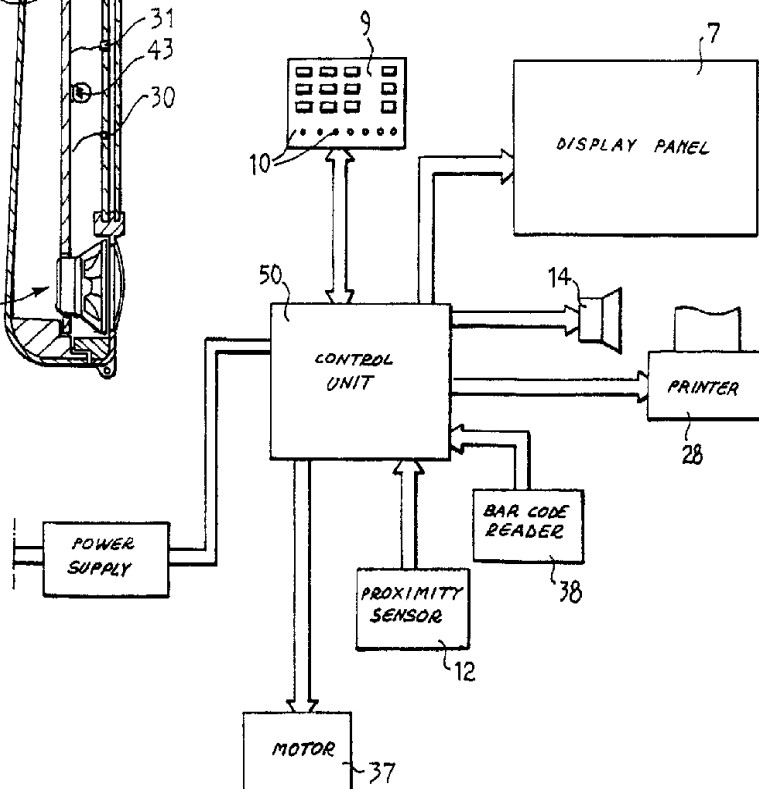
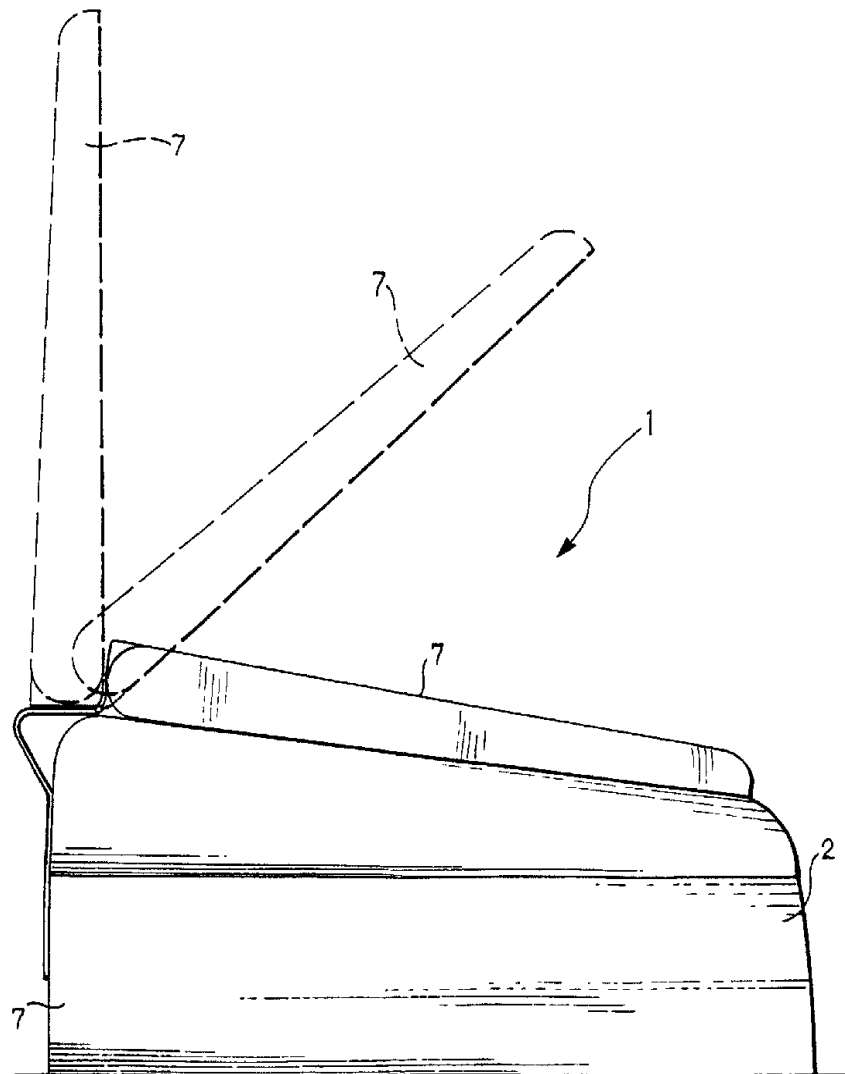


FIG. 4



5/5

FIG. 5

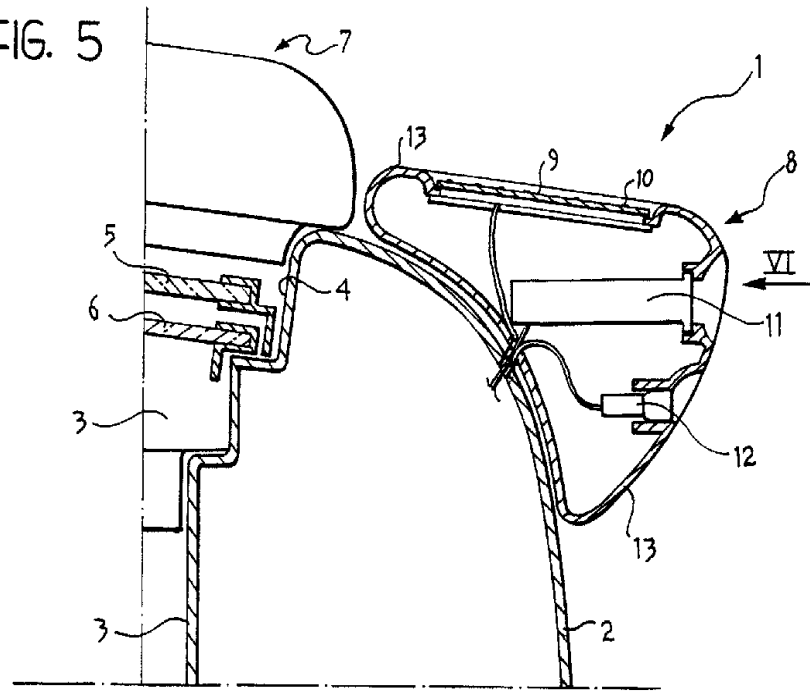


FIG. 6

