

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets



(11)

EP 0 809 226 A2

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

26.11.1997 Bulletin 1997/48

(51) Int Cl.⁶: **G09F 13/24**

(21) Application number: **97500090.2**

(22) Date of filing: **21.05.1997**

(84) Designated Contracting States:
DE ES FR GB IT

(30) Priority: **21.05.1996 AR 10265096**
25.04.1997 AR 10173697

(71) Applicants:

- **Losciale, Guillermo Daniel**
Mar del Plata (Prov. de Buenos Aires) (AR)
- **Losciale, Pedro Anibal**
Mar del Plata (Prov. de Buenos Aires) (AR)

(72) Inventors:

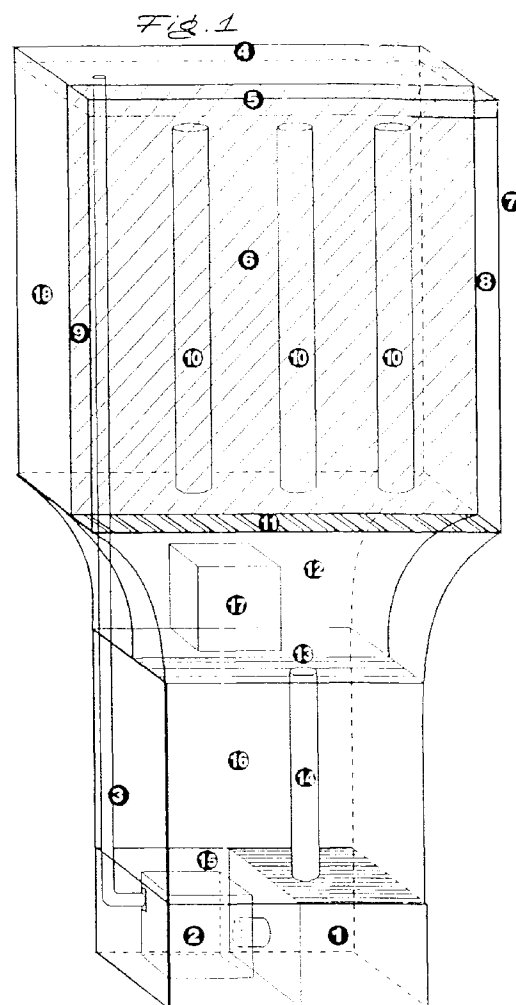
- **Losciale, Guillermo Daniel**
Mar del Plata (Prov. de Buenos Aires) (AR)
- **Losciale, Pedro Anibal**
Mar del Plata (Prov. de Buenos Aires) (AR)

(74) Representative: **Isern Jara, Jaime**

Avda. Pau Casals, 22
08021 Barcelona (ES)

(54) **An apparatus to be used in publicity or other media**

(57) An apparatus to be used in publicity and other media, which comprises a combination of at least one translucent image of what is intended to be exhibited, illuminated by suitable systems from behind and on a continuous basis; with continuous movements of liquid; the image connects with the liquid in movement, by means of at least one plain and transparent surface (viewer); the transparent and plain surface is sandwiched between the illuminated translucent image and the movements of liquid; the movements of liquid are generated by suitable devices and modified in their aspect by means of fixtures located in the final section of the conduit supplying the viewer; being complemented by at least one receptacle containing the liquid.



EP 0 809 226 A2

Description

The present invention refers to apparatus to be used in publicity or other media, which are specially designed to highlight images of the product desired to be exhibited on a novel basis, and combining necessary elements which have not been obtained so far.

Although no patent similar to the one in this application has been found, we will point out some differences with those known in the art.

The known display devices which use reflective elements, transient light effects, glittering effects, lights intermittently switched on, transitory light effects to make posters stand out. The latter also modify the flow surface, causing irregularities, which associated with the transitory light effects are the object of the invention, they also utilize means (in a receptacle) to agitate the liquid, which cause the volume of liquid flowing on the surface to vary intermittently; in this case, what varies occasionally is the fluid level in the viewer receptacle. They make the liquid flow solely in a laminar form. They utilize means to cause irregularities on the liquid flow over the flow surface. They do not have sandwiched images between the illumination system and the plain and transparent surface where the liquid flows or where the fluid is contained.

It additionally provides graphical material arranged in sections, which cause other type of visual effect.

Some of them are illuminated from the bottom or from the top, others although illuminated from behind, the so commonly called "photographic transparencies", do not resort to any type of movements.

The known display devices using a water and/or liquid chamber where air bubbles are visualized going up a "water panel" do not have images and are illuminated from the bottom.

Another device having the aspect of a lamp comprises a hollow head casing and uses only viscous fluid which slides through filaments and is lighted on the upper part.

In other cases, the water chamber is used to place flakes or leaves or others, and a spiral sheath within the chamber produces the movement. The ways in which a fluid flows in an apparatus do not vary. They do not utilize translucent images of the product to be displayed, continuously illuminated from behind and/or inside, combined with continuous movements of liquid. The liquid and air injection are the only means and/or elements which modify the aspect of the fluid inside the viewer receptacle. They do not combine the necessary elements to create the novel visual effects which are detailed below.

The present invention refers to apparatus to be used in publicity or other media, characterized for comprising in combination at least one translucent image of what is desired to be displayed, illuminated by systems which are capable to be illuminated from behind and/or inside, on a combined and continuous visual form, with contin-

uous liquid movements. These movements are generated by adequate apparatus and by means of accessories arranged on the perimeter and/or visual area of the image.

The movements of liquid are linked to the illuminated image by means of at least one plain, transparent and/or translucent surface sandwiched therebetween and/or by the flow of liquid flowing therein.

Liquids may flow in front of and/or inside elements forming plain, transparent and/or translucent surfaces; (viewer or viewer receptacle) or they may be linked to the image by the flow of liquids.

A structure or frame or similar supports the assembly. Image/s (of products, people or other) made and/or reproduced in or on transparent/translucent material, (photographic transparencies, drawings and/or graphics and/or prints made in or on transparencies, and/or translucent material, image/s in or on films, or other appropriate surface, -or generated by computer and/or electronic systems, or other suitable systems; e.g. screens that may provide images with movement and/or animation, visually illuminated on a continuous basis by a light source (fluorescent tubes, dichroic lamps or other systems), from behind and/or from the interior of the image/s and the combination thereof, with movements of liquid/s, connected with at least one plain transparent and/or translucent sandwiched surface. It may also be provided with systems displacing and/or moving images and/or systems that animate the same (videos, television images, animated images, screen images or other suitable ones).

Systems that provide movement and/or animation to images visualized on screens or other media.

Image/s may have either of the following shapes: planar and/or concave and/or cylindric and/or cubic and/or tridimensional and/or volumetric bodies and/or other forms and/or the combination of the same. They may adopt the shape of hollow bodies, and/or adopt the shape of the product to be exhibited. This/these illuminated image/s either fixed and/or rotating or performing other type of displacement, may also have movement and/or animation by mechanical, electric and/or electronic means, or other suitable systems, or driven by liquid and/or air.

To move and/or recirculate the liquid at least one of the following is available: an electropump and/or aerator/s and/or turbines and/or sprayer/s, or other suitable supply apparatus, which have at least one tank or chamber or receptacle and inject and/or impel the liquid and/or air and/or gas through a duct/s up to the distribution unit, the final section of the same.

The distribution unit has fixtures and/or element/s modifying the form of the flow and/or fluids.

These elements changing the way of flowing of the liquid and/or injecting air will be placed at any suitable perimetral sector, connected to the image/s and/or in the area connected to the image/s. They may also be placed in the receptacles linked to the image through the flow.

The elements may be by way of hydro-jets, Venturi type systems, nozzles, slot and/or perforated pipes, diffusers, sprayers, microsprinklers, dropper, spray or other suitable ones and/or the combination thereof. These fixtures may operate individually or jointly and/or combined and/or consequently and/or alternately by means of their respective devices and/or supply apparatus. The supply apparatus or the fixtures installed in the distribution unit will provide flow and/or fluid with shape and will generate the movements of liquid in the viewer.

The distribution unit or final section of the conduit supplying the viewer receptacle with liquid and/or air, may be moved through mechanical or electric means.

The liquid and/or air may flow in the form of shower and/or curtain and/or jet and/or dropper and/or cascade and/or laminar or in other forms and/or variations and/or combinations thereof.

For example, as bubbles going up within the fluid and/or by varying the fluid levels or other ways.

Liquid movements depend on the different shapes liquid may adopt and on the fixtures to be installed in the distribution unit, and/or for example, the (turbulence) effect produced by a liquid jet upon falling and/or flowing in the fluid or upon injecting liquid and air through a Venturi type system. These movements of liquid and/or "water arrangements" may be carried out on an individual, consecutive and/or combined and/or joint and/or alternate basis in front of and/or inside suitable plain and transparent and/or translucent elements, (e.g. glass, acrylics, flexible elements and others) and/or receptacles formed by the same or by others that allow to observe the movements of liquid and image/s, and that also protect the latter.

Another option is to plastify the image or line it with a plain transparent material or to use another suitable protection system which allows it to be translucent so that it will project upon being illuminated from behind and/or from inside.

The movement of liquid and/or water arrangement may be carried out covering the visual area of the image/s or a zone of the image and/or linking the image/s with the viewer receptacle, by means of the liquid flow and/or by means of transparent and/or translucent objects (tubes, conduits, pipes or others) which connect the image with the receptacle.

The apparatus may have several viewer receptacles, intercommunicated and/or connected by the flow of liquid and/or combining several of the functions previously described, or they may be divided or separated by inner walls, wherein liquids flow either separately or jointly, indistinctively. For example, in one sector the level of yellow liquid goes up, in another sector the green liquid goes up and in another sector there is clear liquid with air injected and forming bubbles.

The flow of liquid which is always continuous may be illuminated directly and on a continuous basis.

The movements of images and/or liquids may be automatized and/or programmed or they may use

mechanical and/or electric and/or electronic devices and/or instruments or other suitable elements.

The illuminated image/s, combined with the movements of liquid as described before, produce the novel visual effects.

The apparatus described before may additionally have suitable electromechanical means which move elements inside the transparent viewer receptacle and/or that said electromechanical means move magnets, which in turn reproduce the movements inside the viewer receptacle. For example, to have a circle rotate in front of the visual area of the image, within the viewer receptacle, where the movements of liquid previously described are carried out.

The apparatus described above may have sound, generated by suitable systems and placed outside the visual system but inside the apparatus. It will be used to provide music to and/or to publicize the products to be exhibited.

Preferably, the apparatus has a structure and/or frame or similar which supports the assembly. The upper sector has a transparent photographic image or photographic transparency, this image is evenly and continuously illuminated on a plane basis from behind by fluorescent tubes which project the image.

A chamber or receptacle constructed in plain and transparent material (glass, acrylic or others) is installed in front of the image, the movements of liquid and/or water will be carried out in this viewer receptacle, movements which linked by plain and transparent surfaces are combined with the image; it must be understood that glass or other transparent material is used to protect the image from the water in movement. In the base or lower portion there is at least one supply tank, that is the deposit of the upper viewer receptacle, wherefrom the electropump/s pumps liquid to raise it and introduce it into the viewer receptacle in different forms according to the fixture selected and/or to fill up the viewer receptacle changing the levels of the liquid fluid. The lower tank and/or deposit will receive the liquid which will drain when the level of the receptacle and/or viewer chamber drops. These movements may be controlled by means of electric switches, floats, solenoid valves, clock or other automation and/or programming devices and/or systems.

STEP-BY-STEP EXAMPLE OF THE MOVEMENTS OF LIQUID

Step 1:

The electropump pumps liquid from the lower deposit which contains the fluid.

Step 2:

It raises the fluid through a conduit up to the final section of the same, the distribution unit, wherein the

form of the flow will be modified by fixtures.

Step 3:

The liquid is seen flowing according to the fixtures previously installed (as a shower, jet, etc.), it flows through the viewer and gradually raises the level of the existing fluid that is receiving the air permanently generated by an aereator, creating bubbles in the fluid; the bubbles go up distributed by a diffusor located on the lower perimeter of the image's visual area.

Step 4:

The electropump stops operating by means of an electric float previously regulated, located in the lower deposit, thus, liquid is no longer furnished to the upper viewer receptacle. The same float opens a solenoid valve which drains part of the liquid contained in the viewer receptacle. The aereator keeps on operating.

Step 5:

The solenoid valve is closed by means of the same electric float, previously regulated, and the electropump starts operating again.

Example 2:

A translucent photographic image illuminated from behind shows a person taking a shower, said image is accompanied and/or combined, producing a water shower effect, (in front of the image), which slides down on a plain and transparent glass, also protecting the photographic image.

Example 3:

A video image or image projector shows a person swimming, this image is accompanied or combined, with a "water arrangement" carried out in a transparent receptacle, in front of the image, filling the viewer receptacle up to the level desired, and by means of bubbles or other movements of liquid, they combine with the image. The viewer receptacle may have the figure of a person swimming, moved by electromechanical means and/or the magnet system described above.

Example 4:

The photographic image of a container which is falling, in a transparent receptacle with water inside, this is accompanied with an equal mass of water in the viewer receptacle, and the desired movements are performed (bubbles, changes in the fluid level, etc.).

Example 5:

A translucent image illuminated from the interior, having a cylindrical form (a can of soft drink), rotates about its vertical axis. An electropump raises the liquid pumped from a deposit located in the lower internal portion of the cylinder, up to the opening located on the cylinder's upper portion (the orifice of the can). It comes out as a liquid jet, or in other forms, through the plain and transparent surfaces which protect the translucent photographic image or a similar one. When the image rotates accompanied by the liquid jet, it forms a water curtain, achieving the novel visual effects.

In order to make more specific the advantages briefly commented herein, advantages to which users or experts in the art may add many others, and to facilitate the understanding of the construction, constitution and functional characteristics of the apparatus invented, some examples of the preferred embodiment will be described below, examples which are schematically illustrated without a specific scale, in the enclosed drawings. It is clarified that Figures 1 and 2 represent their own references. The same happens with Figures 3, 4, 5 and 6 which represent, respectively, their own numerical references. These examples are only for illustrative purposes and they do not limit the scope of the invention.

Together with these and other factors of a constructive and functional nature, and for a better understanding of the invention, drawings are enclosed as examples:

FIGURE 1:

shows the exemplary apparatus wherein the electropump (2) raises up the liquid absorbed from the receptacle (1), through the conduit (3), up to the distribution unit (4), which distributes the liquid through the fixtures (5), the liquid flows through the chamber and/or receptacle (6), made up of plain and transparent surfaces (7 and 8), covering the visual area of the translucent image (9), illuminated from behind by fluorescent tubes (10), the liquid keeps on flowing through the grid (11), the drain (12), entering into the conduit (14) through an orifice or funnel (13), to return to the receptacle or deposit (1), thus recirculating the liquid.

Sector (15) corresponds to the electropump compartment, sector (16) corresponds to free space and apparatus structure, sector (17) corresponds to the electric equipment and automatization of switches, illumination, electropump and others, sector (18) corresponds to the upper structure and rear access gate for the replacement of fluorescent tubes, etc.

FIGURE 2:

shows a cutaway view of the apparatus and the direction of liquid flow, wherein the same reference numbers indicate corresponding or similar parts.

FIGURE 3:

shows another example where the image or photographic transparency (1) is illuminated by the light device (2), inside the cylindrical container (3), the electropump (4) raises up the liquid absorbed from the conduit (5) through pipe (6), it flows through the conduit (7) within the container (3), it falls in a jet-like form (8) into the receptacle and/or vessel (9), from which it will be absorbed again by the electropump to recirculate the liquid; power outlets (10 and 11).

FIGURE 4:

It comprises an external acrylic cylinder and another one with plain and transparent surfaces (6), a cylinder of the same material in the internal sector (5) which supports the image and/or photographic transparency (4). The immersed electropump (1) raises the liquid (15) absorbed from the receptacle containing the fluid (18), raising it up along the conduit (7) up to the end of the tube (14), liquid (15) falls between the acrylic or other transparent material (5 and 6), up to the receptacle and/or deposit (18) forming the recirculation of liquid. The light device is separated from the liquid by the disk (17), the fluorescent tubes (2) are supported by the support (13). The electropump and the light device make contact in the electric tracks (9 and 11) which are covered by the track cover, in the sector where the liquid flows (10). The cylinder is rotated by motor (3) supported by plate (12) the axle (7) the bushing which is also the center of the apparatus (8) and part of the structure support (16).

FIGURE 5:

Electric switchboard and instruments or others.

FIGURE 6:

The electropump (1) raises the liquid through the conduit (2), which passes through the (syphon type) image constructed of a plain and transparent material (3) and flows through the syphon type head (13) until falling into the plain and translucent (vessel type) receptacle (4), overflows through (5) passes through the grill (6) up to the drain (7) from where the pump draws the liquid by means of the conduit (8) forming the recirculation of liquid. The aereator apparatus (9) generates the bubbles and injects air through conduits (10 and 11) up to the diffusers (12). The power generator (14) illuminates through fiber optics and/or similar (15) and makes the image and the translucent glass or receptacle (4) to project. The compartment where the equipment and devices are located for operation is also used as the base of the same and of the electric switchboard (18).

From the description and representation made on the enclosed drawings, the constructive and functional elements of the apparatus which is the object of the

present invention may be observed, thus establishing the inventor's right to make modifications following the general principles of practice and within the scope of the claims set forth hereunder.

Claims

1. An apparatus to be used in publicity and other media, wherein said apparatus comprises a combination of at least one translucent image of what is intended to be exhibited, illuminated by suitable systems from behind and on a continuous basis; with continuous movements of liquid; the image connects with the liquid in movement, by means of at least one plain and transparent surface (viewer); the transparent and plain surface is sandwiched between the illuminated translucent image and the movements of liquid; the movements of liquid are generated by suitable devices and modified in their aspect by means of fixtures located in the final section of the conduit supplying the viewer; being complemented by at least one receptacle containing the liquid.
2. An apparatus to be used in publicity or other media, as claimed in claim 1, wherein said apparatus has an electropump to move and recirculate liquid, the electropump absorbs the liquid from the receptacle and raises it up to the final section of the distribution conduit, wherein suitable devices located in their visual perimeter of the image, modify the aspect of the flow and cause the liquid flow to adopt different shapes, in front of a plain and transparent surface.
3. An apparatus to be used in publicity or other media, as claimed in claim 1, wherein the illuminated image combines with a flow of liquid flowing from within the viewer receptacle, made up of plain and transparent surfaces, which covers the visual area of the image and from which the electropump will be supplied to perform the recirculation of liquid.
4. An apparatus to be used in publicity or other media, as claimed in claim 1, wherein the illuminated image is combined with air bubbles injected in a fluid, contained by a viewer receptacle, the viewer receptacle being formed by plain and transparent surfaces; the bubbles are produced by at least one aereator or other suitable system and they are distributed by fixtures located outside the visual area of the image.
5. An apparatus to be used in publicity or other media, as previously claimed, wherein the illuminated image is combined with the different shapes of the liquid flow and with the bubbles going up within the fluid which occupies one part of the viewer receptacle, made up of plain and transparent surfaces.

6. An apparatus to be used in publicity or other media, as previously claimed, wherein the illuminated is combined with different alternative movements of liquid.
7. An apparatus to be used in publicity or other media, as claimed in claims 1, 3, 4, 5 and 6, wherein the illuminated translucent image adopts the shape of the product desired to be exhibited and it is located inside the transparent viewer receptacle, wherein the different movements of liquid are carried out.
8. An apparatus to be used in publicity or other media, as claimed in claims 1, 3, 5 and 6, wherein the illuminated image is combined with different types of liquids, recirculated and moved at least by one electropump, which absorbs the liquid from different receptacles impelling it to the corresponding viewer receptacles which have their respective fixtures to modify the liquid flow.
9. An apparatus to be used in publicity or other media, as claimed in claims 1, 5 and 6, wherein the illuminated image is combined with the flow of liquid and fluid; the bubbles are generated by at least one aerator or other suitable system; the liquid movements are performed in a viewer receptacle, the viewer receptacle is formed by plain and transparent surfaces; there are two receptacles, one is a viewer receptacle and the other is a deposit and supply of the viewer receptacle when the liquid recirculates, which drains the liquid of the viewer receptacle by means of an electric solenoid valve up to a predetermined level, regulated by means of a floating electric switch, meanwhile, the liquid which drains falls to the lower deposit, supplying an electropump when the floating interruptor activates it; the electropump will fill again the upper viewer receptacle by means of the fixtures located in the visual perimeter of the image, the liquid will flow in the predetermined shape, inside the viewer receptacle formed by the plain and transparent surfaces; the electropump will stop operating and the liquid will stop flowing inside the viewer receptacle by means of the electric float, this same and unique electric float will open again the solenoid valve and the functions described above will be repeated; these functions will be performed with the adequate level of fluid so that the aerator will operate continuously.
10. An apparatus to be used in publicity or other media, as claimed in claim 1, wherein the illuminated image is combined with water vapor generated by suitable systems, the water vapor is injected inside a viewer receptacle formed by plain and transparent surfaces which are linked to the image.
11. An apparatus to be used in publicity or other media, such as claimed above, which has at least two viewer receptacles wherein the movements of liquid are carried out.
12. An apparatus to be used in publicity or other media, such as previously claimed, which has at least two viewer receptacles wherein the different movements of liquid may be observed, each viewer receptacle is connected with its respective image.
13. An apparatus to be used in publicity or other media, such as previously claimed, wherein the movements of liquid are carried out behind the illuminated image, the plain and transparent surface is sandwiched between the image and the movements of liquid.
14. An apparatus to be used in publicity or other media, such as previously claimed, wherein the image is moved by means of electromechanical means.
15. An apparatus to be used in publicity or other media, such as previously claimed, wherein the image moves by means of the impulsion of liquid and air.
16. An apparatus to be used in publicity or other media, such as previously claimed, wherein magnets are moved in the rear area of the image by means of electromechanical means located behind the image and these movements are reproduced in front of the image, within the viewer receptacle containing the liquid.
17. An apparatus to be used in publicity or other media, as claimed in claim 1, wherein the image is hollow and rotates about its vertical axis being illuminated from the inside, the apparatus comprises an electropump that raises the liquid absorbed from the deposit, located in the inferior sector of the image up to the fixture located in the upper sector of the image, meanwhile, the liquid flows in front of a plain and transparent surface which lines the image up to a sector communicated with the lower internal deposit; carrying out the recirculation of water.
18. An apparatus to be used in publicity or other media, as claimed in claim 1, wherein the illuminated image is combined with the movements of liquid carried out outside the visual area of the image, linking the image with the viewer receptacle by means of the flow of liquid; said apparatus comprises at least one electropump to recirculate the liquid, the recirculation is performed absorbing the liquid from the viewer receptacle and raising it up to the image.
19. An apparatus to be used in publicity or other media, as claimed in claim 18, wherein the image adopts the shape of the product to be exhibited, being illu-

minated from the inside on a continuous basis and connected to the viewer receptacle by means of the flow of illuminated liquid.

20. An apparatus to be used in publicity or other media, as claimed in claim 18, wherein the illuminated image is combined with the movements of liquid flowing within the plain and transparent conduits, connecting the image with the receptacle by means of the conduits and the liquid flowing inside; said conduits are illuminated in the inner part. 5
21. An apparatus to be used in publicity or other media, as claimed in claim 18 and 19, wherein the illuminated image is combined with movements of liquid performed in the visual area of the image inside a transparent viewer receptacle and they are connected with other viewer receptacle by means of the flow of liquid. 10
22. An apparatus to be used in publicity or other media, as claimed in claims 18, 19, 20 and 21, which has a system that continuously illuminates the flow connecting the image with the receptacle. 15
23. An apparatus to be used in publicity or other media, as claimed in claims 18, 19, 20, 21 and 22, wherein the the illuminated translucent image is connected with a receptacle and said receptacle in turn is connected with at least another receptacle from which the electropump will pump the liquid to carry out the recirculation. 20
24. An apparatus to be used in publicity or other media, as claimed in claims 18, 19, 20, 21, 22 and 23, wherein the viewer receptacle is illuminated, rotates and has images. 25
25. An apparatus to be used in publicity or other media, as previously claimed, which comprises rolled up images which are shown each at a time, behind the viewer receptacle. 30
26. An apparatus to be used in publicity or other media, as previously claimed, wherein the movement of images is carried out within the visual area of another fixed image. 35
27. An apparatus to be used in publicity or other media, as previously claimed, wherein the final section of the conduit supplying liquid ends in any sector of the illuminated translucent image. 40
28. An apparatus to be used in publicity or other media, as previously claimed, wherein elements located within the viewer receptacle are moved inside the visual area of the image by means of electromechanical devices located behind the image. 45

29. An apparatus to be used in publicity or other media, as previously claimed, wherein suitable devices move the fluid and by means of said fluid the elements inside the viewer receptacle move on a free basis. 50

30. An apparatus to be used in publicity or other media, as previously claimed, wherein the distribution unit and the final section of the conduit supplying liquid to the viewer receptacle are displaced by mechanical and electric means located behind the image. 55

31. An apparatus to be used in publicity or other media, as previously claimed, wherein images are animated by means of programmed electronic means.

32. An apparatus to be used in publicity or other media, as previously claimed, wherein images are intermittently illuminated.

33. An apparatus to be used in publicity or other media, as previously claimed, which comprises a sound system to provide music and publicize the images of the products being exhibited.

Fig. 2

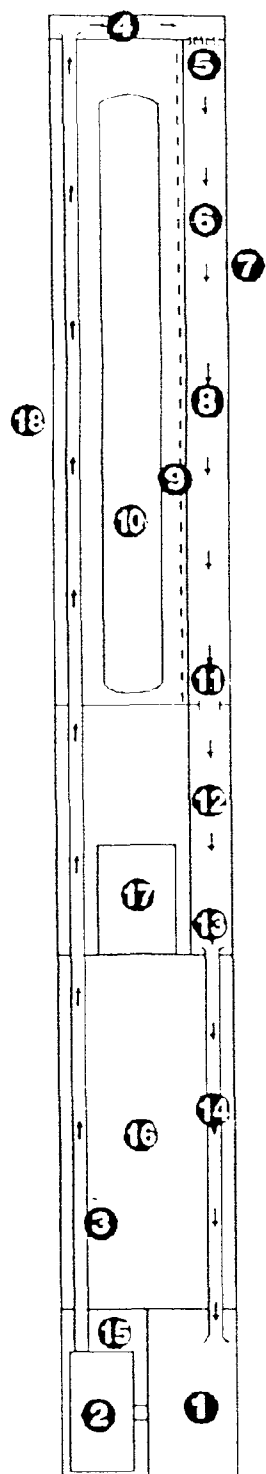


Fig. 1

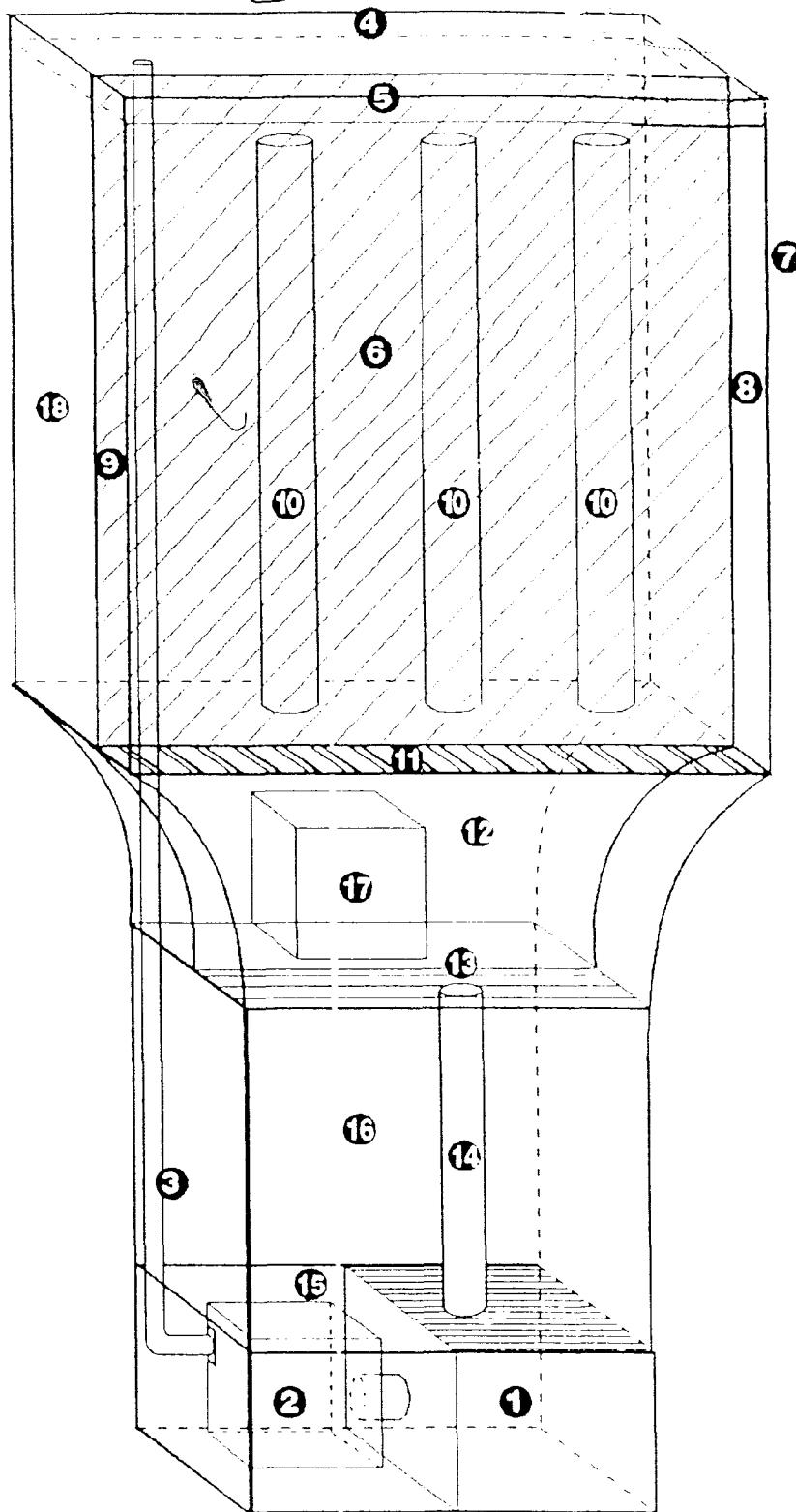


Fig. 3

