July 19, 1938. L. J. CARRIVEAU 2,123,932

ACTIVATED DISPLAY DEVICE

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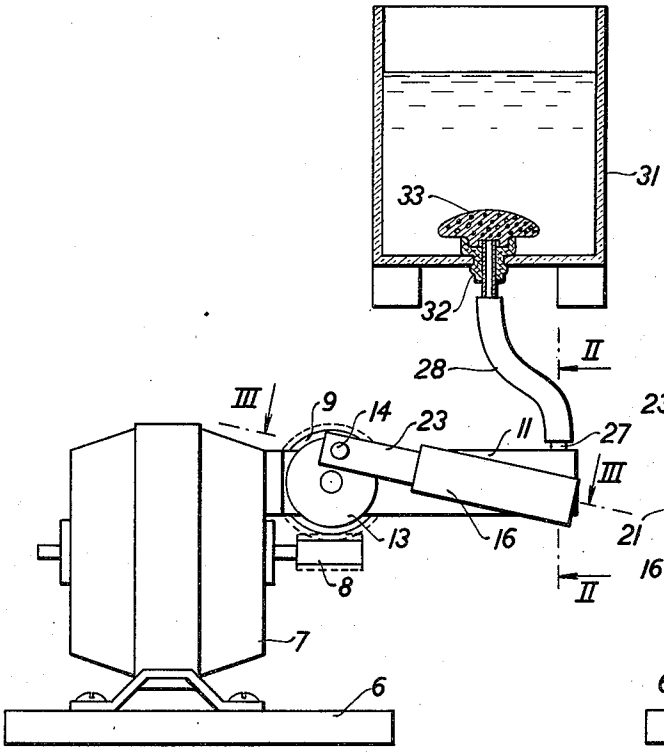


Fig. 1.

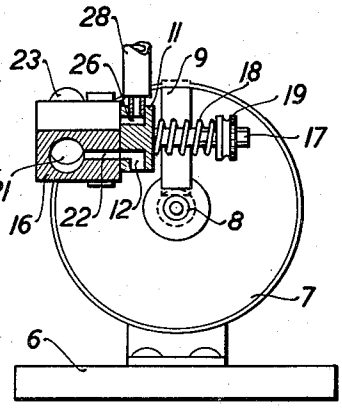


Fig. 2.

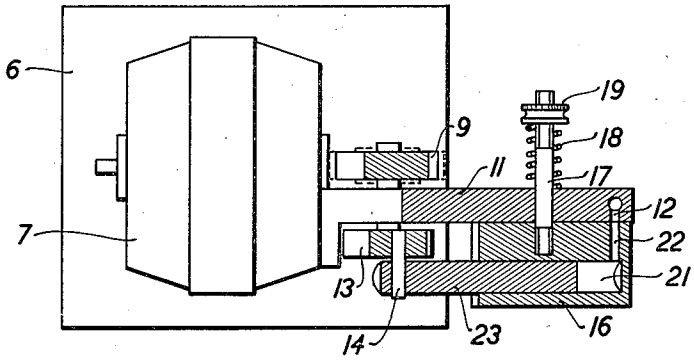


Fig. 3.

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ACTIVATED DISPLAY DEVICE

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3 Claims. (Cl. 40—126)

This invention relates to improvements in advertising and display devices and more particularly to such devices as are adapted to simulate the effervescence of a gas-charged beverage or of a medicinal preparation which releases a gas.

Advertising and display devices for present-day use are deficient in their action in attracting the attention of the general public unless activated to provide a moving exhibit by which the curiosity of any observer is aroused. Such activated device, to be fully effective, should be so constructed as to display the actual action which takes place in the article being advertised. When such article is a beverage or a medicinal preparation which releases gas bubbles prior to or during its use, it is however impossible to employ the beverage or other preparation itself even with continuous replenishment of the gases in the beverage or of the preparation for the reason that the appearance, and often the physical state itself, of the materials are changed by the gas release or formation.

Various means have been proposed heretofore by which air or other gases have been supplied to a beverage or medicinal preparation to be advertised by showing the release of gas bubbles therefrom. Such devices have however failed in their purpose for the reason that the means by which the gas bubbles were distributed in the beverage or medicinal preparation were seen to be clearly artificial, even upon a very casual inspection, in that such means did not provide for the apparently natural accumulation, formation, and release of bubbles of gas.

It is therefore among the objects of the present invention to provide an activated device for displaying and advertising a beverage or medicinal preparation from or in which gas bubbles are released prior to or during the use of such beverage or preparation.

Another object of the invention is to provide a device for advertising and displaying an effervescent beverage or medicinal preparation in which the gas bubbles to be released are so distributed throughout the beverage or preparation as to simulate the natural accumulation, formation, and release of gas bubbles therein.

Another object of the invention is to provide a device for advertising and displaying an effervescent beverage or medicinal preparation in which the gases to be released are supplied to a block, plate, or cylinder of an artificial or natural, and preferably inorganic and insoluble, material which is obtainable in or can be readily worked into any shape and which is porous but without continuous channels therethrough, in order that gas applied to one surface of such material may pass therethrough to accumulate in bubbles at irregular spacings and without appearing in any constant cycle on such material.

Objects and advantages other than those above set forth will be apparent from the following description, when read in connection with the accompanying drawing, in which;

Figure 1 is a view, partially in elevation and partially in section, of a mechanism for producing and supplying air under pressure to a container for advertising and displaying an effervescent beverage or medicinal preparation;

Figure 2 is a partially elevational and partially cross-sectional view taken on the plane II—II, in the direction of the arrows, of Fig. 1, to illustrate the construction of the pump for producing the air pressure required, and of the means for driving the pump; and

Figure 3 is a partially elevational and partially cross-sectional view taken on the plane III—III of Fig. 1, in the direction of the arrows, to further illustrate the construction of the pump for producing the air pressure and particularly to illustrate the connection of the pump with its driving means.

It will be understood that the container for the beverage or medicinal preparation to be displayed is located on or in a suitably designed and decorated cabinet or stand provided with an inclosed compartment for concealing and retaining the mechanism for supplying air under pressure to the displayed container.

Referring more particularly to the drawing by characters of reference, the reference numeral 6 designates a suitable base on which is mounted a driving means herein shown as an electric motor 7 having a worm 8 formed or mounted on the shaft thereof. The worm engages a worm wheel 9 which is rotatably mounted in a bracket 11 extending from the frame of the motor 7. The bracket is formed with an aperture and a connecting passage 12 open to the atmosphere. A crank disk 13 is mounted on the spindle of worm wheel 9 for rotation therewith and is provided with a pin 14 eccentrically mounted on the disk, thus completing the driving means for the air pump.

The air pump comprises a block 16 pivotally mounted on a pin 17 extending through the bracket 11 and held closely against the side of such block by a spring 18 compressed between the block and an adjusting nut 19, thus retaining the bracket and pump block in close contact

regardless of the wear of the contacting surfaces. The pump block is bored to provide a cylinder 21 and is provided with a passageway 22 therethrough, extending from the cylinder and so located as to be in registry with the passageway 12 when the pump block 16 is in a predetermined position. A piston 23 is fitted into cylinder 21 and is pivotally connected with the crank pin 14.

The bracket 11 is provided, in addition to the passageway 12, with a second passageway 26 therethrough, into which is connected a nipple 27. A piece of tubing 28, which is preferably flexible, is connected with the nipple and is led, in fluid-tight relation, through the bottom or side of a container 31 for the effervescent material to be displayed. The end of the tubing is provided with a socket 32 or other suitable means for receiving or for connection to a block or plate 33 of porous material. The material 33 is preferably either a piece of porous mineral or a ceramic product which is porous. It is important that the material be insoluble in order that passage of gas through the pores shall not be able to form a direct channel, thus retaining the ability of allowing only a diffused flow of gas therethrough, rather than a direct flow which would prevent the slow formation of bubbles at irregular spacing and without occurrence in a predetermined cycle over the surface of the material 33, and their release from such surface in the manner of the natural formation of gas bubbles from a solid going into solution with the release of gas bubbles into such solution. It is also important that the material 33 be readily procurable in or workable into the shape of plates, cylinders, etc., or into the shape of lozenges or tablets to simulate a medicinal preparation produced in such form. Suitable materials have been found to include unglazed ceramics, silicon carbide in the form known to the trade as "carborundum", and a number of natural sandstones and soapstones.

In operation, energization of the motor 7 drives the worm wheel 9 which rotates disk 13. The rotation of the disk 13 and pin 14 mounted therein causes reciprocation of the piston 23 in the cylinder 21. The piston 23 being made of a single bar or rod and simply pivotally connected with crank pin 14, reciprocation of the piston causes oscillation of cylinder block 16 about its pivot 17. Such oscillation causes registry of cylinder block passageway 22 with port and passageway 12 when the piston 23 is moving out of cylinder, thus causing a flow of air at atmospheric pressure into the cylinder. When the piston starts to move into the cylinder, the cylinder block 16 is oscillated to cause registry of cylinder block passageway 22 with the bracket passageway 26 whereby air is forced, under a slight pressure above atmospheric pressure, through tubing 28 and through the pores of block 33, from the upper surfaces of which such air escapes in the form of bubbles.

Although but one embodiment of the present invention has been illustrated and described herein, it will be apparent that various changes and modifications may be made without departing from the spirit of the invention or from the scope of the appended claims.

What is claimed and desired to secure by Letters Patent is:

1. A display device comprising a container for a fluid, a source of a gas under pressure, a tube extending from said source of gas into said container, and a solid block of porous material within said container and having one end of said tube connected with one surface thereof to diffuse gas through the pores of said block from all surfaces thereof into the liquid in said container, said block being shaped and marked to simulate an effervescent object to be displayed.

2. A display device comprising a container for a fluid, a source of gas under pressure, a tube extending from said source of gas into said container, and a block of sandstone shaped and marked to simulate a tablet of a solid material effervescent when dissolving, said block having one surface thereof connected with said tube to diffuse gas from the other surfaces of said block into the liquid in said container.

3. A display device comprising a container for a liquid, a source of gas under pressure, a tube extending from said source of gas into said container, and a block of silicon carbide arranged in said container and shaped and marked to simulate a gas producing object to be displayed, one surface of said block being connected with said tube to provide gas for diffusion into the liquid from the other surfaces of said block.

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