April 26, 1932. H. LANDO 1,855,522

DISPLAY DEVICE

Filed Oct. 27, 1931 2 Sheets-Sheet 1

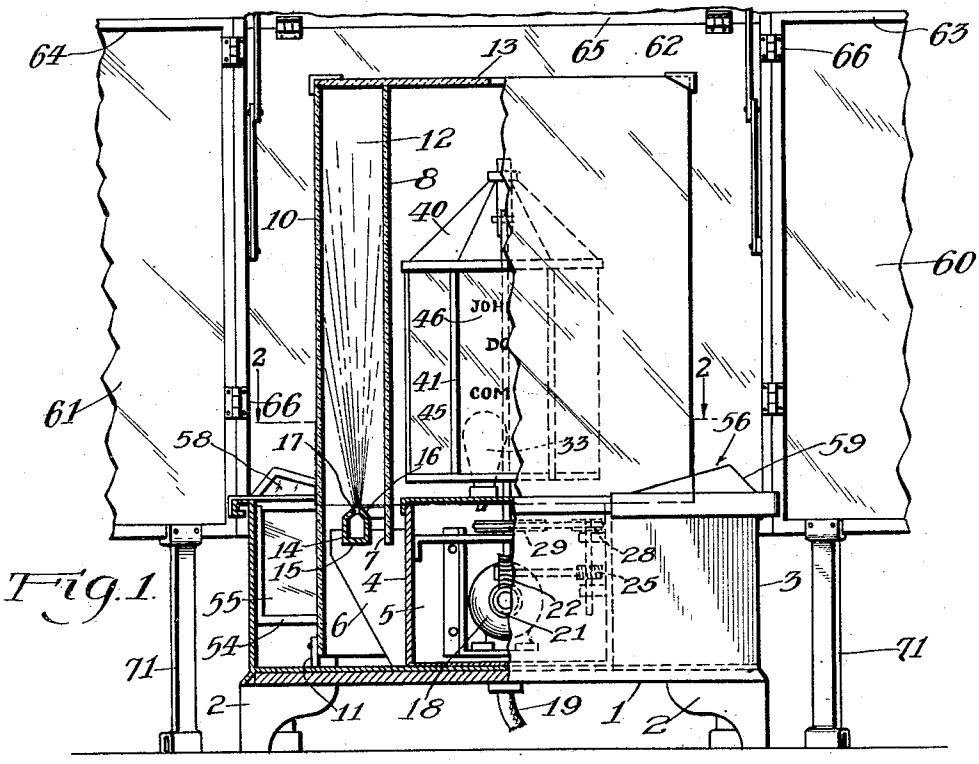


Fig. 1.

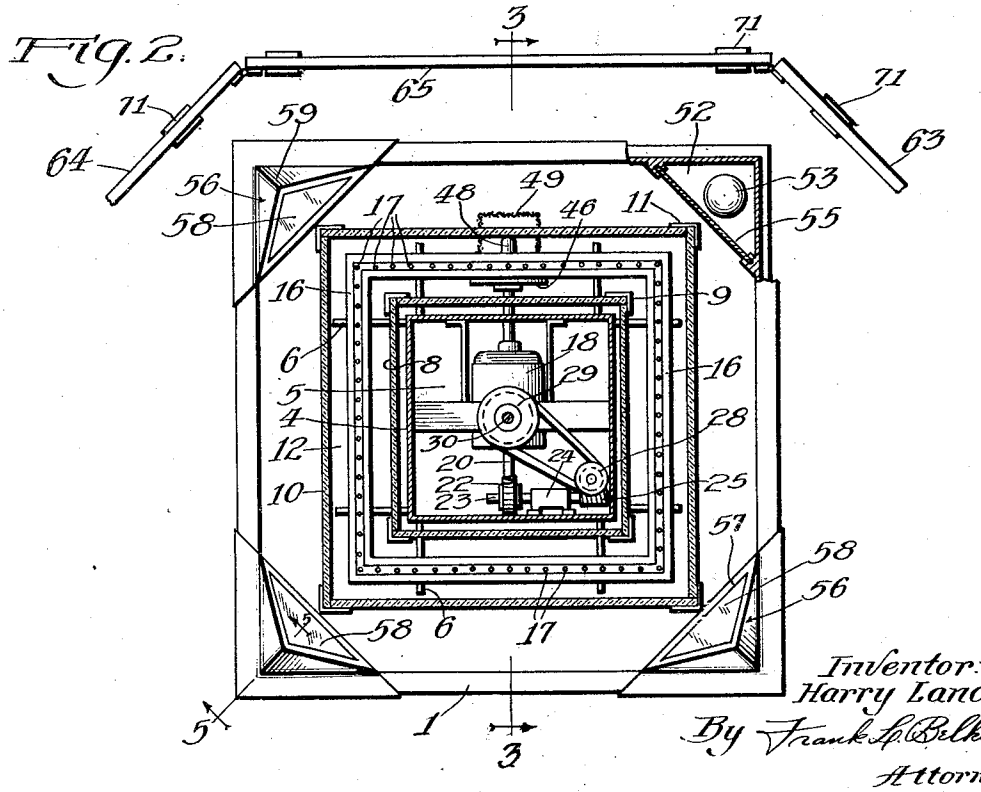


Fig. 2.

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Fig. 3.

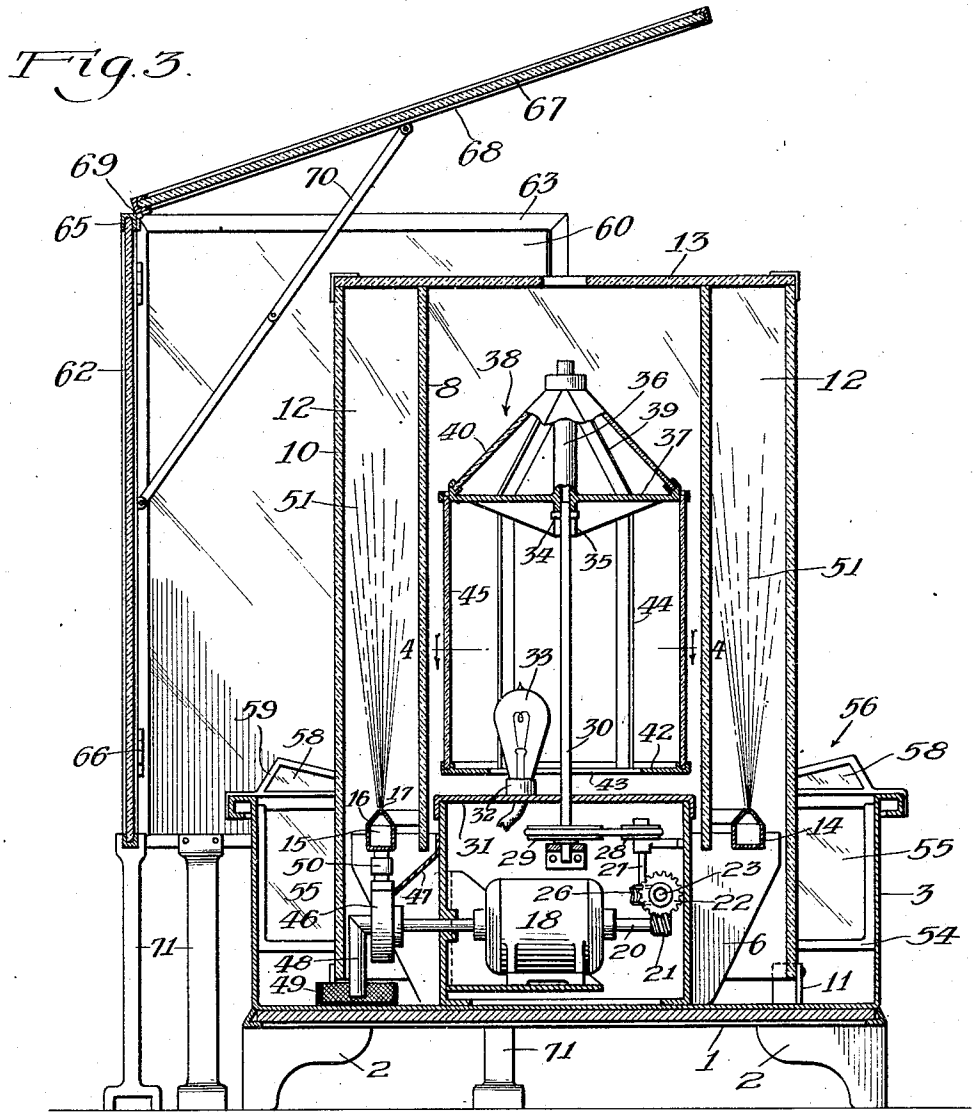


Fig. 4.

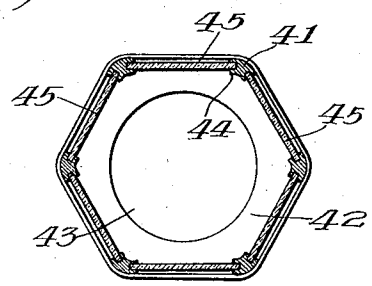
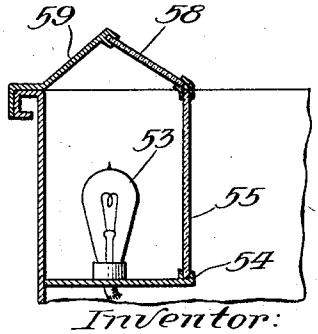


Fig. 5.



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UNITED STATES PATENT OFFICE

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DISPLAY DEVICE

Application filed October 27, 1931. Serial No. 571,401.

This invention relates to improvements in display devices and refers specifically to the provison of a moving or stationary display plate or sign surrounded or substantially surrounded by a miniature fountain upon which colored lights may play to lend attractiveness to the display plate or sign.

The utility, objects and advantages of my invention will be apparent from the accompanying drawings and following detail description.

In the drawings, Fig. 1 is a front elevational view, parts being broken away and parts being shown in section, of my advertising device.

Fig. 2 is a plan, sectional view of the device taken on the line 2—2 of Fig. 1.

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a sectional view of the advertising sign taken on the line 4—4 of Fig. 3.

Fig. 5 is a sectional view of one of the illuminating compartments taken on the line 5—5 of Fig. 2.

Referring in detail to the drawings, 1 indicates a base which may be supported by a plurality of legs 2. The base 1, in turn, may serve as a support for a container 3 which may be made of metal or the like and may be so constructed as to be liquid tight. The container 3, although shown as having a square plan section, may be constructed in any desired shape, for instance, said container may be so constructed as to have a circular or oval plan section.

A second container 4 may be disposed within the container 3 and the construction of container 4 may be such as to prevent the liquid in the container 3 from flowing into the compartment 5 formed by the container 4. If desired, the walls of the container 4 may be constructed of metal and may be welded, soldered or otherwise suitably secured to the bottom of the container 3.

The walls of the inner container 4 may carry a plurality of wings or brackets 6 which may extend outwardly from the outer surface of said walls. The upper portion of each of the brackets 6 may be provided with a slot 7 into which a glass plate 8 may be positioned. In this arrangement it can be seen that the glass plates 8 mounted upon the upper portions of the brackets form a parallelopiped, the longitudinal axis of which may coincide with the center line of both the containers 3 and 4. The longitudinal edges of the plates 8 may be fastened together by means of angle members 9 which may be adapted to maintain the plates 8 as a unitary structure.

A second series of glass plates 10 may be positioned parallel to the planes of the plates 8 and may be so arranged as to form a larger parallelopiped whose center line may coincide with the center line of the parallelopiped formed by the plates 8. In like manner the abutting edges of the plates 10 may be joined together by means of angle members 11 so as to maintain the plates 10 as a unitary structure. In assembling my device, the plates 10 forming the larger parallelopiped may be mounted upon the bottom of the container 3 in such a manner as to provide a space 12 between each of the plates 8 and each of the respective plates 10. A cover 13, constructed of glass, may be positioned over the glass plates 8 and 10 so as to form a closure for the compartments formed by said plates.

It is to be understood, of course, that I do not wish to be limited to the particular plan sectional shape of the compartments formed by the walls 8 and 10 inasmuch as said plates may take any desired form, for instance, they may be cylindrical and the compartment surrounded by the inner plate may be cylindrical whereas the compartment corresponding to the space 12 may be annular. In addition, it is to be understood that I do not wish to be limited to the use of glass in the construction of the walls 8, 10 and 13 inasmuch as the same may be constructed of mica, celluloid or any other transparent material.

The upper portion of each of the brackets 6 may be provided with notches 14 into which conduits 15 may be positioned. The disposition of the conduits 15 may be such that they are spaced midway between the plates 8 and 10 within the compartments 12. The upper portions of the conduits 15 may be angularly shaped as shown at 16 in Fig. 1 and the apex

of said upper portion formed by the inclined sides 16 may be provided with a plurality of uniformly spaced apertures 17, the purpose of which will be hereinafter more fully described.

A motor 18 may be mounted within the compartment 5 and may be connected to a source of electric current not shown, by means of conduit 19. One end of the motor shaft 20 may be provided with a worm gear 21 which may mesh with worm wheel 22 mounted upon shaft 23 which, in turn, may be journalled within bearing 24 positioned upon the inner side of one of the walls of the compartment 5. A worm gear 25 may be mounted upon the opposite end of the shaft 23 and may in turn be adapted to engage worm wheel 26 positioned upon vertically disposed shaft 27. A pulley 28 may be carried at the upper end of the shaft 27 and may be operatively connected to pulley wheel 29 positioned upon the lower end of shaft 30 which may extend upwardly into the compartment formed by the plates 8. A removable closure 31 may be mounted over the open top of the compartment 5 and as can readily be seen shaft 30 may extend through the central portion of said closure.

An electric light socket 32 may be mounted upon the upper surface of the closure 31 and may be adapted to carry an electric bulb 33 which may be positioned adjacent shaft 30.

A cross bar 34 may be positioned at the upper end of the shaft 30 and may be adapted to engage in diametrically opposite slots 35 provided in the lower end of the rod 36. A plate 37 may be mounted upon an intermediate portion of the rod 36 and may form the base of a conical or pyramidal frame 38 comprising a plurality of connecting members 39. If desired, the members 39 may support a plurality of mirrors 40, which when positioned upon the members 39 form a pyramidal or conical mirrored roof.

The plate 37 may also support a plurality of downwardly extending frame members 41 which may be connected at their lower ends to an annular disk 42. The disk 42, when the rod 36 is positioned upon the cross member 34 will be positioned adjacent the closure 31 of the compartment 5 and due to the provision of the central opening 43 within the disk 42, the electric bulb 33 may extend upwardly into the interior of the body formed by the vertically extending members 41. Each of the members 41 may be provided with longitudinal slots 44 into which plates 45 may be removably positioned. As a feature of my invention the plates 45 may be formed of glass, celluloid or the like, and may be provided, on their faces, with advertising matter 46. As shown, the body formed by the members 41 and plates 45 may be polygonal or said body may be cylindrical in which case the plates 45 would be replaced by curvilinear plates, not shown.

It can readily be seen that when the motor 18 is energized, the same will rotate the shaft 30 and hence the body formed by the members 41 and plates 45. By the provision of the gears 21, 22, 25, 26 and the pulley wheels 28 and 29, the shaft 30 will be driven at a reduced speed. The arrangement is such that the body will rotate relatively slowly so that an observer may be able to read the advertising matter upon the plates 45.

The opposite end of the motor shaft 20 may carry the blades, not shown, of a rotary pump 46, the body of which may be supported by the housing 47 which, in turn, may be mounted upon one side of the container 4. The intake 48 of the pump 46 may be positioned adjacent the bottom of the container 3 and the inlet end thereof may be surrounded by a screen 49 which may prevent solid material from being drawn into and fouling the pump. The discharge 50 of the pump 46 may connect into the conduit 15. It can readily be seen that when a quantity of water is maintained within the container 3 and the motor 18 is operated said water will be drawn up through the intake 48 and passed under pressure to the conduit 15. By the provision of the openings 17 in the upper portion of the conduit 15 a plurality of jets 51 of water may be sprayed upwardly in the space between glass plates 8 and 10. The water from the jets 51 may return to the lower portion of the container 3 and may again be pumped through the pump 46 and into the conduit 15, in other words, a complete circulating system is provided.

To lend attractiveness to the display, a plurality of compartments 52 may be disposed adjacent the outer surfaces of the plates 10. In the construction shown, said compartments may occupy the corners of the container 3.

It is to be understood, however, that inasmuch as my invention is not limited to the particular geometrical shape of container shown, the compartments 52 may be disposed at any desired portion of the container depending upon its shape. An electric bulb 53 may be positioned within each of the compartments 52 and said bulb may be positioned above the surface of the water within the container 3 as shown at 54 in Fig. 1. A glass plate 55 may be disposed between the bulb 53 and the plates 10 and may be colored, if desired, so as to cast colored rays of light upon the fountain structure. A removable closure 56 may be positioned over the compartment 52. The closure 56 may be provided with an opening 57 in which a glass plate 58 may be positioned. The plate 58 may be disposed at an angle to the horizontal as shown best in Fig. 5 so that the light from the bulb 53 may be directed upwardly at an

angle to the sprays or jets 51. The frame portion of the closure 56 may be angularly upraised as shown at 59 in Fig. 5, and the inner sides of said frame portion may be silvered so as to provide a reflecting surface. By this arrangement a maximum of light will be directed upwardly at an angle to the jets 51. If desired, the plates 58 may be colored in such a manner as to provide contrasting colors to those given off by the plates 55. By this arrangement the jets or sprays 51 will be brilliantly illuminated with extremely attractive colored rays.

To intensify the lighting effects upon the fountain, a plurality of angularly disposed mirrors 60, 61 and 62 may be positioned behind the fountain structure. The mirrors, 60, 61 and 62 may be positioned within frames 63, 64 and 65 respectively which may be joined together by means of hinges 66, so that the planes of the mirrors relative to each other may be adjusted to obtain a most desirable setting. In addition, a mirror 67 may be angularly disposed above the fountain, said mirror being positioned within a frame 68 which, in turn, may be hinged to the upper portion of the frame 65 as shown at 69 in Fig. 3. To maintain the mirror 67 in desired position above the fountain, foldable brackets 70 may connect opposite sides of the frame 68 and the frame 65. The frames 63, 64 and 65 may be supported by means of suitable legs 71.

In operation, a quantity of water may be placed in the container 3, the level thereof being preferably below the bottom of the compartment 52 as shown at 54 in Fig. 1. By observing this precaution, danger of short circuiting of the electric wires to the bulbs 53 will be eliminated. The motor 18 may be energized and the bulbs 53 and 33 may be illuminated. As has been hereinbefore described, a plurality of jets or fountains will be sprayed upwardly between the walls 8 and 10 of the two coaxially disposed parallelopipeds. By this arrangement the water will be prevented from spraying the adjacent surroundings external to the fountain itself and also will be prevented from wetting the advertising display mounted upon the shaft 30. In addition, the air adjacent the device will be prevented from becoming unduly humidified.

By the provision of the rotating cage comprising the members 41, a plurality of advertising plates 45 may be prominently displayed in conjunction with the fountain. The members 41 are so constructed that the plates 45 may be readily changed, thereby adapting the device to the advertising of periodic sales or the like or the displaying of restaurant menus.

The bulb 33, positioned within the cage, casts its rays through the plates 45 and attractively illuminates said plates. In addition, to lend further attractiveness the sprays or jets 51, comprising the fountain, may be illuminated with colored lights from the bulbs 53 projecting their rays through the colored plates 55 and 58. Further, by the provision of the mirrors 60, 61, 62 and 67, the effectiveness of the colored lights upon the sprays or jets is increased. Hence, it can be seen that, the combination of the revolving illuminated plates, the sprays or jets comprising the fountain, the colored lights playing upon the sprays and the reflective ability of the mirrors all tend to add effectiveness and attractiveness to the advertising device.

To lend further attractiveness to the device, a circuit breaker or "flasher" not shown, may be interposed in the electric circuit leading to the bulb 33 by which means said bulb may be alternately illuminated and extinguished. In this manner the plate 45 surrounding the illuminating source 33 will be rendered most attractive and will readily catch the attention of an observer. If desired, a circuit breaker or "flasher" may be interposed in the circuits of the lights 53 in which case said lights may be collectively or individually illuminated and extinguished. The circuit breakers and flashers in the circuits of the lights 53 and light 33 may be so timed as to illuminate said lights simultaneously or said lights may be alternately illuminated, that is, the light 33 may be illuminated while the circuit breakers may act to extinguish the lights 53 and vice versa, or the circuit breakers may be so arranged as to simultaneously illuminate the lights 53 and the light 33 and extinguish the same simultaneously in periodic relationship.

Furthermore, the plates 45 instead of embodying advertising material may comprise an artistic or decorative picture or design in which case the device as a whole may be utilized for home decorative purposes in conservatories, hotel lobbies or the like.

I claim as my invention:

1. A display device comprising in combination, a plurality of display plates, a transparent housing around said plates, a second transparent housing circumscribing and spaced from said first mentioned housing, a conduit within said space between said housings provided with a plurality of apertures, and means for passing fluid under pressure into said conduit and thereby discharging said fluid through said apertures in the form of a fountain.

2. A display device comprising in combination, a rotatable display frame, a plurality of display plates removably mounted upon said frame, a transparent housing surrounding said frame, a second transparent housing circumscribing and spaced from said first mentioned housing, a conduit within said space provided with a plurality of apertures, and means for passing fluid under pressure into

said conduit thereby discharging said fluid through said apertures in the form of a fountain.

3. A display device comprising in combination, a display frame, a plurality of display plates removably mounted upon said frame, a transparent housing circumscribing and spaced from said first mentioned housing, a conduit within said space provided with a plurality of apertures, and means for passing fluid under pressure into said conduit thereby discharging said fluid through said apertures in the form of a fountain.

4. An advertising display device comprising in combination, a rotatable display frame, a plurality of advertising plates removably mounted upon said frame, means for illuminating said display plates, a transparent housing surrounding said display frame, a second transparent housing circumscribing and spaced from said first mentioned transparent housing, a conduit disposed in said space between said transparent housing, said conduit being provided on its upper surface with a plurality of apertures, means for passing liquid under pressure into said conduit and discharging said liquid upwardly into said space in the form of a fountain.

5. An advertising display device comprising in combination, a rotatable display frame, a plurality of advertising plates removably mounted upon said frame, means for illuminating said display plates, a transparent housing surrounding said display frame, a second transparent housing circumscribing and spaced from said first mentioned transparent housing, a conduit disposed in said space between said transparent housing, said conduit being provided on its upper surface with a plurality of apertures, means for passing liquid under pressure into said conduit and discharging said liquid upwardly into said space in the form of a fountain, and means for illuminating with lights of a plurality of colors the fountain formed by the discharge of said liquid.

6. An advertising display device comprising in combination, a rotatable display frame, a plurality of advertising plates removably mounted upon said frame, means for illuminating said display plates, a transparent housing surrounding said display frame, a second transparent housing circumscribing and spaced from said first mentioned transparent housing, a conduit disposed in said space between said transparent housing, said conduit being provided on its upper surface with a plurality of apertures, means for passing liquid under pressure into said conduit and discharging said liquid upwardly into said space in the form of a fountain, means for illuminating with lights of a plurality of colors the fountain formed by the discharge of said liquid, and means external to said housing for reflecting the light rays playing upon said fountain in a plurality of directions.

7. In combination, a liquid tight container having an open upper portion, a second liquid tight container disposed within said first mentioned container, a display frame mounted above said second container, a plurality of display plates removably mounted upon said display frame, means within said second mentioned container for rotating said display frame, a transparent housing surrounding said display frame, a second transparent housing circumscribing and spaced from said first mentioned housing, a conduit disposed within the space between said housing, said conduit being provided with a plurality of apertures, means within said first mentioned container for passing water from said container under pressure into said conduit in the form of a fountain, said space between said housing being in open communication with the first mentioned container whereby the water discharged from the conduit may return to said container.

8. In combination, a container having an open top, a fluid tight compartment within said container, a display frame positioned above said compartment, a plurality of display plates removably mounted upon said frame, means within said compartment for rotating said display frame, means for illuminating said display plates, a plurality of brackets extending outwardly from the walls of said compartment, a transparent housing mounted upon said brackets and surrounding said display frame, a second transparent housing circumscribing and spaced from said first mentioned housing, a conduit positioned within said space and mounted upon the upper portion of said brackets, said conduit being provided with a plurality of apertures, and means for passing fluid under pressure into said conduit whereby said fluid discharges through said apertures into the space between said housing in the form of a fountain.

9. In combination, a container having an open top, a fluid tight compartment within said container, a display frame positioned above said compartment, a plurality of display plates removably mounted upon said frame, means within said compartment for rotating said display frame, means for illuminating said display plates, a plurality of brackets extending outwardly from the walls of said compartment, a transparent housing mounted upon said brackets and surrounding said display frame, a second transparent housing circumscribing and spaced from said first mentioned housing, a conduit positioned within said space and mounted upon the upper portion of said brackets, said conduit being provided with a plurality of apertures, means

for passing fluid under pressure into said conduit whereby said fluid discharges through said apertures into the space between said housing in the form of a fountain, and means for directing rays of light at an angle to the fluid discharging from said conduit.

In testimony whereof I affix my signature.

HARRY LANDO.