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R. M. SHERRILL

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DISPLAY DEVICE

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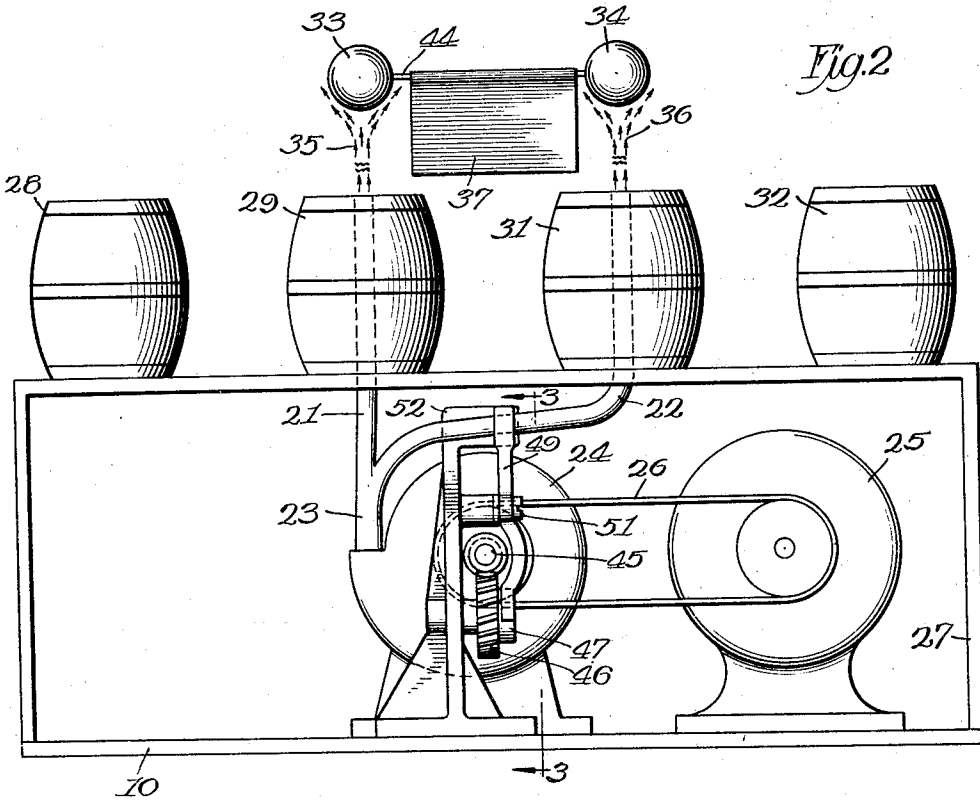


Fig. 2

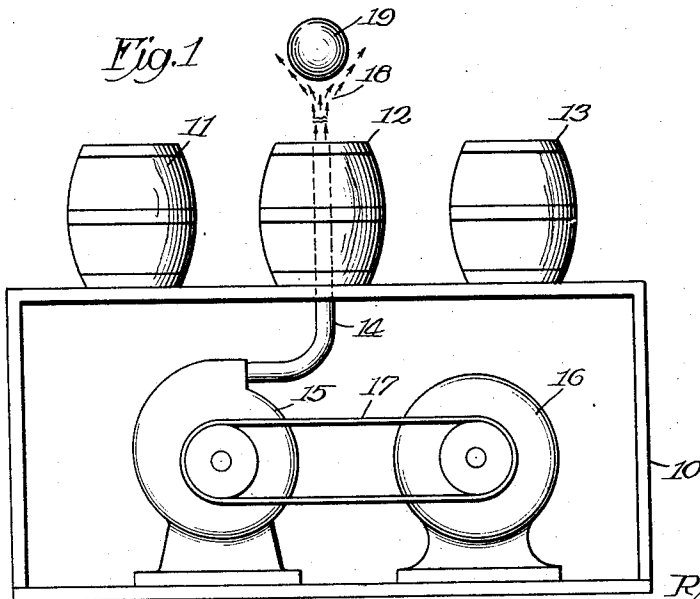


Fig. 1

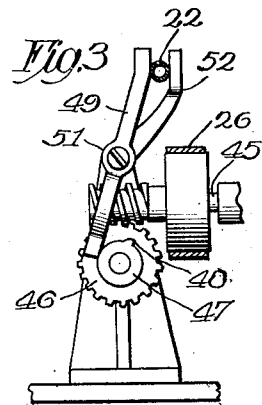


Fig. 3

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UNITED STATES PATENT OFFICE

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DISPLAY DEVICE

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This invention relates to display devices.

The principal object of the invention is the provision of a new and improved display device that is provided with one or more moving elements operated in a novel manner.

Another object of the invention is the provision of a new and improved display device that is provided with moving parts which are operated by means possessing an element of mystery to the uninitiated.

A further object of the invention is the provision of a new and improved display device that is cheap to manufacture, easily assembled, attractive in appearance, mysterious in operation, and one in which the movements of the display elements are such as to attract the attention and arouse the curiosity of the passer-by.

Other and further objects and advantages of the invention will appear from the following description taken in connection with the accompanying drawings, in which

Fig. 1 is a side elevation of the device with the front wall of the cabinet or casing removed;

Fig. 2 is a similar view showing a modified form of the construction; and

Fig. 3 is a fragmentary section on line 3—3 of Fig. 2.

The invention is adapted to be used principally as a display device to attract the attention and excite the interest and curiosity of the public, for advertising purposes. The outstanding feature of the device is based on the principle that a light spherical body may be supported in an upwardly moving fluid stream and caused to remain suspended therein by air pressure and the action of the moving fluid.

In the form of the device selected to illustrate one embodiment of the invention, a cabinet or casing 10 is employed on which is mounted a plurality of objects which, in the present instance, represents miniature barrels, 11, 12 and 13. These objects may be made

to represent any appropriate device or image.

In the simplest form of the device, as disclosed in Fig. 1, a conduit 14 extends upwardly within the middle object 12. The conduit is shown as being fixed and directed vertically upward, although if desired it may be directed at an incline or moved about in any desirable manner. The conduit is concealed by the casing 10 and central object 12. The lower end of the conduit is connected to a pump for forcing a fluid through the same. For the purpose of disclosing one embodiment of the invention, a mechanism for utilizing air as the operating fluid is shown on the drawing, although it is understood that other fluids and operating devices may be employed. In the form of the device shown, the fluid pump is in the form of a fan or blower 15, and will be so designated throughout the description. The lower end of the conduit 14 is connected to the exhaust of a fan or blower 15 which is adapted to be operated by a motor 16 through the driving connection 17 in the usual or any well known manner.

The blower 15 discharges a continuous blast or stream of air upwardly through the central object as indicated at 18 in Fig. 1.

A light ball 19 of any suitable material as celluloid, if placed over the upper end of the conduit 14, will be blown upward by the air stream and will be held suspended apparently in midair. The air current will flow past the ball or object 19 on all sides in the form of an inverted cone. The upward movement of the air reduces the pressure at the apex of the cone and the air pressure on the upper surface of the ball will prevent the stream of air from carrying the ball along with it, and hence the ball will remain suspended in the upwardly moving air current.

The operating mechanism is preferably though not necessarily concealed within the cabinet; the upper end of the conduit is concealed within the central image 12, and

since the stream of air is not visible the suspension of the ball in mid-air above the object 12 is mystifying to the uninitiated and is calculated to attract and hold the attention of all classes of people.

In the form of the device shown in Fig. 2 a plurality of conduits 21 and 22 are employed. As shown, these conduits unite in the single trunk conduit 23 which is attached to the discharge outlet of the fan or blower 24. The blower 24 is operated in any suitable manner as by means of the motor 25 through the driving mechanism 26.

Mounted on the cabinet 27 which contains and conceals the blower are a plurality of images or objects which are made to simulate any desired devices as kegs or barrels 28, 29, 31 and 32, as in the construction shown in Fig. 1. As shown, the upper ends of the conduits 21 and 22 are concealed in the objects or images 29 and 31, respectively. During the operation of the device the balls 33 and 34 are supported in the upwardly moving air currents 35 and 36, respectively, in the manner previously described.

In order to render the construction more interesting and attractive, an object 37 such as a flag or a dollar bill or other object may be supported in any suitable manner by the balls 33 and 34. One convenient manner of supporting the object 37 is to suspend the same from a bar 44 which is connected at its ends to said balls.

In order to vary the display means may be employed to intermittently vary the flow of air through the conduits 21 and 22. As shown (see Fig. 3) means are provided for clamping the conduit 22 at intervals during the operation of the blower. Any suitable means may be employed for this purpose. In the form of the device shown, the blower shaft 45 is extended and is provided with a worm which is adapted to operate the gear 46 having the boss 47 thereon. The boss 47 is provided with a cam 48 which is adapted to engage the lower end of a clamping arm 49 pivoted as at 51 to the stationary clamping member or arm 52. The conduit 22 is adapted to be clamped by the upper end of the arm 49 against the stationary clamping member 52 to vary the amount of air flowing through said conduit.

The arm 49 is operated once during each rotation of the cam 48 as will be apparent from the disclosure in Fig. 3. If desired a plurality of cams may be provided on the boss 47. Preferably, though not necessarily, the parts are so arranged that the cam 48 will not cause the clamping arm 49 to completely collapse the conduit 22. The conduit 22 is preferably of rubber or some suitable collapsible material whereby the same will resume its normal condition after it has been clamped between the arms 49 and 52.

In the operation of the device the clamping

of the conduit 22 at intervals will cause the ball 34 to rise and fall intermittently, thus causing a movement of the image 37, all of which tends to arrest the attention and retain the interest of the observer.

While I have described the device as utilizing air as the moving fluid and a blower or fan as the mechanism for moving the fluid, it is understood that this is by way of example only, and that the invention is not so limited.

I claim as my invention:

1. In combination, a cabinet, a blower in said cabinet, a conduit for conducting the air from said blower, said conduit terminating in a plurality of branch outlets for conducting air to the exterior of said cabinet, a light object adapted to be supported in and by the stream of air issuing from each of said outlets, and a connecting member extending between said objects and supported thereby, said member being adapted to support advertising matter.

2. In combination, a blower, a conduit for conducting the air from said blower, said conduit terminating in a plurality of branch outlets, a light ball adapted to be supported in and by the stream of air issuing from each of said outlets, means for connecting said balls and a display member secured to and adapted to be supported by said means.

3. In combination, a cabinet, a blower within said cabinet, a conduit leading from said blower to the exterior of said cabinet for directing a solid stream of air outwardly therefrom, a light ball supported within said current, and means for automatically varying the force exerted by said stream of air on said ball for causing the same to rise and fall during the operation of said blower.

4. In combination, a support, an image mounted on said support, a blower, a conduit extending through said image for directing a current of air outward therefrom, a ball supported in said current, and means for intermittently varying the size of said current.

5. In combination, a support, a plurality of objects on said support, a blower, a conduit extending from said blower upwardly through each of said objects for directing currents of air upwardly from said objects, a light ball supported in each of said currents, a connecting member between said balls, a device supported by said member, and means for varying the amount of air flowing through one of said conduits for causing the corresponding ball to rise and fall.

6. In combination, a support, a plurality of conduits directed upwardly through said supports, a blower for delivering a stream of air through each conduit, a light ball supported in each of said streams, means for connecting said balls together and means to cause one of said balls to automatically rise and fall.

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7. In a display device, a cabinet, a blower
within said cabinet, a motor within said cabi-
net for operating said blower, an image on
said cabinet, a conduit extending upwardly
from said blower through said image,
5 through which air is forced by said blower,
and a light, spherical object supported above
said image in the air current from said
blower.

10 In testimony whereof I affix my signature.
RICHARD M. SHERRILL.

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