April 21, 1953 D. ROSENTHAL 2,635,384

DRINKING VESSEL WITH ANIMATED DISPLAY

Filed Feb. 1, 1949

2 SHEETS—SHEET 1

Fig. 3.

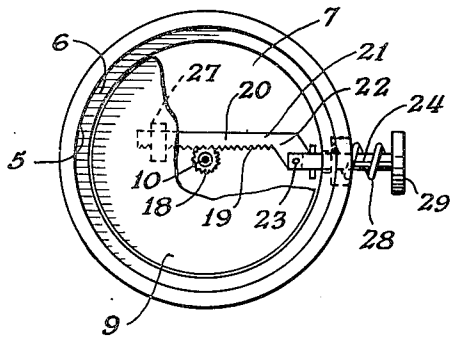


Fig. 2.

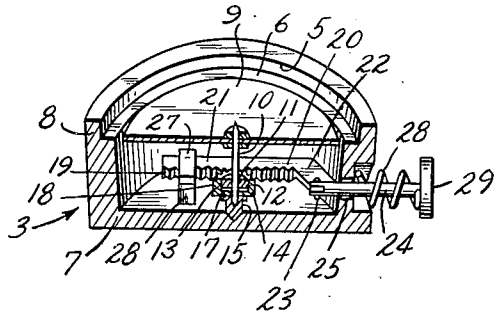
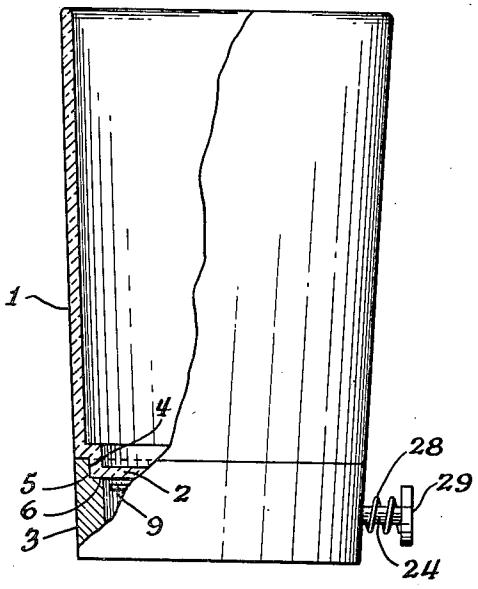


Fig. 1.



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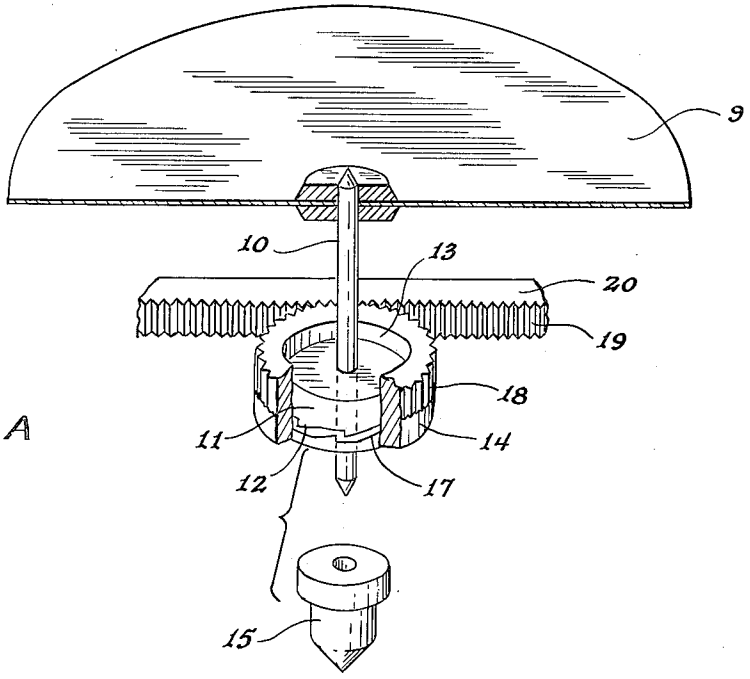


Fig. 2 A

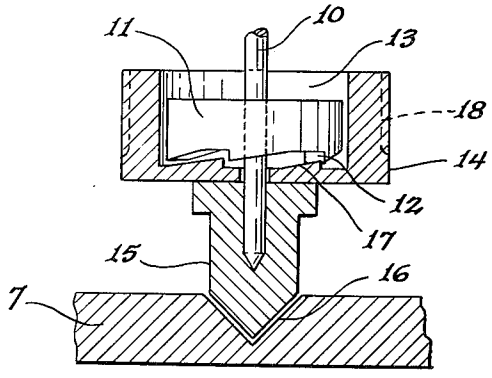


Fig. 2 B

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DRINKING VESSEL WITH ANIMATED DISPLAY

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Application February 1, 1949, Serial No. 73,918

2 Claims. (Cl. 46—47)

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This invention relates to drinking vessels and more particularly to propelled instrumentalities for providing an animated display in conjunction with and visible through the bottom of a drinking vessel.

In my co-pending application, Serial No. 48,300, filed September 8, 1948, there are shown and described various instrumentalities for furnishing animated displays in conjunction with the transparent bottoms of vessels through which such displays could accordingly be viewed. The animation of such displays was induced principally by the pull of gravity, or gravity in combination with resilient means, and generally required for animation that the vessel be tilted from its normal upright position.

It is desirable, however, to be able to create greater animation of such a display than would normally be achieved by relying principally on the action of gravity. It is also desirable to be able to create such animation in a display regardless of the position, movement, or lack of it, to which the vessel may be subjected at the time.

It is, accordingly, the principal object of this invention to provide mechanically operable means for effecting animated displays through the transparent bases of drinking vessels.

It is another object of this invention to provide such means which can be actuated from outside of the vessel.

Another object is to provide for such displays which will maintain their animation, in response to a single actuation, for a reasonable period of time.

Still another object is to provide for such displays in a simple, reliable manner.

Further objects will be apparent as the description of the invention, taken in conjunction with the accompanying drawing, proceeds.

In that drawing:

Figure 1 is a front elevation partially in section, of a drinking vessel with a base applied thereto and supplied with mechanism in accordance with the invention.

Figure 2 is a perspective vertical section of the base of the Figure 1 form, taken on the center line thereof.

Figure 2A is an enlarged perspective sectional view, partly exploded and with parts shown in fragmentary manner, of the display disc with its mounting and drive.

Figure 2B is a further enlarged vertical section of a fragment of the base illustrating the pivotal mounting for the display disc and the overrunning clutch for driving such disc, and

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Figure 3 is a top plan view of the base of Figure 2 with the display disc partly broken away to show the actuating mechanism.

Though in the drawing just referred to, and in the detailed description thereof to follow, the display device of the invention is shown and described as applied to a drinking glass with a transparent bottom, it is of course to be understood that the representation of that particular vessel and the use of the name "drinking glass" are for illustrative purposes only. The receptacle might be any food product, beverage, or display vessel having a transparent bottom through which the display presented by the device of the invention could be viewed.

The drinking glass shown at 1 in Figure 1 may be of conventional type and can be formed of any suitable material, so long as its bottom 2 is transparent. The base 3 applied to the bottom 2 contains the animated display mechanism, and is preferably made as a separate unit. Such unit may be permanently affixed to the drinking glass, or other vessel, or may be temporarily applied thereto. In the present illustrative embodiment of the invention the drinking glass 1 is provided with an annular inset around its bottom, as shown at 4, which inset enables the bottom of the glass to be received in engagement with the mated receiving surfaces 5 and 6 formed around the inner edge of the mouth of the base 3. When the drinking glass and its base are assembled with such mating surfaces in engagement, they may be permanently secured together by means of suitable material so that no noticeable division line will exist, or they may be merely nested in assembled relationship. Preferably, the outside surfaces of the drinking glass and of its base are co-extensive in a continuous, smooth surface, so that whether or not the glass and its base are permanently secured together they will give the appearance of being one unitary structure.

The base 3, as shown in Figures 1 through 3, is in the form of a shallow cup having a flat bottom 7, with a surrounding upstanding side 8. In the embodiment illustrated in Figures 1–3 this cup is shown as provided with a rotating disc-type of animated display, and with the mechanism for actuating the same. Such disc, shown at 9, lies just within the side wall 8 and adjacent the mouth of the base, to be just below the position taken by the transparent bottom 2 of the glass 1. The disc 9 is suitably secured to the upper end of a small shaft 10, for rotation with the same while a small cylinder element 11 is secured to the shaft 10 below the disc 9, to ro-

tate with both the disc and shaft. This element 11 has teeth 12 on its bottom face and is freely received within a pocket 13 formed in a hollow cylindrical gear element 14.

The gear element 14 is rotatable with respect to the shaft 10 and is mounted on a pivot member 15 suitably seated at 16 in the bottom 7 of the base 3. The element 14 has its inner upper surface formed with teeth 17 which are projected oppositely to the teeth 12, so that in one direction of movement the teeth 12 and 17 interengage, while in the other direction they slip over each other in a manner of an overrunning clutch. The pivot member 15 is provided with a deep center bore to receive the lower end of the shaft 10 which extends through the base of the element 14 and well down into that bore.

Thus the axial alignment of the shaft 10 is substantially fixed, but the shaft is free to ride up and down to the extent necessary to engage and disengage the teeth 12—17 of the overrunning clutch.

The gear element 14 is in the nature of a pinion provided with teeth 18 on its outer surface. The teeth 18 engage the teeth 19 of a rack 20 which rack is movable tangentially with respect to the gear element 14, in order to actuate the same. The bar 21 carrying the rack 20 is offset at 22 at one end of the rack, and has its offset portion pinned, or otherwise removably secured, at 23 to the end of an actuating rod 24. The rod 24 extends diametrically with respect to the base 3 and through a suitable bearing 25 in the wall 8. Thus the offset 22 is necessary in order to cause the rack 20 to lie in back of the gear 14. The other end 26 of the bar 21 is suitably slidably received in a bearing 27, here shown as carried by a support 28 extending upward from the bottom 7.

The rod 24 is surrounded by a spring 28, one end of which is seated in a recess in the wall 8 and abuts the end thereof, which end engages the underside of the operating knob 29 mounted on the outer end of the rod 24. This spring 28 tends to push the rod 24 outwardly, or to the right as viewed in Figures 2 and 3. When the rod 24 is pressed in, it actuates the bar 21 whereupon the rack 20 rotates the gear 14, and through the intermediation of the teeth 12 and 17 spins the shaft 10 and disc 9. On release of the knob 29 the rod 24 will be moved back to its initial position by the action of the spring 28, thereupon returning the rack ready for a subsequent actuation. Due to the overrunning aspect of the teeth 12 and 17, however, as best shown in Figures 2A and 2B, the disc 9 will continue to spin. Thus, when a base 3 equipped with the foregoing mechanism is applied to the bottom of a glass such as 1, an observer looking down through the transparent bottom 2 can see the disc 9. Such disc, when provided with a suitable attractive display and spun by means of the mechanism will have a most interesting and entertaining effect.

While it is generally preferably that a disc, or some transparent material such as a suitable plastic, or even glass, be employed as a cover over the display to seat in some suitable position, such as on the ledge 6, there are also instances in which the same could be omitted. Thus, when the bottom pivot, as in the Figure 2 form, would be sufficient in itself to keep the pivot pin of the display device vertical, the top of the pin could

be merely steadied by engagement with the bottom of the glass. In this way, once the glass was removed the particular display device could be also quickly removed and interchanged with another one presenting a different display. In addition, it is believed to be obvious that the particular recessed form of seating for the glass provided by the base, as here shown, need not necessarily be employed. The base could, for instance, be formed with an internal taper and so related to the external taper of the glass that the two could be readily fitted together, or some other suitable relationship could be provided for seating the base and glass together.

Regarding variations in the mechanism thereof, the form in Figures 1–2 might be actuated by extending the shaft 24 downward and cocking the mechanism by setting the glass down. Also, spring motor drives may be employed if a more continuous display is desired. It is accordingly to be understood that the mechanisms for creating the animation desired disclosed herein are for illustrative rather than limiting purposes and are indicative of the scope of my invention.

Having disclosed my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a display construction of the class wherein a generally cup shaped mounting member is provided around its open mouth with a recessed seat for receiving a vessel having a transparent base and with a portion beneath said recessed seat forming a chamber, the combination with said mounting member of a display device mounted in said chamber, said display device including a display element, and mechanism for mounting said display element for restricted movement within said chamber, said mechanism including a pivot pin, said display element mounted on the upper end of said pivot pin, a driven member mounted on the lower end of said pivot pin, a pinion rotatably mounted on the base of said chamber, means for mounting said driven member in over-running relation with respect to said pinion and a rack for actuating said pinion.

2. In a display construction for a vessel having a transparent bottom, a support for the reception of said bottom, said support being formed in the shape of a hollow cup, a pivot pin mounted on said support, a display device mounted on the upper end of said pivot pin, a recessed pinion, a pivot member rotatably mounting said pinion on the base of said cup, the lower end of said pivot pin being rotatably received in a recess in said pivot member, a driven member carried by said pivot pin and seated in the recess in said pinion, overrunning clutch means operable between said driven member and said pinion, and a rack engaged with said pinion for driving the same.

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