Oct. 31, 1944. W. M. SNYDER 2,361,423

CRYSTAL NOVELTY

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FIG. 1

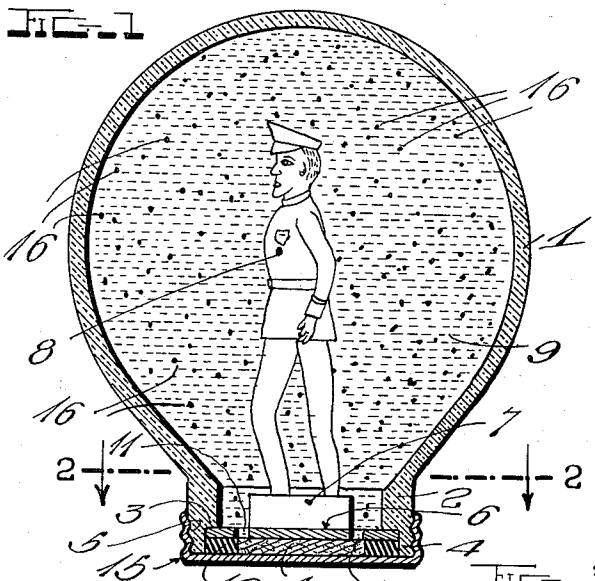


FIG. 2

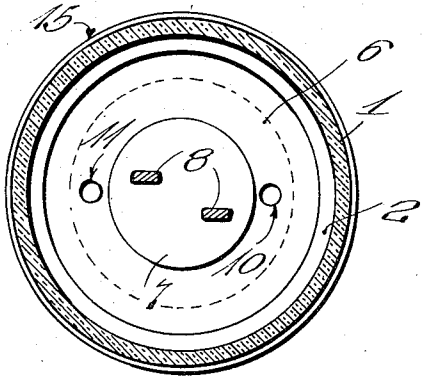


FIG. 3

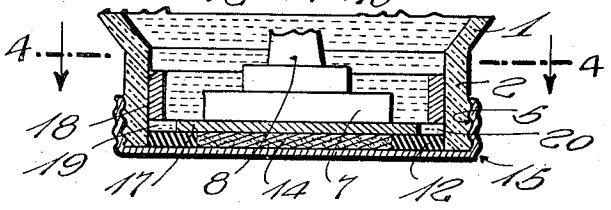


FIG. 4

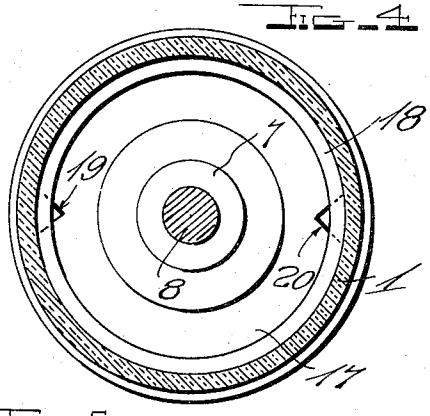


FIG. 5

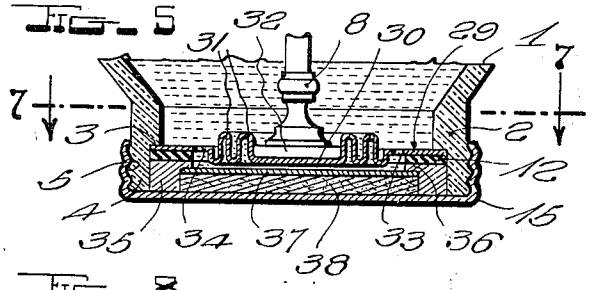


FIG. 6

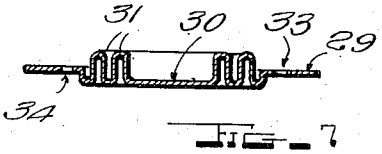


FIG. 7

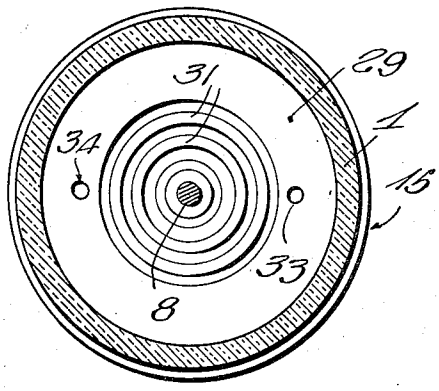
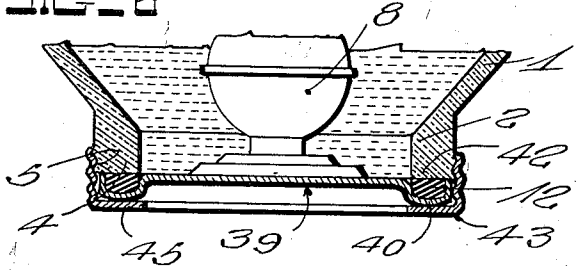


FIG. 8



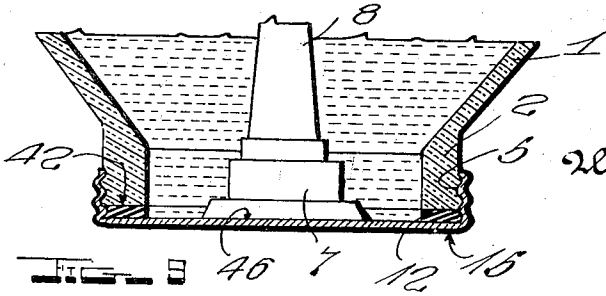


FIG. 9

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FIG. 10

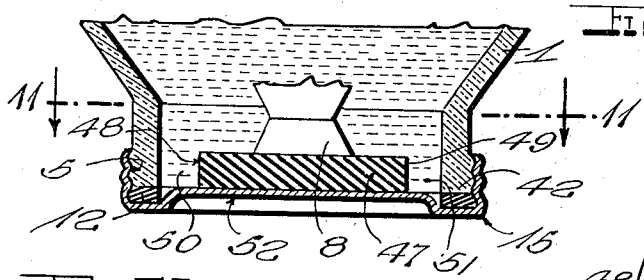


FIG. 11

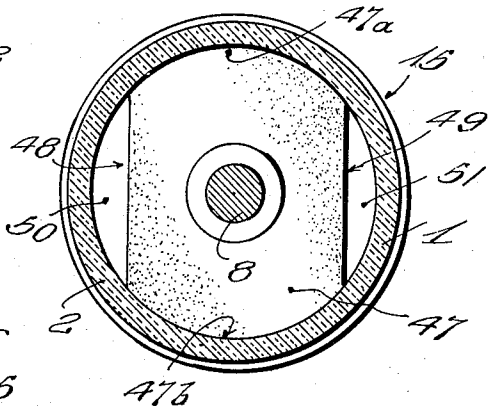


FIG. 12

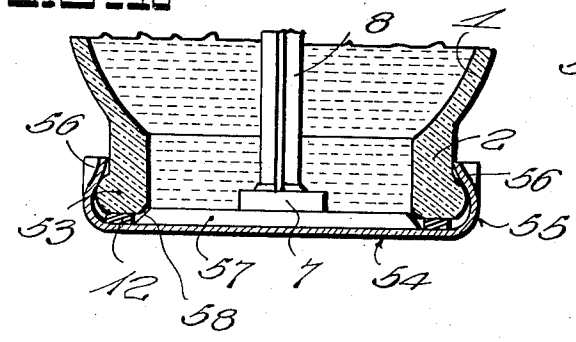


FIG. 13

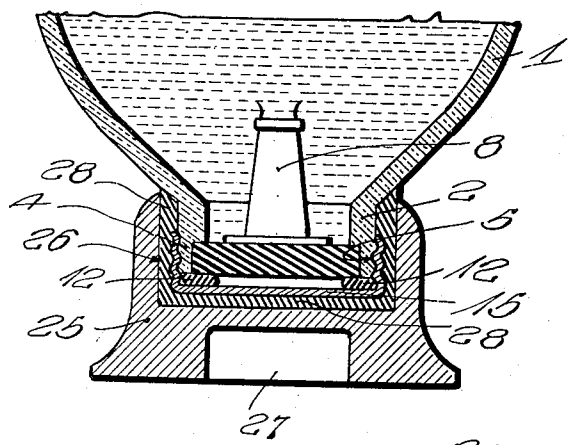
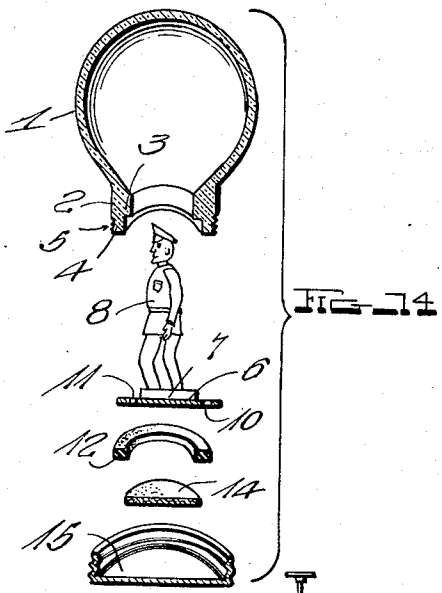


FIG. 14



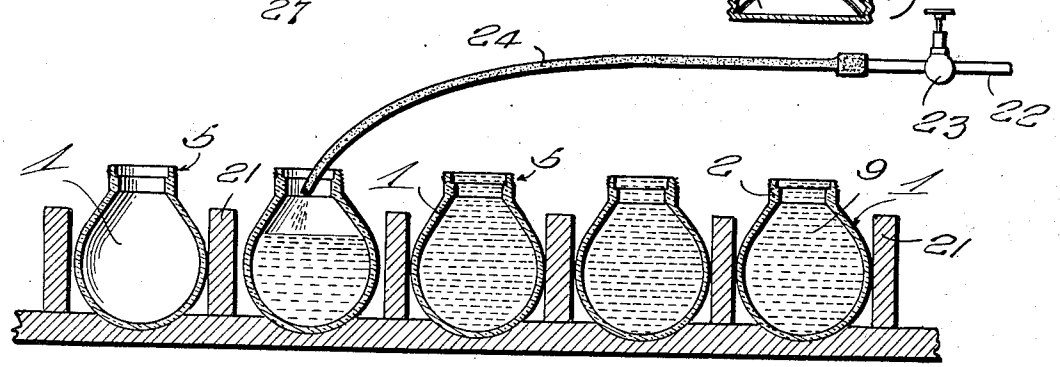


FIG. 15

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Patented Oct. 31, 1944

2,361,423

UNITED STATES PATENT OFFICE

2,361,423

CRYSTAL NOVELTY

William M. Snyder, Covington, Tenn., assignor to Sarah S. Snyder, Covington, Tenn.

Application September 20, 1941, Serial No. 411,729

5 Claims. (Cl. 41—10)

My invention relates broadly to crystal novelties and more particularly to a structural arrangement for enclosing a figure within a fluid container.

One of the objects of my invention is to provide a construction of crystal novelty which may be rapidly and inexpensively manufactured on a quantity production basis for presenting an ornamental and esthetic appearance as a paper weight, desk novelty and/or ornament.

Another object of my invention is to provide a construction of crystal novelty which produces the illusion of a snow storm by movement of insoluble particles in floating suspension in the fluid within a transparent container.

Still another object of my invention is to provide a construction of crystal novelty comprising a container of substantially spherical shape enclosing a figure or object visible through the walls of the container and wherein the container is adapted to be closed after being filled with fluid by a screw-threaded cap forming a mounting means for the container in an ornamental base.

A further object of my invention is to provide a construction of spherical shaped container having a narrow neck at one side thereof through which an ornament may be introduced and submerged in fluid introduced into the container and the opening through the neck closed by a metallic composition or any other type of cap which is adapted to be seated in an ornamental base for supporting the container.

A still further object of my invention is to provide a construction of means for sealing an object within an ornamental container submerged in fluid adapted to floatingly suspend insoluble particles while substantially eliminating air pockets and/or bubbles which would impair the ornamental appearance of the enclosed object.

Another object of my invention is to provide means for flexibly supporting a figure within a transparent container adapted to be closed at one side thereof by a cap engageable with the container.

Still another object of my invention is to provide a construction of ornament which encloses a fluid body which floatingly suspends insoluble particles simulating when agitated a snow storm in combination with a closure cap engageable with the container opening and which serves as the mounting means for the container.

Other and further objects of my invention reside in the arrangement of sealing means for an object enclosing container as set forth more fully in the specification hereinafter following by reference to the accompanying drawings, in which:

Figure 1 is a vertical sectional view taken through the crystal novelty of my invention and showing in side elevation the ornamental object which is submerged therein; Fig. 2 is an enlarged transverse sectional view taken substantially on line 2—2 of Fig. 1; Fig. 3 is a fragmentary transverse sectional view of a modified form of object mounting means; Fig. 4 is a transverse sectional view taken substantially on line 4—4 of Fig. 3; Fig. 5 is a fragmentary sectional view showing a modified arrangement for mounting a figure capable of limited displacement or motion within the spherical container; Fig. 6 is a cross-sectional view of the mounting means for the figure employed in the arrangement of Fig. 5; Fig. 7 is a transverse sectional view taken substantially on line 7—7 of Fig. 5; Fig. 8 is a fragmentary longitudinal sectional view through a further modified form of mounting means for the figure within the spherical container; Fig. 9 is a fragmentary vertical sectional view showing another modified form of mounting means for the figure within the spherical container; Fig. 10 is a fragmentary vertical sectional view showing a further modified form of mounting means for the figure and illustrating the manner in which a screw-threaded closure cap coacts with a resilient support which serves to mount the figure within the container; Fig. 11 is a transverse sectional view taken substantially on line 11—11 of Fig. 10; Fig. 12 is a fragmentary vertical sectional view showing a closure cap engaged over the neck of the container for maintaining the object in position within the container; Fig. 13 illustrates one manner of mounting the sealed container in an ornamental base; Fig. 14 is an expanded view showing the relation of the container to the figure, the figure mounting means and the closure means provided by my invention; and Fig. 15 is a schematic view showing the manner of filling a multiple number of containers in position to receive the ornaments and closure caps during the manufacturing process.

My invention is directed to a construction of crystal novelty constituted by an object enclosed within a transparent container and completely surrounded by fluid therein in which there is floatingly suspended insoluble particles with a closure applied to the container in such manner that air bubbles or air pockets are eliminated. The closure is applied to the container in such a way that pockets of air are not entrapped in the container to impair the esthetic and orna-

mental appearance of the enclosed object. I employ a mounting for the enclosed object which is capable of mounting the object either in a rigid position within the container or which may permit slight displacement of the object upon agitation of the device. The closure is so formed that the closure provides a support for the device within an ornamental base. A minimum number of parts are required thereby greatly reducing the expense of manufacture and increasing the speed of production of the novelties.

Referring to the drawings in more detail, reference character 1 designates a transparent spherical shaped container having a substantially cylindrical neck 2 at one side thereof. The neck 2 in the form of my invention illustrated in Figs. 1, 2, 5, 13, 14 and 15, is provided with an interior annular shoulder or seat 3 beyond which the cylindrical portion of the neck 2 indicated at 4 extends. The external portion of the neck is provided with molded screw threads 5 for receiving a screw threaded closure cap. A disc 6 is adapted to be received upon the annular shoulder 3. The disc 6 forms a mounting means for the base structure 7 of the ornamental figure 8. The disc 6 has a diameter which substantially fills the open interior end of the neck 4 and peripherally engages the annular shoulder 3. The disc 6 is apertured at 10 and 11 to aid in the sealing of the containers while eliminating air bubbles or air spaces in the completed ornaments.

I have schematically shown in Fig. 15 one method of filling the containers 1 with fluid indicated at 9. Such filling may be accomplished manually as shown by mounting the containers with their open neck portions directed upwardly and steadied by suitable partition members 21. The water is supplied from pipe line 22 under control of valve 23 through flexible hose 24 which is moved from one container to another for filling the containers level with the extremities of the neck. Automatic filling means may be employed in which the containers are moved beneath suitably spaced filling outlets. The important fact is that the temperature of the water or fluid which is used in the containers should be approximately 50° F. or lower.

The ornamental figure 8 is initially treated to remove occluded air or gases so that the figure before introduction into the fluid filled container 1 is either thoroughly saturated with fluid or is impervious to fluid. It is important that the figure or ornamental object be so formed or be treated so as not to contain occluded gases to avoid the defects occasioned by the release of air bubbles after the container has been sealed and the device is in use. Before introducing the figure 8 in the fluid 9 I deposit in each container approximately a one-half teaspoonful of flaked material which is extremely light in weight and is insoluble in fluid so that the flaked material tends to continuously move in the fluid when the container is subjected to agitation, thereby producing the illusion of a snow storm. I have shown the particles floatingly suspended in the fluid 9 at 16.

The disc 6 is apertured at 10 and 11 and when the figure is immersed in the fluid within the container in the position illustrated in Fig. 15 additional fluid may be introduced through one of the apertures to entirely fill the container while confined air escapes from the container through the other aperture. A vacuum sealing resilient gasket 12 is laid adjacent the peripheral edge of the disc 6 and confined by the projection of the cylindrical neck 4. A circular pad 14 of fibrous packing material is seated directly against disc 6 and centrally of gasket 12. Screw threaded cap 15 is then engaged over the molded screw threads 5 on cylindrical neck 2 of the container and is screwed firmly in position exerting sealing pressure against gasket 12 and fibrous pad 14, each of which are expanded with respect to each other to form a fluid and air-tight seal for the container. Thus the object within the container is sealed wholly immersed in fluid and without the presence of air bubbles or air pockets. The flaked particles 16 then tend to encircle and apparently fly about the object 8 upon agitation of the sealed container. The sealed container is thus prepared for mounting within an ornamental base shown more fully in Fig. 13 at 25. The ornamental base has a suitable skirt formed thereon to insure the esthetic and ornament appearance of the base and is provided with upper and lower cylindrical recesses indicated at 26 and 27, respectively. The recess 27 may receive a suitable weight for increasing the mass of the device which is particularly desirable when the novelty is used as a paperweight. The recess 26 is shaped to receive the cylindrical end 2 of the container 1 and the metallic closure cap 15. The recess 26 is of such diameter as compared to the external diameter of the neck 2 and closure cap 15 that plastic material or cement shown at 28 may be introduced and when hardened forms a rigid interlock between the container and the base. Various methods of interlocking the closed end of the container with the base may be utilized and I have illustrated only a preferred method, it being understood, however, that other methods may be utilized within the scope of my invention.

In Figs. 3 and 4 I have shown a modified arrangement of mounting the figure within the container where it is desirable to economize with respect to the blowing and molding of the container. In the arrangement shown in Figs. 3 and 4 the internal shoulder 3 is omitted and a straight cylindrical walled internal neck is provided. In order to form a support for the disc which carries the figure I provide an annular band 18 which is directly united with the interior wall of the neck 2 by suitable cement. The cylindrical edge of band 18 forms a peripheral ledge against which the periphery of disc 17 seats. Disc 17 is provided with a pair of diametrically opposed V-shaped notches 19 and 20 at the periphery thereof. These notches extend beyond the ledge formed by band 18. One of the notches provides an inlet for fluid while the other notch constitutes a release aperture for air during the filling and sealing process. The type of vacuum sealed gasket 12 and pad 14 described in connection with Fig. 1 are provided intermediate disc 17 and screw threaded closure cap 15. Disc 17 forms supporting means for base 7 and figure or object 8.

There are certain instances in which it is desirable that the figure or ornament 8 may be displaced or vibrated when the spherical container is agitated or shaken. In Figs. 5–7 I have shown a construction of supporting diaphragm 29 for the figure 8 which permits vibration or displacement of the figure or object 8. Diaphragm 29 includes a central supporting portion 30 and a multiplicity of annular corrugations 31

which impart flexibility to the diaphragm. The figure or object 8 is mounted in the central supporting portion 30 of the diaphragm 29 through any suitable intermediate support such as indicated at 32. Ports 33 and 34 are provided in the diaphragm 29 to permit filling and allow release of confined air during completion of the filling process. The annular sealing gasket 12 is arranged immediately adjacent the peripheral edge of diaphragm 29. Immediately adjacent the gasket 12 I mount a ring member 35 which bears directly against the vacuum seal gasket 12. Ring member 35 has an annular shoulder 36 therein against which disc 37 is seated at its periphery, forming a housing in which the corrugations 31 of diaphragm 29 are free to flex. A pad of felt or fibrous material 38 fills space centrally within ring 35 and immediately adjacent disc 37. Over the entire assembly screw cap 15 is adapted to be engaged for confining the resiliently supported figure 8 in position and sealing the container against leakage of fluid or entrance of air.

In Fig. 8 I have shown the ornamental figure 8 directly secured to a metallic disc-like member 39 which is centrally recessed to extend slightly into the interior of the open cylindrical neck 2 of the container 1. The periphery of disc 39 has an annular recess 40 therein into which the vacuum sealed gasket 12 is seated. In this form of my invention the vacuum sealed gasket 12 directly engages the flat peripheral edge 42 of the neck 2 of container 1. In order to effect a vacuum seal relation between supporting plate 39 and container 1 an annular screw threaded rim member 43 is provided. The rim member 43 has a screw threaded skirt 44 which engages the screw threads 5 on the neck 2 of the container 1. Rim member 43 also has an annular shoulder 45 which directly engages the back of the annular recessed portion of disc 39. The central portion of rim member 43 is open. After filling the container 1 to the brim in the position illustrated in Fig. 15, the disc 39 with the object 8 attached thereto is deposited over the open end of the container 1 with the vacuum sealed gasket 12 in registry with the end 42 of the neck 2. Rim 43 is then screwed into position over screw threads 5 with the annular shoulder 45 bearing directly against the rear of the annular rim portion of disc 39, thus securely mounting the ornament or figure 8 in position against leakage of air or water.

In the form of my invention shown in Fig. 9 I secure the ornament or object 8 directly to the wide face of the screw cap closure 15. That is to say, the supporting base 7 of the figure 8 is soldered, welded or cemented at 46 directly to the inside of the closure cap 15. The vacuum seal gasket 12 is interposed between the peripheral edge of the neck 2 at 42 and the inner face of the cap 15. The container 1 is varied in the position illustrated in Fig. 14 with the fluid extending to the brim and then the screw cap 15 screwed firmly in position against the vacuum seal gasket 12, preventing the entrance or release of air or fluid.

In the form of my invention illustrated in Figs. 10 and 11, the figure or object 8 is mounted on a live rubber resilient base 47 which extends transversely of the neck 2. The live base 47 is cut away at opposite sides thereof indicated at 48 and 49 to provide fluid intake and air release apertures 50 and 51. The shape of the live rubber base 47 is such that the ends 47a and 47b snugly engage the interior walls of the cylindrical neck 2 of container 1 for maintaining the object or ornament centrally of the container. The end of the container is then sealed by the screw closure cap 15 bearing against the vacuum seal annular gasket 12 which engages the annular end 42 of the cylindrical neck 2. The closure cap 15 is centrally instruck as represented at 52 and extends toward the open end of the neck 2 of container 1 for directly contacting and supporting the base 47.

In lieu of the screw threaded closure cap which I have heretofore described, I may employ a crimped cap which I have shown generally in Fig. 12. In this form of my invention the container 1 is provided with a cylindrical neck portion 2 which has a rounded or beaded annular terminus 53. A metallic cap 54 having an annular skirt 55 is adapted to be slipped over the rounded or beaded annular terminus 53 and then secured in position by crimping the edge of the skirt around the terminus of the neck 2 as shown. The cap 54 carries the annular vacuum sealing gasket 12 which forms a vacuum seal with respect to the annular extremity of the neck 2. The cap 54 also provides a seating means for the disc-like member 57 which is chamfered at its peripheral edge as indicated at 58 to engage the open end of neck 2. The disc 57 carries the mounting means 7 for the figure 8. Thus the ornament may be mounted in position by a crimping action of the closure cap around the end of the neck of the container.

As heretofore explained, the container with the metallic closure in position on the end thereof is supported in an ornamental base as represented in Fig. 13. I have shown a form of mounting means for the figure 8 in Fig. 13 which is similar to the form of my invention illustrated in Figs. 10 and 11. It will be understood, however, that any one of the several mounting means illustrated may be used in cemented position within the ornamental base 25.

As heretofore explained, Fig. 14 illustrates cooperative arrangements of the several parts constituting the mounting means for the figure and the enclosing container. It will be understood that in all forms of my invention the insoluble floatable particles of like material are introduced before the figure or ornament is introduced and before the assembly of the closure cap upon the end of the container.

I have found the constructions illustrated and described herein highly practical in manufacture and production. However, I realize that modifications may be made and I intend no limitations upon my invention other than may be imposed by the scope of the appended claims.

What I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. A crystal novelty comprising in combination a transparent container, a cylindrical neck extending from said container, a flexible disc-like support mounted transversely of the open neck of the container and positively secured at the periphery thereof, a figure carried by said flexible disc-like support and projecting into said container from said disc-like support, a body of fluid enclosed by said container and surrounding said figure, a quantity of insoluble floatable particles in said body of fluid, screw threads on the exterior of said cylindrical neck, a screw threaded cap engageable with said screw threaded neck, annular means interposed between said flexible disc-like support and said cap for maintaining

said support in position while allowing restricted movement of said support and figure carried thereby and a base support for receiving said screw threaded cap and mounting said container.

2. A crystal novelty comprising in combination a transparent container, a cylindrical neck extending from said container, a disc-like support positively secured at its periphery transversely of the open neck of the container and displaceable into or away from the open neck of said container, a figure carried by said flexible disc-like support and projecting into said container from said disc-like support, a body of fluid enclosed by said container and surrounding said figure, a quantity of insoluble floatable particles in said body of fluid, screw threads on the exterior of said cylindrical neck, a screw threaded cap engageable with said screw threaded neck, sealing means interposed between said screw threaded cap and said disc-like support for preventing the leakage of air into said container or the release of fluid from said container while allowing restricted movement of said support and the figure carried thereby, and a base for receiving said cylindrical neck and mounting said container.

3. A crystal novelty comprising in combination a transparent container, a cylindrical neck extending from said container, a yieldable and displaceable diaphragm having a central portion and a flat peripheral portion with a corrugated portion interposed therebetween and mounted transversely of the open neck of the container, a figure carried by the central portion of said diaphragm and projecting into said container from said disc-like support, a body of fluid enclosed by said container and surrounding said figure, a quantity of insoluble floatable particles in said body of fluid, screw threads on the exterior of said cylindrical neck, a screw threaded cap engageable with said screw threaded neck for securing the flat peripheral portion of said diaphragm in position, and a base support for receiving said screw threaded cap and mounting said container.

4. A crystal novelty comprising in combination a transparent container, a cylindrical neck extending from said container, a transversely extending yieldable plate secured interiorly of said neck, a figure carried by said yieldable plate and projecting into said container, a closure member engageable with the exterior of said neck and operating to maintain said yieldable plate in position, a vacuum seal between the terminus of said neck for positively gripping the peripheral edge of said disc-like member against said closure member, a body of fluid enclosed by said container and surrounding said figure, a quantity of insoluble floatable particles in said body of fluid, and a base support for receiving said closure member and mounting said container.

5. A crystal novelty comprising in combination a transparent container, a cylindrical neck extending from said container, a disc-like member having a central portion and an annular flexible portion therein surrounded by a solid peripheral portion, an annular gasket seated against said solid peripheral portion and surrounding said annular flexible portion, means engageable against said annular gasket for compressing said gasket against the solid peripheral portion of said disc-like member for maintaining said disc-like member in position transversely of the neck of the container, a figure carried by the central portion of said disc-like member and projecting into said container from said disc-like member, a body of fluid enclosed by said container and surrounding said figure, and a base support for receiving the closed end of said container for mounting said container in position.

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