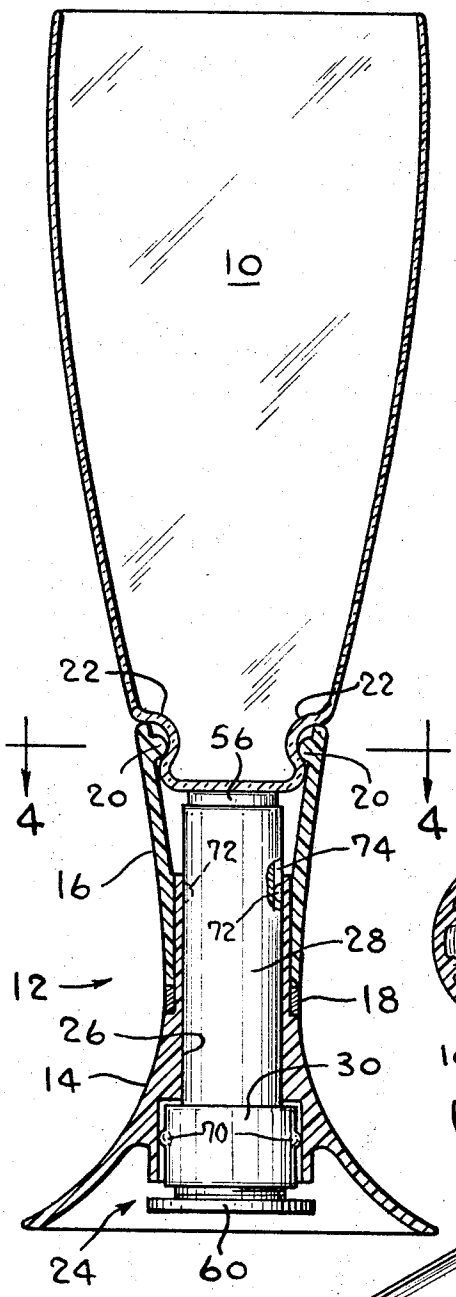
March 19, 1968 R. H. RUDOLPH ET AL 3,374,344

LIGHTED BEVERAGE GLASS

Filed Oct. 12, 1965

FIG. 1



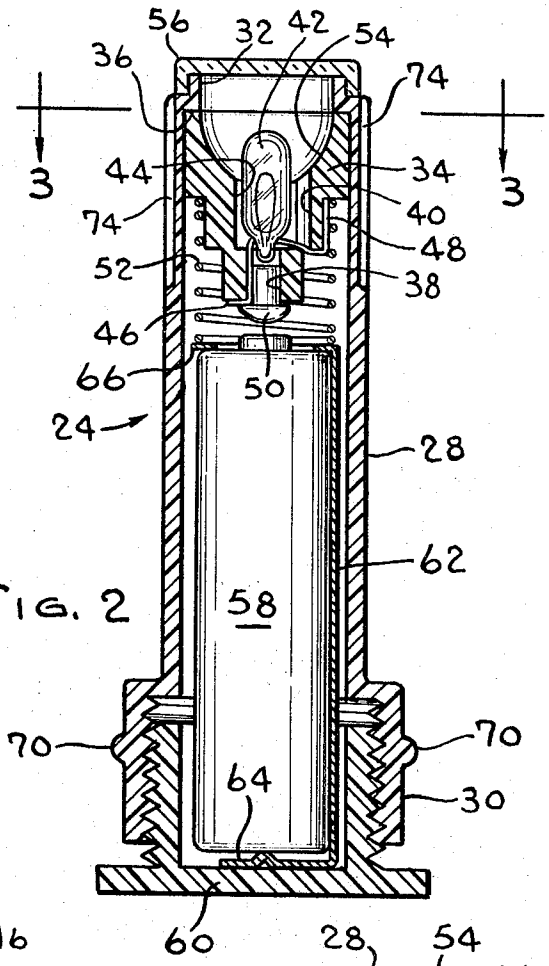


FIG. 2

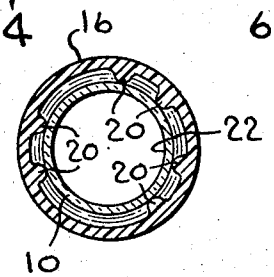


FIG. 4

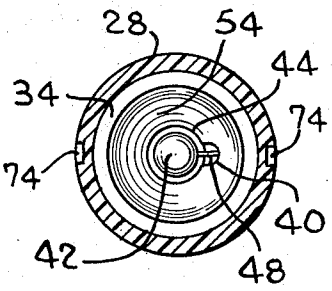


FIG. 3

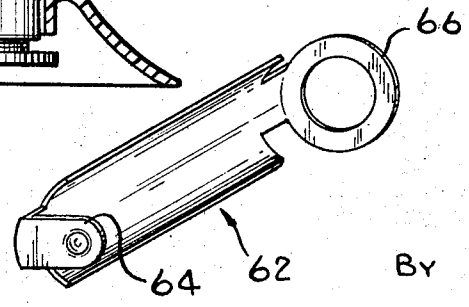


FIG. 5

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LIGHTED BEVERAGE GLASS

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5 Claims. (Cl. 240—6.4)

ABSTRACT OF THE DISCLOSURE

A lighted beverage glass comprising a hollow stem and a glass shell member removably mounted thereon. A unitary cartridge assembly slideably inserted into the stem through the base thereof, said assembly including a main body portion and a transparent tip member mounted at one end. A lamp holder member, a bulb, a compression spring and a battery are mounted inside the body portion with the bulb positioned adjacent the transparent tip member. A switch knob member is threaded into the base of the cartridge body and adapted for manual rotation to turn the light bulb on and off. The light passing through the transparent tip of the cartridge assembly passes upwardly through the bottom of the glass shell portion into the liquid thereon.

This invention relates to improvements in a lighted beverage glass.

One object of this invention is to provide a unit wherein the glass shell can be readily removed and replaced on the stem assembly in which the lighting unit is mounted.

Another object is to provide a lighting unit and associated stem assembly of relatively simple and inexpensive construction having easily replaced parts.

These objects are attained by a lighted beverage glass comprising a stem assembly having a shell member preferably of glass mounted thereon and a lighting unit mounted in the stem assembly for directing light through the bottom of the glass shell up into the beverage to thereby produce a unique and pleasing effect. The stem assembly is provided with a plurality of angularly spaced projections thereon adapted for engagement in a groove formed in the outer surface of the shell to permit the shell and stem to be readily connected and disconnected one with the other.

The lighting unit itself is comprised of a body portion having a lamp holder member mounted in the upper end thereof and a dry cell battery mounted in the lower end thereof. A miniature lamp having a pair of flexible lead wires is mounted in the lamp holder. The lamp holder is provided with a central opening therethrough and an off-center opening therethrough. The lead wires of the lamp are positioned to extend one through the center opening and the other through the offset opening in the lamp holder for electrical contact with the dry cell battery.

The lead wire extending through the central opening is held in place and electrically connected to the battery by a rivet member mounted in such central opening. The flexible lead wire extending through the offset opening is held in place and electrically connected to the battery by a compression spring mounted between the lamp holder and the battery. The battery is moved into and out of contact with the rivet to turn the lamp on and off by rotation of a switch knob threaded into the bottom of the body member. The entire lighting unit is removably mounted in the stem assembly and can be replaced as a unit or, when desired, the battery and the lamp in the cartridge can also be replaced when necessary.

Other objects and advantages will be pointed out in,

or be apparent from, the description and claims, as will obvious modifications of the single embodiment shown in the drawings, in which:

FIG. 1 is a vertical sectional view of a lighted beverage glass made in accordance with this invention;

FIG. 2 is a vertical sectional view of the light cartridge mounted in the stem of the glass as shown in FIG. 1;

FIG. 3 is a horizontal sectional view taken along line 3—3 of FIG. 2;

FIG. 4 is a horizontal sectional view taken along line 4—4 of FIG. 1; and

FIG. 5 is a perspective view of the battery cradle which is one of the component parts of the light cartridge.

Referring now to the drawings in detail, FIG. 1 shows the lighted beverage glass of this invention which is comprised of a shell **10** which is removably mounted on a stem assembly **12**. The stem assembly **12** is comprised of a stem foot portion **14** and an upper stem portion **16** slidably mounted on the foot portion. A decorative ring member **18** is provided between the upper stem and stem foot as shown.

While the materials of the structure described above can vary to some extent, in the preferred embodiment the shell **10** is made of glass and the upper stem and stem foot portions are made of molded plastic. The glass shell **10** is removably mounted on the upper stem portion **16** by means of a plurality of angularly spaced knobs or projections **20** formed on the stem portion **16**. Projections **20** are dimensioned for mating relationship with a groove **22** formed in the lower portion of the shell **10**.

It will be noted that the knobs or projections **20** formed on stem portion **16** are angularly spaced on the internal surface of the stem portion as clearly shown in FIG. 4. Due to the relatively wide dimensional tolerances of the glass shell member **10**, the projection and mating groove construction has proven desirable to facilitate a reasonably easy insertion and removal of the glass shell on the upper stem portion. This removal and replacement of the shell on the stem is, of course, necessary for washing and for replacement when broken. It should be appreciated, however, that for most washings the entire unit can be simply inverted and the glass shell inserted into the washing and rinsing solutions, and then left to dry in an inverted position.

The liquid in the glass shell is lighted from below to give it a unique and distinctive appearance by means of a cartridge assembly **24** which is inserted into the bore **26** of foot portion **14** as clearly shown in FIG. 1.

The detailed construction of the cartridge is shown in FIG. 2. The cartridge is comprised of a main body portion **28** having an enlarged internally threaded base portion **30** and a tip portion **32** of reduced diameter formed at the top end thereof. A lamp holder member **34** is mounted against a shoulder **36** formed at the top end of body **28**. Holder member **34** is provided with a central opening **38** and an offset opening **40** extending therethrough. An electric incandescent bulb **42** is mounted in a central cavity **44** formed in member **34**. Bulb **42** is provided with a pair of flexible lead wires **46** and **48**, one of which extends through central opening **38** in member **34**, and the other of which extends through the offset opening **40** in such member. Lead **46** is securely held in place by a metal rivet **50** which is pressed into opening **38**. The other lead **48** is held firmly in place by means of a metal compression spring **52** positioned around the lower portion of member **34** as shown.

Member **34** may be provided with a concave surface **54** in the top portion thereof adjacent the tip of bulb **42** which surface can be coated with a reflective material to

increase the brightness of the light produced by the bulb. A transparent cap member **56** is inserted over the tip portion **32** of the casing which permits light to pass upwardly through the bottom of the glass shell.

Electrical power to light bulb **42** is provided by a dry cell battery **58** of conventional design which is inserted through the base portion **30** of the body **28** and held therein against the bias of spring **52** by a switch knob **60** threadedly engaged in base portion **30**. Before inserting battery **58** into the cartridge body it is first mounted in a metal cradle member **62** (FIG. 5). Cradle member **62** is provided with a pair of contact flanges **64** and **66** formed at opposite ends thereof and positioned for contact with the casing of battery **58** only.

With the parts assembled as shown in FIG. 2, the electrical current for energizing bulb **42** can be traced starting with the casing of battery **58** through cradle **62**, spring **52**, lead **48**, the filament of the bulb (not shown), lead **46**, and rivet **50**. The circuit is completed by contact between rivet **50** and the center pole of battery **58** which is accomplished by tightening switch knob **60** into the cartridge base **30** thus causing the battery to be moved upwardly against the bias of spring **52**.

The cartridge **24** is held in frictional engagement inside stem foot **14** by means of a pair of projections **70** formed on the exterior of base portion **30** as shown. The cartridge is prevented from rotating in the stem by ears **72** on the inside of upper stem portion **16** which are engaged in grooves **74** formed in the wall of cartridge body **28**.

The lighted beverage glass described above is designed particularly for use as a beer glass. When it is desired to use the glass, the light is turned on by rotating switch knob **60** in a clockwise direction. The glass is then filled with beer and presented to the user. The light shining up through cap **56** and the bottom of the glass shell **10** will cause the beer in the shell to glow producing a unique and pleasing appearance. The bubbles rising in the beer add to this effect.

When the beer is finished the light is extinguished by simply turning knob **60** counterclockwise. As indicated previously, the glass shell can be washed in place on the stem assembly by simply inverting the unit and immersing it in a wash solution. If it is desired to wash the entire assembly (shell and stem), the cartridge **24** can be easily removed and later replaced as a unit by sliding it out of bore **26** in the stem foot **14**. Should replacement of the shell or more thorough cleaning become necessary the shell can be removed from the stem as previously described.

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

We claim:

1. A lighted beverage glass comprising:

a stem assembly;

a shell member mounted on said stem assembly; and

a lighting unit mounted in said stem assembly for directing light through the bottom of said shell member, said lighting unit including a body portion having a lamp holder member mounted in the upper end thereof and a dry cell battery mounted in the lower end thereof, a lamp having a pair of flexible lead wires mounted in said lamp holder, said lamp holder having a central opening therethrough and an off-center opening therethrough, said lead wires of said lamp extending through said center opening and through said off-center opening for making electrical contact with said dry cell battery, said body portion having a plurality of projections thereon adapted to frictionally engage said stem assembly when said lighting unit is mounted in said stem, said body portion further provided with a groove adapted for mating engagement with an ear on said stem to prevent turning of said unit with respect to said stem.

2. A lighting unit for a beverage glass or other device comprising:

a body portion having a lamp holder member mounted in one end thereof;

a dry cell battery mounted in the other end of said body portion; and

a lamp having a pair of flexible lead wires mounted in said lamp holder, said lamp holder having a central opening therethrough and an off-center opening therethrough, the lead wires of said lamp extending one through said center opening and the other through said off-center opening for making electrical contact with said dry cell battery, said one flexible lead wire being held in place in said center opening and electrically connected to said battery by a rivet member mounted in said opening, said other flexible lead wire being held in place and electrically connected to said battery by a compression spring mounted between said lamp holder and said battery.

3. A lighting unit according to claim **2** in which said battery is moved into and out of contact with said rivet by rotation of a switch knob threaded into the said other end of said body portion.

4. A lighted beverage glass comprising:

a stem having a foot portion at the lower end thereof adapted to support the stem in an upright position and having a central bore therethrough;

a shell member removably mounted on the top end of said stem; and

a unitary cartridge assembly mounted in the bore of said stem, said cartridge assembly comprising a main body portion having a threaded base portion and an end portion of transparent material to allow light to pass from inside said body out through said transparent end portion, a lamp holder member, a bulb, a compression spring, and

a battery mounted inside said body portion with said bulb positioned adjacent said transparent end portion and with said compression spring mounted between said bulb and said battery, a switch knob member threaded into said threaded base and adapted for manual rotation to move said battery into contact with said bulb against the bias of said compression spring, said unitary cartridge adapted for insertion into said bore of said stem through said foot portion whereby the transparent end portion of said cartridge assembly will be positioned adjacent the bottom of said shell member with the switch knob of said assembly accessible for manual actuation through the foot portion of said stem, said stem and cartridge including means which cooperate to prevent rotation of said cartridge in said stem.

5. A lighted beverage glass according to claim **4** in which said stem and cartridge further include means adapted to securely hold said cartridge in said stem when said cartridge has been inserted into operative position.

References Cited

UNITED STATES PATENTS

2,177,337	10/1939	Stein	240—6.4
2,249,689	7/1941	Gelardin	240—10.68
2,532,181	11/1950	Moore	240—6.4
2,806,100	9/1957	Schildbach	240—10.66 X
2,965,750	12/1960	Baldwin	240—8.2
3,017,502	1/1962	Dent	240—10.68
3,128,050	4/1964	Parker	240—10.66

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