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Bruning

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[54] **DRAIN GUARD FOR CONTACT LENS**

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[52] **U.S. Cl.** **210/474,** 4/286, 4/292, 210/482

[51] **Int. Cl.** **E03c 1/26**

[58] **Field of Search** ... 4/1, 109, 190, 286, 287, 289, 4/292, 295, DIG. 5; 210/163–166, 169, 463, 474, 482; 206/15; D23/4, 41, 42

[56] **References Cited**

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[57] **ABSTRACT**

A flexible contact lens drain guard having a ring fabricated of rubber or plastic or the like. A mesh net extends across the ring opening and is bonded to or formed unitarily with the ring. Suction means are formed on the base of the ring and extend around its circumference.

4 Claims, 4 Drawing Figures

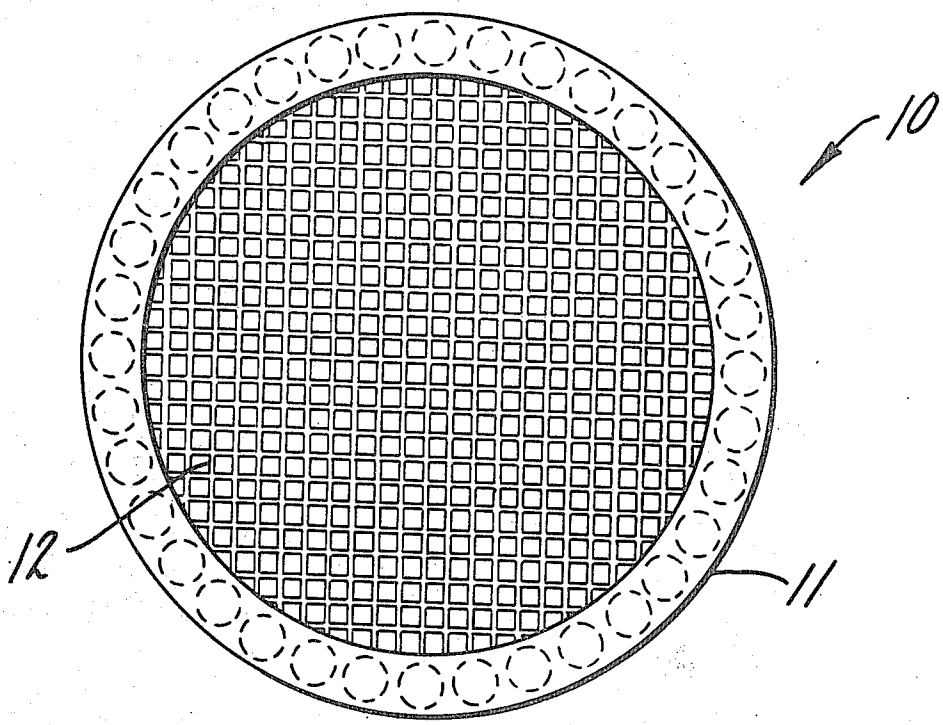
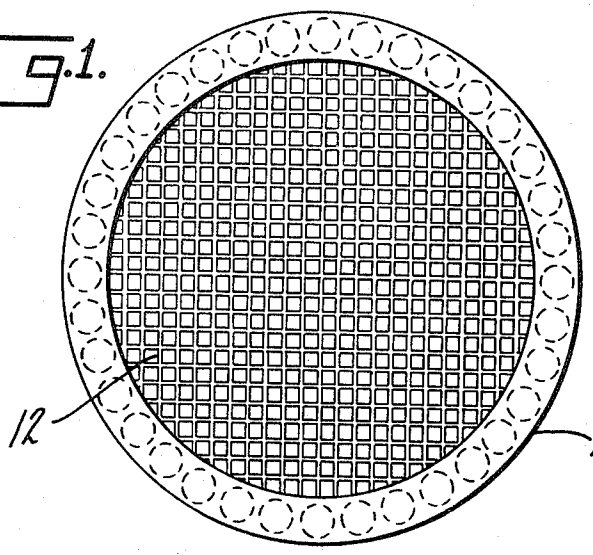


Fig. 1.



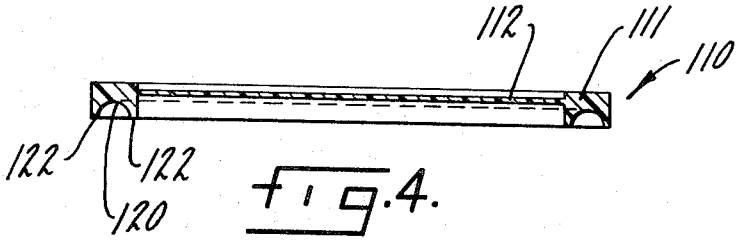


Fig. 4.

Fig. 2.

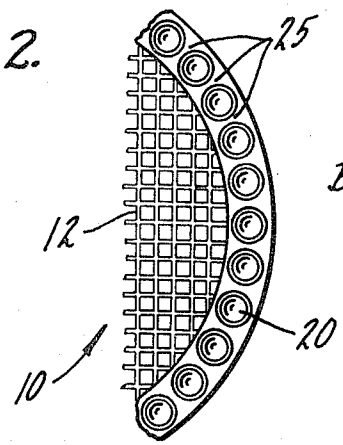
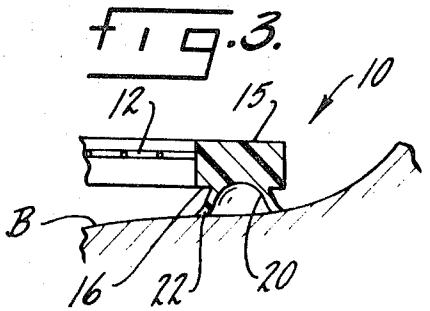


Fig. 3.



DRAIN GUARD FOR CONTACT LENS

BACKGROUND OF THE INVENTION

This invention relates in general to contact lenses normally worn by people in lieu of eyeglasses. It deals more particularly with a drain guard for preventing the loss of contact lenses down sink drains while they are being inserted or removed from a person's eyes.

Many contact lenses are lost annulally down uncovered sink drains when the wearer is inserting or removing them, for example. When the sink has a drain plug, this can be averted, of course. However, particuarly when travelling, the wearer frequently uses a sink without a drain cover, or with some inadequate cover; i.e., inadequate to prevent a tiny contact lens from going down the drain. As a result, it is quite easy to lose an expensive lens, totally disregarding the inconvenience involved.

There are "portable" devices available for covering or guarding drains when handling contact lenses over a sink. However, those available are not capable of use on drain openings of widely varying shapes and sizes, are bulky and normally inseparable from a lens carrier, or have other shortcomings. An example of a known contact lens guard and carrier is disclosed in the Entzminger U.S. Pat. No. 3,083,819.

SUMMARY OF THE INVENTION

The primary object of the present invention is to provide a greatly improved contact lens drain guard for preventing a contact lens from going down the drain passage of a sink in cases where the drain plug or closure disc is either missing or malfunctioning. Another object is to provide a drain guard which is flexible in its applications; i.e., not confined to use on a drain of one size or shape. A further object is to provide a guard which is flexible and can unobtrusively be carried in a pocket or purse. Yet a further object is to provide a contact lens drain guard which is virtually infallible in operation.

The foregoing and other objects are realized in accord with the present invention by providing a contact lens drain guard comprising a circular suction ring forming the annular rim of the guard. The ring is formed of resilient material and, in one aspect of the invention, has a plurality of suction cups unitarily formed on its lower surface, closely spaced, and extending around the entire lower surface. Extending across the ring and bonded to it around its circumference is a mesh screen formed of a suitable, flexible material; nylon, for example. The screen has openings considerably smaller than the size of a single contact lens. The ring is large enough so that it will readily cover the drain opening in a wide variety of drains. Because of the flexibility of the ring, it conforms to the contour of sinks having different conformations around the drain opening. The suction cups adhere to and hold the guard rim to the sink bottom, with the mesh material overlying the drain opening. As a result, a lens cannot inadvertently be lost down the drain. When the user is finished, the suction is easily broken and the guard removed for storage in folded or unfolded relationship in a pocket, purse, or special container.

In another aspect of the invention, the suction cups surrounding the rim are replaced by another form of suction device. A single continuous suction channel is

formed in the lower surface of the ring and provides substantially the same effect as the suction cups in adhering to the bottom of a sink surrounding a drain opening. Such a construction has the advantage of being less expensive to manufacture. However, it must be more carefully placed to obtain a uniform suction grip around the entire rim of the guard.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention, including its construction and method of operation, together with additional objects and advantages thereof, is illustrated more or less diagrammatically in the drawing, in which:

FIG. 1 is a top plan view of a lens drain guard embodying features of one form of the present invention;

FIG. 2 is a bottom plan view of a portion of the guard illustrated in FIG. 1;

FIG. 3 is a vertical sectional view taken through the rim of the guard shown in FIG. 2, with the portion of a sink bottom shown to illustrate the manner in which the guard rim suction cups adhere to the sink bottom; and

FIG. 4 is a vertical sectional view taken through an entire lens drain guard embodying features of another form of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawing, and particularly to FIGS. 1–3, a contact lens drain guard embodying features of a first form of the present invention is illustrated generally at **10.** The lens drain guard **10** comprises a circular ring or rim **11** formed of a resilient material such as natural or synthetic rubber or a suitable plastic. The ring **11** forms the annular rim of the drain guard **10** and is very narrow relative to the ring diameter so that it has minimum bulk, is very light, and will fold very easily.

Bonded to the ring **11** and extending across the entire area within its confines, is a circular net of mesh material, seen generally at **12.** The mesh net **12** is fabricated of nylon or the like and is bonded around its annular periphery to the ring **11** by suitable adhesive means or, in the alternative, by being formed unitarily with the ring during forming of the ring.

As seen in FIG. 3, the upper surface **15** of the ring is generally flat and uninterrupted. In contrast, formed on the lower surface **16** of the ring, and annularly spaced around in closely adjacent relationship, are a series of identical suction cups **20.** These suction cups **20** are of broadly conventional configuration, each being molded unitarily with the rim generally in the form of a hemisphere having a lower, annular contact edge **22.**

The mesh openings of the net **12** are small enough so that a contact lens cannot pass through, 1/16 inch openings, for example. In addition, the spaces **25** between the suction cups **20** around the lower surface **16** of the rim **11** are very narrow, preventing a contact lens from slipping between them. Accordingly, when the lens guard suction cups **20** are pressed downwardly against the base B of a sink, as seen in FIG. 3, with the mesh net **12** overlying the sink drain, a contact lens cannot inadvertently go down the drain should it be dropped by the user when he or she is attempting to insert or remove the lens, or wash it, for example.

The lens drain guard **10** is extremely flexible and can readily be folded in halves or quadrants for storage in the users' purse or wallet, for example, where it occupies minimal space, is flat, and not bulky. It can be carried and used separately from the lens case.

Referring now to FIG. **4**, another form of the lens drain guard is seen generally at **110**. The guard **110** also comprises an annular ring **111** having a mesh net **112** filling the space within its annular periphery. In this regard, it is identical in construction to the first form of the lens drain guard invention seen at **10** in FIG. **1**.

The guard **110** differs from the guard **10** in the fact that a continuous, annular suction trough **120** is formed around the entire lower surface of the rim **111**. The walls forming the annular trough **120** terminates in continuous free, lower edges **122**.

The guard **110** is utilized in substantially the same manner as that described in relation to the guard **10**. The suction trough **120** is effective to create a suction between the ring **111** and the surface of the sink base surrounding a drain opening when the ring is pressed downwardly against the base surface. Since a continuous trough is employed, rather than individual suction cups, it is important that the rim be uniformly pressed around its entire periphery against the sink base to establish an effective seal, of course. In this way, the guard **110** is more sensitive to malfunction. However, the guard **110** is slightly less expensive to manufacture, than the guard **10**.

While several embodiments described herein are at present considered to be preferred, it is understood that various modifications and improvements may be made therein.

What is desired to be claimed and secured by Letters Patent of the United States is:

1. A drain guard for temporarily blocking the drain opening in a sink or the like to prevent a contact lens from being lost down the drain while handled over the sink by its user but permitting the flow of liquid down the drain, comprising:

a. a narrow rim fabricated of flexible material so that it can easily be deformed from a normal, annular ring shape to conform to the surface contour of the sink as well as be deformed for storage,

b. an open, uncovered screen fabricated of flexible material, so that it can easily be deformed, extending across the opening within the annular ring and secured around its periphery to the ring, and

c. suction means extending around the lower surface of said ring for gripping, by suction, the surface of the sink surrounding the sink opening,

d. said suction means being so constructed and arranged that a contact lens cannot slip between said ring and the sink surface to be lost down the drain.

2. The drain guard of claim **1** further characterized in that:

a. in its normal configuration said screen lies substantially in a plane co-extensive with said ring.

3. The drain guard of claim **2** further characterized in that:

a. said suction means comprise a plurality of individual suction cups annularly spaced at predetermined intervals less than the width of a contact lens around the entire circumference of the lower surface of said ring.

4. The drain guard of claim **2** further characterized in that:

a. said suction means comprise a continuous trough extending around the entire circumference of the lower surface of said ring.

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