RAZOR DRYING CONTAINER

A razor container is provided having a first and second portion hingedly attached and securable in an air tight configuration that prevents moisture from entering the container interior when closed. Within the container is an insert that supports a razor along the length of the container and separates the container into an upper and lower chamber. The blades of the razor are suspended by the insert above a plurality of apertures through the insert, wherein the apertures allow air movement across the insert boundary and into the lower chamber created thereby. Further provided in the lower chamber is a removable attached and formed desiccant gel pack that is adapted to draw in moisture from the container interior and from the blades of the razor. A moisture indicator is further disposed along the underside surface of the lower chamber for monitoring the freshness of the desiccant pouch to determine replacement intervals.
RAZOR DRYING CONTAINER

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention
[0002] The present invention relates to razor supports, and further to dry storage containers that maintain a low level of humidity inside the container for storage of moisture-sensitive articles. More specifically, the present invention pertains to a new and novel razor storage container that is useful for maintaining a razor within an otherwise humid environment without exposing the razor blade to excessive moisture and resulting corrosion. The container includes a formed desiccant pouch, a razor support insert, a watertight container construction, and an internal moisture indicator.

[0003] Razors are useful appliances for personal grooming. Traditional (non-electric) razors generally include a handled region and a razor blade head that includes at least one razor blade for removing hair close to the user’s skin while shaving. This appliance is commonly maintained within a bathroom environment and used during or after a shower. Some individuals store the razor in the shower itself or on a vanity countertop between uses. While offering quick access to the razor, both of these locations expose the razor blade to considerable moisture. If the razor blade is not dried or removed from this environment after use, the razor blade (or blades) can quickly become corroded and dull, requiring frequent changing of the blade to prevent nicks and cuts while shaving.

[0004] The humid environment of the bathroom exposes razor blades to moisture for prolonged periods, which can quickly cause oxidation of the blade. Oxidation results in pitting, dulling, and minute chipping of the razor blade material, which creates an irregular and dull cutting edge, and thus a reduced capacity to cut through hair while shaving. The dull and irregular blade also exposes the shaving user to skin cuts and skin irritation during the shaving process. Normally, the razor is placed into a suitable holder or razor support, which attempts to drain the fluid from the razor blades and maintain the blades above free standing water. However, even if the user places the razor in this type of support and dries the razor blades with a towel after each use, the moist environment of the shower or bathroom quickly causes an oxidation and rusting of the blades, reducing their useful life and requiring the user to change out the blades at a high frequency.

[0005] Replacement of razor blades can be an expensive proposition, particularly with premium razors that have several blades and a specifically designed replacement head. These blades can cost several dollars per replacement and require replacement only after a few uses. Taking into account the frequency of replacement over an entire year, this can become quite an expense, and one that is otherwise unnecessary if the razor blade is maintained in a properly clean, dry environment between uses.

[0006] The present invention provides a new razor container that maintains the razor and razor blade in a clean, dry environment between uses. The container comprises a securable, water tight lid, a razor shelf insert for supporting the razor, an underside desiccant pouch that draws moisture from the container interior and thereinto, and finally a moisture indicator within the container for monitoring the effectiveness of the pouch over time. The razor shelf insert supports the razor and allows moisture to flow from one side of the container to the underside of the insert and into the desiccant pouch, effectively removing moisture from the razor side of the container. The device is disclosed for reducing oxidation of razor blades and reducing bacteria development thereon when stored in showers and bathrooms, thereby extending the life of the blade, allowing for smoother shaves over a longer period, and further for reducing waste and unnecessary expense related to blade replacement.

[0007] 2. Description of the Prior Art

[0008] Devices have been disclosed in the prior art that relate to containers that are adapted to remove moisture from an article supported therein. These include devices that have been patented and published in patent applications. The following is a list of devices deemed most relevant to the present disclosure, which are herein described for the purposes of highlighting and differentiating the unique aspects of the present invention, and further highlighting the drawbacks existing in the prior art.

[0009] Devices in the prior art relate to article supports and containers that utilize a hygroscopic material or desiccant pack therewithin to draw moisture from the article. These devices, while providing a means of drying a tool, razor, or other article, fail to disclose the novel construction and moisture-separating features of the present invention. Namely, the present invention discloses a container having an internal razor support insert that separates a container into an upper and lower chamber, wherein the lower chamber includes a desiccant gel pack that draws moisture from the upper chamber through apertures in the insert. The gel pack is monitored using a moisture indicator, which alerts the user when to replace the gel pack over a period of use.

[0010] One such device in the prior art is U.S. Patent Publication No. 2011/0300898 to De'Remnoux, which discloses a razor case that is adapted to remove moisture from the razor by using a small desiccant gel pack and an absorbent layer within the case. The case comprises a hinged top lid, an absorbent liner disposed along the bottom of the case for supporting the razor, and at least one absorbent desiccant gel pack within the case. Further disclosed is a spacer element disposed within the case for supporting the razor therein. While disclosing a case having a similar purpose to the present invention, the De'Remnoux device utilizes an absorbent layer under the razor, where the present invention contemplates an insert that is adapted to support the razor above a desiccant gel pack and facilitate moisture trapping along the gel pack side of the insert. The present invention includes an insert having a plurality of apertures and a design that is adapted to separate the container into an upper and lower chamber, wherein moisture is drawn through the apertures and into the gel pack along the lower chamber, away from the razor. Further provided is a means of monitoring the freshness of the gel pack over time, which allows the user to change out gel packs as necessary from the container.

[0011] Another such device is U.S. Pat. No. 1,835,408 to Kurtz, Jr., which discloses a case for razor blades and for drying the same after each use. The case includes hingedly attached frames and an internal blotting paper for drying the razor blade after each use. The blotting paper contacts an exposed razor blade that is freed from its razor holder, wherein closing the case causes the blotting paper to remove moisture therefrom. While providing a means of removing moisture from an exposed and freely position razor blade within a case, the Kurtz, Jr. device fails to provide a sufficient solution for modern razor blades that cannot be removed from their attachment head.

[0012] U.S. Pat. No. 4,730,726 to Holzwarth is a device that discloses a sealed sterile package that utilizes a formed plastic
layer having a recess for supporting a surgical instrument, a permeable layer secured to the plastic layer about the recess, a desiccant pack below the permeable layer and adjacent to the instrument for drawing moisture therefrom, and finally a moisture impervious layer encasing the desiccant pack. The package secures a surgical instrument having a moisture sensitive object subject to hydrolytic degradation and prevents the same from occurring before use, wherein a sterilizing gas is used to clean the instrument before packaging and sealing the instrument prior to being used in a procedure. The Holzwarth device is directed to protecting a sterilized medical instrument and preventing moisture damage to sensitive components thereon when sealed. No motivation exists to utilize the same construction for the protection of razor blades, and further the structure of Holzwarth is such that its everyday use as a razor support is not practical.

Finally, U.S. Pat. No. 1,277,824 to Baker discloses a holder for a safety razor that includes an absorbent agent-containing cartridge of hydroscopic material, wherein the material draws moisture from the safety blade to preserve its condition for periods of time. The container is air tight, while the cartridge is preferably comprised of a calcium chloride or sulfuric acid, which absorbs moisture. The Baker device, similar to the aforementioned devices, provides a means to dry a razor blade but fails to disclose the novel aspects of the present invention. The present invention further does not contemplate a hydroscopic material defined by Baker, but rather a replaceable desiccant gel pack to remove moisture.

The present invention discloses a new and novel razor container that protects the razor from the humid environment of the shower, while drawing moisture from the blade of the razor and from the container interior while therein to prevent rapid oxidation of the blade and thus improve the useful life thereof. The container includes an insert that separates the interior volume into two chambers, facilitating moisture removal and a dry storage location for the razor between uses. The pouch is readily monitored and replaced as necessary to maintain the dry interior environment of the container, even when placed directly in the shower.

It is submitted that the present invention is substantially divergent in design elements from the prior art, and consequently it is clear that there is a need in the art for an improvement to existing dry razor storage containers. In this regard the instant invention substantially fulfills these needs.

SUMMARY OF THE INVENTION

In view of the foregoing disadvantages inherent in the known types of razor containers now present in the prior art, the present invention provides a new container that can be utilized for providing convenience for the user when storing a razor in a dry environment between uses, without requiring the user to first dry the razor blade or store the container in a specific location.

It is therefore an object of the present invention to provide a new and improved razor drying container that has all of the advantages of the prior art and none of the disadvantages.

It is another object of the present invention to provide a razor drying container that includes a first and second half hingedly attached to one another, wherein the halves secure closed to form an air tight, enclosed interior volume for supporting a razor therein while in the shower or general bathroom environment.

Another object of the present invention is to provide a razor drying container that actively removes moisture from within the container interior, drying the razor blade and preventing free-standing water from causing oxidation and rusting of the razor blades between uses.

Yet another object of the present invention is to provide a razor drying container that employs a specifically designed razor support insert, whereby the razor blades are supported above a plurality of apertures, wherein the apertures allow moisture to be drawn from the blades and into a desiccant pouch stowed beneath the insert.

Another object of the present invention is to provide a razor drying container that utilizes an interior insert to separate the container interior into an upper chamber and lower chamber, wherein moisture is drawn from the upper chamber and into the lower chamber that houses a desiccant pouch for trapping moisture therein.

Another object of the present invention is to provide a razor drying container that employs a moisture indicator within the interior of the container, whereby the indicator alerts the user that the desiccant pouch is no longer functioning as intended and is in need of replacement.

Yet another object of the present invention is to provide a razor drying container that reduces the frequency with which a razor blade must be replaced on a razor because of dulling and pitting caused by oxidation, thereby reducing expenses for the user, reducing waste, and extending the useful life of a razor blade.

A final object of the present invention is to provide a razor drying container that may be readily fabricated from materials that permit relative economy and are commensurate with durability.

Other objects, features and advantages of the present invention will become apparent from the following detailed description taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTIONS OF THE DRAWINGS

Although the characteristic features of this invention will be particularly pointed out in the claims, the invention itself and manner in which it may be made and used may be better understood after a review of the following description, taken in connection with the accompanying drawings wherein like numeral annotations are provided throughout.

FIG. 1 shows a perspective exploded view of the present invention and all of its elements, along with a razor of typical design that is well adapted for storage within the present container.

FIG. 2 shows an underside exploded view of the present invention and all of its elements.

FIG. 3 shows an overhead view of the insert of the present container.

FIG. 4 shows a cross section side view of the present invention, wherein the separation of the container interior volume by the insert is visualized.

FIG. 5 shows an overhead view of the present invention in a closed state.

FIG. 6 shows an underside view of the present invention, wherein the moisture indicator is visualized through the transparent container.
DETAILED DESCRIPTION OF THE INVENTION

Reference is made herein to the attached drawings. Like reference numerals are used throughout the drawings to depict like or similar elements of the dry razor container. For the purposes of presenting a brief and clear description of the present invention, the preferred embodiment will be discussed as used for supporting a razor within a clean, dry container, whereby moisture is removed from the blades of the razor for extended use thereof. The figures are intended for representative purposes only and should not be considered to be limiting in any respect.

Referring now to FIGS. 1 and 2, there are shown exploded perspective views of the dry razor container of the present invention. The device comprises a transparent container 11 having an upper 14 and lower 13 portion hingedly connected 17 along an aligned edge therebetween. The lower portion 13 comprises upstanding sidewalls 86, a base surface 12 and an upper edge that combine to define a container interior volume. The upper and lower portions of the container hinge about one edge and secure together along an opposite edge, wherein a latch 15 is disposed along the upper portion 14 for securing the same to the lower portion 13. Along one of the sidewalls 86 is a lip 18 that is adapted to catch a hinged latch 16 attached to the upper portion 14 of the container, thereby securing the upper and lower portions together when enclosing a razor 100 therein.

Along the interface between the upper and lower container portions and disposed along the upper edge of the lower portion 13 is a gasket element 88. The gasket 88 affords a seal between the two portions of the container and prevents moisture and air from freely crossing the interface when closed. The gasket 88 is preferably secured within a lip about the upper edge of the lower portion 13. When securing the upper portion 14 to the lower portion 13, a plurality of gaskets 85 are disposed along the edge of the upper portion 14 for retaining the gasket 88 in position and for improving overall fitment of the two portions together in a moisture-tight fashion.

Within the container 11 is an insert element 31 that is adapted to support a razor 100 in a stable position while separating the interior volume of the container 11 into an upper and lower chamber. The insert 31 comprises a thin-walled structure having upstanding walls 33 that parallel the sidewalls 86 of the container 11, wherein the walls 33 support an upper surface 35. Within the upper surface 35 is a longitudinal channel 34 that is adapted to support the handle 102 of a razor therein.

The function of the insert 31 is twofold: to support a razor 100 between uses and to create a separation between the razor 100 and a desiccant gel pouch 21 disposed within the container 11. The channel 34 of the insert comprises a first 32 and second 39 end, the second end 39 being a widened area to support the head 101 of the razor and accompanying razor blades. The channel second end 39 comprises a lowermost surface 36 that supports the blades 101 directly, an elevated surface 37 just inward from the lowermost surface 39, and a plurality of apertures 38 disposed along the elevated surface 37. The apertures 38 allow moisture and air to flow from the upper chamber and through the insert 31 to the lower chamber and then into the desiccant gel pouch 21 disposed therein.

The elevated surface 37 creates an offset between the lower surface 12 of the container 11 and allows air to communicate across the apertures and into the desiccant gel pouch, which actively draws in moisture to dry the razor blade 101 and prevent active oxidation thereof. The underside of the insert 31 is an open area to accommodate the bulk of the desiccant gel pouch 21, which is formed to fit largely along the sides of the razor channel 34 and the razor handle grip depression 30 along the channel length.

The desiccant pouch 21 is a large, sealed pack of desiccant material, wherein desiccant material is one selected from the group of silica gel, molecular sieves, activated aluminas, porous silica glass, or any other commonly deployed desiccant material utilized in maintaining dry environments within packages and containers. The pouch 21 of the present invention comprises a first and second enclosed material pouch portion 22 that are connected by a material bridge 24 at one end and separated from one another along a second end 25. The second end of the pouch forms extensions 26 of the enclosed material portions 22 that are adapted to be placed along opposing sides of the insert channel second end 39 (razor blade end), while the connected portions of the pouch are adapted to be placed along opposing sides of the channel 34 along its length. The overall pouch is designed to secure within the open underside of the insert 31, allowing the insert 31 lower edge to be supported by the container lowermost surface 12. Furthermore, the pouch material is adapted to be porous to allow for air and moisture to permeate the pouch and become absorbed by the hygroscopic, desiccant material therein.

The desiccant pouch 21 is a removable structure that is adapted to be periodically replaced as the material therein loses its ability to absorb moisture. Its overall size and design make it ideally suited for use below the insert 31 and for use in highly moist environments, such as bathrooms and showers. The two pouch portions 22 enclose a large quantity of the desiccant material and separate two large quantities thereof by design, placing the pouch portions along opposing sides of the insert channel. The size and shape of the pouch 21 consumes the open volume below the insert 31 within the container, whereby the desiccant pouch 21 is specific to the present assembly and more effective than standard, clothier desiccant pouches having smaller, rectangular pouch structures. The surface area provided by the pouch portions 22 and the quantity of material therein greatly improves the ability of the present assembly to absorb and contain moisture over existing desiccant pouch alternatives.

To monitor the freshness (and thus effectiveness) of the pouch 21, a moisture indicator 41 is disposed along the base surface 12 of the container, whereby the user can monitor the moisture content of the container interior. Under normal conditions, the moisture within the container is rapidly absorbed by the desiccant pouch 21. As the pouch loses its ability to absorb moisture, the moisture content rises within the container and thus the moisture indicator begins to register high moisture content therein. When the indicator is registering a high level of moisture therein, the user is alerted to replace the desiccant pouch 21 and replace the moisture indicator 41 with fresh replacements. The moisture indicator 41 is preferably a type of humidity indicator card having a moisture-sensitive material thereon that reacts and changes color with higher levels of humidity.

A plurality of hook and loop attachment means 40 are disposed along the underside of the insert 31 and along the upper surface of the pouch 23, whereby the pouch 21 can be secured thereto. Once secured, the pouch 21 and insert 31 are secured together as one and the user can place the insert 31 into the container 13 without the pouch 21 moving or sepa-
When replacing the desiccant pouch 21, the user removes the insert and pouch, disconnects the pouch 21 from the insert 31 and replaces the pouch 21 with a fresh replacement.

Referring now to FIGS. 3 and 4, there are shown two views of the insert 31 of the present invention, independent from the container. As previously described, the insert 31 functions as a razor support article positioned within the container and a means to separate the container into and upper and lower chamber. The razor blades of the razor are positioned adjacent to the apertures 38 along the insert second end 39, while the upper surface 35, longitudinal channel 34, and lowermost surface 36 separate the razor from direct contact with the underlying desiccant pouch. By separating the container into an upper and lower chamber, the moisture is drawn towards the desiccant pouch and away from the razor itself. By positioning the razor blades adjacent to the apertures 38 in the insert 31, the moisture therein has a most direct access to the pouch drying means to provide more rapid drying thereof. The sidewalls 33 of the insert 31 elevate the upper surface 35 and channel 34 such that the razor is positioned above the desiccant pouch with enough clearance for both articles. When retrieving the razor, a pair of handle grip depressions 30 allows the user’s fingers to access and remove the razor by its handle.

Referring specifically to FIG. 4, there is shown a cross section side view of the assembly in a working state, whereby the positioning of the desiccant pouch 21 in relation to the insert 31 is shown within the container interior. The insert 31 is a formed sheet of material having upstanding sidewalls 33 and a channel 34 to support the razor in a stable condition. However, the foremost concern of the insert 31 is to position the razor blades in proximity to the apertures 38 in the insert such that moisture is drawn therefrom and into the lower chamber created by the insert 31 below the channel 34. The desiccant pouch 21 absorbs the water from the blades and draws the moisturized air through the apertures and into its pouch interior.

Moisture is prevented from entering into the container interior from the outside environment by way of the gasket 88 between the container portions (13, 14), creating a sealed compartment for storage of the razor. Moisture is drawn from the razor only, and not from the outside environment. This preserves the longevity of the desiccant pouch 21 and maintains the razor in a dry environment to prevent oxidation and dulling of the razor blades between uses.

Referring now to FIGS. 5 and 6, there is shown an overhead view of the container 31 and insert 31 assembly of the present invention and an underside view thereof, respectively. When assembled, the insert 31 securely separates the container as previously described, wherein an upper chamber is provided to support the user’s razor and a lower chamber is provided to store a desiccant pouch adapted for moisture absorption. When in a closed position, the interior environment of the container is very dry and adapted to prevent moisture encroachments thereinto.

The desiccant pouch draws in moisture, and after a period of time must be replaced in favor of a fresh replacement. To monitor the freshness (and thus the effectiveness) of the desiccant pouch, a moisture indicator 41 is provided along the base surface 12 of the container. The moisture indicator 41 is mounted within the container interior and reacts to a humid environment. If a humid environment persists within the container interior, the pouch is not actively removing the moisture or is not doing so with adequate effectiveness. This will result in the indicator center 42 changing colors, wherein the indicator colors are marked by concentric rings 43 around the center 42. Once this occurs, the user knows to change the pouch and replace it with a fresh article, wherein moisture can then be quickly removed from the container interior once again. The indicator 41 can also be replaced once this transition occurs, if the chemical process of the indicator 41 does not have reversibility after changing colors.

During deployment, the insert 31 supports a user’s razor within its channel 34 interior and with the razor blades adjacent to apertures 38 therealong. The upper portion of the container is hingedly attached 19 to the lower portion, whereby the two portions connect using a hinged latch 18 mechanism to secure the edges of the portions together along a side opposite of the hinge 19. When the user has finished using the razor, he or she can clean the razor with water and place it into the insert channel 34 and thereafter close the container shut. The container can be kept within the shower interior or within the bathroom, and the residual moisture on the razor and the razor blades will be rapidly dried as moisture is drawn to the desiccant pouch.

Overall, the device serves a means to preserve the longevity of razor blades, either directly within a shower or on a bathroom counter area. Moisture is quickly drawn from the blades in a drying process, wherein oxidation of the blades is slowed or even stopped between uses. This extends the useful life of razor blades and reduces the frequency with which the blades need replacement. The desiccant pouch is removable and replaceable as it loses its drying abilities and the interior pouch material is chemically altered over time. The pouch generally lasts for long periods of time, as compared to the frequency of razor blade replacement if the razor is left exposed in the bathroom. Therefore, the device saves the user money in replacement costs and prevents the user from using a dulled or oxidized razorblade.

It is therefore submitted that the instant invention has been shown and described in what is considered to be the most practical and preferred embodiments. It is recognized, however, that departures may be made within the scope of the invention and that obvious modifications will occur to a person skilled in the art. With respect to the above description, then, it is to be realized that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention.

Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

1. A razor drying device, comprising:
   a. a container having an upper portion and a lower portion, said lower portion having a base surface, upstanding sidewalls, an upper edge, and an interior volume;
   b. said upper portion having a lower edge that aligns with said lower portion upper edge;
said upper portion and lower portion adapted to connect and form a moisture sealed container interior volume; an insert positionable within said container lower portion and adapted to separate said lower portion into an upper chamber and a lower chamber; said insert comprising a first and second end, upstanding sidewalls, an upper surface, a longitudinal channel along said upper surface; said second end of said insert further comprising a lowermost surface and an elevated surface joining said longitudinal channel with said lowermost surface; at least one aperture through said elevated surface; a desiccant pouch having a first and second enclosed desiccant material pouch portion, said pouch portions comprising moisture-permeable material, said pouch portions being connected by a material bridge; said material pouch portions of said desiccant pouch adapted to fit into said insert below said insert upper surface and along opposing sides of said longitudinal channel.

2) The device of claim 1, further comprising a moisture indicator within said container interior that is adapted to monitor the humidity therein.

3) The device of claim 1, further comprising a gasket along said container lower portion upper edge, wherein said gasket seals said connection between said upper and lower container portion.

4) The device of claim 1, wherein said container upper and lower portion are hingedly connected along a side thereof, and removably fastened together along an opposite side by way of a hinged latch.

5) The device of claim 1, wherein said insert upper surface further comprises an underside surface having a pouch attachment means adapted to connect to corresponding attachment means on said pouch portions.

6) The device of claim 1, wherein said container upper and lower portion is transparent.

7) The device of claim 1, wherein said insert second end is adapted to support the razor blade end of a razor adjacent to said apertures, and said longitudinal channel is adapted to support a razor handle.

8) A razor drying device, comprising: a container having an upper portion and a lower portion; said lower portion having a base surface, upstanding sidewalls, an upper edge, and an interior volume; said upper portion having a lower edge that aligns with said lower portion upper edge; said upper portion and lower portion adapted to connect and form a moisture sealed container interior volume; an insert positionable within said container lower portion and adapted to separate said lower portion into an upper chamber and a lower chamber; at least one aperture through said insert; a desiccant pouch adapted to fit below said insert; a moisture indicator within said container interior that is adapted to monitor the humidity therein.

9) The device of claim 8, wherein said insert further comprises: a first and second end, upstanding sidewalls, an upper surface, a longitudinal channel along said upper surface; said second end of said insert further comprising a lowermost surface and an elevated surface joining said longitudinal channel with said lowermost surface.

10) The device of claim 8, wherein said desiccant pouch further comprises: a first and second enclosed desiccant material pouch portion, said pouch portions comprising moisture-permeable material, said pouch portions being connected by a material bridge.

11) The device of claim 8, further comprising a gasket along said container lower portion upper edge, wherein said gasket seals said connection between said upper and lower container portion.

12) The device of claim 8, wherein said container upper and lower portion are hingedly connected along a side thereof, and removably fastened together along an opposite side by way of a hinged latch.

13) The device of claim 8, wherein said insert upper surface further comprises an underside surface having a pouch attachment means adapted to connect to corresponding attachment means on said desiccant pouch.

14) The device of claim 8, wherein said container upper and lower portion is transparent.

15) The device of claim 8, wherein said insert second end is adapted to support the razor blade end of a razor adjacent to said apertures, and said longitudinal channel is adapted to support a razor handle.