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Display Container For Botanical Specimens

Abstract

Embodiments of the present disclosure provide for a multisensory examination jar for botanical specimens. Embodiments of the disclosed jar may have a body portion with an integrated LED array for illuminating the contents of the jar. The jar may have a removable lid with an integrated magnifying lens, and an opening or port to enable a user to smell the contents of the jar. The opening may have a removable plug to establish a substantially air tight seal on the lid of the jar, to trap odors within the jar. The removable plug can be selectively removed to enable the user to smell the contents of the jar. The jar may have an electronics module and power source operable for wireless charging. The jar may also be configured to interface with a charging dock or base for wireless charging of integrated batteries.

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Background/Summary

CROSS REFERENCE TO RELATED APPLICATIONS [0001] This application is a continuation of U.S. patent application Ser. No. 18/492,256, filed Oct. 23, 2023, which is a continuation of U.S. patent application Ser. No. 17/992,583, filed Nov. 22, 2022, which is a continuation of U.S. patent application Ser. No. 17/568,468, filed Jan. 4, 2022, which is a continuation of U.S. patent application Ser. No. 16/950,512 filed on Nov. 17, 2020, which is a continuation of U.S. patent application Ser. No. 15/910,682 filed on Mar. 2, 2018, which is a continuation of U.S. Design patent application Ser. No. 29/607,785, filed on Jun. 16, 2017 entitled “LIGHTED MAGNIFIED DISPLAY JAR,” the disclosures of each of which are hereby incorporated in their entirety at least by reference.

FIELD
[0002] The present disclosure relates to the field of botanical examination and observation; in particular, a lighted magnified display jar with sealable smell port for multisensory examination of botanical specimens.
SUMMARY
[0003] The following presents a simplified summary of some embodiments of the invention in order to provide a basic understanding of the invention. This summary is not an extensive overview of the invention. It is not intended to identify key/critical elements of the invention or to delineate the scope of the invention. Its sole purpose is to present some embodiments of the invention in a simplified form as a prelude to the more detailed description that is presented later.
[0004] An object of the present disclosure is a multisensory examination jar apparatus comprising a lid having side walls defining a circumference and a top portion extending from the side walls, the top portion comprising a circular aperture and an elongated aperture, the circular aperture having side walls defining a viewing portion and the elongated aperture having side walls defining a smell port, the lid having a magnifying lens coupled to an interior portion in alignment with the circular aperture; a smell port plug removably coupled to the elongated aperture, the smell port plug having a bottom portion and side walls, the smell port plug being configured to seal the smell port when removably coupled to the elongated aperture; a housing being selectively coupled to the lid, the housing having an upper circumference and a lower circumference with a support structure extending therebetween to define a viewing area, the housing having a jar portion defining an interior portion of the housing; an LED array disposed around an interior portion of the upper circumference of the housing; and, an electronics module being operably engaged with the LED array and a power source.

[0005] Another object of the present disclosure is a magnified display jar apparatus comprising a lid having side walls defining a circumference and a top portion extending from the side walls, the top portion having a circular aperture and an elongated aperture, the circular aperture having side walls defining a viewing portion and the elongated aperture having side walls defining an odor port, and a magnifying lens coupled to an interior portion of the lid in alignment with the circular aperture; an odor plug removably coupled to the elongated aperture, the odor plug having a bottom and side walls configured to seal the odor port when removably coupled to the elongated aperture; a housing being selectively coupled to the lid, the housing having an upper circumference and a lower circumference with a support structure extending therebetween to define a viewing area, the housing having a jar portion defining an interior portion of the housing, the upper circumference of the housing having a channel portion disposed around an interior portion of the upper circumference; an LED array comprising a plurality of LEDs being mounted on a ring-shaped array surface, the LED array being coupled to the channel portion of the upper circumference of the housing; and, an electronics module being operably engaged with the LED array and a power source.

[0006] Yet another object of the present disclosure is a magnified display jar apparatus comprising a lid having side walls defining a circumference and a top portion extending from the side walls, the top portion having a circular aperture and an elongated aperture, the circular aperture having side walls defining a viewing portion and the elongated aperture having side walls defining an odor port, and a magnifying lens coupled to an interior portion of the lid in alignment with the circular aperture; an odor plug removably coupled to the elongated aperture, the odor plug having a bottom and side walls configured to seal the odor port when removably coupled to the elongated aperture; a housing being selectively coupled to the lid, the housing having an upper circumference and a lower circumference with a support structure extending therebetween to define a viewing area, the housing having a jar portion defining an interior portion of the housing, the upper circumference of the housing having a channel portion disposed around an interior portion of the upper circumference; an LED array comprising a plurality of LEDs being mounted on a ring-shaped array surface, the LED array being coupled to the channel portion of the upper circumference of the housing; and, an electronics module being operably engaged with the LED array and a power source.

[0007] The foregoing has outlined rather broadly the more pertinent and important features of the present invention so that the detailed description of the invention that follows may be better understood and so that the present contribution to the art can be more fully appreciated. Additional features of the invention will be described hereinafter which form the subject of the claims of the invention. It should be appreciated by those skilled in the art that the conception and the disclosed specific methods and structures may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present invention. It should be realized by those skilled in the art that such equivalent structures do not depart from the spirit and scope of the invention as set forth in the appended claims.

Description

BRIEF DESCRIPTION OF DRAWINGS

[0008] The above and other objects, features and advantages of the present disclosure will be more apparent from the following detailed description taken in conjunction with the accompanying drawings, in which:

[0009] FIG. **1** is an isometric view of a magnified lighted display jar with sealable smell port, according to an embodiment of the present disclosure;

[0010] FIG. **2** is an isometric view of a magnified lighted display jar with sealable smell port,

according to an embodiment of the present disclosure;
[0011] FIG. **3** is an exploded view of a magnified lighted display jar with sealable smell port, according to an embodiment of the present disclosure;
[0012] FIG. **4** is an isometric view of a magnified lighted display jar with sealable smell port, according to an embodiment of the present disclosure;
[0013] FIG. **5** is a cross sectional view of a magnified lighted display jar with scalable smell port, according to an embodiment of the present disclosure; and,
[0014] FIG. **6** is an isometric view of a magnified lighted display jar with scalable smell port with the lid in an open configuration, according to an embodiment of the present disclosure.

DETAILED DESCRIPTION

[0015] Exemplary embodiments are described herein to provide a detailed description of the present disclosure. Variations of these embodiments will be apparent to those of skill in the art. Moreover, certain terminology is used in the following description for convenience only and is not limiting. For example, the words “right,” “left,” “top,” “bottom,” “upper,” “lower,” “inner” and “outer” designate directions in the drawings to which reference is made. The word “a” is defined to mean “at least one.” The terminology includes the words above specifically mentioned, derivatives thereof, and words of similar import.
[0016] Embodiments of the present disclosure provide for a multisensory examination jar for botanical specimens; more particularly, a magnified lighted display jar for displaying, viewing, and smelling flowers and other vegetation. Embodiments of the disclosed jar may have a body portion with an integrated LED array for illuminating the contents of the jar. The jar may have a removable lid with an integrated magnifying lens, and an opening or port to enable a user to smell the contents of the jar. The opening may have a removable plug to establish a substantially air tight seal on the lid of the jar, to trap odors within the jar. The removable plug can be selectively removed to enable the user to smell the contents of the jar. The jar may have an electronics module and power source operable for wireless charging. The jar may also be configured to interface with a charging dock or base for wireless charging of integrated batteries.
[0017] Referring now to FIG. **1**, an isometric view of a magnified display jar with scalable smell port **100** is shown. According to an embodiment of the present disclosure, magnified display jar **100** is configured to store flowers, or other items, in a jar portion **108**. Jar portion **108** is housed in housing **104**. A lid portion **102** interfaces with body portion **108** to contain and scal the contents of jar portion **108**. Lid portion **102** contains a magnifying lens **112** and a smell or odor port plug **110**. Smell port plug **110** may be constructed from rubber, plastic, and the like. Smell port plug **110** may have a gripping portion **202** that enables a user to remove smell port plug **110** from lid **102**. Lid **102** and housing **104** contain a security connector portion **114**. Security connector portion **114** enables a user to securely couple lid **102** and housing **104** with a cable, zip tie, locking device, or other connection means to prevent lid **102** from being removed from housing **104**. A charging dock **106** is operable to interface with a lower portion of housing **104** to enable wireless charging of an integrated battery pack.
[0018] Referring now to FIG. **2**, an isometric view of magnified display jar with scalable smell port **100** is shown. According to an embodiment of the present disclosure, magnified jar **100** contains an array of light-emitting diodes (LEDs) coupled to an upper interior portion of housing **104**. A power button **118** is operably engaged with an integrated battery and is configured to turn the LED array on and off in relation to the integrated battery. Housing **104** may also have a lower security connector portion or eyelet **116**, which is configured to receive a cable, zip tie, or the like for securely connecting or locking magnified display jar **100** to a desired location.
[0019] Referring now to FIG. **3**, an exploded view of magnified display jar with scalable smell port **100** is shown. According to an embodiment of the present disclosure, magnified display jar **100** is generally comprised of a lid assembly **302**, a body assembly **304**, and an electronics assembly **306**. Lid assembly **302** is generally comprised of lid **102**, smell port plug **110**, smell port gasket **120**, lid

insert **122**, magnifying lens **112**, lens coupling **144**, and lid gasket **124**. Lid **102** is comprised of a circular opening defining a viewing area **146** and an elongated opening defining a smell port **148**. Smell port plug **110** is configured to be the same shape as smell port **148** such that smell port plug **110** may be mateably coupled with smell port **148**. Lid insert **122** is configured to mateably couple with lid **102**, such that lid insert **122** aligns with viewing area **146** and smell port **148**. Lid insert **122** may further comprise a smelling surface **150**. Smelling surface **150** is configured to extend between the area of smell port **148**. Smelling surface **150** contains a plurality of apertures such that air (i.e. smell) may freely flow therethrough, but configured such that a user is prevented from inserting their fingers or a foreign object into the interior portion of magnified display jar **100**. Smell port gasket **120** is inserted against a perimeter of smelling surface **150** and then lid insert **122** is mateably coupled with lid **102**. Smell port gasket **120** provides a substantially air tight seal between lid insert **122** and lid **102** along the perimeter of smell port **148**. Lens **112** is coupled to an interior portion of lid insert **122** in alignment with viewing area **146**. Lens coupling **144** is configured to secure lens **112** to lens insert **122** in alignment with viewing area **146**. Lens coupling **144** may be screwed, glued, or otherwise coupled to lens insert **122** in order to secure lens **112**. Lid gasket **124** may be coupled to and disposed around a perimeter of lid insert **112** such that lid assembly **302** may establish a substantially airtight seal with body assembly **304** when coupled to body **104**. Lid insert **122** and body **104** may have complementary threaded portions such that lid assembly **302** may be screwed and unscrewed from body assembly **304**. The threaded portions of lid insert **122** and body **104** should be configured such that security connectors **114** (as shown in FIG. **1**) are aligned when lid assembly **302** is coupled to body assembly **304**. The threaded portions of lid insert **122** and body **104** are a design choice to provide stability and a more air tight connection, but lid assembly **302** and body assembly **304** may be mateably coupled using any suitable mechanical means.

[0020] Body assembly **304** is generally comprised of housing **104**, LED array **128**, LED gasket **130**, jar gasket **132**, jar **134**, power switch **118**, electronics housing **136**, circuity **140**, batteries **138**, power connector **142**, and base portion **160**, and bus **126**. Housing **104** may be comprised of an upper circumference **152**, a lower circumference **156**, and a support structure **158** extending between upper circumference **152** and lower circumference **156** to provide structural integrity of housing **104** and to define a viewing area **154** extending between an upper perimeter of lower circumference **156** and a lower perimeter of upper circumference **152**. LED array **128** comprises a plurality of LEDs disposed around LED array **128** (as shown in FIG. **5**). LED array **130** is coupled to a channel portion (as shown in FIG. **5**) of housing **104**. LED gasket **130** is disposed on LED array **130** to secure and conceal LED array **130** in the channel portion (as shown in FIG. **5**) of housing **104**. Jar gasket **132** is disposed around an inner perimeter of housing **104** adjacent to the channel portion (as shown in FIG. **5**) of housing **104**. Jar **104** is housed in an interior portion of housing **104**. Jar gasket **132** provides an interface between jar **134** and housing **104** to ensure a secure fit between jar **134** and housing **104**.

[0021] Electronics housing **136** couples to base portion **160** to contain circuity **140**, batteries **138**, power connector **142**. Power connector **142** interfaces with a power connector aperture in base **160** such that power connector **142** can interface with the charging dock (as shown in FIG. **1**). Electronics housing **136** interfaces with a lower portion of housing **104** to securely couple jar **134** in the interior portion of housing **104**. Bus **126** provides power transfer between LED array **128** and batteries **138**. Power switch **118** is operably engaged with circuity **140** to control the transfer of power from batteries **138** to LED array **128** via bus **126**.

[0022] Referring now to FIG. **4**, an isometric view of a magnified display jar with scalable smell port **100** is shown. According to an embodiment of the present disclosure, magnified display jar **100** is shown in an open configuration, with lid assembly **302** disconnected from housing **104**. Lid gasket **124** is shown coupled to an inner portion of lid insert **122**. Lens coupling **144** is shown being screwed to lid insert **122** to secure lens **112**. The threaded portions of lid insert **122** and

housing **104**, as discussed in FIG. **3** above, are shown. The user places a desired item, such as a flower, into the interior portion **402** of body assembly **304** and secures lid assembly **302** to body assembly **304** to securely contain the item for viewing and examination via lens **112** and smell port **148** (as shown in FIG. **3**).

[0023] Referring now to FIG. **5**, a cross-sectional view of body assembly **304** is shown. According to an embodiment of the present disclosure, upper circumference **152** of housing **104** is comprised of channel **502** and an inner perimeter **506**. LED array **128** is housed in channel **152** and LED gasket **130** is disposed on LED array **128**. LED array **128** has a plurality of LEDs **504** disposed thereon. In an embodiment, LED array **128** has between four and eight LEDs **504** disposed equidistant around the circumference of LED array **128**. LED gasket **130** has a plurality of apertures disposed equidistant around the circumference of LED gasket **130** in alignment with the location of LEDs **504** disposed LED array **128**. Jar gasket **132** is disposed around inner perimeter **506** to secure jar **134** inside housing **104**. Inner perimeter **506** is offset from channel **502** such that LEDs **504** disposed LED array **128** are not impeded by jar gasket **132** and/or jar **134**.

[0024] Referring now to FIG. **6**, an isometric view of a magnified display jar **100** with smell port plug **110** removed is shown. According to an embodiment of the present disclosure, magnified lighted display jar **100** is configured such that a user can visually examine and smell the contents of magnified display jar **100** simultaneously. With smell port plug **110** removed, the user may bring magnified display jar **100** adjacent to his or her face such that the user's nose is approximately centered horizontally with smell port **148**. The user may then align viewing area **146** adjacent to the user's eyes, such that the user may visually examine the contents of magnified display jar **100** via lens **112**, while simultaneously smell the contents of magnified display jar **100** via smell port **148**. According to an embodiment, viewing area **146** is circular in shape and is off-centered in relation to the center of lid **102** (in relation to the circumference of lid **102**). Smell port **148** may be elongated in shape and configured as an arc in relation to the circumference of lid **102**. Smell port **148** may have an arc angle in the range of about 30 degrees to about 90 degrees, although any shape or configuration suitable to enable simultaneous viewing and smelling via lid **102** is anticipated. When the user has concluded examining the contents of magnified lighted display jar **100** the user replaces smell port plug **110**, thereby establishing a substantially air tight seal on lid **102**.

[0025] Embodiments of the present disclosure provide for a multisensory examination jar for botanical specimens. The multisensory examination jar as described herein provides the following, non-exhaustive, improvements over the prior art: [0026] Simultaneous visual and olfactory examination of botanical specimens; [0027] Integration of full spectrum lighting, magnification lens, and olfactory examination port; [0028] Integration of a circular LED array to prevent unobstructed illumination of the botanical specimen, regardless of the placement or configuration of the lid; [0029] Wireless charging of integrated batteries via a removable charging dock; [0030] Multiple security attachments for ensuring the integrity of the contained specimen, and well as physical security of the multisensory examination jar; [0031] Unique design of lid to support optimal placement of visual and olfactory examination areas.

[0032] The present disclosure includes that contained in the appended claims as well as that of the foregoing description. Although this invention has been described in its exemplary forms with a certain degree of particularity, it is understood that the present disclosure of has been made only by way of example and numerous changes in the details of construction and combination and arrangement of parts may be employed without departing from the spirit and scope of the invention.

Claims

1-20. (canceled)
21. A display container comprising: a) an enclosure having a generally enclosed interior for storing a botanical specimen, and a transparent viewing section extending overtop of the interior when the enclosure is upright for viewing of the botanical specimen from above; and b) a lighting system including one or more light sources integrated with the enclosure for illuminating the botanical specimen from above when received in the interior, the one or more light sources positioned clear of the transparent viewing section to provide a generally unobstructed view of the botanical specimen therethrough when illuminated.
22. The display container of claim 21, wherein the transparent viewing section comprises a lens.
23. The display container of claim 21, wherein the one or more light sources comprise a plurality of light sources spaced apart from each other about the transparent viewing section.
24. The display container of claim 21, wherein the one or more light sources comprise an array of light emitting diodes.
25. The display container of claim 24, wherein the array extends about the transparent viewing section.
26. The display container of claim 21, wherein the lighting system includes an electronics module integrated with the enclosure and coupled to the one or more light sources for controlling operation thereof.
27. The display container of claim 26, wherein the electronics module includes at least one battery for powering the one or more light sources.
28. The display container of claim 27, wherein the at least one battery is rechargeable.
29. The display container of claim 28, wherein the electronics module includes a power connector for charging the at least one battery.
30. The display container of claim 28, wherein the electronics module includes a wireless charging module for wireless charging of the at least one battery.
31. The display container of claim 27, wherein the electronics module comprises a power switch for controlling supply of power from the at least one battery to the one or more light sources.
32. The display container of claim 21, wherein the one or more light sources are within the interior of the enclosure.
33. The display container of claim 21, wherein the one or more light sources are mounted adjacent an upper end of the interior for illuminating the botanical specimen from above.
34. The display container of claim 21, wherein the enclosure has a top wall bounding the interior from above and a sidewall bounding the interior horizontally, the top wall comprising the transparent viewing section and at least a portion of the sidewall being generally transparent for viewing of the botanical specimen from a side of the enclosure, and wherein the one or more light sources are below an upper periphery of the top wall and inboard of the sidewall.
35. The display container of claim 21, wherein the enclosure comprises a lower portion and an upper portion detachably mounted to the lower portion and comprising the transparent viewing section.
36. The display container of claim 21, wherein the upper portion is lockable to the lower portion to prevent access to the interior, and unlockable from the lower portion to permit access to the interior for insertion and removal of the botanical specimen.
37. The display container of claim 21, wherein the lower portion comprises a container body and the upper portion comprises a lid.
38. The display container of claim 21, wherein the enclosure has a security connector portion for securely connecting the enclosure to a desired location.
39. The display container of claim 21, wherein the enclosure includes one or more scent ports for sampling an aroma of the botanical specimen when in the interior.

40. The display container of claim 21, further including a port blocking member movable relative to the enclosure to selectively open and close the scent ports.