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Battery case for light-fixture

Abstract

A battery case for a light-fixture includes a case body and a holder. The case body is provided with a sliding slot and a locking slot, the sliding slot communicates with an outer side of the case body, the holder includes a body portion, a locking portion and a drawer, the locking portion and the drawer are respectively connected to the body portion, and the body portion is slidably mounted on the sliding slot and is used for mounting a battery; when the body portion is completely slid into the sliding slot, the locking portion is snapped into the locking slot; the locking portion is flipped to be disengaged from the locking slot and operate the drawer, so that the body portion is slid out of the sliding slot; the design of flipping the locking portion provides an intuitive operation mode for a user.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS

(1) This application claims priority to Chinese Patent Application No. 202423262622.X, filed on Dec. 27, 2024, the content of which is incorporated herein by reference in its entirety.

TECHNICAL FIELD

(2) The present application relates to the technical field of light-fixture devices, and more particularly to a battery case for a light-fixture.

BACKGROUND

(3) Light-fixtures are luminaires often used by people during holidays nowadays. People design these luminaires from their respective creatives in a shape or appearance very similar to that of a physical object with holiday characteristics, elements, etc. so as to better dry the festival atmosphere, and due to different use requirements, such as use safety and outdoor use, such light-fixture often needs to be DC-driven with batteries.

(4) However, many designs for battery case for a light-fixture do not facilitate battery replacement. Users often need to disassemble multiple components when changing batteries, which is both time consuming and prone to damage the battery case.

SUMMARY

(5) The technical problem to be solved by the present application is to provide a battery case for a

light-fixture that facilitates removal of the battery.

(6) In order to solve the above-mentioned technical problem, the technical solution adopted by the present application is a battery case for a light-fixture, which includes a case body and a holder, where the case body is provided with a sliding slot and a locking slot, the sliding slot communicates with an outer side of the case body, the holder includes a body portion, a locking portion and a drawer, the locking portion and the drawer are respectively connected to the body portion, and the body portion is slidably mounted on the sliding slot and is used for mounting a battery; when the body portion is completely slid into the sliding slot, the locking portion is snapped into the locking slot; the locking portion is flipped to be disengaged from the locking slot and operate the drawer, so that the body portion is slid out of the sliding slot.

(7) Further, the body portion is provided with a clamping slot, and the battery is mounted in the clamping slot.

(8) Further, the body portion is provided with two elastic clamping arms, and the two elastic clamping arms enclose to form the clamping slot.

(9) Further, the holder is of an integrated unitary structure.

(10) Further, the drawer is provided with a drawing slot, and the drawing slot is exposed to the case body.

(11) Further, a side of the case body facing away from the sliding slot opening is provided with a handle.

(12) Further, the case body includes a base and a cover plate connected to the base, and the sliding slot is provided in the base and communicates with an outer side wall of the base.

(13) Further, the cover plate is detachably connected with the base.

(14) Further, the body portion is further provided with an identification portion, an outer surface of the case body is provided with a window communicating with the sliding slot, and the identification portion is exposed to the window when the body portion is completely slid into the sliding slot.

(15) Further, the identification portion is provided with a reflective coating.

(16) The beneficial effects of the present application are as follows: for the battery case for a light-fixture provided by the present application, by means of designs for the innovative sliding slot and locking slot, fast assembly and unassembled and stable fixation of the battery case is achieved. This design not only simplifies the battery replacement process, reduces the complexity of the user's operation, but also improves the service life and reliability of the battery case. The sliding slot is designed to allow the body portion to slide freely in the case body, while the locking slot ensures that the battery case can be securely locked after the body portion is completely slid in, so as to prevent the battery from falling off due to vibration or accidental collision, thereby enhancing the safety of using the battery; the design of flipping the locking portion provides an intuitive operation mode for a user, so that unlocking and replacing the battery become faster and more convenient, and the replacement of the battery can be easily accomplished without additional tools; the provision of the drawer further optimizes the user experience by allowing the user to easily withdraw the body portion from the sliding slot by means of the drawer without requiring complicated operations, making battery replacement more efficient.

Description

BRIEF DESCRIPTION OF THE DRAWINGS

(1) FIG. 1 is an assembly view of a battery case for a light-fixture according to a first embodiment of the present application.

(2) FIG. 2 is an exploded view of a battery case for a light-fixture according to a first embodiment of the present application.

DETAILED DESCRIPTION OF THE EMBODIMENTS

(3) In order to explain the technical contents, the objects, and the effects of the present application in detail, the embodiments will be described below referring to the accompanying drawings.

(4) Referring to FIGS. 1 and 2, a battery case for a light-fixture includes a case body **1** and a holder **2**, where the case body **1** is provided with a sliding slot **121** and a locking slot **122**, the sliding slot **121** communicates with an outer side of the case body **1**, the holder **2** includes a body portion **21**, a locking portion **23** and a drawer **22**, the locking portion **23** and the drawer **22** are respectively connected to the body portion **21**, and the body portion **21** is slidably mounted on the sliding slot **121** and is used for mounting a battery; when the body portion **21** is completely slid into the sliding slot **121**, the locking portion **23** is snapped into the locking slot **122**; the locking portion **23** is flipped to be disengaged from the locking slot **122** and operate the drawer **22**, so that the body portion **21** is slid out of the sliding slot **121**.

(5) It can be seen from the above-mentioned description that the beneficial effects of the present application are as follows: by means of designs for the innovative sliding slot **121** and locking slot **122**, fast assembly and unassembled and stable fixation of the battery case is achieved. This design not only simplifies the battery replacement process, reduces the complexity of the user's operation, but also improves the service life and reliability of the battery case. The sliding slot **121** is designed to allow the body portion **21** to slide freely in the case body **1**, while the locking slot **122** ensures that the battery case can be securely locked after the body portion **21** is completely slid in, so as to prevent the battery from falling off due to vibration or accidental collision, thereby enhancing the safety of using the battery; the design of flipping the locking portion **23** provides an intuitive operation mode for a user, so that unlocking and replacing the battery become faster and more convenient, and the replacement of the battery can be easily accomplished without additional tools; the provision of the drawer **22** further optimizes the user experience by allowing the user to easily withdraw the body portion **21** from the sliding slot **121** by means of the drawer **22** without requiring complicated operations, making battery replacement more efficient.

(6) Further, the body portion **21** is provided with a clamping slot **211**, and the battery is mounted in the clamping slot **211**.

(7) It can be seen from the above-mentioned description that by providing the body portion **21** with the clamping slots **211**, the battery can be more stably fixed, sloshing of the battery in the battery case can be reduced, and the safety and reliability of the battery can be improved.

(8) Further, the body portion **21** is provided with two elastic clamping arms **212**, and the two elastic clamping arms **212** enclose to form the clamping slot **211**.

(9) It can be seen from the above-mentioned description that two elastic clamping arms **212** are designed to be enclosed to form a clamping slot **211**, and by using the elastic properties of the elastic clamping arms **212**, the battery can be easily clamped and released while ensuring the stability of the battery in the battery case.

(10) Further, the holder **2** is an integrated unitary structure.

(11) It can be seen from the above-mentioned description that the holder **2** may be of a unitary structure, which enhances the overall stability and durability, reduces the complexity in the assembly process and reduces the production cost.

(12) Further, the drawer **22** is provided with a drawing slot **221**, and the drawing slot **221** is exposed to the case body **1**.

(13) It can be seen from the above-mentioned description that the drawer **22** is provided with a drawing slot **221** which is exposed to the case body **1**, providing a structure convenient for a user to operate, so that the drawing operation of the battery case is more convenient and labor-saving.

(14) Further, the side of the case body **1** facing away from the opening of the sliding slot **121** is provided with a handle **13**.

(15) It can be seen from the above-mentioned description that a handle **13** is provided on the side of the case body **1** facing away from the opening of the sliding slot **121**, so as to provide an additional

holding point, so as to facilitate the user in stabilizing the battery case when replacing the battery and preventing the battery case from sliding off.

(16) Further, the case body **1** includes a base **12** and a cover plate **11** connected to the base **12**, and the sliding slot **121** is provided on the base **12** and communicates with an outer side wall of the base **12**.

(17) It can be seen from the above-mentioned description that the case body **1** is composed of a base **12** and a cover plate **11**, and a sliding slot **121** is provided on the base **12** and communicates with a side wall, and such design makes the structure of the battery case more compact, and at the same time facilitates the mounting and replacement of the battery.

(18) Further, the cover plate **11** is detachably connected with the base **12**.

(19) It can be seen from the above-mentioned description that the design of the detachable connection between the cover plate **11** and the base plate **12** makes maintenance and repair of the battery case more convenient, and a user can easily open the battery case for battery replacement or repair according to needs.

(20) Further, the body portion **21** is further provided with an identification portion **213**, an outer surface of the case body **1** is provided with a window **14** communicating with the sliding slot **121**, and the identification portion **213** is exposed to the window **14** when the body portion **21** is completely slid into the sliding slot **121**.

(21) It can be seen from the above-mentioned description that the body portion **21** is provided with an identification portion **213**, the outer surface of the case body **1** is provided with a window **14**, and the identification portion **213** is exposed to the window **14** when the body portion **21** is completely slid into the sliding slot **121**, providing a visual indication to help a user confirm whether the battery has been mounted correctly.

(22) Further, the identification portion **213** is provided with a reflective coating.

(23) It can be seen from the above-mentioned description that the identification portion **213** is provided with a reflective coating, which improves the visibility of the identification portion **213**, and especially in a dark environment, the reflective coating can reflect light, so that the identification portion **213** can be more easily identified, and the convenience and safety of use are increased.

(24) Referring to FIGS. **1** and **2**, the first embodiment of the present application is: a battery case for a light-fixture includes a case body **1** and a holder **2**, where the case body **1** is provided with a sliding slot **121** and a locking slot **122**, the sliding slot **121** communicates with an outer side of the case body **1**, the holder **2** includes a body portion **21**, a locking portion **23** and a drawer **22**, the locking portion **23** and the drawer **22** are respectively connected to the body portion **21**, and the body portion **21** is slidably mounted on the sliding slot **121** and is used for mounting a battery; when the body portion **21** is completely slid into the sliding slot **121**, the locking portion **23** is snapped into the locking slot **122**; the locking portion **23** is flipped to be disengaged from the locking slot **122** and operate the drawer **22**, so that the body portion **21** is slid out of the sliding slot **121**; specifically, the battery is a button battery, the body portion **21** is provided with a clamping slot **211**, the battery is mounted in the clamping slot **211**, and by providing the body portion **21** with the clamping slot **211**, the battery can be more stably fixed, sloshing of the battery in the battery case can be reduced, and the safety and reliability of the battery can be improved; more specifically, the body portion **21** is provided with two elastic clamping arms **212**, and the two elastic clamping arms **212** close to form the clamping slot **211**; and by using the elastic property of the elastic clamping arms **212**, the battery can be easily clamped and released while ensuring the stability of the battery in the battery case.

(25) Preferably, the holder **2** is of an integrated unitary structure, and the holder **2** may be of a unitary structure, which enhances the overall stability and durability, reduces the complexity in the assembly process and reduces the production cost; the holder **2** is made of a plastic material.

(26) In the present embodiment, the drawer **22** is provided with a drawing slot **221** exposed to the

case body **1**, and the drawing slot **221** provides a structure convenient for a user to operate, so that the pulling operation of the battery case is more convenient and labor-saving; specifically, a handle **13** is provided on the side of the case body **1** facing away from the opening of the sliding slot **121**, so as to provide an additional holding point, so as to facilitate the user in stabilizing the battery case when replacing the battery and preventing the battery case from sliding off.

(27) Preferably, the case body **1** includes a base **12** and a cover plate **11** connected to the base **12**, and the sliding slot **121** is provided on the base **12** and communicates with an outer side wall of the base **12**, and such design makes the structure of the battery case more compact, and at the same time facilitates the mounting and replacement of the battery; specifically, the cover plate **11** is detachably connected to the base **12**, thus making the maintenance and repair of the battery case more convenient, and a user can easily open the battery case for battery replacement or maintenance according to needs; the detachable connections include, but are not limited to, screw connections, bolt connections, snap connections, magnetic suction connections, or adhesive connections.

(28) In the present embodiment, the body portion **21** is further provided with an identification portion **213**, the outer surface of the case body **1** is provided with a window **14** communicating with the sliding slot **121**, the identification portion **213** is exposed to the window **14** when the body portion **21** is completely slid into the sliding slot **121**, the body portion **21** is provided with an identification portion **213**, the outer surface of the case body **1** is provided with a window **14**, the identification portion **213** is exposed to the window **14** when the body portion **21** is completely slid into the sliding slot **121**, providing a visual indication to help a user to confirm whether the battery has been mounted correctly; alternatively, the identification portion **213** may be provided with a reflective coating (not shown) to improve the visibility of the identification portion **213**, especially in darker light environments where the reflective coating reflects light, making the identification portion **213** easier to identify, increasing ease of use and security.

(29) In summary, for the battery case for a light-fixture provided by the present application, by means of designs for the innovative sliding slot and locking slot, fast assembly and unassembled and stable fixation of the battery case is achieved. This design not only simplifies the battery replacement process, reduces the complexity of the user's operation, but also improves the service life and reliability of the battery case. The sliding slot is designed to allow the body portion to slide freely in the case body, while the locking slot ensures that the battery case can be securely locked after the body portion is completely slid in, so as to prevent the battery from falling off due to vibration or accidental collision, thereby enhancing the safety of using the battery; the design of flipping the locking portion provides an intuitive operation mode for a user, so that unlocking and replacing the battery become faster and more convenient, and the replacement of the battery can be easily accomplished without additional tools; the provision of the drawer further optimizes the user experience by allowing the user to easily withdraw the body portion from the sliding slot by means of the drawer without requiring complicated operations, making battery replacement more efficient.

(30) The above-mentioned embodiments are merely examples of the present application and are not intended to limit the scope of the present application, and all changes which come within the meaning and range of equivalence of the present application and the appended claims are to be embraced within their scope.

Claims

1. A battery case for a light-fixture, comprising a case body and a holder, wherein the case body is provided with a sliding slot and a locking slot, the sliding slot communicates with an outer side of the case body, the holder comprises a body portion, a locking portion and a drawer, the locking portion and the drawer are respectively connected to the body portion, and the body portion is slidably mounted on the sliding slot and is used for mounting a battery; when the body portion is

completely slid into the sliding slot, the locking portion is snapped into the locking slot; the locking portion is flipped to be disengaged from the locking slot and operate the drawer, so that the body portion is slid out of the sliding slot; and the body portion is provided with an identification portion, an outer surface of the case body is provided with a window communicating with the sliding slot, and the identification portion is exposed to the window when the body portion is completely slid into the sliding slot.

2. The battery case for the light-fixture according to claim 1, wherein the body portion is provided with a clamping slot, and the battery is mounted in the clamping slot.

3. The battery case for the light-fixture according to claim 2, wherein the body portion is provided with two elastic clamping arms, and the two elastic clamping arms enclose to form the clamping slot.

4. The battery case for the light-fixture according to claim 1, wherein the holder is of an integrated unitary structure.

5. The battery case for the light-fixture according to claim 1, wherein the drawer is provided with a drawing slot, and the drawing slot is exposed to the case body.

6. The battery case for the light-fixture according to claim 1, wherein a side of the case body facing away from the sliding slot opening is provided with a handle.

7. The battery case for the light-fixture according to claim 1, wherein the case body comprises a base and a cover plate connected to the base, and the sliding slot is provided in the base and communicates with an outer side wall of the base.

8. The battery case for the light-fixture according to claim 7, wherein the cover plate is removably connected to the base.

9. The battery case for the light-fixture according to claim 1, wherein the identification portion is provided with a reflective coating.
