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(73) Titulaire(s):
Xiamen DuJiaoShou Electronic Technology Co., Ltd. – XIA MEN (Chine)

(72) Inventeur(s):
CHEN Yuling – XIA MEN (Chine)

(74) Mandataire(s):
ZHAOffice SPRL – 5030 GEMBLOUX (Belgique)

(54) **NOVEL BATTERY ANTI-EXPLOSION PIECE.**

(57) The present invention relates to the technical field of battery accessories, and in particular to a novel battery anti-explosion piece. The novel battery anti-explosion piece comprises an anti-explosion piece body connected to a battery casing which is provided with an accommodating chamber, and the anti-explosion piece body is protruded upwards to form a pressure relief part; the pressure relief part has a pressure relief position; and through radial or axial burst of the pressure relief position, the anti-explosion piece body releases pressure greater than compressive strength of the pressure relief position. The novel battery anti-explosion piece has the advantages of being simple in structure, compact in matching, convenient to use and reasonable in design and the like; and thus the novel battery anti-explosion piece is a product with superior performance in technology and economy.

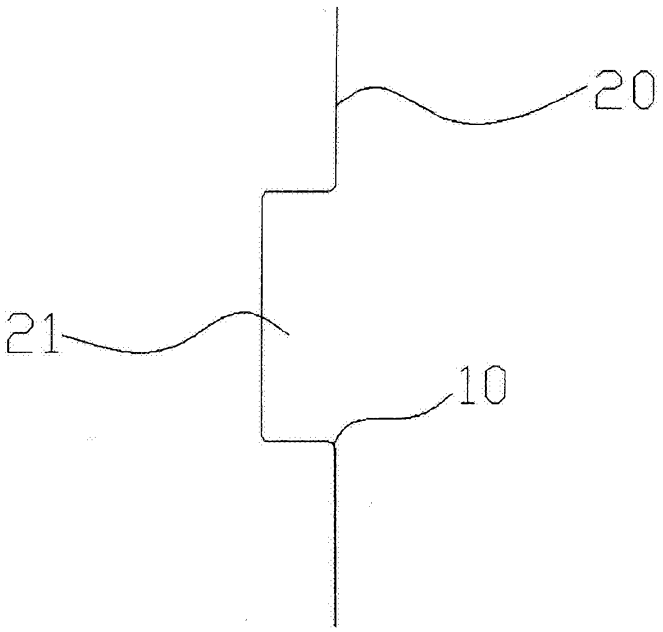

FIG. 2

NOVEL BATTERY ANTI-EXPLOSION PIECE

LU100613

BACKGROUND

Technical Field

The present invention relates to the technical field of battery accessories, and in particular to a novel battery anti-explosion piece.

Related Art

Lithium ion batteries belong to batteries with high energy density. Enclosed batteries with high energy density can cause associated equipment of chargers to malfunction, resulting in overcharge or other conditions. In these cases, as chemical reactions inside the batteries continue, the batteries generate abnormal gas inside, resulting in excessive pressure inside the batteries. As a result, the batteries are in danger of explosion. Therefore, in order to prevent the batteries from exploding, we propose a new technical solution.

Summary

Against the aforementioned shortcomings in the prior art, the objective of the present invention is to provide a novel battery anti-explosion piece.

In order to achieve the aforementioned objective, the following technical solution is adopted according to the present invention:

A novel battery anti-explosion piece, comprising an anti-explosion piece body connected to a battery casing which is provided with an accommodating chamber, where the anti-explosion piece body is protruded upwards to form a pressure relief part; the pressure relief part has a pressure relief position; and through radial or axial burst of the pressure relief position, the anti-explosion piece body releases pressure greater than compressive strength of the pressure relief position.

Preferably, the inner side of the pressure relief part communicates communicates with the accommodating chamber of the battery casing.

Preferably, the lower end face of the anti-explosion piece body and the inner side of the pressure relief part are welded to the upper portion of the battery casing.

Preferably, the anti-explosion piece body is round.

Preferably, the joint of the pressure relief part and the anti-explosion piece body has a radian, to enable the pressure relief part to be in smooth connection with the anti-explosion piece body.

By adoption of the aforementioned solution, in the present invention, when the pressure in the battery casing exceeds compressive strength of the pressure relief part, the anti-explosion piece bursts in the radial direction or the axial direction at the inner side wall of the pressure relief part to relieve pressure, to protect a battery or other devices from explosion. The novel battery anti-explosion piece has the advantages of being simple in structure, compact in matching, convenient to use and reasonable in design and the like; and thus the novel battery anti-explosion piece is a product with superior performance in technology and economy.

Brief Description of Drawings

FIG. 1 is a top view of an anti-explosion piece body according to an embodiment of the present invention; and

FIG. 2 is a structural schematic diagram of the cross section of an anti-explosion piece body according to an embodiment of the present invention.

Description of Embodiments

Embodiments of the present invention are described in detail below by combination with accompanying drawings, but the present invention can be implemented by multiple different modes limited and covered by the claims.

As shown in FIG. 1 and FIG. 2, a novel battery anti-explosion piece provided by this embodiment comprises an anti-explosion piece body 20 connected to a battery casing. The anti-explosion piece body 20 is round, the battery casing is provided with an accommodating chamber, and the anti-explosion piece body 20 is protruded upwards to form a pressure relief part 21. The inner side of the pressure relief part 21

communicates with the accommodating chamber of the battery casing, and the pressure relief part 21 has a pressure relief position 30; and through radial or axial burst of the pressure relief position 30, the anti-explosion piece body 20 releases pressure greater than compressive strength of the pressure relief position. The lower end face of the anti-explosion piece body 20 and the inner side of the pressure relief part 21 are welded to the upper portion of the battery casing, and the joint of the pressure relief part and the anti-explosion piece body has a radian, to enable the pressure relief part to be in smooth connection with the anti-explosion piece body.

Thus, when the pressure inside the battery casing is increased, an elastic buffer part 10 is formed at the arc-shaped joint, and during the explosion, by absorbing certain energy through deformation, the arc-shaped joint effectively alleviates pressure impact during explosion; a pressure explosion critical point protected in the battery can be regulated by regulating the wall thickness of the pressure relief position 30. When the pressure inside the battery casing exceeds the compressive strength of the pressure relief position, the anti-explosion piece bursts in the radial direction or the axial direction of the pressure relief position 30 to release pressure, to protect the battery or other devices from explosion. As a result, the service life of a battery use device is effectively prolonged, and a user's personal safety is ensured.

What are described above are merely preferred embodiments of the present invention and do not accordingly limit the patent scope of the present invention. Equivalent structures or equivalent process transformations which are performed by utilizing the specification and accompanying drawing contents of the present invention are directly or indirectly applied to other relevant technical fields and shall be included within the patent protection scope of the present invention in a similar way.

Revendications

1. Elément anti-explosion de batterie, comprenant un corps (20) d'élément anti-explosion relié à un boîtier de batterie qui est muni d'une chambre de logement, dans lequel le corps (20) d'élément anti-explosion fait saillie vers le haut pour former une partie de détente de pression (21) ; la partie de détente de pression (21) présente une position de détente de pression (30) ; et par l'intermédiaire d'un éclatement radial ou axial de la position de détente de pression (30), le corps (20) d'élément anti-explosion libère une pression supérieure à la résistance à la compression de la position de détente de pression (30).
2. Elément anti-explosion de batterie selon la revendication 1, dans lequel le côté intérieur de la partie de détente de pression (21) communique avec la chambre de logement du boîtier de batterie.
3. Elément anti-explosion de batterie selon la revendication 1, dans lequel la face d'extrémité inférieure du corps (20) d'élément anti-explosion et la face intérieure de la partie de détente de pression (21) sont soudées à la partie supérieure du boîtier de batterie.
4. Elément anti-explosion de batterie selon la revendication 1, dans lequel le corps (20) d'élément anti-explosion est rond.
5. Elément anti-explosion de batterie selon la revendication 1, dans lequel la jonction de la partie de détente de pression (21) et du corps (20) d'élément anti-explosion présente un radian, pour permettre à la partie de détente de pression (21) d'être en liaison sans inflexion avec le corps (20) d'élément anti-explosion.

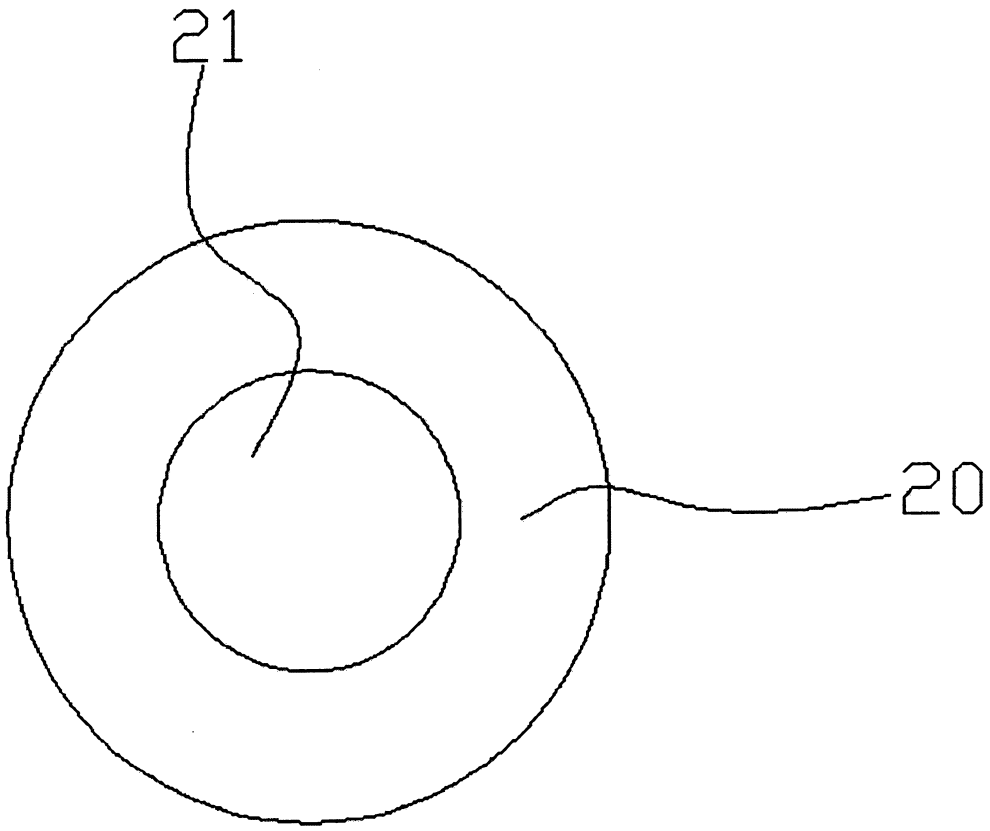

FIG. 1

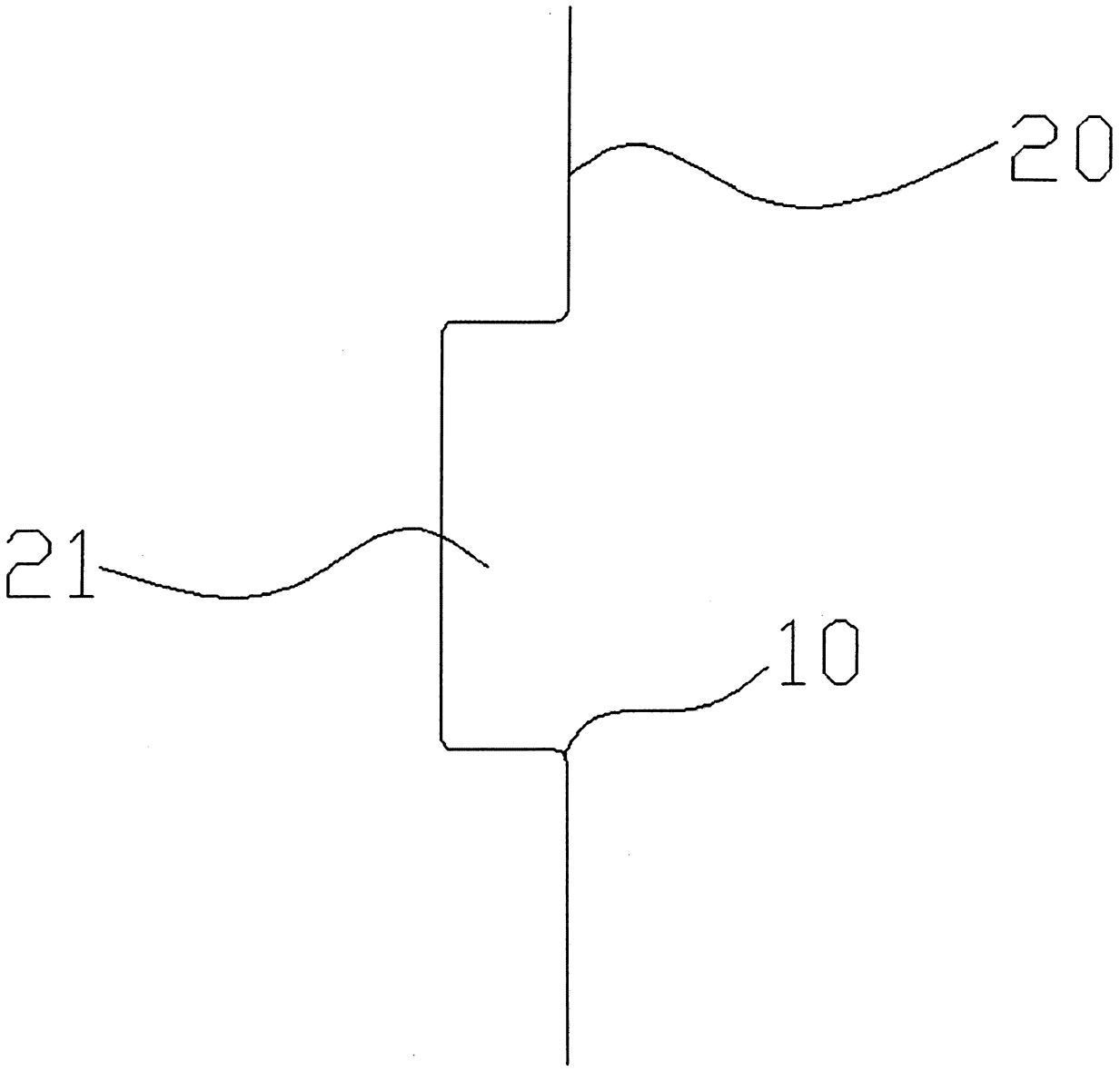

FIG. 2

ABSTRACT

NOVEL BATTERY ANTI-EXPLOSION PIECE

The present invention relates to the technical field of battery accessories, and in particular to a novel battery anti-explosion piece. The novel battery anti-explosion piece comprises an anti-explosion piece body connected to a battery casing which is provided with an accommodating chamber, and the anti-explosion piece body is protruded upwards to form a pressure relief part; the pressure relief part has a pressure relief position; and through radial or axial burst of the pressure relief position, the anti-explosion piece body releases pressure greater than compressive strength of the pressure relief position. The novel battery anti-explosion piece has the advantages of being simple in structure, compact in matching, convenient to use and reasonable in design and the like; and thus the novel battery anti-explosion piece is a product with superior performance in technology and economy.

FIG. 2