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Published:

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(54) Title: A DEVICE FOR PLACING A HEATING ELEMENT

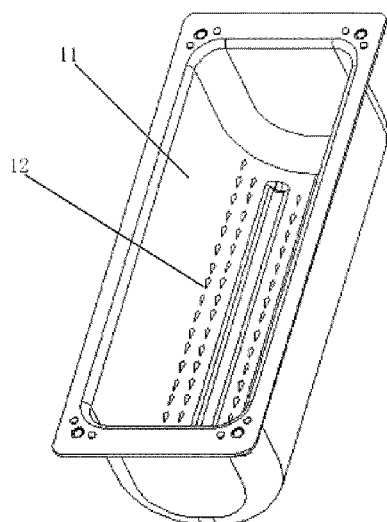


FIG. 1

(57) Abstract: The present invention discloses a device for fixing a heating element by means of filling glue, which is mainly used for storing the heating element of an equipment, such as an inverter, an energy storage and the like. The device is stamped and recessed inwardly from a metal sheet to form a receiving cavity (11), and the heating element is sealed by filling glue after being placed in the receiving cavity. The interior of the receiving cavity of the device is designed with pits (12), which can well bond the filling glue; the exterior of the receiving cavity (11) has support ribs (13) which are placed so that the device does not tilt. The device of the present invention has the advantages of good heat dissipation effect and low cost.



A Device for Placing a Heating Element

Technical field

The present invention relates to a device for placing a heating element, and more particularly, to a device for placing a heating element which is formed by stamping and sealed by filling glue.

Background art

The housing for placing a heating element in the prior art is usually formed by welding after bending a sheet metal part, but this housing process is complicated, with a relatively high cost and a low reliability. Another embodiment in the prior art is the use of die-cast housing, but the unit price and the mold cost of the die-cast housing are relatively high, and the housing is relatively heavy, and thus creating significant restrictions on subsequent changes. The third embodiment in the prior art is aluminum extrusion molding, but there are many restrictions to the thickness of the housing formed by this embodiment, the manufacturing process is complicated and the waterproof performance is not easily guaranteed.

Content of the invention

Purpose of the invention: In view of the problems existing in the prior art, the present invention provides a device for placing a heating element to solve the problems that in the prior art, the manufacturing process of the housing is complicated, the cost is high and the performance is low.

Technical schemes: The present invention provides a device for placing a heating element, said device comprising: a receiving cavity for placing a heating element which formed by stamping a metal sheet, said receiving cavity being sealed by filling glue.

Preferably, pits are provided on an inner surface of said receiving cavity. Preferably, said pits are formed by stamping.

Preferably, support ribs are provided on an outside of said receiving cavity. Preferably, said support ribs are stamped by the mold.

Preferably, said sheet is a metallic material.

Preferably, said metallic material is an aluminum alloy material.

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Advantageous effect: The invention adopts the way of stamping the metal sheet, so that the surface of the sheet is recessed inwardly to form the receiving cavity, and is sealed by filling glue, and the cost is low and the heat dissipation performance is good.

Description of the drawings

In order to more clearly illustrate the technical schemes in the embodiments of the present invention or in the prior art, the drawings which are needed to be used in the description of embodiments or the prior art will be simply introduced below. It will be apparent that the drawings in the following description merely are some embodiments recorded in the present invention, and other drawings may be obtained according to these drawings by a person skilled in the art without paying creative works.

The present description will be further described in detail below in combination with drawings and specific embodiments.

The drawings are schematic views of the structure of the glue-filled housing according to the present description;

Figure 1 is a front view of the device of the present invention;

Figure 2 is a rear view of the device of the present invention.

Detailed description

In order to make a person skilled in the art have a better understanding of the technical schemes of the present invention, the technical schemes in the embodiments of the present invention will be clearly and completely described below in combination with the drawings in the embodiments of the present invention. It will be apparent that the described embodiments are merely part of the embodiments of the present invention, and not all embodiments.

Based on embodiments of the present invention, all other embodiments obtained by an ordinary person skilled in the art without making creative work should be within the scope of protection of the present invention.

The present invention is aimed at providing a device for placing a heating element, which is substantially a housing sealed by filling glue. As shown in Figs. 1 and 2, the device comprises a receiving cavity 11 in which a heating element is placed, the receiving cavity being specifically formed by stamping a metal sheet and the surface of the sheet being recessed inwardly. When the heating

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element is placed in the receiving cavity 11, the receiving cavity 11 is sealed by filling glue. Specifically, the sheet may preferably be selected from an aluminum alloy sheet.

As shown in Figs. 1 and 2, the device in the present invention may be a five-side closed, one-side opened structure. Of course, it can also be designed into other shapes, such as tetrahedron, as required. The present invention does not specifically limit it.

In order to better bond the filling glue onto the surface of the receiving cavity, in the present invention, pits 12 are also disposed on the inner surface of the receiving cavity. Specifically, pits 12 can be formed by stamping of the mold.

In order to maintain the balance of the device, the present invention also provides support ribs 13 (or bumps) on the outside of the receiving cavity. Preferably, support ribs 13 (or bumps) for making the housing keep balance that are provided on the outside of said cavity body are formed by stamping of the mold.

Due to the implementations of the above technical schemes, the present description has the following advantages compared with the prior art:

The device of the present description adopts stamping a metal sheet, preferably an aluminum alloy sheet, with good heat dissipation effect, low price, and stable support.

Therefore, a glue-filled housing of the present description has the advantages of good heat dissipation effect and low cost.

Detailed description of embodiments

A housing for placing a heating element of the present description is shown in the drawings, the housing comprising:

1. a four-side closed cavity body that is formed by stamping a sheet;
2. pits on the inner surface of the cavity body that are formed by stamping of a mold;
3. support ribs (bumps) on the outside surface of the cavity body that are formed by stamping, the surface of said cavity body being recessed inwardly to form an accommodating portion of an inductor.

The raw material of a glue-filled housing described by the present description adopts the metal sheet, with good heat dissipation effect and low price. Therefore, the glue-filled housing of the present description has the advantages of good heat dissipation effect and low price.

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The above various embodiments are merely for illustrating the technical concept and features of the present invention, with the aim of enabling a person skilled in the art to understand the content of the present invention and hereby to carry it out, and the protection scope of the present invention can be limited by this. Any equivalent alterations or modifications made in accordance with the spiritual nature of the invention shall be included within the protection scope of the present invention.

Claims

1. A device for placing a heating element, characterized in that said device comprises: a receiving cavity (11) for placing a heating element formed by stamping a sheet, the heating element being sealed by filling glue after being placed into said receiving cavity (11).
2. A device for placing a heating element according to claim 1, characterized in that pits (12) are provided on an inner surface of said receiving cavity (11).
3. A device for placing a heating element according to claim 2, characterized in that said pits (12) are formed by stamping.
4. A device for placing a heating element according to any one of claims 1 to 3, characterized in that support ribs (13) are provided on an outside of said receiving cavity (11).
5. A device for placing a heating element according to claim 4, characterized in that said support ribs (13) are stamped by a mold.
6. A device for placing a heating element according to claim 1, characterized in that said sheet is a metal sheet.
7. A device for placing a heating element according to claim 6, characterized in that said metal sheet is an aluminum alloy material.

Drawings of Specification

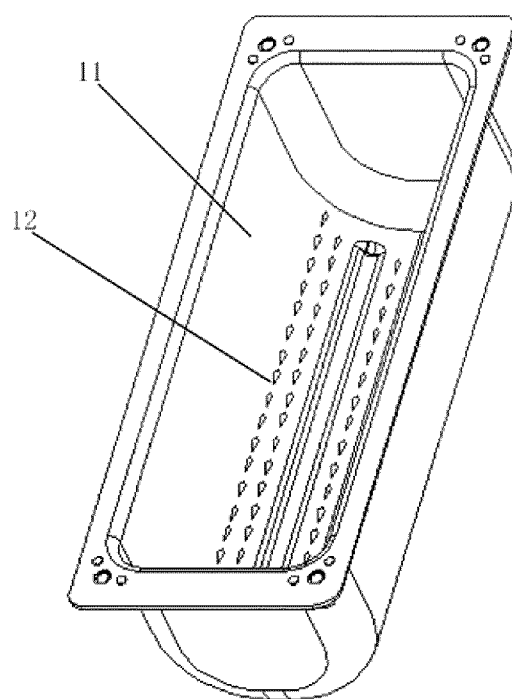


FIG. 1

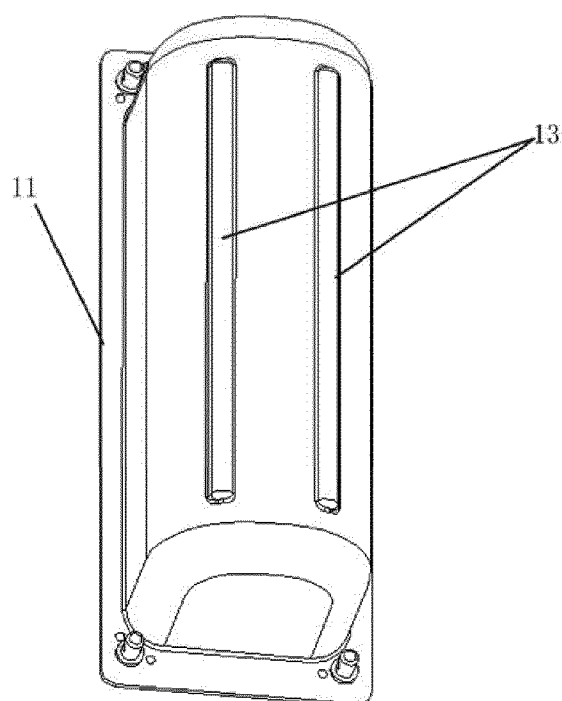


FIG. 2

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2017/082880

A. CLASSIFICATION OF SUBJECT MATTER
INV. H05B3/40
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
H05B H05K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/084439 A1 (GALLIOU HENRI [FR] ET AL) 6 May 2004 (2004-05-06) paragraphs [0096], [0099] - [0104]; figure 6	1-7
Y	----- EP 3 023 039 A1 (BSH HAUSGERÄTE GMBH [DE]) 25 May 2016 (2016-05-25) paragraphs [0029] - [0033]; figures 1-3g	1-7
Y	----- US 2010/202111 A1 (LIANG CHIEN-KUO [TW]) 12 August 2010 (2010-08-12) paragraphs [0029], [0031], [0040] - [0045]; figures 3-5	1-7



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents :

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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