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54 **A brush-holder, particularly for an alternator.**

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Description

The present invention relates to a brush-holder, particularly for an alternator for use in motor vehicles, of the type including an electrically insulating body having two holes through which a first, positive brush and a second, negative brush, are movable under the action of resilient means housed in at least one chamber in the body, the brushes being connected by respective conductive braids to electrical terminals outside the insulating body which has two separate ducts adjacent the chamber or chambers housing the resilient means, one of the braids extending in each duct so that, in operation, the movement of the braids does not interfere with that of the resilient means see for ex. the brush-holders disclosed in FR-A-2598.262 and DE-U-8110 596.7. The brush-holder according to the invention is characterised in that one side of each duct housing a braid is closed by a respective removable protective cover having a first portion with appendages for engaging respective grooves in the insulating body, and a second portion which can be pulled away from the insulating body resiliently whilst the first portion remains engaged therewith, the end of the second portion furthest from the first portion also being in the form of a cap which surrounds the respective electrical terminal to which the conductive braid is connected.

Advantages and characteristics of the present invention will become clear from the detailed description which follows with reference to the appended drawings, provided by way of non-limiting example, in which:

Figure 1 is an exploded perspective view of the brush-holder according to the invention,

Figure 2 is a section taken on the line II-II of Figure 1, and

Figure 3 is a section taken on the line III-III of Figure 2.

With reference to the drawings, a brush-holder, particularly for an alternator for use in motor vehicles, includes an electrically insulating body 2 having two holes 4 in which a first, positive brush 6a and a second, negative brush 6b are mounted respectively. The brushes 6 are urged outwardly of the body 2 by respective springs 8 housed in chambers 10 in the body 2. One end of each brush 6 is connected to one end of a conductive braid 12, the opposite end of which is connected to a respective electrical terminal 14 comoulded externally on the insulating body 2. The other ends of the brushes 6 are intended to come into contact with the commutator of the rotor of an alternator, not shown.

The body 2 also has two parallel ducts 16 which are adjacent the chambers 10 and house the respective braids 12. One side of each duct 16 is closed by a substantially flat, elongate, removable protective cover 18. Each cover 18 has a first portion 20 having

a narrower portion with appendages 22 which project transversely from respective projections 23 extending substantially perpendicular to the general plane of the cover 18 and are adapted to engaged grooves 24 in the insulating body 2. One side of each groove 24 is defined by a resilient tab 26 which projects from a respective side 28 of the insulating body 2 and can be opened out.

A second portion 30 of the cover 18 connected to the first portion 20 can be pulled away from the insulating body 2 resiliently whilst the first portion 20 remains engaged therewith. The end of the portion 30 furthest from the first portion 20 is in the form of a cap which surrounds the respective electrical terminal 14 and has an external projection 34 defining a hole 36 which is adapted to snap-engage a respective abutment 38 supported by the insulating body 2.

The covers 18 can be fitted on the insulating body 2 either by sliding the appendages 22 in the grooves 24 parallel to the direction in which the brushes 6 slide, or by pushing the appendages 22 against the resilient tabs 26 in a direction perpendicular to the grooves 24 thus effecting a snap-engagement.

Once the first portion 20 is fitted on the insulating body 2, the duct 16 with its braid 12 can be inspected without the complete removal of the cover 18, by releasing the projection 34 from the abutment 38 and pulling the second portion 30 away from the insulating body 2 resiliently whilst keeping the first portion 20 of the cover 18 engaged therewith.

When the brush-holder is in operation, the brushes 6 move progressively out of the body 2 as a result of the action of the springs 8 which compensate for the wear of the ends of the brushes which are in contact with the commutator of the rotor of the alternator. The movement of the springs 8 does not interfere with that of the braids 12; in fact the springs 8 act within the chambers 10 whilst the braids unwind in the ducts 16. Damage to the strands constituting the braids 12 as a result of their rubbing against the springs 8 is thus prevented.

Claims

1. A brush-holder, particularly for an alternator for use in motor vehicles, including an electrically insulating body (2) having two holes (4) through which a first, positive brush (6a) and a second, negative brush (6b) are movable under the action of resilient means (8) housed in at least one chamber (10) in the body (2), the brushes being connected by respective conductive braids (12) to electrical terminals (14) outside the insulating body (2) which has two separate ducts (16) adjacent the chamber or chambers (10) housing the resilient means (8), one of the braids (12) extending in each duct (16) so that, in operation, the

movement of the braids (12) does not interfere with that of the resilient means (8), the brush-holder being characterised in that one side of each duct (16) housing a braid (12) is closed by a removable protective cover (18) having a first portion (20) with appendages (22) for engaging respective grooves (24) in the insulating body (2) and a second portion (30) which can be pulled away from the insulating body (2) resiliently whilst the first portion (20) remains engaged therewith, the end of the second portion (30) furthest from the first portion (20) also being in the form of a cap which surrounds the respective electrical terminal (14) to which the conductive braid (12) is connected.

2. A brush-holder according to Claim 1, characterised in that each appendage (22) projects transversely from a respective projection (23) extending substantially perpendicular to the general plane of the cover (18) and is adapted to engage a groove (24) one side of which is defined by a resilient tooth (26) which projects from a respective side (28) of the insulating body (2) and can be opened out.
3. A brush-holder according to any one of the preceding claims, characterised in that the cap-like end of the second portion (30) of the cover (18) has an external projection (34) defining a hole (36) which is adapted resiliently to snap-engage an abutment (38) supported by the insulating body (2).

Patentansprüche

1. Bürstenhalter, insbesondere für eine zur Verwendung in einem Kraftfahrzeug vorgesehene Wechselstrommaschine, mit einem elektrisch isolierenden Körper (2), der zwei Öffnungen (4) hat, durch die eine erste, positive Bürste (6a) und eine zweite, negative Bürste (6b) unter dem Einfluß von Federeinrichtungen (8) bewegbar sind, die in wenigstens einer Kammer (10) im Körper (2) untergebracht sind, wobei die Bürsten jeweils durch leitende Litzen (12) mit elektrischen Anschlußstellen (14) außerhalb des isolierenden Körpers (2) verbunden sind, der zwei getrennte Kanäle (16) hat, die zu der Kammer oder den Kammern (10) benachbart sind, in denen die Federeinrichtungen (8) untergebracht sind, und wobei je eine der Litzen (12) in jedem Kanal (16) verläuft, so daß im Betrieb die Bewegungen der Litzen (12) diejenigen der Federeinrichtungen (8) nicht stören,
dadurch gekennzeichnet,
daß eine Seite jedes Kanals (16), in dem eine Lit-

ze (12) untergebracht ist, durch eine entfernbare, schützende Abdeckung (18) geschlossen ist, die einen ersten Teil (20) mit Ansätzen (22) zum Eingreifen in entsprechende Aussparungen (24) im isolierenden Körper (2) und einen zweiten Teil (30) aufweist, der vom isolierenden Körper (2) elastisch weggezogen werden kann, während der erste Teil (20) im Eingriff mit diesem bleibt, und daß das Ende des zweiten Teils (30), das vom ersten Teil (20) am weitesten entfernt ist, auch die Form einer Haube hat, die die jeweilige elektrische Anschlußstelle (14) umgibt, mit der die leitende Litze (12) verbunden ist.

2. Bürstenhalter nach Anspruch 1,
dadurch gekennzeichnet,
daß jeder Ansatz (22) transversal von jeweils einem Vorsprung (23) ausgeht, der im wesentlichen senkrecht zu der allgemeinen Ebene der Abdeckung (18) verläuft und für den Eingriff in eine Aussparung (24) ausgebildet ist, von der eine Seite durch einen federnden Zahn (26) bestimmt ist, der von einer entsprechenden Seite (28) des isolierenden Körpers (2) vorspringt und nach außen geöffnet werden kann.
3. Bürstenhalter nach irgendeinem der vorhergehenden Ansprüche,
dadurch gekennzeichnet,
daß das haubenartige Ende des zweiten Teils (30) der Abdeckung (18) einen externen Vorsprung (34) hat, der ein Loch (36) umgrenzt, das zum federnden Einschnappen in ein Widerlager (38) ausgebildet ist, das vom isolierenden Körper (2) getragen wird.

Revendications

1. Porte-balais, spécialement pour un alternateur destiné à être utilisé dans des véhicules automobiles, comprenant un corps (2) isolant de l'électricité présentant deux trous (4) dans lesquels un premier balai (6a) positif et un deuxième balai (6b) négatif peuvent se déplacer sous l'action d'un moyen élastique (8) logé dans au moins une chambre (10) ménagée dans le corps (2), les balais étant reliés par des tresses conductrices (12) respectives à des bornes électriques (14) situées à l'extérieur du corps isolant (2) qui présente deux conduits (16) séparés, adjacents à la ou les chambres (10) logeant le moyen élastique (8), l'une des tresses (12) s'étendant dans chaque conduit (16), de manière qu'en fonctionnement, le déplacement des tresses (12) n'interfère pas avec celui du moyen élastique (8), le porte-balais étant caractérisé en ce qu'un côté de chaque conduit (16) logeant une tresse (12) est fermé par

- un couvercle protecteur (18) amovible ayant une première partie (20) pourvue d'appendices (22), destinés à s'engager dans des rainures (24) correspondantes ménagées dans le corps isolant (2), et une seconde partie (30) qui peut être extraite élastiquement du corps élastique (2), tandis que la première partie (20) reste engagée dans cette dernière, l'extrémité de la seconde partie (30) la plus éloignée de la première partie (20) se présentant également sous la forme d'un capuchon qui entoure la borne électrique (14) respective, à laquelle est reliée la tresse conductrice (12).
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2. Porte-balais selon la revendication 1, caractérisé en ce que chaque appendice (22) fait saillie transversalement depuis une saillie (23) respective s'étendant pratiquement perpendiculairement au plan global du couvercle (18) et est adapté de façon à s'insérer dans une rainure (24), dont un côté est défini par une dent élastique (26) qui fait saillie d'un côté (28) respectif du corps isolant (2) et peut être ouvert.
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3. Porte-balais selon l'une quelconque des revendications précédentes, caractérisé en ce que l'extrémité en forme de capuchon de la seconde partie (30) du couvercle (18) présente une saillie extérieure (34) définissant un trou (36), adapté de façon à s'engager élastiquement par encliquetage avec une butée (38) supportée par le corps isolant (2).
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FIG. 1

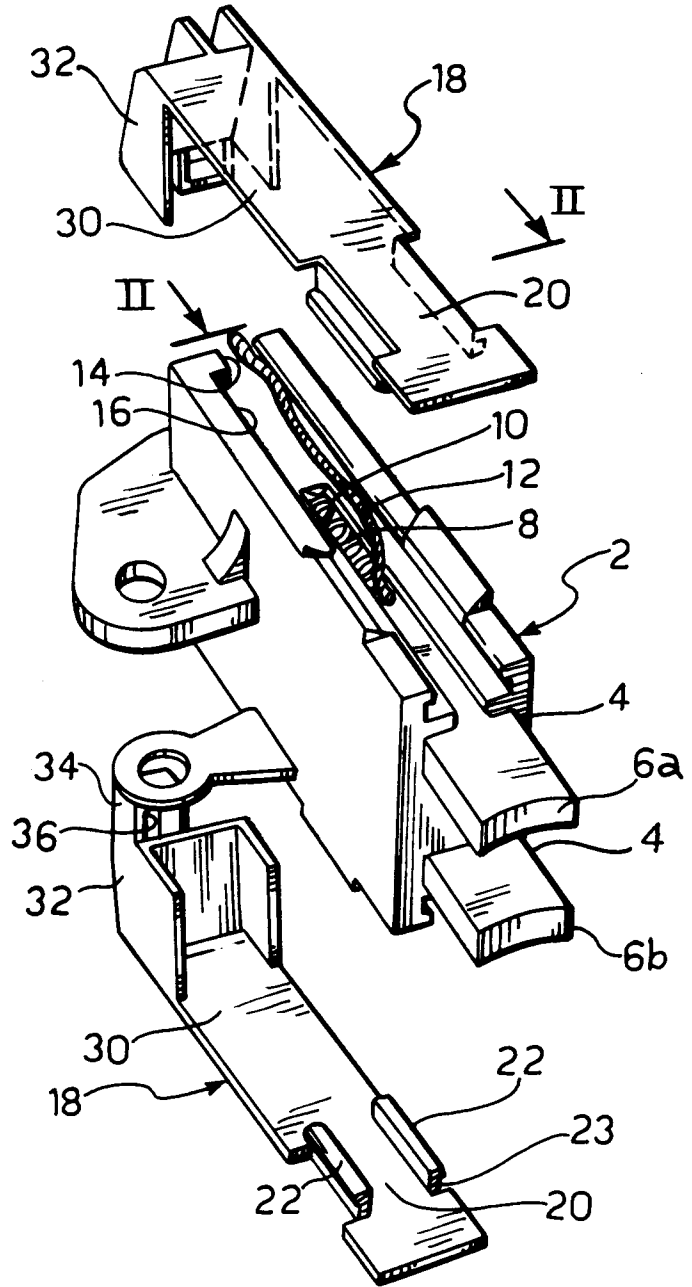


FIG. 2

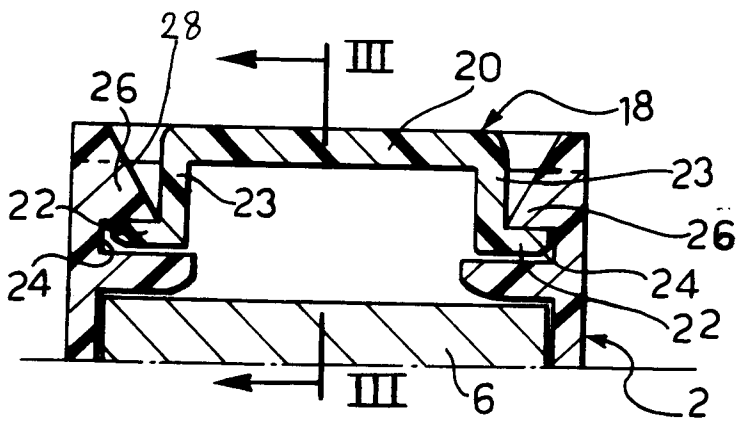


FIG 3

