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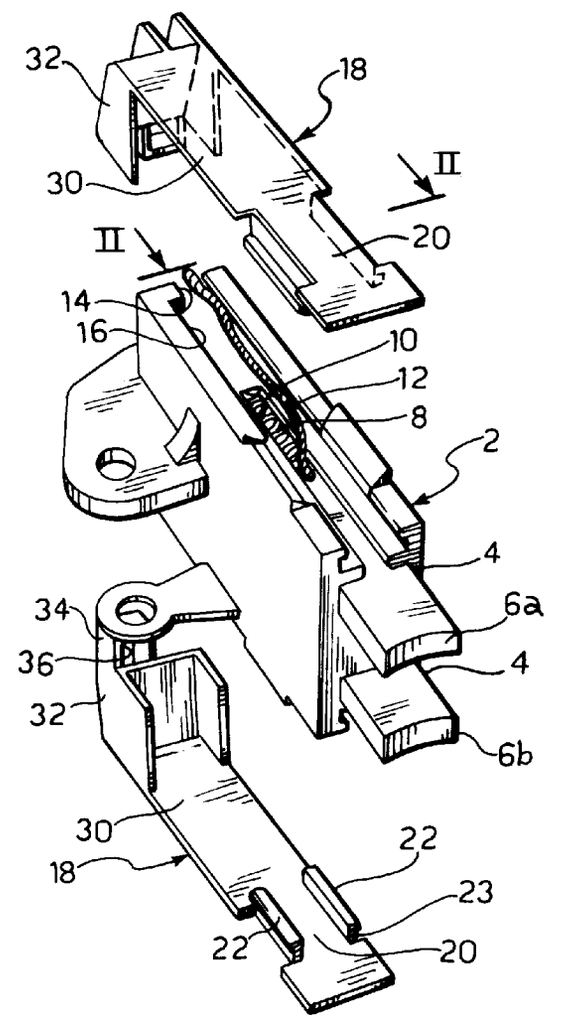
(54) A brush-holder, particularly for an alternator.

(57) The brush-holder includes an electrically insulating body (2) with two holes (4) through which respective brushes are movable under the action of springs (8) housed in chambers (10) in the body (2), the brushes being connected by respective conductive braids (12) to electrical terminals (14) outside the insulating body (2). The body (2) also has two separate ducts (16), one of the braids (2) extending in each duct (16), one side of which is closed by a respective removable protective cover (18). Each cover (18) has a first portion (20) which engages the insulating body (2) and a second portion (30) which also surrounds the terminal (14) and can be pulled away from the insulating body (2) resiliently.

FIG. 1



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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. 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).

FIG. 1

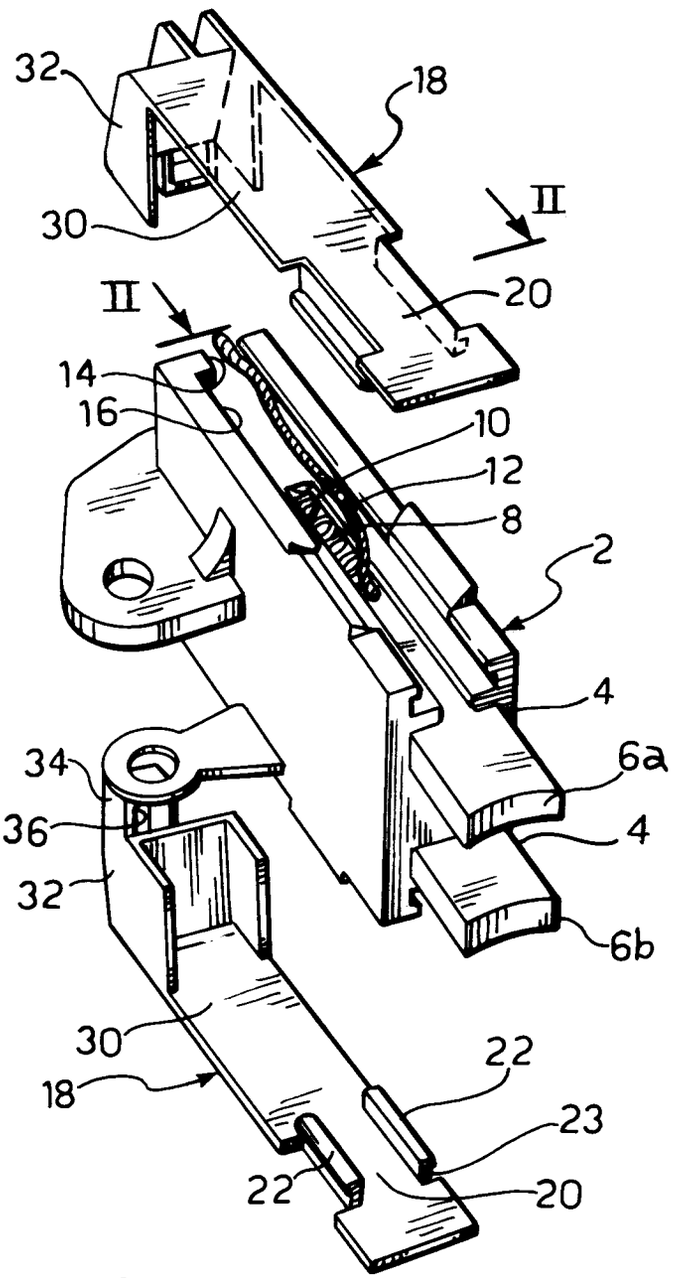

32
18
30
II
II
20
14
16
10
12
8
2
4
34
6a
36
4
32
6b
30
22
18
23
22
20

FIG. 2

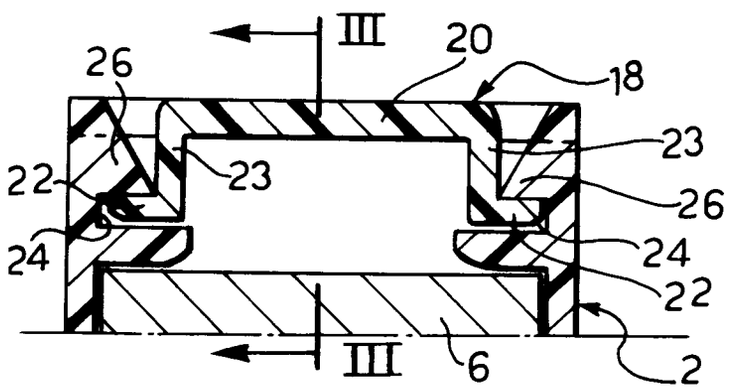
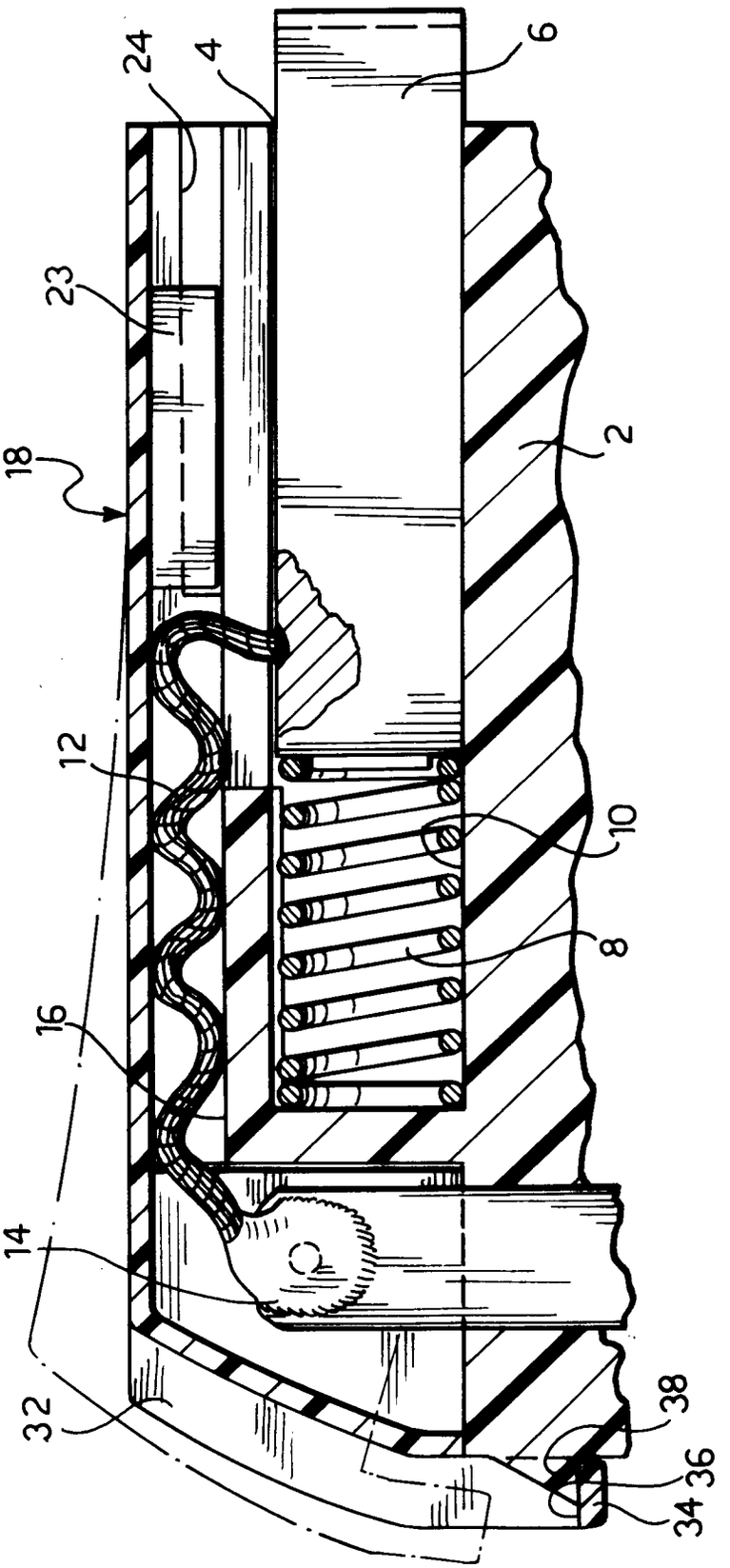

III
20
26
18
23
22
23
26
24
24
22
III
6
2

FIG 3



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EUROPEAN SEARCH REPORT

Application Number

EP 91 83 0438

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	FR-A-2 598 262 (MARELLI) * page 3, lines 2-19; figures 1,3,4 *	1	H 01 R 39/40
A	DE-U-8 110 596 (KÖSTER TECHNIK) * page 3, last paragraph; page 5, last paragraph; figures 1-5 *	1	
A	BE-A- 672 364 (PHILIPS) * page 3, last paragraph; figures 1,2 *	1	

TECHNICAL FIELDS SEARCHED (Int. Cl.5)

H 01 R 39/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
BERLIN	30-01-1992	ALEXATOS G

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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