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(54) **A HOUSEHOLD DEVICE**

HAUSHALTSGERÄT

APPAREIL ÉLECTROMÉNAGER

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Description

TECHNICAL FIELD

[0001] The invention is related to fixation apparatus structure of household devices those have movable internal components such as washing machine including the features of the subject matter of claim 1.

[0002] The invention particularly relates to household devices in which movable internal components are being fixed through auxiliary equipment during moving such as transportation including the features of the subject matter of claim 8.

STATE-OF-THE ART

[0003] For household devices those have components sensitive to shocks such as washing machines, which include an oscillation set within external frame thereof, several measures are being taken during movement of the device due to transportation of the product or similar reasons. Because, the appliances movable during the shock may damage the product frame by crashing thereon or may interfere the stability of the appliance.

[0004] Mainly these measures are a pin and, usage of fixation apparatus composed of holder elements contacting herewith. During the production a space, which is opened on the shock-sensitive appliance over the frame of household device, is being formed and the fixation apparatus causes the system act in an integrated manner by entering through this space and hold both the frame and the appliance. When the transportation or the action that causes shock is fulfilled, the fixation apparatus are being removed.

[0005] The space over the frame may compose a door for penetration of for spider or similar undesired elements by removal of the fixation apparatus. In order to overcome this situation, however, the cover elements attached to said bore are being provided to the user within a bag together with the device. But, in case said independent pieces get lost, the bore remains open. Furthermore, providing said pieces besides fixation apparatus cause an additional cost on the product.

[0006] A household device that includes an external frame bearing a movable appliance, on which said appliance is being fixed against shock through a fixation element via a bore is disclosed in DE 199 14 370 A1. The household device comprises a fixation apparatus structure that includes a chuck that drives said fixation element into the bore to close said bore and a cover standing on the chuck when said fixation element is attached to the frame. Further said structure includes a connection formed between the chuck and the cover.

BRIEF DESCRIPTION OF THE INVENTION

[0007] The present invention relates to a fixation apparatus structure that eliminates all aforementioned

problems and provides extra advantages for relevant technical field.

[0008] In vision of state-of-the art, the purpose of the invention is to form a bore filling for shock-support security element of household devices.

[0009] Another purpose of the invention is to prevent the bore filling pieces get lost.

[0010] In order to achieve said purposes, the present invention relates to a household device that includes an external frame that bears a movable, for example swingable appliance, on which said appliance is being fixed against shock through holder elements via a bore opened thereon, a chuck that drives the fixation element into the bore to close said bore and, a cover that essentially completes the chuck into bore form when said holder elements are removed.

[0011] The invention is characterized in having at least a detachable connection between said cover and the chuck that makes said cover stand on the chuck when the holder elements are attached to the frame and therefore makes it carried together with the frame.

[0012] In a preferred, application of the invention, there is at least a bridge element both fixed to the chuck and the cover in order to compose said detachable connection.

[0013] A preferred application of the invention includes at least a joint or a narrowing section that facilitates break away at fixation points of said bridge element.

[0014] In a preferred application of the invention, said connection is essentially a material made of plastic. In a preferred application of the invention, said chuck, cover and connection is integral. Thus, for example through plastic injection, it can be produced thanks to one die.

[0015] In a preferred application of the invention, the surfaces that said cover and chuck is being connected thereon are essentially in arc form.

[0016] In a preferred application of the invention, there is at least another bridge element that provides the continuance of the connection in case the accidental break away of the connection occurs during hold of the cover by said bridge element.

[0017] Structural and characteristic features and entire advantages of the invention shall be more explicitly understood through below referenced figures and detailed description thereof, and therefore, evaluation should be made in consideration of these figures and detailed description.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018]

Figure 1 is the perspective view of a figurative application of the invention.

Figure 2 is the perspective view of surface the invention is applied thereon.

Figure 3 is a representative drawing of a washing machine in which the invention is utilized.

REFERENCE NUMBERS WITHIN THE FIGURES

[0019]

1. Frame	3. Chuck
1.1 Lock hole	3.1 Grip extension
1.2 Fixation bore	3.2 Lock claw
1.3 Front surface	3.3 Recess ring
2. Cover	3.4 Driving surface
2.1 Contact surface	3.5 Peripheral edge
2.2 Holder extension	4. Bridge
2.3 Centering projection	4.1 Neck
2.4 Peripheral edge	4.2 Rod
5. Oscillation equipment	6. Holder elements

DETAILED DESCRIPTION OF THE INVENTION

[0020] Within this detailed description, the invention is being described via appended figures for only explanatory purposes without having any limiting powers.

[0021] The application of the invention illustrated in Figure 1 is depicted with a bridge (4) that composes a connection between a rectangular cover (2) of which a side is in semi circular form and, a chuck (3) that is similar but of which the rectangular length is shorter.

[0022] The holder elements (6) that prevent movement freedom during circumstances such as transportation of oscillation equipment (5) of washing machine illustrated in Figure 3, are composed of a long pin passing through a bore (1) opened on the front surface (1.3) over the frame (1) of washing machine illustrated in Figure 2 and, a plastic locking component that is formed to make the pin hold onto the front surface (1.3). Since the pin enters into a bore formed over the oscillation set, it prevents the movement of oscillation set during transportation.

[0023] The fixing bore (1.2) formed over the front surface (1.3) of the frame (1) and that opens corresponding to a 30° arc over the upper half thereof via a circular lock hole (1.1) establishes the bearing for holder appliances.

[0024] Whilst the movement of holder elements along the extension direction within said bearing is prevented by narrow form of the fixation bore (1.2), the chuck element (3) makes the holder element remain on the front surface (1.3).

[0025] On lower part of the smooth edge of the chuck (3), there are gripping extensions (3.1) composed of two prismatic projections parallel along each other. On the part the gripping extensions (3.1) end on the rear part of the chuck (3), there are two-piece recess ring (3.3) that makes an approximately 60° arc each but makes a space with its external peripheral edge (3.5). On the final edge of two pieces, which makes the ring (3.3), facing each other, there is a lock claw (3.2) that faces the aperture

corresponding to the center of circular part of the chuck (3).

[0026] When the holder elements are inserted within lock hole and fixing bore (1.1, 1.2), there becomes a chuck (3) form aperture under lock bore (1.1). The chuck (3) is located through said aperture so as to place on the peripheral edge of lock hold (1.1) of recess ring (3.3). In the meantime, the lock claw (3.2) stretches and gets locked on the front surface (1.3) while the holder elements are driving through drive plane (3.4) of the chuck. The chuck extensions (3.1) limit the holder elements by contacting from upper surfaces thereof to the lower surface of holder elements.

[0027] When the holder elements are removed from the lock and fixing bore (1.1, 1.2) by lock claw (3.2) being pulled out and the chuck (3) being dislocated, a cover (2) is fitted to fill the space. The cover (2) has holder extensions (2.2) that guide the cover from two corresponding edges against a centering projection (2.3) and a fixing bore (1.2) that corresponds to the end point of fixing bore (1.2). Since the peripheral edge thereof forms a wider area than the bores (1.1, 1.2), it makes this get closed by being applied into the bore (1.1, 1.2) with the chuck (3). The driving surface (3.4) of the chuck (3) and the contact surface (2.1) of the cover (2) are being mounted so as to adhere each other and the cover (2) driven by the lock claw (3.2) and the chuck (3) stands still.

[0028] Over the circular peripheral surfaces of the cover (2) and the chuck (3), two parallel bridges (4) are formed both contacting the cover (2) and the chuck (3) on either sides. The bridge (4) is composed of a circular section rod (4.2) and, one each narrow section neck (4.1) parts that are connected through a narrowing sectioned passing formed on two ends thereof.

[0029] The chuck (3) and cover (2) connection part of the neck (4.1) of the bridge is immobile. Since a connection via two bridges (4) parallel to each other is provided, the supports thereof form a kinematics chain similar to the spherical four-rods mechanism. In said application of the invention, the bridge (4), the cover (2) and the chuck (3) is integrally made via plastic injection.

[0030] The neck (4.1) thickness also defines the connection surface of the bridge (4) with the cover (2) and the chuck (3). The neck (4.1) is in a diameter, for example 0,5 - 1 mm thickness, which a user may easily detach. Thanks to utility of plastic material, the cover (2) and the chuck (3) may move in vertical manner to the width axis according to each other. Since double bridge (4) is used, the movement is in the form of neck-centered (4.1) rotation. Therefore, when the holder appliances are fitted and the chuck (3) is mounted, the rod (4.2) realizes a neck-centered (4.1) rotation by contacting the front surface (1.3) and makes the cover (2) moderately stay suspended and, prevents it to be detached through cut tension in case of holder mounting.

[0031] When the holder elements are removed, the chuck (3) and the cover (2) are contrarily pulled and the neck (4.1) connections are being detached from periph-

eral edges (2.4, 3.5) they are connected with. Thus the cover (2) becomes independent and the mounting thereof in place of holder elements is realized readily. Since there are no need for peripheral edges (2.4, 3.5) contact each other, the crusts remained at detached areas do not cause a negative circumstance.

[0032] The scope of protection of the invention is as defined in the appended claims and cannot be restricted with the illustrations in this detailed description. It is obvious that a skilled person in the art may suggest similar constructions in view of the foregoing without departing the scope of the invention.

Claims

1. Fixation apparatus structure for a household device, particularly a washing machine, that includes an external frame (1) that bears a movable appliance (5), particularly an oscillation equipment (5) of said washing machine, on which said appliance is being fixed against shock through holder elements (6) via a bore (1.1, 1.2) opened on a front surface (1.3) over the frame (1), whereas the fixation apparatus structure comprises a chuck (3) that drives the holder elements (6) into the bore to close said bore (1.1, 1.2) and a cover (2) that is fitted into the bore (1.1, 1.2) to fill the space of the bore (1.1, 1.2) when said holder elements (6) are removed, whereas said cover (2) stands on the chuck (3) when the holder elements (6) are attached to the frame (1) and therefore at least a connection formed between the chuck (3) and the cover (2) is included that makes it being carried together with the frame (1) **characterized in that** the cover (2) is designed to be fitted into the bore (1.1, 1.2) to fill the space of the bore (1.1, 1.2) when the chuck (3) is dislocated and said connection is detachable so that the cover (2) becomes independent and the mounting thereof in place of the holder elements (6) is readily realized.
2. A fixation apparatus structure according to Claim 1 **characterized in** having at least a bridge element (4) that is both fixed to the chuck (3) and the cover (2) on either side in order to generate said detachable connection.
3. A fixation apparatus structure according to Claim 2 **characterized in that** the bridge element (4) has narrowing section surfaces (4.1) on the parts it is fixed to facilitate the detachment.
4. A fixation apparatus structure according to any of the previous claims **characterized in that** said detachable connection is essentially a material made of plastic.
5. A fixation apparatus structure according to any of

the previous claims **characterized in that** the chuck (3), the cover (2) and the connection (4) is integrated.

6. A fixation apparatus structure according to any of the previous claims **characterized in that** the surfaces said cover (2) and the chuck (3) are being connected via a connection (4) is essentially in arc form.
7. A fixation apparatus structure according to Claim 2 **characterized in that** said bridge element (4), during the hold of the cover (2), has at least another bridge element (4) parallel to bridge element (4) in order to provide continuance of the connection in case the bridge (4) breaks away.
8. A household device, particularly a washing machine, with an external frame (1) that bears a movable appliance (5), particularly an oscillation equipment (5) of said washing machine, on which said appliance is being fixed against shock through holder elements (6) via a bore (1.1, 1.2) opened on a front surface (1.3) over the frame (1) **characterized in that** a fixation apparatus structure according to any of the previous claims is included.

Patentansprüche

1. Fixiervorrichtungskonstruktion für ein Haushaltsgerät, insbesondere eine Waschmaschine, mit einem Außenrahmen (1), an dem eine bewegliche Einrichtung (5), insbesondere eine Schwinganlage (5) der Waschmaschine, gelagert und die Einrichtung vor Erschütterungen geschützt über Halteelemente (6) in einer Bohrung (1.1, 1.2) fixiert ist, welche in einer vorderen Fläche (1.3) über dem Rahmen (1) mündet, wobei die Fixiervorrichtungskonstruktion eine Spannbacke (3), die die Halteelemente (6) so in die Bohrung treibt, dass die Bohrung (1.1, 1.2) geschlossen wird, und eine Abdeckung (2) umfasst, die so in die Bohrung (1.1, 1.2) eingepasst ist, dass sie den Bereich der Bohrung (1.1, 1.2) ausfüllt, wenn die Halteelemente (6) entfernt werden, wobei die Abdeckung (2), wenn die Halteelemente (6) an dem Rahmen (1) befestigt sind, auf der Spannbacke (3) steht und daher zumindest eine zwischen der Spannbacke (3) und der Abdeckung (2) hergestellte Verbindung vorhanden ist, durch die sie zusammen mit dem Rahmen (1) getragen wird, **dadurch gekennzeichnet, dass** die Abdeckung (2) so ausgelegt ist, dass sie in die Bohrung (1.1, 1.2) eingepasst wird und den Bereich der Bohrung (1.1, 1.2) ausfüllt, wenn die Spannbacke (3) verlagert wird, und die Verbindung lösbar ist, so dass sich die Abdeckung (2) davon ablöst und sich ihr Anbringen an der Stelle der Halteelemente (6) problemlos umsetzen lässt.
2. Fixiervorrichtungskonstruktion nach Anspruch 1,

dadurch gekennzeichnet, dass sie zumindest ein Überbrückungselement (4) aufweist, welches an beiden Seiten sowohl an der Spannbacke (3) als auch an der Abdeckung (2) so fixiert ist, dass die lösbare Verbindung entsteht.

3. Fixiervorrichtungskonstruktion nach Anspruch 2, **dadurch gekennzeichnet, dass** das Überbrückungselement (4) an den Teilen, mit denen es fixiert ist, sich verjüngende Querschnittsflächen (4.1) aufweist, was das Lösen vereinfacht.
4. Fixiervorrichtungskonstruktion nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die lösbare Verbindung im Wesentlichen aus einem aus Kunststoff hergestellten Material besteht.
5. Fixiervorrichtungskonstruktion nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Spannbacke (3), die Abdeckung (2) und die Verbindung (4) integriert sind.
6. Fixiervorrichtungskonstruktion nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Flächen der Abdeckung (2) und der Spannbacke (3) über eine Verbindung (4) im Wesentlichen in Bogenform verbunden sind.
7. Fixiervorrichtungskonstruktion nach Anspruch 2, **dadurch gekennzeichnet, dass** das Überbrückungselement (4) beim Halten der Abdeckung (2) zumindest ein zu dem Überbrückungselement (4) parallel verlaufendes, weiteres Überbrückungselement (4) aufweist, damit die Verbindung bestehen bleibt, falls die Überbrückung (4) wegbricht.
8. Haushaltsggerät, insbesondere Waschmaschine, mit einem Außenrahmen (1), an dem eine bewegliche Einrichtung (5), insbesondere eine Schwinganlage (5) der Waschmaschine, gelagert und die Einrichtung vor Erschütterungen geschützt über Halteelemente (6) in einer Bohrung (1.1, 1.2) fixiert ist, welche in einer vorderen Fläche (1.3) über dem Rahmen (1) mündet, **dadurch gekennzeichnet, dass** es eine Fixiervorrichtungskonstruktion nach einem der vorhergehenden Ansprüche aufweist.

Revendications

1. Structure d'appareil de fixation pour un dispositif électroménager, en particulier un lave-linge, qui inclut un châssis externe (1) qui supporte un appareil mobile (5), en particulier un équipement d'oscillation (5) dudit lave-linge, sur lequel ledit appareil est fixé pour être protégé contre les chocs par le biais d'éléments de support (6) via un alésage (1.1, 1.2) ouvert

sur une surface avant (1.3) sur le châssis (1), tandis que la structure d'appareil de fixation comprend une pièce de serrage (3) qui entraîne les éléments de support (6) dans l'alésage pour fermer ledit alésage (1.1, 1.2) et un couvercle (2) qui est fixé dans l'alésage (1.1, 1.2) pour remplir l'espace de l'alésage (1.1, 1.2) lorsque lesdits éléments de support (6) sont enlevés, tandis que ledit couvercle (2) est posé sur la pièce de serrage (3) lorsque les éléments de support (6) sont fixés au châssis (1) et de ce fait au moins un raccord formé entre la pièce de serrage (3) et le couvercle (2) est inclus qui permet de le porter conjointement avec le châssis (1) **caractérisé en ce que** le couvercle (2) est conçu pour être adapté dans l'alésage (1.1, 1.2) pour remplir l'espace de l'alésage (1.1, 1.2) lorsque la pièce de serrage (3) est disloquée et ledit raccord est détachable de sorte que le couvercle (2) devient indépendant et le montage de celui-ci à la place des éléments de support (6) est réalisé facilement.

2. Structure d'appareil de fixation selon la revendication 1, **caractérisée en ce qu'**elle a au moins un élément de liaison (4) qui est à la fois fixé à la pièce de serrage (3) et au couvercle (2) sur l'un et l'autre côté afin de générer ledit raccord détachable.
3. Structure d'appareil de fixation selon la revendication 2, **caractérisée en ce que** l'élément de liaison (4) a des surfaces de sections réduites (4.1) sur les parties où il est fixé pour faciliter le détachement.
4. Structure d'appareil de fixation selon l'une quelconque des revendications précédentes, **caractérisée en ce que** ledit raccord détachable est essentiellement un matériau fait de plastique.
5. Structure d'appareil de fixation selon l'une quelconque des revendications précédentes, **caractérisée en ce que** la pièce de serrage (3), le couvercle (2) et le raccord (4) sont intégrés.
6. Structure d'appareil de fixation selon l'une quelconque des revendications précédentes, **caractérisée en ce que** les surfaces, ledit couvercle (2) et la pièce de serrage (3) sont raccordés via un raccord (4) qui est essentiellement en forme d'arc.
7. Structure d'appareil de fixation selon la revendication 2, **caractérisée en ce que** ledit élément de liaison (4), pendant le maintien du couvercle (2), a au moins un autre élément de liaison (4) parallèle à l'élément de liaison (4) afin de fournir une continuité du raccord dans le cas où la liaison (4) est rompue.
8. Dispositif électroménager, en particulier un lave-linge, avec un châssis externe (1) qui supporte un appareil mobile (5), en particulier un équipement d'os-

cillation (5) dudit lave-linge, sur lequel ledit appareil est fixé pour être protégé contre les chocs par le biais d'éléments de support (6) via un alésage (1.1, 1.2) ouvert sur une surface avant (1.3) sur le châssis (1), **caractérisé en ce qu'**une structure d'appareil de fixation selon l'une quelconque des revendications précédentes est incluse. 5

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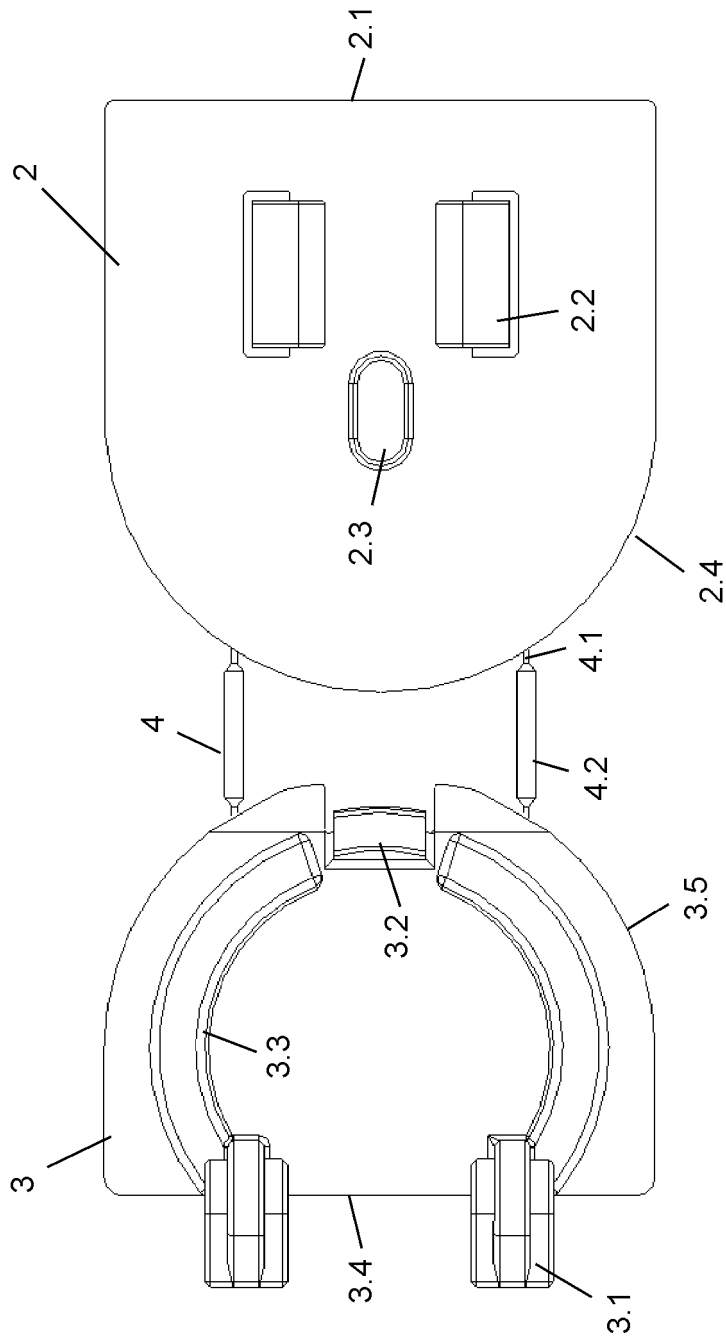


Fig.1

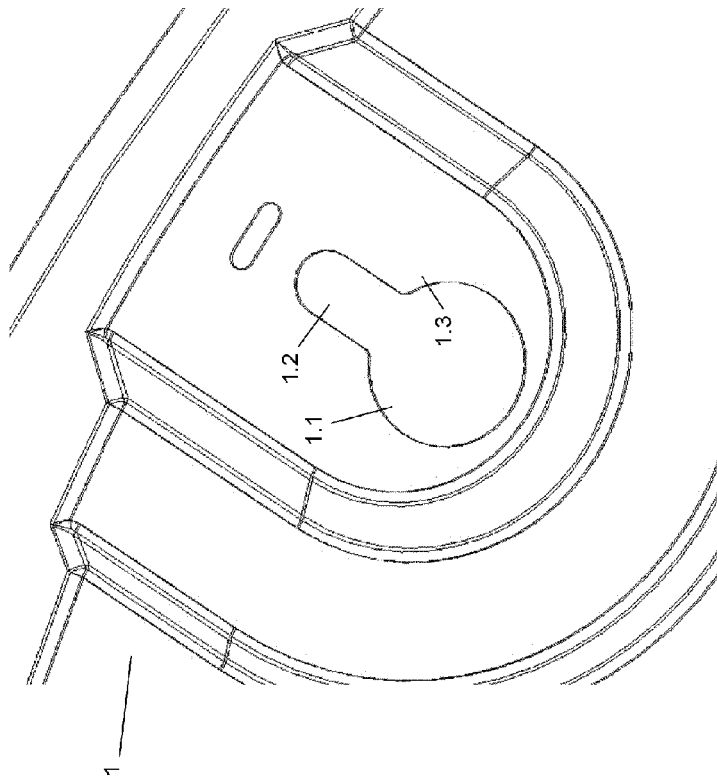


Fig. 2

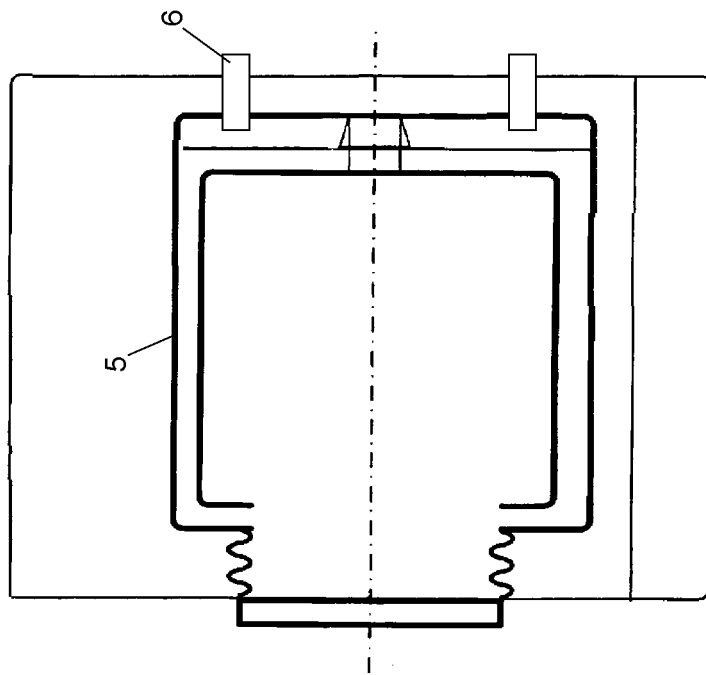


Fig. 3

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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