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(54) **A home appliance comprising a carrier element**

(57) The home appliance of the invention comprises at least one channel (7) provided on at least one side surface (Y); at least one channel groove (8) expanding to the side of the channel (7); at least one carrier element (T) positioned in the appliance via the channel (7); at least one movement component (1) which is connected to the carrier element (T), positioned on at least one surface (K1) and which moves slidably in the channel (7); at least one positioning element (K) which comprises at least one protrusion (4) placing in the said channel groove (8); at least one connecting component (2) which is fixed to the said surface (K1) of the positioning element (K) and to the movement component (1) with swivel joint.

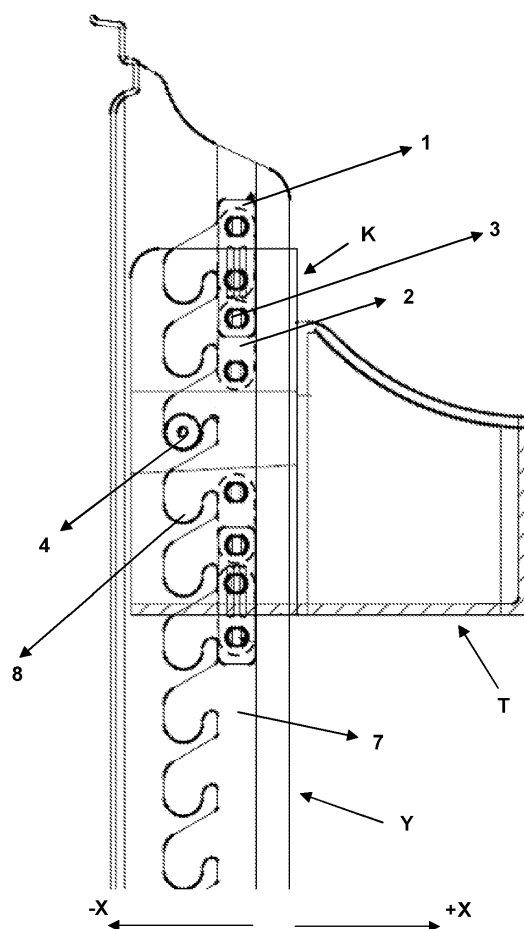


Figure 6

Description

Technical Field

[0001] The invention relates to home appliances comprising at least one carrier element, height of which can be adjusted.

Prior Art

[0002] The position of the carrier elements, which are used in home appliances and provided on the inner surfaces of the sidewalls of the said appliance, which are used by being placed in the channels in certain distances according to one another, are fixed when the carrier element is placed in said channel. Thus, the user cannot move the position of the carrier element for a little upwardly or downwardly and can use the carrier element, which is placed according to the position of the channels in said appliance, at certain heights and the user can not adjust the height of the carrier element according to the needs.

[0003] In the published patent application No KR20020012443 of the prior art, the carrier element is positioned in the device by placing the protrusions thereon to the channel on the side wall of the device. In the channel, grooves are provided where the protrusions are disposed. Therefore; the user ensures that the protrusions are passed from the groove to the channel by moving the carrier element when the user wants to change the height of the carrier element. Then, the carrier element is brought at desired height by being moved upward and downward and the protrusions are placed in the grooves according to the height. Thus; the height of the carrier element is adjusted.

[0004] Another published patent application No US2005274299A1 of the prior art discloses a two-piece apparatus which is fixed at the carrier element in order to adjust the height of the element. On one component of the said apparatus, protrusions are provided while on the other component of the apparatus, slots, in which protrusions are disposed, are provided. The component, on which the slot is provided, is fixed at the area of the device where the carrier element is positioned. The other component is fixed at the carrier element. Thus; the carrier element is positioned at desired height via the apparatus component fixed thereon.

Brief Description of the Invention

[0005] The home appliance of the invention comprises at least one channel provided on at least one side surface; at least one channel groove expanding to the side of the channel; at least one carrier element positioned in the appliance via the channel; at least one movement component which is connected to the carrier element, positioned on at least one surface and which moves slidably in the channel; at least one positioning element

which comprises at least one protrusion placing in the said channel groove; at least one connecting component which is fixed to the said surface of the positioning element with swivel joint and fixed to the movement component on the other side with swivel joint.

[0006] The carrier element can move along the channel axis when the movement component and the protrusion are positioned in the channel. The carrier element reaching at desired height is moved towards the channel groove and the protrusion on the positioning element is placed in the channel groove at that height and the carrier element is fixed at that height. When the height of the carrier element is wanted to be changed, the carrier element is moved so as to be moved away from the channel groove and the protrusion arrives the channel via protruding out of the groove and thus; the carrier element can move along the channel. When the carrier element reaches at desired height, the protrusion is placed in the channel groove at that height and the carrier element is fixed at that height.

Objective of the Invention

[0007] The aim of the invention is to develop a home appliance which comprises a carrier element, the height of which is adjustable.

[0008] The other aim of the invention is to develop a home appliance, the height of which is easily adjustable even when weight is placed thereon.

[0009] Another aim of the invention is to develop a home appliance, the height of which is adjustable in a balanced way.

[0010] A further aim of the invention is to develop a reliable and cost-effective carrier element which is easily produced, assembled and used.

Description of Drawings

[0011] An exemplary carrier element and an exemplary positioning element used thereon are shown in annexed drawings and:

Figure 1 is the perspective view of the one face of the positioning element.

Figure 2 is the frontal view of the other face of the positioning element.

Figure 3 is the perspective view of the carrier element.

Figure 4 is the sectional side view of the embodiment of the carrier element in an exemplary home appliance.

Figure 5 is the sectional side view of the carrier element in another position.

Figure 6 is the sectional view of the carrier element in another position.

Figure 7 is the perspective view of the other embodiment of the positioning element.

[0012] The parts in the figures are individually enumerated and the corresponding terms of reference numbers are as follows:

Positioning element	(K)
Surface	(K1, K2)
Carrier element	(T)
Side surface	(Y)
Movement component	(1)
Connecting component	(2)
Connecting element	(3)
Protrusion	(4,6)
Recession	(5)
Channel	(7)
Channel groove	(8)
Elastic element	(9a, 9b)

Description of the Invention

[0013] The positioning element (K) of the shown invention comprises at least one movement component (1), which is positioned on at least one surface (K1) of this element, and at least one protrusion (4).

[0014] The positioning element (K), an exemplary embodiment of which is shown in Figure 1, comprises at least one connecting component (2) which is fixed with swivel joint at the said surface (K1) from at least one side and which is fixed with swivel joint at the movement component (1) from another side. The connecting component (2) is fixed at the positioning element (K) via at least one connecting element (3). The connecting element (3) can be protrusion on the positioning element (K) or a component such as screw. At least one protrusion (4) is provided on said surface (K1) of the element (K).

[0015] An exemplary positioning element (K), another surface (K2) of which is shown in Figure 2, comprises at least one recession (5) on this surface (K2). At least one protrusion (6) provided on the carrier element (T) which can be used as shelf, tray, basket, etc. and perspective view of which is shown in Figure 3, is placed in the said recession (5) and the connection of the positioning component (K) to the carrier element (T) is ensured. In another embodiment of the invention, which is not shown in figures, the connection is ensured by placing at least one protrusion, which is on the said surface (K2) of the positioning element (K), in at least one recession on the carrier element (T).

[0016] In order to disclose operating principle of the positioning element (K), the home appliance in figures is exemplified as a cooling device and the carrier element is exemplified as a shelf which is provided on the door of the device and foods are placed thereon.

[0017] In figure 4, an embodiment of the positioning element (K), the connection of which to the carrier element (T) is ensured, in the home appliance (cooling device) is shown. The positioning element (K) is placed in

at least one channel (7), which is in at least one side surface (Y) of the device, (it is shown as the side surface (Y) at the door of the cooling device in the figures) via movement component (1) and protrusion (4) thereon and moves in the channel (7) by sliding.

[0018] In the exemplary embodiments in Figures 4-7, the movement component (1) is at the same axis with the protrusion (4), which is positioned in the channel (7), by means of fixing the movement component (1) to the connecting component (2) with swivel joint. Thus, the positioning element (K) can easily move in the channel (7). When the carrier element (T) reaches at desired height, the protrusion (4) on the positioning element (K) is placed in at least one channel groove (8) as per this height. The channel groove (8) extends towards the side of the channel (7) and in the exemplary embodiment in figures; channel groove (8) extends towards the inside of the door (-X) of the device. The carrier element (T) reaching at desired height is moved towards the inside of the door (-X), as shown in Figure 5, and the protrusion (4) is directed to the groove (8) thereon. Since the connecting component (2) is mounted to the movement compartment (1) and positioning element (K) with swivel joint, the carrier element (T) moves towards the inside of the door (-X) and the protrusion (4) is placed in desired groove (8), as shown in Figure 6. Therefore, it is ensured that the carrier element (T) is fixed at desired height.

[0019] When the height of the carrier element (T), which is positioned in the device, is wanted to be changed, the protrusion (4) reaches to the channel (7) by protruding from the groove (8) by means of moving the carrier element (T) outwards the door (+X). The carrier element (T) reaches at desired level by means of being moved by sliding in the channel (7) and the height of the carrier element (T) is adjusted via placing the protrusion (4) in the channel groove (8) at this height.

[0020] The positioning element (K) comprises two movement compartments (1) in the exemplary embodiments shown in figures. The connecting compartments (2), which ensure the rotational movement of the movement compartments (1), are connected to one another by at least one elastic (flexible) element (9b) (i.e. spring) in an exemplary embodiment shown in Figure 7. Thus, connecting compartments (2) can move concurrently. In addition, the movement of the connecting compartments (2) can be limited by means of at least one another elastic (flexible) element (9a) positioned on the positioning element (K).

Claims

1. A home appliance comprising at least one channel (7) provided on at least one side surface (Y); at least one channel groove (8) expanding to the side of the channel (7); at least one carrier element (T) positioned in the appliance via the channel (7) **characterized by** comprising;

- at least one movement component (1) which is connected to the carrier element (T), positioned on at least one surface (K1) and which moves slidably in the channel (7) ; at least one positioning element (K) which comprises at least one protrusion (4) placing in said channel groove (8); 5
 - at least one connecting component (2) which is fixed to the said surface (K1) of the positioning element (K) with swivel joint and fixed to the movement component (1) on the other side with swivel joint . 10
2. A home appliance according to Claim 1 **characterized by** comprising at least one connecting element (3) which fixes said connecting component (2) to the positioning element (K). 15
 3. A home appliance according to Claim 1 **characterized by** comprising at least one protrusion (6) on the carrier element (T). 20
 4. A home appliance according to Claim 1 **characterized by** comprising at least one recession (5) which is provided on at least one surface (K2) of the positioning element (K) and said protrusion (6) is placed therein. 25
 5. A home appliance according to Claim 1 **characterized by** comprising at least one another protrusion which is provided on at least one another surface (K2) of the positioning element (K). 30
 6. A home appliance according to Claim 5 **characterized by** comprising at least one recession which is provided on carrier element (T) and said protrusion is placed therein. 35

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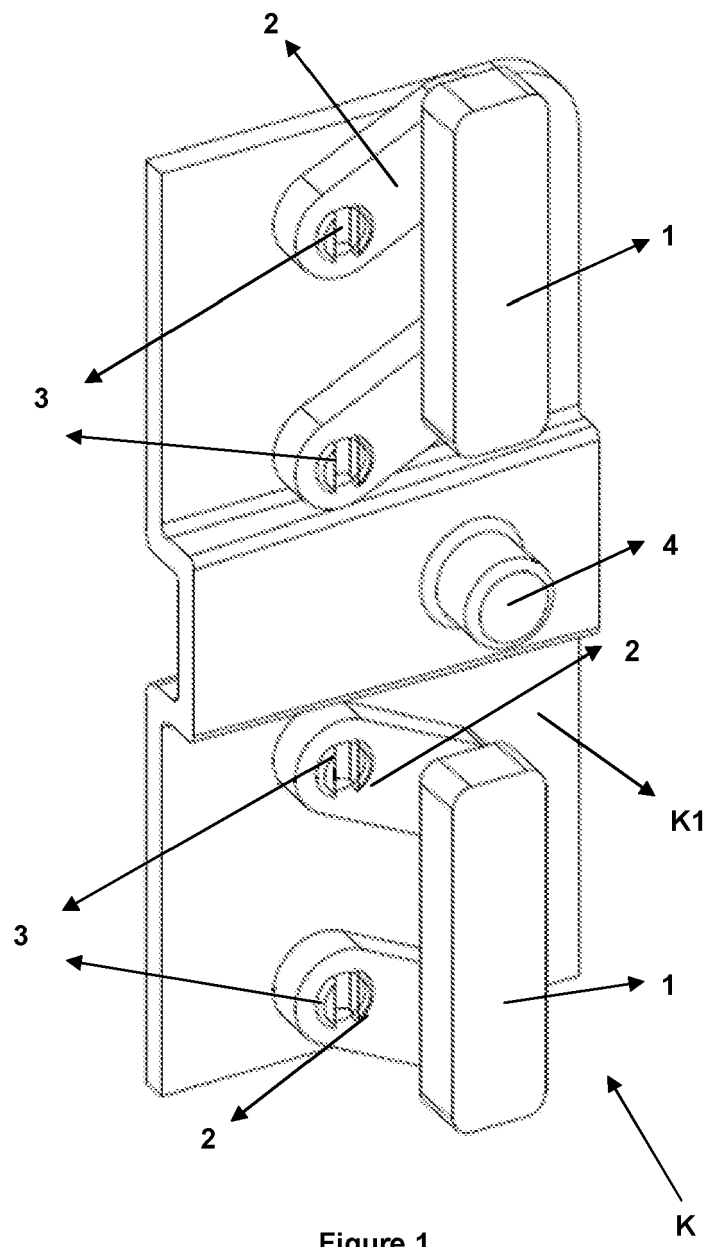
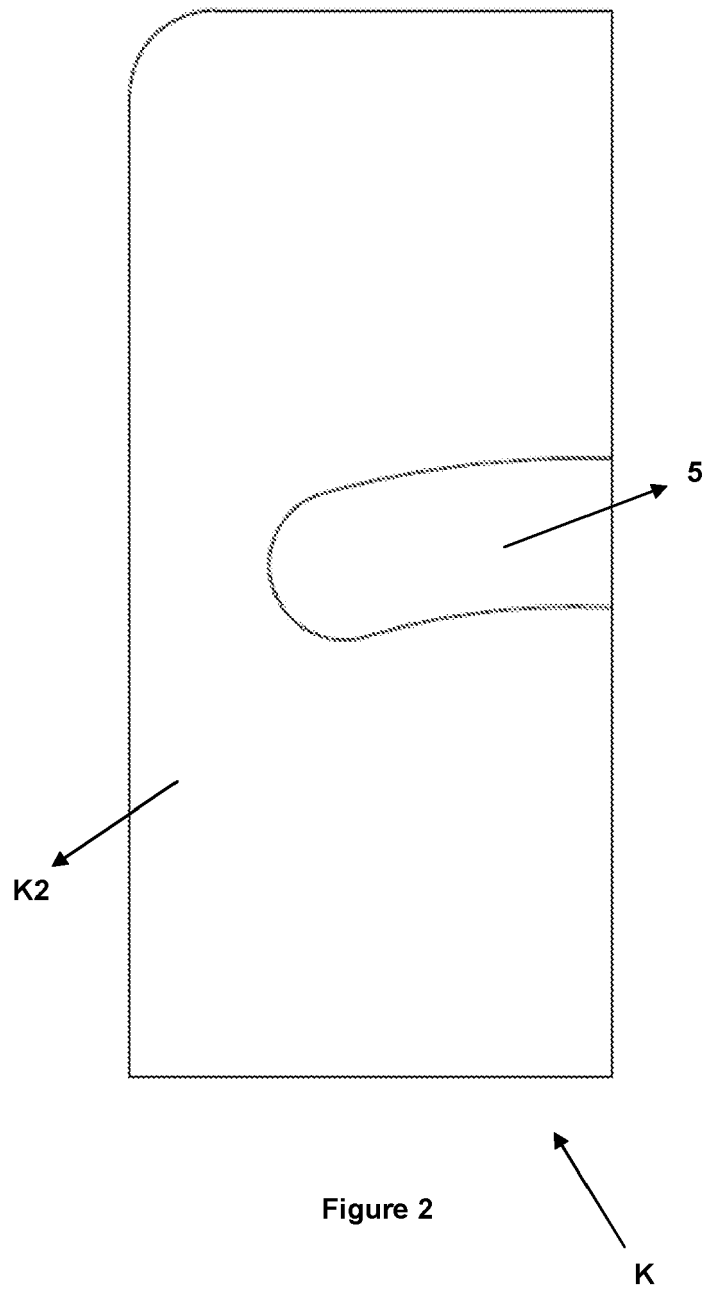


Figure 1



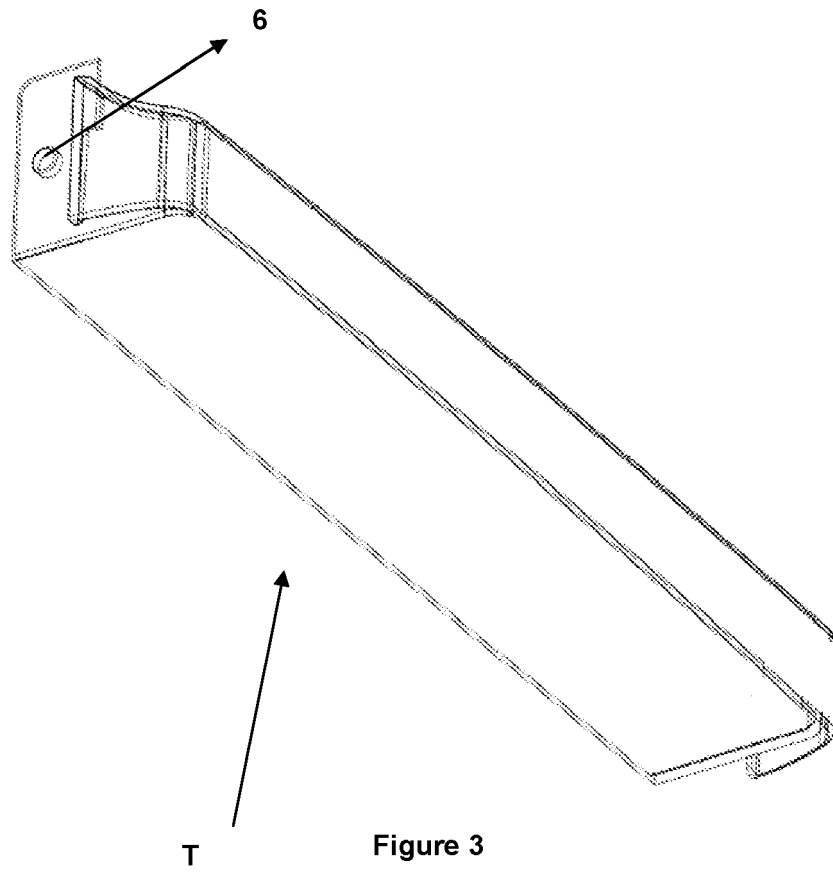


Figure 3

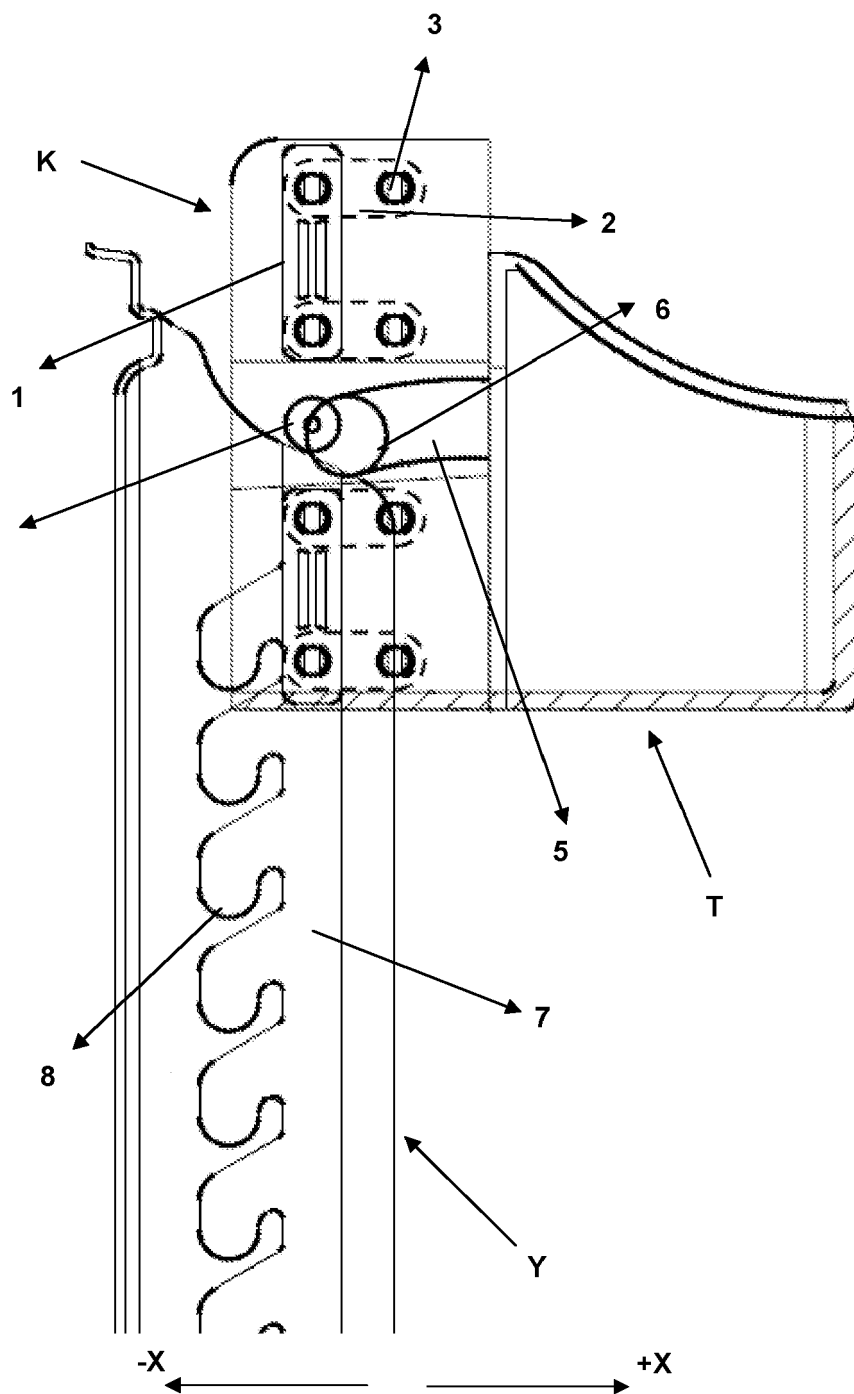


Figure 4

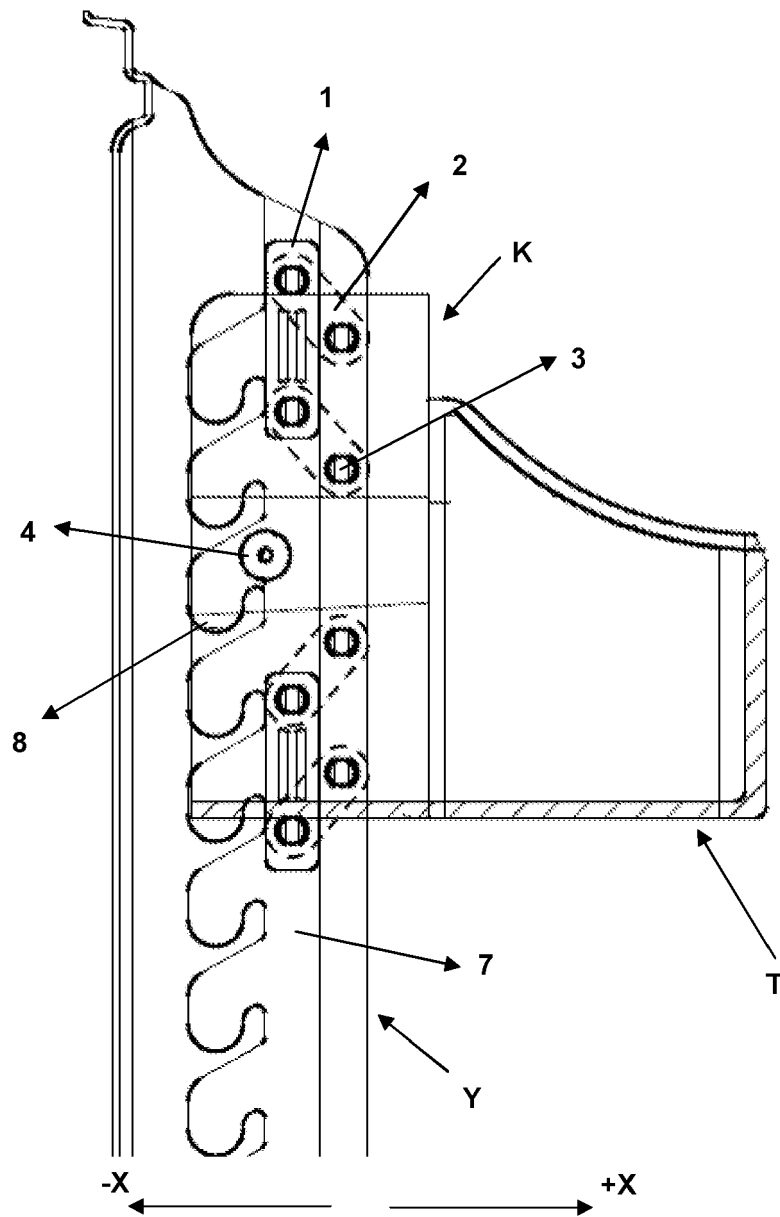


Figure 5

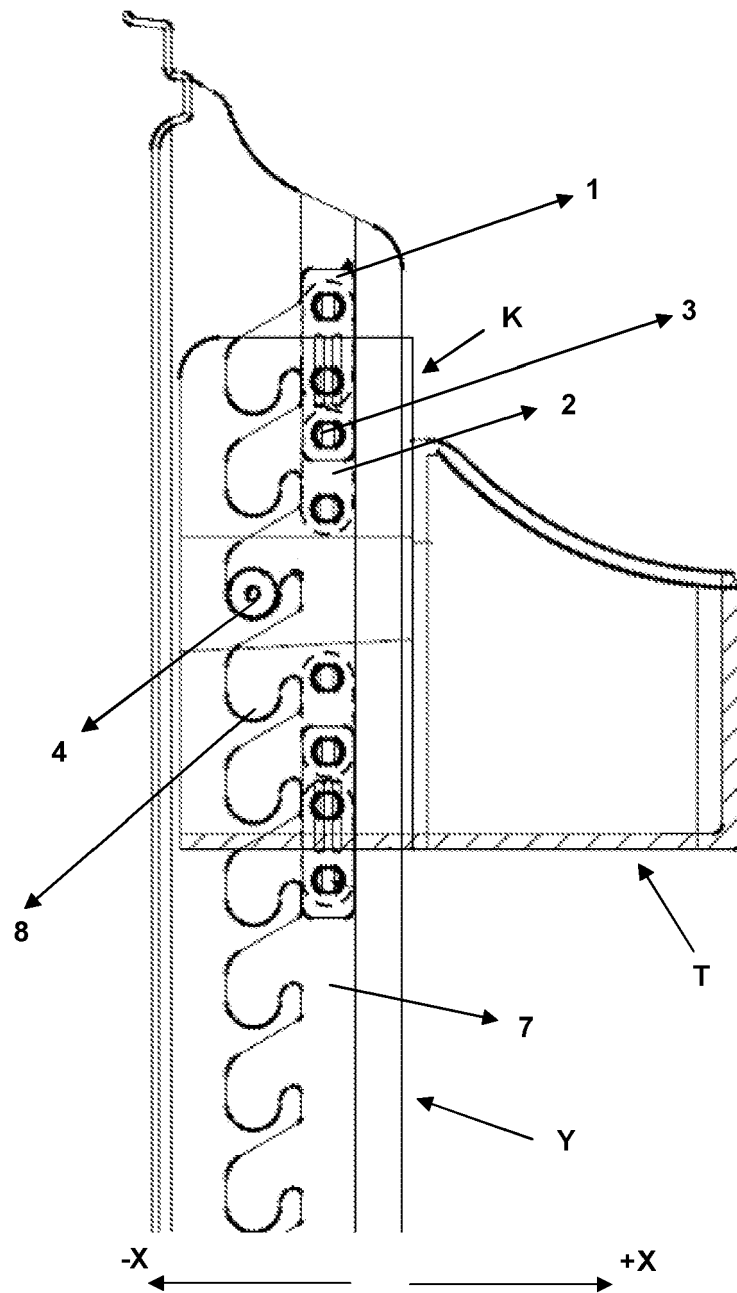


Figure 6

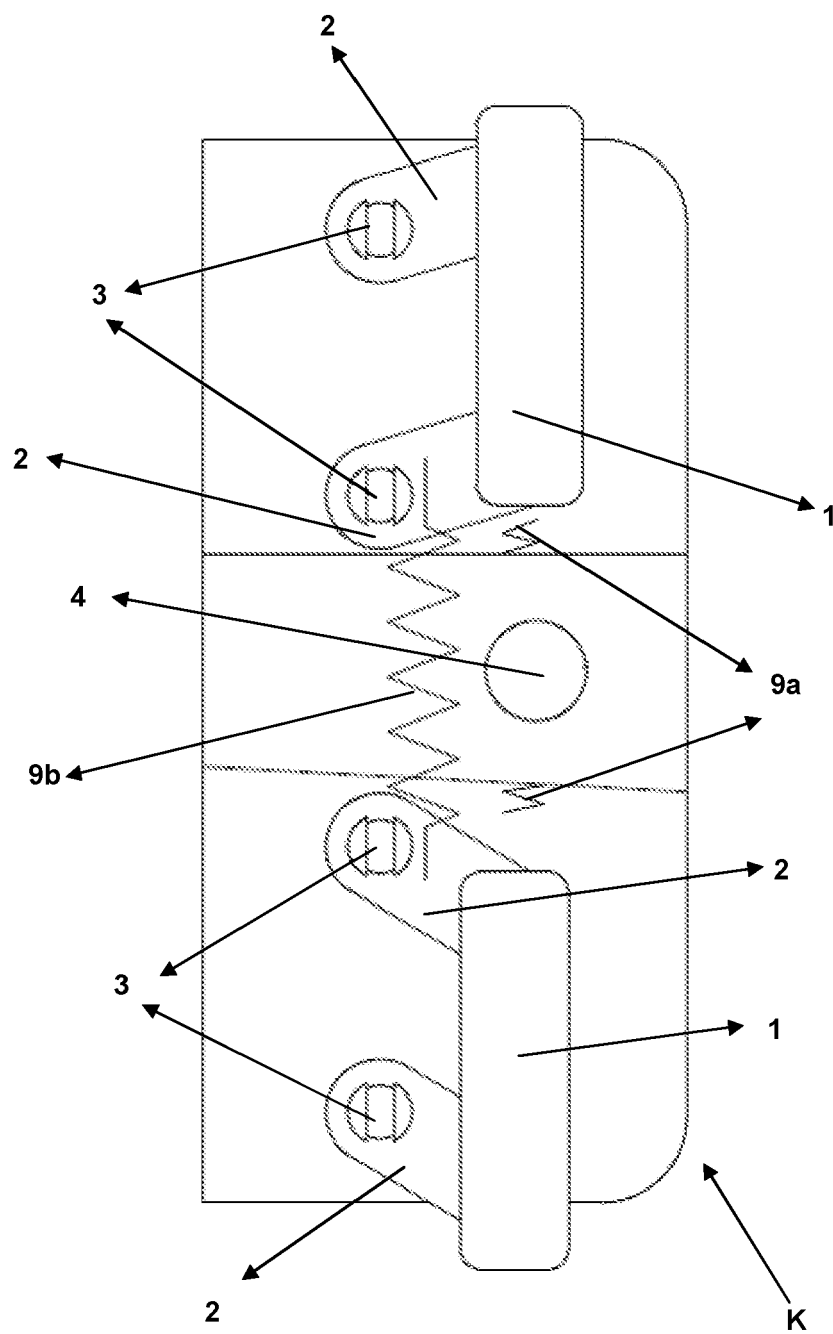


Figure 7

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- KR 20020012443 [0003]
- US 2005274299 A1 [0004]