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(54) **Hinge**

(57) This invention relates to a hinge (1) comprising first (2) and second (3) components for mounting on first (C) and second (D) members. The first component may include a fitting plate (4) directly mounted to the member (C) and a fitting member (5) push fitted onto the fitting plate for correct alignment and adjustment. The first component includes a tongue which when the component is fitted to the members extends around and is in contact

with the member which tongue includes means to allow screw fitting to the member. The second component may comprises a fitting plate (12) and a fitting member (13) with the fitting plate being fitted to the second member or door and the fitting member fitted to the plate for example by a post 12a.

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## Description

**[0001]** This invention relates to a hinge for fitting of a door or other closure means of for example a cabinet, in particular, to a hinge with an exposed hinge.

**[0002]** In recent years there has been considerable development of means and devices for the ready assembly or fitting of articles or items, for example the fitting of a door to a base unit of something like a cabinet. Consequently there has been significant development of a range of types and designs of hinges and other attachment means that enable quick and ready fitting of articles, such as doors to cupboards, as in kitchen units.

**[0003]** There are several types of these products, such as concealed hinges, and exposed hinges. Concealed hinges are typically used where cosmetic consideration are a factor and exposed hinges where more strength is needed in the design, for example, to support a heavier door. In both instances typically the hinge is divided into two components which components can be pre-fitted in a factory or factories to the relevant components of, for example, a cabinet, such as the base unit or the door to be fitted to the base unit. These components can then be brought together for the first time on site and the door fitted to the cabinet.

**[0004]** This is a quick and simply operation, and with adequate quality control, causes few problems in the assembly of the completed units.

**[0005]** The present invention is primarily directed towards the exposed hinge design. Typical examples of this means that the base unit carries the major part of the hinge, a support fitting that is located into the wall of the base unit, with a fitting plate that enables the fitting to be screw fitted to the wall of the base unit. This support fitting normally has a significant portion extending outwardly of the wall of the base unit. The second of the components is fitted to the door and typically comprises a fitting located in a well and screw fitted to the door. The two components having means for adjustment of their relative positions to themselves and to the surface to which they are screw fitted as well as snap locking means to securely locate them to one another in use.

**[0006]** The door may then be simply push fitted with the two components coming together until the snap lock means on the two components snaps together to secure the two components in correct alignment.

**[0007]** One of the drawbacks with this arrangement relates to the fact that one of the components includes a long arm member which sticks out from the base unit so that it provides a safety hazard to anyone working on or fitting the units.

**[0008]** Further, normally the component fitted in the door is secured to the door by screws, and these are located remotely from the adjacent edge of the door. As a consequence of this the loading in the hinge from the weight of the door may be sufficiently to cause the component to float free from the fitting severely hampering the efficient operation of the hinge and the door.

**[0009]** Further normally the general design of the hinge means that the snap lock and its release are located in a position where it is difficult to operate.

**[0010]** The present invention is concerned with providing a solution to this problem or to at least significantly alleviate the problem.

**[0011]** In accordance with the present invention there is provided a hinge comprising first and second components for mounting on first and second members respectively, which components may be push fitted to one another to lock the component of the hinge in correct alignment for operation wherein the first component includes a tongue which when the component is fitted to the members extends around and is in contact with the member which tongue includes means to allow screw fitting to the member.

**[0012]** In this way any tendency for the component to float or separate from the member to which it is fitted is overcome and the above mentioned problem with currently available hinges is alleviated.

**[0013]** In one arrangement of the invention the or each component may itself comprise more than one component for example including a base fitting plate for fitting to the respective member and a fitting component for fitting to the fitting plate and to enable interconnection of the first and second components.

**[0014]** In one arrangement of the present invention the first member is a base unit and the second member is a door to be fitted to the base unit. With this type of arrangement the major component of the hinge is provided on the door and not on the base unit and therefore the component provided on the base unit does not provide any hindrance to people working on the base units.

**[0015]** The relative positions of the components may be adjusted by means of fitting screw provided. The screw fitting can be used to adjust the positions of the first and second components with regard to themselves and also the first and second members. The hinge can therefore be adjusted to find the best working arrangement.

**[0016]** In one arrangement of the present invention the second component includes a cover slide member which member in fitting the two components of the hinge together slides over the second component and snap locks when correctly fitted. Further the cover means may also be provided with suitably located holes to allow adjustment of the screw fittings and therefore of the hinge with the second component fitted.

**[0017]** Preferably the components are snap locked together in the correct alignment and this snap lock may be released by insertion of a suitable tool into a slot provided in the cover of the first component.

**[0018]** The hinge components are preferably cast from a metal or metal alloy.

**[0019]** The invention will now be described by way of description of an example with reference to the accompanying drawing, in which:

Fig 1 shows a perspective view of a hinge made in accordance with the present invention fitted:

Figs 2 to 4 show plan, side and end views of the hinge as shown in Fig 1;

Figs 5 to 7 show open plan views of the hinge of the above Figures; and

Fig 8 shows a perspective view of the hinge of the above Figures.

**[0020]** Now referring to the drawings in general there is shown an example of a hinge 1 made in accordance with the present invention and design for fitting of a for example a door D to a base unit of a cabinet. C.

**[0021]** The hinge 1 includes a first component 2 for fitting to the base unit and a second component 3 for fitting to the door to be fitted to the base unit.

**[0022]** Now referring to Figs 3 and 6 of the drawings in particular, the first component 2 includes a fitting plate 4 and a fitting member 5 located in and secured to the fitting plate 4.

**[0023]** The fitting plate 4 is provided with a number of fixing holes 25 so that it can be screw fitted to the base unit and a tongue 6 that extends from one end thereof.

**[0024]** The screw fittings for the fitting plate 4 may also provide means of adjusting the position and aspect of the fitting plate and therefore the first component with respect to the base unit.

**[0025]** When fitted to the base unit the tongue 6 extends outwardly of the fitting plate 4 conforming to the surface of the base unit and is bent so that it extends around the edge of the base unit adjacent the fitting whilst still conforming to the surface of the base unit. The tongue 6 is also provided with a fitting hole 25a so that it can be secured to the base unit.

**[0026]** In an alternative arrangement of the tongue 6 the fixing hole is replaced with a spike pressed from the material of the tongue 6

**[0027]** Now referring in particular to Figures 3 and 5 of the drawings, the fitting member 5 comprises a plate like member having a slightly curved upper surface 26. The fitting member 5 can be located on the fitting plate 4 and secured in position thereon.

**[0028]** The fitting member 5 includes two protrusions 7 that locate in slots 8 provided in the fitting plate 4 to correctly locate and position the two components with respect to each other.

**[0029]** Further the fitting member 5 may also include through bores 9 to allow access to the screw fitting the fitting plate 4 to the base unit. One of the through bores 9 may be used to provide means to secure the fitting member 5 to the fitting plate 4.

**[0030]** The fitting member 5 is provided with side vanes 10 extending substantially along the sides of the fitting member 5.

**[0031]** The second component 3 is the major compo-

nent of this design of hinge 1 and comprises a fitting plate 12 and a fixing member 13.

**[0032]** Now referring to Figures 2, 3 4 and 7 of the drawings in particular the fitting plate 12 includes a well-shaped section 14 that locates into an indent provided in the door to be fitted. The fitting plate 12 is secured in position in the door via screw fittings via holes 15a provided in a skirt 15 of the fitting plate 12.

**[0033]** The fitting plate is also provided with fixing means comprising a post 12a to enable the fitting member 13 to be securely fitted to the fitting plate 12 via slot 13a.

**[0034]** The fitting member 13 includes at one end an L shaped member 16 which on its major side includes means 13a to allow securing fitting of the fitting member 13 to the fitting plate 12 and on its lesser side has a through bore 17 to enable pivotal mounting of attachment means 18 that interconnects with the first component 2.

**[0035]** Now referring to Fig 5 also the attachment means 18 includes a cover member 19 having an open-end 19a and is dimensioned to conform and slide over the fitting member 5 of the first component 2.

**[0036]** The attachment means 18 has an upper surface 20 and two side surfaces 21. Each of the side surfaces is provided with an internal running rail 23, which towards the open-end 19a may be provided with chamfering.

**[0037]** The other end of the attachment means 18 is closed and includes a downwardly extending portion 24 which portion 24 includes a downwardly extending portion 27 including two perpendicularly extending members 28. Each of the members 28 is provided with a through bore 29.

**[0038]** The attachment means 18 is pivotally fixed to the L-shaped member 16 via an axle 30 in a sleeve 31 arrangement that is passes through the through bores 17 and 39.

**[0039]** In use the first and second components are fitted to the base unit and door, usually pre-fitted in a factory. The door and the base unit may then be brought together on site and the attachment means 18 slid over the first component with the vanes 10 of the first component engaging and being guided by the running rails of the attachment means of the second component. When correctly located with respect to each other a snap lock component will inter-engage and the secure the two components with respect to each other

**[0040]** The snap lock arrangement may comprise a simply displaceable resilient lever that is displaced as the attachment member 18 is slid onto the first component and snaps back to engage in a slot. This arrangement is easily released so the two components of the hinge can be separated. Thus is carried out for example by inserting a suitable member, such as a screw drive into the slot and movement of the attachment member so that the lever engages the attachment member again.

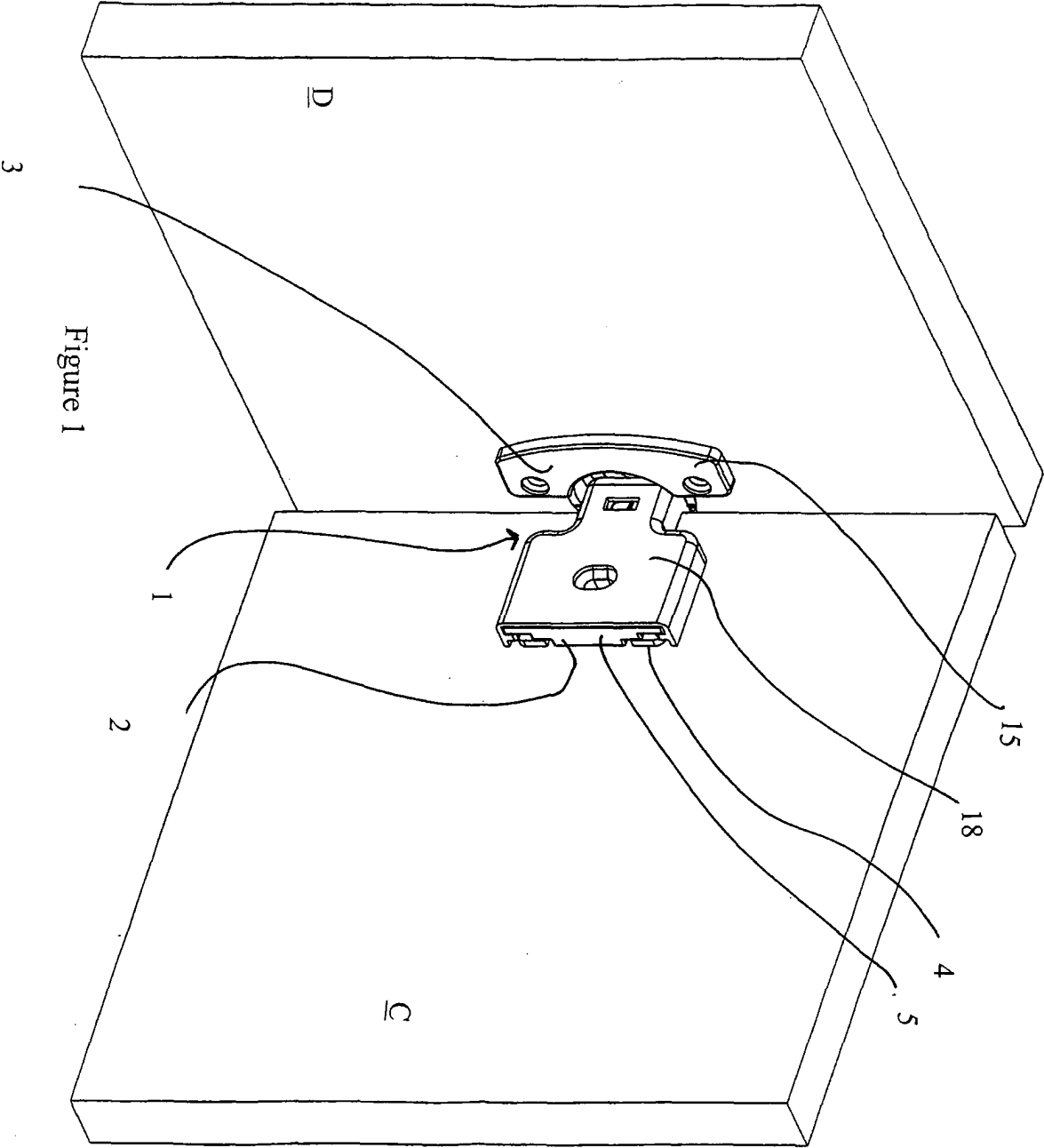
**Claims**

1. A hinge comprising first and second components for mounting on first and second members respectively, which components may be push fitted to one another to lock the component of the hinge in correct alignment for operation wherein the first component includes a tongue which when the component is fitted to the members extends around and is in contact with the member which tongue includes means to allow screw fitting to the member. 5  
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2. A hinge as claimed in claim 1, wherein the or each component comprises more than one component. 15
3. A hinge as claimed in claim 1 or claim 2, wherein each component includes a base fitting plate for fitting to the respective member and a fitting component for fitting to the fitting plate and so enable inter-connection of the first and second components. 20
4. A hinge as claimed in any preceding claim, wherein the first member is a base unit and the second member is a door to be fitted to the base unit. 25
5. A hinge as claimed in any preceding claim, wherein the second component includes a cover slide member which member in fitting the two components of the hinge together slides over the second component and snap locks when correctly fitted. 30
6. A hinge as claimed in claim 6, wherein the cover means is provided with suitably located holes to allow adjustment of the fitting of the hinge when the second component is fitted. 35
7. A hinge as claimed in claim 6, wherein the components are snap locked together in the correct alignment. 40
8. A hinge as claimed in any preceding claim, wherein the hinge components are cast from a metal or metal alloy. 45

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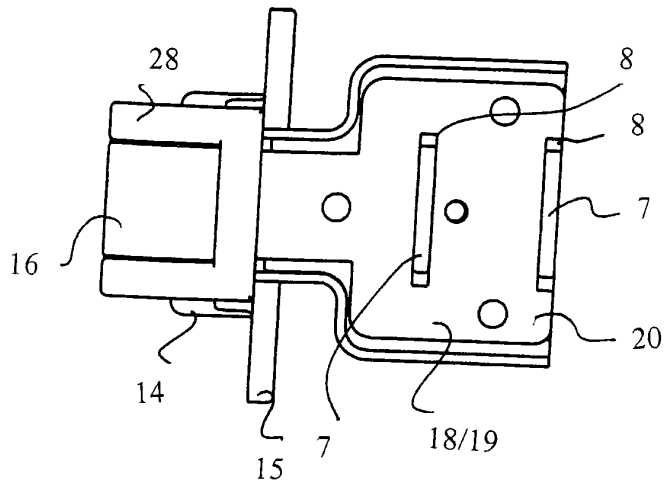


Figure 2

Figure 3

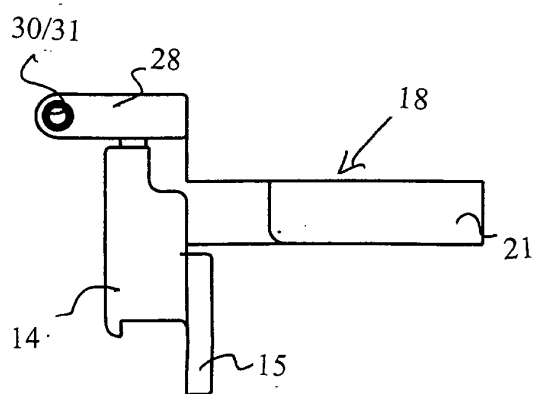
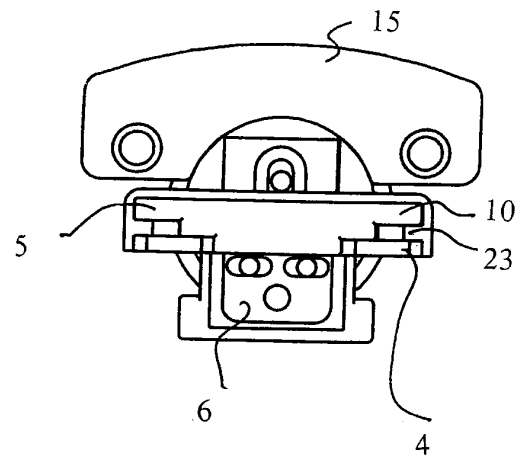


Figure 4

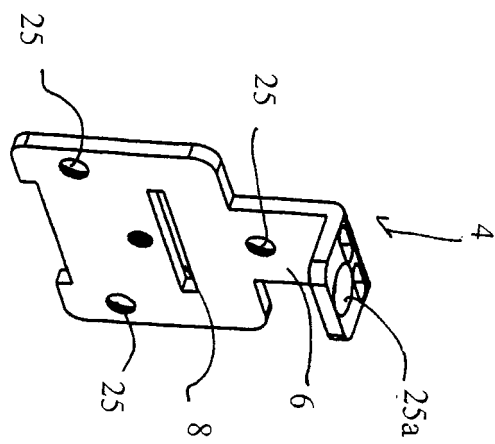


Figure 6

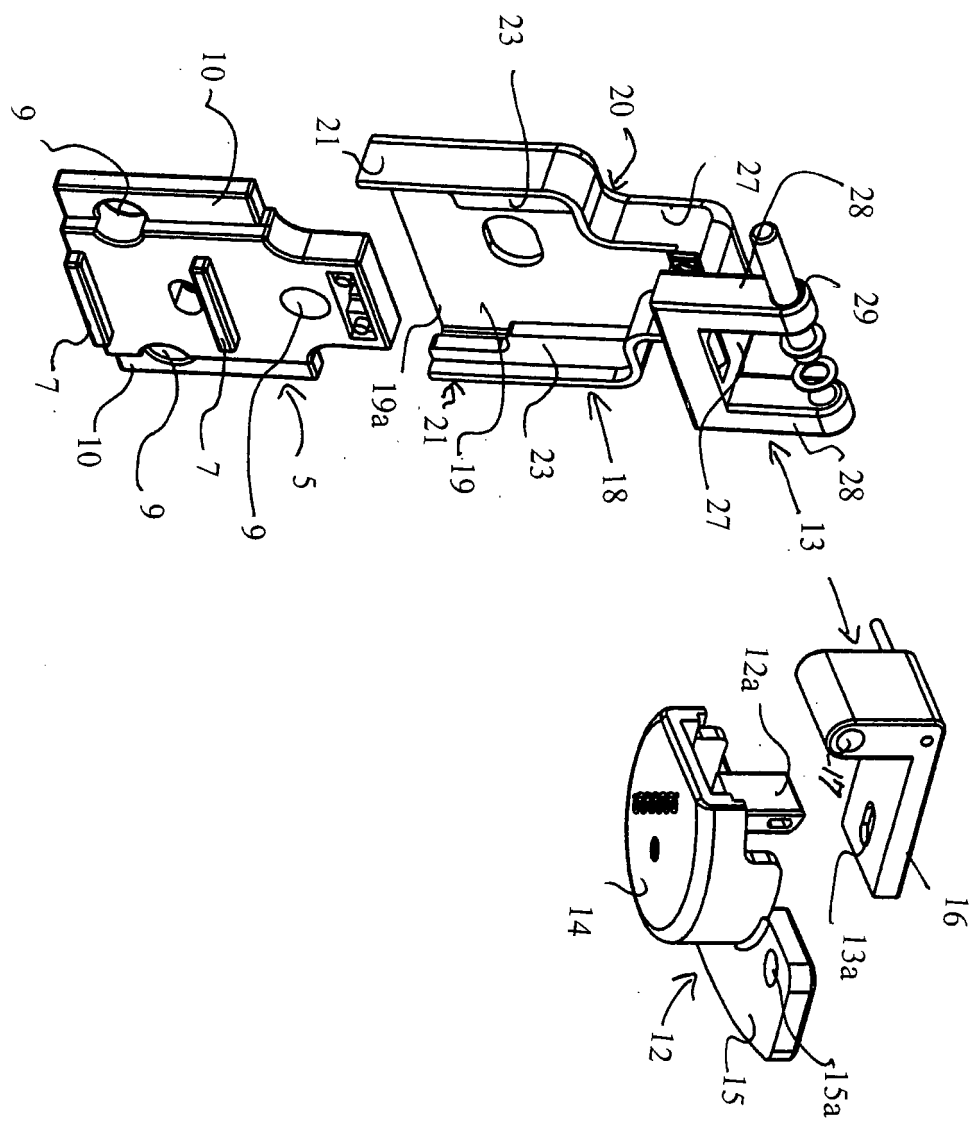


Figure 5

Figure 7

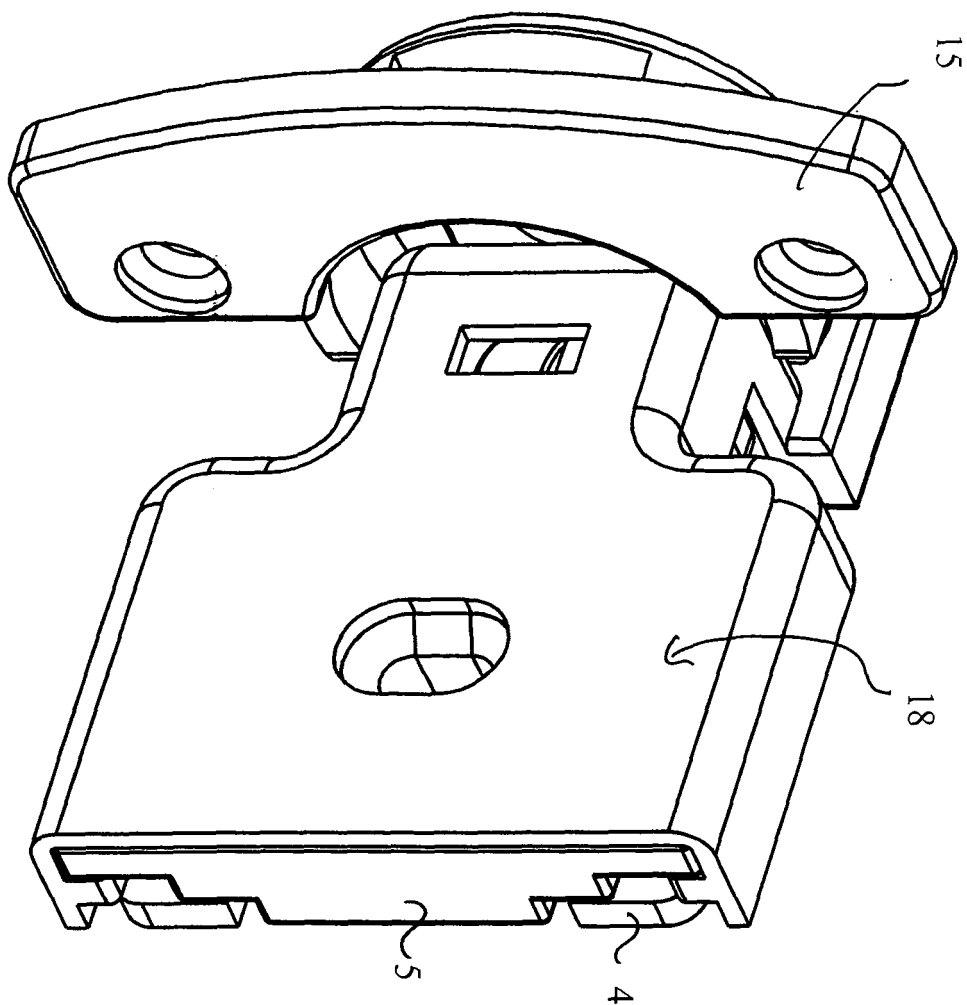


Figure 8