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(54) **Furniture joint, especially for upholstered furniture**

(57) Furniture joint, especially for upholstered furniture, according to the invention, having a stable arm fixed to a stable element of furniture and a movable arm joined with a movable element of furniture, moreover the movable arm is fixed-rotationally towards the stable arm, characterised in that, to one of the arms, advantegously to the movable arm (2), one-way grip (6) is mounted immovably towards this arm , moreover one-way grip (6) is seated on the circuit of a disk (9), and the disk (9) is placed immovably towards frictional inserts (4) and it is seated on their hubs (12).

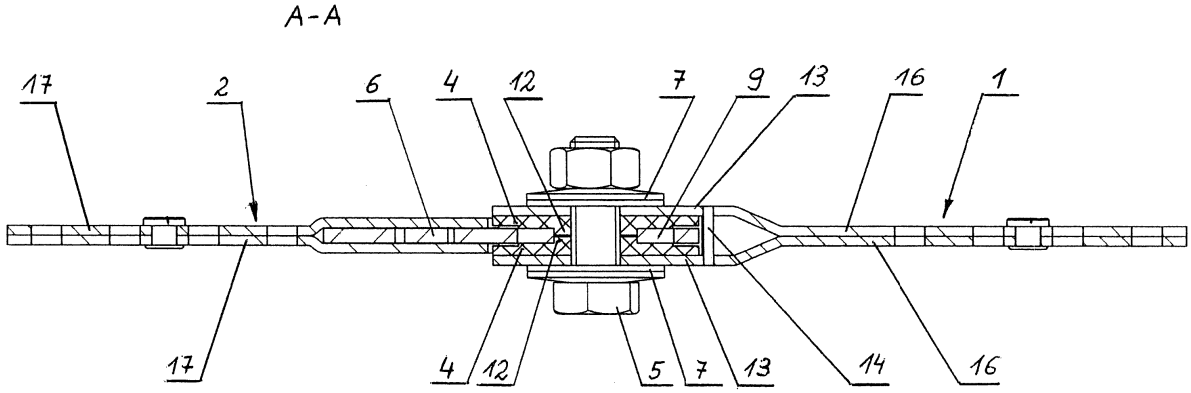


Fig. 1

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Description

[0001] This invention relates to furniture joint, especially for upholstered furniture, for blocking movable position of an element of a piece of furniture in any position. The invention is used especially for regulating position of headrests, arm-rests, leg-rests and back in chairs, armchairs, sofas, beds. Moreover the invention may also be used in other types of furniture, for example for flaps and doors of kitchen cupboards and bathroom cases.

[0002] They are known furniture joints used for bloking position of a movable element of a piece of furniture, for example of a head-rest or an arm-rest, after its setting up to a required position for a user.

The known joint is made of a stable arm fixed to an immovable element of a piece of furniture and a movable arm joined with a movable element of a piece of furniture such as head-rest or arm-rest. These arms are joined with each other rotativelly by means of a bolt. Within this connection there is a ratchet and a pawl made of teeth which are on the end of one arm. The teeth mate with the pawl joined with a second arm.

The known joint enables blocking of a movable element of a piece of furniture in at least several settled positions by stepwise lifting and lowering of that element. After taking proper position by a movable element its bloking takes place by operations of the pawl. The angle of position of a movable element of a piece of furniture, detenning number of positions, in which blocking takes place, is a result of a pitch of the pawl.

[0003] Stepwise change of position of a movable element of a piece of furniture and its bloking in this position make inconvenience in usage of the known furniture joint.

[0004] In order to eliminate above mentioned inconveniences one made a furniture joint, which construction enables blocking of position of a movable element of a piece of furniture in any position during fluent lifting and lowering of movable element of a piece of furniture.

[0005] Furniture joint, especially for upholstered futniture, according to the invention, having a stable aim fixed to a stable element of furniture and a movable arm joined with a movable element of furniture, moreover the movable arm is fixed rotationally towards the stable arm , **characterised in that** , to one of the arms, advantegously to the movable ann, one-way grip is mounted immovably towards this arm , moreover one-way grip is seated on the circuit of a disk, and the disk is placed immovably towards frictional inserts and it is seated on their hubs.

One-way grip has a hole and a through groove which divides up the grip into two parts, moreover each of the parts is joined with an arm, advantageously with the movable arm.

Advantageously one-way grip contains a stop of extention of the grip, moreover the stop is a resistance element for a part of the grip and the stop is situated within the limits of the parts of the grip.

Frictional inserts are situated towards themselves in such a way, that they are directed to each other with their hubs. One-way grip, the disk, and frictional inserts are placed between endings of an ann, advantageously of a stable arm and they are joined with one another by means of a screw, moreover between the screw and outer surfaces of endings of the arm, advantageously of the stable arm, pressure springs are placed, advantageously disk springs with regulated degree of compression, moveover degree of compression of pressure springs is regulated by means of the screw.

One-way grip contains blocking elements which, in extreme positions of the movable ann contact with a resistance element.

[0006] Construction of a furniture joint, according to the invention enables locking of position of a movable element of a piece of furniture in any position suitable for a user. There is not indirect angle limit of position of a movable element, as lifting and lowering of that element come fluently.

In the joint, according to the invention there is a possibility of regulation of resisting force of friction connected with work of the joint, which is essential from the point of view of particular users. Setting of this force, that is resistance of friction, takes place ealier, before usage of a piece of furniture with this joint. Regulation of the force is simple, as it relies on pressing down arms with a suitable force as a result of work of a screw.

[0007] Object of the invention is shown in the example of the drawing on which fig. 1 presents a joint in section A-A, fig.2 - a joint from above, fig.3 - a joint in perspective view, fig .4 - a joint in side view, fig.5 - a flat bar of a stable arm from above, fig.6 - a flat bar of a stable arm in side view, fig.7 - a flat bar of a movable arm from above, fig. 8 - a flat bar of a movable arm in side view, fig.9 - a grip from above, fig.10 - a disk from above, fig.11 - a disk in side view, fig.12 - a frictional insert from the side of a hub, fig.13 - a frictional insert in section C-C, fig.14 - a joint with an arm blocked in one extreme position, fig.15 - a joint with an ann blocked in second extreme position, fig16 - a joint with an arm in indirect position.

[0008] A furniture joint, especially for upholstered furniture, according to the invention is constructed from a stable element 1 fixed to a stable element of a piece of furniture and a movable arm 2 fixed to a movable element of a piece of furniture, for example to a head-rest, or to an ann-rest.

The movable ann 2 is fixed rotationally towards the stable arm 1.

[0009] To one of the arms, advantageously a movable arm 2 one-way grip 6 is mounted in two points by means of rivets 3 .

The grip 6 is a flat element, having an hole 8 and a through groove 10. The groove 10 divides up the grip 6 into two parts 6a , 6b , moreover each of the parts 6a , 6b is joined with an arm, advantageously with the movable arm 2 by means of the rivet 3 . Advantageously one-way grip 6 contains a stop 15 of extention of the grip 6 , moreover the stop 15 is a resistance element for a part 6a of the grip 6 and the stop 15 is situated within the limits of the

parts 6a , 6b of the grip 6 . On the circuit of circular part of the grip 6 there are blocking elements 11a , 11b . The grip 6 is seated with its hole 8 on the circuit of the disk 9. The disk 9 is placed immovably towards frictional inserts 4 and it is seated on their hubs 12. Connection of the disk 9 with frictional inserts 4 may be a splined joint or polygonal, for example hexagonal or it may be realized by means of a key.

Frictional inserts 4 are situated towards themselves in such a way, that they are directed to each other with their hubs 12 .

The grip 6 , the disk 9 , and frictional inserts 4 are placed between endings 13 of an arm, advantageously of a stable arm 1 and they are joined with one another by means of a screw 5 .

Between the screw 5 and outer surfaces of endings of the arm, advantageously of the stable ann 1, pressure springs 7 are placed, advantageously disk springs with regulated degree of compression. Degree of compression of pressure springs 7 is regulated by means of the screw 5.

Blocking elements 11a , 11b of the grip 6 block extreme positions of the movable arm 2 as a result of contact with a resistance element 14 mounted in the stable arm 1.

The stable arm 1 is made of two, adjoined to each other flat bars 16 joined with each other.

The movable arm 2 has a shape of a straight element and it is made of two, adjoined to each other flat bars 17 joined with each other.

[0010] Working of a furniture joint is the following:

- If we make movement with the movable arm 2 towards free regulation without frictional resistances, then one-way grip 6 widens and owing to it it turns freely along the circuit of the disk 9 not mating with it.

- During movement into opposite direction, movement of the movable arm 2 causes narrowing of the through groove 10 and tightening of the grip 6 on the circuit of the disk 9. It causes turn of the disk 9 and two frictional inserts 4 connected with it, as a result of which, in the moment of turn of frictional inserts 4 , friction takes place among frictional inserts 4 and endings 13 of the stable ann 1.

[0011] Turn in one direction necessitates overcaming of friction force, but turn in opposite direction does not necessitate use of force.

[0012] It is important that in any position of a movable arm 2 one may return to initial position overcoming friction force, what distinquishes the joint according to the invention from known joints.

[0013] The stop 15 of extention of the grip 6 starts to transfer force in the moment when blocking element 11a meets resistance as a result of contact with a resistance element 14 , what takes place during turn of the movable arm 2 to extreme position. It prevents exessive bend of a part 6a of the grip 6 and this way it prevents a joint from damage.

[0014] Blocking elements 11a , 11b state the range of work of a joint and they may be situated depending on user' needs.

Claims

1. Furniture joint, especially for upholstered futniture, having a stable arm fixed to a stable element of furniture and a movable arm joined with a movable element of furniture, moreover the movable ann is fixed rotationally towards the stable ann, **characterised in that**, to one of the arms, advantegously to the movable ann (2), one-way grip (6) is mounted immovably towards this arm , moreover one-way grip (6) is seated on the circuit of a disk (9), and the disk (9) is placed immovably towards frictional inserts (4) and it is seated on their hubs (12).

2. A joint, according to claim 1, **characterised in that**, one-way grip (6) has a hole (8) and a through groove (10) which divides up the grip (6) into two parts (6a , 6b), moreover each of the parts (6a , 6b) is joined with an arm, advantageously with the movable arm (2).

3. A joint, according to claim 1, **characterised in that,** advantageously one-way grip (6) contains a stop (15) of extention of the grip (6) , moreover the stop (15) is a resistance element for a part (6a) of the grip (6) and the stop 15 is situated within the limits of the parts (6a , 6b) of the grip (6).

4. A joint, according to claim 1, **characterised in that**, frictional inserts (4) are situated towards themselves in such a way, that they are directed to each other with their hubs (12).

5. A joint, according to claim 1, **characterised in that**, one-way grip (6), the disk (9), and frictional inserts (4) are placed between endings (13) of an ann, advantageously of a stable arm (1) and they are joined with one another by means of a screw (5), moreover between the screw (5) and outer surfaces of endings (13) of the arm, advantageously of the stable arm (1), pressure springs (7) are placed, advantageously disk springs with regulated degree of compression, moveover degree of compression of pressure springs (7) is regulated by means of the screw (5).

6. A joint, according to claim 1, **characterised in that**, one-way grip (6) contains blocking elements (11a , 11b) which, in extreme positions of the movable ann (2) contact with a resistance element (14).

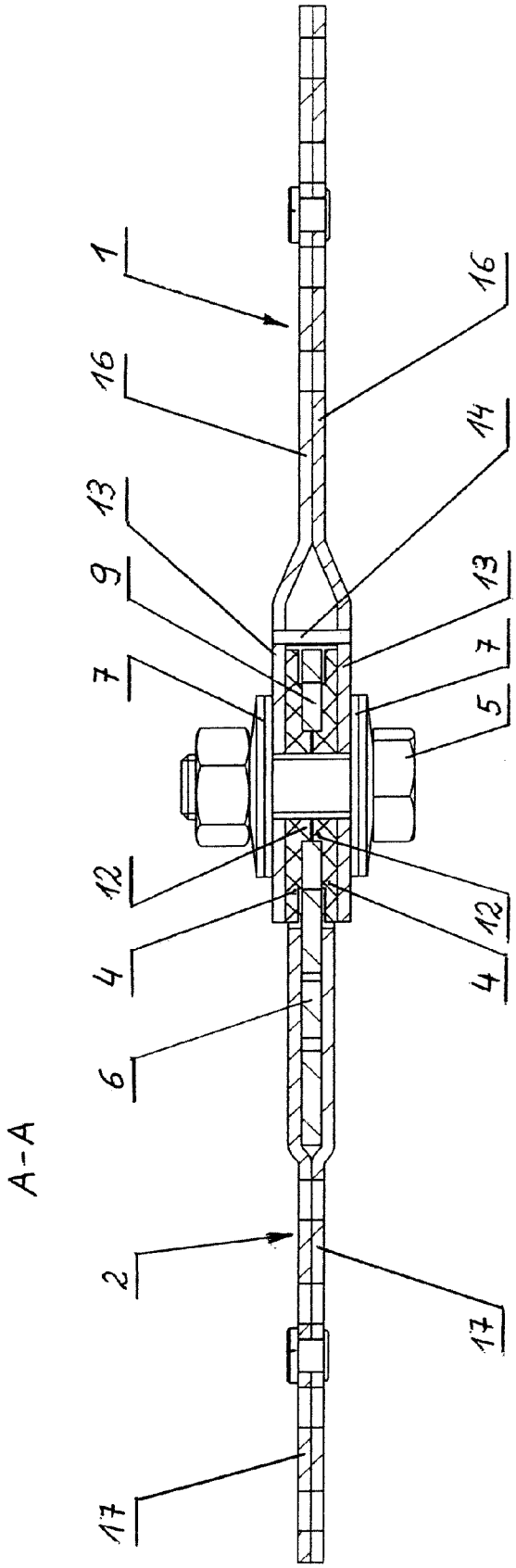


Fig. 1

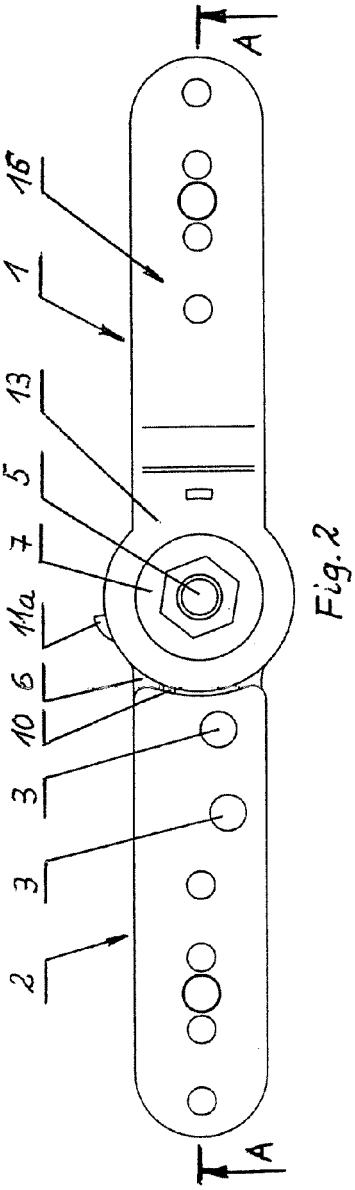


Fig. 2

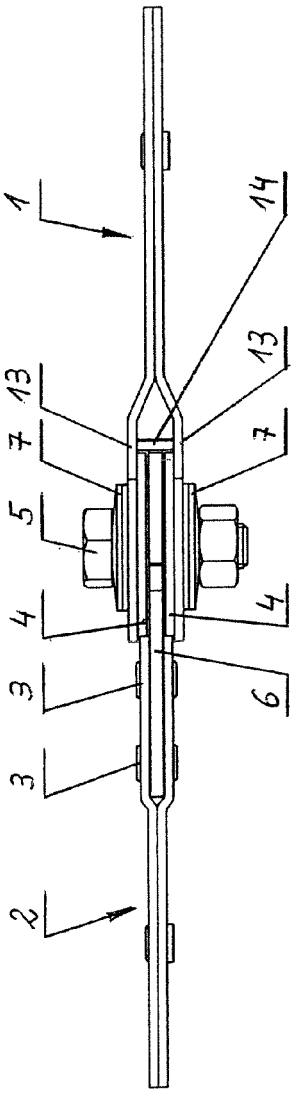


Fig. 4

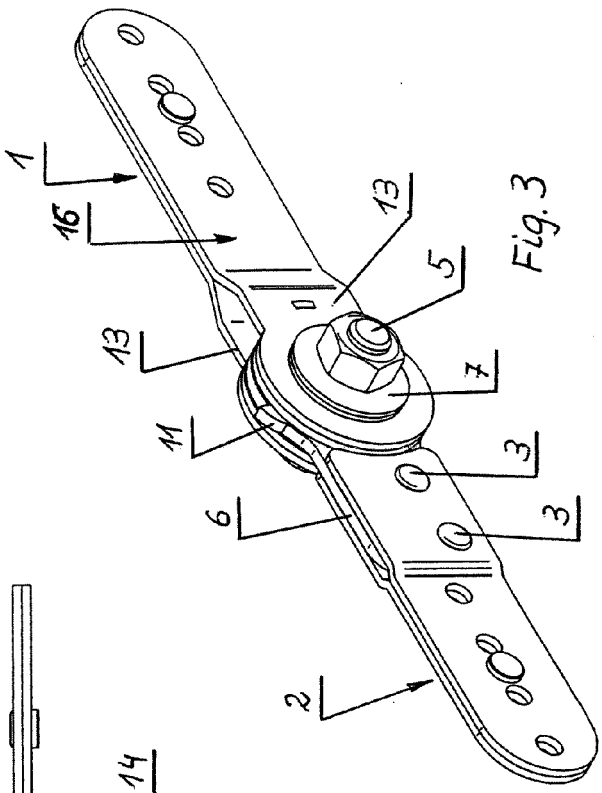


Fig. 3

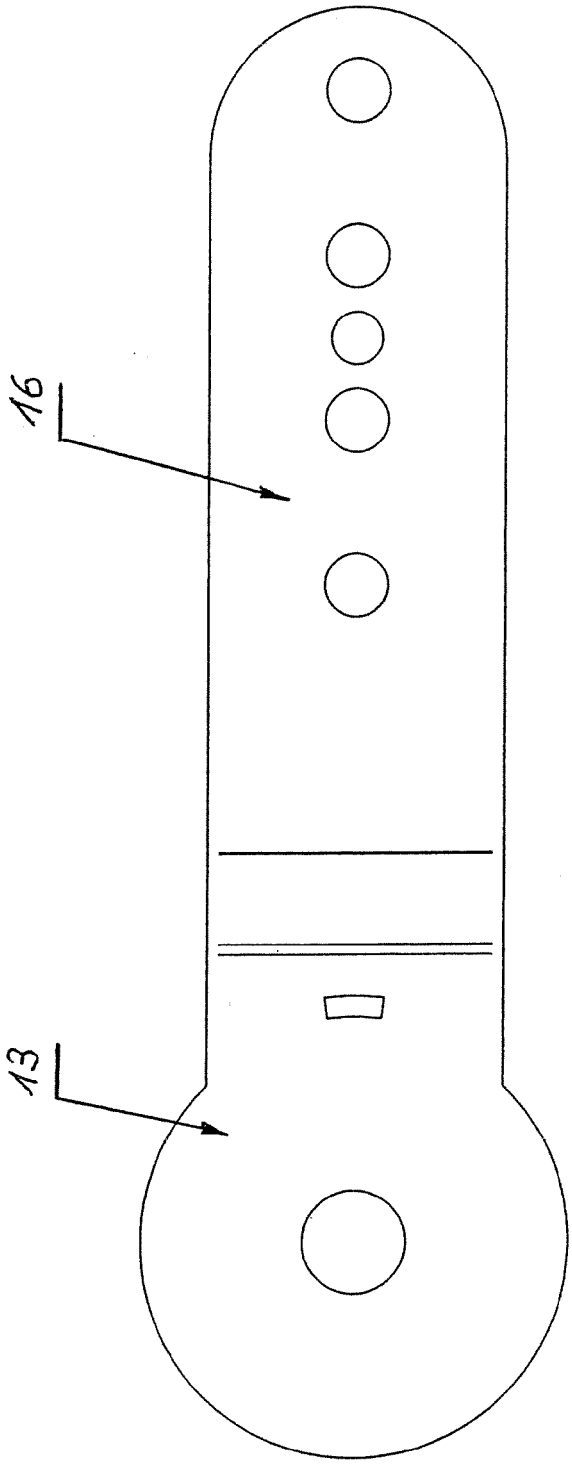


Fig. 5

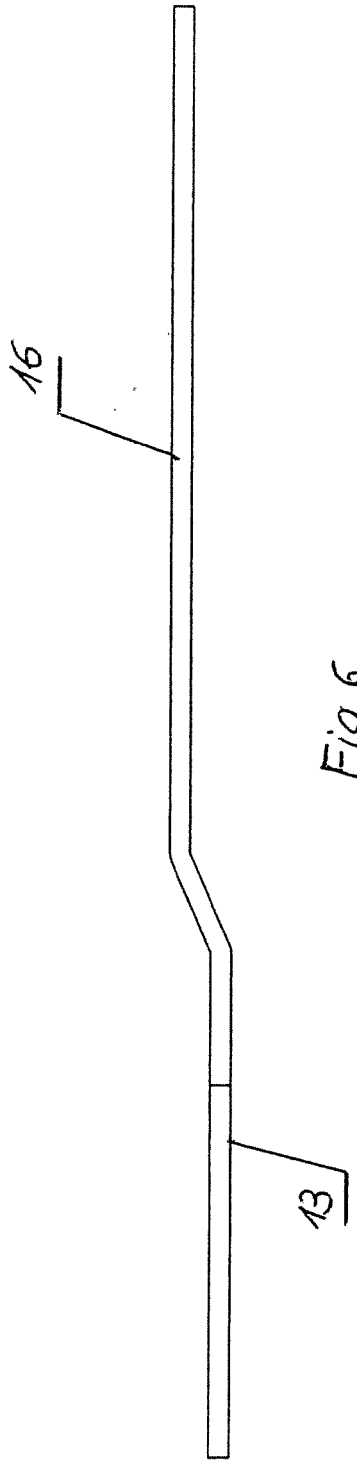


Fig. 6

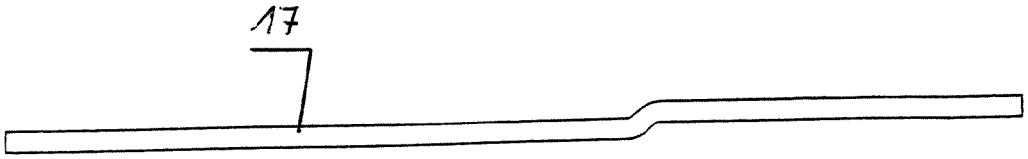


Fig. 8

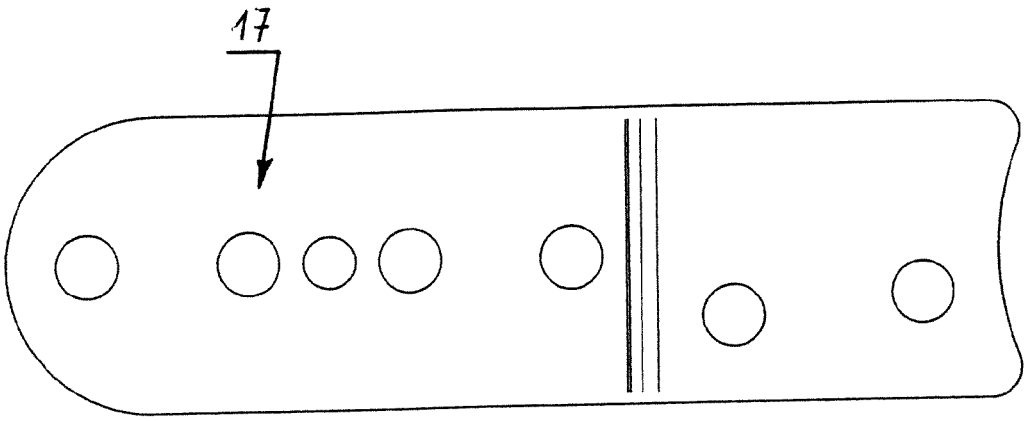


Fig. 7

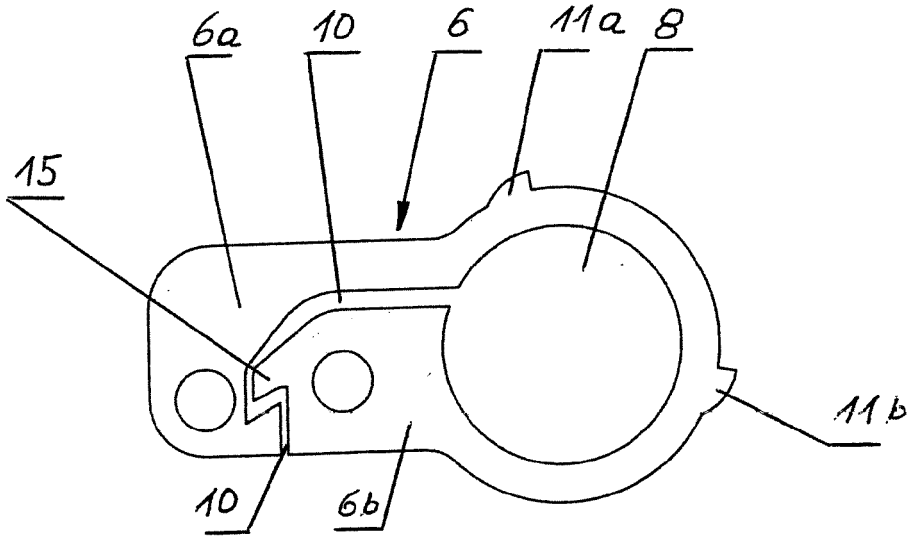


Fig. 9

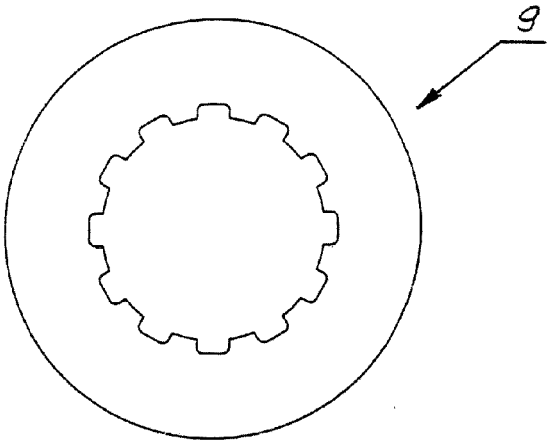


Fig. 10

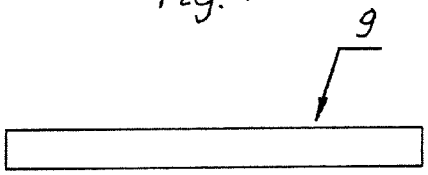


Fig. 11

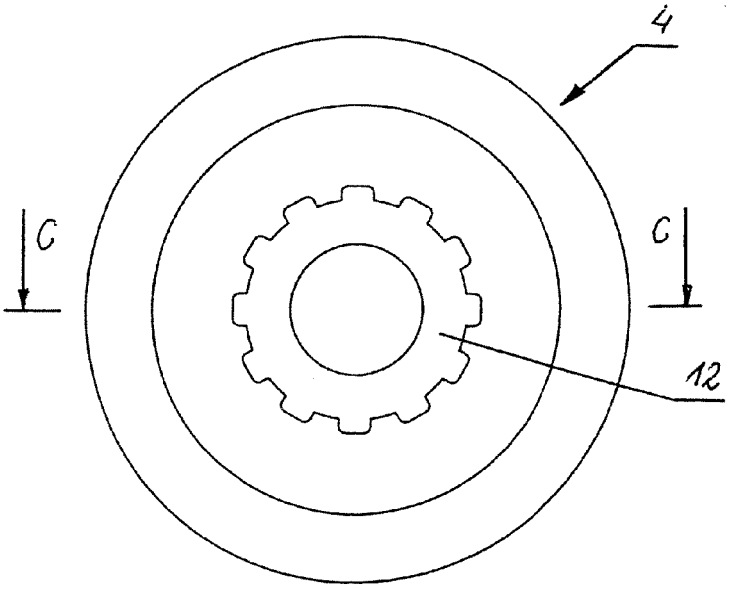


Fig. 12

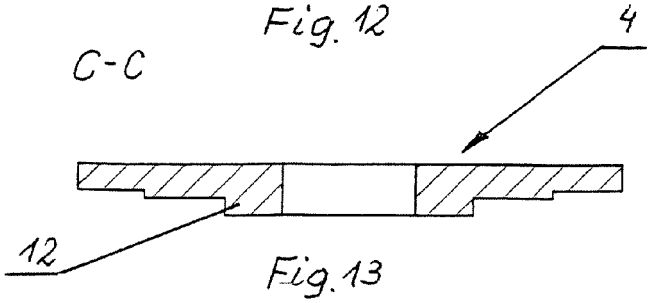


Fig. 13

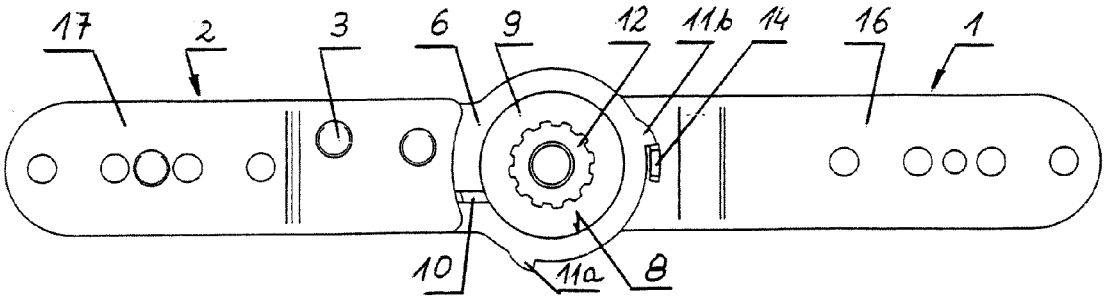


Fig. 14

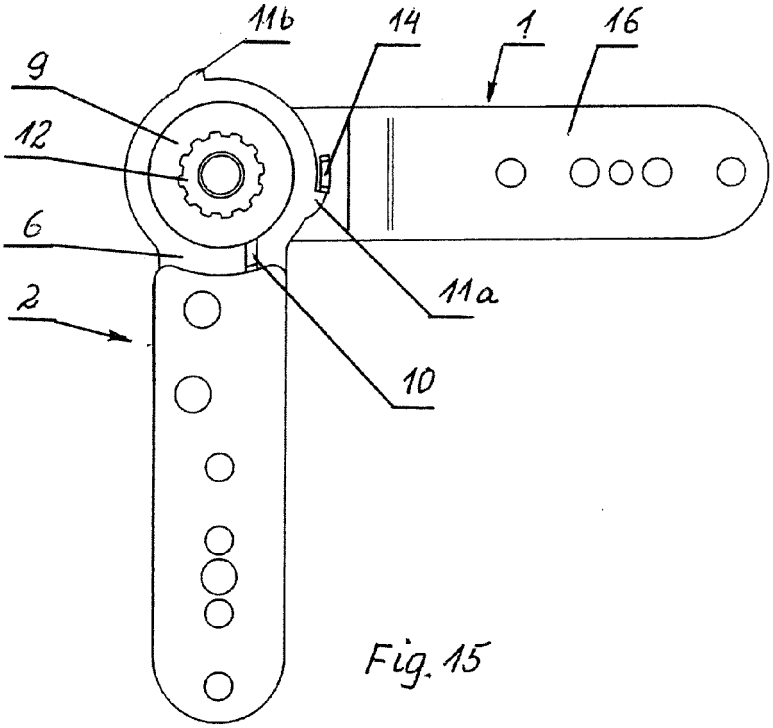


Fig. 15

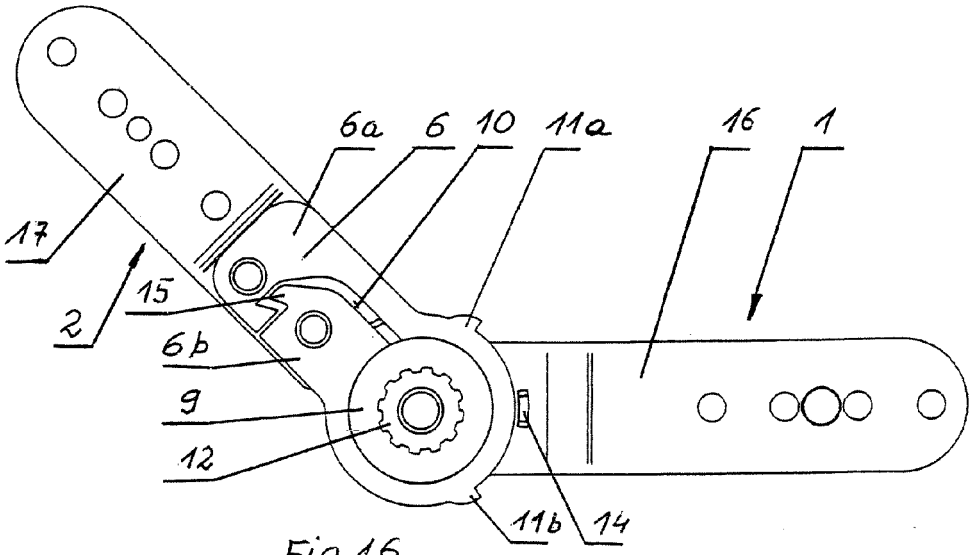


Fig. 16