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(54) **Device designed to hold the adjustable blades of blinds or the like in predetermined angular positions**

(57) A device for stabilizing the angles of the blades (4) of shutters such as blinds in predetermined angular positions with at least one basically disk-shaped fixed element (2) with a certain thickness furnished with a series of cavities or seats (5) placed along a ring-shaped band. This disk-shaped element (2) is fastened to the

inner side of the frame jamb.

Basically spherical (6) locator elements or the like are combined with and opposed to said basically disk-shaped element (2) and engage in the respective slots by contrast using spring-type elastic mechanisms (7) or the like positioned in a specific seat machined on at least one of said blades (4).

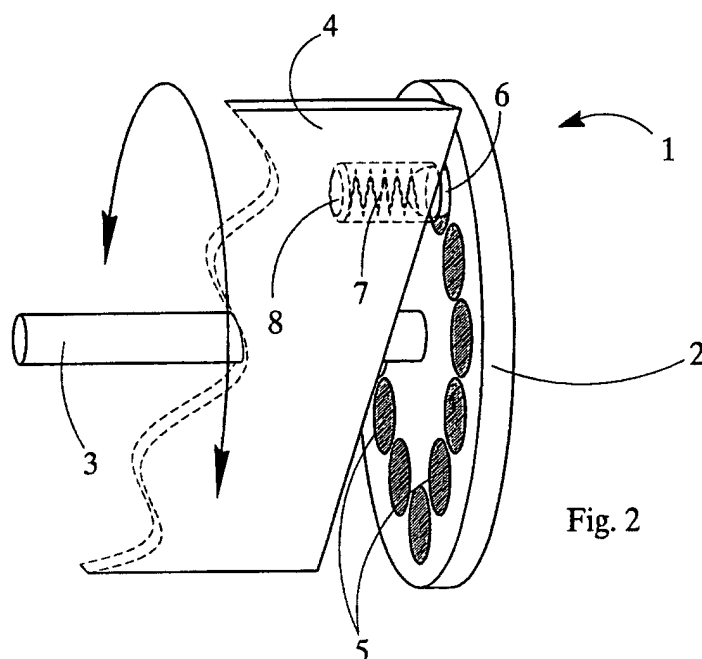


Fig. 2

Description

[0001] This patent proposes a device designed to hold the adjustable blades of blinds or the like in predetermined angular positions.

[0002] It is a device that permits angular positioning of the adjustable blades of shutters such as blinds into predetermined angular positions by using a fixed element placed coaxial to the axis of at least one of the blades themselves on the edge of which there is a locking element put under pressure by a spring.

[0003] The device in question, compared to known solutions, solves the problem of keeping a certain angular inclination of the blades of blinds which previously were adjusted by empirical methods or by methods, in any case, that were not suited to requirements.

[0004] The invention in question is part of the window and door frame sector and, in particular, part of the sector regarding blinds equipped with adjustable blades such as, for example, the blinds for which the same applicant filed, at a previous date, patents with patent applications No. VR98U000020 and No. VR98U000053.

[0005] Blinds for windows are made using a generally rectangular frame that mounts, internally, a series of crosswise blades or slats placed in an oblique position.

[0006] Blinds, which constitute a window closure structure, can be adjusted so that, when open, they permit passage of air and, when closed, prevent light from entering from the outside.

[0007] The patented solutions presented by the same applicant in the above-mentioned applications call for suitable mechanisms that ensure total blackening out of adjustable blades when these are closed, sealing off all those critical areas where light generally penetrates and other mechanisms that create the outer covering of the exterior part of the window frame, composed of covering inserts made of metal and/or plastic materials or other suitable materials that are inserted both on each blade of the blind and on its related supporting frame.

[0008] The solution in question, on the other hand, proposes use of a device designed to stabilize the blades of shutters such as blinds in predetermined angular positions, solving all the problems regarding difficulties in keeping the blades at a preset angle since the blades, as is known, can change their inclination due to gusts of air or similar forces and cause bothersome changes in the interior illumination of a room.

[0009] Use of a rotary locator device is proposed in accordance with the main aim of the invention, placed coaxial to at least one of the blades and used to position the blades themselves in preset positions and with increasing inclinations at constant increments.

[0010] The device according to the invention gives a definitive solution to improving angular positioning of the blades of blinds or similar devices and is able to overcome the above-mentioned difficulties.

[0011] All the specified objects and advantages are achieved, according to the invention, by a device that

locks the blades of blinds or the like in predetermined angular positions, characterized by the fact that it includes at least one basically disk-shaped element with a certain thickness furnished with a series of cavities or seats placed along a ring-shaped band, which disk-shaped element is fastened to the inner side of the frame jamb and by the fact that basically spherical locator elements or the like are combined with and opposed to said basically disk-shaped element and engage in the respective by contrast using spring-type elastic mechanisms or the like positioned in a specific seat machined on at least one of said blades.

[0012] Other characteristics and details of the invention can be better understood from the following description, given as a non-exclusive example and which is done in reference to the attached drawings wherein:

Fig. 1 gives an overall schematic and perspective view of the locator device according to the invention with the contrasting element in a detached position prior to assembly;

Fig. 2 gives a schematic and perspective view of the device in its working position;

Fig. 3 schematically illustrates a cross-section of the disk-shaped element fastened to the jamb where it acts as a locator to the contrasting element;

Fig. 4 gives a schematic and perspective view of one of the possible applications of the device according to the invention, applied to a blind illustrated in an exploded view.

[0013] In reference to the attached figures number 1 indicates the entire complex of the device according to this invention, conceived and made so as to hold the adjustable blades of blinds or the like in predetermined angular positions.

[0014] The device according to the invention basically consists of disk-shaped element 2 the center of which corresponds to the center of shaft 3 of one of blades 4 of the blind on which the device is mounted.

[0015] Disk-shaped element 2, which is fastened to jamb M, has, on its external side, meaning the side facing blades 4 of the frame, a series of cavities or seats 5 placed along a ring-shaped band and at certain predetermined distances one from the other.

[0016] Disk-shaped element 2 is opposed by a basically spherical locator element 6 or similar device which engages in respective slots 5 on the disk, by contrast using spring-type elastic mechanisms 7 or the like, placed in special support 8.

[0017] In its turn fixed support 8 is fastened to a seat machined on the side of blade 4, in a position best suited to its object.

[0018] The distance of spherical element 6 and its related support from the center of rotation of shaft 3 will be equal to the radial distance of each of seats 5 of fixed disk 2 from the respective center.

[0019] The operation of the device as described is

now evident, providing for spherical element 6 to engage in one of the slots 5, in the slot that corresponds to the most suitable position of the blade, during rotation of blade 4 in order to bring it into position. The blade will then be held in position without the possibility of movement caused by gusts of wind or weather up until the next time it is manually adjusted.

[0020] It is forecast, as an advantage, that the device as described can be applied not to all the blades but only to some of them, since the others are in any case all connected together by tie-rods or similar devices.

[0021] Another advantage comes from the possibility of making the seats or the notches on the disk-shaped element all on the outer edge of the circular piece or in any other even more suitable position and in this case even elastic locator element 6 will assume a shape and position suited to the circular piece with which it engages.

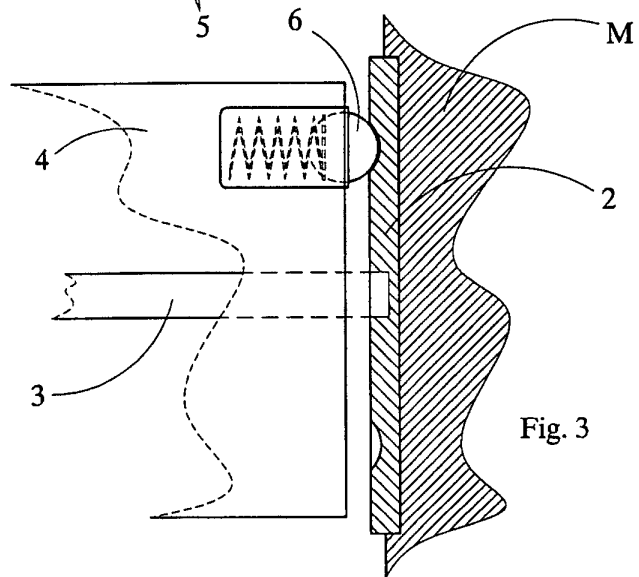
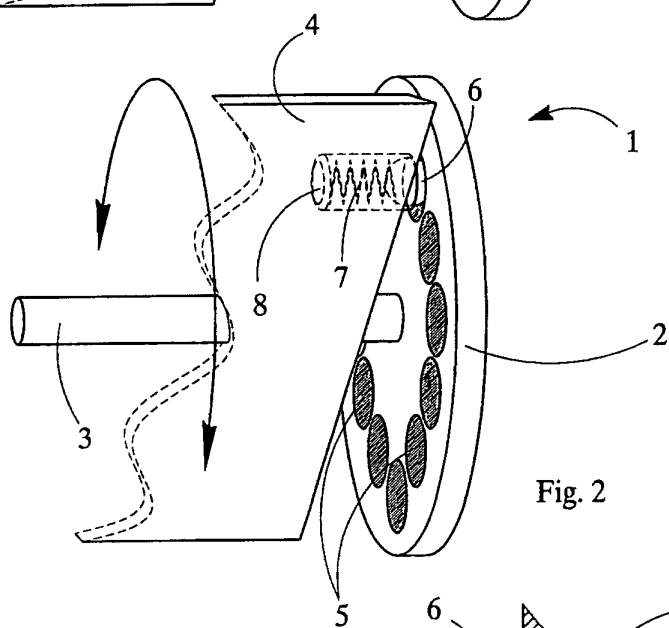
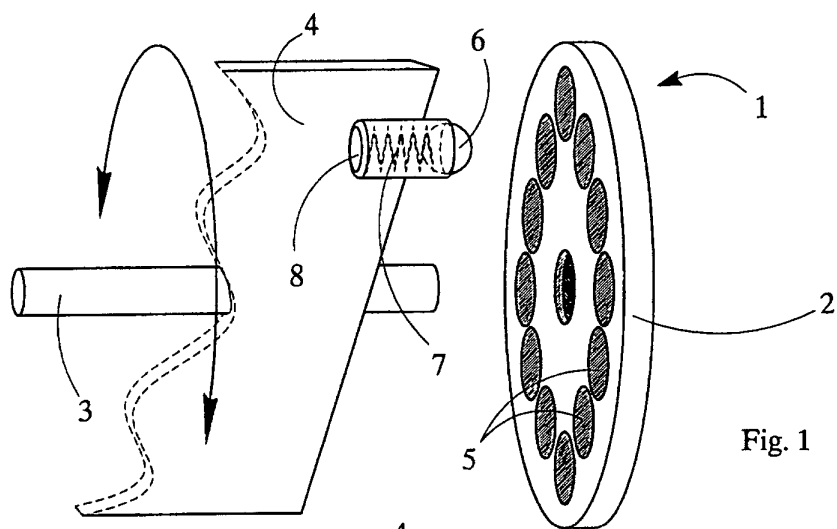
[0022] A technician in this sector can foresee other possible variations to the device designed to hold the adjustable blades of blinds that is the object of this application, creating solutions that are understood to be included within the scope of protection of the invention, further defined, in its particular characteristics, by the following claims.

Claims

1. Device designed to lock the blades of blinds or the like into predetermined angular positions, **characterized by** the fact that it includes at least one basically disk-shaped element (2) having a certain thickness furnished with a series of cavities or seats (5) placed along a ring-shaped band, which disk-shaped element is fastened to the inner side of the frame jamb and by the fact that basically spherical locator elements or the like are combined with and opposed to said basically disk-shaped element and engage in the related slots by contrast using spring-type elastic mechanisms or the like positioned in a specific seat machined on at least one of said blades. 30
2. Device designed to lock the blades of blinds or the like into predetermined angular positions according to the previous claim, **characterized by** the fact that the center of said disk-shaped element (2) corresponds to the center of shaft (3) of one of blades (4) of the blind on which the device is mounted. 45
3. Device designed to lock the blades of blinds or the like into predetermined angular positions according to the previous claims, **characterized by** the fact that said disk-shaped element (2) has, on its external side meaning the side facing blades (4) of the frame, a series of cavities or seats (5) placed along a ring-shaped band and at a certain preset distance 55

one from the other.

4. Device designed to lock the blades of blinds or the like into predetermined angular positions according to the previous claims, **characterized by** the fact that said disk-shaped element (2) is opposed to a basically spherical (6) locator element which engages in the respective slots (5) on the disk, by contrast using spring-type elastic mechanisms (7) or the like placed in a special fixed support (8). 5
5. Device designed to lock the blades of blinds or the like into predetermined angular positions according to the previous claims, **characterized by** the fact that said fixed support (8), in its turn, will be fastened to a seat machined on the side of blade (4) in a position best suited to its object. 10
6. Device designed to lock the blades of blinds or the like into predetermined angular positions according to the previous claims, **characterized by** the fact that the distance of spherical element (6) and its related support from the center of rotation of shaft (3) will be equal to the radial distance of each of seats (5) of disk (2) from the respective center. 15
7. Device designed to lock the blades of blinds or the like into predetermined angular positions according to the previous claims, **characterized by** the fact that it can be applied not to all the blades but only to some of them while the others remain in any case connected together by tie-rods or similar devices. 20
8. Device designed to lock the blades of blinds or the like into predetermined angular positions according to the previous claims, **characterized by** the fact that the seats or the notches on the disk-shaped element can also be positioned on the outer edge of the circular piece or in any other more suitable position and in this case even the elastic locator element (6) will assume a shape and position suited to the circular piece with which it engages. 25



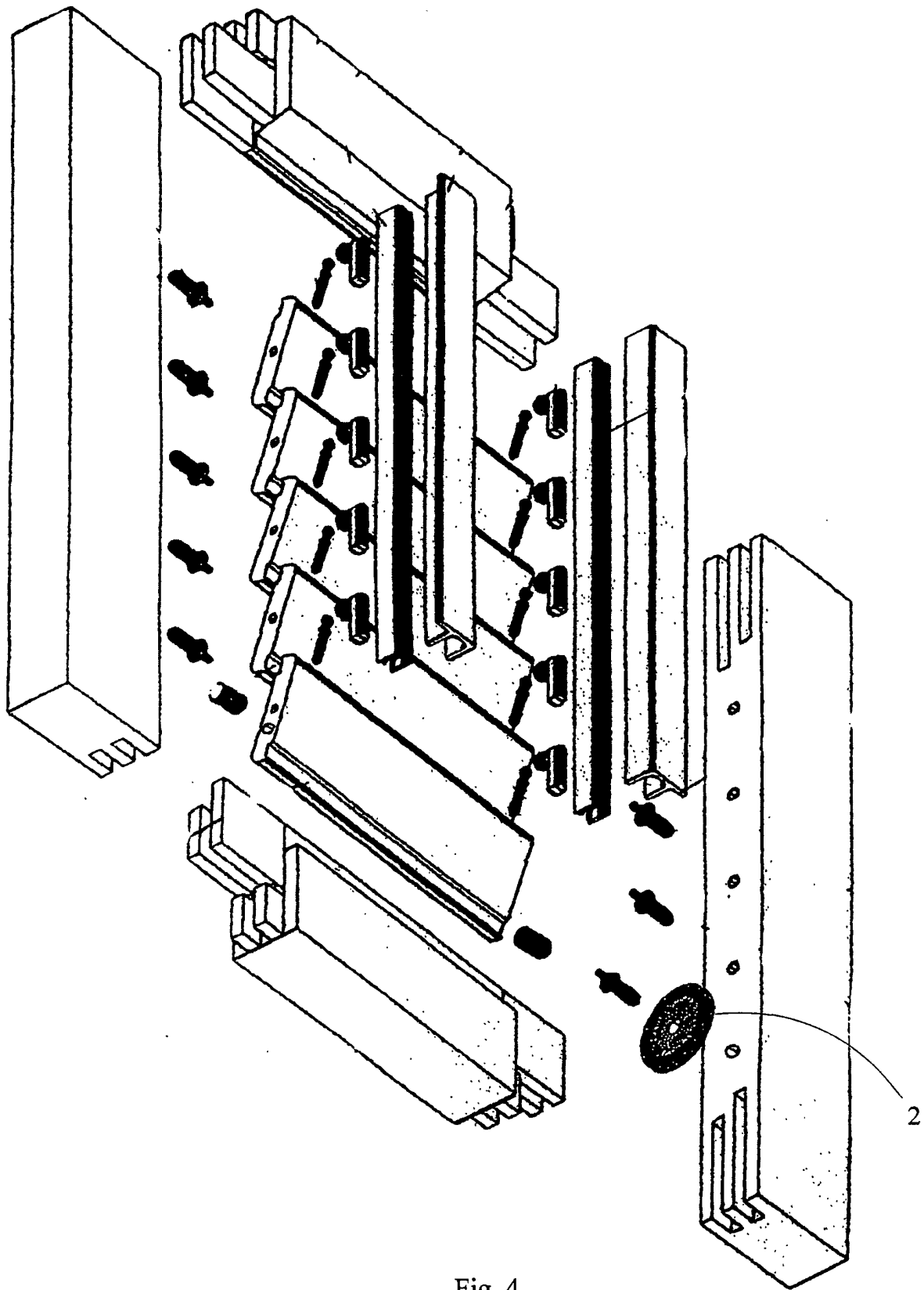


Fig. 4