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• **CARBO BECH, Albert**
08100, MOLLET DEL VALLES (ES)

(74) Representative:
Esteban Perez-Serrano, Maria Isabel et al
UDAPI & ASOCIADOS
Explanada, 8
28040 Madrid (ES)

(71) Applicant: **Industrias Ragi, S.A.**
Barcelona (ES)

(72) Inventors:
• **ROCA, Francesc**
08100, MOLLET DEL VALLES (ES)

Remarks:
Amended claims in accordance with Rule 86 (2) EPC.

(54) **Drawer locking system with anti-overturning device**

(57) System of locking drawers which allows operation in a combined way with the selective blocking device of drawers with anti-overturning effect (7), having for this a rear subassembly (1) connected with the anti-overturning system, a front subassembly (2) which receives the action of a locking bolt (5), and which interacts with the other subassembly by means of a linking rod (8). Both subassemblies have a latch support piece (3) and a latch (4) which is hinged on the piece by means of some nipples housed in some opposing orifices provided for this purpose. The latch of the rear subassembly is mounted together with two spring clips which allow the original position to be recovered allowing the anti-overturning device to act when the locking bolt ceases to act.

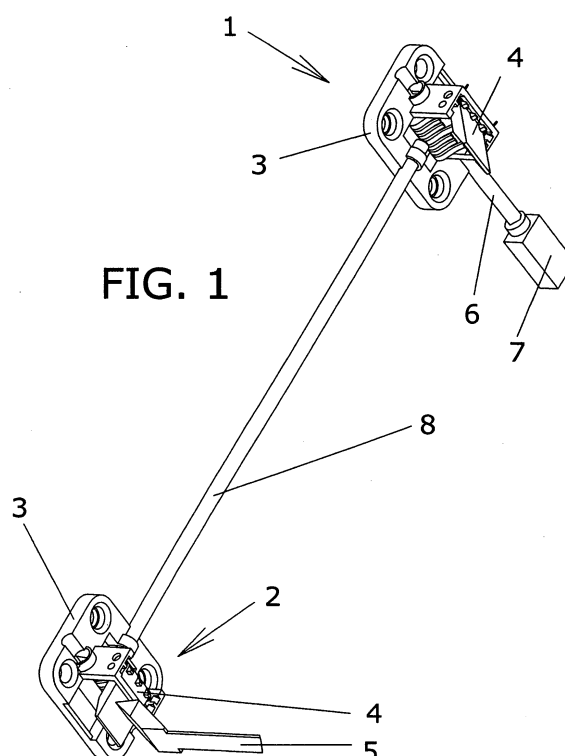


FIG. 1

Description**OBJECT OF THE INVENTION.**

[0001] The object of the present invention is a locking system for drawers of among the drawer cabinet assemblies which in addition to having the locking system object of the invention has a system to prevent overturning based on the impossibility of opening another drawer when there is already another in the open state, the locking system being coupled with the anti-overturning system.

[0002] The present invention is characterised in that it has a locking system which works in collaboration with the anti-overturning system, so when the locking system is actuated it blocks the opening of any drawer, whilst when the locking assembly is in the open position, the anti-overturning system is fully released and ready to impede the opening of more than one drawer simultaneously, avoiding the overturning of the drawer cabinet due to the excess of overhanging weight.

[0003] The object of the present invention is the entirety of the pieces which form the locking system, which is formed by a anti-overturning rear subassembly, and by a locking front subassembly, both connected by a linking rod.

[0004] Therefore, the present invention lies within the ambit of locking systems for drawers of the drawer cabinets which have a selective drawer-locking device with anti-overturning effect.

BACKGROUND OF THE INVENTION.

[0005] The drawer-locking systems of drawer cabinets, are usually based on the use of a locking unit which by means of a number of interconnected mechanical pieces impedes the opening of the drawers.

[0006] There are other drawer cabinets which have selective devices for blocking the opening of drawers which prevent overturning of the cabinet for excess of overhanging weight, which have locking means like the previous ones but which work independently of the selective blocking device.

[0007] The objective of the present invention is to make use of the operating principles of the selective blocking device for drawers, to achieve by means of the addition of a number of elements, the possibility of acting from a locking subassembly on an interconnecting subassembly with the selective blocking device for drawers, achieving that the locking of the drawers is carried out by obstructing the operation of the selective device of drawers, impeding the opening of any of them, whilst the opening of the lock releases the selective blocking device, allowing it to act according to its principles.

DESCRIPTION OF THE INVENTION.

[0008] The locking system for drawers object of the invention basically consists of two subassemblies, one subassembly located on the rear part and connected with the selective blocking device, whilst the other front or locking subassembly is connected with a locking bolt.

[0009] Both subassemblies are formed by a latch support and by a latch hinged on the support. And both subassemblies are joined by a linking rod.

[0010] The rear subassembly is connected by means of a rod with the rear blocking device.

[0011] The operation of the locking system for drawers is the following. The act of locking displaces the locking bolt which on its extreme end displaces a projecting arm which the latch has, making it rotate about its axle of rotation whereby the opposite end of the axle of rotation is displaced pushing the connecting bar. This bar pushes the latch of the rear subassembly, making it rotate likewise and take up a position in which the interconnecting bar with the selective blocking device cannot rise for which reason all the drawers cannot be opened.

[0012] The latch of the rear subassembly has two spring clips which force said latch to recover its position. Thus, in the event of the lock not being operated, the latch recovers its initial space not impeding the upward movement of the interconnecting bar with the selective blocking device, and therefore allowing the opening of any drawer.

[0013] The assembly of the locking system for drawers is as follows. First of all the front subassembly is mounted, locating the latch in the correct position on the support, making the end nipples of the latch engage in the holes on which said latch is hinged.

[0014] Next the support of the latch of the rear subassembly is mounted, then the two spring clips are arranged on the latch, proceeding to couple the latch on the support, maintaining the position of the springs.

[0015] Then the subassemblies are secured on the side walls of the piece of furniture, thereafter fitting the bar which joins the rear subassembly with the selective blocking device with anti-overturning effect, locating next the bar which joins the two subassemblies, introduced it first in the rear subassembly by applying a little pressure to overcome the action of the springs on the latch, to then feed it through the hole of the front support.

DESCRIPTION OF THE DRAWINGS.

[0016] To complete the description that subsequently will be made below and with the object of assisting in a better understanding of its characteristics, the present descriptive specification is accompanied with a set of drawings in the figures of which, by way of illustration and not restrictively, the most significant details of the invention are represented.

Figure 1, shows a representation in perspective and

in general terms of the locking system for drawers.

Figure 2, shows the rear subassembly in detail.

Figure 3, shows the front subassembly in detail.

Figure 4, is a representation in perspective of the piece supporting the latch.

Figure 5, shows a representation in perspective of the latch.

Figure 6, shows a representation of the spring clips employed.

PREFERRED EMBODIMENT OF THE INVENTION.

[0017] In the light of the figures, a preferred method of embodiment of the proposed invention is described below.

[0018] In figure 1 it is observed that the locking system for drawers has a rear subassembly (1), and a front subassembly (2), both interconnected with each other by means of a linking rod (8).

[0019] The rear subassembly (1) is connected with the selective blocking device with anti-overturning effect (7) by means of a connecting bar (6). Moreover the front subassembly (2) is connected to the drawer lock by means of a locking bolt (5).

[0020] Both subassemblies have individual latch supports (3) and their corresponding latches (4).

[0021] In figure 2, it is observed that on acting on the locking bolt (5) a projecting rim which the latch (4) has is displaced, causing this to rotate about its nipples housed in some cavities which the latch support (3) has. The turning of the latch (4) causes the lower part thereof to displace the linking rod (8).

[0022] In figure 3, it is shown how on displacing the linking rod and displacing the lower end of the latch (4), the latter rotates about the hinge axle formed by the nipples which it has, housed in the cavities provided for this purpose in the support of the latch.

[0023] When the latch (4) rotates, the lower end is positioned in the space which exists between the opposing perforations which are present in the support (3), so that if it is attempted to open a drawer, it would be necessary for the connecting bar (6) between the anti-overturning blocking device (7) and the rear subassembly (1) to move upward, which cannot occur since said space is occupied by the displaced part of the latch (4).

[0024] Moreover in a like manner if there is any drawer open at the moment of locking, since the connecting bar (6) is inserted in the support of the latch (4) of the rear subassembly (1), displacement of the linking rod (8) is impeded, for which reason it is impossible to lock the cabinet. Thus it is guaranteed that to be able to lock the cabinet, it is necessary that all the drawers are closed, that is, it is not possible for a drawer to be left open by

mistake.

[0025] The latch (4) of the rear subassembly (1) is secured to the latch support (3) together with two spring clips (15) (figure 6). These springs mean that when the displacement effected by the locking bolt (5) is removed, the latch (4) of the rear subassembly recovers its position displacing the linking rod (8), for which reason the connecting bar (6) with the selective blocking device (7) can move upward, allowing the opening of the drawer desired.

[0026] In figure 4, it is seen how the latch support piece (3) has a configuration with a flat base from which opposing planar elements emerge, having on its planar part a circular perforation (9) through which the linking rod (8) runs. In addition it has a semicircular recess in the rear part of the base of the support piece (1), continuing through some opposing perforations (10) made in the base of the emerging elements, through which runs the bar (6) connecting with the selective blocking device (7) with anti-overturning effect of the rear subassembly (1).

[0027] In the upper part of the parallel emerging elements, individual opposing perforations (11) are made wherein the hinge nipples of the latches (4) are housed.

[0028] Figure 5 shows the form which the latches (4) have, having nipples (12) arranged on the sides of one end and which when engaged in the perforations (11) of the support (3) allow the hinging of said end, having also a projecting rim (13) perpendicular to the body of the latch, on which rim the locking bolt (5) acts on the latch of the front subassembly (2), whilst the projection (14) is that which is displaced by the linking rod (8) and impedes the upward movement of the connecting bar (6) of the selective blocking device (7).

[0029] The essential nature of this invention is not altered by variations in materials, form, size and arrangement of the component elements, described in a non-restrictive manner, sufficient for an expert to proceed to the reproduction thereof.

Claims

1. Locking system for drawers **characterised in that** it allows the locking of drawers of a drawer cabinet assembly interacting with the selective blocking device for the opening of drawers with anti-overturning effect, having for this purpose a rear subassembly (1), and a front subassembly (2), both interconnected with each other by means of a linking rod (8), wherein the rear subassembly (1) is connected with the selective blocking device with anti-overturning effect (7) by means of a connecting bar (6). Moreover the front subassembly (2) is connected to the drawer lock by means of a locking bolt (5).
2. Locking system for drawers, according to claim 1, **characterised in that** both subassemblies have a

latch support (3), and a latch (4), the rear sub-assembly additionally having two spring clips (16).

3. Locking system for drawers, according to claim 2, **characterised in that** the latch support piece (3) has a configuration with a planar base from which opposing planar elements emerge, having on its planar part a circular perforation (9) through which the linking rod (8) runs. It also has a semicircular recess on the rear part of the base of the support piece (1), continuing through some opposing perforations (10) made in the base of the emerging elements, through which runs the connecting bar (6) to the selective blocking device (7) with anti-overturning effect of the rear subassembly (1). Having made in the upper part of the parallel emerging elements, individual opposing perforations (11) wherein the hinge nipples of the latches (4) are housed.
4. Locking system for drawers, according to claim 3, **characterised in that** the latches (4) have nipples (12) arranged on the sides of one end and which when engaged in the perforations (11) of the support (3) allow the hinging of said end, having also a projecting rim (13) perpendicular to the body of the latch, on which rim the locking bolt (5) acts on the latch of the front subassembly (2), while the projection (14) is that which is displaced by the linking rod (8) and impedes the upward movement of the connecting bar (6) to the selective blocking device (7).
5. Locking system for drawers, according to any one of the previous claims **characterised in that** on operating the locking bolt (5), the rim emerging from the latch (4) of the locking subassembly (2) is displaced, displacing the linking rod (8), whereby the other end of this rod (8) displaces the projection (14) of the latch occupying the space that would be occupied by the connecting bar (6) to the selective blocking device (7) in the event that it had moved upward thereby impeding the opening of any drawer whatsoever; on the other hand, in the event of the locking bolt (5) ceasing to act, the assembly through the action of the spring clips (16) recovers its position whereby the upward movement of the connecting bar (6) is allowed and therefore the opening of any drawer.

Amended claims in accordance with Rule 86(2) EPC.

1. locking system for drawers which allows the locking of drawers of a drawer cabinet assembly interacting the selective blocking device for the opening of drawers with anti-overturning effect, **characterised in that** every of the drawers is provided with:

- a rear subassembly (1) placed in one lateral of the drawer at its rear part seen from its front, being this rear subassembly connected with the selective blocking device with overturning effect (7) by means of a connecting bar (6).
- A front subassembly (2) placed in the same lateral wherein the rear subassembly has been placed, and in its front part seen from its front, connected to the drawer lock by means of a locking bolt (5).
- A linking rod (8) which interconnect both sub-assemblies

2. Locking system for drawers, according to claim 1, **characterised in that** both subassemblies have a latch support (3), and a latch (4), the rear sub-assembly additionally having two spring clips (16).

3. Locking system for drawers, according to claim 2, **characterised in that** the latch support piece (3) has a configuration with a planar base from which opposing planar elements emerge, having on its planar part a circular perforation (9) through which the linking rod (8) runs. It also has a semicircular recess on the rear part of the base of the support piece (1), continuing through some opposing perforations (10) made in the base of the emerging elements, through which runs the connecting bar (6) to the selective blocking device (7) with anti-overturning effect of the rear subassembly (1). Having made in the upper part of the parallel emerging elements, individual opposing perforations (11) wherein the hinge nipples of the latches (4) are housed.

4. Locking system for drawers, according to claim 3, **characterised in that** the latches (4) have nipples (12) arranged on the sides of one end and which when engaged in the perforations (11) of the support (3) allow the hinging of said end, having also a projecting rim (13) perpendicular to the body of the latch, on which rim the locking bolt (5) acts on the latch of the front subassembly (2), while the projection (14) is that which is displaced by the linking rod (8) and impedes the upward movement of the connecting bar (6) to the selective blocking device (7).

5. Locking system for drawers, according to any one of the previous claims **characterised in that** on operating the locking bolt (5), the rim emerging from the latch (4) of the locking subassembly (2) is displaced, displacing the linking rod (8), whereby the other end of this rod (8) displaces the projection (14) of the latch occupying the space that would be occupied by the connecting bar (6) to the selective blocking device (7) in the event that it had moved upward thereby impeding the opening of any drawer

whatsoever; on the other hand, in the event of the locking bolt (5) ceasing to act, the assembly through the action of the spring clips (16) recovers its position whereby the upward movement of the connecting bar (6) is allowed and therefore the opening of any drawer. 5

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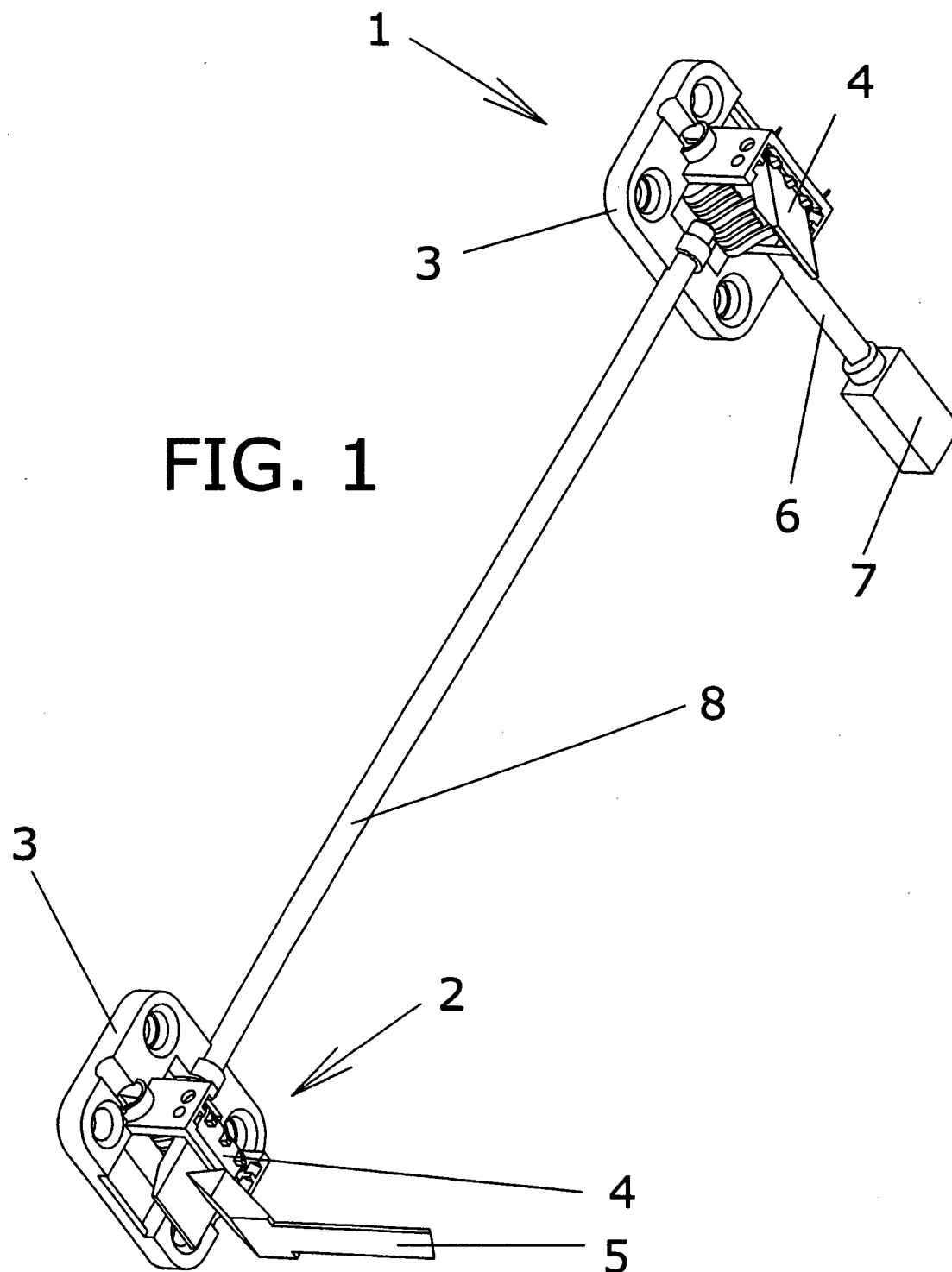


FIG. 2

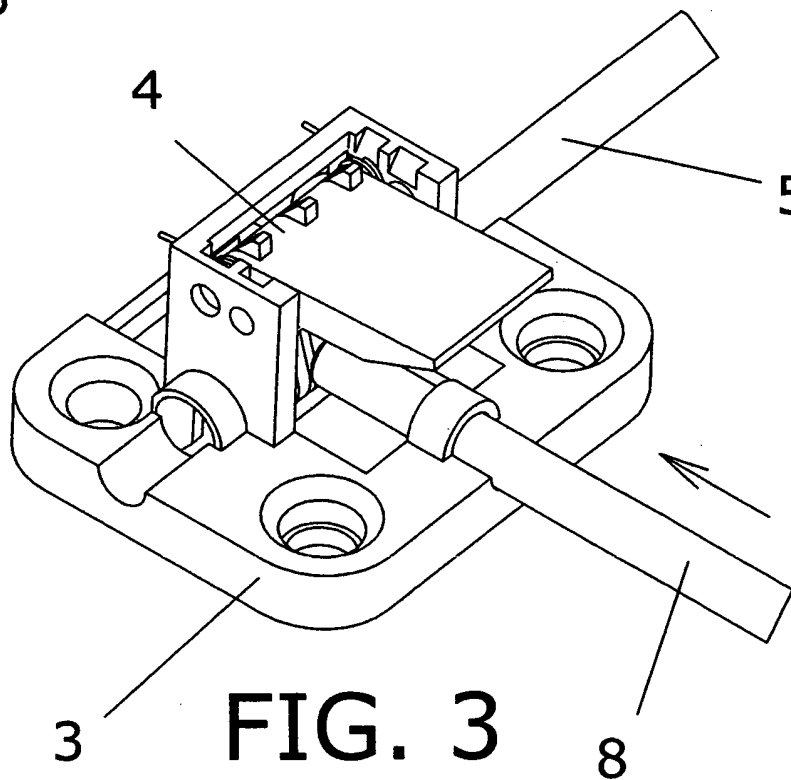
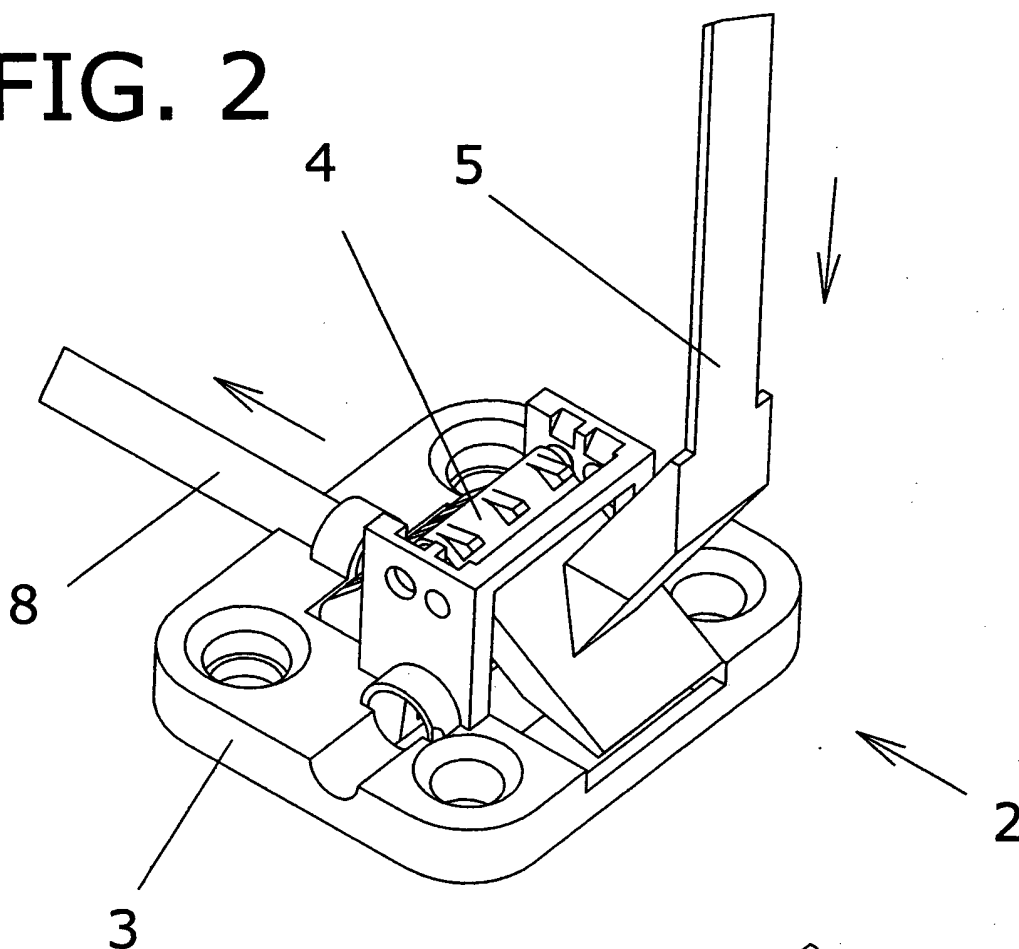
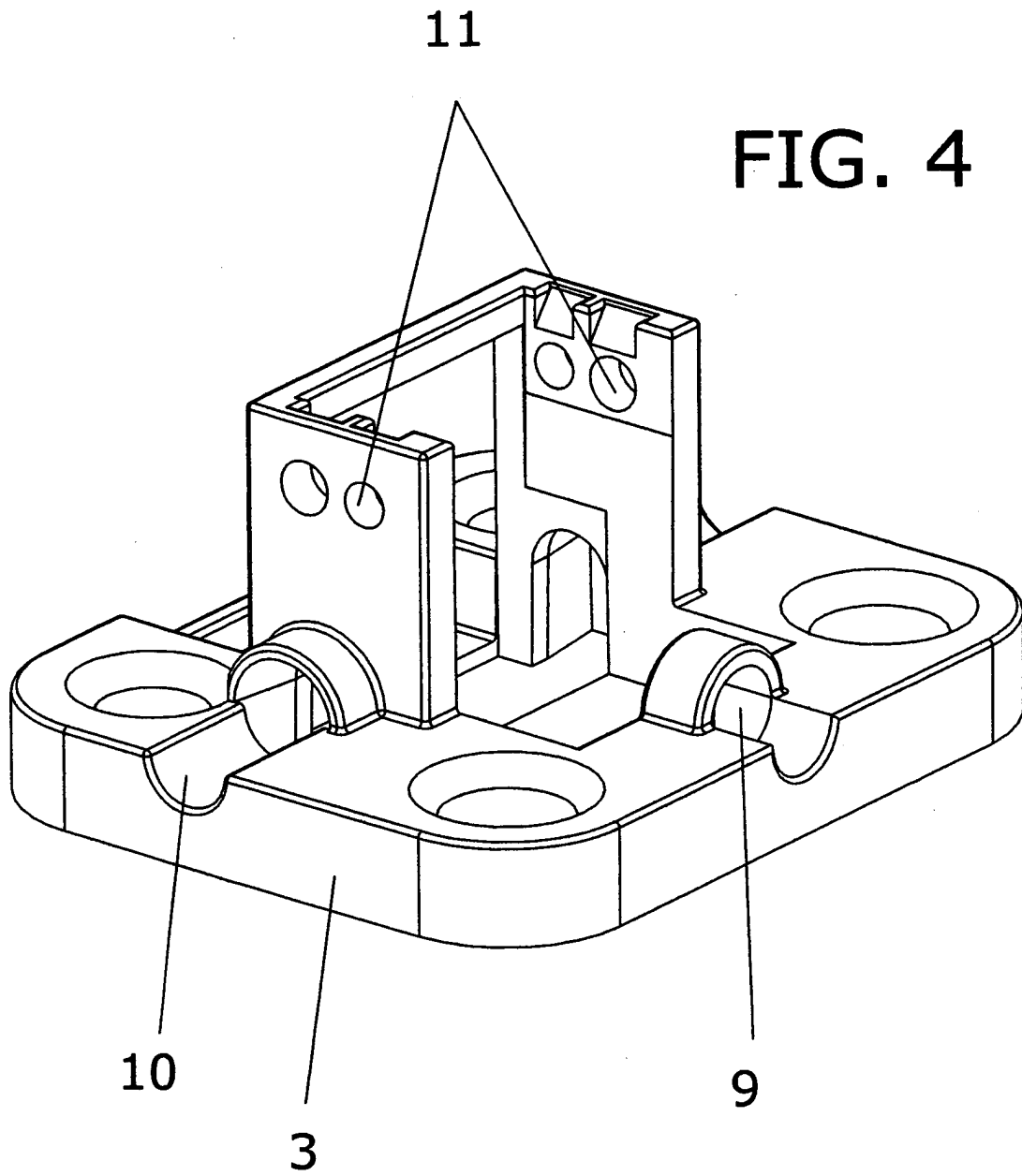
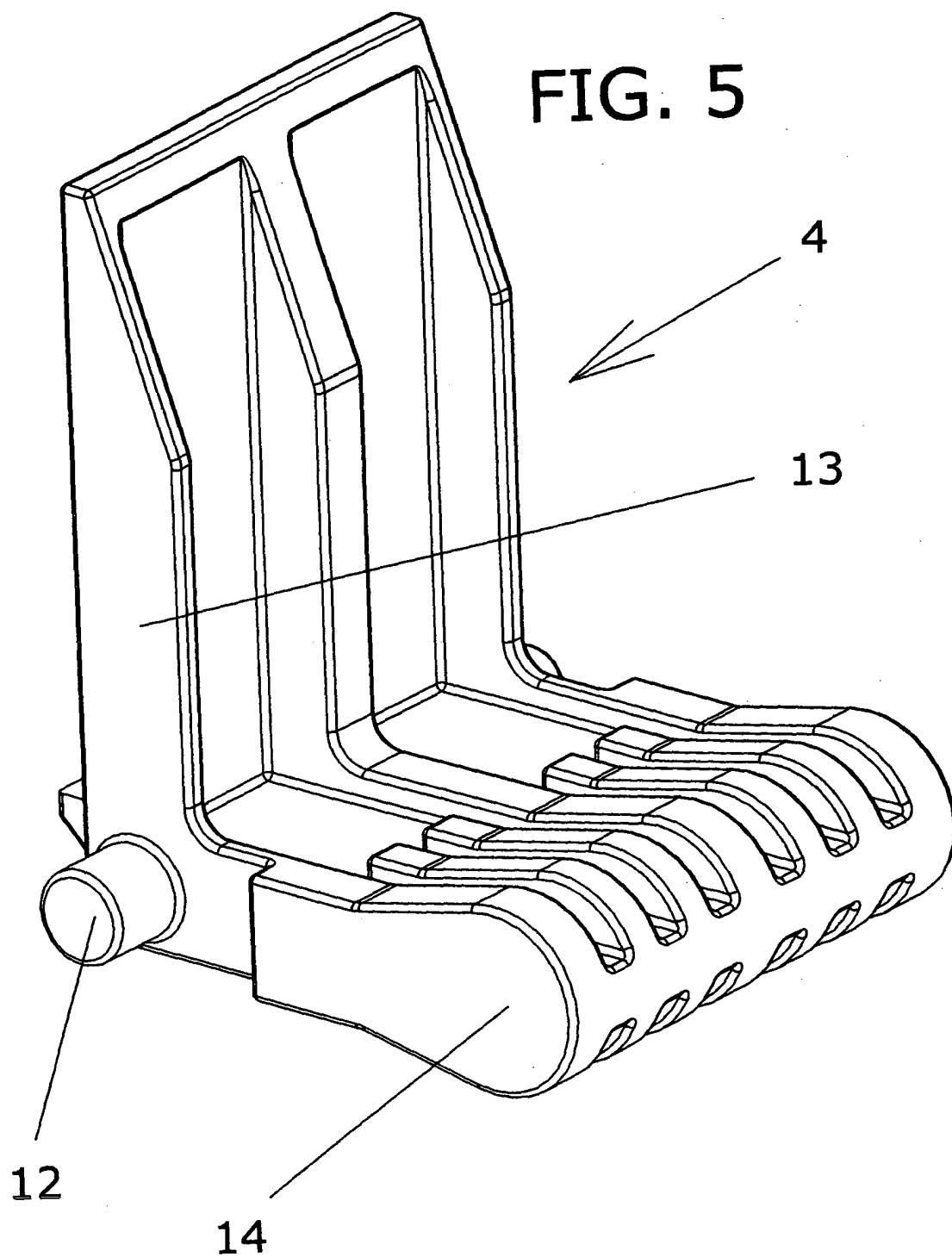


FIG. 3





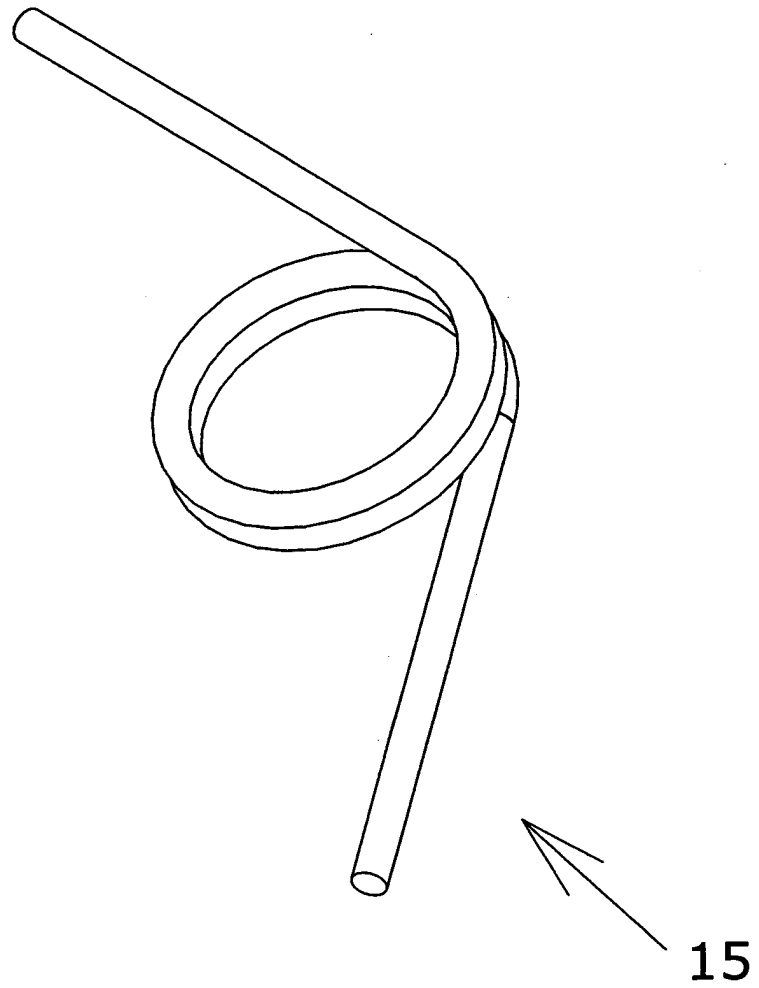


FIG. 6



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 38 1006

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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
Munich		3 March 2005	Henkes, R
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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The members are as contained in the European Patent Office EDP file on
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