

(19)



(11)

EP 1 908 905 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

09.04.2008 Bulletin 2008/15

(51) Int Cl.:

E05D 13/00 (2006.01)

(21) Application number: **06020746.1**

(22) Date of filing: **02.10.2006**

(84) Designated Contracting States:

**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI
SK TR**

Designated Extension States:

AL BA HR MK RS

(71) Applicant: **Bremet Brevetti Metecno S.P.A.**

33097 Spilimbergo (Pordenone) (IT)

(72) Inventors:

- **Franceschin, Roberto**
33095 San Giorgio della Richinvelda (PN) (IT)
- **Strappaghetti, Massimo**
33072 Casarsa della Delizia (PN) (IT)

(74) Representative: **Müller-Boré & Partner**

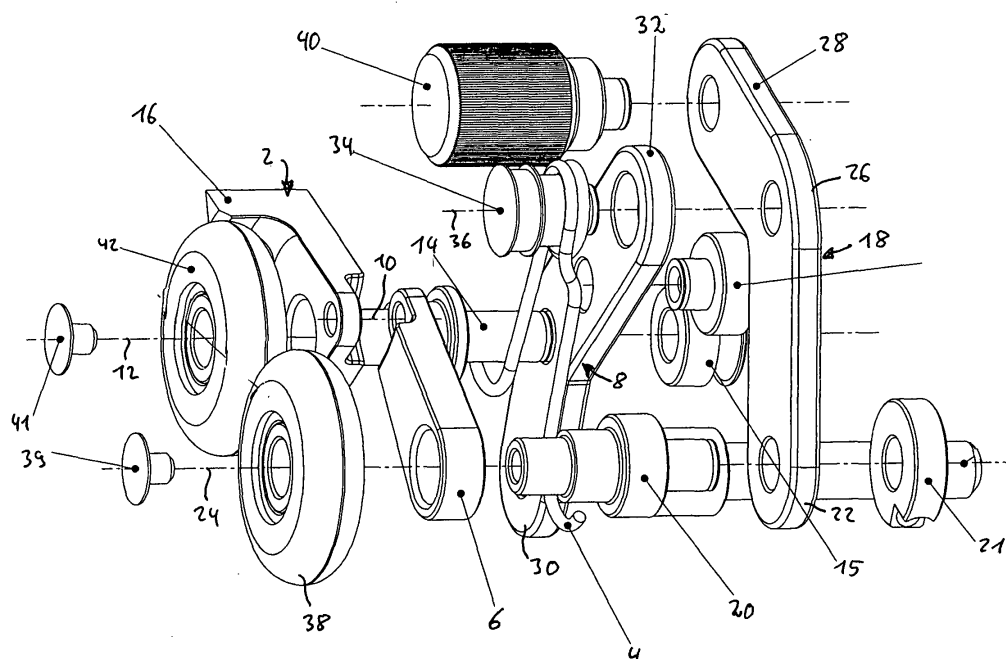
Patentanwälte
Grafinger Strasse 2
81671 München (DE)

(54) **Catching device**

(57) Catching device for a door leaf, in particular sectional door leaf, comprising at least one catching member (2) being displaceable between a release position and a catching position for engagement with a door frame element (50), biasing means (4) for biasing said catching member (2) towards said catching position, at least one

first lever (6) and at least one second lever (8) adapted to be mountable to a tensioning means (52) near or at its first end portion, wherein said catching member (2) is rotatably mounted to said first and second levers (6,8) such that displacement of said second lever (8) causes said catching member (2) to displace between said release and catching position.

FIG. 2



EP 1 908 905 A1

Description

[0001] The present invention relates to a catching device for a door leaf, in particular sectional door leaf, as well as to a door, in particular sectional door, having a catching device for preventing the door leaf from displacement in at least one direction, when a tensioning means malfunctions.

[0002] Catching devices for a door leaf for preventing displacement of the door leaf in at least one direction upon collapse of a tensioning means are known from the state of the art. For example, EP 0 172 351 relates to a catching device for a door leaf, wherein the catching member is moveable between a release position and a catching position, so that the catching member is adapted to engage a catching rail when being in the catching position. These catching devices need to provide a fast reaction in response to a collapse of a tensioning means, e.g. due to a malfunction of the drive mechanism or weight equalizing mechanism. However, the known catching devices commonly operate or react not fast enough, are designed very complex and need to be maintained very often.

[0003] Therefore, it is an object of the present invention to provide a catching device for a door leaf, in particular sectional door leaf, a door, in particular sectional door, as well as a method of catching a door leaf, in particular a sectional door leaf, which provide a fast reactive and safe operative catching function.

[0004] This object is achieved by a catching device for a door leaf, in particular sectional door leaf, having the features disclosed in claim 1, by a door, in particular sectional door, having the features disclosed in claim 11 and by a method of catching a door leaf having the features disclosed in claim 12. Preferred embodiments are subject of the dependent subclaims.

[0005] According to the invention, a catching device for a door leaf, in particular sectional door leaf, is provided, comprising at least one catching member being displaceable between a release position and a catching position for engagement with a door frame element, biasing means for biasing said catching member towards said catching position, at least one first lever and at least one second lever adapted to be mountable to a tensioning means near or at its first end portion or distal end, wherein said catching member is rotatably mounted to said first and second levers such that displacement of said second lever - in particular of said first distal end of said second lever - causes said catching member to displace between said release and catching position. Accordingly, in the release position, the catching member is adapted to substantially not engaged with the door frame element, so that the catching device provided preferably at the door leaf permits displacement of the door leaf in the opening direction as well as in the closing direction thereof. When the catching member is arranged substantially in the catching position, an engagement with a door frame element is provided. This engagement advantageously at

least prevents displacement of the door leaf in the closing direction, so that the door leaf still might be displaced in the opening direction, as the catching member might provide the function of a ratchet. However, in case of the catching member being in the catching position and therefore in engagement with a door frame element, the catching member might be also formed such that neither displacement in the opening nor in the closing direction of the door is possible. The catching member is advantageously adapted to engage with a door frame element. The door frame element can be a framing device housing and guiding the door leaf or adjacent wall portions. Consequently, the door frame element is not limited to the door frame, but is constituted by any substantially stationary element of the door or adjacent portions with respect to the movable or displaceable door leaf. The biasing means is/are adapted for biasing the catching member into the catching position. That is, the biasing means may be formed as a resilient element, which is adapted to urge the catching member in the direction towards the catching position. The biasing means may be formed as a spring or any other kind of resilient or elastomeric material.

[0006] Additionally, at least one first lever and at least one second lever are provided. The second lever is formed such that a tensioning means may be mounted at its first end portion or distal end. The tensioning means may be formed as wire cables of a drive mechanism and/or weight equalizing mechanism for either displacing the door leaf or equalizing the weight of the door leaf, so that the door leaf may be displaced without the need of high driving forces. In other words, the second lever may function as an operation or operative lever for operating the door leaf. Advantageously, the catching member is rotatably mounted to both, the first lever and the second lever. In other words, the catching member may be swivelled or rotated on the one hand side with respect to the first lever and on the other hand side with respect to the second lever. Thereby, displacement of the first end portion of the second lever causes the catching member to displace between the release and the catching position. In other words, by means of the tensioning means provided at the first end portion of the second lever, the catching member is urged into the release position. Upon malfunction or collapse of the tensioning means, no or less force is applied to the first end portion of the second lever, so that the catching member is displaced towards the catching position due to the biasing force of the biasing means. Consequently, due to the engagement of the catching member with the door frame element, displacement of the door leaf in at least one direction (e.g. the closing direction) is no more possible.

[0007] Preferably, said catching member is rotatably mounted via a first swivel axis to said first lever and via a second swivel axis to said second lever. In other words, the first swivel axis and the second swivel axis are separate axes. Consequently, the catching member is rotatably mounted at a first portion to the first lever and at a

separate, distanced second portion to the second lever. Consequently, rotation of the catching member about the first or second swivel axis leads to a guiding of the remaining portion substantially along a circular path.

[0008] Further preferably, said first lever and said catching member constitute a knee joint configuration. In other words, the first lever is preferably in particular rotatably supported on an end portion substantially opposite the first swivel axis.

[0009] Consequently, rotation of the catching member around the second swivel axis and/or the first lever around the rotatable support being substantially opposite the first swivel axis results in a knee joint function.

[0010] Advantageously, said catching member has an engagement portion for engagement with a door frame element. The engagement portion may be formed as a protrusion, which is adapted to engage the door frame element in a form-closed and/or force-closed manner. The engagement portion of the catching member may be formed such, that the catching member may function as a ratchet. In other words, in case the catching member is positioned in the catching position, displacement of the door leaf in one direction is prevented, whereas displacement of the door leaf in the remaining direction is permitted. Thereby, upon collapse or malfunction of the tensioning means, the door leaf is advantageously prevented from being displaced in the door closing direction, whereas it is possible to manually open the door in the door opening direction.

[0011] In a further preferred embodiment, the catching device further comprising a frame element, which is preferably formed as an angled lever. The frame element may be arranged substantially stationary with respect to the door leaf. However, preferably, an end portion of the frame element is at least partially rotatably arranged at the door leaf. The frame element may comprise any given geometric configuration, however, is preferably formed as an angled lever. The angled lever is advantageously formed in a geometric configuration, in which a first portion of the angled lever is positioned on a first side of the door track or door frame element (inside) and a second portion of the angled lever is positioned on a second, opposite side of the door track or door frame element (outside).

[0012] Advantageously, said first lever is rotatably mounted to the first end portion of said frame element. In other words, a portion of the first lever being preferably substantially opposite the first swivel axis is mounted to a first end portion or first distal portion of the frame element in a rotatable or swivable manner. Thus, the first lever is rotatably mounted to the frame element on a first end portion and rotatably mounted to the catching member on the substantially opposite second-end portion.

[0013] Further advantageously, said second lever is rotatably mounted preferably to a middle portion of said frame element. That is, preferably, a second end portion being substantially opposite the first end portion of the second lever is mounted to the frame element in a rotat-

able or swivable manner. In particular, the second lever is rotatably mounted to a middle portion of the frame element. This middle portion may advantageously also function as support for the biasing means. The second lever may therefore have a first end portion, to which the tensioning means are engageable or mountable and second end portion, which is rotatably mounted to the frame element, wherein the second swivel axis for arranging the catching member is arranged therebetween.

[0014] In a further preferred embodiment, the catching device further comprising a guide means for guiding the door leaf in a door track or door frame element. The door track may be formed as a rail element for guiding the door leaf.

[0015] Preferably, said guide means comprises at least one first guide element, such as a roller or slider, and at least one abutment element (which may also function as a second guide element), such as a cylinder, roller or slider, mounted to said frame element, wherein said first guide element and said abutment element are preferably arrangeable on opposite sides of the door track. The first guide element may be formed as a roller or slider. In particular, the first guide element may be mounted to preferably an end portion of the frame element. Advantageously, the axis of rotation of the first guide element and the axis of rotation of the first lever at the frame element substantially co-align. The abutment element or second guide element may be formed as a rotatable roller or slider. Advantageously, the abutment element or second guide element is provided or mounted to preferably an end portion of the frame element and even more preferably substantially opposite to the first end portion thereof. The abutment element may comprise a friction surface, which is adapted to engage with the door track in the catching position of the catching member. Thus, the catching function of the catching device is advantageously enhanced.

[0016] Further advantageously, said guide means comprise at least one third guide element, such as a roller or slider, preferably rotatably mounted to said second lever. Thus, whereas the first and second guide elements preferably are substantially stationary with respect to the frame element, the third guide element is displaceable with respect to the frame element since the second lever is arranged rotatable with respect to the frame element. Preferably, the axis or rotation of the third guide element substantially co-aligns with the second swivel axis via which the catching member is mounted to the second lever.

[0017] Further preferably, the biasing means is supported by the frame element and in engagement with the second lever, in particular the second swivel axis.

[0018] Further according to the invention, a door, in particular, sectional door, is provided, comprising a door leaf having at least one door panel, at least one door track for guiding the door leaf during displacement between a first, such as an opened position and a second, such as a closed position, and at least one catching de-

vice having at least one catching member being displaceable between a release position and a catching position for engagement with a door frame element, biasing means for biasing said catching member into said catching position, at least one first lever and at least one second lever, to which a tensioning means, such as wire cables of a drive mechanism and/or weight equalizing mechanism, is mounted at a first end portion thereof, wherein said catching member is rotatably mounted to said first and second levers such that the displacement of said second lever - in particular of said first end portion of said second lever - causes said catching member to displace between said release and catching position. The door is preferably a sectional door, which can be formed of a plurality of generally horizontally extending sections or panels, each of which typically extends from one side of the door opening to the other side. The top section of each panel is attached to a lower section of an adjacent panel, wherein this attachment is provided preferably by means of hinges or the like. Additional sections can be mounted thereto in the same manner. The panel is arranged preferably at least one door track, which may be formed as a rail, shaft or the like, extending substantially parallel to the opening and closing direction of the door, i.e. substantially parallel to the displacement path of the door panels. That is, for sectional doors of the overhead type, the door track preferably comprise vertical sections blending into curved sections and terminating in a horizontal section. In the inventive door, a plurality of panels could be used, however, also solely one panel may be provided, which is adapted to close or cover the door opening.

[0019] Still further according to the invention, a method for catching a door leaf, in particular a sectional door leaf, is provided, comprising the steps:

- Providing a catching member being displaceable between a release position allowing displacement of said door leaf and a catching position preventing displacement of said door leaf in at least one direction;
- Initially arranging said catching member in said release position by means of a rotatable engagement with at least one first lever and at least one second lever;
- Biasing said catching member towards said catching position;
- Rotating said catching member towards said catching position by displacing said second lever; and
- Engaging an engagement portion of said catching member with a door frame element.

[0020] Preferably, the method further comprising the step of rotatably engaging said first lever with a frame element, at which said second lever is preferably also rotatably engaged. Further preferably, the step of initially arranging said catching member comprises exerting a force at or near a first end portion of said second lever by means of tensioning means, so that the biasing force

of the biasing member is counteracted or counterbalanced or antagonized. Still further preferably, the method comprises the step of desisting the exertion of said force on said second lever, so that said catching member is rotated towards said catching position. Most preferably, the method comprises the step of approximating a first swivel axis between said catching member and first lever, a second swivel axis between said catching member and said second lever and an articulation axis between said first lever and said frame element into substantial alignment (e. g. towards substantial 180° alignment or alignment on substantial a straight line).

[0021] Obviously, the further features and advantages of the inventive catching device can be also applied to the inventive door and/or the inventive method for catching a door leaf.

[0022] These and other objects, features and advantages of the present invention will become more apparent upon reading of the following detailed description of preferred embodiments and accompanying drawings. It should be understood that even through embodiments are separately described, single features thereof may be combined to additional embodiments.

Fig. 1 is a perspective view of a preferred embodiment of the catching device according to the present invention.

Fig. 2 is an exploded perspective view of a preferred embodiment of the catching device according to the present invention.

Fig. 3 is a side view of a preferred embodiment of the catching device according to the present invention in the release position.

Fig. 4 is a side view of a preferred embodiment of the catching device according to the present invention in the catching position.

[0023] Fig. 1 shows a perspective view of the catching device according to a preferred embodiment of the present invention. The catching device is to be mounted on at least one, preferably on both sides of a door panel or door leaf (not shown).

[0024] Preferably, the door comprises of at least one panel for at least partially closing the door opening of e.g. a building structure. By use of the door as a sectional door, a plurality of panels are provided, which are arranged in an edge-to-edge relationship, hingedly connected by means of hinges or the like. However, the catching device may be also utilized for doors comprising solely of one single panel, which preferably entirely covers or closes the door opening of a building structure. The sectional door may be used as a folding door, in which the door opening is opened and closed by substantially horizontal movement of the door. However, preferably, the sectional door may be employed in door

systems of the overhead-type, wherein the panels are displaced from a substantially vertical position (i.e. arranged in the door opening) to a substantially horizontal position (i.e. a plane substantially perpendicular to the door opening). Of course, the invention may be also employed in roll-up-doors, in which a plurality of panels is - in the opened state of the door - wound up on a shaft, or doors arranged in any other position or orientation when open (e. g. slanted, vertical, etc.).

[0025] The catching device comprises of at least one catching member 2, biasing means 4, a first lever 6 and a second lever 8.

[0026] The catching device according to an embodiment of the present invention is shown in **Fig. 2** in an exploded view. The catching member 2 is rotatably mounted via a first swivel axis 10 to the first lever 6. In particular, the catching member 2 has a swivel or rotation portion, which is rotatably or pivotably mounted to or near a first end portion of the first lever 6. On a (preferably separate) second rotation or swivel portion, the catching member 2 is rotatably mounted via a second swivel axis 12 to the second lever 8 by means of a shaft or bolt 14, which is secured to the second lever 8 by securing means 15. In particular, the catching member 2 is rotatably or pivotably mounted to the second lever 8 on an intermediate portion, preferably substantially on a middle portion thereof.

[0027] Further, the catching member 2 also comprises an engagement portion 16 for engagement with a door frame element 50, such as a door track or rail (cf. to **Figs. 3 and 4**). The catching member 2 may be formed of any suitable material, in particular metal or alloy for providing a sufficient rigidity or strength during engagement with the door frame element 50.

[0028] The first lever 6 is on its second end portion rotatably or pivotably mounted to a frame element 18. Consequently, the first lever 6 and the catching member 2 constitute or form a part of a configuration of a knee joint due to their rotatable attachment to the frame element 18 and the second lever 8, respectively. Thus, by actuating the catching member 2, the mounting portion of the first lever 6 with the frame element 18 and the second swivel axis 12 are distanced to each other, as will be explained later with reference to **Figs. 3 and 4**.

[0029] The first lever 6 is rotatably or pivotably mounted to the frame element 18 via a shaft or bolt 20, which is secured to the frame element 18 by securing means 21. In particular, the second end portion of the first lever 6 is mounted to a first end portion 22 of the frame element 18 via an articulation axis 24. The frame element 18 is preferably formed as an angled lever 8, further comprising an intermediate portion, preferably substantially a middle portion 26 and a second end portion 28.

[0030] The second lever 8 is preferably formed angled and comprises a first end portion 30 and a second end portion 32. At the first end portion 30, a tensioning means 52 can be mounted. The tensioning means 52 may be formed as wire cables of a drive mechanism and/or

weight equalizing mechanism for either driving the door leaf between an opened and closed position or supporting the driving of the door leaf. The second lever 8 is on its second end portion 32 rotatably or pivotably mounted to the frame element 18, in particular to its intermediate or middle portion 26. Between the first end portion 30 and the second end portion 32 of the second lever 8, the catching member 2 is rotatably or pivotably mounted to the second lever 8 via the second swivel axis 12. At the second end portion 32, the second lever 8 is rotatably or pivotably mounted by means of a bolt or shaft 34 constituting an articulation axis 36.

[0031] The shaft 34 preferably also supports the biasing means 4. In the shown embodiment, the biasing means 4 comprise a coil or wire spring. The spring 4 may comprise a coil, which is preferably wound around the shaft 34. Protruding from the coil, the spring comprises a first leg and a second leg. The first leg substantially abuts or is supported by the frame element 18, in particular the first-end portion 22 thereof. The second leg of the spring abuts against the second lever 8, in particular the middle portion thereof. The abutment can be provided directly or indirectly. In the shown embodiment, the second leg of the spring abuts against the shaft 14 being coaxial with the second swivel axis 12. Consequently, the biasing means 4 is adapted to urge the second lever 8 away from the first end portion 22 of the frame element 18. Thereby, the catching member 2 is biased into the catching position CP (**Fig. 4**), in which the engagement portion 16 of the catching member 2 is adapted to engage the door frame element 50. Obviously, other configurations for the biasing means 4 may be provided. That is, the biasing means 4 may be formed as a resilient element, such as any kind of spring or any other kind of resilient or elastomeric material.

[0032] Additionally, the catching device further comprising guide means for guiding the door leaf in the door frame element 50, in particular a door track. The guide means comprises a first guide element 38, an abutment element 40 (which may also fulfil the function of a second guide element 40) and a third guide element 42. The first guide element 38 is formed as a sliding element or roller, which is preferably rotatably mounted to the frame element 18 by means of a mounting element 39. Advantageously, the rotational axis of the first guide element 38 and the articulation axis 24 of the first lever 6 substantially align, so that the shaft 20, by which the first lever 6 is mounted to the first end portion 22 of the frame element 18 can be also used for mounting the first guide element 38 to the first end portion 22 of the frame element 18. The abutment element 40 is preferably mounted stationary (e. g. non-rotatable) with respect to the frame element 18. Advantageously, the abutment element 40 comprises a friction surface for enhancing the engagement between the catching device 2 and the door frame element 50 in the catching position CP thereof. However, the abutment element 40 may also function as a second guide element 40, preferably in the form of a sliding element or roller.

The abutment element 40 can be mounted rotationally or non-rotationally to the second end portion 28 of the frame element 18 by means of a mounting element 41. Preferably, the first guide element 38 and the abutment element 40 are arranged such that they are positioned on substantially opposite sides of the door frame element 50 (or door track), i.e. on the inside and the outside thereof. Consequently, the abutment element 40 fulfils the function of an abutment for the catching device 2 in the catching position CP since the force exerted on the catching device due to the engagement of the catching member 2 with the door track or door frame element 50 is preferably at least partly absorbed or compensated or counteracted by the abutment element 40. In a preferred embodiment, a third guide element 42 is provided. The third guide element 42 may be formed as a sliding element or a roller, which is preferably rotatably mounted to the second lever 8. In an advantageous embodiment, the rotational axis of the third guide element 42 aligns with the second swivel axis 12, so that the shaft 14, by which the catching member 2 is mounted to the second lever 8 can be also used for mounting the third guide element 42 to the second lever 8.

[0033] In Fig. 3, the catching device according to a preferred embodiment of the present invention is shown in the release position RP. The tensioning means 52 exert a force in the direction V on the first end portion 30 of the second lever 8. This force is substantially equal or greater (but directed substantially in the opposite direction) to the force exerted on the second lever 8 due to the biasing force of the biasing means 4 and a counter force G acting on the frame element (e. g. resulting from gravity or weight of the door leaf or frictional forces between the guide means and the door track). Consequently, the biasing means 4 are held in the compressed state, so that the catching device is positioned in the release position RP. Thus, the first end portion 22 of the frame element 18 and the intermediate portion of the second lever 8 are positioned in a close proximity to each other.

[0034] When the tensioning means 52 malfunctions or collapses due to, e.g. a break of the wire cables, no more force is applied to the first end portion 30 of the second lever 8. Consequently, the biasing means 4 urges the catching member 2 in the catching position CP (Fig. 4). The engagement portion 16 of the catching member 2 engages the door frame element 50, so that further displacement of the catching device (e. g. due to gravity), and the door panels respectively, is prevented. Due to the configuration of catching member 2 and first lever 6 in the form of a knee joint, a force in the direction W is applied to the first end portion 22 of the frame element 18, which is transmitted into a momentum M around the articulation axis 36. In other words, the second lever 8, in particular the second swivel axis 12 thereof, and the first end portion 22, preferably in particular the articulation axis 24, of the frame element 18 are further distanced to each other. This is caused in particular due to an approximation of the second swivel axis 12, the articulation axis

24 and the first swivel axis 10 into alignment. During this motion, the angle between the straight line connecting the first and second swivel axes 10, 12 and the straight line connecting the first swivel axis 10 and the articulation axis 24 becomes greater, preferably approximates substantially 180°. Thus, the angle between the second lever 8 and the frame element 18 also becomes greater. Consequently, the second end portion 28 of the frame element 18 is approximated to the door frame element 50 (direction X). Thereby, the abutment element 40 with its frictional surface comes in contact with the door frame element 50, so that the catching function of the catching device is advantageously enhanced.

List of Reference Numerals

[0035]

2	catching member
4	biasing means
6	first lever
8	second lever
10	first swivel axis
12	second swivel axis
14	shaft
15	securing means
16	engagement portion
18	frame element
20	shaft
21	securing means
22	first end portion
24	articulation axis
26	middle portion
28	second end portion
30	first end portion
32	second end portion
34	shaft
36	articulation axis
38	first guide element
39	mounting element
40	abutment element or second guide element
41	mounting element
42	third guide element
50	door frame element
52	tensioning means
G	counter force
V, W, X	directions
M	momentum
CP	catching position
RP	release position

Claims

1. Catching device for a door leaf, in particular sectional door leaf, comprising at least one catching member (2) being displaceable between a release position (RP) and a catching po-

- sition (CP) for engagement with a door frame element (50),
 biasing means (4) for biasing said catching member (2) towards said catching position (CP),
 at least one first lever (6) and
 at least one second lever (8) adapted to be mountable to a tensioning means (52) near or at its first end portion (30) thereof,
 wherein said catching member (2) is rotatably mounted to said first and second levers (6, 8) such that displacement of said second lever (8) causes said catching member (2) to displace between said release position (RP) and catching position (CP).
2. Catching device according to claim 1, wherein said catching member (2) is rotatably mounted via a first swivel axis (10) to said first lever (6) and via a second swivel axis (12) to said second lever (8).
 3. Catching device according to one of the preceding claims, wherein said first lever (6) and said catching member (2) constitute a knee joint configuration.
 4. Catching device according to one of the preceding claims, wherein said catching member (2) has an engagement portion (16) for engagement with a door frame element (50).
 5. Catching device according to one of the preceding claims, further comprising a frame element (18), which is preferably formed as an angled lever (18).
 6. Catching device according to claim 5, wherein said first lever (6) is rotatably mounted to a first end portion (22) of said frame element (18).
 7. Catching device according to claim 5 or 6, wherein said second lever (8) is rotatably mounted preferably to a middle portion (26) of said frame element (18).
 8. Catching device according to one of the preceding claims, further comprising guide means for guiding the door leaf in a door track (50).
 9. Catching device according to claim 8, wherein said guide means comprises at least one first guide element (38), such as a roller, and at least one abutment element (40), such as a cylinder, mounted to said frame element (18), wherein said first guide element (38) and said abutment element (40) are preferably arrangeable on opposite sides of said door track (50).
 10. Catching device according to claim 8 or 9, wherein said guide means comprises at least one third guide element (42), such as a roller, preferably rotatably mounted to said second lever (8).

11. Door, in particular sectional door, comprising a door leaf having at least one door panel, at least one door track for guiding the door leaf during displacement between a first, such as an opened position and a second, such as a closed position, and at least one catching device having

- at least one catching member (2) being displaceable between a release position and a catching position for engagement with a door frame element (50),
- biasing means (4) for biasing said catching member (2) into said catching position,
- at least one first lever (6) and
- at least one second lever (8) to which a tensioning means (52), such as wire cables of a drive mechanism and/or weight equalising mechanism, is mounted at a first end portion thereof,

wherein said catching member (2) is rotatably mounted to said first and second levers (6, 8) such that displacement of said second lever (8) causes said catching member (2) to displace between said release and catching position.

12. Method for catching a door leaf, in particular a sectional door leaf, comprising the steps:

- Providing a catching member (2) being displaceable between a release position (RP) allowing displacement of said door leaf and a catching-position (CP) preventing displacement of said door leaf in at least one direction;
- Initially arranging said catching member (2) in said release position (RP) by means of a rotatable engagement with at least one first lever (6) and at least one second lever (8);
- Biasing said catching member (2) towards said catching position (CP);
- Rotating said catching member (2) towards said catching position (CP) by displacing said second lever (8); and
- Engaging an engagement portion (16) of said catching member (2) with a door frame element (50).

FIG. 1

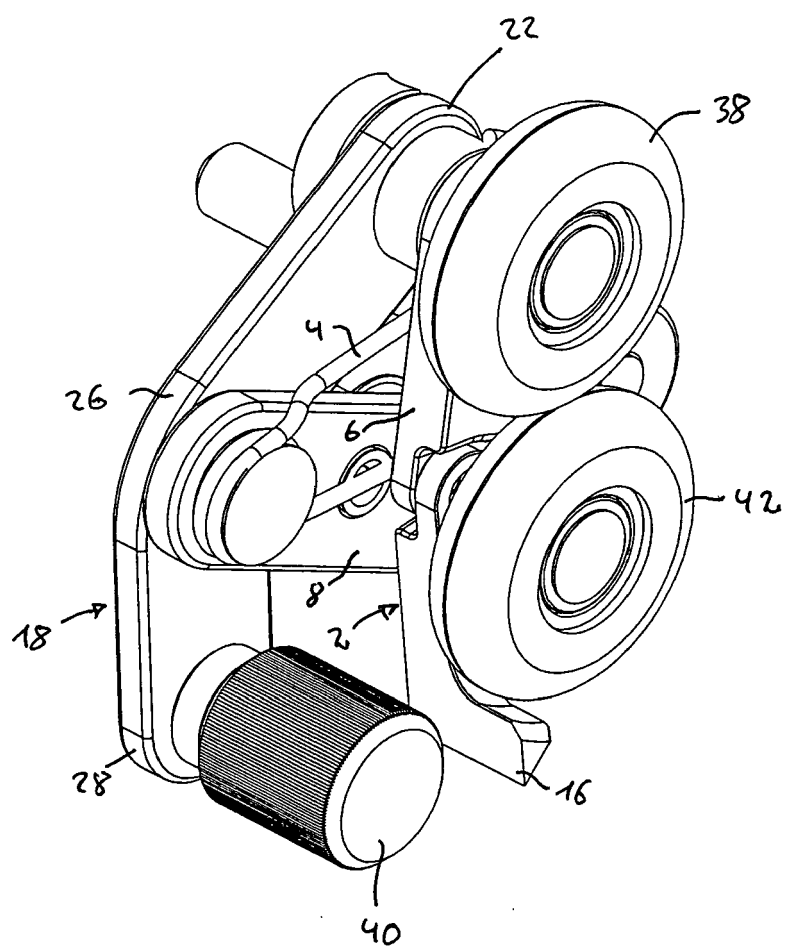


FIG. 2

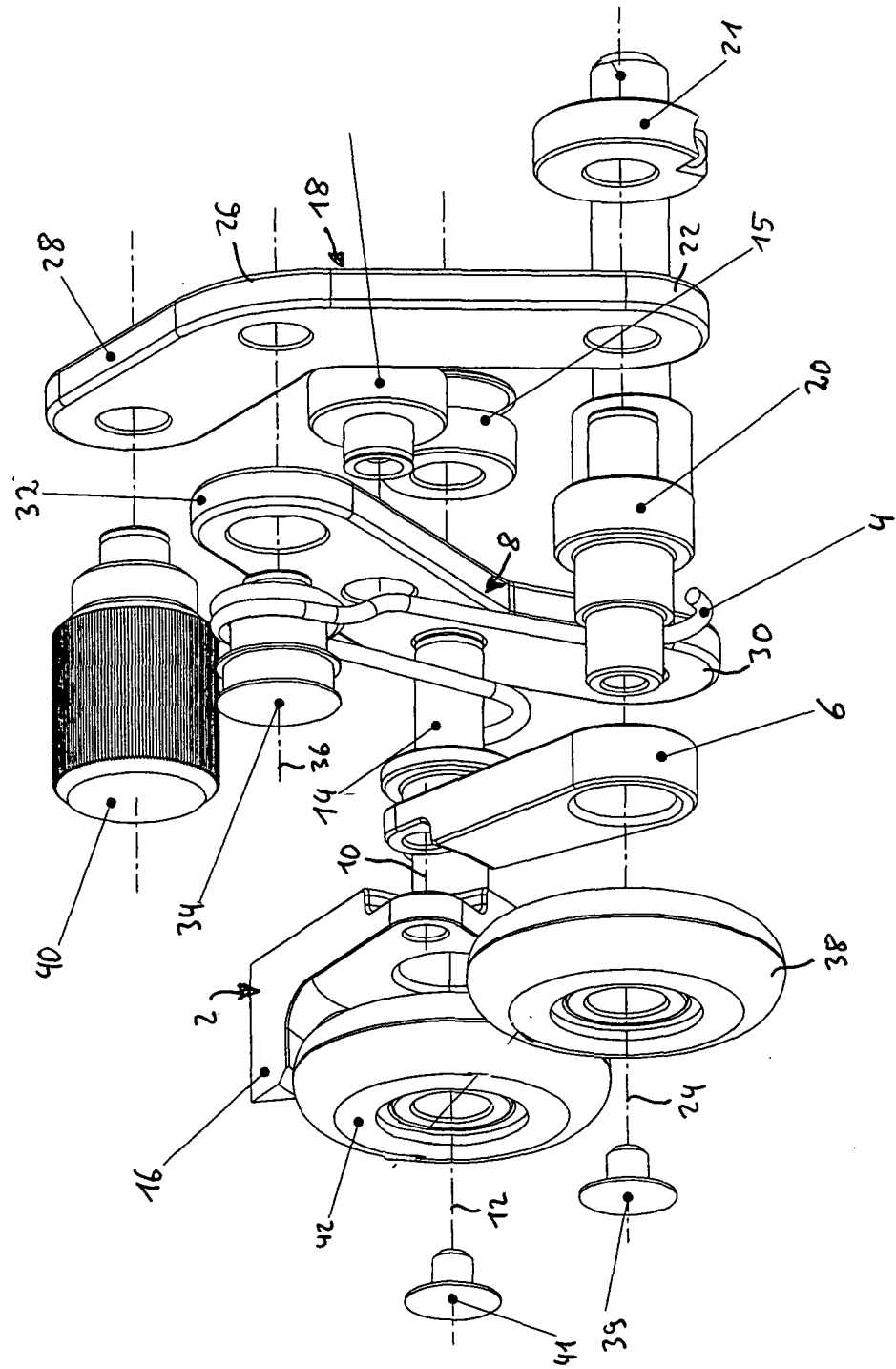


FIG. 3

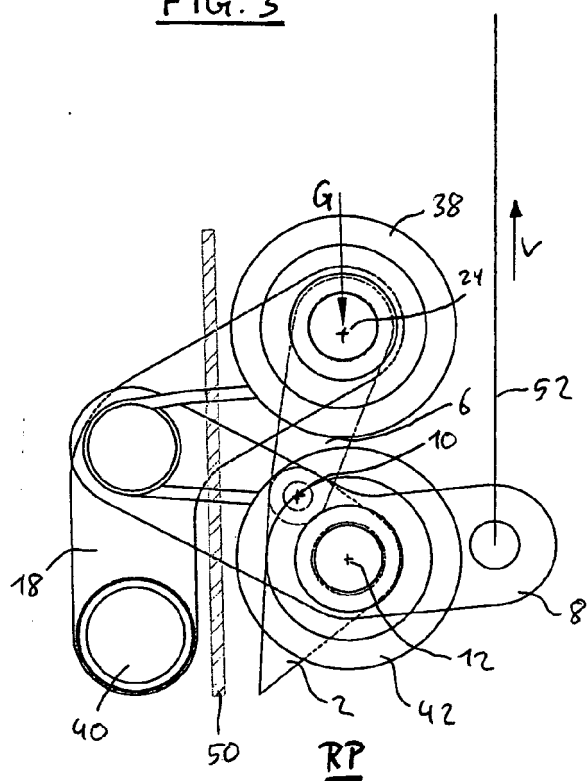
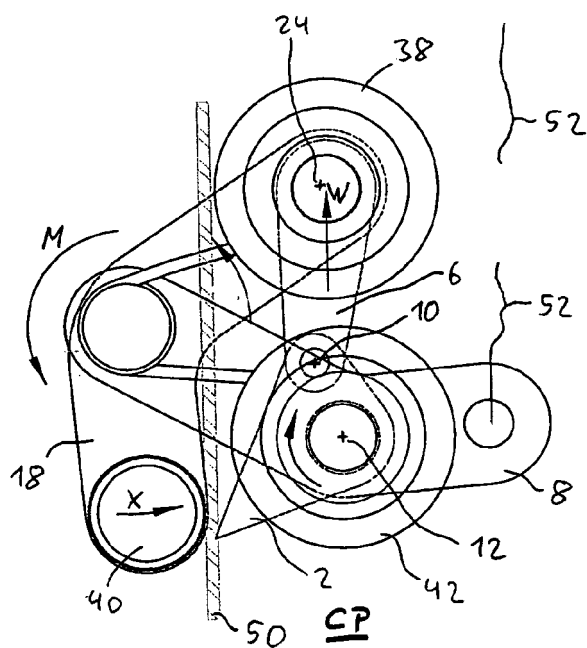


FIG. 4





European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 06 02 0746

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	FR 1 174 900 A (MONNIER ETS) 17 March 1959 (1959-03-17) * page 2, column 2, lines 33-47; figures * -----	1-4,8, 11,12	INV. E05D13/00
X	US 2 084 677 A (GERKEN HENRY A) 22 June 1937 (1937-06-22) * page 1, column 1, line 50 - column 2, line 41; figures * -----	1,3,4,8, 11,12	
			TECHNICAL FIELDS SEARCHED (IPC)
			E05D
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 28 February 2007	Examiner WITASSE-MOREAU, C
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			

2
EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 02 0746

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

28-02-2007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
FR 1174900	A	17-03-1959	NONE	

US 2084677	A	22-06-1937	NONE	

EPO FORM P0458

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- EP 0172351 A [0002]