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(54) **Bridge handle for furniture provided with opening lever of a spring lock**

(57) A bridge handle (M) for furniture comprises a central body (1) with curved profile, ending with a first and a second foot (2, 3); said central body (1) being internally hollow and housing a maneuvering lever (5) provided with a first end comprising a shelf (6) with pivoting pins (6a) that are engaged in a seat (2a) of the first foot

(2) of the central body according to an axis of hinge (Y); said handle (M) comprising oscillating means (8, 9) mounted in said second foot (3) in such manner to oscillate around an axis of oscillation (X) orthogonal to the axis of hinge (Y) of said pivoting pins (6a) of the maneuvering lever (5).

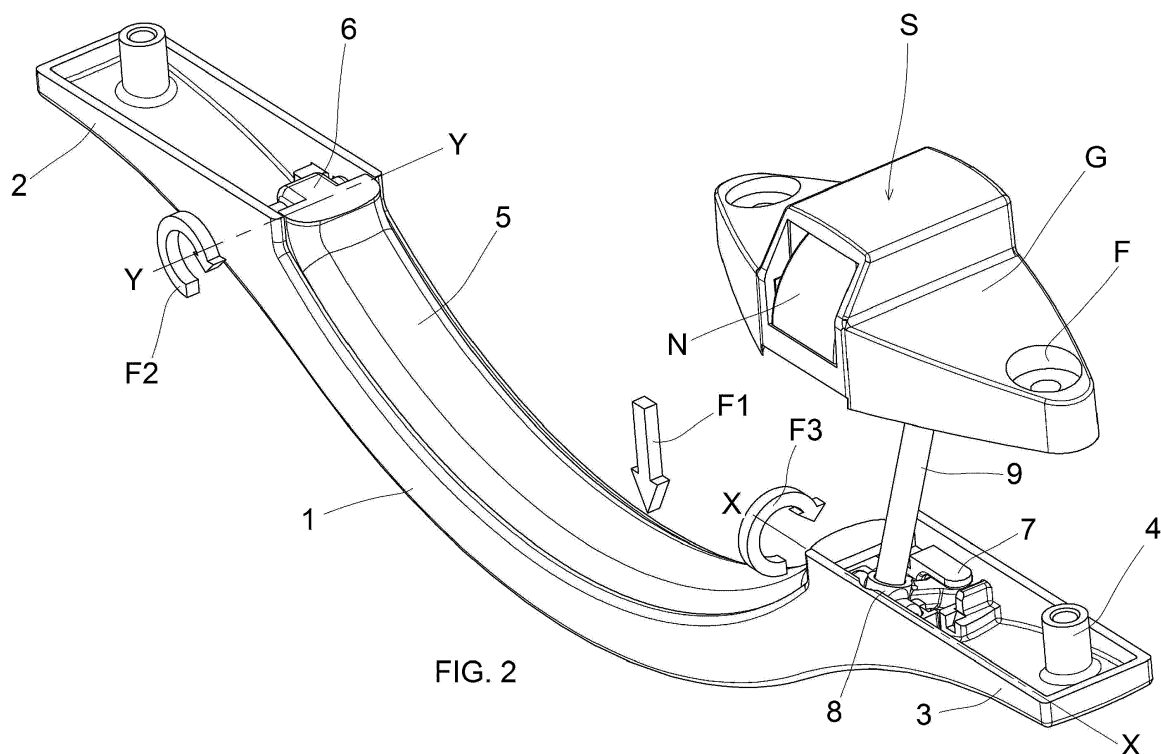


FIG. 2

Description

[0001] The present invention relates to a bridge handle for furniture provided with opening lever of a spring lock.

[0002] Spring locks are known, comprising a body with a seat that slidably houses and guides a wedge-shaped striker in such manner that the wedge-shaped striker travels from a first maximum ejection position to a second maximum retraction position with respect to its seat.

[0003] The body also contains a spring that constantly exerts an ejection thrust on said striker, the idle condition of which corresponds to the maximum ejection from its seat.

[0004] The body is screwed onto the internal side of a door or drawer of a furniture piece in order to cooperate with a part of the lock (female part) provided with a fixing seat for the striker.

[0005] The female part is mounted on the panel of the furniture piece against which the door or drawer is stopped in such manner to create an interference condition between the striker and the fixing seat of the striker. In view of the above the striker moves backwards, returns into its seat, and then moves forward again, being inserted into the fixing seat when the door or drawer complete the closing travel.

[0006] This type of locks also comprises a control part that is actuated in order to open the door or drawer. The control part operates on the striker in order to make the striker move along a retraction travel, thus overcoming the resistance of the spring.

[0007] Bridge handles are known, comprising a central body with curved profile and two ends provided with support feet that are used to fix the handle to an external wall of a door or drawer.

[0008] The purpose of the present invention is to devise a new bridge handle for furniture, which incorporates a maneuvering device of the control part used to open the lock, in such manner that, while holding the bridge handle, the user can actuate the control part, thus determining the retraction and accordingly the disengagement of the striker with respect to the fixing seat of the striker.

[0009] An additional purpose of the invention is to devise a bridge handle for furniture that maintains its external configuration unchanged in spite of being provided with the maneuvering device of the control part that is used to open the lock.

[0010] These purposes are achieved by the bridge handles for furniture of the invention, the main characteristics of which are disclosed in the attached claims.

[0011] The bridge handle of the invention is used in a spring lock provided with a striker that makes a retraction travel in order to open the lock.

[0012] The handle comprises:

- a central body with curved profile that defines an internal concave side, said central body ending with a first and a second foot adapted to be fixed on the external wall of a door or drawer of the furniture

piece,

- oscillating means mounted in said second foot in such manner to oscillate around an axis of oscillation and engage in the lock to determine the retraction travel of the striker of the lock, thus opening the lock,
- a maneuvering lever provided on the internal concave side of the central body, said maneuvering lever having a curved profile and comprising a first end and a second end.

[0013] The first end of the maneuvering lever has a shelf provided with pivoting pins that are engaged in a seat of the first foot of the central body according to an axis of hinge orthogonal to the axis of oscillation of the oscillating means.

[0014] The second end of the maneuvering lever comprises a hook adapted to cooperate with said oscillating means to generate the oscillation of the oscillating means.

[0015] In other words, by holding the central body of the handle and pressing the maneuvering lever provided in the central body, the hook presses the wing of the collar and the collar starts oscillating, driving the bar joined with the collar into an oscillating travel that makes the striker of the lock move backwards, thus opening the lock.

[0016] For the sake of clarity, the description of the handle according to the present invention continues with reference to the attached drawings, which are intended for purposes of illustration only, and not in a limiting sense, wherein:

- Fig. 1 is a perspective view of the handle according to the invention;
- Fig. 2 is a perspective view of the handle of Fig. 1 in association with a spring lock;
- Fig. 3 is an exploded perspective view of a structural detail of the handle according to the invention;
- Fig. 4 is a perspective view of a structural detail of the handle according to the invention.

[0017] With reference to Fig. 2 the bridge handle (M) of the invention is used to open a spring lock (S) provided with a striker (N) that makes a retraction travel in order to open the lock (S).

[0018] With reference to Figs. 1 and 2, the handle (M) comprises a central body (1) with curved profile, ending with two feet (2, 3) provided with fixing means (4) in order to fix the handle (M) on the external wall of a door or drawer of a furniture piece (not shown). The feet (2, 3) of the central body (1) of the handle (M) are internally hollow. The fixing means (4) can be fixing means for screws such as, for example, internally threaded tangs.

[0019] The central body (1) has an internal concave side that houses a maneuvering lever (5) in such manner that the maneuvering lever (5) is not visible when the handle (M) is fixed to a door of a furniture piece or a drawer.

[0020] The maneuvering lever (5) has a curved profile and comprises a first end and a second end adapted to be inserted and concealed inside the feet (2, 3) of the central body (1) of the handle.

[0021] The first end of the maneuvering lever (5) comprises a shelf (6) provided with pivoting pins (6a) that are engaged in a seat (2a) of the first foot (2) according to an axis of hinge (Y).

[0022] The second end of the maneuvering lever (5) is provided with a hook (7) adapted to be inserted into the second foot (3) of the central body (1).

[0023] Oscillating means (8, 9) are mounted inside the second foot (3) of the central body (1), and oscillate around an axis of oscillation (X) orthogonal to the axis of hinge (Y) of the pivoting pins (6a) of the maneuvering lever in such manner to engage in the lock (S) to determine the retraction travel of the striker (N) of the lock and consequently open the lock.

[0024] The oscillating means (8, 9) comprise a collar (8) externally provided with a diametrically opposite pair of coaxial pins (8a) that make the collar (8) free to oscillate.

[0025] The collar (8) is also provided with a wing (8b) interfaced with the hook (7) of the maneuvering lever (5) and acting as oscillating crank of said collar (8).

[0026] The oscillating means comprise a bar (9) mounted on the collar (8). The bar (9) is perpendicular to the axis of oscillation (X) of the collar (8) and is fixed at the end with the striker (N) of the lock (S).

[0027] The lock (S) is diagrammatically shown in Fig. 2, being of known type and lying outside the scope of the invention. The lock (S) comprises a body (G) that slidably houses the striker (N). The body (G) is provided with holes (F) for screws (not shown) used to fix the body on the internal wall of the door or drawer of the furniture piece (not shown in the figures).

[0028] In particular, the door or drawer of the furniture piece is provided with a through hole in such manner that one of the holes (F) of the body is aligned with the fixing means (4) of the second foot (3) of the central body of the handle. Therefore, a screw is passed through one of the holes (F) of the body and through the through hole of the door and is screwed into the fixing means (4) of the second foot (3) of the central body of the handle.

[0029] With reference to Fig. 3, the handle (M) comprises a spring (10) to maintain the maneuvering lever (5) in an idle position in which the hook (7) of the maneuvering lever does not engage the oscillating means (8, 9). The spring (10) is disposed between the central body (1) and the maneuvering lever (5).

[0030] Although it is not shown in the drawings, the spring (10) can be disposed between the first foot (2) of the central body and the shelf (6) of the maneuvering lever.

[0031] The operation of the handle according to the present invention is described below.

[0032] The user holds the central body (1) of the handle and presses the maneuvering lever (5), as indicated in

Fig. 2 by arrow (F1). Consequently, the maneuvering lever (5) rotates around the axis of hinge (Y) of the pivoting pins (6a), as indicated in Fig. 2 by arrow (F2). Accordingly, the hook (7) of the maneuvering lever presses the wing (8b) of the collar (8), and the collar (8) oscillates around the oscillating axis (X), as shown in Fig. 2 by arrow (F3). Being joined to the collar, the bar (9) makes an oscillation travel that makes the striker (N) of the lock (S) move backwards, thus opening the lock.

[0033] When the user releases the handle (M), the maneuvering lever (5) returns to its idle position as an indirect effect of the ejection of the striker (N) from the body (G). The ejection of the striker (N) determines the following effects:

- backward oscillation of the bar (9) and of the collar (8);
- oscillation of the wing (8b) of the collar (8); and
- backward movement of the hook (7) of the maneuvering lever under the thrust of the wing (8b) of the collar.

[0034] According to a preferred embodiment of the invention, in order to favor the automatic return of the maneuvering lever (5) to its idle position, the return spring (10) is provided to firmly hold the maneuvering lever (5) in its idle position until the maneuvering lever is pressed against the central body (1).

Claims

1. Bridge handle (M) for furniture used to open a spring lock (S) provided with a striker (N) that makes a retraction travel to open the lock (S), said handle (M) comprising:

- a central body (1) with curved profile in such manner to define an internal concave side, said central body (1) ending with a first and a second foot (2, 3) adapted to be fixed on the external wall of a door or drawer of a furniture piece,
- oscillating means (8, 9) mounted in said second foot (3) in such manner to oscillate around an axis of oscillation (X) and engage in the lock (S) to determine the retraction travel of the striker (N) of said lock (S) and consequently open the lock,
- a maneuvering lever (5) provided on the internal concave side of the central body (1), said maneuvering lever (5) having an curved profile and comprising a first end and a second end,

the first end of the maneuvering lever (5) having a shelf (6) provided with pivoting pins (6a) that are engaged in a seat (2a) of the first foot (2) of the central body according to an axis of hinge (Y), and the second end of the maneuvering lever (5) being

provided with a hook (7) adapted to cooperate with said oscillating means (8, 9) to generate the oscillation of the oscillating means,

characterized in that the axis of oscillation (X) of the oscillating means (8, 9) is orthogonal to the axis of hinge (Y) of the pivoting pins (6a) of the maneuvering lever (5). 5

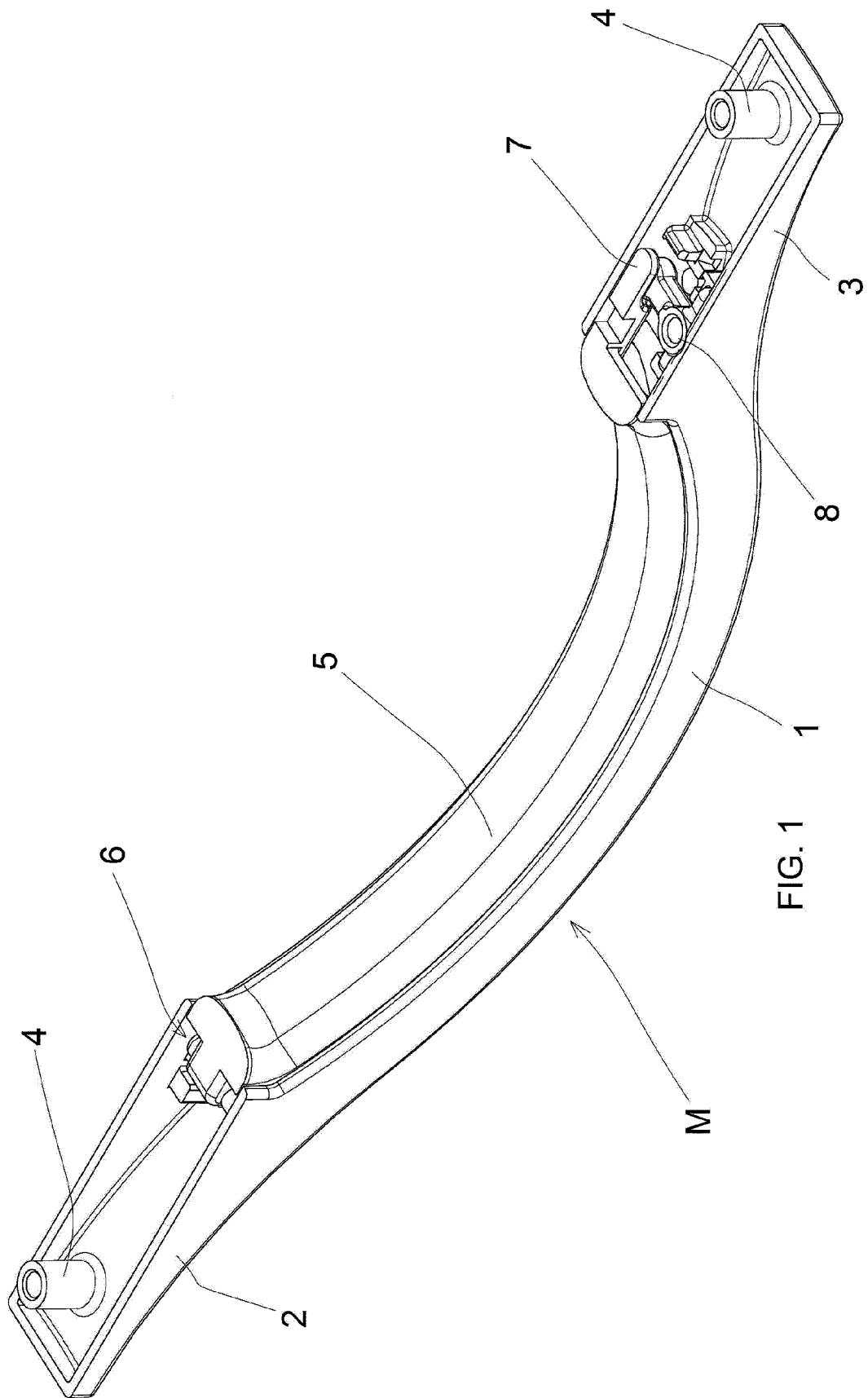
2. The handle of claim 1, wherein said oscillating means (8, 9) comprise a collar (8) with a diametrically opposite pair of coaxial pins (8a) that are engaged in seats of the second foot (3) of the central body, as well as a wing (8b) adapted to cooperate with said hook (7) of the maneuvering lever, said wing (8b) acting as oscillation crank of said collar (8). 10 15
3. The handle of claim 2, wherein said oscillating means (8, 9) comprise a bar (9) mounted on said collar (8), said bar (9) being perpendicular to the axis of oscillation (X) of said collar (8) and being fixed at one end with the striker (N) of the lock (S). 20
4. The handle of any one of the preceding claims, comprising a spring (10) to maintain the maneuvering lever (5) in idle position wherein the hook (7) of the maneuvering lever does not engage the oscillating means (8, 9). 25
5. The handle of claim 4, wherein said spring (10) is disposed between the central body (1) and the maneuvering lever (5). 30
6. The handle of claim 4, wherein said spring (10) is disposed between the first foot (2) of the central body and the shelf (6) of the maneuvering lever. 35

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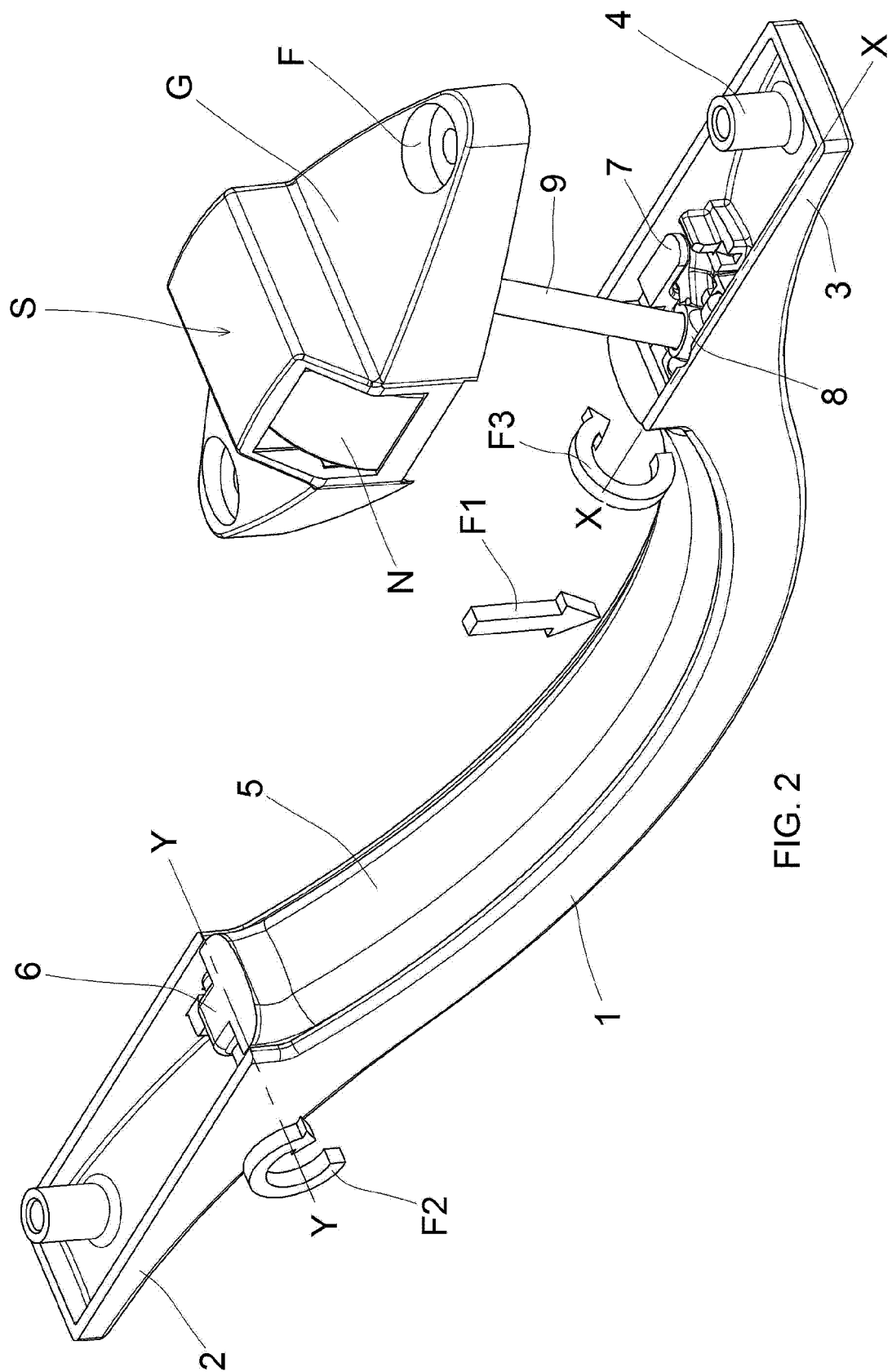


FIG. 2

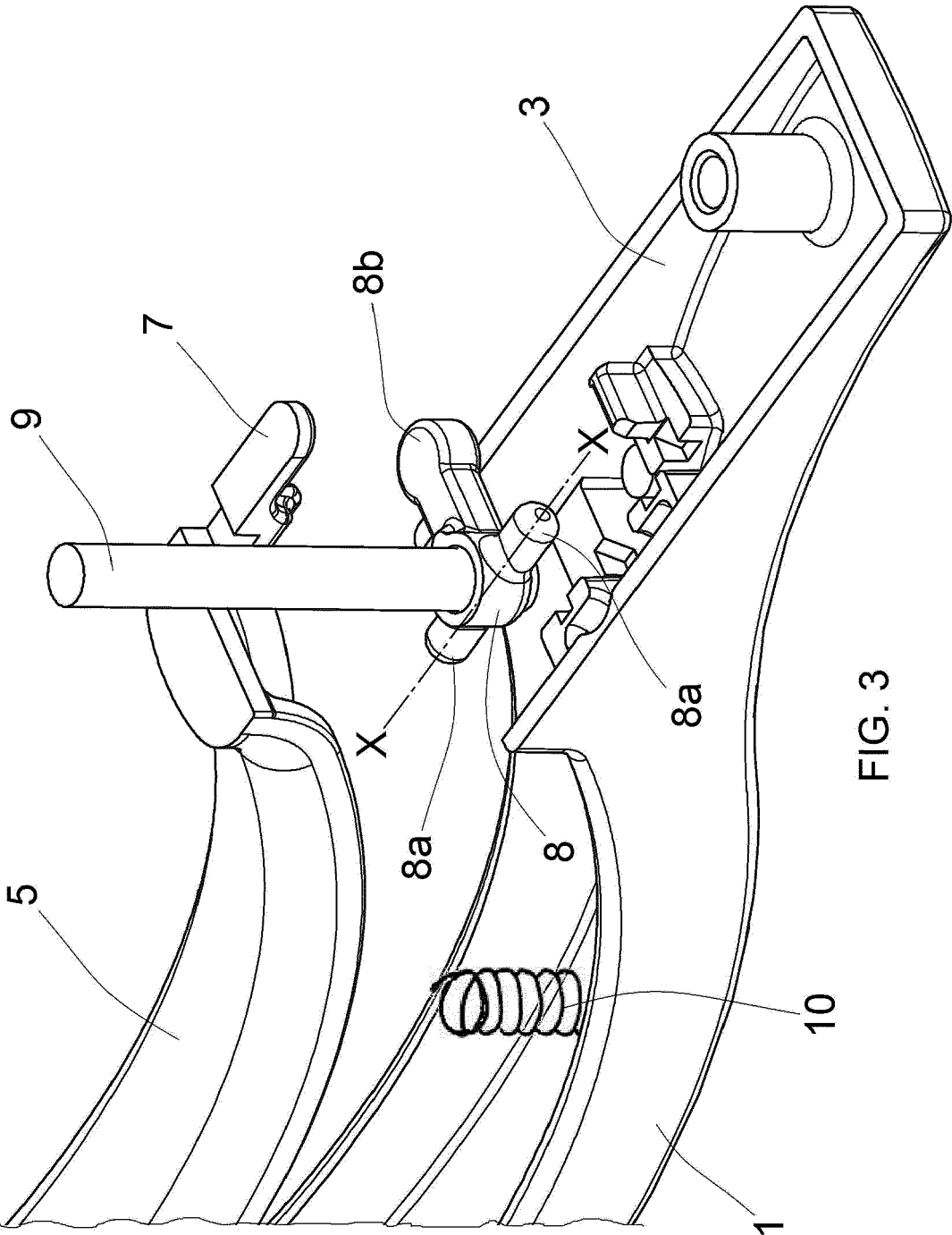
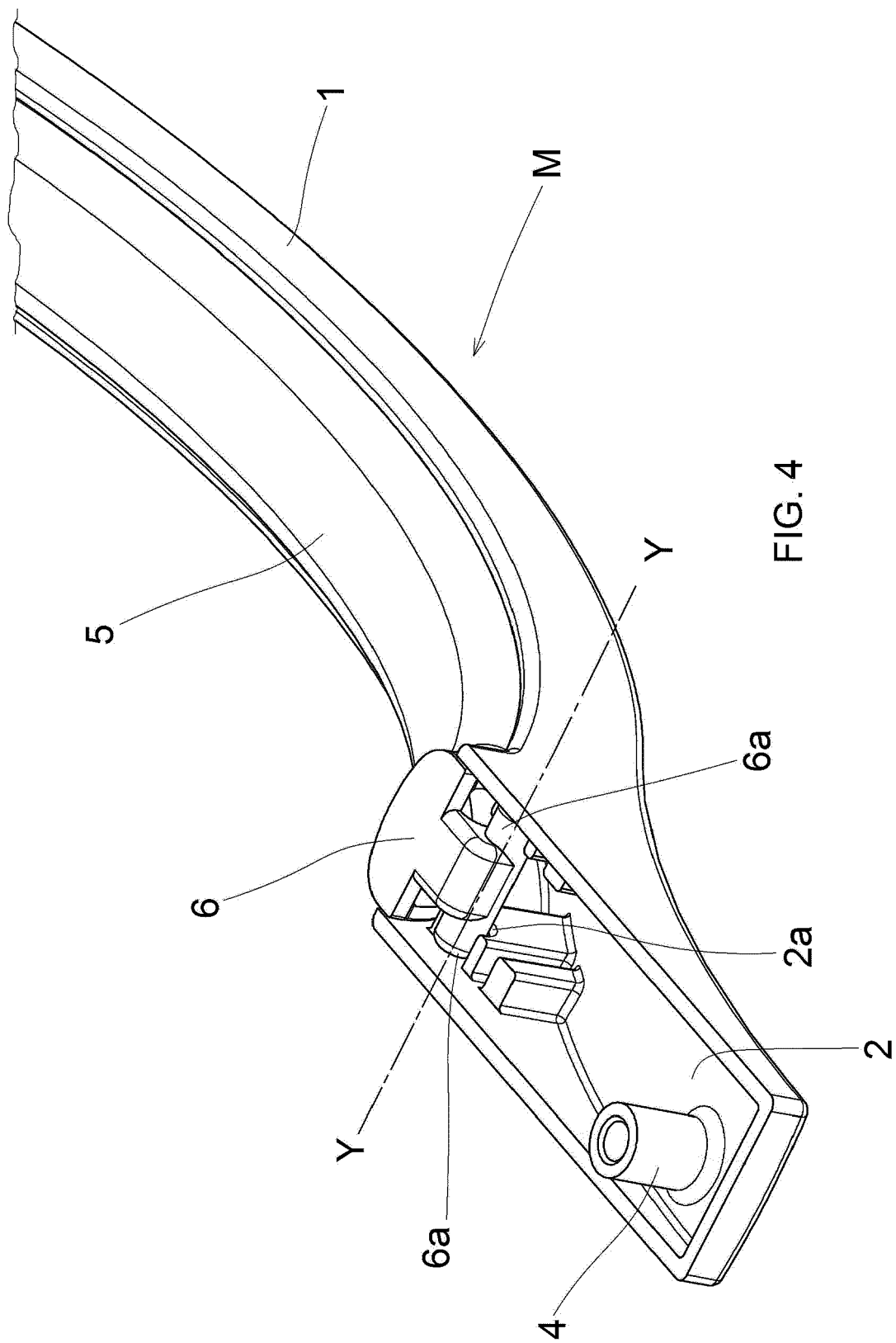


FIG. 3





EUROPEAN SEARCH REPORT

Application Number
EP 14 18 5281

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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	NL 403 C (HASLER) 2 January 1914 (1914-01-02) * figures 1-6 *	1,2,4	INV. A47B95/02 E05B7/00
X	US 4 732 417 A (YANG) 22 March 1988 (1988-03-22) * figures 1-4 *	1,2,4-6	
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			TECHNICAL FIELDS SEARCHED (IPC)
			A47B E05C E05B
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
The Hague		17 February 2015	Linden, Stefan
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
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 18 5281

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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
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US 4732417	A	22-03-1988	NONE
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82