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(54) **Lock, particularly for doors of vehicles of the type of vans, trucks, semi-trailer trucks and the like**

(57) A lock, particularly for doors of vehicles of the type of vans, trucks, semi-trailer trucks and the like, that comprises a box-like shell (2) that can be fixed to either a door of a vehicle or the body of the same vehicle. A handle (5) is pivoted to the shell (2) for commanding a body (6) that can slide from a closed configuration, in which a spring latch (7), supported by the body (6) at an end region thereof, is engaged in an opening associated with the other one of the body of the vehicle and the door, in order to close the door, to an open configuration, in

which the spring latch (7) is disengaged from the opening, in order to open the door and consequently gain access to the compartment inside the vehicle, and vice versa.

The lock comprises an emergency command element (10), which can be functionally associated with the spring latch (7) and is operable from the side opposite to that of the handle (5) with respect to the shell (2). The element (10) can be actuated on command, from the compartment inside the vehicle, for the movement of the spring latch (7) and the passage from the closed configuration to the open configuration.

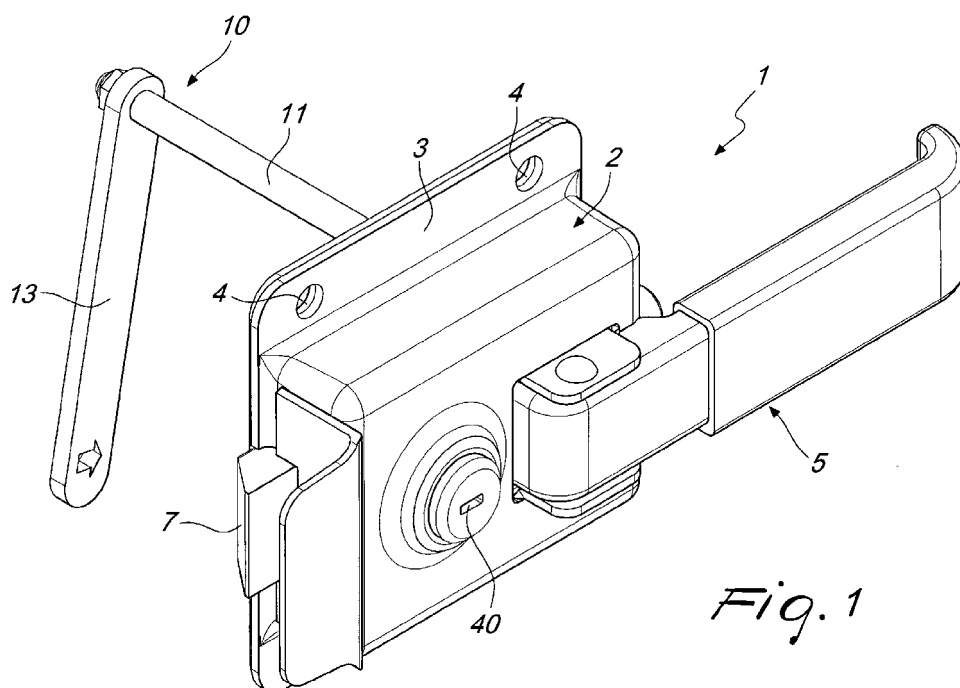


Fig. 1

Description

[0001] The present invention relates to a lock, particularly for doors of vehicles of the type of vans, trucks, semi-trailer trucks and the like.

[0002] As is known, many types of locks are widely available on the market which are designed for closing (rear) doors of vehicles like vans, trucks, semi-trailer trucks, etc.

[0003] According to one possible embodiment, such locks comprise a box-like body that can be fixed to the door of the vehicle and to which an actuation lever is pivoted about a substantially vertical axis, in order to permit its movement from a closed configuration of the lock to an open configuration (in order to enable access to the compartment of the vehicle closed by the door), and vice versa.

[0004] Actuation of the lever, for opening the lock, causes the shifting of a pin (in a direction parallel to the door) contained in the box-like body, and the consequent disengagement of a spring latch, associated with the pin, from a corresponding seat, in order to allow the opening of the door.

[0005] Such locks are moreover typically provided with a further safety device, which can be actuated by an external key, in order to lock the lever in the closed configuration, and thus prevent anyone who does not have the key from accessing the compartment.

[0006] The embodiments cited above are not, however, free from drawbacks.

[0007] In fact, it can immediately be seen that the locks described in the foregoing paragraphs can be actuated only by acting on the external actuation lever, and therefore only by a user who at that moment is outside the compartment.

[0008] If, therefore, following an accidental (or even criminally motivated) event, the door should be closed while one or more persons are inside, for example for loading/unloading activities, or simply for maintenance, or for any other reason, they will then be in the position of not being able to get out, leading to distress and imposing a prolonged wait in the compartment, while waiting for help.

[0009] This problem is even more felt, naturally, in vehicles (such as trucks, vans, semi-trailer trucks etc) which are used to transport frozen goods or goods that are such as to still require conservation in refrigerated compartments.

[0010] In fact, it is clear that in the event of accidental closing of the door of a compartment within which the temperature is constantly and automatically kept near or below zero (even if only by a few degrees), the involuntary stay of a person in the compartment could put their safety in grave danger.

[0011] The aim of the present invention is to solve the above mentioned problems, by providing a lock, designed for the closing of a door to an inner compartment of a vehicle, that allows anyone working inside the com-

partment to exit, even in the event of accidental closure of the door.

[0012] Within this aim, an object of the invention is to provide a lock that can be actuated in a practical and easy manner, without requiring an excessive effort of the person who wishes to use it from inside the compartment.

[0013] Another object of the invention is to provide a lock the integrity of which is ensured, without therefore risk of being damaged, even following an excessive stress being imposed on the actuation mechanism (with the lock arranged in the closed configuration).

[0014] Another object of the invention is to provide a lock that ensures a high reliability of operation.

[0015] A further object of the present invention is to provide a lock that can be easily implemented using elements and materials that are readily available on the market.

[0016] Another object of the invention is to provide a lock that is low cost and safely applied.

[0017] This aim and these objects are all achieved by a lock, particularly for doors of vehicles of the type of vans, trucks, semi-trailer trucks and the like, comprising a box-like shell that can be fixed to either a door of a vehicle or the body of the said vehicle, a handle being pivoted to said shell for commanding a body that can slide from a closed configuration, in which a spring latch, supported by said body at an end region thereof, is engaged in an opening associated with the other one of the body of the vehicle and the door, in order to close the said door, to an open configuration, in which said spring latch is disengaged from the opening, in order to open the door and consequently gain access to the compartment inside the vehicle, and vice versa, characterized in that it comprises an emergency command element, which can be functionally associated with said spring latch and is operable from the side opposite to that of said handle with respect to said shell, said element being capable of being actuated on command, from the compartment inside the vehicle, for the movement of said spring latch and the passage from said closed configuration to said open configuration.

[0018] Further characteristics and advantages of the invention will become better apparent from the description of five preferred, but not exclusive, embodiments of the lock according to the invention, illustrated by way of non-limiting example in the accompanying drawings wherein:

Figures 1 to 6 are views of a lock according to the invention in a first embodiment, more specifically:

Figure 1 is a perspective view from the front and side of the lock, according to the invention;
Figure 2 is a front view of the lock, according to the invention;
Figure 3 is a partially sectional side elevation view of the lock according to the invention;
Figure 4 is a section through Figure 2, taken

along the line IV-IV;

Figures 5 and 6 are views from the rear of the operation of the emergency command element;

Figures 7 and 8 are views of the lock according to the invention in a second embodiment, more specifically:

Figure 7 is a perspective view from the rear and side of the lock, according to the invention;

Figure 8 is a partially sectional side elevation view of the lock according to the invention ;

Figures 9 and 10 are views of the lock according to the invention in a third embodiment, more specifically:

Figure 9 is a perspective view from the rear and side of the lock, according to the invention;

Figure 10 is a partially sectional side elevation view of the lock according to the invention ;

Figures 11 and 12 are views of the lock according to the invention in a fourth embodiment, more specifically:

Figure 11 is a perspective view from the rear and side of the lock, according to the invention;

Figure 12 is a partially sectional side elevation view of the lock according to the invention ;

Figures 13 and 14 are views of the lock according to the invention in a fifth embodiment, more specifically:

Figure 13 is a perspective view from the rear and side of the lock, according to the invention;

Figure 14 is a partially sectional side elevation view of the lock according to the invention.

[0019] With reference to the figures, a lock according to the invention, generally designated with the reference numeral 1, is particularly suitable for application to doors of vehicles of the type of vans, trucks, semi-trailer trucks and the like, and it is to such application that all reference will be made hereinafter.

[0020] It should be made clear from this point onward that the possibility is not ruled out, while remaining within the scope of protection claimed herein, of using the lock 1 according to the invention in order to control the opening and closing of other types of doors, vehicle doors etc, even if designed to delimit completely different environments, as a function of the specific requirements.

[0021] The lock 1 comprises a box-like shell 2 that can be fixed to either a door of a vehicle or the body of the same vehicle, for example by way of screws or the like, which can be inserted in slots 3 provided in lateral shaped tabs 4 of the shell 2.

[0022] A handle 5 is pivoted to the shell 2 for commanding a body 6 that can slide (typically, in a direction parallel to the ground and to the door of the vehicle) from a closed configuration, in which a spring latch 7, supported by the body 6 at an end region thereof, is engaged in an opening associated with the other one of the body of the vehicle and the door, in order to close the door, to an open configuration, in which the spring latch 7 is disengaged from the opening, in order to open the door for the purpose of permitting, as a consequence, access to the compartment inside the vehicle, and vice versa.

[0023] In more detail, according to known methods, the spring latch 7 is normally kept in the closed configuration thanks to the elastic reaction of a compression spring 8, wound, at least partially, about the body 6. Thus, with the door closed, the spring latch 7 is stably accommodated in the opening until the person, by exercising a tractive force on the handle 5, causes the shifting of the body 6 (and of the spring latch 7). Such shifting is ensured by the thrust exercised by an end protrusion 5a of the handle 5, facing the body 6, on a lip 9 protruding from the latter (as shown in Figures 8, 10, 12, 14).

[0024] According to the preferred embodiment, the lock 1 is installed directly on the door, with the spring latch 7 capable of being engaged in an opening fixed to the body, but it is evident that the choice to install the lock 1 on the fixed body of the vehicle, while mounting the opening on the door, is absolutely equivalent and remains within the scope of protection claimed herein.

[0025] According to the invention, the lock 1 comprises an emergency command element 10, which can be functionally associated with the spring latch 7 and which operates (according to various methods) on the side opposite to that of the handle 5 with respect to the shell 2.

[0026] The element 10 can thus be actuated on command, from inside the vehicle, in order to allow a person who finds himself or herself (voluntarily or otherwise) inside the compartment, to move the spring latch 7 for the passage from the closed configuration to the open configuration (and thus enabling him or her to get out of the compartment).

[0027] More specifically, according to the preferred, but not exclusive, embodiment, shown in Figures 1 to 6, the command element 10 is substantially constituted by a crank, which comprises a shaft 11 that rotates about its own axis and which extends from the shell 2 along a direction substantially perpendicular to the direction of sliding of the body (and thus along a direction substantially perpendicular to the plane defined by the door), from the side opposite to that of the handle 5.

[0028] Coupled to the base of the shaft 11 are means 12 (which will be better described hereinafter) of moving the slideable body 6, which can be actuated with the rotation of the shaft 11.

[0029] Transversely fixed to the tip of the shaft 11 (which protrudes into the compartment through an opening provided in either the door or the body) is a rod 13, which can be gripped by a person in order to command

the rotation of the crank (constituted by the rod 13 and by the shaft 11) and the consequent sliding of the body 6 from the closed configuration to the open configuration (when the crank is made to rotate in the direction indicated by the arrow in Figures 5 and 6).

[0030] More specifically, the movement means 12 comprise a first rotating cam 14, keyed on the shaft 11 at the base of the latter and elastically kept away from a shoulder 15 defined along the body 6, when the latter is in the closed configuration.

[0031] With its rotation (integrally with that of the crank), the first cam 14 is brought into abutment against the shoulder 15, to the point where it is pushed in order to thus obtain the movement of the body 6 which performs a translational movement until it causes, consequently, the passage from the closed configuration to the open configuration.

[0032] More specifically, in order to keep the first cam 14 away from the shoulder 15 of the body 6, and in order to bring it back to that position upon cessation of the stress to which the crank is subjected, the lock 1 comprises an angular torsion spring 16, wound around the base of the shaft 11. It is thus the elastic reaction of the angular torsion spring 16 that keeps the first cam 14 away from the shoulder 15, in the closed configuration.

[0033] In a second embodiment, shown in Figures 7 and 8, the command element 10 comprises a stem 17 that extends from the shell 2 along a direction substantially perpendicular to the direction of sliding of the body 6 (and to the plane that contains the door), from the side opposite to that of the handle 5.

[0034] The stem 17 is rigidly fixed to the body 6 at its base and preferably is provided with a knob 18 at its tip, which protrudes into the compartment through an opening provided in either the door or the body (and more precisely in whichever of the door and the body that the lock 1 according to the invention is installed on).

[0035] In this manner, at least the tip of the stem 17 extends into the compartment and thus a person who also happens to be in the compartment (accidentally for example), can get out of it by entraining the stem 17, thus making it perform a translational motion along a direction parallel to the direction of sliding, thus causing at the same time the sliding of the body 6 and the disengagement of the spring latch 7 from the opening, in order to achieve the passage from the closed configuration to the open configuration.

[0036] Conveniently, in order to stably couple the stem 17 to the body 6, the latter is provided with an internally threaded recess 19, provided along its lateral surface, in order to accommodate a base portion, externally threaded, of the stem 17 (as can clearly be seen from Figure 8).

[0037] In a third embodiment, shown by way of non-limiting example in Figures 9 and 10, the command element 10 comprises an upright 20 that extends from the shell 2 along a direction substantially perpendicular to the direction of sliding of the body 6 (and to the door), from the side opposite to that of the handle 5.

[0038] The upright 20 is rigidly fixed to the body 6 at its base and is associated, at its tip (which protrudes into the compartment through an opening provided in either the door or the body, whichever the lock 1 is installed on) with a lever device 21.

[0039] The lever device 21 (which thus is substantially accommodated in the compartment of the vehicle, or at least facing thereto) can be actuated on command (by a person inside the vehicle) in order to bring a translational motion to bear on the upright 20 (possibly using a contained stress, thanks to the device 21 itself) and thus cause the consequent sliding of the body 6, for the passage from the closed configuration to the open configuration (and permit the exit from the compartment).

[0040] More specifically, the device 21 comprises a lever pivoted to a fulcrum 22, which is fixed to the shell 2 and extends parallel to the stem 20. Such lever is substantially constituted by a contoured bar 23 that is pivoted to the fulcrum 22 at an intermediate portion thereof (as can clearly be seen from Figure 9).

[0041] The bar 23 defines, with an end portion thereof (folded into a U-shape), a grip 24 that can be gripped by a person and, at the other end with respect to the fulcrum 22, an end appendage 25 provided with a contoured slot 26 for guiding a portion of tip of the upright 20.

[0042] As a consequence, during a rotation of the lever (brought to bear by a person who grips the bar 23 at the grip 24), the portion of tip of the upright 20 slides on the contoured profile of the contoured slot 26, in order to cause the guided translational motion of the upright 20 and the consequent sliding of the body 6 (and of the spring latch 7), for the passage from the closed configuration to the open configuration.

[0043] Similarly to the observations for the embodiment described previously, in order to ensure the stable coupling between the upright 20 and the body 6, the latter (in the embodiment proposed in Figures 9 and 10) is provided with a pit 27, internally threaded, provided along its lateral surface, designed to accommodate a base portion, externally threaded, of the upright 20.

[0044] In a fourth embodiment, proposed in Figures 11 and 12, the command element 10 is substantially constituted by an elongated peg 28, the base of which is substantially wedge-shaped in order to abut against a corresponding inclined surface 29 provided along a flank of the body 6 on the opposite side with respect to the handle 5 (so as to be facing the compartment).

[0045] In this manner, by exercising a pressure on the tip of the peg 28 along a direction at least incident (and preferably perpendicular) to the direction of sliding of the body 6 (and to the plane that contains the door), on the side opposite to that of the handle 5, the sliding is caused of the body 6 for the passage from the closed configuration to the open configuration.

[0046] It should be noted that the possibility exists for the peg 28 to be coupled to the shell 2, just as the construction is not ruled out of locks 1 according to the invention in which the peg 28 is decoupled from the body

6, and for example can be hung inside the door beside the shell 2.

[0047] In the fifth embodiment (which does not exhaust the possible embodiments for the lock 1 according to the invention, which still come under the scope of protection claimed herein), the command element 10 comprises a traction wire 30, accommodated with a first portion thereof, fixed to the spring latch 7, in an internal duct of the body 6.

[0048] A second portion of the wire 30, on the opposite side to the spring latch 7, protrudes into the compartment through an opening provided in either the door or the body, whichever the lock 1 is installed on, and can be grasped by a person located inside the compartment. Such person can thus exert a tractive force on the wire 30 in order to cause the sliding of the body 6 and of the spring latch 7 with consequent passage from the closed configuration to the open configuration, thus ensuring the opportunity to get out of the compartment.

[0049] Advantageously, according to an embodiment of important practical interest, cited by way of non-limiting illustration of the application of the invention, independently of the type of command element 10 chosen, the slideable body 6 comprises a first halfbody 6a and a second halfbody 6b (as can be seen in particular from Figures 5 and 6).

[0050] The first halfbody 6a is placed in contact with an end part of the command handle 5, and, more precisely, in this embodiment the end part coincides with the end protrusion 5a that exerts its thrust on the lip 9, which extends from the halfbody 6a. The second halfbody 6b supports the spring latch 7, on the opposite side with respect to the first halfbody 6a.

[0051] The two halfbodies 6a, 6b are arranged aligned along the direction of sliding and are affected by mutual fastening means 31 operable by key.

[0052] Thus when mutually fastened, the two halfbodies 6a, 6b can slide integrally (pushed by the end protrusion 5a of the handle 5 or, in the other direction, by the compression spring 8), while when the mutual fastening means 31 are deactivated, the second halfbody 6b is disengaged from the first halfbody 6a, and from the handle 5.

[0053] In this manner, differently from what occurs with conventional locks, the spring latch 7 is kept locked in the closed configuration (inserted in the opening) even following actuation of the handle 5 (which, with the mutual fastening means deactivated, causes the sliding of the first halfbody 6a only), and this guards against the danger that a stress imposed on the handle 5 could cause damage to the various components of the lock 1 (or the opening thereof), which on the contrary is kept intact.

[0054] In particular, the mutual fastening means 31 comprise a thinned end tenon 32, which extends from the first halfbody 6a and which can be accommodated, on the opposite side with respect to the spring latch 7, in a central mortise 33 provided on the second halfbody 6b and which is delimited by two end arms.

[0055] The tenon 32 is further provided with a central hole 32a which is aligned, when the tenon 32 is accommodated in the mortise 33 (i.e. in the arrangement shown in Figures 5 and 6), with at least one counterhole 34 provided along at least one of the end arms.

[0056] The mutual fastening means 31 thus comprise a dowel 35 that can be moved, perpendicularly to the direction of sliding of the body 6, from a first limit position, in which the dowel 35 is inserted in the hole 32a and in the counterhole 34, in order to obtain the mutual fastening of the halfbodies 6a, 6b, to a second limit position, in which the dowel 35 is inserted in the hole 32a but not inserted in the counterhole 34, for the disengagement of the second halfbody 6b from the first halfbody 6a and thus from the handle 5.

[0057] In the solution proposed in the accompanying figures, merely by way of non-limiting example of the application of the invention, a respective counterhole 34 is provided in each arm, and the dowel 35 can thus be accommodated, when it is in the first limit position, both in the first counterhole 34 and in the second, or in both.

[0058] More specifically, the fastening means 31 comprise a second rotating cam 36, operable by way of the key. The second cam 36 abuts against a pair of plates 37 fixed to the ends of a stem 38 that can move perpendicularly to the direction of sliding of the body 6, in a through slot 39 provided along the second halfbody 6b.

[0059] As can be seen from the accompanying figures, the dowel 35 is fixed to one of the plates 37, in such a way that when the second cam 36 is made to rotate (by the key, insertable in an opening 40), the shifting of the plates 37 causes the simultaneous translational motion of the dowel 35 which, while remaining within the hole 32a, can alternatively be inserted into and withdrawn from at least one of the counterholes 34, for the passage from the first limit position to the second limit position, and vice versa.

[0060] The use of the lock according to the invention is evident from the foregoing explanation. The closure of the door of a vehicle is ensured by the spring latch 7, which can be inserted in the corresponding opening. Thanks to the elastic reaction of the compression spring 8, the body 6, and the spring latch 7, are kept in the closed configuration, for as long as, from outside the compartment, a user does not actuate the handle 5 (by raising it).

[0061] This produces the rotation of the handle 5, which shifts the body 6 (by defeating the above mentioned elastic reaction) thanks to the thrust exercised by the end protrusion 5a of the handle 5 on the lip 9.

[0062] In order to prevent the undesired opening of the lock 1, and at the same time guard against the danger that an excessive stress on the handle 5 could cause the breakage of and/or damage to the various components, the mutual fastening means 31 can be deactivated (using a key) in order to mutually disengage the first halfbody 6a from the second halfbody 6b. In fact, when the halfbodies 6a, 6b are disengaged from each other, any force brought to bear on the handle 5 causes the shifting of

the first halfbody 6a only, while the spring latch 7 (supported by the second halfbody 6b) is kept accommodated in the corresponding opening.

[0063] A person who should find him or herself inside the vehicle (and thus in a situation where it is impossible to actuate the handle 5, located outside) can move the body 6, and more precisely make it pass from the closed configuration to the open configuration, by acting on the command element 10.

[0064] As has been seen in the foregoing paragraphs in fact, in each embodiment described previously, the person can easily cause the sliding of the body 6 in order to withdraw the spring latch 7 from the opening, and thus have the opportunity to get out of the compartment, even following the involuntary closing of the door.

[0065] This possibility is naturally very welcome indeed in all types of vehicle, and assumes even more importance in those vehicles in which the inner space is kept at very low temperatures, typically, but not exclusively, for reasons of conservation of food, and it is precisely these vehicles that constitute the preferred, although not exclusive, application of the lock 1 according to the invention.

[0066] In practice it has been found that the lock according to the invention fully achieves the intended aim, in that the choice to provide the lock with an emergency command element, which can be functionally associated with the spring latch engageable in the opening, and which is operable from the side opposite to that of the handle that can be actuated in order to open the door, makes it possible to actuate the element, and consequently to move the spring latch, thus opening the door, from inside the vehicle, in so doing permitting the exit of anyone working inside the compartment, even in the event of accidental closure of the door.

[0067] The invention, thus conceived, is susceptible of numerous modifications and variations, all of which are within the scope of the appended claims. Moreover, all the details may be substituted by other, technically equivalent elements.

[0068] In the embodiments illustrated, individual characteristics shown in relation to specific examples may in reality be interchanged with other, different characteristics, existing in other embodiments.

[0069] In practice, the materials employed, as well as the dimensions, may be any according to requirements and to the state of the art.

[0070] Where the technical features mentioned in any claim are followed by reference numerals and/or signs, those reference numerals and/or signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly, such reference numerals and/or signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference numerals and/or signs.

Claims

1. A lock, particularly for doors of vehicles of the type of vans, trucks, semi-trailer trucks and the like, comprising a box-like shell (2) that can be fixed to either a door of a vehicle or the body of the said vehicle, a handle (5) being pivoted to said shell (2) for commanding a body (6) that can slide from a closed configuration, in which a spring latch (7), supported by said body (6) at an end region thereof, is engaged in an opening associated with the other one of the body of the vehicle and the door, in order to close the said door, to an open configuration, in which said spring latch (7) is disengaged from the opening, in order to open the door and consequently gain access to the compartment inside the vehicle, and vice versa, **characterized in that** it comprises an emergency command element (10), which can be functionally associated with said spring latch (7) and is operable from the side opposite to that of said handle (5) with respect to said shell (2), said element (10) being capable of being actuated on command, from the compartment inside the vehicle, for the movement of said spring latch (7) and the passage from said closed configuration to said open configuration.
2. The lock according to claim 1, **characterized in that** said command element (10) is substantially constituted by a crank, comprising a shaft (11) rotating about its own axis and extending from said shell (2) in a direction substantially perpendicular to the direction of sliding of said body (6), on the opposite side from said handle (5), means (12) of moving said slideable body (6) being coupled to the base of said shaft (11) and actuatable with the rotation of said shaft (11), a rod (13) being transversely fixed to the tip of said shaft (11) and protruding into the compartment through an opening provided in either the door or the body and capable of being gripped by a person in order to command the rotation of said crank and the consequent sliding of said body (6) from said closed configuration to said open configuration.
3. The lock according to claims 1 and 2, **characterized in that** said movement means (12) comprise a first rotating cam (14), keyed on said shaft (11) at its base and elastically kept away from a shoulder (15) defined along said body (6), in said closed configuration, said first cam (14) being brought into abutment against said shoulder (15) during the rotation of said crank, for the movement of said body (6) and the consequent passage from said closed configuration to said open configuration.
4. The lock according to one or more of the preceding claims, **characterized in that** it comprises an angular torsion spring (16), wound around the base of said shaft (11), the elastic reaction of said angular

torsion spring (16) keeping said first cam (14) away from said shoulder (15), in said closed configuration.

5. The lock according to claim 1, **characterized in that** said command element (10) comprises a stem (17) extending from said shell (2) in a direction substantially perpendicular to the direction of sliding of said body (6), on the side opposite to said handle (5), said stem (17) being rigidly fixed to said body (6) at its base and preferably being provided with a knob (18) at its tip, protruding into the compartment through an opening provided in either the door or the body, the translational motion of said stem (17), following its entrainment by a person in a direction parallel to the direction of sliding, causing the sliding of said body (6) for the passage from said closed configuration to said open configuration.
6. The lock according to claim 5, **characterized in that** said body (6) is provided with a recess (19), internally threaded, provided along its lateral surface, for the accommodation of a base portion, externally threaded, of said stem (17), for the stable coupling of said stem (17) and said body (6).
7. The lock according to claim 1, **characterized in that** said command element (10) comprises an upright (20) extending from said shell (2) in a direction substantially perpendicular to the direction of sliding of said body (6), on the side opposite to said handle (5), said upright (20) being rigidly fixed to said body (6) at its base and being associated, at its tip, protruding into the compartment through an opening provided in either the door or the body, with a lever device (21), which can be actuated on command for the translational motion of said upright (20) and the consequent sliding of said body (6), for the passage from said closed configuration to said open configuration.
8. The lock according to claim 7, **characterized in that** said device (21) comprises a lever pivoted on a fulcrum (22) that is fixed to said shell (2) and extends parallel to said stem (17), said lever being substantially constituted by a contoured bar (23) pivoted on said fulcrum (22) at an intermediate portion thereof, said bar (23) forming, with an end portion thereof, a grip (24) that can be gripped by a person and, on the opposite side with respect to said fulcrum (22), an end appendage (25) provided with a contoured slot (26) for guiding a portion of tip of said upright (20), said portion of tip sliding on the contoured profile of said contoured slot (26) during the rotation of said lever, for the guided translational motion of said upright (20) and the consequent sliding of said body (6), for the passage from said closed configuration to said open configuration.

9. The lock according to claims 7 and 8, **characterized in that** said body (6) is provided with a pit (27), internally threaded, provided along its lateral surface, for the accommodation of a base portion, externally threaded, of said upright (20), for the stable coupling of said upright (20) and said body (6).
10. The lock according to claim 1, **characterized in that** said command element (10) is substantially constituted by an elongated peg (28), the base of said peg (28) being substantially wedge-shaped in order to abut against a corresponding inclined surface (29) provided along a flank of said body (6) on the opposite side with respect to said handle (5), a pressure on the tip of said peg (28) in a direction at least incident to the direction of sliding of said body (6) causing the sliding of said body (6) for the passage from said closed configuration to said open configuration.
11. The lock according to claim 1, **characterized in that** said command element (10) comprises a traction wire (30), accommodated with a first portion thereof, fixed to said spring latch (7), in an internal duct of said body (6), a second portion of said wire (30), on the opposite side to said spring latch (7), protruding into the compartment through an opening provided in either the door or the body and being capable of being gripped by a person located inside the compartment, a traction of said wire (30) by the person causing the sliding of said spring latch (7) for the passage from said closed configuration to said open configuration.
12. The lock according to one or more of the preceding claims, **characterized in that** said slideable body (6) comprises a first halfbody (6a), placed in contact with an end part of said command handle (5), and a second halfbody (6b), supporting said spring latch (7), on the opposite side with respect to said first halfbody (6a), said halfbodies (6a, 6b) being arranged aligned along the direction of sliding and being affected by mutual fastening means (31) operable by key, said halfbodies (6a, 6b) when mutually fastened being integrally slideable, said second halfbody (6b) being disengaged from said first halfbody (6a), and from said handle (5), upon the deactivation of said mutual fastening means (31).
13. The lock according to one or more of the preceding claims, **characterized in that** said mutual fastening means (31) comprise a thinned end tenon (32), extending from said first halfbody (6a) and capable of being accommodated, on the opposite side with respect to said spring latch (7), in a central mortise (33) provided on said second halfbody (6b) and delimited by two end arms, said tenon (32) being provided with a central hole (32a) aligned, when said tenon (32) is accommodated in said mortise (33), with at least one

counterhole (34) provided along at least one of said end arms, said mutual fastening means (31) comprising a dowel (35) that can be moved, perpendicularly to the direction of sliding, from a first limit position, in which said dowel (35) is inserted in said hole (32a) and in said at least one counterhole (34), for the mutual fastening of said halfbodies (6a, 6b), to a second limit position, in which said dowel (35) is inserted in said hole (32a) but not inserted in said counterhole (34), for the disengagement of said second halfbody (6b) from said first halfbody (6a) and from said handle (5).

14. The lock according to one or more of the preceding claims, **characterized in that** said fastening means (31) comprise a second rotating cam (36), operable by way of the key, said second cam (36) abutting against a pair of plates (37) fixed to the ends of a stem (38), movable perpendicularly to the direction of sliding, in a through slot (39) provided along said second halfbody (6b), said dowel (35) being fixed to one of said plates (37) for the passage from the first limit position to the second limit position, and vice versa, as a consequence of the rotation of said second cam (36) operable by way of the key.

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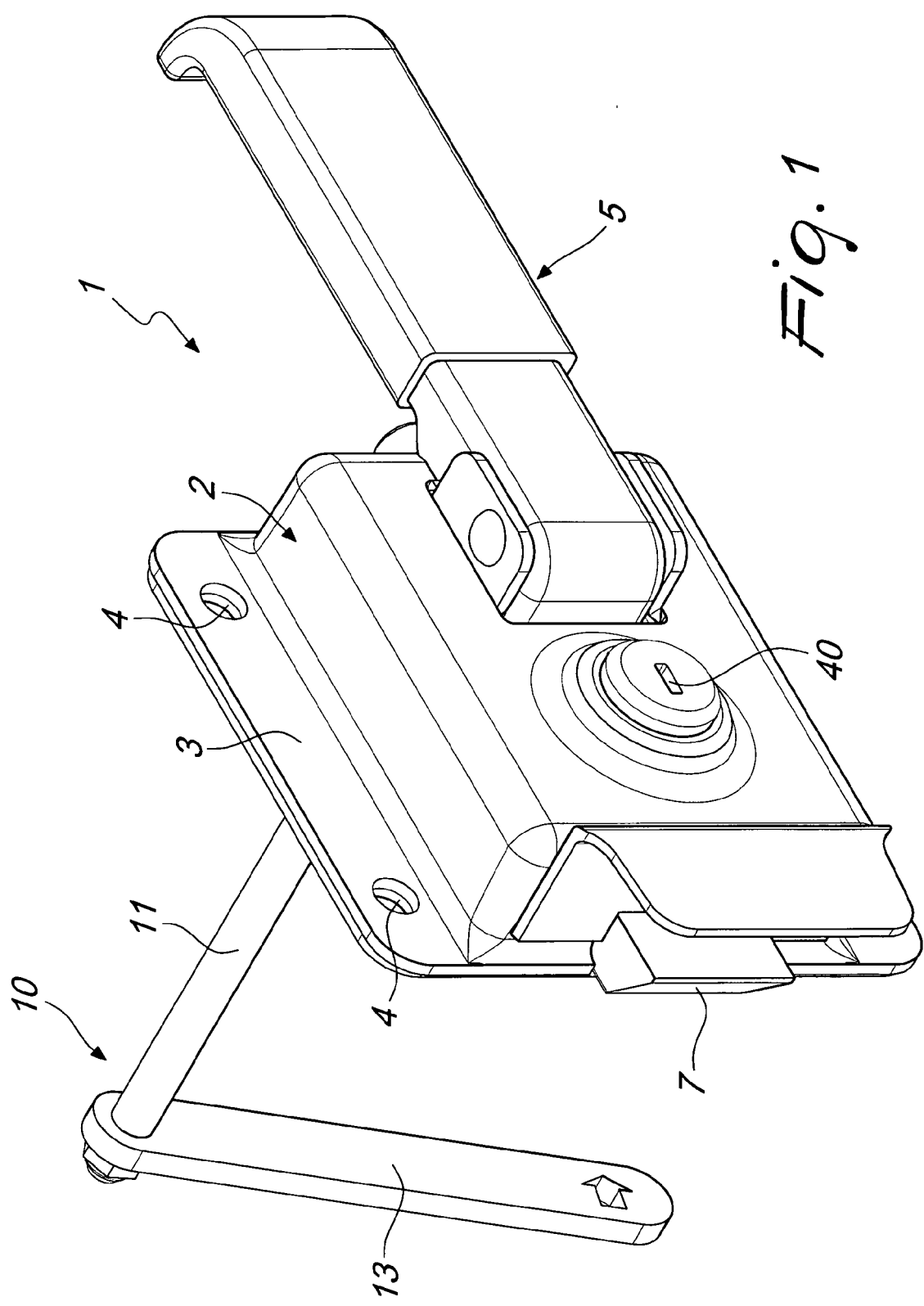
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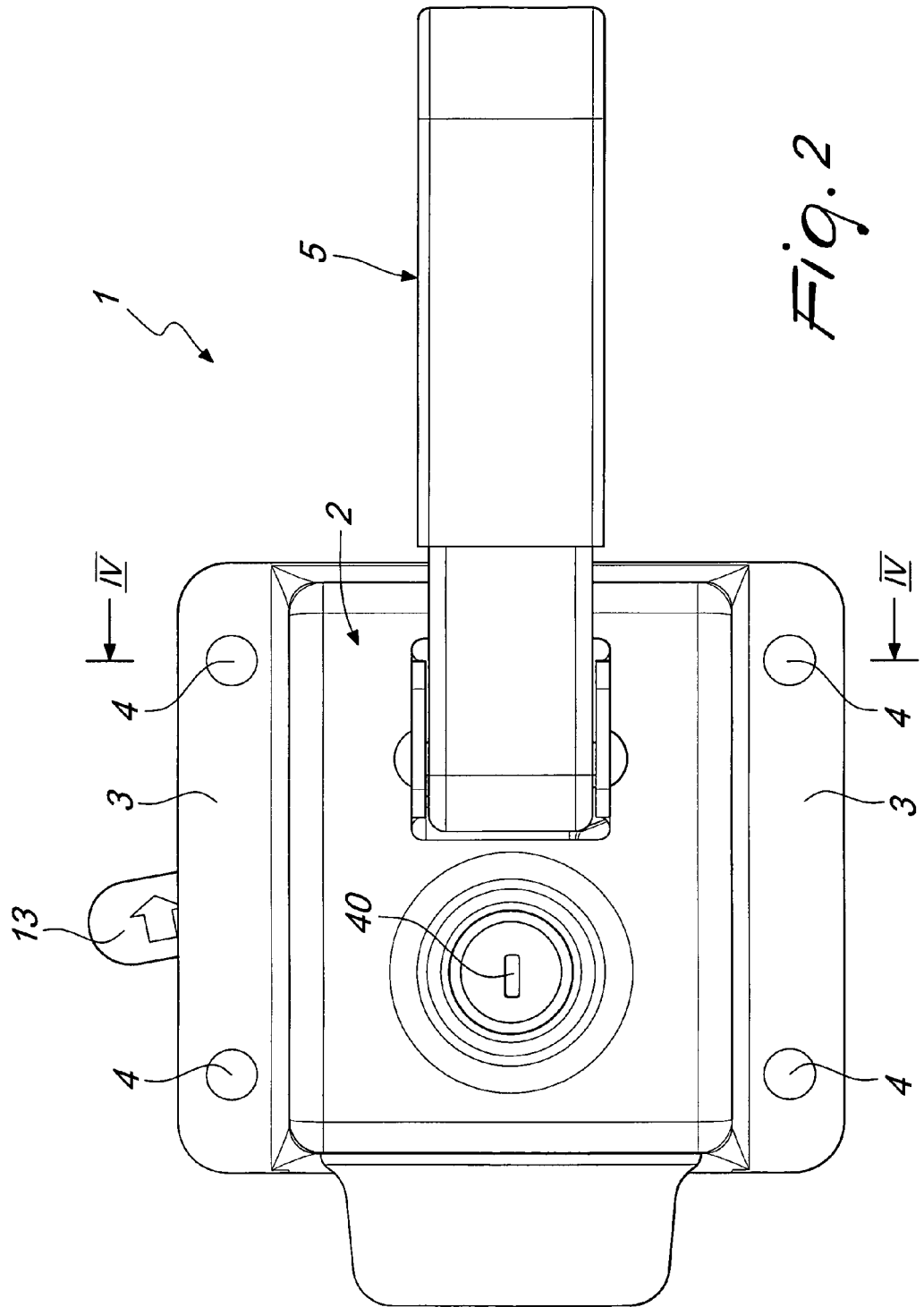
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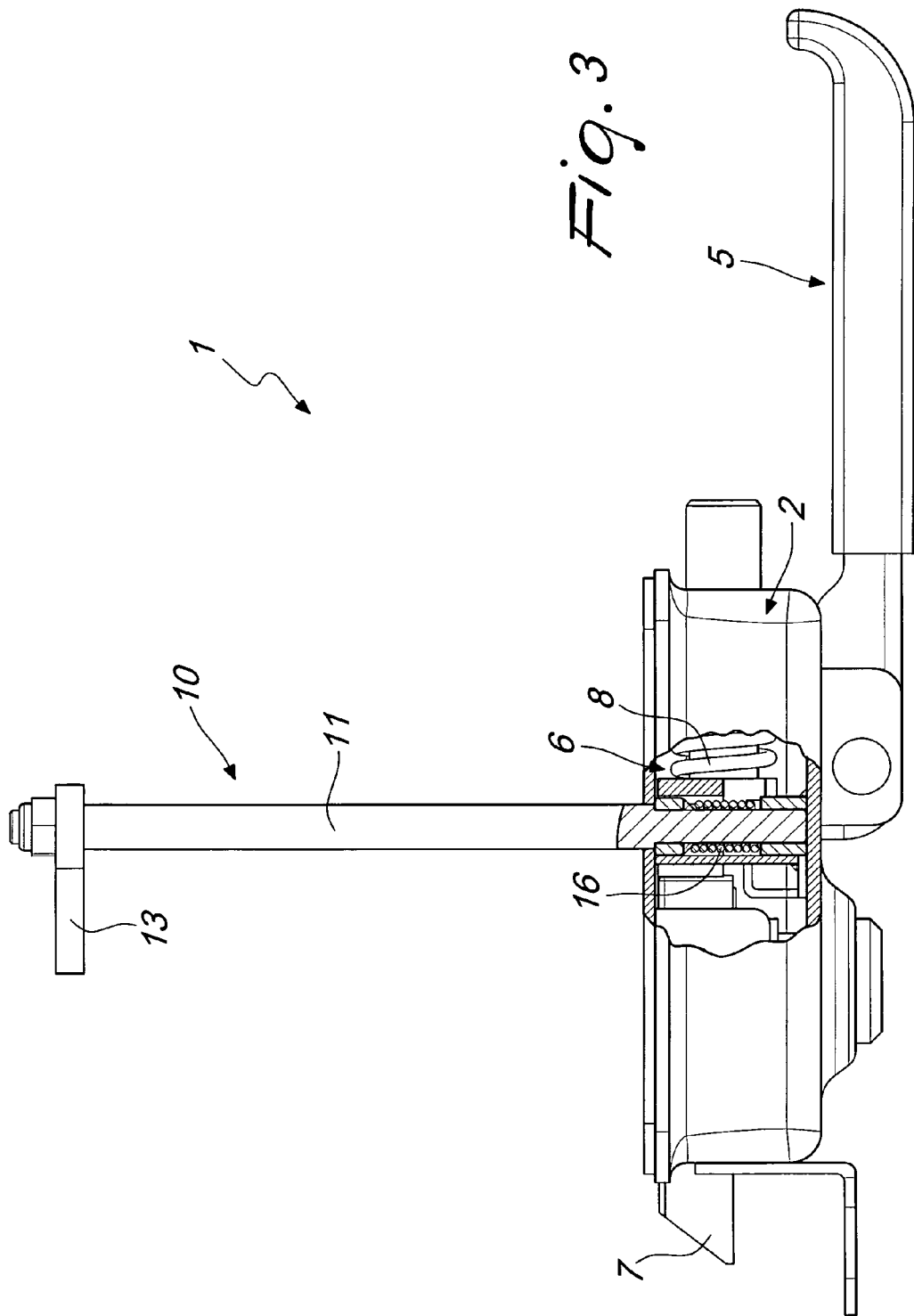
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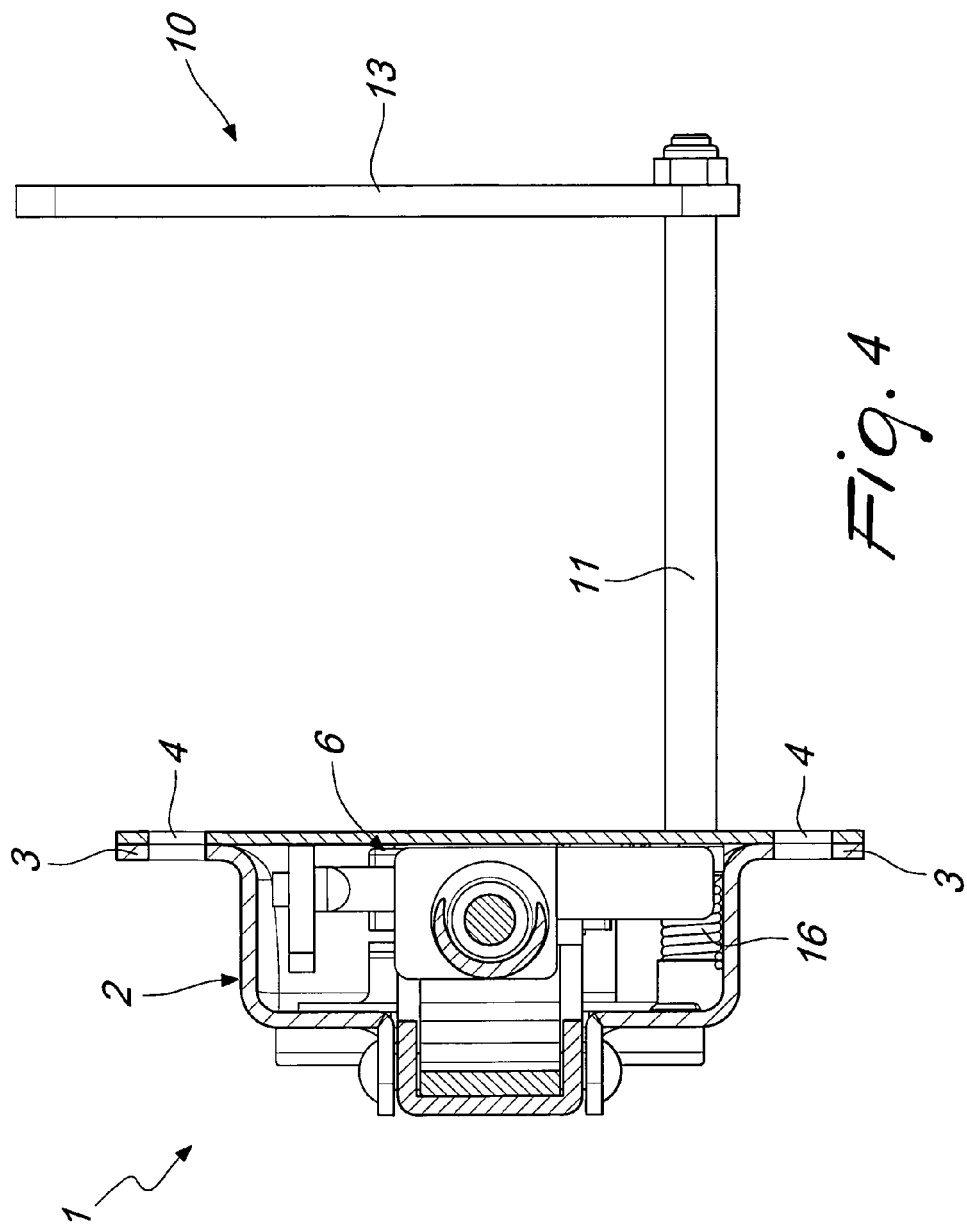
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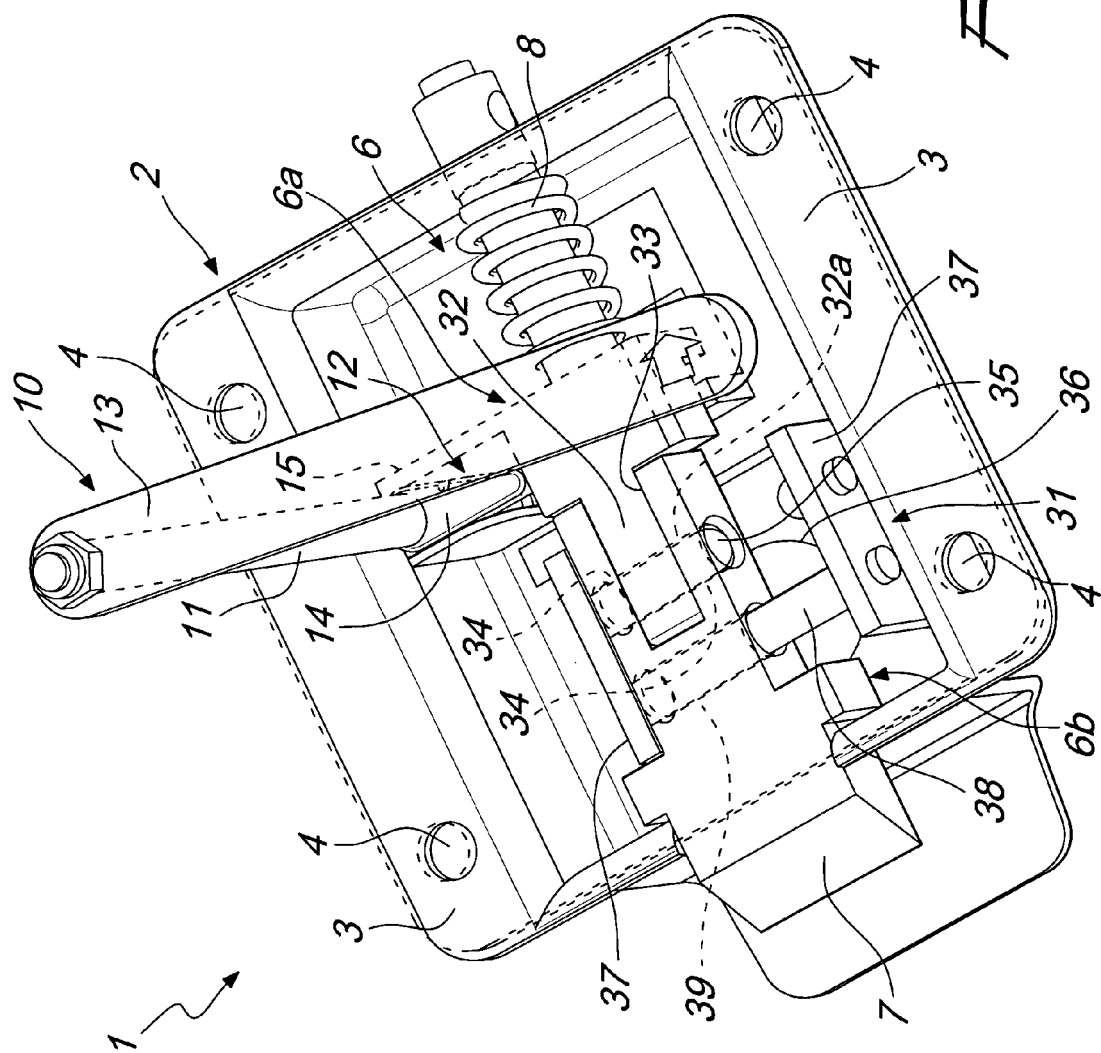


Fig. 5

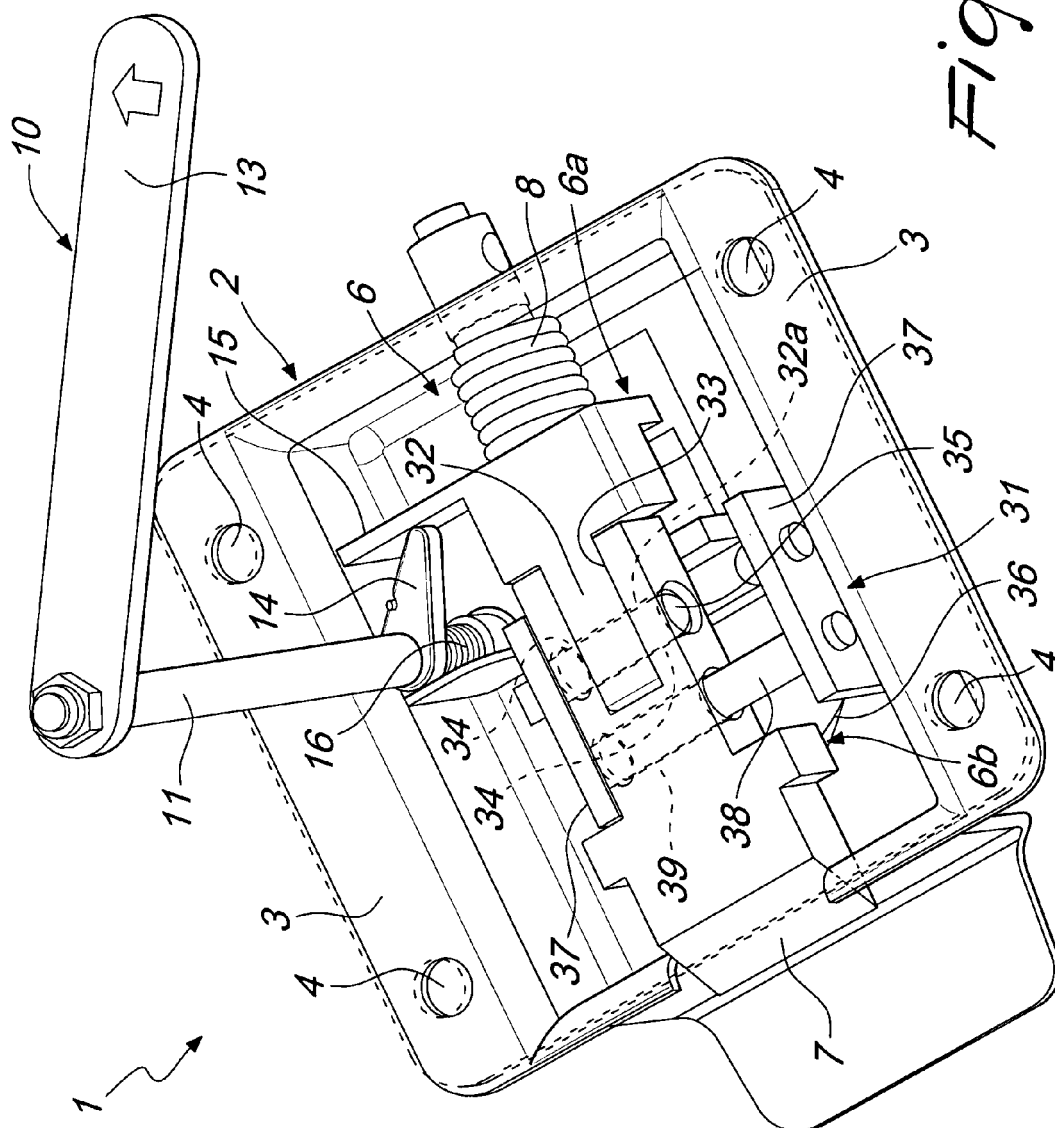
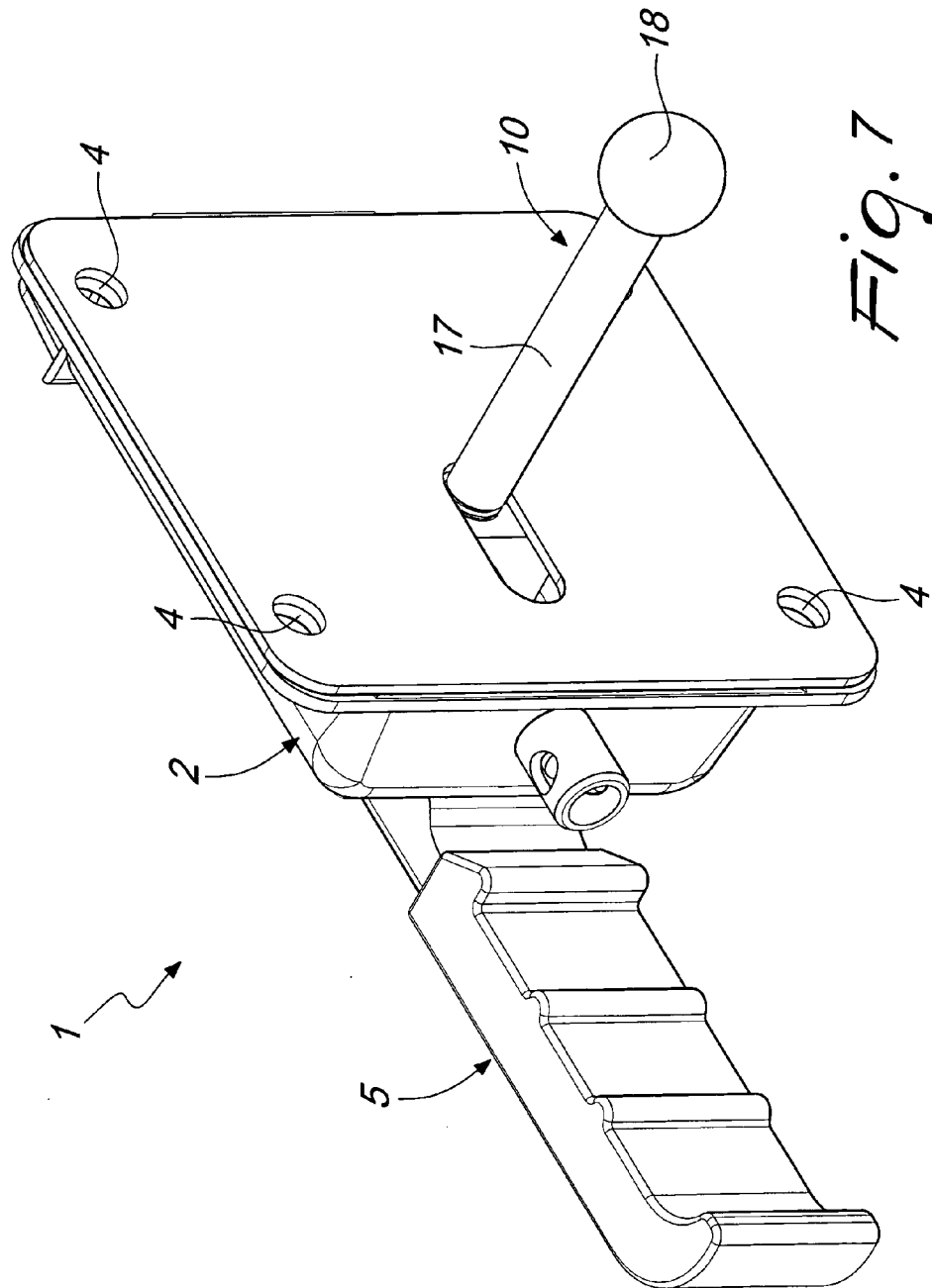
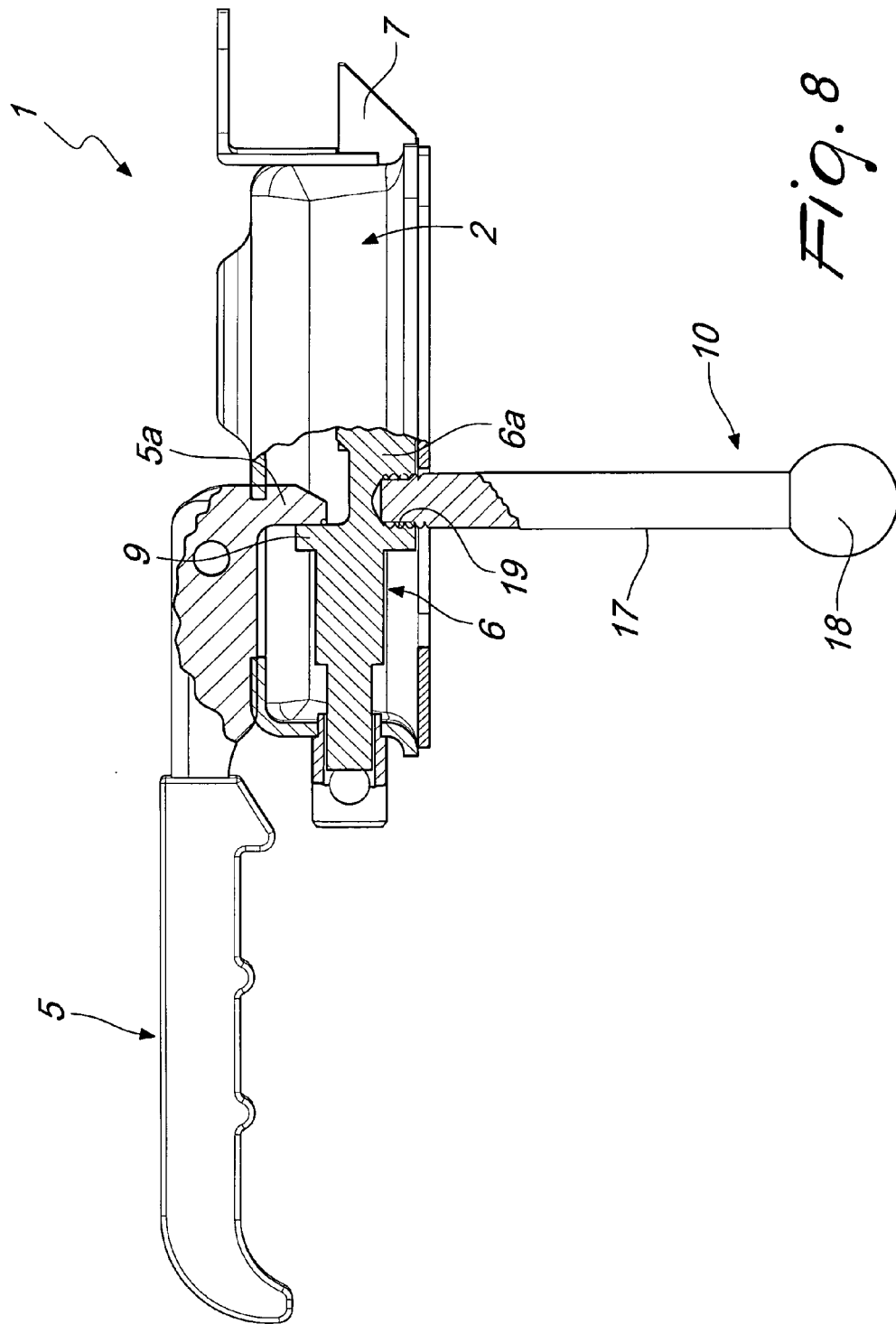
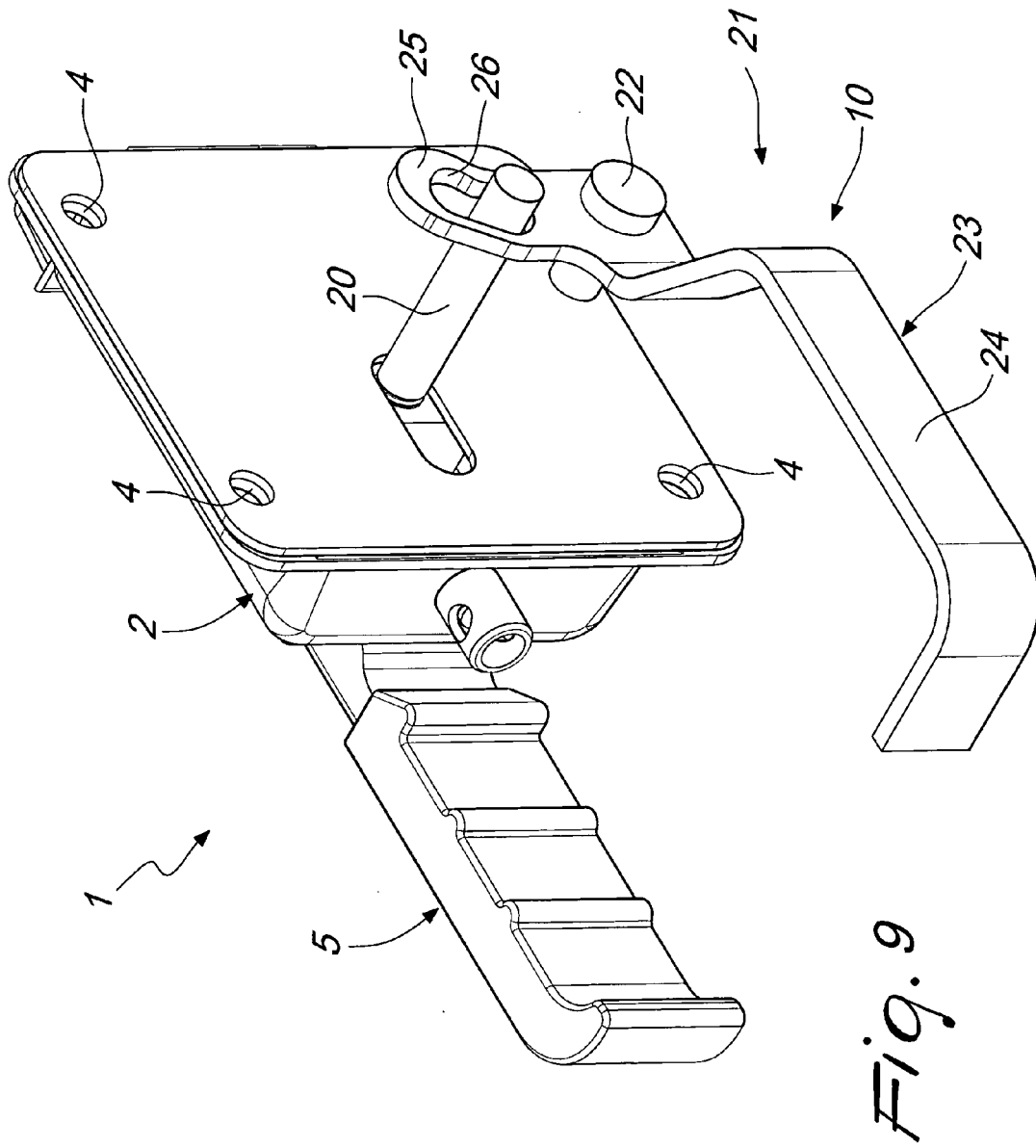
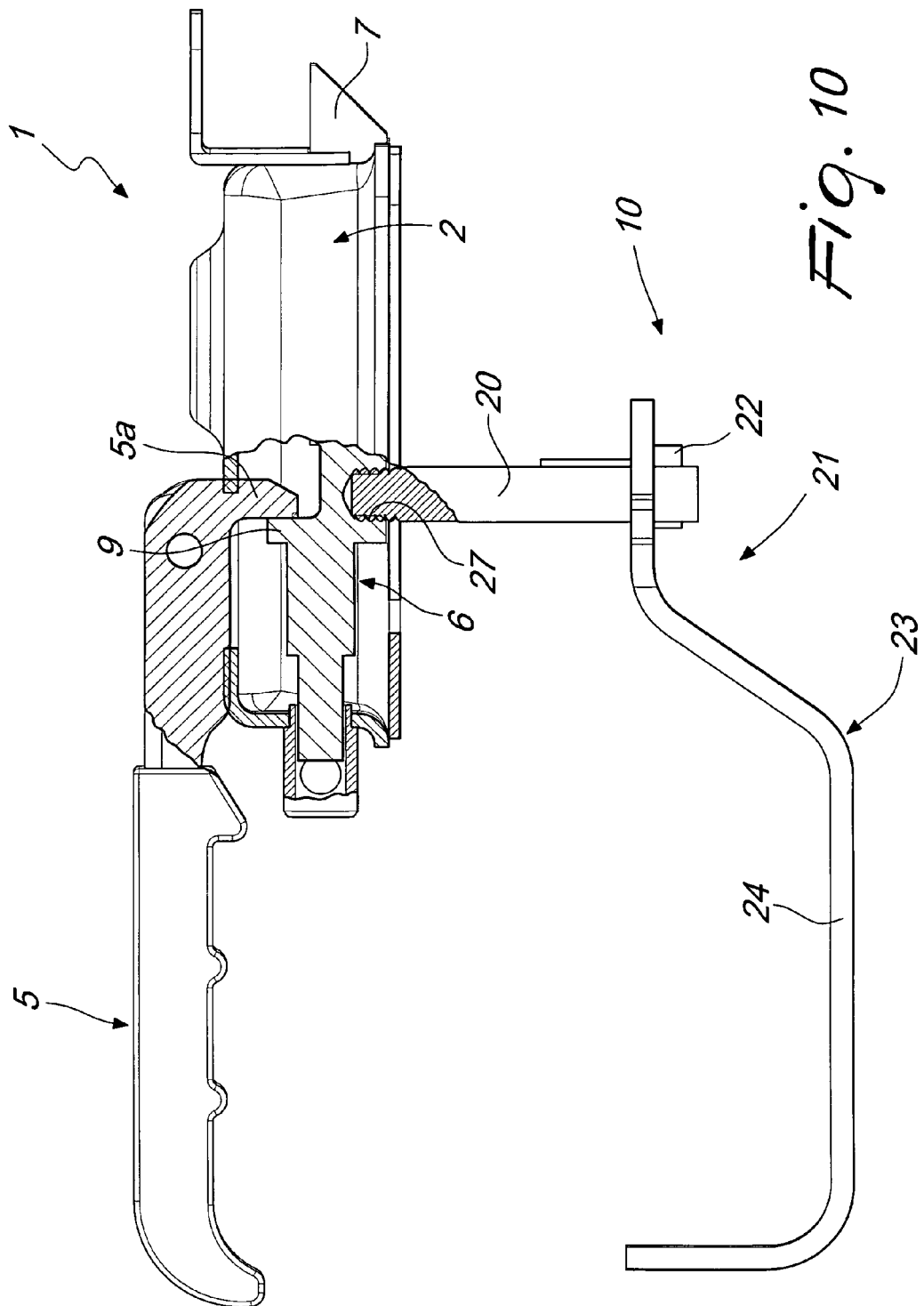


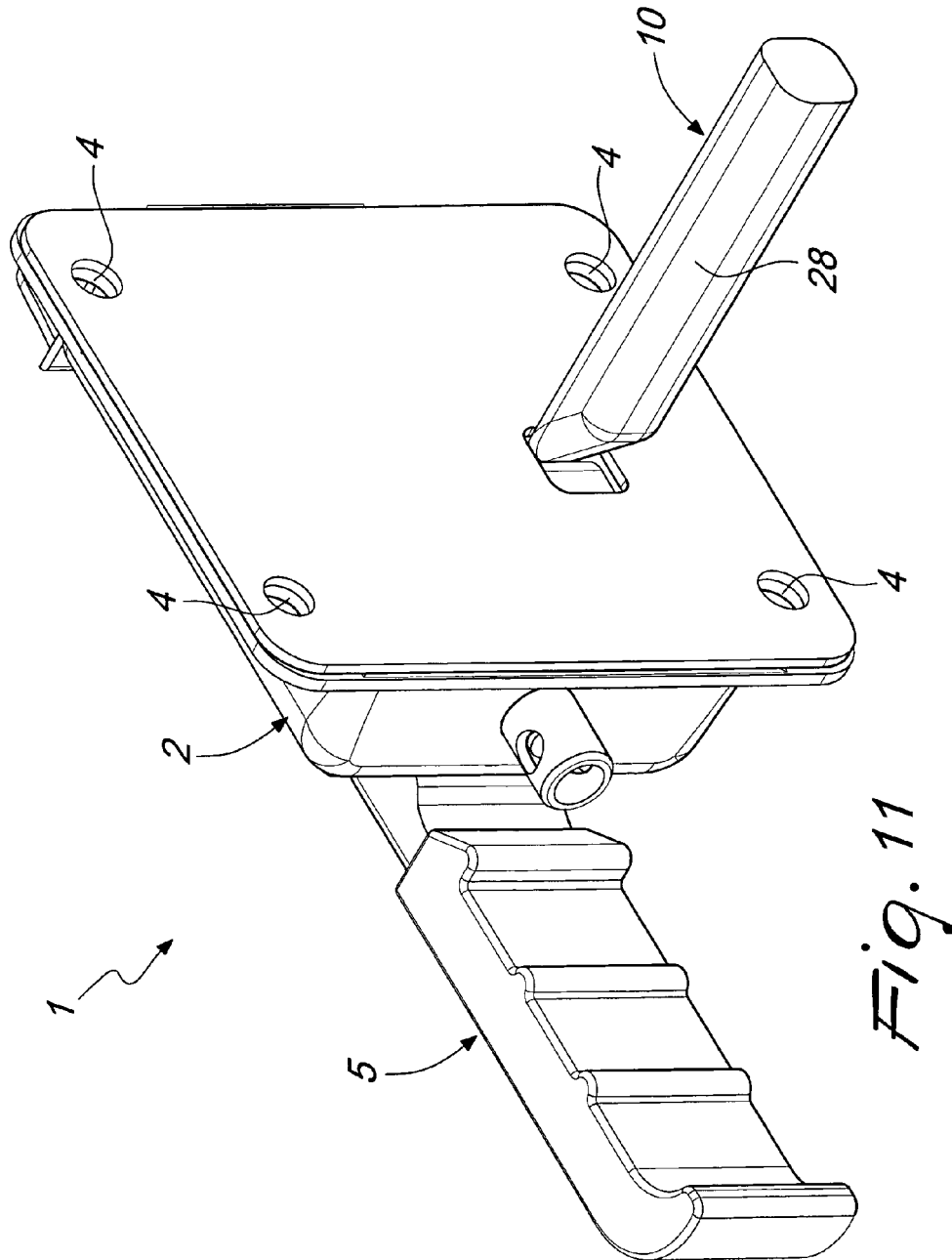
Fig. 6

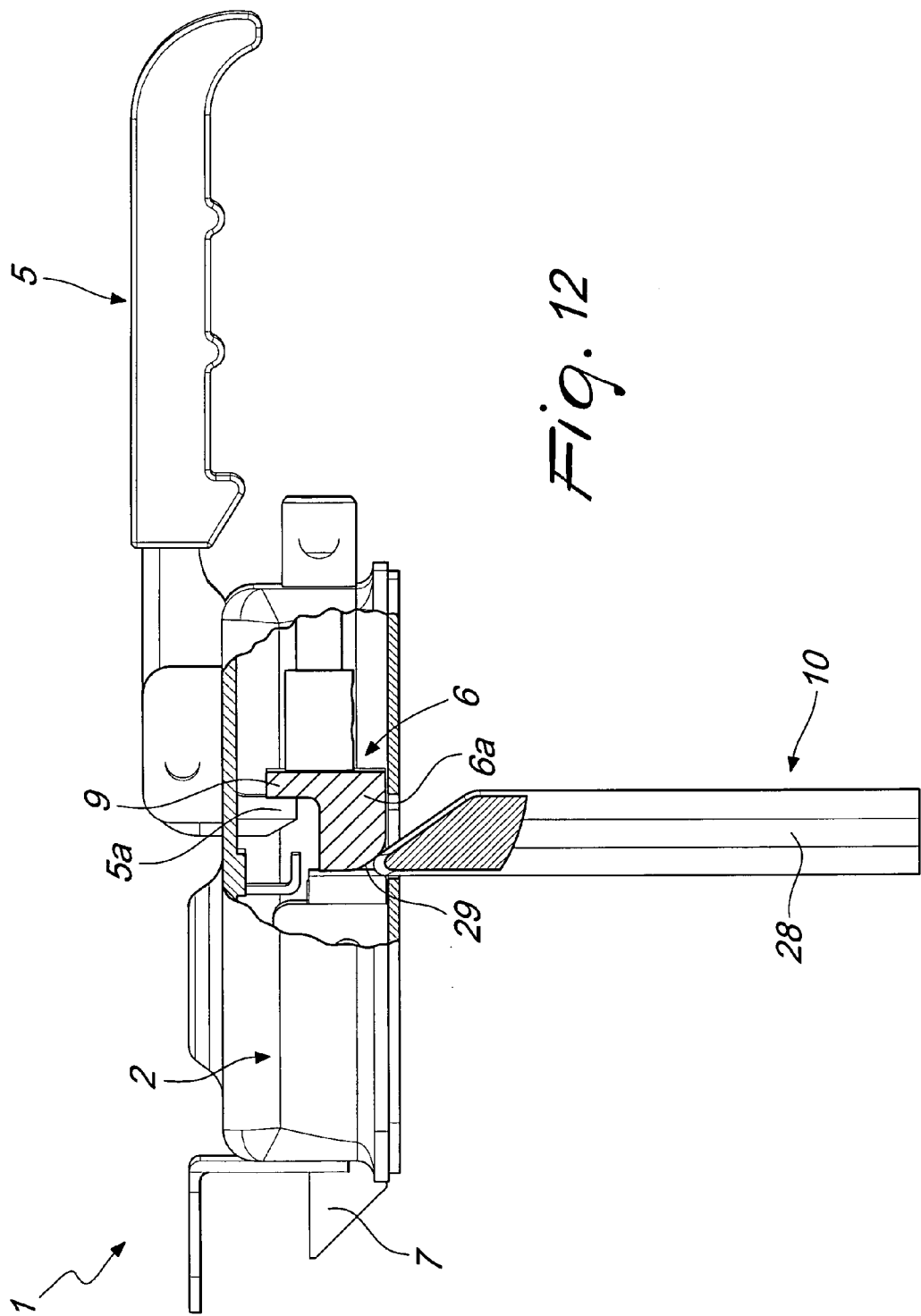


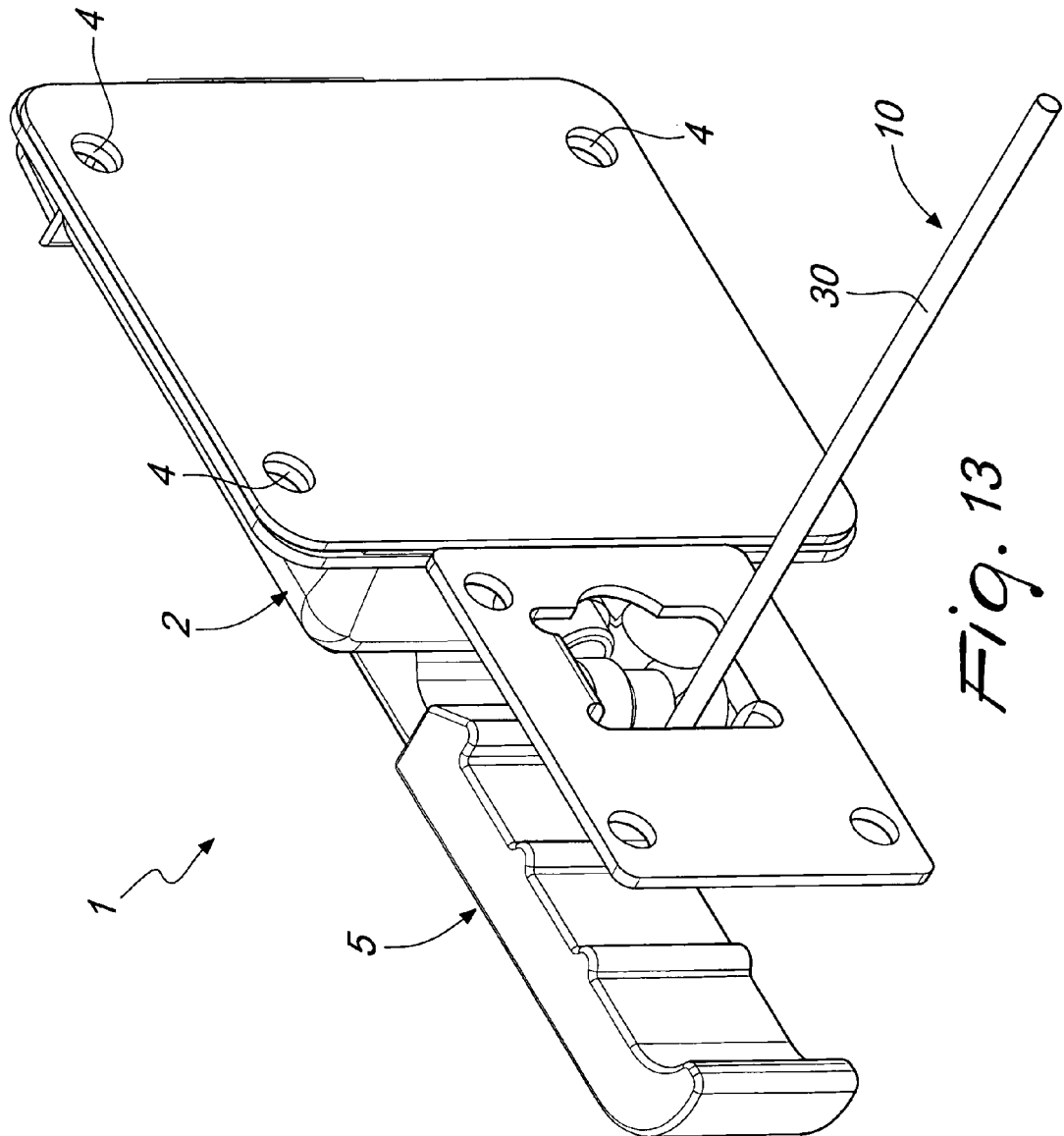


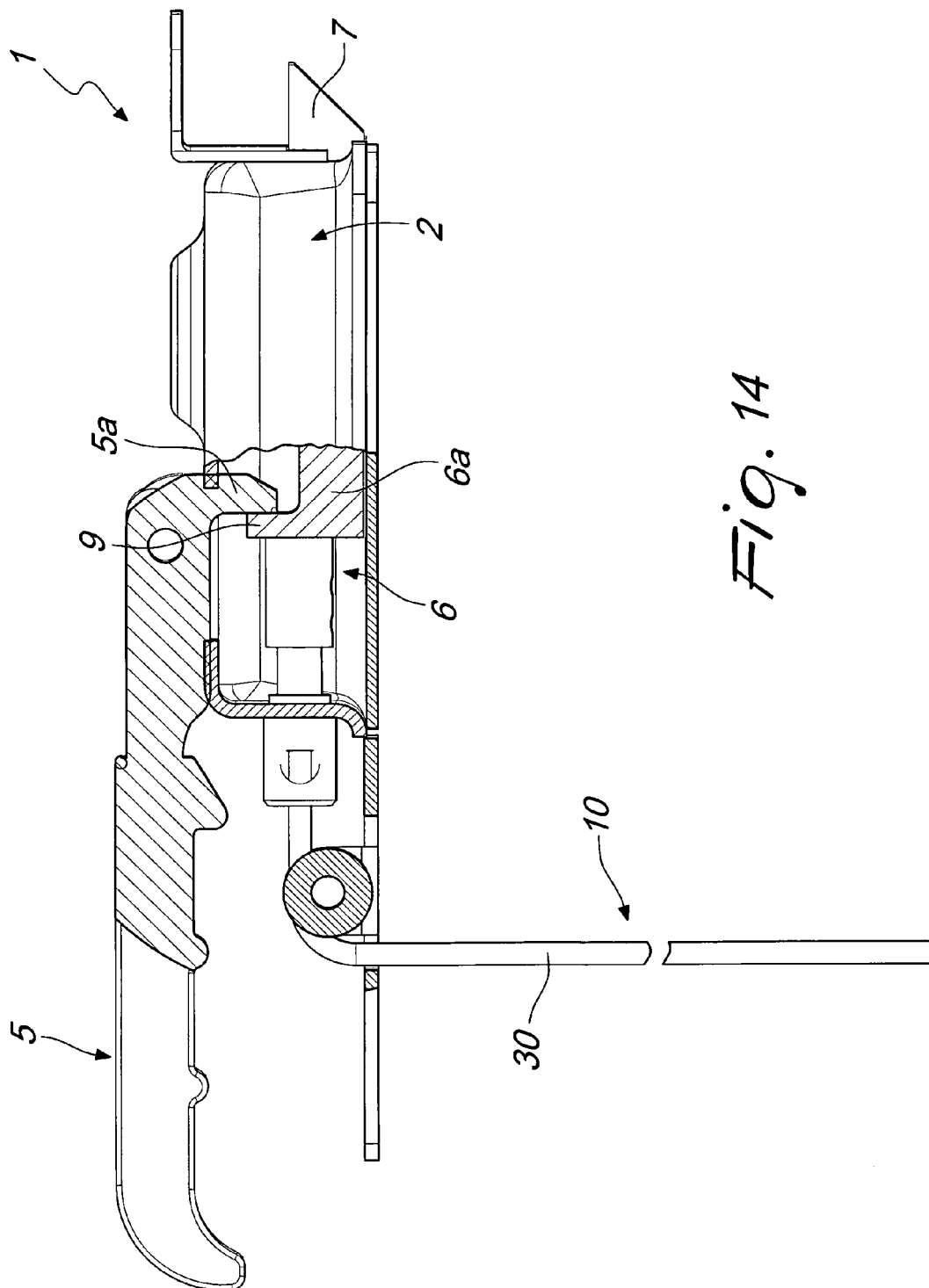














EUROPEAN SEARCH REPORT

Application Number
EP 11 42 5252

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Place of search The Hague		Date of completion of the search 23 April 2012	Examiner Ansel, Yannick
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