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# (54) DOOR/WINDOW LOCK WITH CONCEALABLE HANDLE

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VERROU DE PORTE/FENÊTRE DOTÉ D'UNE POIGNÉE POUVANT ÊTRE DISSIMULÉE

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## Description

### Cross-Reference to Related Applications

**[0001]** The present disclosure claims priority to Chinese Patent Application No. 202010072147.7, filed with the Chinese Patent Office on January 21, 2020, entitled "Door or Window Lock with Concealable Handle".

### Technical Field

**[0002]** The present disclosure pertains to the field of locks, and in particular relates to a door or window lock with a concealable handle.

### Background Art

**[0003]** A door lock is a device used for locking a door to prevent others from opening the door. There are many types of door locks. Different door locks are required in various occasions. The currently commercially available door locks basically have handles. The handle functions as a point on which a force acts when the user wants to open the door, so that the door can be opened by twisting the handle. However, such handle has some problems because it is exposed to the outside. For example, the handle is often easily damaged by external impact, or the surface of the handle is scratched to adversely affect the overall appearance, or even the handle may fall off due to an excessive external force or a problem occurs in the connection between the handle and the door lock, so that the door lock cannot be opened by the handle. Moreover, children running and playing, and people such as those lowered their heads to pick up things have often collided with the handles, which may cause some physiological harm to people who are not aware of protecting themselves.

**[0004]** Background art is disclosed in CN 105 401 787 A, EP 2 106 488 A1 and EP 3 290 623 A1.

### Summary

**[0005]** An object of the present invention is to propose a new technical solution for a door or window lock with a concealable handle, in order to ameliorate the above disadvantages of the prior art.

**[0006]** To achieve the above object, a door or window lock with a concealable handle according to the present invention comprises a handle component, a latch component, and a housing. The handle component includes a rotary handle and a concealing part. The rotary handle is provided with a mounting cavity. The concealing part is arranged at the bottom of the mounting cavity. The concealing part is fixed to the latch component and mounted inside the housing. The concealing part is configured to control the position of the rotary handle relative to the housing.

**[0007]** Here, the rotary handle is provided with a lock core. The lock core is fixed inside the mounting cavity and located above the concealing part. The bottom of the lock core is engaged with the concealing part. When the rotary handle is pressed to be concealed in the housing, the lock core is adjusted by the concealing part to a locked state. When the lock core is in an unlocked state, the rotary handle is partially ejected out of the housing by the concealing part.

**[0008]** The door or window lock with a concealable handle further comprises an adjusting sleeve. A first fixing limiting hole is provided in a side wall close to a bottom of the mounting cavity, and the concealing part is provided with an elastic extendable block.

**[0009]** The elastic extendable block includes a first limiting block, a second limiting block, and a return spring. The first limiting block is provided with an insertion pin, an engaging base, and an inclined restoring block. The second limiting block is in the same structure as the first limiting block. The first limiting block and the second limiting block are arranged opposite to each other. The return spring has two ends simultaneously sleeved on the insertion pins of the first limiting block and the second limiting block. The engaging base is engaged and fixed in the first fixing limiting hole, to lock the rotary handle to the adjusting cylinder. The bottom of the lock core is provided with a shift block which is configured to shift the inclined restoring blocks so that the first limiting block and the second limiting block are moved towards each other in opposite directions to unlock the rotary handle from the adjusting cylinder.

**[0010]** According to the invention, the latch component includes a latch and an adjusting part. A mounting hole is provided in the bottom of the housing. The adjusting part is arranged inside the housing. The adjusting part protrudes from the housing through the mounting hole and is connected fixedly to the latch. The adjusting part is configured to adjust the position of the latch.

**[0011]** According to the invention, the adjusting part includes an adjusting cylinder. One end of the adjusting cylinder is fixedly connected to the latch. The rotary handle is partially slidably fitted to an inner cavity of the adjusting cylinder in a direction in which the rotary handle is pressed or ejected, and the rotary handle is fixed relative to the adjusting cylinder in a direction of rotation of the rotary handle

**[0012]** According to the invention, the adjusting part further includes a positioning pin, an adjusting spring, and a mounting support. The inner cavity of the adjusting cylinder includes a spring cavity and a handle cavity configured to allow the handle component to be mounted therein. The handle cavity is configured such that the handle component is mounted therein. The spring cavity is arranged at the bottom of the handle cavity. An end of the spring cavity away from the handle cavity is in an open structure. A limiting slot is provided in a side wall of the spring cavity. The adjusting sleeve is sleeved outside the spring cavity. The adjusting spring is arranged in the spring cavity. One of the ends of the mounting support

is in contact with the adjusting spring. An adjustment limiting hole is provided in the end of the mounting support in contact with the adjusting spring. The positioning pin passes through both the limiting slot and the adjustment limiting hole. The adjusting sleeve is fixedly assembled with the housing to form an "L"-shaped groove which is configured to limit a path of movement of the positioning pin. The other end of the mounting support away from the adjusting spring is fixedly connected to the latch.

**[0013]** According to the invention, the mounting cavity is provided in a hollow cylindrical structure with an upper opening. A second fixing limiting hole is provided at a corresponding position of the handle cavity. The elastic extendable block is fixed at an inner bottom of the mounting cavity and is slidably fitted in the first fixing limiting hole. The lock core is engaged and fixed on the top of the elastic extendable block. The lock core is configured to control an extended or retracted state of the elastic extendable block.

**[0014]** In one of the embodiments, a push-out spring is arranged between an outer bottom of the mounting cavity and an inner bottom of the handle cavity. A positioning protrusion is arranged on an outer side wall of the mounting cavity. A positioning slot extending in the direction in which the rotary handle is pressed or ejected is provided at a corresponding position of the handle cavity. The positioning protrusion fixes the rotary handle in the positioning slot.

**[0015]** In one of the embodiments, the lock core includes a rotary lock head and a rotary lock disk. The rotary lock head is provided with a key insertion hole. A shift lever is arranged at the bottom of the rotary lock head. A shift lever groove is provided in a surface of the rotary lock disk close to the shift lever. The shift lever is plugged and fixed in the shift lever groove. The shift block is fixed at the bottom of the rotary lock disk. The rotary lock head and the rotary lock disk are moved synchronously under the action of the shift lever and the shift lever groove.

**[0016]** In one of the embodiments, two projecting blocks are arranged on an inner side wall of the housing at positions corresponding to the adjusting sleeve. The adjusting sleeve is in a cylindrical structure opened at both ends. A first notch corresponding to one of the two projecting blocks is provided in a side wall of the adjusting sleeve. A second notch is provided beside the first notch. The second notch has a width greater than or equal to a diameter of the positioning pin, and the second notch has a height lower than that of the first notch. The "L"-shaped groove is formed by the first notch, the second notch, and one of the two projecting blocks. The two "L"-shaped grooves are provided.

**[0017]** In one of the embodiments, the mounting support is provided with a cuboid-shaped limiting region at its end away from the adjusting spring. The latch is provided with a corresponding rectangular hole, which is sleeved on the cuboid-shaped limiting region.

**[0018]** In one of the embodiments, the spring cavity has a diameter smaller than that of the handle cavity. A groove is provided around (or outside) a position of the spring cavity connected to the handle cavity. A rubber ring is arranged in the groove.

**[0019]** In one of the embodiments, the door or window lock with a concealable handle further includes a circlip. The spring cavity is provided with a circlip groove at its end close to the mounting support. The circlip is mounted in the circlip groove. An end of the circlip away from the latch is in contact with the fixing sleeve.

**[0020]** In one of the embodiments, the latch is fixed to the mounting support by a fixing screw. An end of the circlip away from the fixing screw is in contact with the fixing sleeve.

**[0021]** In one of the embodiments, the mounting support is provided with a screw hole at its end away from the adjusting spring. The latch is provided with a through hole. The fixing screw passes through the through hole and is locked into the screw hole.

**[0022]** In one of the embodiments, the housing includes a fixing sleeve and a fixing panel. The fixing sleeve and the fixing panel are integrally molded. The fixing panel is configured to fix the housing to a door panel.

**[0023]** The embodiments of the present invention include the following advantageous effects.

**[0024]** In this technical solution, the rotary handle can be concealed by the cooperation of the rotary handle with the concealing part. When it is necessary to open the door, the rotary handle can be unlocked by the concealing part by rotating the lock core, so that the rotary handle is partially ejected out of the housing so as to be held by the user. When there is no need to open the door, the rotary handle can be pressed to be concealed in the housing, thereby ameliorating the problems of the prior art door locks with unconcealable handles which protrude outside so as to be easily damaged or cause potential safety hazards.

## Brief Description of the Drawings

**[0025]** In order to more clearly illustrate technical solutions of the embodiments of the present invention or of the prior art, drawings required for use in the description of the embodiments or the prior art will be described briefly below. It is obvious that the drawings in the following description are merely illustrative of some embodiments of the present invention.

FIG. 1 is an exploded view of a door or window lock with a concealable handle according to an embodiment of the present invention;

FIG. 2 is a schematic structural view of a rotary handle and an adjusting cylinder according to an embodiment of the present invention;

FIG. 3 is a schematic structural view of an elastic

extendable block and a lock core according to an embodiment of the present invention;

FIG. 4 is a schematic structural view of a rotary lock disk according to an embodiment of the present invention;

FIG. 5 is a schematic structural view of an adjusting part according to an embodiment of the present invention;

FIG. 6 is a schematic structural view of a rotary handle according to an embodiment of the present invention;

FIG. 7 is a schematic structural view, from a first perspective, of a fixing sleeve according to an embodiment of the present invention;

FIG. 8 is a schematic structural view, from a second perspective, of a fixing sleeve according to an embodiment of the present invention; and

FIG. 9 is a schematic view showing mounting of a door or window lock according to an embodiment of the present invention.

**[0026]** Reference Numerals: housing 1, fixing sleeve 101, first boss 1011, second boss 1012, fixing panel 102, mounting hole 103, latch component 2, latch 201, adjusting part 202, handle component 3, rotary handle 301, concealing part 302, mounting cavity 304, lock core 305, adjusting cylinder 203, adjusting sleeve 204, "L"-shaped groove 2041, positioning pin 205, adjusting spring 206, mounting support 207, handle cavity 208, spring cavity 209, limiting slot 210, adjustment limiting hole 211, first fixing limiting hole 306, second fixing limiting hole 212, elastic extendable block 307, push-out spring 308, positioning protrusion 309, positioning slot 310, first limiting block 311, second limiting block 312, return spring 313, insertion pin 3111, engaging base 3112, inclined restoring block 3113, shift block 3051, rotary lock head 3052, rotary lock disk 3053, shift lever 3054, shift lever groove 3055, first notch 2042, second notch 2043, groove 213, rubber ring 214, circlip 4, circlip groove 41, fixing screw 5, cuboid-shaped limiting region 6, rectangular hole 61, key 7.

**Detailed Description of the Embodiments**

**[0027]** The technical solutions of the embodiments of the present invention will be described below clearly and completely with reference to the accompanying drawings of the embodiments of the present invention. It is apparent that the embodiments to be described are some, but not all of the embodiments of the present invention.

**[0028]** All the other embodiments obtained by those of ordinary skill in the art in light of the embodiments of the present disclosure without inventive efforts will fall within the scope of the present invention as claimed.

**[0029]** It should be noted that all directional indications (such as up, down, left, right, front, back...) in the embodiments of the present disclosure are merely intended to explain, for example, the relative positional relationships and movements between components in a specific posture (as shown in the drawings). If the specific posture is changed, the directional indications will also be changed accordingly.

**[0030]** In the present disclosure, the terms "connect", "fix", and the like should be understood broadly unless otherwise expressly specified or defined. For example, connection may be fixed connection or detachable connection or integral connection, may be mechanical connection or electric connection, or may be direct coupling or indirect coupling via an intermediate medium or internal communication between two elements or mutual interaction between two elements, unless otherwise expressly defined. The specific meanings of the above-mentioned terms in the present disclosure can be understood by those of ordinary skill in the art according to specific situations.

**[0031]** In addition, the technical solutions of the various embodiments of the present invention can be combined with each other, provided that such combinations are defined in the appended claims and implementable by those of ordinary skill in the art. When a combination of technical solutions is contradictory or not implementable, it should be considered that this combination of technical solutions does not exist and does not fall within the scope of the present disclosure as claimed.

First Embodiment:

**[0032]** Referring to FIGS. 1 to 9, an embodiment of the present invention provides a door or window lock with a concealable handle, which includes a housing 1, a latch component 2, and a handle component 3. The housing 1 includes a fixing sleeve 101 and a fixing panel 102. The fixing sleeve 101 and the fixing panel 102 are integrally molded. The fixing panel 102 is configured to fix the housing 1 to a door panel.

**[0033]** The latch component 2 includes a latch 201 and an adjusting part 202. A mounting hole 103 is provided in the bottom of the fixing sleeve 101. The adjusting part 202 is arranged inside the fixing sleeve 101, and the adjusting part 202 has an adjusting end protruding from the fixing sleeve 101 through the mounting hole 103 and connected and fixed to the latch 201. The adjusting part 202 is configured to adjust the position of the latch 201.

**[0034]** The handle component 3 includes a rotary handle 301 and a concealing part 302. A mounting cavity 304 is provided in the top surface of the rotary handle 301. The concealing part 302 is arranged at the bottom of the mounting cavity 304. The concealing part 302 is circumferentially fixed to the adjusting part 202 and mounted inside the fixing sleeve 101. The concealing part 302 is

configured to control the relative position of the rotary handle 301 relative to the fixing sleeve 101. Here, the rotary handle 301 is provided with a lock core 305. The lock core 305 is fixed inside the mounting cavity 304 and located above the concealing part 302. The bottom of the lock core 305 is engaged with the concealing part 302. When the rotary handle 301 is pressed to be concealed in the fixing sleeve 101, the lock core 305 is adjusted by the concealing part 302 to a locked state. When the lock core 305 is in an unlocked state, the rotary handle 301 is partially ejected out of the fixing sleeve 101 by the concealing part 302.

**[0035]** Optionally, in this embodiment, the adjusting part 202 includes an adjusting cylinder 203. One end of the adjusting cylinder 203 is fixedly connected to the latch 201, and the latch 201 is located below the adjusting cylinder 203. The rotary handle 301 is partially slidably fitted to the inner cavity of the adjusting cylinder 203 in a direction in which the rotary handle 301 is pressed or ejected, and the rotary handle 301 is fixed relative to the adjusting cylinder 203 in a direction of rotation of the rotary handle 301.

**[0036]** The adjusting part further includes an adjusting sleeve 204, a positioning pin 205, an adjusting spring 206, and a mounting support 207. The inner cavity of the adjusting cylinder 203 includes a spring cavity 209 and a handle cavity 208 configured to allow the handle component 3 to be mounted therein. The handle cavity 208 is configured such that the handle component 3 is mounted therein. The spring cavity 209 is arranged at the bottom of the handle cavity 208. An end of the spring cavity 209 away from the handle cavity 208 is in an open structure. A limiting slot 210 is provided in the side wall of the spring cavity 209. The adjusting sleeve 204 is sleeved outside the spring cavity 209. The adjusting spring 206 is arranged in the spring cavity 209. One of the ends of the mounting support 207 is brought into contact with the adjusting spring 206. An adjustment limiting hole 211 is provided in the end of the mounting support 207 in contact with the adjusting spring 206. The positioning pin 205 passes through both the limiting slot 210 and the adjustment limiting hole 211. The adjusting sleeve 204 is fixedly assembled with the fixing sleeve 101 to form an "L"-shaped groove 2041 (See FIGS. 7 and 8 for details. A first boss 1011 and a second boss 1012 opposite to each other and both being in a tile shape are arranged on the inner side surface of the bottom of the fixing sleeve 101, and the "L"-shaped groove 2041 is formed by the first boss 1011 and the second boss 1012 together with the adjusting sleeve 204). The "L"-shaped groove 2041 is configured to limit a path of movement of the positioning pin 205. The other end of the mounting support 207 away from the adjusting spring 206 is fixedly connected to the latch 201.

**[0037]** Optionally, the mounting cavity 304 is provided as a hollow cylindrical structure with an upper opening. A first fixing limiting hole 306 is provided in a side wall close to the bottom of the mounting cavity 304. A second fixing limiting hole 212 is provided at a corresponding position of the handle cavity 208. The concealing part 302 is provided with an elastic extendable block 307. The elastic extendable block 307 is fixed at the inner bottom of the mounting cavity 304 and is slidably fitted in the first fixing limiting hole 306. The lock core 305 is engaged and fixed on the top of the elastic extendable block 307. The lock core 305 is configured to control an extended or retracted state of the elastic extendable block 307. A push-out spring 308 is arranged between the outer bottom of the mounting cavity 304 and the inner bottom of the handle cavity 208. A positioning protrusion 309 is arranged on an outer side wall of the mounting cavity 304. A positioning slot 310 extending in the direction in which the rotary handle 301 is pressed or ejected is provided at a corresponding position of the handle cavity 208. The positioning protrusion 309 fixes the rotary handle 301 in the positioning slot 310. Synchronous movements of the rotary handle 301 and the adjusting part 202 are limited by the positioning protrusion 309 and the positioning slot 310.

**[0038]** According to the invention, the elastic extendable block 307 includes a first limiting block 311, a second limiting block 312, and a return spring 313. The first limiting block 311 is provided with an insertion pin 3111, an engaging base 3112, and an inclined restoring block 3113. The second limiting block 312 is in the same structure as the first limiting block 311. The first limiting block 311 and the second limiting block 312 are arranged opposite to each other. The return spring 313 has two ends simultaneously sleeved around the insertion pins 3111 of the first limiting block 312 and the second limiting block 312. The engaging base 3112 is engaged and fixed in the first fixing limiting hole 306 to lock the rotary handle 301 to the adjusting cylinder 203. The bottom of the lock core 305 is provided with a shift block 3051. The shift block 3051 is configured to shift the inclined restoring blocks 3113 so that the first limiting block 311 and the second limiting block 312 are moved towards each other in opposite directions to unlock the rotary handle 301 from the adjusting cylinder 203.

**[0039]** Optionally, the lock core 305 includes a rotary lock head 3052 and a rotary lock disk 3053. The rotary lock head 3052 is provided with a key insertion hole (not shown). A shift lever 3054 is arranged at the bottom of the rotary lock head 3052. A shift lever groove 3055 is provided in a surface of the rotary lock disk 3053 close to the shift lever 3054. The shift lever 3054 is plugged and fixed in the shift lever groove 3055. The shift block 3051 is fixed at the bottom of the rotary lock disk 3053. The rotary lock head 3052 and the rotary lock disk 3053 are moved synchronously under the action of the shift lever 3054 and the shift lever groove 3055.

**[0040]** Optionally, fixing screw holes (not shown) are provided in the fixing panel 102. At least two fixing screw holes are provided. A first boss 1011 and a second boss 1012 are arranged on the inner side wall of the fixing sleeve 101 at positions corresponding to the adjusting

sleeve 204. The adjusting sleeve 204 has a cylindrical structure opened at both ends. A first notches 2042 corresponding to the first boss 1011 and the second boss 1012 is provided in the side wall of the adjusting sleeve 204. A second notch 2043 is provided beside the first notch 2042. The second notch 2043 has a width greater than or equal to a diameter of the positioning pin 205, and the second notch 2043 has a height lower than that of the first notch 2042. The "L"-shaped groove 2041 described above is formed by the first notch 2042, the second notch 2043, together with one of the first boss 1011 and the second boss 1012. Two "L"-shaped grooves 2041 are provided.

**[0041]** Optionally, the limiting slot 210 is of a " Γ "-shape.

**[0042]** Optionally, the spring cavity 209 has a diameter smaller than that of the handle cavity 208. A groove 213 is provided around a portion of the spring cavity 209 connected to the handle cavity 208. A rubber ring 214 is arranged in the groove 213.

**[0043]** Optionally, this door or window lock with a concealable handle further includes a circlip 4. The spring cavity 209 is provided with a circlip groove 41 at its end close to the mounting support 207. The circlip 4 is mounted in the circlip groove 41. An end of the circlip 4 away from the latch 201 is brought into contact with the fixing sleeve 101.

**[0044]** The latch 201 is fixed to the mounting support 207 by a fixing screw 5. An end of the circlip 4 away from the fixing screw 5 is in contact with the fixing sleeve 101. Further, the mounting support 207 is provided with a screw hole at its end away from the adjusting spring 206. The latch 201 is provided with a through hole. The fixing screw 5 passes through the through hole and is locked into the screw hole.

**[0045]** Optionally, the mounting support 207 is provided with a cuboid-shaped limiting region 6 at its end away from the adjusting spring 206. The latch 201 is provided with a corresponding rectangular hole 61. The rectangular hole 61 is sleeved on the cuboid-shaped limiting region 6. The mounting support 207 and the latch 201 can be fixed circumferentially to each other by fitting the cuboid-shaped limiting region 6 in the rectangular hole 61, so that the latch 201 is driven to rotate synchronously when the mounting support 207 rotates.

Operating Principle:

**[0046]** A key 7 is inserted into the lock core 305. When the key 7 is turned, the key 7 will drive the lock core 305 to shift the elastic extendable block 307. In other words, the inclined restoring blocks 3113 of the first limiting block 311 and the second limiting block 312 are pushed by the shift block 3051, so that the first limiting block 311 and the second limiting block 312 are moved towards each other in opposite directions. At this time, the engaging bases 3112 of the first limiting block 311 and the second limiting block 312 are retracted inwardly and then unfixed from the second fixing limiting hole 212, respectively. At the same time, the rotary handle 301 is pushed out of the surface of the fixing sleeve 101 under the action of the push-out spring 308. At this time, the latch 201 may be controlled by rotating the rotary handle 301 by the following control process. In the initial state, the latch 201 and the rotary handle 301 are both in a horizontal state. When the rotary handle 301 is rotated to a position at an angle of 90 degrees relative to the horizontal line, the latch 201 is also positioned at an angle of 90 degrees and limits the position of the door panel. At this time, the internal positioning pin 205 in this door or window lock is rotated by 90 degrees along a path defined by the bottom horizontal groove position of the "L"-shaped groove formed by the adjusting sleeve 204 and the housing 1.

**[0047]** Further, the rotary handle 301 is rotated to a position at an angle of 180 degrees from the initial state. During this process, the internal positioning pin 205 will be pushed by the projecting blocks inside the housing 1 into the limiting slot 210 and then be positioned by the limiting slot 210.

**[0048]** When the adjustment of the latch 201 is completed and the rotary handle 301 needs to be concealed, the top of the rotary handle 301 is simply pressed, and then the handle component 3 is moved downward by the positioning effect of the positioning protrusion 309 and the positioning slot 310 until the engaging bases 3112 of the first limiting block 311 and the second limiting block 312 reach the position of the second fixing limiting hole 212, and the engaging bases 3112 are unblocked by the inner wall of the handle cavity 208 and then are protruded outward under the action of the return spring 313. At this time, the shift block 3051 is also pushed by the inclined restoring blocks 3113 of the first limiting block 311 and the second limiting block 312 to drive the lock core 305 to rotate to the initial position.

**[0049]** The door or window lock according to the embodiment of the present invention allows the rotary handle 301 to be concealed by the cooperation of the rotary handle 301 with the concealing part 302. When it is necessary to open the door, the rotary handle 301 can be unlocked by the concealing part 302 by rotating the lock core 305, so that the rotary handle 301 is partially ejected out of the housing 1 so as to be held by the user. When there is no need to open the door, the rotary handle 301 can be pressed to be concealed in the housing 1, thereby ameliorating the problems of the prior art door locks with unconcealable handles which protrude outside so as to be easily damaged or cause potential safety hazards. This door or window lock with a concealable handle is designed by making ingenious use of the characteristics of the respective structures, has a compact overall structure, can be adjusted effectively and conveniently, and therefore is suitable for widespread use in various places.

Second Embodiment:

**[0050]** Referring to FIGS. 1 to 3, an embodiment of the present invention provides a door or window lock with a concealable handle according to claim 1, which includes a housing 1, a latch component 2, and a handle component 3. The latch component 2 includes an adjusting cylinder 203. The adjusting cylinder 203 is provided with a positioning slot 310 extending in an axial direction. The adjusting cylinder 203 has an end portion protruding from the housing 1 and fixed to the latch 201. The handle component 3 includes a rotary handle 301 and an elastic extendable block 307. The rotary handle 301 is provided with a positioning protrusion 309. The positioning protrusion 309 is slidably fitted in the positioning slot 310 so that the rotary handle 301 can be moved axially relative to the adjusting cylinder 203 and cannot be rotated circumferentially. The elastic extendable block 307 is arranged in the rotary handle 301 and is configured to lock the relative position of the rotary handle 301 relative to the adjusting cylinder 203 in the axial direction so that the rotary handle 301 is kept in the housing 1, or is configured to unlock the relative position of the rotary handle 301 relative to the adjusting cylinder 203 in the axial direction so that the rotary handle 301 can be moved axially relative to the adjusting cylinder 203 so as to protrude from the housing 1.

**[0051]** The door or window lock according to this embodiment is operated based on substantially the same principle and achieves substantially the same technical effects as those in the first embodiment, and therefore a detailed description is omitted here.

## Industrial Applicability

**[0052]** In summary, the door or window lock according to the present invention allows the rotary handle to be concealed. When it is necessary to open the door, the rotary handle can be unlocked by the concealing part by rotating the lock core, so that the rotary handle is partially ejected out of the housing so as to be held by the user. When there is no need to open the door, the rotary handle can be pressed to be concealed in the housing, thereby ameliorating the problems of the prior art door locks with unconcealable handles which protrude outside so as to be easily damaged or cause potential safety hazards.

## Claims

1. A door or window lock with a concealable handle, comprising: a handle component (3), a latch component (2), and a housing (1), wherein the handle component (3) comprises a rotary handle (301) and a concealing part (302), wherein the rotary handle (301) is provided with a mounting cavity (304), the concealing part (302) is arranged at a bottom of the mounting cavity (304), and the concealing part (302) is fixed to the latch component (2) and mounted inside the housing (1); and the concealing part (302) is configured to control a position of the rotary handle (301) relative to the housing (1),

   wherein the rotary handle (301) is provided with a lock core (305), wherein the lock core (305) is fixed inside the mounting cavity (304) and located above the concealing part (302), and a bottom of the lock core (305) is engaged with the concealing part (302), wherein when the rotary handle (301) is pressed to be concealed in the housing (1), the lock core (305) is adjusted by the concealing part (302) to a locked state; and when the lock core (305) is in an unlocked state, the rotary handle (301) is partially ejected out of the housing (1) by the concealing part (302),

   wherein the latch component (2) comprises a latch (201) and an adjusting part (202), wherein a mounting hole (103) is provided in a bottom of the housing (1), the adjusting part (202) is arranged inside the housing (1), and the adjusting part (202) protrudes from the housing (1) through the mounting hole (103) and is connected fixedly to the latch (201); and the adjusting part (202) is configured to adjust a position of the latch (201),

   wherein the adjusting part (202) comprises an adjusting cylinder (203), wherein one end of the adjusting cylinder (203) is fixedly connected to the latch (201), the rotary handle (301) is partially fitted into an inner cavity of the adjusting cylinder (203) in such a way that the rotary handle (301) is slidable in a direction in which the rotary handle (301) is pressed or ejected, and the rotary handle (301) is fixed relative to the adjusting cylinder (203) in a direction of rotation of the rotary handle (301),

   wherein the door or window lock with a concealable handle further comprises an adjusting sleeve (204), a positioning pin (205), an adjusting spring (206), and a mounting support (207), wherein an inner cavity of the adjusting cylinder (203) comprises a spring cavity (209) and a handle cavity (208) configured to allow the handle component (3) to be mounted therein, wherein the handle cavity (208) is configured to allow the handle component (3) to be mounted therein; the spring cavity (209) is arranged at a bottom of the handle cavity (208), an end of the spring cavity (209) away from the handle cavity (208) is in an open structure, and a limiting slot (210) is provided in a side wall of the spring cavity (209); the adjusting sleeve (204) is sleeved outside the spring cavity (209), the adjusting spring (206) is arranged in the spring cavity (209), one of ends of the mounting support (207) is in contact with the adjusting

spring (206), an adjustment limiting hole (211) is provided in the end of the mounting support (207) in contact with the adjusting spring (206), and the positioning pin (205) passes through both the limiting slot (210) and the adjustment limiting hole (211); the adjusting sleeve (204) is fixedly assembled with the housing (1), so as to form an "L"-shaped groove (2041), wherein the "L"-shaped groove (2041) is configured to limit a path of movement of the positioning pin (205); and an end of the mounting support (207) away from the adjusting spring (206) is fixedly connected to the latch (201),

wherein the mounting cavity (304) is provided in a hollow cylindrical structure with an upper opening, and a first fixing limiting hole (306) is provided in a side wall close to a bottom of the mounting cavity (304); a second fixing limiting hole (212) is provided at a corresponding position of the handle cavity (208); and the concealing part (302) is provided with an elastic extendable block (307), wherein the elastic extendable block (307) is fixed at an inner bottom of the mounting cavity (304) and is slidably fitted in the first fixing limiting hole (306), and the lock core (305) is engaged fixedly on a top of the elastic extendable block (307); and the lock core (305) is configured to control an extended or retracted state of the elastic extendable block (307),

wherein the elastic extendable block (307) comprises a first limiting block (311), a second limiting block (312), and a return spring (313), wherein the first limiting block (311) is provided with an insertion pin (3111), an engaging base (3112), and an inclined restoring block (3113), the second limiting block (312) is in a same structure as the first limiting block (311), the first limiting block (311) and the second limiting block (312) are arranged opposite to each other, the return spring (313) has two ends simultaneously sleeved on insertion pins (3111) of the first limiting block (311) and the second limiting block (312), and the engaging base (3112) is engaged fixedly in the first fixing limiting hole (306), so as to lock the rotary handle (301) to the adjusting cylinder (203); and a bottom of the lock core (305) is provided with a shift block (3051), wherein the shift block (3051) is configured to shift inclined restoring blocks (3113), so that the first limiting block (311) and the second limiting block (312) are moved towards each other in opposite directions, so as to unlock the rotary handle (301) from the adjusting cylinder (203).

**2.** The door or window lock with a concealable handle according to claim 1, wherein a push-out spring (308) is arranged between an outer bottom of the mounting cavity (304) and an inner bottom of the handle cavity (208); and a positioning protrusion (309) is arranged on an outer side wall of the mounting cavity (304), a positioning slot (310) extending in the direction, in which the rotary handle (301) is pressed or ejected, is provided at a corresponding position of the handle cavity (208), and the positioning protrusion (309) makes the rotary handle (301) fixed in the positioning slot (310).

**3.** The door or window lock with a concealable handle according to claim 1, wherein the lock core (305) comprises a rotary lock head (3052) and a rotary lock disk (3053), wherein the rotary lock head (3052) is provided with a key insertion hole, a shift lever (3054) is arranged at a bottom of the rotary lock head (3052), a shift lever groove (3055) is provided in a surface of the rotary lock disk (3053) close to the shift lever (3054), and the shift lever (3054) is plugged fixedly in the shift lever groove (3055); the shift block (3051) is fixed at the bottom of the rotary lock disk (3053); and the rotary lock head (3052) and the rotary lock disk (3053) are moved synchronously under an action of the shift lever (3054) and the shift lever groove (3055).

**4.** The door or window lock with a concealable handle according to claim 1, wherein two projecting blocks are arranged on an inner side wall of the housing (1) at positions corresponding to the adjusting sleeve (204); the adjusting sleeve (204) is in a cylindrical structure opened at both ends, first notches (2042) corresponding to the two projecting blocks is provided in a side wall of the adjusting sleeve (204), second notches (2043) are provided beside the first notches (2042), each of the second notches (2043) has a width greater than or equal to a diameter of the positioning pin (205), and each of the second notches (2043) has a height lower than that of corresponding first notch (2042); and the "L"-shaped groove (2041) is formed by the first notch (2042), the second notch (2043), and one of the two projecting blocks, and two "L"-shaped grooves (2041) are provided.

**5.** The door or window lock with a concealable handle according to claim 1, wherein the limiting slot (210) is of a " $\Gamma$ "-shape.

**6.** The door or window lock with a concealable handle according to any one of claims 1 to 5, wherein a cuboid-shaped limiting region (6) is provided at an end of the mounting support (207) away from the adjusting spring (206), and the latch (201) is provided with a corresponding rectangular hole (61), wherein the rectangular hole (61) is sleeved on the cuboid-shaped limiting region (6).

**7.** The door or window lock with a concealable handle

according to any one of claims 1 to 5, wherein the spring cavity (209) has a diameter smaller than that of the handle cavity (208), a groove (213) is provided outside a portion of the spring cavity (209) connected to the handle cavity (208), and a rubber ring (214) is arranged in the groove (213).

**8.** The door or window lock with a concealable handle according to any one of claims 1 to 5, further comprising a circlip (4), wherein a circlip groove (41) is provided at an end of the spring cavity (209) close to the mounting support (207), the circlip (4) is mounted in the circlip groove (41), and an end of the circlip (4) away from the latch (201) is in contact with the fixing sleeve (101),

preferably, wherein the latch (201) is fixed to the mounting support (207) by a fixing screw (5), and an end of the circlip (4) away from the fixing screw (5) is in contact with the fixing sleeve (101),
preferably, wherein a screw hole is provided at an end of the mounting support (207) away from the adjusting spring (206), the latch (201) is provided with a through hole, and the fixing screw (5) passes through the through hole and is locked into the screw hole.

**9.** The door or window lock with a concealable handle according to claim 1, wherein the housing (1) comprises a fixing sleeve (101) and a fixing panel (102), wherein the fixing sleeve (101) and the fixing panel (102) are integrally molded, and the fixing panel (102) is configured to fix the housing (1) to a door panel.

**Patentansprüche**

**1.** Tür- oder Fensterschloss mit einem verdeckbaren Griff, umfassend: eine Griffkomponente (3), eine Riegelkomponente (2) und ein Gehäuse (1), wobei die Griffkomponente (3) einen Drehgriff (301) und ein Verdeckteil (302) umfasst, wobei der Drehgriff (301) mit einer Montagekammer (304) versehen ist, wobei das Verdeckteil (302) an einem Boden der Montagekammer (304) angeordnet ist, und das Verdeckteil (302) an der Riegelkomponente (2) befestigt und innerhalb des Gehäuses (1) montiert ist; und wobei das Verdeckteil (302) so konfiguriert ist, dass es eine Position des Drehgriffs (301) relativ zum Gehäuse (1) steuert,

wobei der Drehgriff (301) mit einem Schließzylinder (305) versehen ist, wobei der Schließzylinder (305) innerhalb der Montagekammer (304) befestigt und über dem Verdeckteil (302) angeordnet ist, und ein Boden des Schließzylinders (305) mit dem Verdeckteil (302) in Eingriff steht, wobei, wenn der Drehgriff (301) so gedrückt wird, dass er im Gehäuse (1) verdeckt ist, der Schließzylinder (305) durch das Verdeckteil (302) in einen verriegelten Zustand versetzt wird; und wobei, wenn sich der Schließzylinder (305) in einem entriegelten Zustand befindet, der Drehgriff (301) durch das Verdeckteil (302) teilweise aus dem Gehäuse (1) ausgestoßen wird,
wobei die Riegelkomponente (2) einen Riegel (201) und ein Einstellteil (202) umfasst, wobei in einem Boden des Gehäuses (1) ein Montageloch (103) vorgesehen ist, wobei das Einstellteil (202) innerhalb des Gehäuses (1) angeordnet ist, und das Einstellteil (202) durch das Montageloch (103) aus dem Gehäuse (1) herausragt und fest mit dem Riegel (201) verbunden ist; und wobei das Einstellteil (202) dazu konfiguriert ist, eine Position des Riegels (201) einzustellen,
wobei das Einstellteil (202) einen Einstellzylinder (203) umfasst, wobei ein Ende des Einstellzylinders (203) fest mit dem Riegel (201) verbunden ist, wobei der Drehgriff (301) teilweise in eine innere Kammer des Einstellzylinders (203) derart eingepasst ist, dass der Drehgriff (301) in eine Richtung verschiebbar ist, in der der Drehgriff (301) gedrückt oder ausgestoßen wird, und wobei der Drehgriff (301) gegenüber dem Einstellzylinder (203) in einer Drehrichtung des Drehgriffs (301) befestigt ist,
wobei das Tür- oder Fensterschloss mit einem verdeckbaren Griff ferner eine Einstellhülse (204), einen Positionierungsstift (205), eine Einstellfeder (206) und eine Montagehalterung (207) umfasst, wobei eine innere Kammer des Einstellzylinders (203) eine Federkammer (209) und eine Griffkammer (208) umfasst, die so konfiguriert ist, dass sie die Montage der Griffkomponente (3) darin ermöglicht, wobei die Griffkammer (208) so konfiguriert ist, dass sie die Montage der Griffkomponente (3) darin ermöglicht; wobei die Federkammer (209) an einem Boden der Griffkammer (208) angeordnet ist, wobei ein von der Griffkammer (208) entferntes Ende der Federkammer (209) eine offene Struktur annimmt, und wobei ein Begrenzungsschlitz (210) in einer Seitenwand der Federkammer (209) vorgesehen ist; wobei die Einstellhülse (204) außerhalb der Federkammer (209) aufgesetzt ist, wobei die Einstellfeder (206) in der Federkammer (209) angeordnet ist, wobei ein der Enden der Montagehalterung (207) in Kontakt mit der Einstellfeder (206) steht, wobei ein Einstellbegrenzungsloch (211) am Ende der Montagehalterung (207) vorgesehen ist, das mit der Einstellfeder (206) in Kontakt steht, und wobei der Positionierungsstift (205)

sowohl durch den Begrenzungsschlitz (210) als auch durch das Einstellbegrenzungsloch (211) geführt ist;
wobei die Einstellhülse (204) fest mit dem Gehäuse (1) zusammengebaut ist, um eine "L"-förmige Nut (2041) zu bilden, wobei die "L"-förmige Nut (2041) so konfiguriert ist, dass sie einen Bewegungsweg des Positionierungsstifts (205) begrenzt; und wobei ein von der Einstellfeder (206) entferntes Ende der Montagehalterung (207) fest mit dem Riegel (201) verbunden ist,
wobei die Montagekammer (304) in einer hohlen zylindrischen Struktur mit einer oberen Öffnung vorgesehen ist, und wobei ein erstes befestigendes Begrenzungsloch (306) in einer Seitenwand vorgesehen ist, die nahe einem Boden der Montagekammer (304) liegt; wobei ein zweites befestigendes Begrenzungsloch (212) an einer entsprechenden Position der Griffkammer (208) vorgesehen ist; und wobei der Verdeckteil (302) mit einem elastischen ausfahrbaren Block (307) versehen ist, wobei der elastische ausfahrbare Block (307) an einem inneren Boden der Montagekammer (304) befestigt ist und verschiebbar in das erste befestigende Begrenzungsloch (306) eingepasst ist, und wobei der Schließzylinder (305) fest mit einem Oberteil des elastischen ausfahrbaren Blocks (307) in Eingriff steht; und wobei der Schließzylinder (305) so konfiguriert ist, dass er einen ausgefahrenen oder eingefahrenen Zustand des elastischen ausfahrbaren Blocks (307) steuert,
wobei der elastische ausfahrbare Block (307) einen ersten Begrenzungsblock (311), einen zweiten Begrenzungsblock (312) und eine Rückstellfeder (313) umfasst, wobei der erste Begrenzungsblock (311) mit einem Einsteckstift (3111), einer Eingriffsbasis (3112) und einem geneigten Wiederherstellungsblock (3113) versehen ist, wobei der zweite Begrenzungsblock (312) dieselbe Struktur wie der erste Begrenzungsblock (311) aufweist, wobei der erste Begrenzungsblock (311) und der zweite Begrenzungsblock (312) einander gegenüberliegend angeordnet sind, wobei die Rückstellfeder (313) zwei Enden aufweist, die simultan auf Einsteckstifte (3111) des ersten Begrenzungsblocks (311) und des zweiten Begrenzungsblocks (312) aufgesetzt sind, und wobei die Eingriffsbasis (3112) fest in das erste befestigende Begrenzungsloch (306) eingreift, um den Drehgriff (301) am Einstellzylinder (203) zu verriegeln; und wobei ein Boden des Schließzylinders (305) mit einem Schiebeblock (3051) versehen ist, wobei der Schiebeblock (3051) dazu konfiguriert ist, geneigte Wiederherstellungsblöcke (3113) zu verschieben, so dass der erste Begrenzungsblock (311) und der zweite Begrenzungsblock (312) in entgegengesetzte Richtungen aufeinander zu bewegt werden, um so den Drehgriff (301) vom Einstellzylinder (203) zu entriegeln.

**2.** Tür- oder Fensterschloss mit einem verdeckbaren Griff nach Anspruch 1, wobei eine Ausschubfeder (308) zwischen einem äußeren Boden der Montagekammer (304) und einem inneren Boden der Griffkammer (208) angeordnet ist; und wobei ein Positionierungsvorsprung (309) an einer äußeren Seitenwand der Montagekammer (304) angeordnet ist, wobei an einer entsprechenden Position der Griffkammer (208) ein Positionierungsschlitz (310) vorgesehen ist, der sich in einer Richtung erstreckt, in der der Drehgriff (301) gedrückt oder ausgestoßen wird, und wobei der Positionierungsvorsprung (309) den Drehgriff (301) im Positionierungsschlitz (310) fixiert.

**3.** Tür- oder Fensterschloss mit einem verdeckbaren Griff nach Anspruch 1, wobei der Schließzylinder (305) einen drehbaren Schlosskopf (3052) und eine drehbare Schlossscheibe (3053) umfasst, wobei der drehbare Schlosskopf (3052) mit einem Schlüsseleinsteckloch versehen ist, wobei ein Schiebehebel (3054) an einem Boden des drehbaren Schlosskopfs (3052) angeordnet ist, wobei eine Schiebehebelnut (3055) in einer Oberfläche der drehbaren Schlossscheibe (3053), die nahe dem Schiebehebel (3054) liegt, vorgesehen ist, und wobei der Schiebehebel (3054) fest in die Schiebehebelnut (3055) eingesteckt ist; wobei der Schiebeblock (3051) an dem Boden der drehbaren Schlossscheibe (3053) befestigt ist; und wobei der drehbare Schlosskopf (3052) und die drehbare Schlossscheibe (3053) unter einer Einwirkung des Schiebehebels (3054) und der Schiebehebelnut (3055) synchron bewegt werden.

**4.** Tür- oder Fensterschloss mit einem verdeckbaren Griff nach Anspruch 1, wobei zwei hervorstehende Blöcke an einer inneren Seitenwand des Gehäuses (1) an Positionen, die der Einstellhülse (204) entsprechen, angeordnet sind; wobei die Einstellhülse (204) eine zylindrische Struktur annimmt, die an beiden Enden geöffnet ist, wobei erste Kerben (2042), die den beiden hervorstehenden Blöcken entsprechen, in einer Seitenwand der Einstellhülse (204) vorgesehen sind, wobei zweite Kerben (2043) neben den ersten Kerben (2042) vorgesehen sind, wobei jede der zweiten Kerben (2043) eine Breite aufweist, die größer oder gleich dem Durchmesser des Positionierungsstifts (205) ist, und wobei jede der zweiten Kerben (2043) eine Höhe aufweist, die geringer als die der entsprechenden ersten Kerbe (2042) ist; und wobei die "L"-förmige Nut (2041) durch die erste Kerbe (2042), die zweite Kerbe

(2043) und einen der beiden hervorstehenden Blöcke gebildet wird, und wobei zwei "L"-förmige Nuten (2041) vorgesehen sind.

**5.** Tür- oder Fensterschloss mit einem verdeckbaren Griff nach Anspruch 1, wobei der Begrenzungsschlitz (210) eine "Γ"-Form aufweist.

**6.** Tür- oder Fensterschloss mit einem verdeckbaren Griff nach einem der Ansprüche 1 bis 5, wobei an einem von der Einstellfeder (206) entfernten Ende der Montagehalterung (207) ein quaderförmiger Begrenzungsbereich (6) vorgesehen ist, und der Riegel (201) mit einem entsprechenden rechteckigen Loch (61) versehen ist, wobei das rechteckige Loch (61) auf dem quaderförmigen Begrenzungsbereich (6) aufgesetzt ist.

**7.** Tür- oder Fensterschloss mit einem verdeckbaren Griff nach einem der Ansprüche 1 bis 5, wobei die Federkammer (209) einen kleineren Durchmesser als die Griffkammer (208) aufweist, wobei eine Nut (213) außerhalb eines mit der Griffkammer (208) verbundenen Abschnitts der Federkammer (209) vorgesehen ist, und wobei ein Gummiring (214) in der Nut (213) angeordnet ist.

**8.** Tür- oder Fensterschloss mit einem verdeckbaren Griff nach einem der Ansprüche 1 bis 5, der ferner einen Sicherungsring (4) umfasst, wobei an einem der Montagehalterung (207) nahe liegenden Ende der Federkammer (209) eine Sicherungsringnut (41) vorgesehen ist, wobei der Sicherungsring (4) in der Sicherungsringnut (41) montiert ist, und wobei ein von dem Riegel (201) entferntes Ende des Sicherungsrings (4) mit der Befestigungshülse (101) in Kontakt steht,

wobei vorzugsweise der Riegel (201) durch eine Befestigungsschraube (5) an der Montagehalterung (207) befestigt ist, und ein von der Befestigungsschraube (5) entferntes Ende des Sicherungsrings (4) mit der Befestigungshülse (101) in Kontakt steht,
wobei vorzugsweise an einem von der Einstellfeder (206) entfernten Ende der Montagehalterung (207) ein Schraubenloch vorgesehen ist, der Riegel (201) mit einem Durchgangsloch versehen ist und die Befestigungsschraube (5) durch das Durchgangsloch verläuft und im Schraubenloch verriegelt wird.

**9.** Tür- oder Fensterschloss mit einem verdeckbaren Griff nach Anspruch 1, wobei das Gehäuse (1) eine Befestigungshülse (101) und eine Befestigungsplatte (102) umfasst, wobei die Befestigungshülse (101) und die Befestigungsplatte (102) integral geformt sind, und wobei die Befestigungsplatte (102) dazu konfiguriert ist, das Gehäuse (1) an einer Türplatte zu befestigen.

## Revendications

**1.** Serrure de porte ou de fenêtre avec une poignée dissimulable, comprenant : un composant de poignée (3), un composant de loquet (2) et un boîtier (1), dans laquelle le composant de poignée (3) comprend une poignée rotative (301) et une portion de dissimulation (302), dans lequel la poignée rotative (301) est pourvue d'une cavité de montage (304), la portion de dissimulation (302) est disposée à un fond de la cavité de montage (304), et la portion de dissimulation (302) est fixée au composant de loquet (2) et montée à l'intérieur du boîtier (1) ; et la portion de dissimulation (302) est configurée pour commander une position de la poignée rotative (301) par rapport au boîtier (1),

dans laquelle la poignée rotative (301) est pourvue d'un noyau de serrure (305), dans laquelle le noyau de serrure (305) est fixé à l'intérieur de la cavité de montage (304) et situé au-dessus de la portion de dissimulation (302), et un fond du noyau de serrure (305) est engagé avec la portion de dissimulation (302), dans lequel lorsque la poignée rotative (301) est pressée pour être dissimulée dans le boîtier (1), le noyau de serrure (305) est réglée par la portion de dissimulation (302) jusqu'à un état verrouillé ; et lorsque le noyau de serrure (305) est dans un état déverrouillé, la poignée rotative (301) est partiellement éjectée hors du boîtier (1) par la portion de dissimulation (302),
dans laquelle le composant de loquet (2) comprend un loquet (201) et une portion de réglage (202), dans lequel un trou de montage (103) est prévu dans un fond du boîtier (1), la portion de réglage (202) est disposée à l'intérieur du boîtier (1), et la portion de réglage (202) s'étend du boîtier (1) à travers le trou de montage (103) et est reliée de manière fixe au loquet (201) ; et la portion de réglage (202) est configurée pour régler une position du loquet (201), dans laquelle la portion de réglage (202) comprend un cylindre de réglage (203), dans laquelle une extrémité du cylindre de réglage (203) est reliée de manière fixe au loquet (201), la poignée rotative (301) est partiellement ajustée dans une cavité intérieure du cylindre de réglage (203) de sorte que la poignée rotative (301) soit glissante dans une direction dans laquelle est pressée ou éjectée la poignée rotative (301), et la poignée rotative (301) est fixée par rapport au cylindre de réglage (203) dans une direction de rotation de la poignée rotative

(301),
dans laquelle la serrure de porte ou de fenêtre avec une poignée dissimulable comprend en outre un manchon de réglage (204), une goupille de positionnement (205), un ressort de réglage (206) et un support de montage (207), dans laquelle une cavité intérieure du cylindre de réglage (203) comprend une cavité de ressort (209) et une cavité de poignée (208) configurée pour permettre au composant de poignée (3) d'être monté dans celle-ci, dans laquelle la cavité de poignée (208) est configurée pour permettre au composant de poignée (3) d'être monté dans celle-ci ; la cavité de ressort (209) est disposée à un fond de la cavité de poignée (208), une extrémité de la cavité de ressort (209) éloignée de la cavité de poignée (208) est située dans une structure ouverte, et une fente de limitation (210) est prévue dans une paroi latérale de la cavité de ressort (209) ; le manchon de réglage (204) est manchonné à l'extérieur de la cavité de ressort (209), le ressort de réglage (206) est disposé dans la cavité de ressort (209), l'une des extrémités du support de montage (207) est en contact avec le ressort de réglage (206), un trou de limitation de réglage (211) est prévu dans l'extrémité du support de montage (207) en contact avec le ressort de réglage (206), et la goupille de positionnement (205) passe à travers à la fois la fente de limitation (210) et le trou de limitation de réglage (211) ; le manchon de réglage (204) est assemblé de manière fixe avec le boîtier (1), afin de former une rainure en forme de « L » (2041), dans lequel la rainure en forme de « L » (2041) est configurée pour limiter un chemin de mouvement de la goupille de positionnement (205) ; et une extrémité du support de montage (207) éloignée du ressort de réglage (206) est reliée de manière fixe au loquet (201),
dans laquelle la cavité de montage (304) est prévue dans une structure cylindrique creuse ayant une ouverture supérieure, et un premier trou de limitation de fixation (306) est prévu dans une paroi latérale proche d'un fond de la cavité de montage (304) ; un second trou de limitation de fixation (212) est prévu dans une position correspondante de la cavité de poignée (208) ; et la portion de dissimulation (302) est pourvue d'un bloc extensible élastique (307), dans laquelle le bloc extensible élastique (307) est fixé à un fond intérieur de la cavité de montage (304) et est monté de manière glissante dans le premier trou de limitation de fixation (306), et le noyau de serrure (305) est engagé de manière fixe sur un sommet du bloc extensible élastique (307) ; et le noyau de verrou (305) est configuré pour contrôler un état étendu ou rétracté du bloc extensible élastique (307),
dans laquelle le bloc extensible élastique (307) comprend un premier bloc de limitation (311), un second bloc de limitation (312) et un ressort de rappel (313), dans lequel le premier bloc de limitation (311) est pourvu d'une goupille d'insertion (3111), d'une base d'engagement (3112) et d'un bloc de retour incliné (3113), le second bloc de limitation (312) est dans une même structure que le premier bloc de limitation (311), le premier bloc de limitation (311) et le second bloc de limitation (312) sont disposés à l'opposé l'un de l'autre, le ressort de rappel (313) a deux extrémités manchonnées simultanément sur des goupilles d'insertion (3111) du premier bloc de limitation (311) et du second bloc de limitation (312), et la base d'engagement (3112) est engagée de manière fixe dans le premier trou de limitation de fixation (306), afin de verrouiller la poignée rotative (301) au cylindre de réglage (203) ; et un fond du noyau de serrure (305) est pourvu d'un bloc de passage (3051), dans lequel le bloc de passage (3051) est configuré pour effectuer un passage des blocs de retour inclinés (3113), de sorte que le premier bloc de limitation (311) et le second bloc de limitation (312) soient déplacés l'un vers l'autre dans des directions opposées, afin de déverrouiller la poignée rotative (301) du cylindre de réglage (203).

**2.** Serrure de porte ou de fenêtre avec une poignée dissimulable selon la revendication 1, dans laquelle un ressort de poussée (308) est disposé entre un fond extérieur de la cavité de montage (304) et un fond intérieur de la cavité de poignée (208) ; et une saillie de positionnement (309) est disposée sur une paroi latérale extérieure de la cavité de montage (304), une fente de positionnement (310) s'étendant dans la direction dans laquelle est pressée ou éjectée la poignée rotative (301) est disposée à une position correspondante de la cavité de poignée (208), et la saillie de positionnement (309) fixe la poignée rotative (301) dans la fente de positionnement (310).

**3.** Serrure de porte ou de fenêtre avec une poignée dissimulable selon la revendication 1, dans laquelle le noyau de serrure (305) comprend une tête de serrure rotative (3052) et un disque de serrure rotative (3053), dans lequel la tête de serrure rotative (3052) est pourvue d'un trou d'insertion de clé, un levier de passage (3054) est disposé à un fond de la tête de serrure rotative (3052), une rainure de levier de passage (3055) est prévue dans une surface du disque de serrure rotative (3053) proche du levier de passage (3054), et le levier de passage (3054) est inséré de manière fixe dans la rainure de levier de

passage (3055) ; le bloc de passage (3051) est fixé au fond du disque de serrure rotative (3053) ; et la tête de serrure rotative (3052) et le disque de serrure rotative (3053) sont déplacés de manière synchrone sous l'action du levier de passage (3054) et de la rainure de levier de passage (3055).

**4.** Serrure de porte ou de fenêtre avec poignée dissimulable selon la revendication 1, dans laquelle deux blocs en saillie sont disposés sur une paroi latérale intérieure du boîtier (1) dans des positions correspondant au manchon de réglage (204) ; le manchon de réglage (204) est dans une structure cylindrique ouverte à deux extrémités, des premières encoches (2042) correspondant aux deux blocs en saillie sont prévues dans une paroi latérale du manchon de réglage (204), des secondes encoches (2043) sont prévues à côté des premières encoches (2042), chacune des secondes encoches (2043) présente une largeur supérieure ou égale à un diamètre de la goupille de positionnement (205), et chacune des secondes encoches (2043) présente une hauteur inférieure à celle de la première encoche (2042) correspondante ; et la rainure en forme de « L » (2041) est formée par la première encoche (2042), la seconde encoche (2043) et l'un des deux blocs en saillie, et deux rainures en forme de « L » (2041) sont prévues.

**5.** Serrure de porte ou de fenêtre avec une poignée dissimulable selon la revendication 1, dans laquelle la fente de limitation (210) est en forme de « Γ ».

**6.** Serrure de porte ou de fenêtre avec une poignée dissimulable selon l'une quelconque des revendications 1 à 5, dans laquelle une zone de limitation en forme cubique (6) est prévue à une extrémité du support de montage (207) éloignée du ressort de réglage (206), et le loquet (201) est pourvu d'un trou rectangulaire (61) correspondant, dans lequel le trou rectangulaire (61) est manchonné sur la zone de limitation en forme cubique (6).

**7.** Serrure de porte ou de fenêtre avec une poignée dissimulable selon l'une quelconque des revendications 1 à 5, dans laquelle la cavité de ressort (209) présente un diamètre inférieur à celui de la cavité de poignée (208), une rainure (213) est prévue à l'extérieur d'une partie de la cavité de ressort (209) reliée à la cavité de poignée (208), et un anneau en caoutchouc (214) est disposé dans la rainure (213).

**8.** Serrure de porte ou de fenêtre avec une poignée dissimulable selon l'une quelconque des revendications 1 à 5, comprenant en outre un circlip (4), dans lequel une rainure de circlip (41) est prévue à une extrémité de la cavité de ressort (209) proche du support de montage (207), le circlip (4) est monté dans la rainure de circlip (41), et une extrémité du circlip (4) éloignée du loquet (201) est en contact avec le manchon de fixation (101),

de préférence, dans laquelle le loquet (201) est fixé au support de montage (207) par une vis de fixation (5), et une extrémité du circlip (4) éloignée de la vis de fixation (5) est en contact avec le manchon de fixation (101),
de préférence, dans laquelle un trou de vis est prévu à une extrémité du support de montage (207) éloignée du ressort de réglage (206), le loquet (201) est pourvu d'un trou traversant, et la vis de fixation (5) passe à travers le trou traversant et est verrouillée dans le trou de vis.

**9.** Serrure de porte ou de fenêtre avec une poignée dissimulable selon la revendication 1, dans laquelle le boîtier (1) comprend un manchon de fixation (101) et un panneau de fixation (102), dans lequel le manchon de fixation (101) et le panneau de fixation (102) sont moulés intégralement, et le panneau de fixation (102) est configuré pour fixer le boîtier (1) à un panneau de porte.

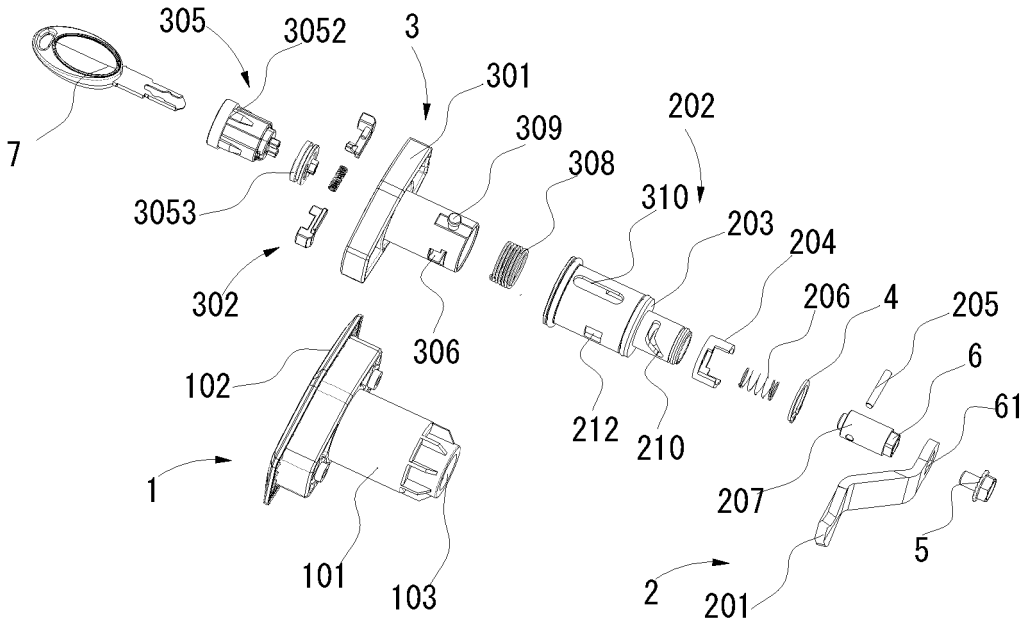
305
3052
3
301
309
308
202
310
203
204
206
4
205
6
61
7
3053
302
306
102
1
101
103
212
210
207
5
2
201

FIG. 1

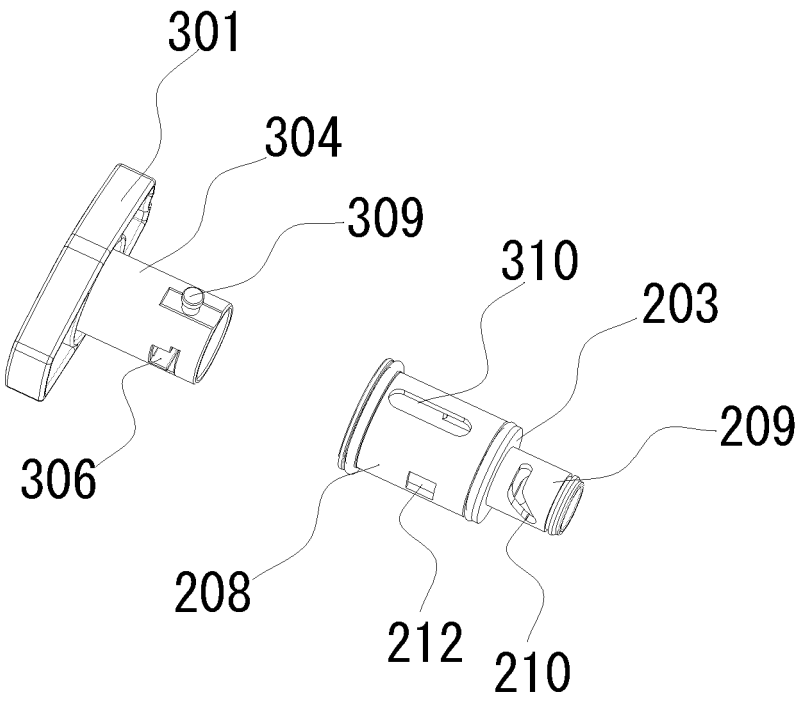
301
304
309
310
203
209
306
208
212
210

FIG. 2

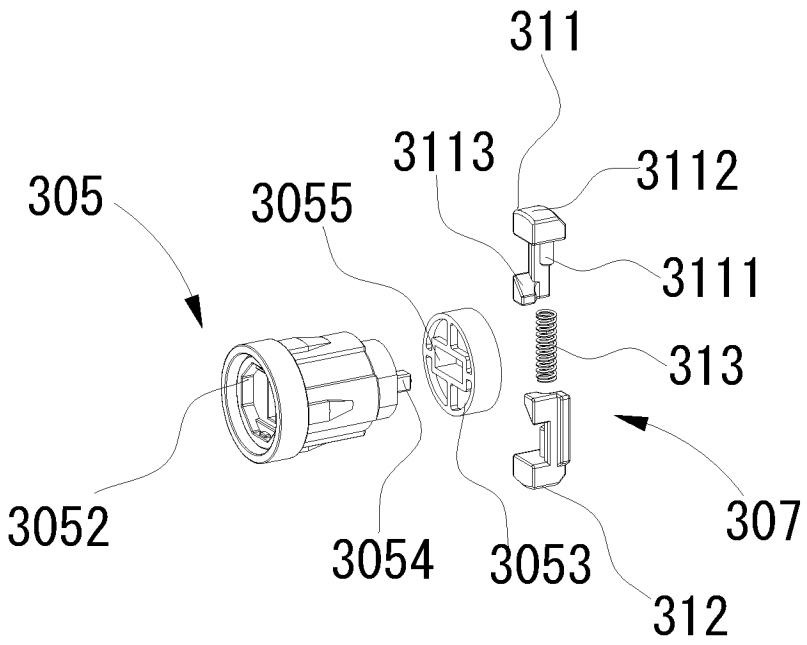
311
3113
3112
305
3055
3111
313
307
3052
3054
3053
312

FIG. 3

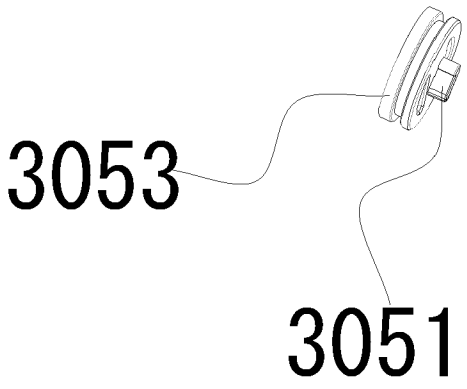
3053
3051

FIG. 4

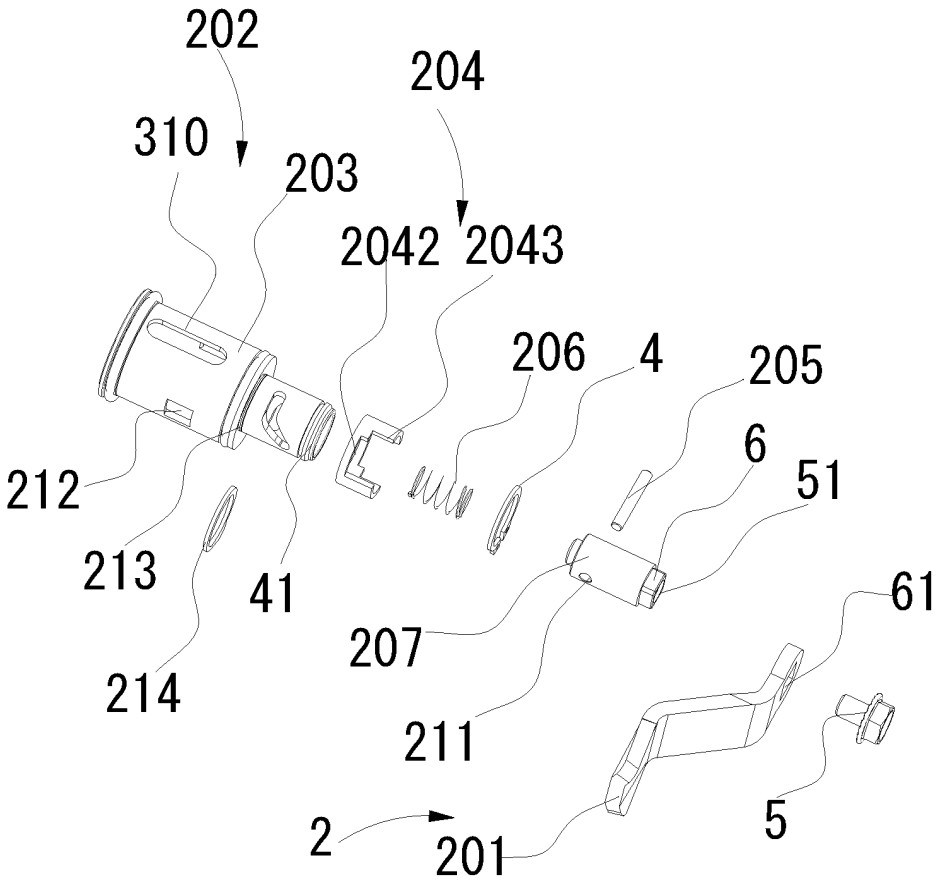
202
204
310
203
2042
2043
206
4
205
6
51
212
213
41
207
61
214
211
5
2
201

FIG. 5

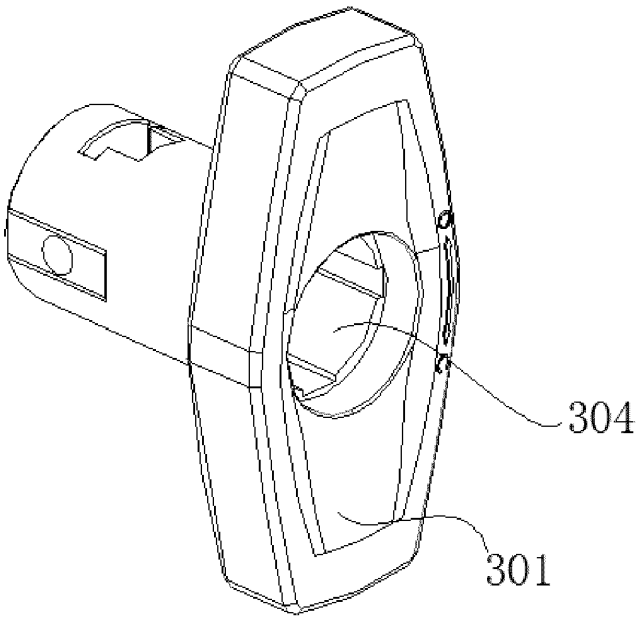
304
301

FIG. 6

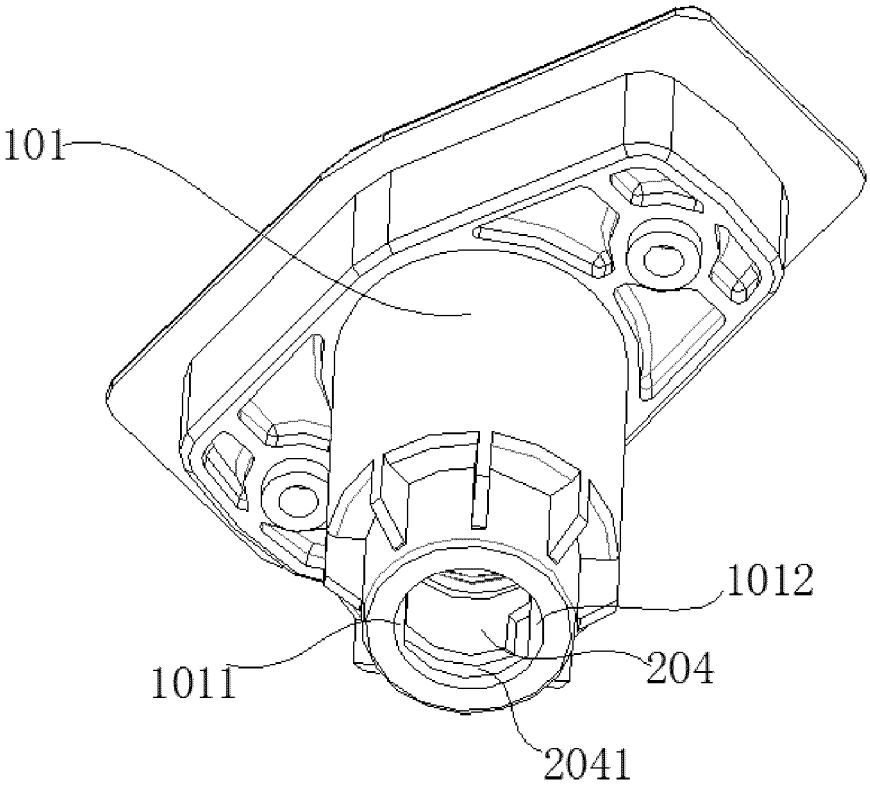


FIG. 7

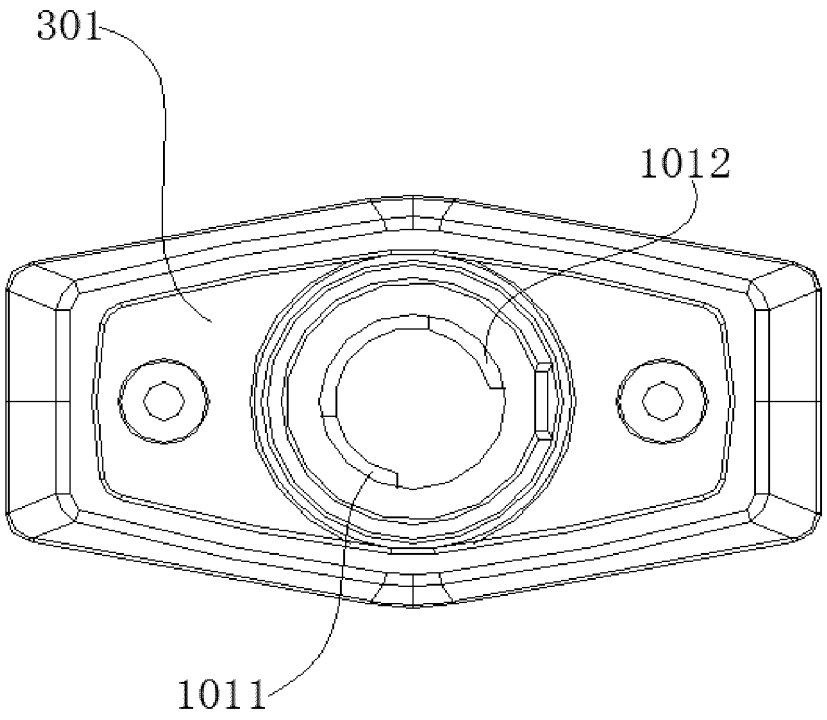


FIG. 8

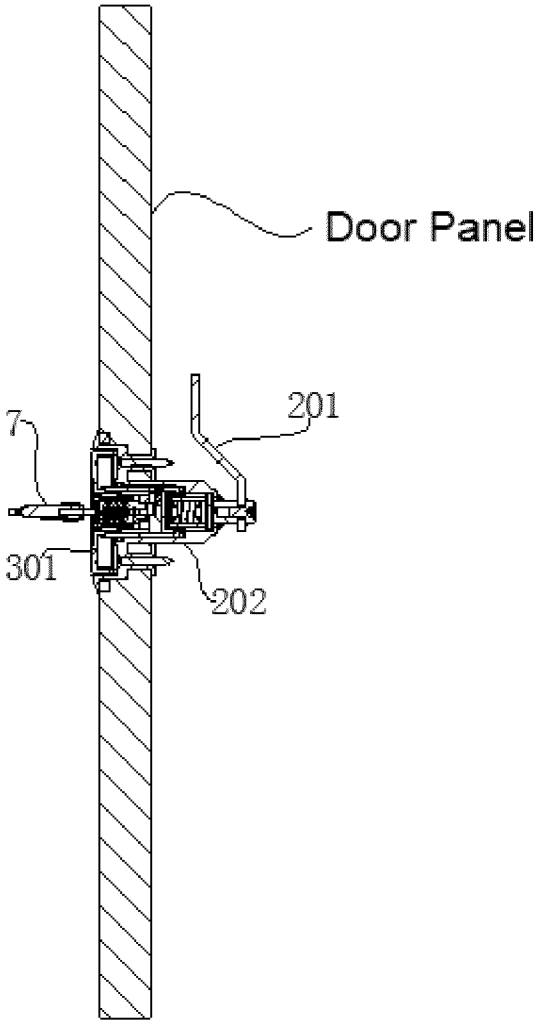


FIG. 9

## REFERENCES CITED IN THE DESCRIPTION

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### Patent documents cited in the description


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