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(54) TRANSMISSION STRUCTURE FOR A DOUBLE SIDED LOCK

(57) A transmission structure for a double sided lock comprising two cores (8a, 8b) includes two driving members (1a, 1b) between which a resilient member (2) is located. Each driving member (1a, 1b) has a protrusion (11a, 11b) extending radially therefrom, and a stop (131a, 131b) formed in the inner periphery thereof. A first transmission unit (3) has a shank (31) extending through the two driving members (1a, 1b). A first spring (4) is located between the first transmission unit (3) and the stop (131a)

of one of the two driving members (1a, 1b). A second transmission unit (5) has a tubular portion (51) extending through the two driving members (1a, 1b). The shank (31) is movably inserted in the tubular portion (51). A second spring (6) is located between the second transmission unit (5) and the stop (131b) of the other one of the two driving members (1a, 1b). Any one of the two cores (8a, 8b) can be rotated while one key (84a, 84b) is inserted and rotates either one of the two cores (8a, 8b).

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Description

BACKGROUND OF THE INVENTION

1. Fields of the invention

[0001] The present invention relates to a double sided lock, and more particularly, to a transmission structure for a double sided lock so that the lock can be opened when one end accepts a key and rotated.

2. Descriptions of Related Art

[0002] The conventional double sided lock is designed to be operated from either one of two ends thereof, which means that when a key is inserted into the lock and rotates, the lock cannot be unlocked from the other end of the lock. When one key is inserted, the driving member is pushed to the cam of the lock so that the cam is rotated when the key is rotated. In the meanwhile, the driving member is pushed by the key and covers the other core at the end of the cam. The key cannot be removed when the core is rotated, so that the other key cannot drive the driving member and cannot be inserted into the lock from the other end of the lock. However, when the lock is used in a hospital, a kindergarten, a senior center or the like, if the people inside the room insert the key from inside and rotate the key, the staff cannot unlock the lock from outside. This is dangerous when in emergency. Even if the staff break the lock, a new lock has to be purchased and this costs a lot.

[0003] Another conventional double sided lock includes a driving member located between the two cores, and the driving member has a first transmission member and a second transmission member. A spring is located between the first and second transmission members. Each of the first transmission member and the second transmission member has a hole and an eccentric notch. The first and second pins are respectively installed in the first transmission member and the second transmission member via the eccentric notches. The first and second pins are connected to each other via the two respective holes of the first and second transmission members. A spring is located between the first and second transmission members, and another spring is located between the first and second pins. The driving member is made by metal. Two respective keys are allowed to be respectively inserted into the first and second cores to drive the first and second transmission members and the first and second pins to unlock the lock.

[0004] However, notch and the reception space of the meal driving member has to be machined one by one in a small area, so that the manufacturing deficiencies are often occurred. Besides, because the notches are eccentric, so that when assembling, the first and second pins have to be installed at an angle. This action may cause deformation to the first and second pins. Furthermore, the first and second pins are Y-shaped pins which

are easily deformed and worn. Therefore, the conventional double sided lock is difficult manufactured and assembled.

[0005] The present invention intends to provide a transmission structure of a double sided lock to eliminate the shortcomings mentioned above.

SUMMARY OF THE INVENTION

[0006] The present invention relates to a transmission structure for a double sided lock, and comprises two driving members between which a gap is formed. Each of the two driving members has a protrusion extending radially from the outer periphery thereof. A resilient member is located between the two driving members. Each of the two driving members has a hole defined centrally there-through, and each of the holes of the two driving members has a stop. A first transmission unit has a shank extending from one end thereof. The shank extends through the holes of the two driving members. A first spring is located between the first transmission unit and the stop of one of the two driving members. A second transmission unit has a tubular portion extending from one end thereof. The tubular portion extends through the holes of the two driving members. The shank is movably inserted in the tubular portion. The shank and the tubular portion are independent to each other. A second spring is located between the second transmission unit and the stop of the other one of the two driving members.

[0007] Preferably, the transmission structure further comprises a cam which has a through hole. A passive member is located on the inner periphery of the through hole and located corresponding to the two driving members. The passive member has a recess defined radially therein which is sized to allow the two driving members to pass. Two cores are respectively connected to two sides of the cam and drive the two driving members respectively. The two driving members are located corresponding to the through hole of the cam. A space is defined between the two cores. The two driving members are movably located in the space. When one of the two driving members is moved toward the core corresponding thereto, the protrusion of the driving member moved toward the core is removed from the recess, and the protrusion of the driving member not moved toward the core is located in the recess. When the two protrusions of the two driving members are located corresponding to the recess, and when the two driving members are applied by a force, the resilient member is compressed, and the two protrusions of the two driving members are located in the recess.

[0008] Preferably, each of the holes of the two driving members has a slot. The first transmission unit has a first tab extending therefrom which is located corresponding to the slot corresponding thereto. The second transmission unit has a second tab extending therefrom which is located corresponding to the slot corresponding thereto.

[0009] Preferably, the shank has a restriction member,

and the tubular portion has a restriction portion defined therein which restricts the restriction member from disengaging from the tubular portion.

[0010] Preferably, the resilient member has a resilient coefficient that is smaller than that of each of the first and second springs.

[0011] Preferably, each of the two driving members has a groove defined in one side thereof. The two ends of the resilient member are engaged with the grooves of the two driving members.

[0012] Preferably, the two driving members are identical.

[0013] Preferably, the two cores each have a reception room, and each of the reception room has a notch defined in the inside thereof. The notches are located corresponding to the protrusions.

[0014] Preferably, the two cores are identical or different from each other.

[0015] Preferably, when at least one key is inserted into one of the cores, the distal end of the at least one key contacts against the first transmission unit or the second transmission unit.

[0016] Preferably, the two cores are inserted in a cylindrical portion from two ends of the cylindrical portion of a housing. The cylindrical portion has an opened section in which the cam is engaged. The cam is located between the two cores.

[0017] Preferably, two clips are located at two ends of the opened section so as to position the two cores to the cylindrical portion.

[0018] The present invention has the following features.

[0019] When one key is inserted into one of the cores, the driving member is pushed to the other core, and the protrusion of the driving member at the distal end of the key is able drive the cam. The other driving member is disengaged from the recess and cannot rotate the cam. When the other key is inserted into the other core, the first and second springs between the first and second transmission units are compressed so that said the other core can be rotated by said the other key until said the other driving member is located corresponding to the recess. The resilient member between the two driving members is compressed so that the two protrusions are located in the recess such that the two cores can be rotated independently.

[0020] The first and second transmission units are located along the axis to connect the shank and the tubular portion, the assembling steps are easy to shorten the assembling time. The driving members, and the first and second transmission units are conveniently manufactured without extra machining steps. The two driving members are identical so that the manufacturing cost is reduced. The shank and the tubular portion are easily connected to each other without worry of damage during assembling.

[0021] Thanks to the slots of the driving members and the first and second tabs of the first and second trans-

mission units, the distal end of the key cannot interfere the movement of the first and second transmission units. The driving members of the present invention can be cooperated with cores with different angles of keyholes. Therefore, the present invention does not have to be made according to the different directions of the keyholes to reduce the manufacturing cost.

[0022] The present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, a preferred embodiment in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0023]

Fig. 1 is a perspective view to show the lock with the transmission structure of the present invention;

Fig. 2 is an exploded view of the transmission structure of the present invention;

Fig. 3 is a cross sectional view, taken along line A-A in Fig. 1;

Fig. 4 is a cross sectional view to show that the driving member is pushed when the key is inserted in the core at the left end;

Fig. 5 is a cross sectional view to show that the driving member is pushed when the key is inserted in the core at the right end;

Fig. 6 is a cross sectional view to show that the two keys are inserted in the two cores at the left and right ends;

Fig. 7 shows that the key rotates the core at the left end of the lock;

Fig. 8 is a cross sectional view to show that the key rotates the core at the left end of the lock, and the other key is inserted in the core at the right end, and Fig. 9 shows that both of the two keys are inserted in the two cores and rotate the two cores, the two protrusions of the two driving members are located corresponding to the recess of the cam.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0024] Referring to Figs. 1 to 3, the transmission structure of the present invention comprises two driving members 1a, 1b which are identical, and a gap L is formed between the two driving members 1a, 1b. Each of the two driving members 1a, 1b has an axis A, and a protrusion 11a/11b extends radially from the outer periphery of each of the two driving members 1a, 1b. A resilient member 2 is located between the two driving members 1a, 1b. Each of the two driving members 1a, 1b has a groove 12 defined in one side thereof, the two ends of the resilient member 2 are engaged with the grooves 12 of the two driving members 1a, 1b.

[0025] Each of the two driving members 1a, 1b has a

hole 13a/13b defined centrally therethrough. Each of the holes 13a, 13b of the two driving members 1a, 1b has a stop 131a, 131b. Each of the holes 13a, 13b of the two driving members 1a, 1b has a slot 132a/132b defined axially in the inner periphery of the hole 13a/13b.

[0026] A first transmission unit 3 has a shank 31 extending from one end thereof and the shank 31 extends through the holes 13a, 13b of the two driving members 1a, 1b along the axis A. A first spring 4 located between the first transmission unit 3 and the stop 131a of the driving member 1a. The first transmission unit 3 has a first tab 32 extending therefrom which is located corresponding to the slot 132a corresponding thereto.

[0027] A second transmission unit 5 has a tubular portion 51 extending from one end thereof. The tubular portion 51 extends through the holes 13a, 13b of the two driving members 1a, 1b along the axis A. The shank 31 is movably inserted in the tubular portion 51. The shank 31 and the tubular portion 51 are independent to each other so that the shank 31 cannot drive the tubular portion 51. A second spring 6 located between the second transmission unit 5 and the stop 131b of the driving member 1b. The second transmission unit 5 has a second tab 52 extending therefrom which is located corresponding to the slot 132b corresponding thereto.

[0028] The shank 31 has a restriction member 311, and the tubular portion 51 has a restriction portion 511 defined therein which restricts the restriction member 311 from disengaging from the tubular portion 51. Therefore, the first and second transmission units 3, 5 are not separated from each other by the force from the first and second springs 4, 6. The resilient member 2 has a resilient coefficient that is smaller than that of each of the first and second springs 4, 6.

[0029] It is noted that as shown in Fig. 3, the first transmission unit 3 is located at the driving member 1a at the left side, and the second transmission unit 5 is located at the driving member 1b at the right side, however, the present invention is not limited to this arrangement. The first transmission unit 3 may also be located at the driving member 1b at the right side, and the second transmission unit 5 is located at the driving member 1a at the left side.

[0030] A cam 7 has a through hole 71 and a passive member 72 is located on the inner periphery of the through hole 71 and located corresponding to the two driving members 1a, 1b. The passive member 72 has a recess 73 defined radially therein which is sized to allow the two driving members 1a, 1b to pass.

[0031] Two cores 8a, 8b are respectively connected to two sides of the cam 7 and drive the two driving members 1a, 1b respectively which are located corresponding to the through hole 71 of the cam 7. A space 81 is defined between the two cores 8a, 8b, the two driving members 1a, 1b are movably located in the space 81. The two cores 8a, 8b are identical or different from each other. The two cores 8a, 8b each have a reception room 82a/82b, each of the reception room 82a, 82b has a notch 83a/83b defined in the inside thereof. The notches 83a,

83b are located corresponding to the protrusions 11a, 11b.

[0032] A housing 9 has a cylindrical portion 91, and the two cores 8a, 8b inserted in the cylindrical portion 91 from two ends of the cylindrical portion 91. The cylindrical portion 91 has an opened section 92 in which the cam 7 is engaged, wherein the cam 7 is located between the two cores 8a, 8b. Two clips 93 are located at two ends of the opened section 92 so as to position the two cores 8a, 8b to the cylindrical portion 91.

[0033] As shown in Fig. 4, when a key 84a is inserted into the core 8a at the left side of the lock, the key 84a extends through the core 84a and the distal end of the key 84a pushes the first transmission unit 3 in the space 81. The first transmission unit 3 is biased by the first spring 4 and contacts the stop 131a of the driving member 1a. The force from the first spring 4 is larger than the friction between the two driving members 1a, 1b and the two cores 8a, 8b, so that the two driving members 1a, 1b are pushed toward the right hand side of the space 81 to move the driving member 1b toward the core 8b. Preferably, the driving member 1b firmly contacts the wall of the reception room 82b of the core 8b so as to remove the protrusion 11b of the driving member 1b from the recess 73 of the cam 7, while the protrusion 11a of the driving member 1a is located in the recess 73 of the cam 7. Assume that the key 84a is rotated to rotate the core 8a, the protrusion 11a is moved via the notch 83a and drives the cam 7, and the slot 132a of the driving 1a also rotates the first transmission unit 3.

[0034] On the contrary, as shown in Fig. 5, when a key 84b is inserted into the core 8b at the right side of the lock, the key 84b pushes the second transmission unit 5 which is biased by the second spring 6 and contacts the stop 131b of the driving member 1b. The driving members 1a, 1b are moved toward the left hand side of the space 81, and the driving member 1a firmly contacts the wall of the reception room 82a of the core 8a so as to remove the protrusion 11a of the driving member 1a from the recess 73 of the cam 7, while the protrusion 11b of the driving member 1b is located in the recess 73 of the cam 7. Therefore, the key 84b can rotate to rotate the core 8b to unlock the lock.

[0035] As shown in Fig. 6, if the cam 7 is not rotated, and the protrusions 11a, 11b are located corresponding to the recess 73 of the cam 7. When both of the two keys 84a, 84b are inserted into the cores 8a, 8b, then the first and second transmission units 3, 5 are pushed by the two respective distal ends of the two keys 84a, 84b. However, the first and second springs 4, 6 are slightly compressed, and the resilient member 2 is compressed larger than the first and second springs 4, 6, therefore, the two driving members 1a, 1b move toward each other to narrow the gap L, the two protrusions 11a, 11b are both located in the recess 73. When the two keys 84a, 84b are rotated, the two cores 8a, 8b, and the two driving members 1a, 1b are co-rotated, and the lock is unlocked.

[0036] As shown in Fig. 7, if the user inserts the key

84a in the core 8a and rotates the core 8a, the cam 7 is rotated. Because the shank 31 and the tubular portion 51 are independent to each other, so that the when the first transmission unit 3 is rotated, the second transmission unit 5 remains still, therefore, the driving member 1b is located at the initial position. The recess 73 of the cam 7 is not located corresponding to the protrusion 11b of the driving member 1b. When the key 84b is inserted in the core 8b, as shown in Fig. 8, the distal end of the key 84b contacts the second transmission unit 5. Although the resilient member 2 is compressed, the protrusion 11b of the driving member 1b is not located corresponding to the recess 73 of the cam 7, so that the protrusion 11b can only contacts the sidewall of the passive member 72. The second spring 6 is compressed, the tubular portion 51 of the second transmission unit 5 moves toward the shank 31 of the first transmission unit 3, so that the key 84b can be inserted in the core 8b and rotate the core 8b. During the rotation of the key 84b in the core 8b, the protrusion 11b still contacts the sidewall of the passive member 72 until when the protrusion 11b is located corresponding to the recess 73 of the cam 7 as shown in Fig. 9. As mentioned before, the resilient coefficient of the resilient member 2 is smaller than those of the first and second springs 4, 6, so that the second spring 6 partially returns, and the resilient member 2 is compressed to allow the protrusion 11b to be located in the recess 73. At this moment, both of the protrusions 11a, 11b are located in the recess 73. The cores 8a, 8b and the driving members 1a, 1b can be rotated by using the keys 84a, 84b.

[0037] As shown in Fig. 5, if the key 84b is first inserted in the core 8b, and the key 84a is then inserted in the core 8a later, the protrusion 11a contacts the sidewall of the passive member 72, and the first spring 4 is compressed. The shank 31 of the first transmission unit 3 moves toward the tubular portion 51 of the second transmission unit 5 until the protrusion 11a to be located in the recess 73 as shown in Fig. 9. The first spring 4 partially returns, and the resilient member 2 is compressed to allow the protrusions 11a, 11b to be located in the recess 73. Both of the keys 84a, 84b can rotate to drive the cam to unlock the lock.

[0038] It is noted that the distal end of each key 84a/84b has an inclined portion which is located at the center of the cores 8a, 8b, so that the slots 132a, 132b of the driving members 1a, 1b, the first tab 32 and the second tab 52 are designed to prevent the interference from the distal ends of the keys 84a, 84b. The slots 132a, 132b of the driving members 1a, 1b, the first tab 32 and the second tab 52 are located corresponding to the keyhole, so that when the distal ends of the keys 84a, 84b push the first and second transmission units 3, 5, the keys 84a, 84b actually contact the first and second tabs 32, 52 to prevent the keys 84a, 84b from interfering the movement of the first and second transmission units 3, 5. Besides, the keyholes of the cores 8a, 8b are not restricted to be up-right, the keyholes of the cores 8a, 8b oriented toward

any angle can be cooperated with the present invention, simply installing the driving members 1a, 1b corresponding to the directions of the keyholes. The driving members 1a, 1b and the first and second transmission units 3, 5 do not need to be individually manufactured along with the different orientation of the keyholes.

[0039] While we have shown and described the embodiment in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.

Claims

1. A transmission structure for a double sided lock, comprising:

two driving members (1a, 1b) between which a gap (L) is formed, each of the two driving members (1a, 1b) having an axis (A) and a protrusion (11a/11b) extending radially from an outer periphery of each of the two driving members (1a, 1b), a resilient member (2) located between the two driving members (1a, 1b), each of the two driving members (1a, 1b) having a hole (13a/13b) defined centrally therethrough, each of the holes (13a, 13b) of the two driving members (1a, 1b) having a stop (131a, 131b); a first transmission unit (3) having a shank (31) extending from one end thereof and the shank (31) extending through the holes (13a, 13b) of the two driving members (1a, 1b) along the axis (A), a first spring (4) located between the first transmission unit (3) and the stop (131a) of one of the two driving members (1a, 1b), and a second transmission unit (5) having a tubular portion (51) extending from one end thereof, the tubular portion (51) extending through the holes (13a, 13b) of the two driving members (1a, 1b) along the axis (A), the shank (31) being movably inserted in the tubular portion (51), the shank (31) and the tubular portion (51) being independent to each other, a second spring (6) located between the second transmission unit (5) and the stop (131b) of the other one of the two driving members (1a, 1b).

2. The transmission structure as claimed in claim 1 further comprising a cam (7) which has a through hole (71), a passive member (72) located on an inner periphery of the through hole (71) and located corresponding to the two driving members (1a, 1b), the passive member (72) having a recess (73) defined radially therein which is sized to allow the two driving members (1a, 1b) to pass, two cores (8a, 8b) respectively connected to two sides of the cam (7) and driving the two driving members (1a, 1b) respectively,

- the two driving members (1a, 1b) located corresponding to the through hole (71) of the cam (7), a space (81) defined between the two cores (8a, 8b), the two driving members (1a, 1b) being movably located in the space (81), when one of the two driving members (1a, 1b) is moved toward the core (8a) corresponding thereto, the protrusion (11a) of the driving member (1a) moved toward the core (8a) is removed from the recess (73), the protrusion (11b) of the driving member (1b) not moved toward the core (8b) is located in the recess (73), when the two protrusions (11a, 11b) of the two driving members (1a, 1b) are located corresponding to the recess (73), and when the two driving members (1a, 1b) are applied by a force, the resilient member (2) is compressed, and the two protrusions (11a, 11b) of the two driving members (1a, 1b) are located in the recess (73).
3. The transmission structure as claimed in claim 1, wherein each of the holes (13a, 13b) of the two driving members (1a, 1b) has a slot (132a/132b) defined axially therein, the first transmission unit (3) has a first tab (32) extending therefrom which is located corresponding to the slot (132a) corresponding thereto, the second transmission unit (5) has a second tab (52) extending therefrom which is located corresponding to the slot (132b) corresponding thereto.
 4. The transmission structure as claimed in claim 1, wherein the shank (31) has a restriction member (311), the tubular portion (51) has a restriction portion (511) defined therein which restricts the restriction member (311) from disengaging from the tubular portion (51).
 5. The transmission structure as claimed in claim 1, wherein the resilient member (2) has a resilient coefficient that is smaller than that of each of the first and second springs (4, 6).
 6. The transmission structure as claimed in claim 1, wherein each of the two driving members (1a, 1b) has a groove (12) defined in one side thereof, two ends of the resilient member (2) are engaged with the grooves (12) of the two driving members (1a, 1b).
 7. The transmission structure as claimed in claim 1, wherein the two driving members (1a, 1b) are identical.
 8. The transmission structure as claimed in claim 2, wherein when one of the two driving members (1a, 1b) is moved toward the core (8a) corresponding thereto, the protrusion (11a) of the driving member (1a) moved toward the core (8a) is removed from the recess (73), the protrusion (11b) of the driving member (1b) not moved toward the core (8b) is located in the recess (73).
 9. The transmission structure as claimed in claim 2, wherein the two cores (8a, 8b) each have a reception room (82a/82b), each of the reception room (82a, 82b) has a notch (83a/83b) defined in an inside thereof, the notches (83a, 83b) are located corresponding to the protrusions (11a, 11b).
 10. The transmission structure as claimed in claim 2, wherein the two cores (8a, 8b) are identical or different from each other.
 11. The transmission structure as claimed in claim 2 further comprising at least one key (84a/84b), when the at least one key (84a/84b) is inserted into one of the cores (8a, 8b), a distal end of the at least one key (84a/84b) contacts against the first transmission unit (3) or the second transmission unit (5).
 12. The transmission structure as claimed in claim 2 further comprising a housing (9) which has a cylindrical portion (91), the two cores (8a, 8b) inserted in the cylindrical portion (91) from two ends of the cylindrical portion (91), the cylindrical portion (91) having an opened section (92) in which the cam (7) is engaged, the cam (7) is located between the two cores (8a, 8b).
 13. The transmission structure as claimed in claim 12, wherein two clips (93) are located at two ends of the opened section (92) so as to position the two cores (8a, 8b) to the cylindrical portion (91).
- Amended claims in accordance with Rule 137(2) EPC.**
1. A transmission structure for a double sided lock, comprising:

two driving members (1a, 1b), each of the two driving members (1a, 1b) having an axis (A) and a protrusion (11a/11b) extending radially from an outer periphery of each of the two driving members (1a, 1b), a resilient member (2) located between the two driving members (1a, 1b), each of the two driving members (1a, 1b) having a hole (13a/13b) defined centrally therethrough, each of the holes (13a, 13b) of the two driving members (1a, 1b) having a stop (131a, 131b) ; a first transmission unit (3) having a shank (31) extending from one end thereof and the shank (31) extending through the holes (13a, 13b) of the two driving members (1a, 1b) along the axis (A), a first spring (4) located between the first transmission unit (3) and the stop (131a) of one

of the two driving members (1a, 1b), and a second transmission unit (5) having a tubular portion (51) extending from one end thereof, the tubular portion (51) extending through the holes (13a, 13b) of the two driving members (1a, 1b) along the axis (A), the shank (31) being movably inserted in the tubular portion (51), the shank (31) and the tubular portion (51) being independent to each other, a second spring (6) located between the second transmission unit (5) and the stop (131b) of the other one of the two driving members (1a, 1b),

characterized by the fact a gap (L) is formed between the two driving members (1a, 1b), and the shank (31) has a restriction member (311), the tubular portion (51) has a restriction portion (511) defined therein which restricts the restriction member (311) from disengaging from the tubular portion (51).

2. The transmission structure as claimed in claim 1, wherein each of the holes (13a, 13b) of the two driving members (1a, 1b) has a slot (132a/132b) defined axially therein, the first transmission unit (3) has a first tab (32) extending therefrom which is located corresponding to the slot (132a) corresponding thereto, the second transmission unit (5) has a second tab (52) extending therefrom which is located corresponding to the slot (132b) corresponding thereto.
3. The transmission structure as claimed in claim 1, wherein the resilient member (2) has a resilient coefficient that is smaller than that of each of the first and second springs (4, 6).
4. The transmission structure as claimed in claim 1, wherein each of the two driving members (1a, 1b) has a groove (12) defined in one side thereof, two ends of the resilient member (2) are engaged with the grooves (12) of the two driving members (1a, 1b).
5. The transmission structure as claimed in claim 1, wherein the two driving members (1a, 1b) are identical.
6. A double side lock comprising the transmission structure as claimed in claim 1 further comprising a cam (7) which has a through hole (71), a passive member (72) located on an inner periphery of the through hole (71) and located corresponding to the two driving members (1a, 1b), the passive member (72) having a recess (73) defined radially therein which is sized to allow the two driving members (1a, 1b) to pass, two cores (8a, 8b) respectively connected to two sides of the cam (7) and driving the two driving members (1a, 1b) respectively, the two driving members (1a, 1b) located corresponding to the

through hole (71) of the cam (7), a space (81) defined between the two cores (8a, 8b), the two driving members (1a, 1b) being movably located in the space (81), when one of the two driving members (1a, 1b) is moved toward the core (8a) corresponding thereto, the protrusion (11a) of the driving member (1a) moved toward the core (8a) is removed from the recess (73), the protrusion (11b) of the driving member (1b) not moved toward the core (8b) is located in the recess (73), when the two protrusions (11a, 11b) of the two driving members (1a, 1b) are located corresponding to the recess (73), and when the two driving members (1a, 1b) are applied by a force, the resilient member (2) is compressed, and the two protrusions (11a, 11b) of the two driving members (1a, 1b) are located in the recess (73).

7. The double side lock as claimed in claim 6, wherein when one of the two driving members (1a, 1b) is moved toward the core (8a) corresponding thereto, the protrusion (11a) of the driving member (1a) moved toward the core (8a) is removed from the recess (73), the protrusion (11b) of the driving member (1b) not moved toward the core (8b) is located in the recess (73).
8. The double side lock as claimed in claim 6, wherein the two cores (8a, 8b) each have a reception room (82a/82b), each of the reception room (82a, 82b) has a notch (83a/83b) defined in an inside thereof, the notches (83a, 83b) are located corresponding to the protrusions (11a, 11b).
9. The double side lock as claimed in claim 6, wherein the two cores (8a, 8b) are identical or different from each other.
10. The double side lock as claimed in claim 6 further comprising at least one key (84a/84b), when the at least one key (84a/84b) is inserted into one of the cores (8a, 8b), a distal end of the at least one key (84a/84b) contacts against the first transmission unit (3) or the second transmission unit (5).
11. The double side lock as claimed in claim 6 further comprising a housing (9) which has a cylindrical portion (91), the two cores (8a, 8b) inserted in the cylindrical portion (91) from two ends of the cylindrical portion (91), the cylindrical portion (91) having an opened section (92) in which the cam (7) is engaged, the cam (7) is located between the two cores (8a, 8b).
12. The double side lock as claimed in claim 11, wherein two clips (93) are located at two ends of the opened section (92) so as to position the two cores (8a, 8b) to the cylindrical portion (91).

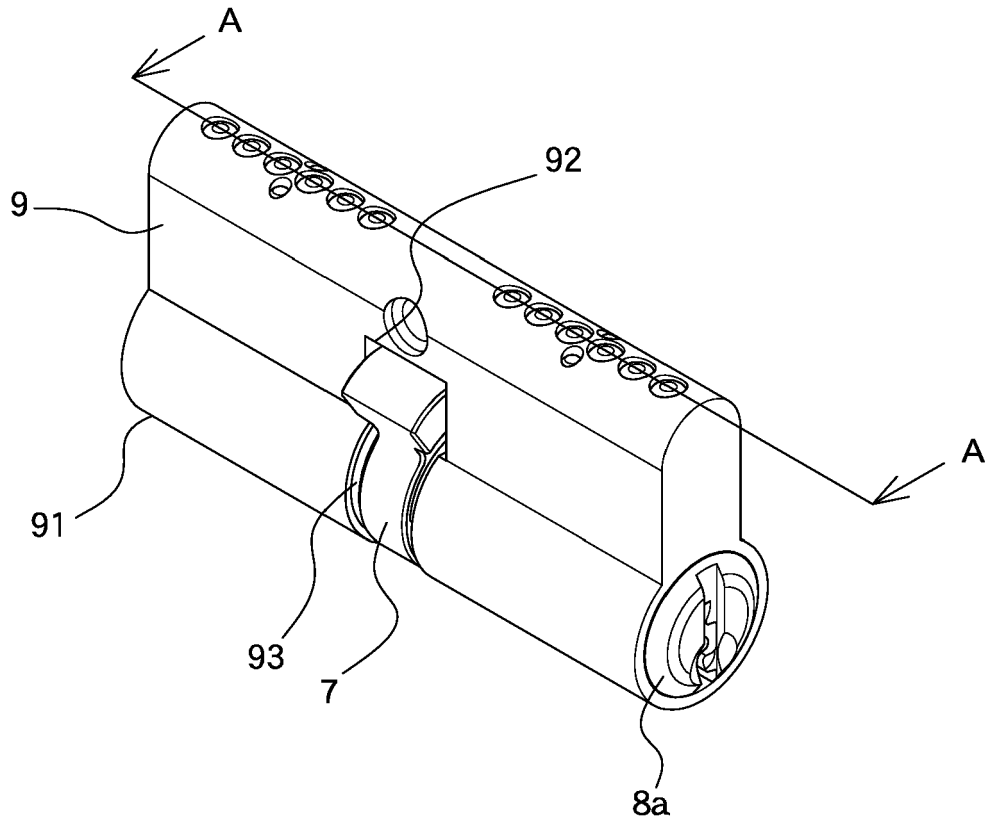


FIG.1

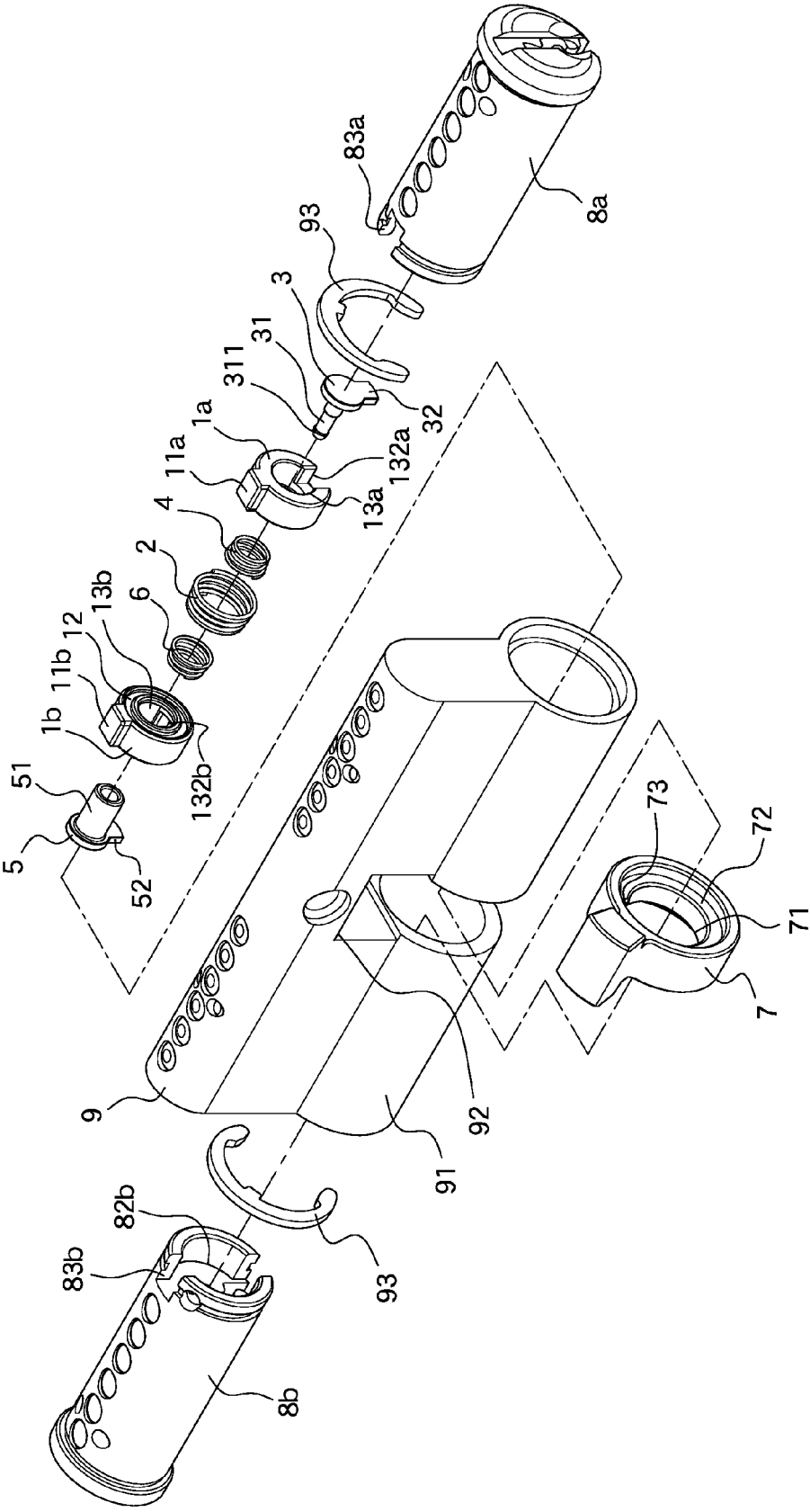


FIG.2

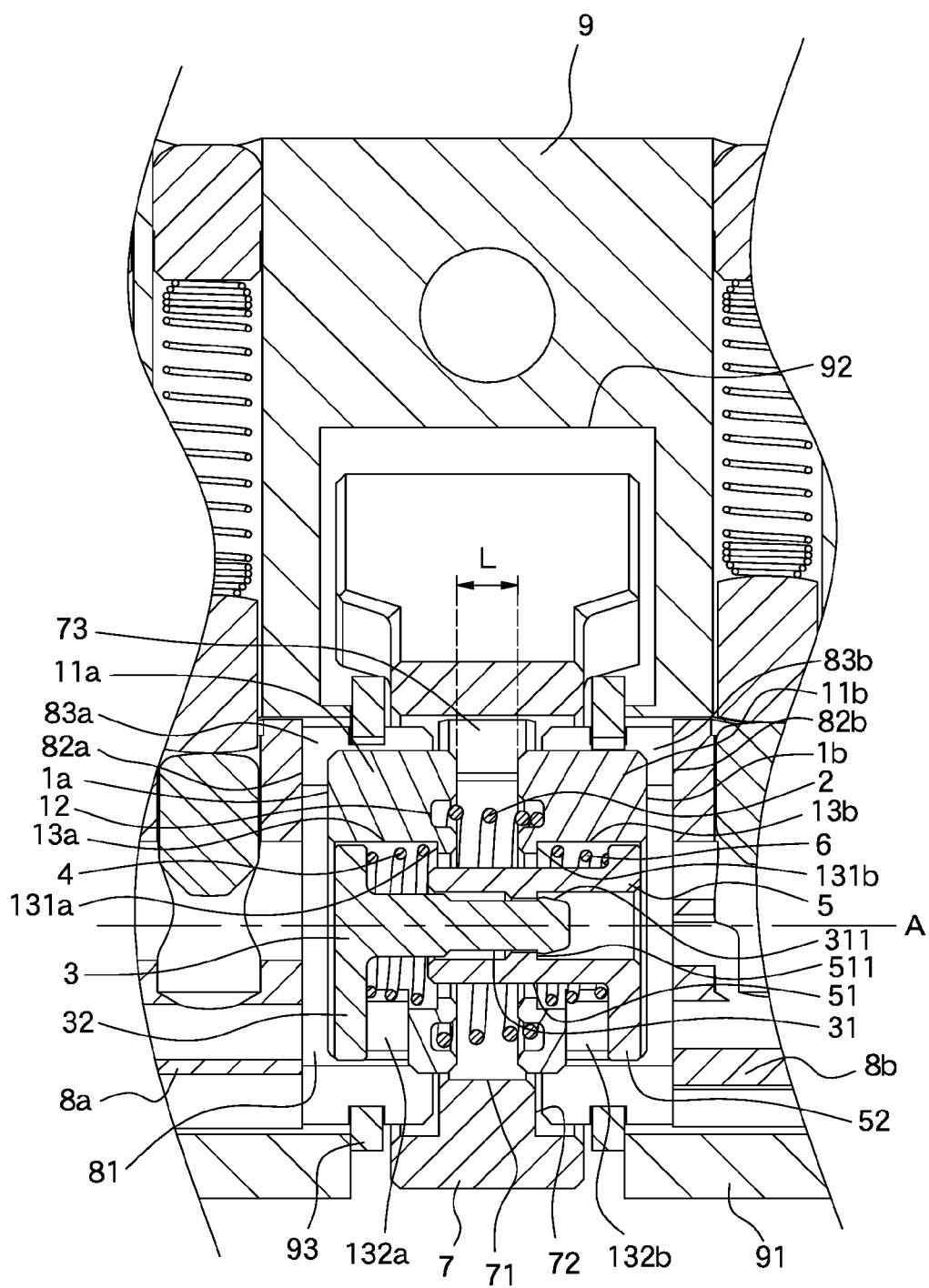


FIG.3

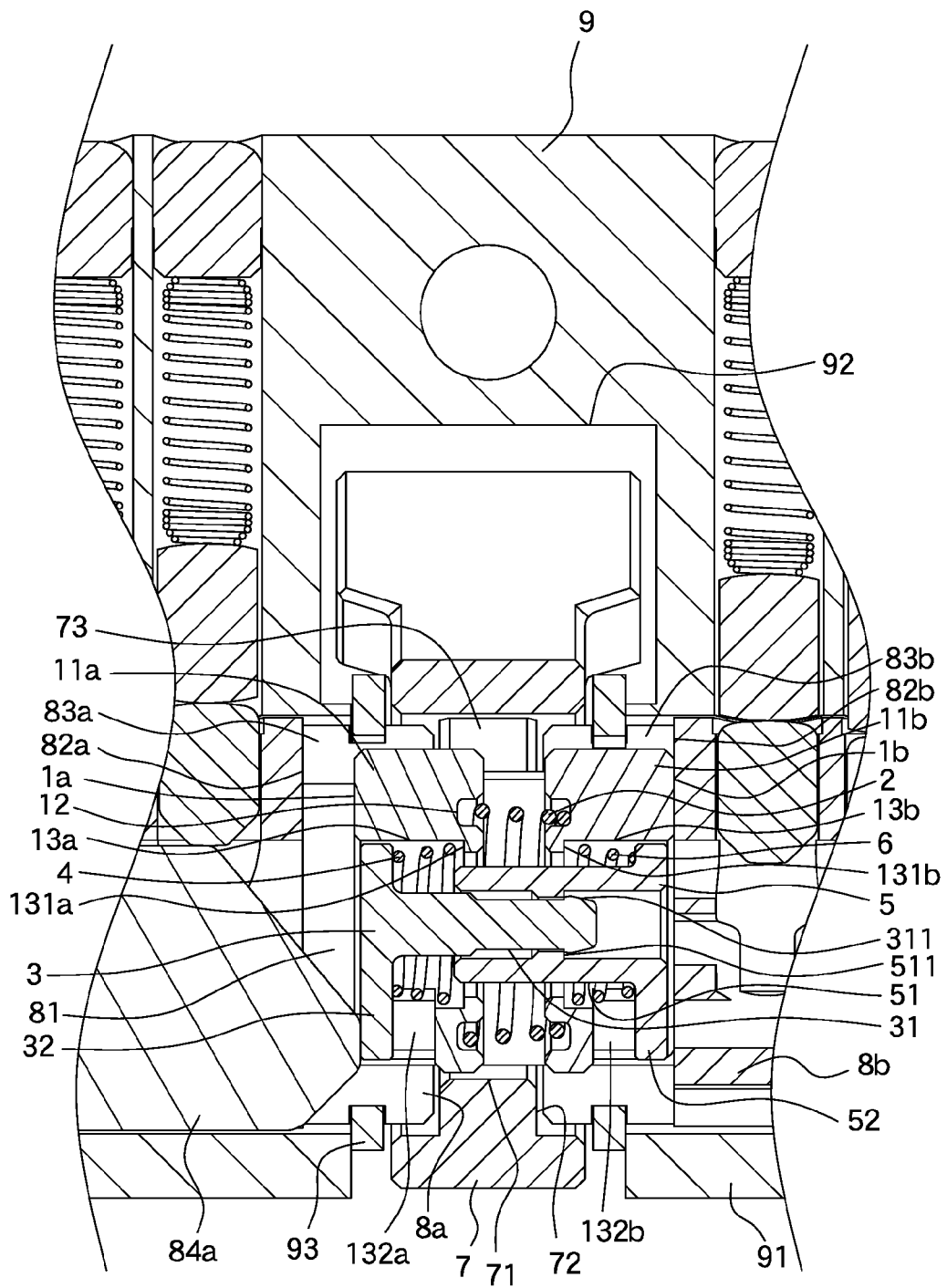


FIG.4

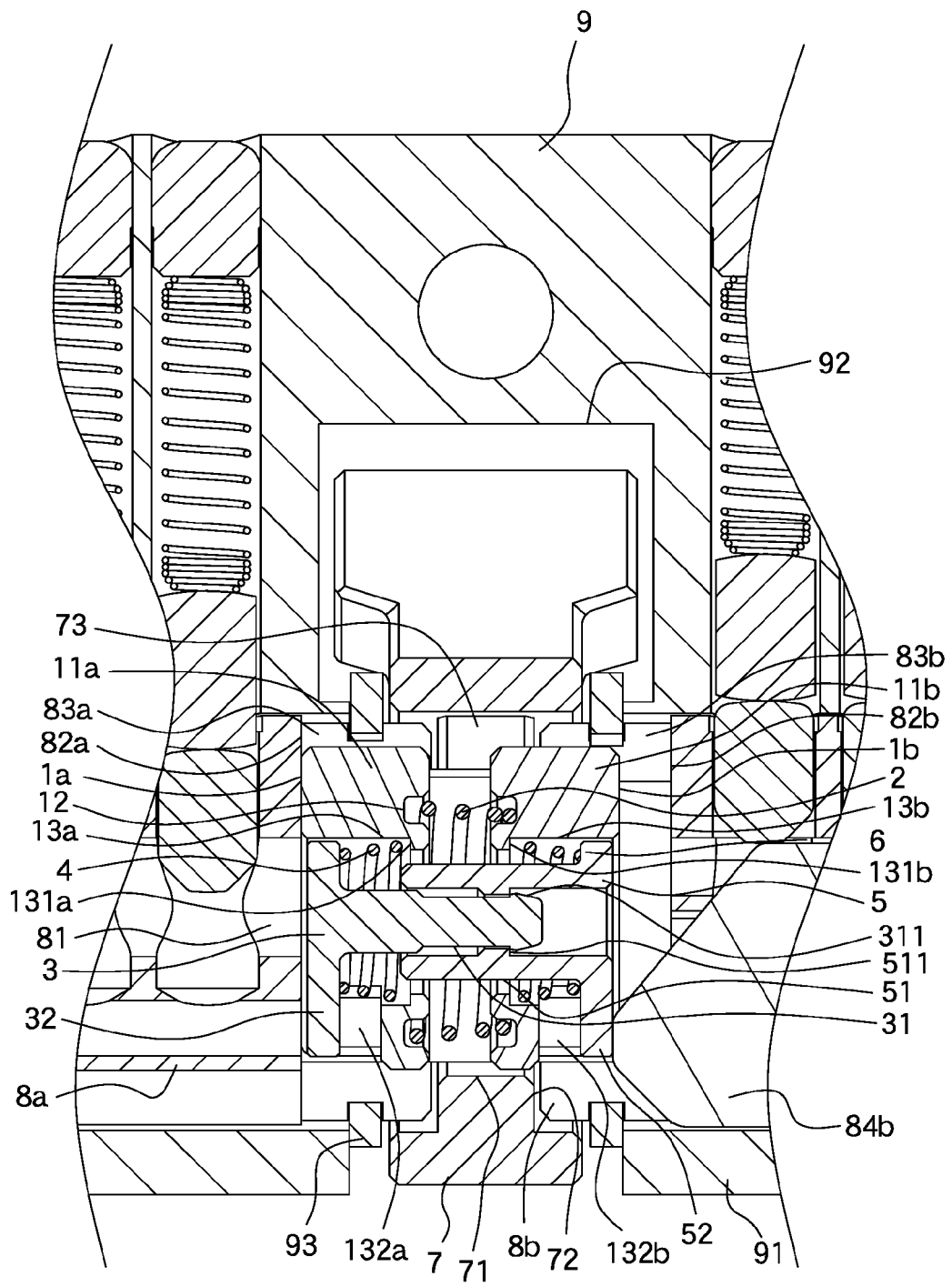


FIG.5

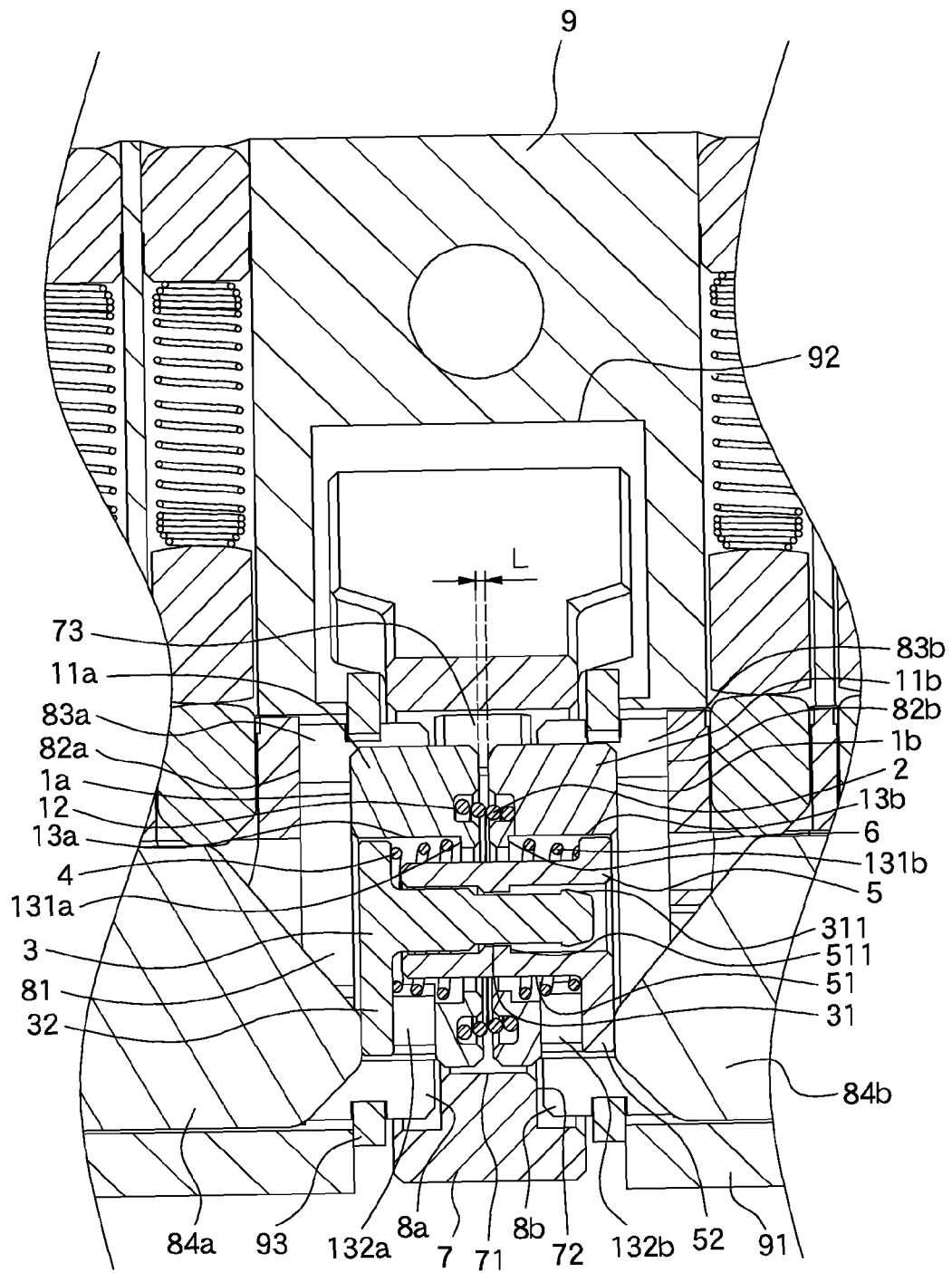


FIG.6

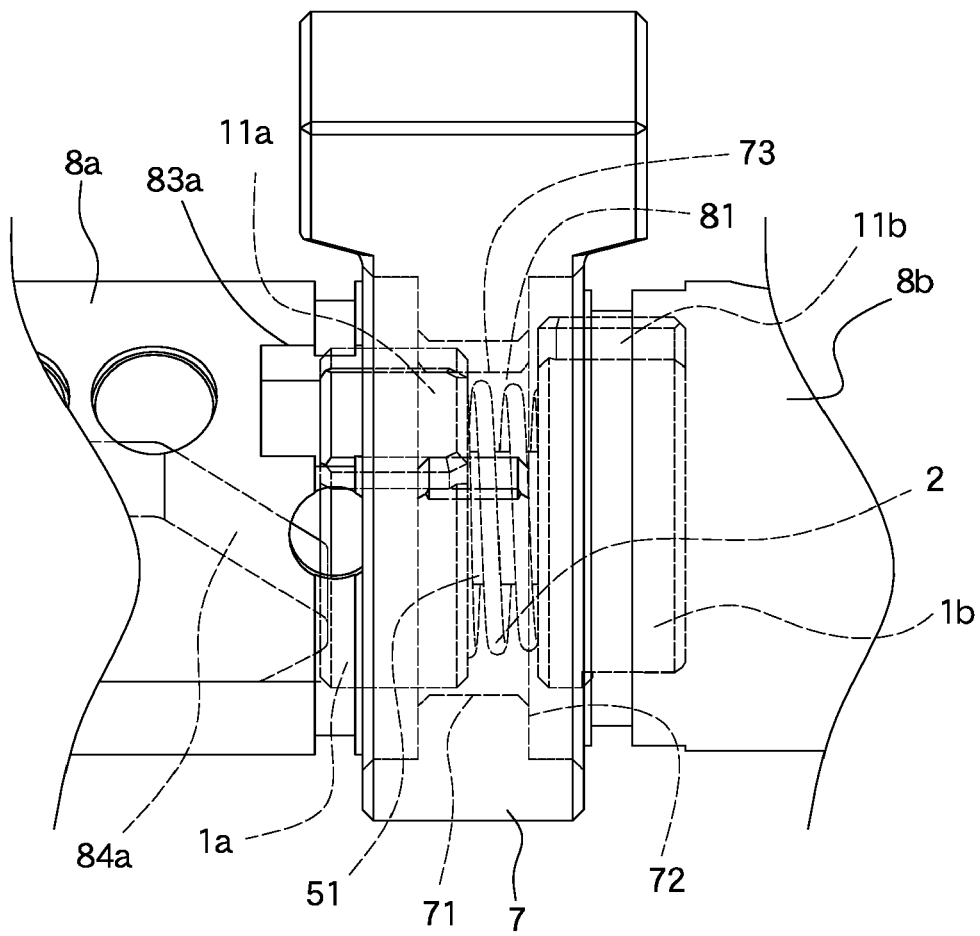


FIG.7

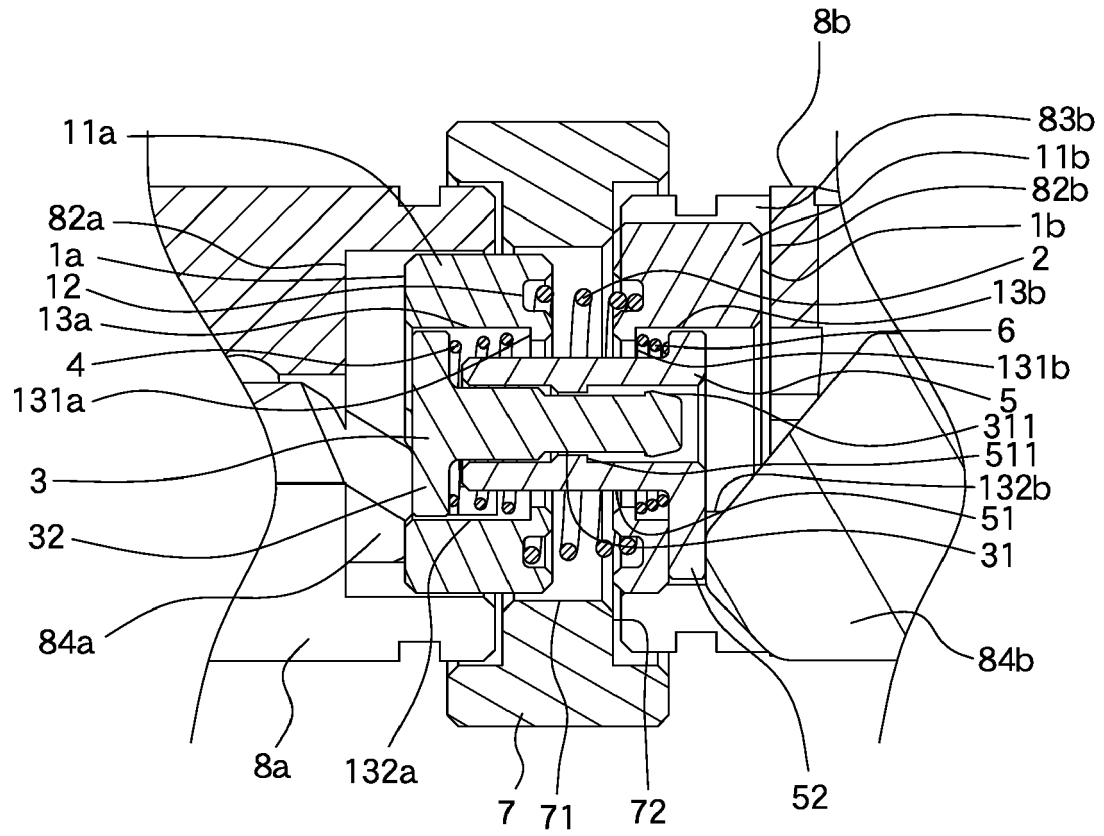


FIG.8

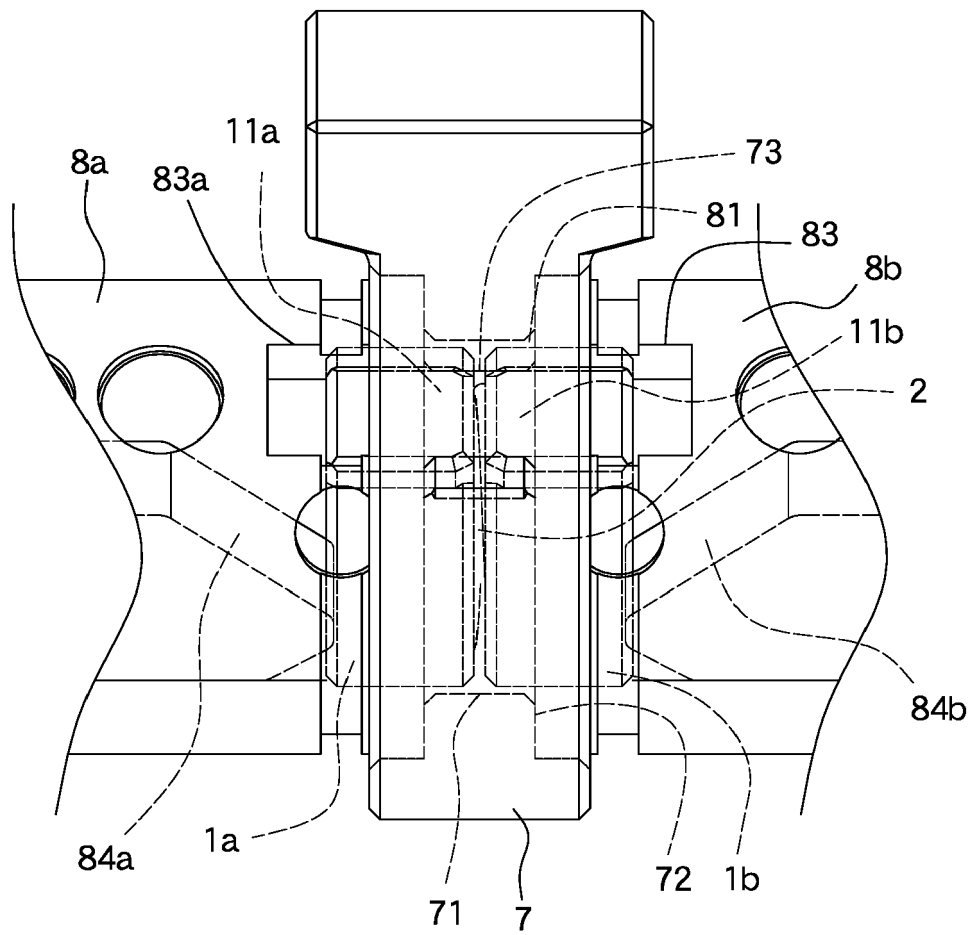


FIG.9



EUROPEAN SEARCH REPORT

Application Number
EP 15 17 4154

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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