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(54) **CYLINDER LOCK**

ZYLINDERSCHLOSS

SERRURE A BARILLET

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Description

Technical field

[0001] The invention relates to a cylinder lock, which can be implemented in the field of light industry, especially in the field of the locking devices for residential houses, public buildings etc.

Prior art

[0002] Cylinder lock is known from BG No. 62182, consisting of a housing with an inner and an outer cylinder core fixed by rings thereto, as in the housing and in the inner core, which is longer than the outer core, there are formed coaxial bores wherein springs, housing and core pins are placed and on the outer part of the housing and on one of the cores there are stuffed additional steel inserts, and on the inner core there is mounted a cam fixed by a spring and a pin, as in the front part of the housing there is formed a slot providing a weaken cross section which guarantee that in case of a burglary attack the cylinder lock will break in the intended place, thereby the access to the opening of the lock and its unlocking is impossible as this opening rests filled with the housing of the cylinder lock which continues to operate with its original key even after the burglary attack. Said cylinder lock has a disadvantage - the cam whereby the locking and unlocking are realized is fixed on the inner core and the relevant locking and unlocking is possible only through the inner core by using two different keys - a short key to lock and unlock inside and a long key to lock and unlock outside. This is uncomfortable not only for the customer, but it limits the cylinder lock application. Only double-side cylinder lock could be performed, besides with limited length of the housing.

[0003] An other lock is known from DE 298 08 432 U1, this document discloses a cylinder lock comprising a housing, a cam and an inner core with a channel for a key and coaxial basic bores, wherein closing pins, springs, housing pins and core pins are placed, furthermore on the core an additional slot providing a weakened cross section is arranged and in the core inserts of hardened material are placed.

Summary of the invention

[0004] The present invention seeks to provide an improved construction of a cylinder lock having an increased protection against burglary as the locking and unlocking operations inside and outside are realized with the same key with keeping the number of the locking combinations.

There is thus provided a cylinder lock, consisting of a housing, a cam, in the front part of the housing there is a slot, as an inner and an outer cylinder core are fixed by rings thereto, said cores have a key channel for the key insertion, as in the housing and in the inner core

coaxial basic bores are formed wherein closing pins, springs, housing and core pins are placed. In the outer part of the housing and in the front part of the outer core there are stuffed inserts of a hardened metal which have a protection function against drilling.

In accordance with the invention the cam is freely mounted between the inner and the outer core which both have identical lengths. Also, in the outer core there are formed basic bores which are coaxial with relevant basic bores formed in the housing, wherein closing pins, springs, housing and core pins are placed.

Throughout one of the basic bores of the outer core there is formed an additional slot arranged in the same plane with the slot formed in the housing, so that one common slot forms providing a weaken cross section wherein a plastic holder is mounted closing the common slot, so that therein a spring, a housing and a core pin are placed purposely to keep the number of locking combinations. With so formed common slot there is realized an anti-breaking protection of the cylinder lock. In the additional slot of the outer core there is formed a radial bore wherein a steel ball is placed to stabilize the outer core rotation, as the diameter of the ball is bigger than the width of the additional slot.

Besides, in accordance with the invention an anti-drilling protection is also realized in case of overcoming the anti-breaking protection, as next to the slot formed in the housing and next to the additional slot formed in the outer core there are mounted additional inserts of a hardened metal in relevant coaxial formed bores in the housing and in the outer core, which are chess-disposed to the basic housing and to the basic core bores. In accordance with the invention as well, in planes perpendicular to the plane of the key channel in the outer and in the inner core there are formed additional core bores wherein additional core pins are disposed, and inside the housing there are formed longitudinal channels with a configuration corresponding to the additional core pins configuration.

According to the invention a variant is given, where the cylinder lock consists of a housing, a cam, in the front part of the housing there is a slot, as an inner and an outer cylinder core are fixed by rings thereto, said cores have a key channel for the key insertion. The outer and the inner core have different lengths. In the housing and in the inner core there are formed coaxial basic bores wherein closing pins, springs, housing and core pins are disposed. In the outer part of the housing and in the front part of the outer core there are stuffed inserts of a hardened metal. In accordance with the invention the cam is freely mounted between the outer and the inner cores. In the back part of the housing there is formed a second slot, as in the outer core there are also formed basic bores which are coaxial with relevant basic bores formed in the housing, wherein closing pins, springs, housing and core pins are placed. Throughout one of the basic bores of the outer core and respectively of the inner core there are formed additional slots arranged in the same plane respectively with the slot formed in the front part

of the housing and with the second slot formed in the back part of the housing, so that two common slots form respectively in the front and in the back part of the housing providing a weaken cross section wherein plastic holders are mounted closing the common slots so therein springs, housing and core pins are disposed. In the additional slots of the outer and of the inner core there are formed radial bores, in each of them there is mounted a steel ball, with a diameter bigger than the width of the additional slots. Next to the slot formed in the front part of the housing and next to the second slot formed in the back part of the housing as well as next to the additional slots formed in the outer and in the inner core there are mounted additional inserts of a hardened metal in respectively coaxial formed bores in the housing and in the outer and in the inner core which are chess-disposed to the basic housing bores and to the basic core bores. Besides, in planes perpendicular to the plane of the key channel in the outer and in the inner core there are formed additional bores wherein respectively additional core pins are disposed, and inside the housing there are formed longitudinal channels with a configuration corresponding to the additional core pins configuration.

The advantage of the cylinder lock in accordance with the invention consists in that with the improved anti-burglary function and with the kept number of the locking combinations the process of locking and unlocking outside and inside realizes by using the same key, both outside and inside the cylinder lock respectively through the outer and the inner core which are independent each other. This gives an opportunity for the product unification as the constructional limitation of the housing length dies out which allows a variation in the lengths of the outer and of the inner core and increases the cylinder lock application.

The cylinder lock in accordance with the invention can be implemented in each necessary configuration without size limitation like double, half or knob cylinder and in the master key systems or as a cylinder lock with special function as well.

Brief description of the drawings

[0005] The present invention will be understood and appreciated more fully from the following enclosed drawings:

Fig. 1 represents an axonometric illustration of a symmetrical cylinder lock (with identical lengths of the inner and the outer core).

Fig. 2 represents a cross-section of a symmetrical cylinder lock.

Fig. 3 represents a view underneath of a symmetrical cylinder lock.

Fig. 4 and fig. 5 represent sections in typical cuts of a symmetrical cylinder lock.

Fig. 6 represents an axonometric illustration of an asymmetrical cylinder lock (with different lengths of

the inner and the outer core).

Fig. 7 represents a cross-section of an asymmetrical cylinder lock.

Fig. 8 represents a view underneath of an asymmetrical cylinder lock.

Detailed description of the embodiments

[0006] One embodiment of the cylinder lock is shown in fig. 1, fig. 2, fig. 3, fig. 4 and fig. 5, whereat the cylinder lock comprises a housing 1, a cam 8, there is a slot 2 in the front part of the housing 1, as an inner 5 and an outer 4 cylinder core are fixed by rings 3 thereto, which have a channel 6 for a key 7 insertion, as in the housing 1 and in the inner core 5 there are formed coaxial basic bores 11 and 12 wherein closing pins 16, springs 13, housing pins 14 and core pins 15 are placed, as in the outer part of the housing 1 and in the front part of outer core 4 there are stuffed inserts 18 and 17 of a hardened metal, which have a protection function against drilling. The cam 8 is freely mounted between the outer 4 and the inner 5 core, which both have identical lengths, as in the outer core 4 there are also formed basic bores 12 which are coaxial with relevant basic bores 11 formed in the housing 1, wherein closing pins 16, springs 13, housing pins 14 and core pins 15 are placed. Throughout one of the said basic bores 12 of the outer core 4 there is formed an additional slot 9 arranged in the same plane with the slot 2 formed in the housing 1, so that one common slot forms providing a weaken cross section wherein a plastic holder 10 is mounted, closing the common slot, so that therein a spring 13, a housing pin 14 and a core pin 15 are placed purposely to keep the number of the locking combinations. In the additional slot 9 of the outer core 4 there is formed a radial bore wherein a steel ball 19 is mounted with a diameter bigger than the width of the additional slot 9. The said steel ball 19 is intended to stabilize the outer core 4 rotation. Next to the slot 2 and next to the additional slot 9 formed respectively in the housing 1 and in the outer core 4 there are mounted additional inserts of a hardened metal 21 and 20 in relevant coaxial formed bores 23 and 22 in the housing 1 and in the outer core 4 which are chess-disposed to the basic housing bores 11 and to the basic core bores 12. The said additional inserts 21 and 20 are intended to operate as an anti-drilling protection in case of overcoming the anti-breaking protection realized by the slot 2 and the additional slot 9. In planes perpendicular to the plane of the key channel 6 in the outer core 4 and in the inner core 5 there are formed additional bores 26 wherein additional core pins 24 are disposed and inside the housing 1 there are formed longitudinal channels 25 with a configuration corresponding to the additional core pins 24 configuration.

[0007] Another embodiment of the cylinder lock is shown in fig. 6, fig. 7 and fig. 8, whereat the cylinder lock consists of a housing 1', a cam 8, there is a slot 2 in the front part of the housing 1', as an outer 4' and an inner 5' cylinder core are fixed by rings 3 thereto, which have

a channel 6 for a key 7 insertion. The outer 4' and the inner 5' cores have different lengths. In the housing 1' and in the inner core 5' coaxial basic bores 11 and 12 are formed wherein closing pins 16, springs 13, housing pins 14 and core pins 15 are placed, as in the outer part of the housing 1' and in the front part of the outer core 4' there are stuffed inserts 18 and 17 of a hardened metal. The cam 8 is freely mounted between the outer 4' and the inner 5' core. In the back part of the housing 1' there is formed a second slot 2', as in the outer core 4' there are formed also basic bores 12 which are coaxial with relevant basic bores 11 formed in the housing 1' wherein closing pins 16, springs 13, housing pins 14 and core pins 15 are disposed. Throughout one of the said basic bores 12 of the outer core 4' and respectively of the inner core 5' there are formed additional slots 9 and 9' arranged in the same plane respectively with the slot 2 and with the second slot 2' formed in the front and in the back part of the housing 1' so that two common slots form respectively in the front and in the back part of the housing 1' providing a weakened cross section wherein plastic holders 10 are mounted closing the common slots so that wherein springs 13, housing pins 14 and core pins 15 are placed. In the additional slots 9 and 9' of the outer 4' and of the inner core 5' there are formed radial bores, in each of them there is mounted a steel ball 19, with a diameter bigger than the width of the additional slots 9 and 9'. Next to the slot 2 and next to the second slot 2' formed in the housing 1' and next to the additional slots 9 and 9' formed respectively in the outer core 4' and in the inner core 5', there are mounted additional inserts of a hardened metal 21 and 20 in relevant coaxial formed bores 23 and 22 in the housing 1' and in the outer core 4' and in the inner core 5' which are chess-disposed to the basic housing bores 11 and to the basic core bores 12. Moreover, in planes perpendicular to the plane of the key channel 6 in the outer core 4' and in the inner core 5' there are formed additional bores 26 wherein respectively additional core pins 24 are disposed and inside the housing 1' there are formed longitudinal channels 25 with a configuration corresponding to the additional core pins 24 configuration. In this embodiment the execution of slots on both cylinder lock sides is necessary, because the assembly way of the cylinder lock is not known beforehand, and to guarantee its anti-burglary function it is necessary the formed common slot to be executed outside the lock during its assembly.

Implementation of the invention

[0008] In accordance with the invention the cylinder lock using the associated key, operates as follows. When lock or unlock the cylinder lock outside or inside, the associated key 7 according to fig. 1, 2, 3, 4 and 5 inserts into the key channel 6 of the outer core 4 or of the inner core 5, whereat the core pins 15 and the additional core pins 24, being engaged in the relevant code combination on the key 7, fall respectively in the outer core 4 or in the

inner core 5 and make possible their rotation in locking or unlocking direction. However, if the code combination on the key 7 is inaccurate, when the key 7 inserts into the key channel 6 of the outer 4 or of the inner 5 core, the core pins 15 don't fall in the respective core, and/or the additional core pins 24 block in the longitudinal channels 25 in the housing, which makes the rotation of the relevant core impossible, respectively the locking/ unlocking operations are also impossible.

Claims

1. Cylinder lock comprising a housing (1), a cam (8), in the front part of the housing (1) there is a slot (2), as to the housing (1) there are fixed by rings (3) an outer core (4) and an inner core (5) which have a channel (6) for a key (7) insertion, as in the housing (1) and in the inner core (5) there are formed coaxial basic bores (11) and (12) wherein closing pins (16), springs (13), housing pins (14) and core pins (15) are placed, as in the outer part of the housing (1) and in the front part of the outer core (4) there are stuffed inserts (18) and (17) of a hardened metal, **characterized in that** the cam (8) is freely mounted between the outer (4) and the inner (5) core which both have identical lengths, as in the outer core (4) there are also formed basic bores (12) which are coaxial with relevant basic bores (11) formed in the housing (1) wherein closing pins (16), springs (13), housing pins (14) and core pins (15) are placed, as throughout one of the said basic bores (12) of the outer core (4) there is formed an additional slot (9) arranged in the same plane with the slot (2) formed in the housing (1), so that one common slot forms providing a weakened cross section wherein a plastic holder (10) is mounted closing the common slot so that therein a spring (13), a housing pin (14) and a core pin (15) are placed, as in the additional slot (9) of the outer core (4) there is formed a radial bore wherein a steel ball (19) is mounted, at that next to the slot (2) and next to the additional slot (9) formed respectively in the housing (1) and in the outer core (4) there are mounted additional inserts of a hardened metal (21) and (20) in relevant coaxial formed bores (23) and (22) in the housing (1) and in the outer core (4) which are chess-disposed to the basic housing bores (11) and to the basic core bores (12), as at that in planes perpendicular to the plane of the key channel (6) in the outer core (4) and in the inner core (5) there are formed additional bores (26) wherein respectively additional core pins (24) are disposed and inside the housing (1) there are formed longitudinal channels (25) with a configuration corresponding to the additional core pins (24) configuration.
2. A cylinder lock, according to claim 1, **characterized**

in that the steel ball (19) has a diameter which is bigger than the width of the additional slot (9).

3. Cylinder lock comprising a housing (1'), a cam (8), in the front part of the housing (1') there is a slot (2), as to the housing (1') there are fixed by rings (3) an outer core (4') and an inner core (5') having a channel (6) for a key (7) insertion, the outer (4') and the inner (5') cores are with different lengths, as in the housing (1') and in the inner core (5') there are formed coaxial basic bores (11) and (12) wherein closing pins (16), springs (13), housing pins (14) and core pins (15) are placed, as in the outer part of the housing (1') and in the front part of the outer core (4') there are stuffed inserts (18) and (17) of a hardened metal, **characterized in that** the cam (8) is freely mounted between the outer (4') and the inner (5') core, as in the back part of the housing (1') there is formed a second slot (2'), as in the outer core (4') there are also formed basic bores (12) which are coaxial with relevant basic bores (11) formed in the housing (1') wherein closing pins (16), springs (13), housing pins (14) and core pins (15) are disposed, as throughout one of the said basic bores (12) of the outer core (4') and respectively of the inner core (5') there are formed additional slots (9) and (9') arranged in the same plane respectively with the slot (2) and with the second slot (2') formed in the front and in the back part of the housing (1') so that two common slots form respectively in the front and in the back part of the housing (1') providing a weaken cross section wherein plastic holders (10) are mounted closing the common slots so that therein springs (13), housing pins (14) and core pins (15) are placed, as in the additional slots (9) and (9') of the outer core (4') and of the inner core (5') there are formed radial bores, in each of them there is mounted a steel ball (19), as at that next to the slot (2) and next to the second slot (2') formed in the housing (1') and next to the additional slots (9) and (9') formed in the outer core (4') and in the inner core (5'), there are mounted additional inserts of a hardened metal (21) and (20) in relevant coaxial formed bores (23) and (22) in the housing (1') and in the outer core (4') and in the inner core (5') which are chess-disposed to the basic housing bores (11) and to the basic core bores (12) as at that in planes perpendicular to the plane of the key channel (6) in the outer core (4') and in the inner core (5') there are formed additional bores (26) wherein respectively additional core pins (24) are disposed and inside the housing (1') there are formed longitudinal channels (25) with configuration corresponding to the additional core pins (24) configuration.
4. A cylinder lock, according to claim 3, **characterized in that** the steel ball (19) has a diameter which is bigger than the width of the additional slots (9) and (9').

Patentansprüche

1. Ein Schließzylinder, bestehend aus Gehäuse (1), Schließbart (8), in dem vorderen Teil des Gehäuses (1) gibt es einen Einschnitt (2), wobei am Gehäuse (1) durch Seegerringe (3) ein Außenrotor (4) und ein Innenrotor fest angebracht sind (5), die einen Schlüsselkanal (6) haben, in den der Schlüssel eingeführt wird (7), wobei in dem Gehäuse (1) und in dem Innenrotor (5) koaxiale Kernbohrungen (11) und (12) angefertigt sind, in denen Schließstifte (16), Stiffeder (13), Sperrstifte (14) und Sicherheitsstifte (15) angebracht sind, wobei es in dem Außenteil des Gehäuses (1) und in dem vorderen Teil des Außenrotors (4) aufgesetzte Einlagen aus gehärtetem Metall gibt (18) und (17), charakterisiert dadurch dass der Schließbart (8) zwischen dem Außenrotor (4) und dem Innenrotor (5) frei montiert ist, die gleich lang sind, wobei in dem Außenrotor (4) ebenfalls Kernbohrungen angefertigt sind (12), die zu den entsprechenden Kernbohrungen koaxial sind (11), angefertigt in dem Gehäuse (1), in dem sich Schließstifte (16), Federstifte (13), Sperrstifte (14) und Sicherheitsstifte (15) befinden, wobei durch eine der Kernbohrungen (12) des Außenrotors (4) ein zusätzlicher Einschnitt angebracht ist (9), der in der gleichen Ebene mit dem Einschnitt (2) liegt, der in dem Gehäuse angefertigt worden ist (1) so, dass ein gemeinsamer Einschnitt gebildet wird, der einen geschwächten Querschnitt gewährleistet, in dem eine Kunststoffhalterung montiert ist (10), die den gemeinsamen Einschnitt so schließt, dass sich in ihm Federstift (13), Sperrstift (14) und Sicherheitsstift (15) befinden, wobei in dem zusätzlichen Einschnitt (9) des Außenrotors (4) eine Radialöffnung angefertigt worden ist, in der eine Stahlkugel montiert ist (19), dabei nach dem Einschnitt (2) und danach nach dem zusätzlichen Einschnitt (9), angefertigt jeweils im Gehäuse (1) und dem Außenrotor (4) zusätzliche Einlagen aus gehärtetem Metall montiert worden sind (21) und (20) in jeweils koaxial angefertigten Öffnungen (23) und (22) im Gehäuse (1) und dem Außenrotor (4), die zu den Kernbohrungen des Gehäuses (11) und den Hauptrotoröffnungen schachbrettartig angeordnet sind (12), wobei in Ebenen, die senkrecht zur Ebene des Schließkanals stehen (6) im Außenrotor (4) und dem Innenrotor (5) jeweils zusätzlich gebildete Zusatzstifte positioniert sind (26), in denen jeweils zusätzliche Rotorstifte angebracht sind (24) und von der Innenseite des Gehäuses (1) sind längliche Kanäle angefertigt worden (25) mit einem Aufbau, der jenem den zusätzlichen Rotorstiften entspricht (24).
2. Ein Schließzylinder, gemäß Anspruch 1, wird **dadurch gekennzeichnet, dass** die Stahlkugel (19) einen Durchmesser hat, der größer ist als die Breite des zusätzlichen Einschnitts (9).

3. Ein Schließzylinder, bestehend aus einem Gehäuse (1'), einem Schlüsselbart (8), in dem vorderen Teil des Gehäuses (1') gibt es einen Einschnitt (2), wobei an das Gehäuse (1') durch Seegerringe (3) ein Außenrotor (4') und Innenrotor (5') befestigt worden sind, die einen Schließkanal (6) zum Einführen eines Schlüssels (7) haben, der Außenrotor (4') und der Innenrotor (5') haben verschiedene Längen, wobei in dem Gehäuse (1') und in dem Innenrotor (5') koaxiale Hauptöffnungen angefertigt worden sind (11) und (12), in denen sich Schließstifte (16), Federstifte (13), Sperrstifte (14) und Sicherheitsstifte befinden (15), wobei es in dem Außenteil des Gehäuses (1') und in dem vorderen Teil des Außenrotors (4') aufgesetzte Einlagen aus gehärtetem Metall gibt (18) und (17), die sich dadurch kennzeichnen, dass der Schlüsselbart (8) frei zwischen dem Außenrotor (4') und dem Innenrotor (5') montiert ist, wobei im hinteren Teil des Gehäuses (1') ein zweiter Einschnitt angefertigt worden ist (2'), dabei sind in dem Außenrotor (4') ebenfalls Hauptöffnungen angefertigt worden (12), die zu den entsprechenden Hauptöffnungen koaxial liegen (11) und die in Gehäuse angefertigt worden sind (1'), in denen sich die Schließstifte (16), Federstifte (13), Sperrstifte (14) und Sicherheitsstifte befinden (15), wobei über eine der Hauptöffnungen (12) des Außenrotors (4') und jeweils des Innenrotors (5') zusätzliche Einschnitte angefertigt worden sind (9) und (9'), die in der gleichen Ebene jeweils mit dem Einschnitt (2) und den zweiten Einschnitt liegen (2'), angefertigt in dem vorderen und dem hinteren Teil des Gehäuses (1') so, dass zwei gemeinsame Einschnitte gebildet werden, jeweils in dem vorderen und dem hinteren Teil des Gehäuses (1'), die einen geschwächten Querschnitt gewährleisten, in dem Kunststoffhalterungen montiert sind (10), die den gemeinsamen Einschnitt so schließen, dass sich in ihnen Federstifte (13), Sperrstifte (14) und Sicherheitsstifte (15) befinden, wobei in den zusätzlichen Einschnitten (9) und (9') am Außenrotor (4') und an Innenrotor (5') Radialöffnungen angebracht worden sind, in jeder von ihnen ist eine Stahlkugel montiert (19), dabei nach dem Einschnitt (2) und nach dem zweiten Einschnitt (2'), angefertigt im Gehäuse (1') und nach den zusätzlichen Einschnitten (9) und (9'), angefertigt in dem Innenrotor (4') und in dem Außenrotor (5'), sind zusätzliche Einlagen aus gehärtetem Metall montiert (21) und (20) in jeweils koaxial angefertigten Öffnungen (23) und (22) in dem Gehäuse (1') und in dem Außenrotor (4') und in dem Innenrotor (5'), die zu den Hauptöffnungen des Gehäuses (11) und den Hauptrotoröffnungen schachbrettartig angeordnet sind (12), wobei in Ebenen, die senkrecht zur Ebene des Schließkanals stehen (6) in dem Außenrotor (4') und in dem Innenrotor (5') zusätzliche Öffnungen gebildet worden sind (26), in denen jeweils zusätzliche Rotorstifte angebracht sind (24), und von der Innenseite des Ge-

häuses (1') längliche Kanäle angefertigt worden sind (25) mit einem Aufbau, der jenem den zusätzlichen Rotorstiften entspricht (24).

4. Ein Schließzylinder, gemäß Anspruch 3, wird **dadurch gekennzeichnet, dass** die Stahlkugel (19) einen Durchmesser hat, der größer ist als die Breite des zusätzlichen Einschnitts (9) und (9').

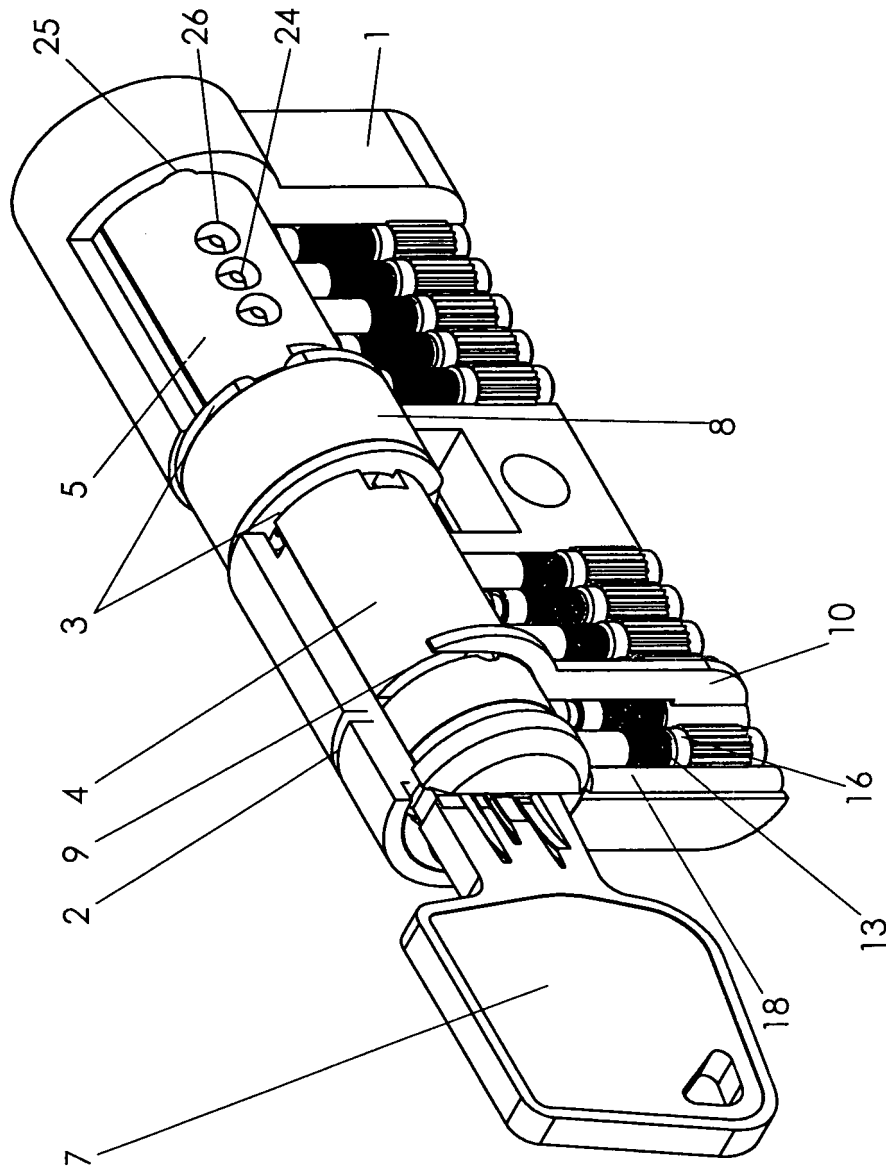
Revendications

1. Serrure à cylindre constituée d'un boîtier (1), un cliquet (8), en face du boîtier (1) il y a une fente (2), sur le boîtier (1) sont fixés au moyen de circlips (3), le rotor externe (4) et un rotor intérieur (5) ayant un canal (6) permettant d'introduire la clé (7), dans le boîtier (1) et dans le rotor intérieur (5) sont réalisés en ouvertures principaux coaxiaux (11) et (12), dans lequel sont logées goupilles de fermeture (16), des ressorts (13), des goupilles d'arrêt (14) et les goupilles de sûreté (15), dans la partie extérieure du boîtier (1) et en face du rotor externe (4) il y a inserts trapus de métal durci (18) et (17), **caractérisé en ce que** le cliquet (8) est monté librement entre le rotor externe (4) et le rotor intérieur (5) qui sont de la même longueur, dans le rotor externe (4) sont également réalisés ouvertures principaux (12) qui sont coaxiaux avec les ouvertures principaux correspondants (11) réalisés dans le boîtier (1) logeant les goupilles de fermeture (16), des ressorts (13), des goupilles d'arrêt (14) et des goupilles de sûreté (15), dans l'une des ouvertures principaux (12) du rotor externe (4) est constituée d'une fente supplémentaire (9) qui se trouve dans le même plan que la fente (2) ménagée dans le boîtier (1) de manière à former une fente commune d'une section affaiblie, dans lequel est monté un support en plastique (10) fermant la fente commune de sorte que le ressort y sont logés (13), goupille d'arrêt (14) et goupille de sûreté (15), dans la fente supplémentaire (9) du rotor externe (4) est réalisé en ouverture radial dans lequel est monté une bille d'acier (19), **en ce qu'**après la fente (2), et après la fente supplémentaire (9) réalisée respectivement dans le boîtier (1) et le rotor externe (4) sont montés des inserts supplémentaires d'un métal durci (21) et (20) dans les ouvertures coaxiaux respectif (23) et (22) dans le boîtier (1) et le rotor externe (4) qui sont disposer en échiquier sur les ouvertures principaux de boîtier (11) et les ouvertures principaux du rotor (12), **en ce que** dans des plans perpendiculaires au plan du canal de clé (6) dans le rotor externe (4) et le rotor intérieur (5) sont formées ouvertures supplémentaires (26), dans lequel sont logés goupilles du rotor supplémentaires (24) et l'intérieur du boîtier (1) sont constitués de rainures longitudinales (25) avec une configuration correspondant à celle des goupilles du rotor supplémentaires

- (24).
2. Serrure à cylindre selon la revendication 1, **caractérisé en ce que** la bille d'acier (19) a un diamètre plus grand que la largeur de la fente supplémentaire (9). 5
 3. Serrure à cylindre constituée d'un boîtier (1'), un cliquet (8), en face du boîtier (1') il y a une fente (2), sur le boîtier (1') sont fixés au moyen de circlips (3) le rotor externe (4') et un rotor intérieur (5') ayant un canal (6) permettant d'introduire la clé (7), rotor externe (4') et intérieur (5') sont de longueurs différentes, comme dans le boîtier (1') et le rotor intérieur (5') sont faites ouvertures principaux coaxiaux (11) et (12) logeant les goupilles de fermeture (16), des ressorts (13), des goupilles d'arrêt (14) et les goupilles de sûreté (15), dans la partie extérieure du boîtier (1') et en face du rotor externe (4') il y a inserts trapus de métal durci (18) et (17), **caractérisé en ce que** le cliquet (8) est monté librement entre le rotor externe (4') et intérieur (5'), tandis qu'à l'arrière du boîtier (1') est réalisé en une seconde fente (2'), tandis que dans le rotor externe (4') sont faites aussi ouvertures principaux coaxiaux (12) qui sont coaxiaux avec les ouvertures principaux coaxiaux respectif (11) réalisés dans le boîtier (1'), dans lequel sont logées goupilles de fermeture (16), des ressorts (13), des goupilles d'arrêt (14) et des goupilles de sûreté (15), dans l'un des ouvertures principaux (12) du rotor externe (4') et respectivement du rotor intérieur (5') sont réalisées des fentes supplémentaires (9) et (9') qui se trouvent dans le même plan, respectivement, avec la fente (2) et une seconde fente (2') fait à l'avant et l'arrière du boîtier (1') de manière à former deux fentes communes, respectivement à l'avant et l'arrière du boîtier (1') fournissant d'une section affaiblie, dans lequel sont montés supports en plastique (10), fermant des fentes communes de sorte qu'ils se trouvent des ressorts (13), des goupilles d'arrêt (14) et les goupilles de sûreté (15), comme dans les fentes supplémentaires (9) et (9') du rotor externe (4') et du rotor intérieur (5') sont constitués de trous radiaux, dans chacune desquelles est montée une bille d'acier (19), tandis que, après la fente (2) et après la seconde fente (2') ménagé dans le boîtier (1') et puis des fentes supplémentaires (9) et (9') ménagés dans le rotor externe (4') et le rotor intérieur (5') sont montés des inserts supplémentaires d'un métal durci (21) et (20) dans les ouvertures coaxiaux respectif (23) et (22) dans le boîtier (1') et le rotor externe (4') et le rotor intérieur (5') qui sont disposer en échiquier sur les ouvertures principaux de boîtier (11) et les ouvertures principaux du rotor (12), tandis que dans des plans perpendiculaires au plan du canal de clé (6) dans le rotor externe (4') et le rotor intérieur (5') sont formées ouvertures supplémentaires (26) dans lequel sont logés goupilles

du rotor supplémentaires (24) et à l'intérieur du boîtier (1') sont constituées de rainures longitudinales (25) avec une configuration correspondant à celle des goupilles du rotor supplémentaires (24).

4. Serrure à cylindre selon la revendication 3, **caractérisé en ce que** la bille d'acier (19) a un diamètre plus grand que la largeur des fentes supplémentaires (9) et (9').



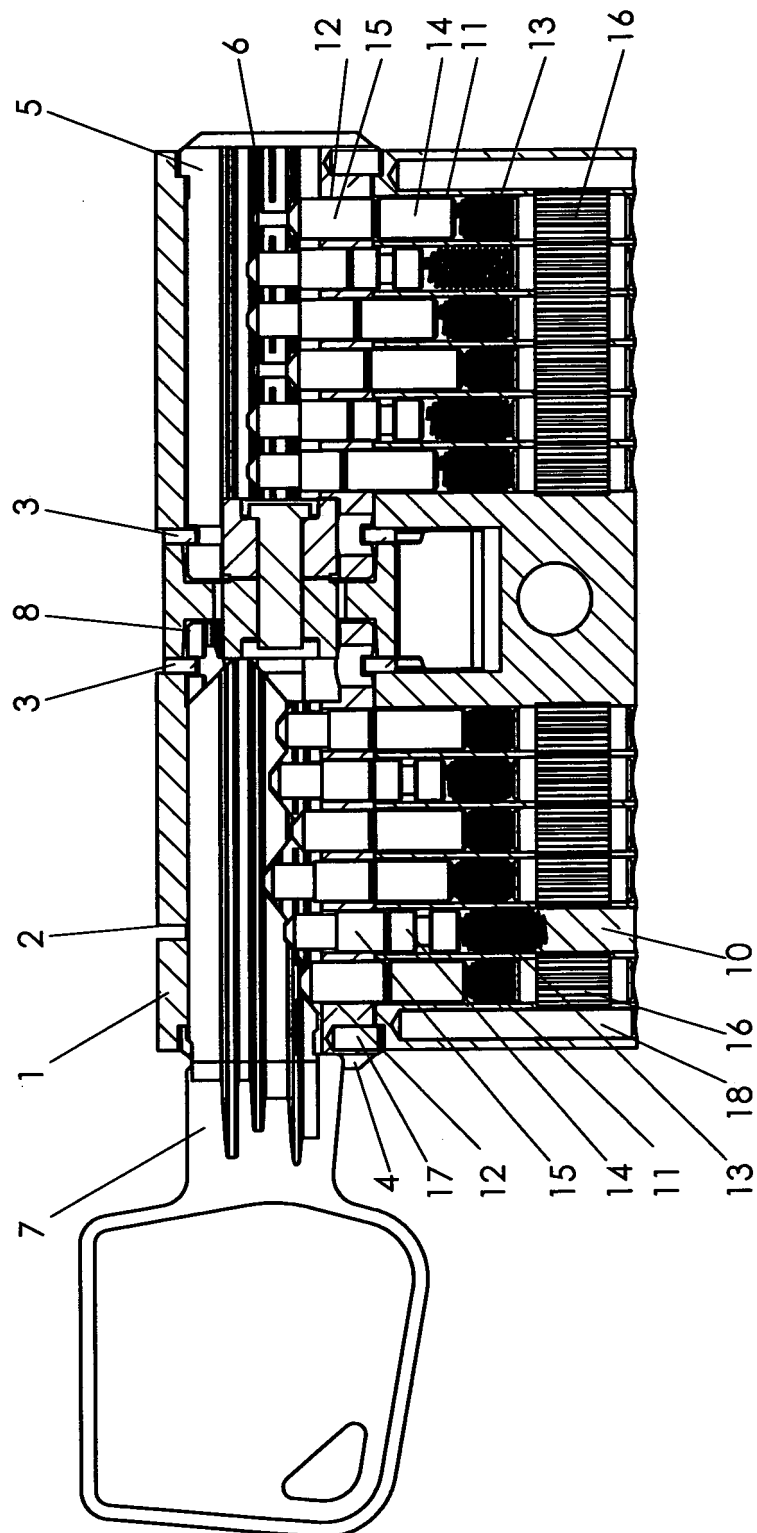


Fig.2

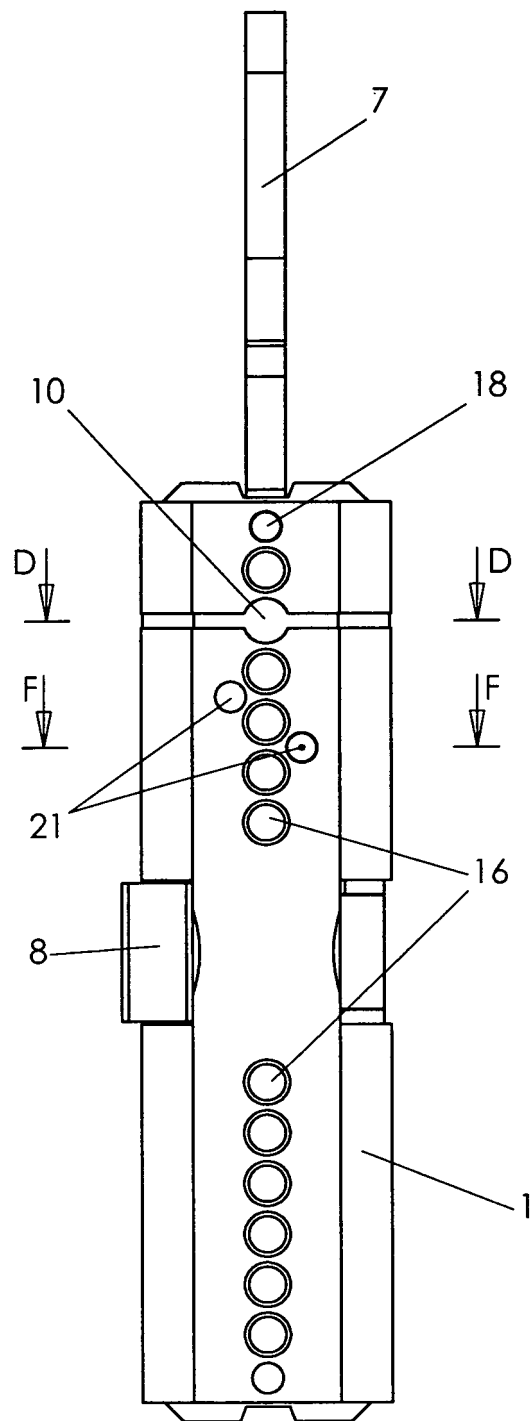


Fig.3.

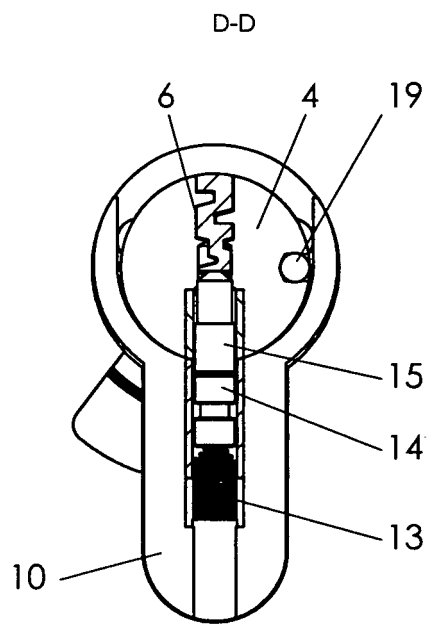


Fig.4.

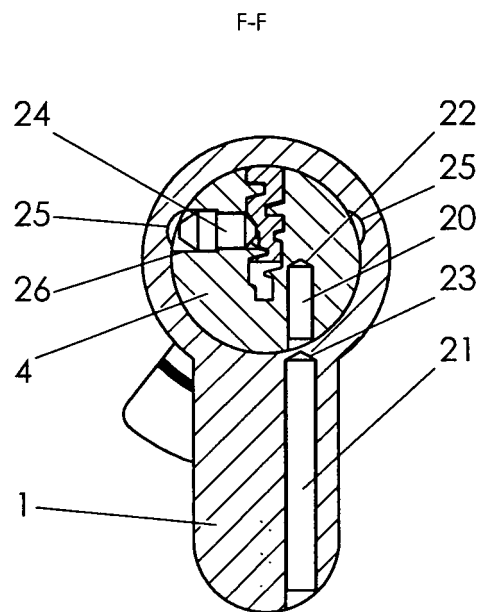
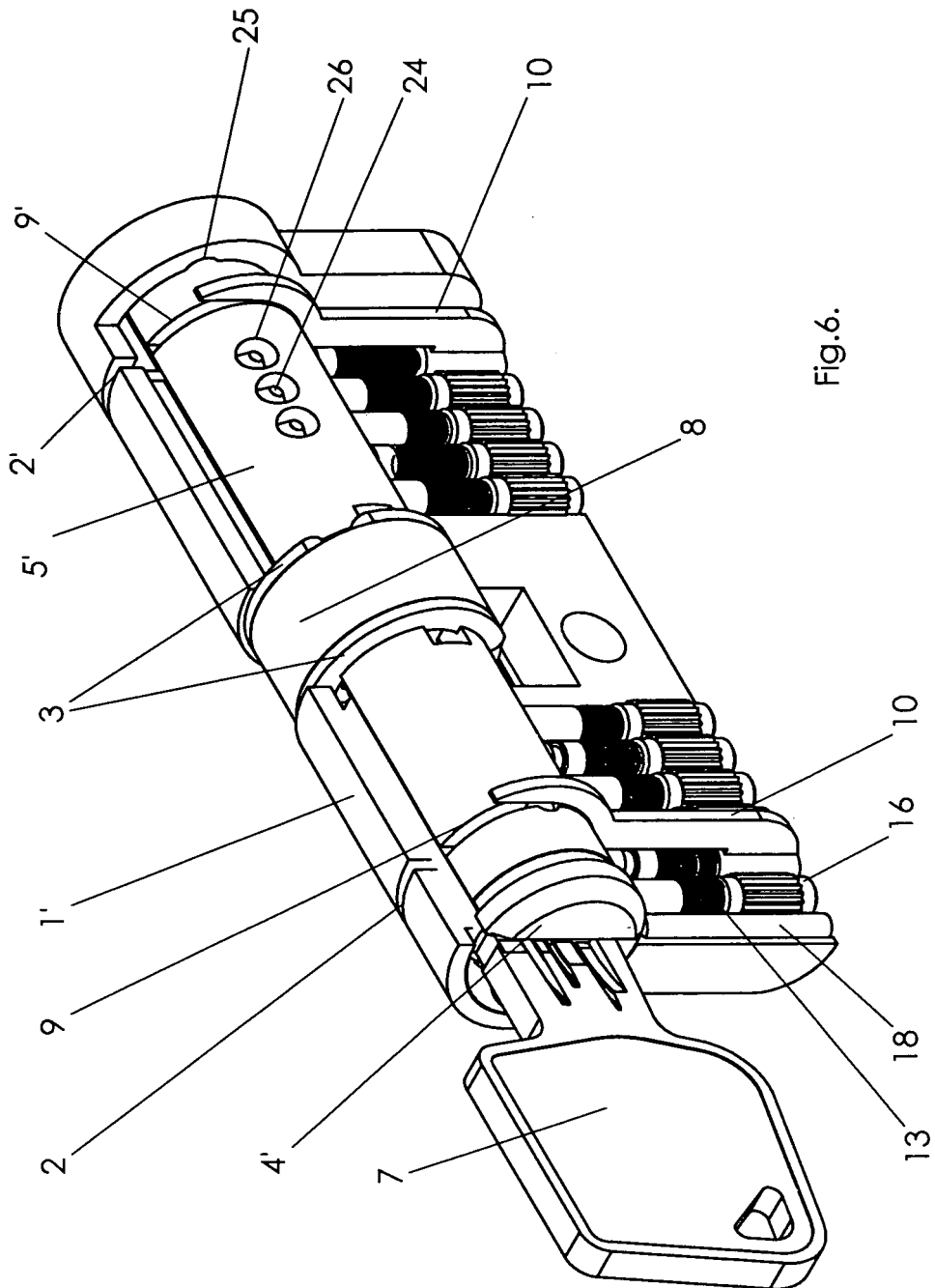


Fig.5.



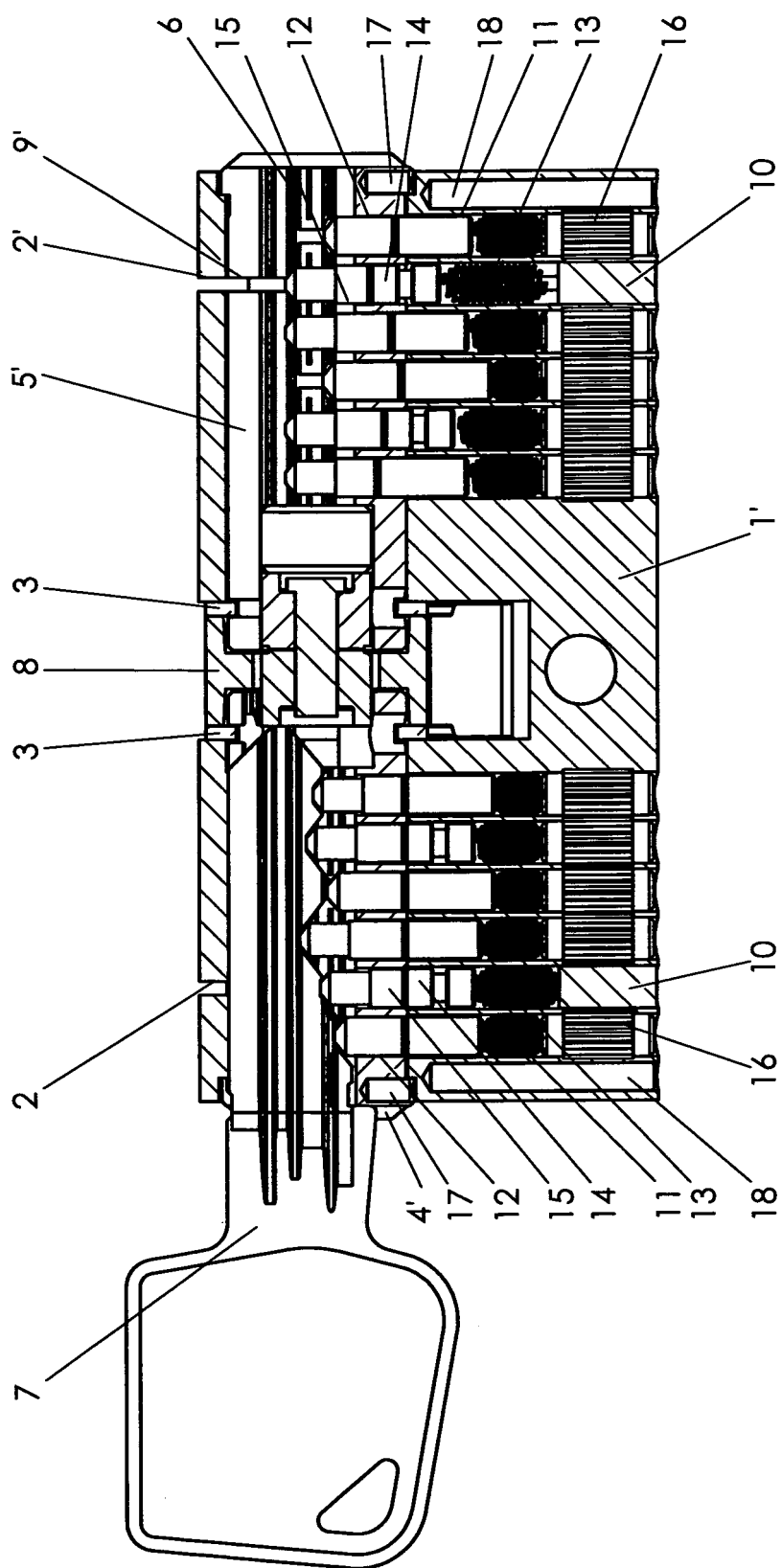


Fig.7

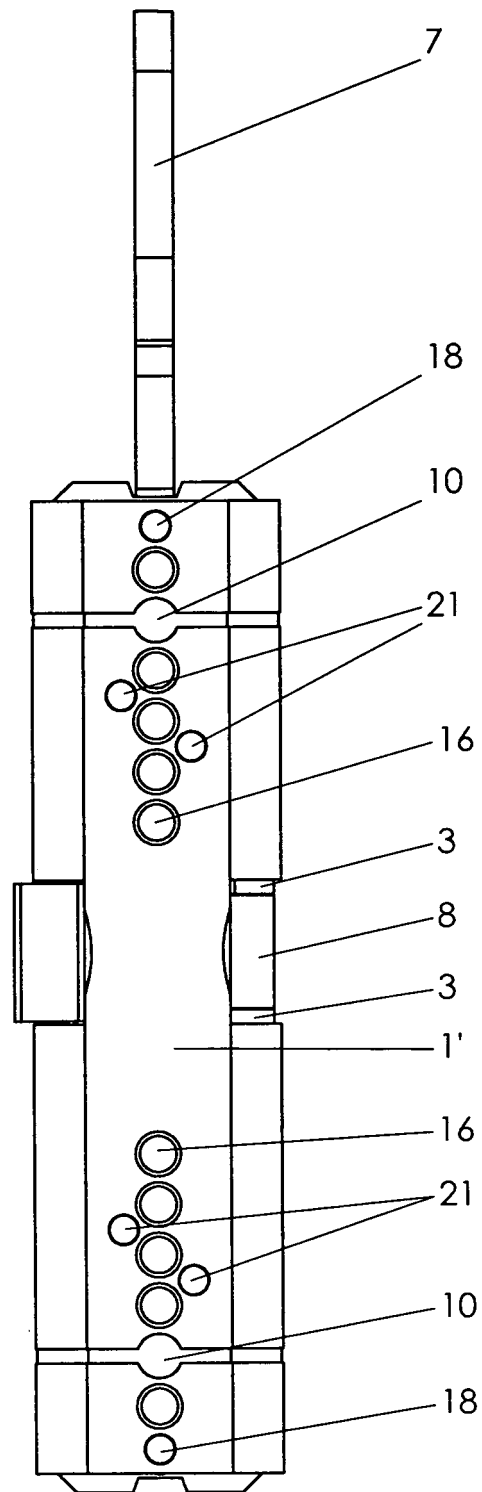


Fig.8.

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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