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EUROPEAN PATENT SPECIFICATION

⑬ Date of publication of patent specification: **24.02.88**

⑭ Application number: **83630145.7**

⑮ Date of filing: **09.09.83**

⑯ Int. Cl.⁴: **E 05 B 27/00, E 05 B 29/10,**
E 05 B 31/00

⑰ **Cylinder lock.**

⑱ Priority: **10.09.82 IL 66766**

⑲ Date of publication of application:
21.03.84 Bulletin 84/12

⑳ Publication of the grant of the patent:
24.02.88 Bulletin 88/08

㉑ Designated Contracting States:
CH DE GB IT LI

㉒ References cited:
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FR-A-2 499 140
US-A-3 035 433

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Description

The present invention relates to a cylinder lock of the type described in the precharacterizing portion of claim 1.

A cylinder lock of this known type is disclosed in US—A—3 035 433. The known cylinder lock uses springs for moving the locking side bar radially outwardly into the axially extending housing groove to lock the plug against rotation.

The object of this invention is to provide an improved cylinder lock which does not require springs for moving the locking side bar between the locking and unlocking positions thereof.

In accordance with the invention this is achieved by the features claimed in the characterizing portion of claim 1.

By providing the pins with V-shaped or rounded notches and providing the locking side bar with a complementary shaped inner edge, movement of the pins in the transverse slots of the plug from the unlocking positions to the locking positions, as caused by retraction of the key, causes the pins to exert a camming action against the locking side bar, to urge the bar radially outwardly into the housing groove. The springs necessary in the prior art lock are therefore not necessary. The lock according to the invention requires no springs, neither for the pins, nor for the locking side bar, thereby making the lock operation more reliable as well as reducing its manufacturing and maintenance costs.

Further advantageous embodiments of the cylinder lock are characterized in the subclaims 2 to 8.

The cylinder lock is herein described, by way of example only, with reference to the accompanying drawings, wherein:

Fig. 1 is an end elevational view illustrating one form of cylinder lock constructed in accordance with the present invention;

Fig. 2 is a longitudinal sectional view of the lock of Fig. 1;

Fig. 3 is a three-dimensional view illustrating the shape of a key to be used with the lock of Fig. 1;

Figs. 4a and 4b are transverse sectional views along lines IV—IV of Fig. 2, showing the locking and unlocking positions, respectively, of the locking pins;

Figs. 5 and 6 are side and end elevational views, respectively, of one of the plurality of slidable pins, Fig. 6 illustrating a variation;

Figs. 7 and 8 are side and end elevational views respectively, of the elongated locking pin, Fig. 8a illustrating a variation;

Fig. 9 is a transverse sectional view illustrating another cylinder lock constructed in accordance with the invention; and

Figs. 10, 11 and 12 are side and sectional views, respectively, of a key for use with the lock of Fig. 9.

The lock illustrated in Figs. 1 and 2 of the drawings is intended to be used with the key illustrated in Fig. 3. Such a key, therein designated

2, is formed with a shank 4 of rectangular section so that its opposed faces 5 and 6 are flat. Each of the faces is formed with a longitudinally-extended groove, as shown by groove 7 for face 5. Each of these grooves is of a special individual configuration for each key, as will be more particularly described below. One end of key 4 is formed with an enlarged head 8 adapted to be gripped by the user when manipulating the key; and the opposite end is formed with a V-shaped notch 9.

The cylinder lock with which key 2 is to be used includes a housing 10 formed with a cylindrical bore receiving a cylindrical plug 12. Plug 12 is in turn formed with a keyway 14 for receiving the key 2 illustrated in Fig. 3 which key, where a proper one, unlocks plug 12 to be rotated within housing 10 along the shear line 16. A rotatable end disc 18 provides protection against drilling.

Plug 12 receives an upper group of six pins 20 on one side of the keyway 14, and a lower group of six pins 30 on the opposite side of the keyway. As shown particularly in Figs. 5 and 6, each of the pins 20 (and likewise each of the pins 30) is of T-configuration, including a center leg 21 and a cross-leg 22 at a right-angle to leg 21. The outer face of the cross-leg 22 is formed with a notch 23.

The six pins 20 are each disposed within six slots 24 each extending transversely across, and eccentric to, the plug 12. The six slots 24 for the six pins 20 are spaced from each other axially of the plug and are defined by partition walls 25 joined at their inner ends by an inner wall 26 also formed with slots 27 to define ledges for supporting the pins 20 within the slots 24.

Plug 12 is further formed with an elongated groove 28 extending axially of the outer face of the plug. Groove 28 is open at the outer surface of the plug, and its lower end is defined by the partition walls 25 of the slots 24 receiving the pins 20.

The cross-bar 22 of each pin 20 is disposed within its respective slot 24, with the center leg 21 of the pin extending through slot 27 of the supporting ledge 26 into the keyway 14. The center legs 21 projecting into the keyway 14 are of the same width as the specially-configured groove 7 formed in the shank 4 of the key 2. Thus, when the key is inserted within keyway 14, groove 7 of the key cause the center legs 21 of the pins 20 to slide them transversely across the plug 12 to positions according to the shape of the groove. As indicated earlier, groove 7 is formed in the key shank 4 such that, when a proper key is inserted, all the pins 20 are shifted to locations wherein their notches 23 are aligned to form a straight line underlying the center of groove 28 extending axially of the plug.

The other group of pins 30 at the opposite side of the keyway 14 are of the same construction as the pins 20, and are movable within slots corresponding to slots 24 and 27 of pins 20 but formed in the opposite side of the keyway 14. They are thus also positionable by a specially configured groove, corresponding to groove 7 in key 2 but on the opposite face 6 of the key shank 4, such that

their notches, corresponding to notches 23 for pins 20, are aligned in a straight line underlying an elongated groove 38 (corresponding to groove 28) extending axially of the plug when a proper key is inserted.

The inner face of housing 10 is formed with axially-extending grooves 40 and 42 on opposite sides of keyway 14 in alignment with grooves 28 and 38, respectively, and with the line of notches 23 of the two groups of pins 20 and 30 when shifted by the proper key. Elongated locking pins, 44 and 46, respectively, are disposed within these elongated grooves 28 and 38. Pin 44 is illustrated in Figs. 7 and 8, and pin 44 is of identical configuration. Thus, locking pin 44 is of equal length to the axial length of grooves 28 and 40 formed, respectively, in the plug and in the inner face of housing 10. The upper and lower edges of locking pin 44 are each of V-shape, corresponding to the V-shape of elongated groove 40 in housing 10 and of the notches 23 in the pins 20.

The width of locking pin 44 is such that whenever its lower edge 48 engages an unnotched surface of one of the pins 20 its opposite edge 47 projects into the elongated groove 40 formed in the inner face of the housing 10, thereby preventing the rotation of plug 12 within the housing; but when the pins 20 are aligned so that their notches 23 form a straight line, the lower edge 48 of the elongated pin seats within the straight line of notches whereby the upper edge 47 of the pin withdraws from the elongated groove 40 of the housing. That is to say, when notches 23 are aligned, locking pin 44 does not project past the shear line 16 between plug 12 and housing 10, thereby permitting the plug to rotate within the housing. The lower elongated locking pin 46 cooperates with the lower set of pins 30 and housing groove 42 in the same manner.

The operation of the lock illustrated in Figs. 1 and 2 by the use of the key illustrated in Fig. 3 will now be apparent. Thus, normally the upper six locking pins 20 and the lower six locking pins 30 are in random positions within their slots (e.g., slots 24 for the upper pins 20) so that their notches (notches 23 for pins 20) are not in alignment. This is the condition illustrated in Fig. 4a, wherein it will be seen that the two elongated locking pins 44 and 46 are forced to be seated within the elongated grooves 40 and 42 in the innerface of housing 10, thereby locking the plug 12 against rotation within the housing.

When the proper key 2 (Fig. 3) is inserted, its groove 7 on its upper face 5, and the corresponding groove on its lower face, receive the center legs 21 of the pins 20 and 30, and shift them transversely, according to the configuration of the respective groove, such that all their notches 23 are aligned in a straight line. When both groups of pins 20 and 30 are thus positioned by the proper key, the two elongated locking pins 44 and 46 are received within the aligned notches. Rotation of the plug 12 by the key 2 causes the elongated locking pins 44 and 46 to unseat from their respective housing grooves 40 and 42,

thereby permitting the plug to be freely rotated within the housing.

A number of variations and modifications of the disclosed embodiment may be made. Thus, whereas the pins 20 (and also the pins 30) are formed with their cross-legs 22 of square section, as shown in Figs. 5 and 6, it will be appreciated that such legs may be of other section, e.g. cylindrical section as shown at 22a in Fig. 6a. In addition, whereas the outer edges 47 and 48 of the elongated locking pins 44 and 46 are of V-shape as shown in Figs. 7 and 8, it will be appreciated that they could also be of rounded shape as shown by edges 47a, 48a of pin 44a in Fig. 8a. In such a case, the elongated grooves 40 and 42 formed in the inner face of housing 10, and the notches 23 formed in the pins 20 and 30, would be of complementary rounded shape.

It will also be appreciated that the lock could include only one group of pins, e.g., group 20, movable by one elongated slot (corresponding to slot 7) formed in the key 2, or two groups cooperable with two key slots on opposite sides of the key but of different configurations.

Figs. 9—12 illustrate a still further variation, wherein the invention is embodied in a hybrid lock, namely one in which one-half includes the above-described construction, and the other half includes the construction of a conventional pin-tumbler type lock. Such a lock is to be used with a hybrid-type key, such as illustrated in Figs. 10—12, therein designated 102. Thus, key 102 includes one face 105 (Fig. 11) formed with a specially-configured longitudinally-extending groove 107, corresponding to groove 7 in Fig. 3; and the other face 106 (Fig. 10) is formed with a plurality of blind bores 109 of different depths, one for each of the pin tumblers of the conventional lock, for moving the pin tumblers to the shear line between the plug and the housing of the lock. The lock itself, as shown in Fig. 9, includes a housing 110 receiving a cylindrical plug 112 formed with a keyway 114 adapted to receive a key which, if the proper one, will permit the plug to be rotated within the housing along shear line 116. Thus, the upper half of plug 112 carries a plurality of pins 120 each of the same structure and formed with the same notch 123, as pins 20 in the previously-described embodiment, which notches 123 are cooperable with an elongated locking pin 144, corresponding to pin 44 in the above-described embodiment. The lower half of plug 112 is formed with conventional pin tumblers, therein designated 150, each constituted of two segments 151, 152, urged by a spring 153 such that, normally, segments 152 projects within the shear line 116 between the plug 112 and the housing 110, thereby blocking the rotation of the plug within the housing.

It will thus be seen that both groups of pins, namely the slidable pins 120 acting on the elongated locking pin 144 and the pin tumblers 150, block the rotation of the plug 112 within the housing 110. However, when the proper key is inserted, groove 107 formed on one face 105 of

the key moves the upper pins 120 to align their notches 123 such as to receive the elongated locking pin 144 and to permit it to be retracted to the shear line 116 between plug 112 and housing 110; and the blind bores 109 formed on the opposite face 106 of the key move the pin tumblers 150 such as to bring the abutting surfaces between their two segments 151, 152 to the shear line 116. The plug 112 is thus free to rotate within the housing 110.

Claims

1. A cylinder lock including a housing (10; 110) formed with a cylindrical bore; a cylindrical plug (12; 112) rotatable within said bore and formed with a keyway (14; 114) for receiving a key (2; 102) to rotate the plug (12; 112), which key (2; 102) includes a shank (4) formed with a longitudinally extending groove (7; 107) of special configuration for the respective key (2; 102); and a plurality of pins (20, 30; 120) carried by said plug (12; 112) in a line extending axially thereof and engageable by said key shank (4) such that the pins (20, 30; 120) are moved to their unlocking positions by the longitudinally extending groove (7; 107) of a proper key (2; 102); said pins (20, 30; 120) being all of the same length and freely movable without springs in slots (24) extending transversely of said plug (12; 112) along a line eccentric thereto; each of said pins (20, 30; 120) being formed with a notch (23; 123) on its outer face, the notches (23; 123) of all the pins (20, 30; 120) being alignable along a line extending axially of the plug (12; 112) when the pins are moved to their unlocking positions by said key (2; 102); the outer face of said plug (12; 112) being formed with an elongated groove (28; 38) extending axially of the plug (12; 112) and being open at its inner end to the outer faces of said pins (20, 30; 120); the inner face of said housing (10, 110) being formed with an elongated axially extending groove (40, 42) alignable with that of said plug (12; 112); said plug (12; 112) further including an elongated locking side bar (44, 46; 44a; 144) normally seated within said axially extending grooves (28, 38, 40, 42) of plug (12; 112) and housing (10; 110) such as to lock the plug (12; 112) against rotation within the housing (10; 110), but being seatable within said notches (23; 123) of the pins (20, 30; 120), when axially aligned by a proper key (2; 102), to thereby unseat from said axially-extending groove (40, 42) of the housing (10; 110) and to free the plug (12; 112) for rotation within the housing (10; 110); the inner edge of said locking side bar (44, 46; 44a; 144) being of complementary shape to said notches (23; 123) on the outer faces of said pins (20, 30; 120) so as to be receivable within said notches (23; 123); the outer edge of said locking side bar (44, 46) being formed with a cam surface normally receivable within said axially extending groove (40, 42) on the inner face of the housing (10; 110) but cammable out of said groove (40, 42) by the rotation of said plug (12; 112) when all the notches (23; 123) in the pins

(20, 30; 120) are aligned with each other to receive the inner edge of said locking side bar (44, 46), characterized in that the notches (23; 123) in the outer faces of the pins (20, 30; 120) are of V-shape or rounded-shape and the inner edge of the locking side bar (44, 46; 44a; 144) is of complementary V-shape or rounded shape.

2. The lock according to claim 1, characterized in that each of said plurality of pins (20, 30; 120) is of T-configuration, including a first leg (21) adapted to extend into said keyway so as to be engageable by said key groove (7; 107), and a second leg (22; 22a) at a right angle to the first leg (21) and slidable in a slot extending transversely across the plug (12; 112), the outer face of said second leg (22; 22a) being formed with said notch (23; 123).

3. The lock according to claim 2, characterized in that said second leg (22) of each of the plurality of pins (20, 30; 120) is of a rectangular section.

4. The lock according to claim 1, characterized in that the end of said key (4) is formed with a V-shaped notch (9).

5. The lock according to claim 1, characterized in that the outer edge of said elongated locking side bar (44, 46) is formed of V-shape and the axially-extending groove (40, 42) on the inner face of the housing (10; 110) is of complementary V-shape.

6. The lock according to claim 1, characterized in that the outer edge of said elongated locking side bar (44a) is formed of rounded shape and the axially-extending groove (40, 42) on the inner face of the housing (10; 110) is of complementary rounded shape.

7. The lock according to any one of claims 1 to 6, characterized in that the length of the pins (20, 30; 120) is dimensioned such that in all of their positions they remain within the transverse slots (24) of the plug (12; 112) and do not project exteriorly thereof.

8. The lock according to any one of claims 1 to 7, characterized in that both of the diametrically-opposed sides of said plug (12) include a line of said pins (20, 30), an elongated axially-extending groove formed in the outer face of said plug (12) and in the inner face of said housing (10), and one of said elongated locking side bars (44, 46) normally seated in each of said latter grooves, said lock being adapted to be used with a key (2) having a shank (4) formed with a said specially-configured longitudinally-extending groove (7, 9) on both of its opposed faces.

Patentansprüche

1. Zylinderschloß mit einem Gehäuse (10; 110), das mit einer zylindrischen Bohrung versehen ist; einem Zylinderkern (12; 112), der in der Bohrung drehbar und mit einem Schlüsselkanal (14; 114) zur Aufnahme eines Schlüssels (2; 102) zum Drehen des Zylinderkerns (12; 112) versehen ist, wobei der Schlüssel (2; 102) einen Schaft (4) aufweist, der mit einer sich in Längsrichtung erstreckenden Nut (7; 107) spezieller Form für den

betreffenden Schlüssel (2; 102) versehen ist; und mehreren Stiften (20, 30; 120), die durch den Zylinderkern (12; 112) in einer Linie gehalten sind, welche sich axial längs desselben erstreckt, und durch den Schlüsselschaft (4) erfaßbar sind, so daß die Stifte (20, 30; 120) durch die sich in Längsrichtung erstreckende Nut (7; 107) eines richtigen Schlüssels (2; 102) in ihre entsperrten Positionen bewegt werden; wobei die Stifte (20, 30; 120) alle dieselbe Länge haben und ohne Federn in Schlitzen (24) frei bewegbar sind, welche sich quer zu dem Zylinderkern (12; 112) längs einer zu diesem exzentrischen Linie erstrecken; wobei jeder Stift (20, 30; 120) mit einer Kerbe (23; 123) an seiner äußeren Seite versehen ist, wobei die Kerben (23; 123) von sämtlichen Stiften (20, 30; 120) längs einer Linie ausrichtbar sind, die sich axial längs des Zylinderkerns (12; 112) erstreckt, wenn die Stifte durch den Schlüssel (2; 102) in ihre entsperrten Positionen bewegt werden; wobei die äußere Seite des Zylinderkerns (12; 112) mit einer langgestreckten Nut (28; 38) versehen ist, die sich axial längs des Zylinderkerns (12; 112) erstreckt und an ihrem inneren Ende zu den äußeren Seiten der Stifte (20, 30; 120) hin offen ist; wobei innere Seite des Gehäuses (10, 110) mit einer langgestreckten, sich axial erstreckenden Nut (40, 42) versehen ist, welche auf die des Zylinderkerns (12; 112) ausrichtbar ist; wobei der Zylinderkern (12; 112) weiter eine langgestreckte Sperrseitenschiene (44, 46; 44a; 144) aufweist, die normalerweise in den sich axial erstreckenden Nuten (28, 38, 40, 42) des Zylinderkerns (12; 112) und des Gehäuses (10; 110) sitzt, so daß sie den Zylinderkern (12; 112) gegen Drehung in dem Gehäuse (10; 110) sperrt, aber sich in die Kerben (23; 123) der Stifte (20, 30; 120) setzen kann, wenn diese durch einen richtigen Schlüssel (2; 102) aufeinander ausgerichtet worden sind, um dadurch die sich axial erstreckende Nut (40, 42) des Gehäuses (10; 110) zu verlassen und den Zylinderkern (12; 112) für die Drehung in dem Gehäuse (10; 110) freizugeben; wobei die innere Kante der Sperrseitenschiene (44, 46; 44a; 144) eine zu der Form der Kerben (23; 123) komplementäre Form an den äußeren Seiten der Stifte (20, 30; 120) hat, so daß sie in den Kerben (23; 123) aufnehmbar ist; wobei die äußere Kante der Sperrseitenschiene (44, 46) mit einer Nockenfläche versehen ist, die normalerweise in der sich axial erstreckenden Nut (40, 42) auf der inneren Seite des Gehäuses (10; 110) aufnehmbar ist, aber aus der Nut (40, 42) durch die Drehung des Zylinderkerns (12; 112) hinausdrückbar ist, wenn sämtliche Kerben (23; 123) in den Stiften (20, 30; 120) aufeinander ausgerichtet sind, um die innere Kante der Sperrseitenschiene (44, 46) aufzunehmen, dadurch gekennzeichnet, daß die Kerben (23; 123) in den äußeren Seiten der Stifte (20, 30; 120) eine V-Form oder eine abgerundete Form haben und daß die innere Kante der Sperrseitenschiene (44, 46; 44a; 144) eine komplementäre V-Form oder abgerundete Form hat.

2. Schloß nach Anspruch 1, dadurch gekennzeichnet, daß die Stifte (20, 30; 120) jeweils eine

T-Form haben, mit einem ersten Schenkel (21), der sich in den Schlüsselkanal erstrecken kann, so daß er durch die Schlüsselnut (7; 107) erfaßbar ist, und mit einem zweiten Schenkel (22, 22a) rechtwinkelig zu dem ersten Schenkel (21) und verschiebbar in einem Schlitz, der sich quer zu dem Zylinderkern (12; 112) erstreckt, wobei die äußere Seite des zweiten Schenkels (22; 22a) mit der Kerbe (23; 123) versehen ist.

3. Schloß nach Anspruch 2, dadurch gekennzeichnet, daß der zweite Schenkel (22) jedes Stifts (20, 30; 120) einen rechteckigen Querschnitt hat.

4. Schloß nach Anspruch 1, dadurch gekennzeichnet, daß das Ende des Schlüssels (4) mit einer V-förmigen Kerbe (9) versehen ist.

5. Schloß nach Anspruch 1, dadurch gekennzeichnet, daß die äußere Kante der langgestreckten Sperrseitenschiene (44, 46) eine V-Form aufweist und daß die sich axial erstreckende Nut (40, 42) an der inneren Seite des Gehäuses (10; 110) eine komplementäre V-Form hat.

6. Schloß nach Anspruch 1, dadurch gekennzeichnet, daß die äußere Kante der langgestreckten Sperrseitenschiene (44a) eine abgerundete Form hat und daß die sich axial erstreckende Nut (40, 42) an der inneren Seite des Gehäuses (10; 110) eine komplementäre abgerundete Form hat.

7. Schloß nach einem der Ansprüche 1 bis 7, dadurch gekennzeichnet, daß die Länge der Stifte (20, 30; 120) so bemessen ist, daß diese in allen ihren Positionen in den Querschlitzen (24) des Zylinderkerns (12; 112) bleiben und nicht aus denselben hervorstehen.

8. Schloß nach einem der Ansprüche 1 bis 7, dadurch gekennzeichnet, daß die beiden diametral entgegengesetzten Seiten des Zylinderkerns (12) eine Linie der Stifte (20, 30), eine langgestreckte, sich axial erstreckende Nut, welche in der äußeren Seite des Zylinderkerns (12) und in der inneren Seite des Gehäuses (10) gebildet ist, und eine der langgestreckten Sperrseitenschiene (44, 46), die normalerweise jeweils in einer der letztgenannten Nuten sitzt, aufweisen, wobei das Schloß zur Verwendung mit einem Schlüssel (2) vorgesehen ist, der einen Schaft (4) hat, welcher mit der speziell geformten, sich in Längsrichtung erstreckenden Nut (7, 9) auf seinen beiden entgegengesetzten Seiten versehen ist.

Revendications

1. Serrure à pompe comprenant un boîtier (10; 110) percé d'un alésage cylindrique; un canon cylindrique (12; 112) apte à tourner dans ledit alésage et présentant un trou (14; 114) destiné à recevoir une clé (2; 102) en vue d'entraîner en rotation le canon (12; 112), clé (2; 102) qui comprend une tige (4) présentant une rainure s'étendant dans le sens longitudinal (7; 107) de configuration spéciale pour la clé respective (2, 102) et une pluralité d'ergots (20, 30; 120) portés par ledit canon (12, 112) selon une ligne s'étendant dans le sens axial de celui-ci et pouvant coopérer avec la tige (4) de la clé pour que les ergots (20, 30; 120) soient déplacés vers leurs

positions de déblocage par la rainure s'étendant dans le sens longitudinal (7; 107) d'une bonne clé (2; 102), lesdits ergots (20, 30; 120) étant tous de la même longueur et apte à se déplacer librement sans ressort dans des fentes (24) s'étendant dans le sens transversal du canon (12, 112) selon une ligne excentrique par rapport à celui-ci; chacun des ergots (20, 30; 120) comportant une encoche (23; 123) sur sa face extérieure, les encoches (23; 123) de tous les ergots (20, 30; 120) pouvant être alignés selon une ligne s'étendant dans le sens axial du canon (12; 112) lorsque les ergots sont déplacés vers leurs positions de déblocage par ladite clé (2; 102); la face extérieure dudit canon (12; 112) présentant une rainure allongée (28; 38) s'étendant dans le sens axial du canon (12; 112) et étant ouverte à son extrémité intérieure en direction des faces extérieures des ergots (20, 30; 120), la face intérieure du boîtier (10, 110) présentant une rainure allongée s'étendant dans le sens axial (40, 42) apte à être alignée avec celle du canon (12; 112); ledit canon (12; 112) comprenant en outre une barre latérale de blocage de forme allongée (44, 46; 44a; 144) logée normalement dans lesdites rainures s'étendant dans le sens axial (28, 38, 40, 42) du canon (12; 112) et du boîtier (10, 110) de façon à bloquer le canon (12; 112) pour empêcher sa rotation dans le boîtier (10, 110), mais pouvant être logée dans les encoches (23; 123) des ergots (20, 30; 120), lorsqu'elle est alignée axialement par une bonne clé (2, 102), pour ainsi dégager la rainure s'étendant dans le sens axial (40, 42) du boîtier (10, 110) et pour libérer le canon (12, 112) en vue de sa rotation à l'intérieur du boîtier (10; 110); le bord intérieur de la barre latérale de blocage (44, 46; 44a; 144) étant de forme complémentaire par rapport aux encoches (23; 123) prévues sur les faces extérieures des ergots (20, 30; 120) de façon à pouvoir être reçu dans lesdites encoches (23; 123); le bord extérieur de la barre latérale de blocage (44, 46) comportant une surface à came apte à être reçue normalement dans la rainure s'étendant dans le sens axial (40, 42) de la face intérieure du boîtier (10; 110) mais apte à être extraite de la rainure (40, 42) par suite la rotation dudit canon (12; 112) lorsque toutes les encoches (23; 123) des ergots (20, 30; 120) sont alignées les unes avec les autres en vue de recevoir le bord intérieur de la barre latérale de blocage (44, 46), caractérisé en ce que les encoches (23; 123) des faces extérieures des ergots (20, 30; 120) ont une forme en V ou une forme arrondie et le bord intérieur de la barre latérale de blocage (44, 46;

44a, 144) présente une forme en V ou une forme arrondie complémentaire.

2. Serrure selon la revendication 1, caractérisée en ce que chacun de ladite pluralité d'ergots (20, 30; 120) présente une configuration en T, constituée d'une première branche (21) apte à pénétrer dans ledit trou de serrure pour coopérer avec la rainure de clé (7; 107), et une seconde branche (22; 22a) disposée perpendiculairement par rapport à la première branche (21) et apte à glisser dans une fente s'étendant transversalement d'un côté à l'autre du canon (12; 112), la face extérieure de chaque seconde branche (22; 22a) comportant ladite encoche (23; 123).

3. Serrure selon la revendication 2, caractérisée en ce que la seconde branche (22) de chacun de la pluralité d'ergots (20, 30; 120) est de section rectangulaire.

4. Serrure selon la revendication 1, caractérisée en ce que l'extrémité de la clé (4) comporte une encoche en V (9).

5. Serrure selon la revendication 1, caractérisée en ce que le bord extérieur de la barre latérale de blocage de forme allongée (44, 46) présente une forme en V et la rainure s'étendant dans le sens axial (40, 42) de la face intérieure du boîtier (10; 110) présente une forme en V complémentaire.

6. Serrure selon la revendication 1, caractérisée en ce que le bord extérieur de la barre latérale de blocage de forme allongée (44a) présente une forme arrondie et la rainure s'étendant dans le sens axial (40, 42) de la face intérieure du boîtier (10, 110) présente une forme arrondie complémentaire.

7. Serrure selon l'une quelconque des revendications 1 à 7, caractérisée en ce que la longueur des ergots (20, 30; 120) est dimensionnée pour que, pour toutes leurs positions, ils restent à l'intérieur des fentes (24) du canon (12, 112) et ne fassent pas saillie à l'extérieure de celles-ci.

8. Serrure selon l'une quelconque des revendications 1 à 7, caractérisée en ce que les deux côtés diamétralement opposés du canon (12) comprennent une ligne d'ergots (20, 30), une rainure s'étendant dans le sens axial de forme allongée réalisée sur la face extérieure du canon (12) et sur la face intérieure du boîtier (10), et une barre latérale de blocage de forme allongée (44, 46) logée normalement dans chacune de ces dernières rainures, ladite serrure étant adaptée pour être utilisée avec une clé (12) comportant une tige (4) comprenant, sur ses deux faces opposées, une rainure s'étendant dans le sens longitudinal de configuration particulière.

FIG 1

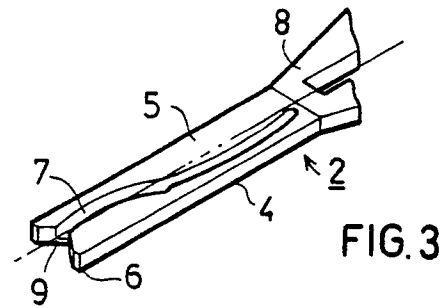
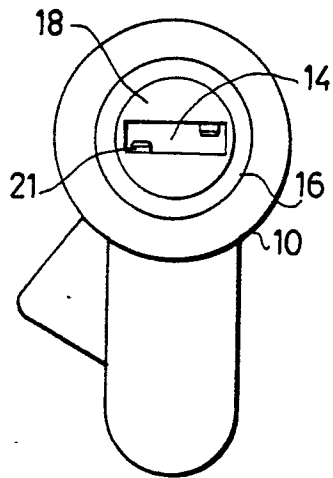


FIG 2

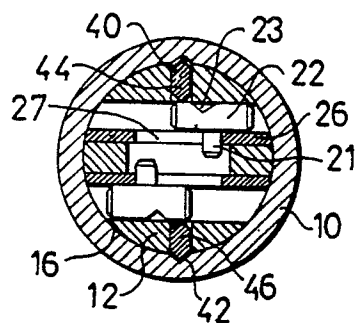
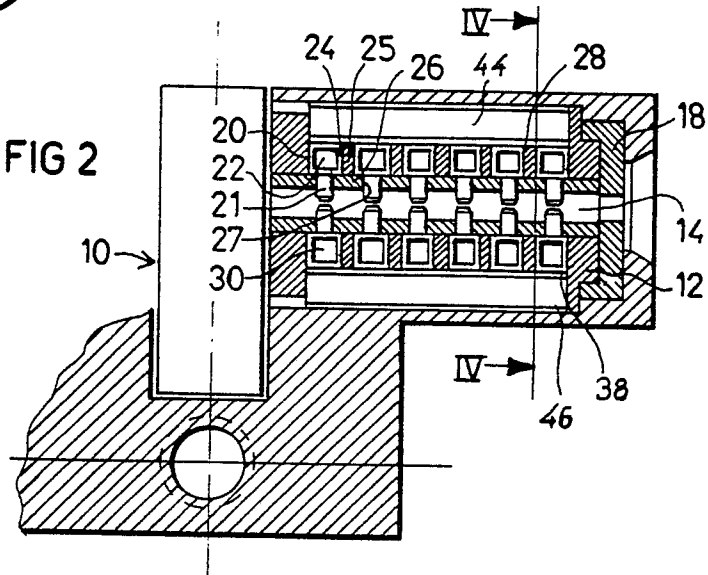


FIG 4a

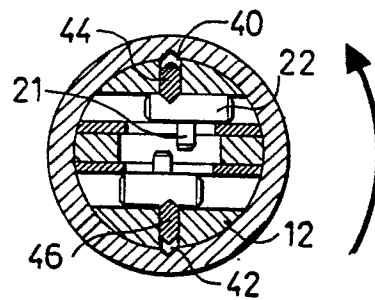


FIG 4b

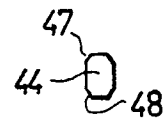
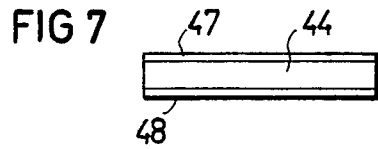
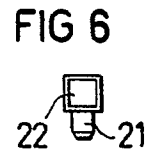
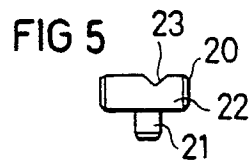


FIG 8

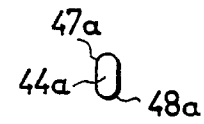


FIG 8a

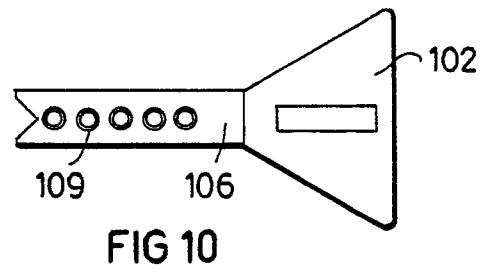
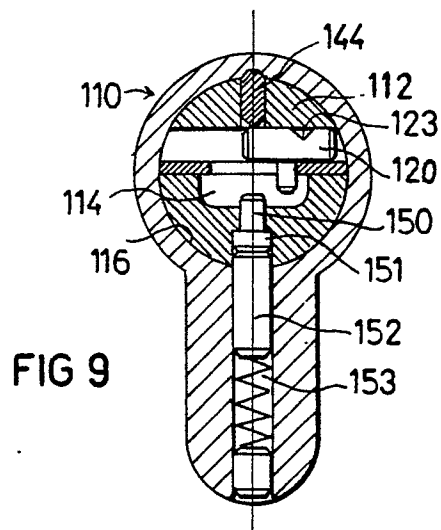


FIG 10

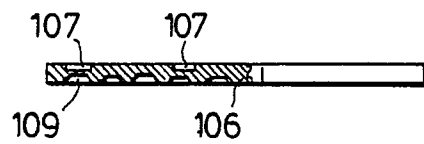
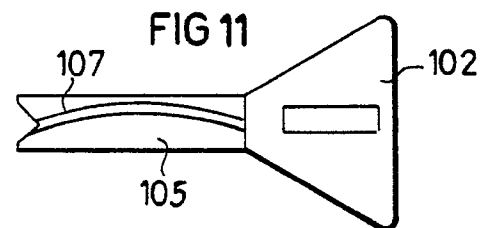


FIG 12