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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 06-099256- -00003-0000

Fecha: 2008-06-18 16:34:47 Dep. 2020 NUECREACIONE
Tra. 11 PATENTEIYII Eve: 378 FASENACIONALI
Act. 538 PETICION Folios: 2

Señora Jefe de la

DIVISION DE NUEVAS CREACIONES

Superintendencia de Industria y Comercio

E.

S.

D.

Trámite : 011

Evento : 378

Actuación : 538

Referencia : Expediente No. 06.099.256

Asunto : Solicitud de patente para: **CILINDRO DE CERRADURA UNIVERSAL**

Solicitante : **NEWFREY LLC**

Publicada en : Gaceta No. 583 del 18 de diciembre de 2007

Fecha solicitud: 2 de octubre de 2006

1. Yo, Emilio FERRERO, identificado como aparece al pie de mi firma, actuando como apoderado en el asunto de la referencia, atentamente solicito se efectúe el examen de patentabilidad de la solicitud en referencia presentada de acuerdo con el Capítulo I del PCT y según lo establecido en el artículo 44 de la Decisión 486 de la Comisión de la Comunidad Andina. Para tal efecto presento junto con este escrito el recibo por valor de \$420.000.00, que corresponde a la tasa fijada según lo dispuesto en la Resolución No. 44372 del 26 de diciembre de 2007.

2. Ruego atentamente a la Señora Jefe se sirva ordenar que se anexe este recibo para que se efectúe dicho examen y se continúe con el trámite de la solicitud.

Señora Jefe,

EMILIO FERRERO

T.P.A. No. 31.929

COLO-13698-841-004-1

JGG\JGG\ID-128642\WPC13698

No. M-2008-128642\JGG

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 08 - 46,086
FECHA : JUNIO 9 DE 2008

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 06-099256- -00003-0000

Fecha: 2008-06-18 16:34:47 Dep. 2020 NUECREACION
Tra. 11 PATENTEIYII Eve: 378 FASENACIONALI
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***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO DE BOGOTA	062754387	2678328	09/06/2008	89,445,000.00

***** CONCEPTO *****

CANT. RENTISTICO	CONCEPTO	TOTAL CONCEPTO
50005-01-01 SOLICITUDES	85 EXAMEN DE PATENTABILIDAD DE INVEN	420,000.00
	TOTAL :	\$ 420,000.00

SON: CUATROCIENTOS VEINTE MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

066 13698-841-004-1

69
69

DIVISIÓN DE NUEVAS CREACIONES

RADICACIÓN EXPEDIENTE No. 06-99256

EL EXTRACTO DE LA PRESENTE SOLICITUD DE **PATENTE DE INVENCION**

FUE PUBLICADO EN LA GACETA DE PROPIEDAD INDUSTRIAL No **583** DE

FECHA **18 DE DICIEMBRE DE 2007** EL TÉRMINO HÁBIL SEÑALADO POR LA

LEY EXPIRA EL **14 DE MARZO DE 2008**

NOTA: Dentro del plazo de los seis (6) meses siguientes a partir de la fecha de publicación en la gaceta de Propiedad Industrial, deberá solicitar y cancelar el examen de patentabilidad so pena de que la solicitud caiga en abandono, de acuerdo con lo establecido en el Artículo 44 de la Decisión 486/2000.

SE PRESENTARON OPOSICIONES POR PARTE DE TERCEROS.

SI _____ NO X

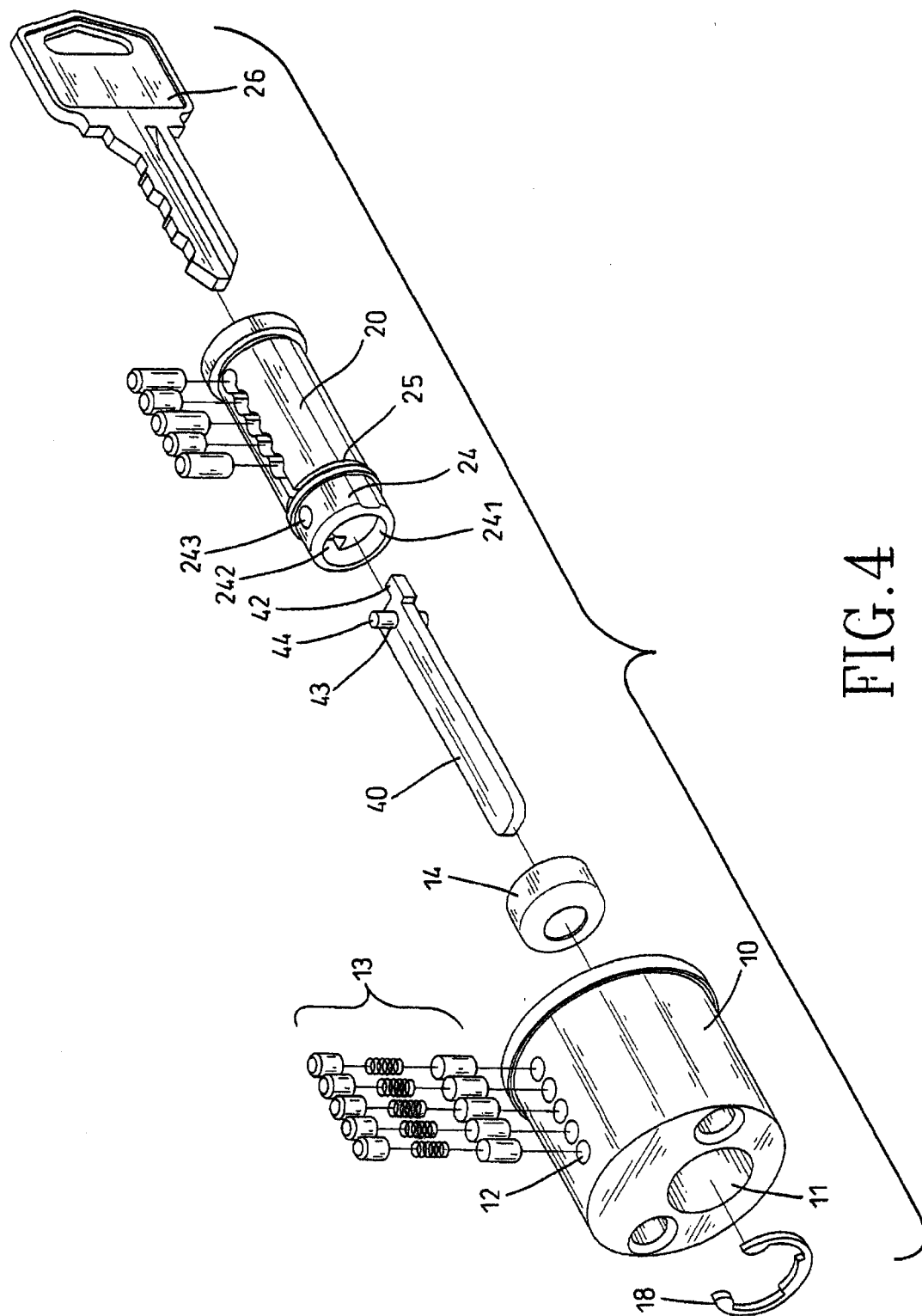


FIG. 4

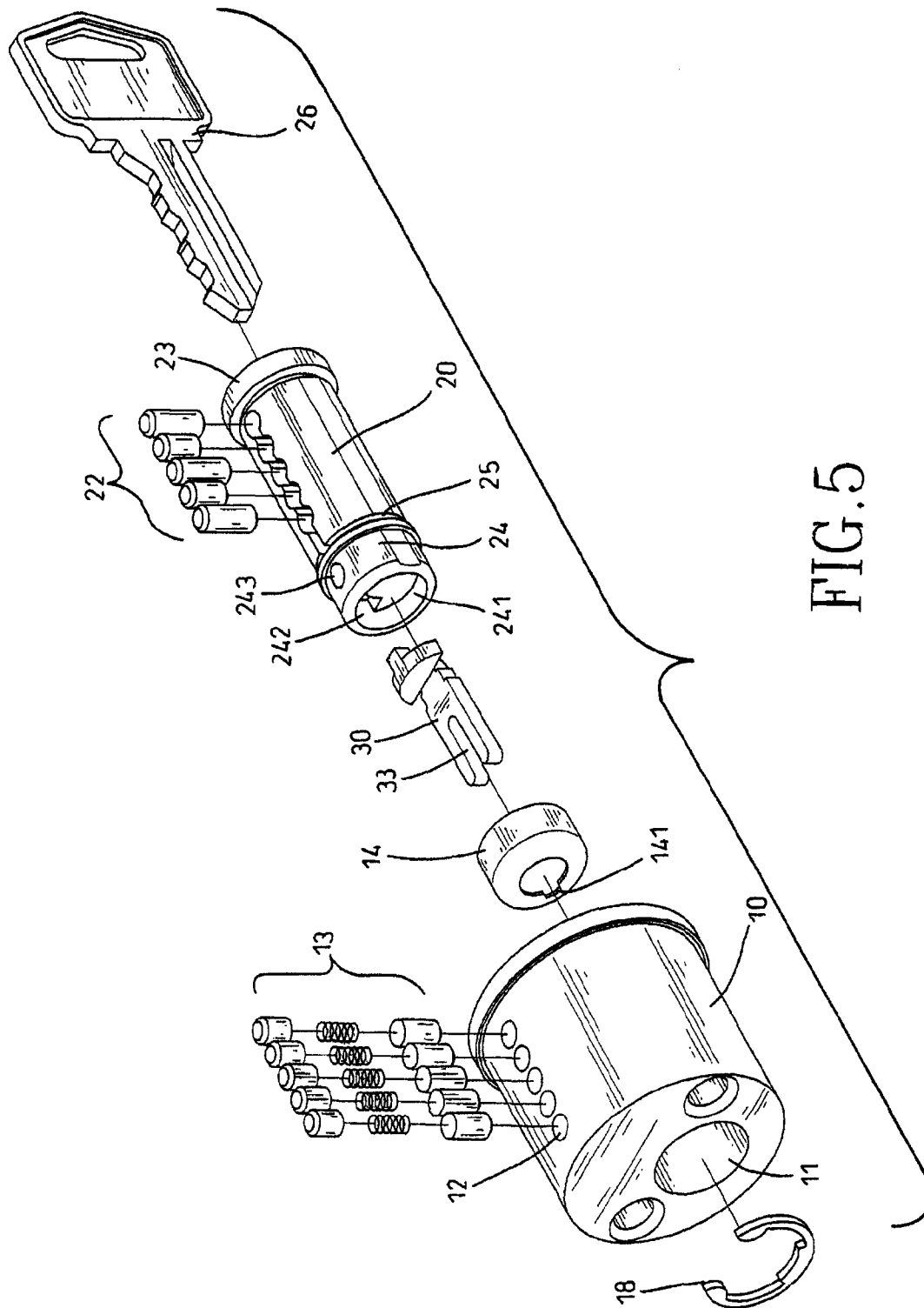


FIG. 5

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CYLINDER ASSEMBLY FOR A DOOR LOCK

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates to a cylinder assembly, and more particularly to a cylinder assembly for a door lock and that has a simple and easily assembled structure.

[0003] 2. Description of Related Art

[0004] With reference to FIG. 7, a conventional cylinder assembly for a door lock comprises a housing (90), a cylinder (93) and an actuating tongue (94). A through hole (91) is defined through the housing (90) for receiving the cylinder (93). The housing (90) has multiple apertures (92) radially defined in the housing (90) and communicating with the through hole (91). An upper lock pin (921) is moveably received in each respective aperture (92) and extends into the through hole (91). The cylinder (93) is rotatably received in the through hole (91) in the housing (90). A keyhole (not shown) is defined in a first end of the cylinder (93) for a key (97) inserting into the keyhole. An outer thread (932) is formed around a second end of the cylinder (93). Multiple apertures (933) are defined in the cylinder (93) and communicate with the keyhole. Each aperture (933) in the cylinder (93) is aligned with one of the apertures (92) in the housing (90). A lower lock pin (934) is received in each respective aperture (933) in the cylinder (93) and abuts the corresponding upper lock pin (921), and each lower lock pin (934) has a length different from that of the others. A driving pin (936) is moveably mounted in a hole (931) defined in the second end of the cylinder (93), and a spring (935) received in the hole (931) abuts the driving pin (936). A stub (937) with a diameter smaller than that of the driving pin (936) extends from the exposed end of the driving pin (936), such that a shoulder is formed between the driving pin (936) and the stub (937).

[0005] The actuating tongue (94) is securely attached to the second end of the cylinder (93) with a cap (96) and is connected to a latch (not shown) of the door lock. The cap (96) has an inner thread (961) to screw with the outer thread (932) on the cylinder (93), such that the cap (96) can securely be attached to the cylinder (93) by means of the engagement between the threads (932,961). A flange (not numbered) is formed on one end of the cap (96), and multiple recesses (962) are defined in the inner periphery of the flange. The stub (937) on the driving pin (936) extends into one of the recesses (962), and the shoulder on the driving pin (936) abuts the inner surface of the flange. A driven plate (95) is mounted around the tongue (94) and has a central hole (951) with a shape corresponding to the cross section of the actuating tongue (95), such that the tongue (94) can rotate with the driven plate (95). The driven plate (95) has two sides respectively abutting the flange on the cap (96) and a plate (941) formed on the tongue (94), such that the tongue (94) can be kept from releasing from the cylinder (93) by the driven plate (95) and the cap (96).

[0006] A notch (952) is defined in a periphery of the driven plate (95) and engages with the driving pin (936) on the cylinder (93). When the cylinder (93) is rotated, the driven plate (95) will rotate due to the engagement between the driving pin (936) and the notch (952) so that the tongue (94) will also rotate. The latch of the door lock will be actuated to lock into or unlock from a recess defined in the doorframe.

[0007] However, the conventional cylinder assembly has the following drawbacks:

[0008] 1. To provide threaded portions (932,961) with enough structural strength to the cylinder (93) and the cap (96), the material for forming the cylinder (93) and the cap (96) must have a high structural strength. The cost for manufacturing the conventional cylinder assembly is high.

[0009] 2. The structure of the conventional cylinder assembly is complicated, such that to assemble or disassemble the cylinder assembly is very troublesome.

[0010] To overcome the shortcomings, the present invention tends to provide a cylinder assembly to mitigate or obviate the aforementioned problems.

SUMMARY OF THE INVENTION

[0011] The main objective of the invention is to provide a cylinder assembly for a door lock and that can be easily assembled and disassembled. The cylinder assembly has a housing, a cylinder, an actuating tongue and a cap. The cylinder is securely held on the housing with a fastener and rotatably received in a through hole in the housing. A keyhole is defined in a first end of the cylinder, and a recess is defined in a second end of the cylinder. A curved channel is defined in a face defining the recess. The actuating tongue is attached to the second end of the cylinder. A connecting portion is formed on the first end of the tongue and is rotatably received in the recess in the cylinder. A protrusion protrudes from the first end of the actuating tongue and extends into the curved channel in the cylinder. The cap is mounted around the actuating tongue and secured to the second end of the cylinder. In such an arrangement, the cylinder can be easily assembled to or disassembled from the housing by means of attaching or removing the fastener. To assemble or to disassemble the cylinder assembly is easy, and the cost for manufacturing the cylinder assembly is low.

[0012] Other objects, advantages and novel features of the invention will become more apparent from the following detailed description when taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] FIG. 1 is an exploded perspective view of a cylinder assembly for a door lock in accordance with the present invention;

[0014] FIG. 2 is a perspective view of the cylinder assembly in FIG. 1;

[0015] FIG. 3 is a side plan view in partial cross section of the cylinder assembly in FIG. 1;

[0016] FIG. 4 is an exploded perspective view of a second embodiment of a cylinder assembly in accordance with the present invention;

[0017] FIG. 5 is an exploded perspective view of a third embodiment of a cylinder assembly in accordance with the present invention;

[0018] FIG. 6 is an exploded perspective view of a fourth embodiment of a cylinder assembly in accordance with the present invention; and

[0019] FIG. 7 is an exploded perspective view of a conventional cylinder assembly in accordance with the prior art.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

[0020] With reference to FIGS. 1 to 3, a cylinder assembly for a door lock in accordance with the present invention comprises a housing (10), a cylinder (20), an actuating tongue (15) and a cap (14). A through hole (11) is defined through the housing (10) for receiving the cylinder (20). Multiple apertures (12) are defined in the housing (10) and communicate with the through hole (11). An upper lock pin (13) is moveably received in each respective aperture (12) in the housing (10) and extends into the through hole (11). In practice, each upper lock pin (13) comprises an upper pin, a lower pin and a spring mounted between the pins.

[0021] The cylinder (20) is rotatably received in the through hole (11) in the housing (10) and has a first end (23) and a second end (24). A keyhole (not numbered) is defined in the first end (23) of the cylinder (20) for a key (26) inserting into the keyhole. The second end (24) of the cylinder (20) is inserted into the through hole (11) from the first end of the housing (10) and extends out from the through hole (11) from the second end of the housing (10). A groove (25) is defined around the exposed second end (24) of the cylinder (20) for a C-shaped or E-shaped fastener (18) being received in the groove (25), such that the cylinder (20) can be securely held on the housing (10) with the fastener (18). A recess (241) is defined in the second end (24) of the cylinder (20). A curved channel (242) is defined in a face defining the recess (241). Multiple apertures (21) are defined in the cylinder (20) and communicate with the keyhole. Each aperture (21) in the cylinder (20) is aligned with one of the apertures (12) in the housing (10). A lower lock pin (22) is received in each respective aperture (21) in the cylinder (20) and abuts the corresponding upper lock pin (13), and each lower lock pin (22) has a length different from those of the others. At least one hole (243) is defined in a periphery of the second end (24) of the cylinder (20).

[0022] The actuating tongue (15) has a first end extending into the recess (241) in the cylinder (20) and a second end connected to a latch (not shown) of the door lock. A connecting portion (16) is formed on the first end of the tongue (15) to be rotatably received in the recess (241) in the cylinder (20). In practice, the connecting portion (16) is a block integrally formed on the first end of the tongue (15). A protrusion (17) protrudes from the connecting portion (16) of the tongue (15) and extends into the channel (242) in the cylinder (20). The cap (14) is mounted around the actuating tongue (15) and is secured to the second end (24) of the cylinder (20). A through hole (not numbered) is defined in the cap (14) for the tongue (15) extending through the through hole. A knob (not numbered) is formed on the cap (14) and extends into each respective hole (243) in the second end (24) of the cylinder (20), such that the cap (14) can be securely attached to the second end (24) of the cylinder (20). Accordingly, the connecting portion (16) of the actuating tongue (15) can be securely held in the recess (241) in the cylinder (20).

[0023] With such an arrangement, because there is no threaded portion formed on the cap (14) or the cylinder (20),

a material with a high structural strength is not needed for forming the cap (14) and the cylinder (20). Therefore, the cost for manufacturing the cylinder assembly is reduced in comparison with prior art. In addition, because the cylinder (20) is securely attached to the housing (10) with a C-shaped or an E-shaped fastener (18), the cylinder (20) is easily assembled with or disassembled from the housing (10) by means of attaching or removing the fastener (18).

[0024] With reference to FIG. 4, a bore (43) is defined through the first end of the actuating tongue (40), and a pin (44) extends through the bore (43) and is received in the recess (241) in the cylinder (20) to serve as a connecting portion on the actuating tongue (40). A protrusion (42) is formed on the first end of the tongue (40) and extends into the curved channel (242) in the cylinder (20).

[0025] With reference to FIGS. 5 and 6, a slot (33,54) is defined in a second end of the actuating tongue (30,50) and is adapted to engage with the slot (33,54) in the actuating tongue (30,50) of the other cylinder on a same the door lock. A notch (141) is defined in an inner periphery of the through hole in the cap (14) to engage with the actuating tongue (30,50). With the engagement between the tongue (30,50) and the notch (141) in the cap (14), the tongue (30,50) can actually rotate with the cylinder (20). Accordingly, the cylinder assembly can be applied to a door lock with two cylinder assemblies, wherein the cylinder assemblies can actuate each other.

[0026] Even though numerous characteristics and advantages of the present invention have been set forth in the foregoing description, together with details of the structure and function of the invention, the disclosure is illustrative only, and changes may be made in detail, especially in matters of shape, size, and arrangement of parts within the principles of the invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed.

What is claimed is:

1. A cylinder assembly for a door lock comprising:

a housing having a through hole defined through the housing;

multiple upper lock pins moveably mounted on the housing and extending into the through hole;

a cylinder securely held on the housing with a fastener and rotatably received in the through hole in the housing, the cylinder having

a keyhole defined in a first end of the cylinder;

a recess defined in a second end of the cylinder;

a curved channel defined in a face defining the recess; and

at least one hole defined in a periphery of the second end of the cylinder;

multiple lower lock pins moveably mounted on the cylinder and extending into the key hole in the cylinder, each respective lower lock pin having a length different from lengths of the other lower lock pins and abutting one of the upper lock pins on the housing;

an actuating tongue attached to the second end of the cylinder and having a first end extending into the recess

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIRECCION DE NUEVAS CREACIONES

202084

Bogotá, D.C.

Abogado
EMILIO FERRERO
Apoderado

ASUNTO	Radicación	06 – 99256
	Trámite	011
	Evento	378
	Actuación	519
	Oficio	3996
	Folios	007

Patente de Invención	☒	Patente de Modelo de Utilidad	☐
Vía Nacional	☐		
Vía PCT (fase nacional)	☒	Cap. I	☒
		Cap. II	☐
No. Sol. Internacional	PCT/US2005/007277		

Fecha de Presentación Internacional 04/03/2005

Como resultado del examen de fondo, realizado con fundamento en el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le comunica:

1. Documentos estudiados

- | | | | |
|------|--------------------------|--------|----------------------------------|
| 1.1. | <u>Descripción:</u> | Folios | 34 a 40 |
| 1.2. | <u>Reivindicaciones:</u> | Folios | 41 a 44 |
| 1.3. | <u>Dibujos:</u> | Folios | 46 a 51 |
| 1.4. | <u>Prioridad:</u> | Folios | 3 a 33 (US10/797.884 2004-03-10) |

2. Objeto de la invención

Título de la solicitud: "CILINDRO DE CERRADURA UNIVERSAL"

El problema planteado en esta solicitud se refiere a que los cilindros de cerraduras intercambiables son complicados, y su estructura es específica para cada tipo: de pomo, de palanca de resbalón, o de pestillo; cada una utiliza un cilindro de cerradura particular, complicando la reconfiguración de la llave y el reemplazo de cerraduras comerciales y residenciales.

Para solucionar este problema técnico la solicitud en estudio proporciona un cilindro de cerradura universal con características de fijación que permiten montarlo en diversas cajas de cerradura. Una hoja de torsión o un conjunto de eje se alija en un

segmento posterior del cilindro de la cerradura, dependiendo del tipo de cerradura en que se desee montar dicho cilindro.

El objeto de la presente invención se lleva acabo de acuerdo con las características reivindicadas, en las reivindicaciones 1, 11 y 17 (ver folios 41 a 44).

El objeto de la solicitud definida anteriormente se encuentra en la Clasificación Internacional de Patentes (IPC), E05B 15/02, E05B17/00, E05B17/04.

3. Determinación del Estado de la Técnica

Se buscaron documentos del estado de la técnica relacionados, con fecha de publicación anterior a 04/03/2005, que pueden afectar la patentabilidad del objeto de la presente solicitud, encontrándose:

Nº	Documento	Título	Fecha de Publicación
D1	US6644076	Cylinder assembly for a door lock	Nov 11, 2003

4. De la solicitud de Patente

4.1. Descripción (artículo 28 D. 486)

Se sugiere que el titulo se modifique por "CILINDRO DE CERRADURA CON DIVERSAS FORMAS DE FIJACIÓN PARA PERMITIR VARIOS MONTAJES.". Ya que este es más conciso con el objeto de la invención.

4.2. Reivindicaciones (artículo 30 D 486)

Se sugiere fusionar los siguientes dos grupos de reivindicaciones de la 11 a la 15, con la 17 a la 21, respectivamente; ya que están caracterizando el mismo objeto, esto para dar mayor claridad, sin necesidad de extenderse como está ocurriendo. También se aconseja dejar una única reivindicación independiente, que mencione todas las características conocidas en el estado de la técnica, en el preámbulo, y seguido del término **"CARACTERIZADO POR"** se muestren las características técnicas novedosas propias de la solicitud, y que la diferenciarían del estado del arte.

Con lo anterior se busca que la reivindicación independiente de mayor claridad y delimite mejor la invención, para reflejar el verdadero alcance de la protección.

Se aconseja en todo el capitulo reivindicatorio hacer una referencia por medio de paréntesis "()" inmediatamente después de hablar del elemento, sin hacer ningún otro tipo de alusión o mencionar la figura directamente, para facilitar su comprensión

5. Análisis de patentabilidad (artículo 14 D 486)

5.1. Novedad (artículo 16 D 486)

Teniendo en cuenta que el documento **US6644076** (mencionado de ahora en adelante como **D1**), que se refiere a: un **"C Cylinder assembly for a door lock"** y al comparar elemento por elemento de la invención tal como está definido en las reivindicaciones 1, 11 y 17, con el documento **D1**, vemos que el dicho documento contiene todas las características técnicas, como son:

- Un casco cilíndrico que define un eje. Ver **D1** Capítulo descriptivo, página 2; elementos 10, 23, 90, 93 y Figuras 1 a 6.
- Un cilindro interno insertable apto para montar dentro de dicho casco cilíndrico para hacer rotar en torno a dicho eje en relación con dicho casco cilíndrico, dicho cilindro interno insertable. Ver **D1** Capítulo descriptivo, página 2; elementos 23, 93 y Figuras 1 a 6.
- Un primer plano y dicho segundo plano siendo transversales y descentrados a lo largo de dicho eje, una primera pieza de fijación al menos parcialmente dentro de dicho primer plano y una segunda pieza de fijación al menos parcialmente dentro de dicho segundo plano, dicha primera pieza de fijación perpendicular a dicha segunda pieza de fijación. Ver **D1** Capítulo descriptivo, página 2; elementos 16, 17, 42, 44 y Figuras 1 a 6.
- Una caja de la cerradura. Ver **D1** Capítulo descriptivo, página 2; elementos 13, 20, 22, 934, 921 y Figuras 1 a 6.
- Una hoja de torsión que comprende un extremo hembra que puede fijarse en dicho extremo macho. Ver **D1** Capítulo descriptivo, página 2; elementos 15 a 17; 30, 33; 42 a 44; 52, 54; 94 y Figuras 1 a 6.
- Un reten que tiene axialmente dicho extremo hembra sobre dicho extremo macho. Ver **D1** Capítulo descriptivo, página 2; elementos 14, 141 y Figuras 1 a 6.
- Un eje que comprende un extremo hembra con levas opuestas. Ver **D1** Capítulo descriptivo, página 2; elementos 18, 25 y Figuras 1 a 6.

Realizada la comparación del documento **D1** con la presente solicitud de patente de invención, se observa que dicho documento contiene todas las características técnicas de las reivindicaciones 1, 11 y 17; con lo cual quedaría desvirtuada la novedad de esta.

6. Conclusión:

Los requisitos de patentabilidad de la presente solicitud se encuentran afectados así:

Nº	Documento Nº	Reivindicaciones Afectadas	Requisito que Afecta
D1	US6644076	1 a 21	Nivel inventivo

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de sesenta días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.

ALIX CARMENZA CÉSPEDES DE VERGEL
Directora de Nuevas Creaciones (C)

19 MAR. 2010

El anterior requerimiento fue notificado por fijación en lista, de fecha _____

CONCEPTO TÉCNICO No. 634	EXAMINADOR TÉCNICO Código No. 84
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CILINDRO DE CERRADURA UNIVERSAL

EXAMEN TÉCNICO DE FONDO			
Nº Radicación	06 - 99256	Fecha de presentación	2006-10-02
Nº Prioridad	10/797.884	Fecha de Prioridad	2004-03-10

CLASIFICACIONES INTERNACIONALES DE BÚSQUEDA	
E05B 15/02	Armellas; Chapas de los cerrojos; Grapas-cerrojo; Escudos de cerraduras
E05B17/00	Accesorios relativos a las cerraduras (cerraduras con indicadores de aviso o temporizadas E05B 39/00-E05B 45/00; topes en sí E05F 5/00; medios para evitar el golpeo de los batientes, E05F 7/04; medios para soportar el peso de los batientes
E05B17/04	Dispositivos de acoplamiento del cilindro giratorio de una cerradura cilíndrica simple o doble con la pieza que echa el cerrojo

DOCUMENTOS CORRESPONDIENTES EN OTROS PAÍSES			
WO2005086745 (A3)	US2005199027 (A1)	PA8625601 (A1)	KR20060129492 (A)
CA2557478 (A1)	AU2005220815 (A1)	AR049156 (A1)	BRPI0508239 (A)
CN1926296 (A)	ECSP066843 (A)	JP2007528461 (T)	MXPA06010242 (A)
Patente Original	US20040797884	20040310	

BASES DE DATOS CONSULTADAS			
COLOMBIANA	USPTO	GOOGLE	ESPACENET
MIMOSA	WIPO	SURFIP	OEPM

INFORMES DE EXÁMENES EN OTRAS OFICINAS		
Oficina	Fecha	Reivindicaciones
EP / US		

DOCUMENTOS Y ANTERIORIDADES ENCONTRADAS			
☒ US6644076 ↻	☒ US2042025 ↻	☐ US2348135 ↻	

ANTERIORIDADES ENCONTRADAS		
Documento	Relevancia	Reivindicaciones afectadas
US6644076	NOVEDAD	1 a 21

Fecha del examen	Art. 45:19/03/10	CONCEPTO TECNICO No.634	EXAMINADOR TECNICO Código No. 84
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