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(54) **Radial pin tumbler lock and key**

Schloss mit radial angeordneten Stiftzuhaltungen und Schlüssel

Serrure à goupilles radiales et clé

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Description

[0001] This invention relates to a radial tumbler lock and key (sometimes known as an axial tumbler pin lock and key).

[0002] Known radial pin tumbler lock and keys are provided with cylindrical mating configurations. However, such locks can be prone to picking.

[0003] According to the present invention, there is provided a radial pin tumbler lock and key, the mating configuration of the key being provided by a hollow body open at one end and the key having axial cuts arranged around the external surface of the open end of the hollow body to mate with pins of the lock; characterised in that the lock and key each have a non-cylindrical, substantially regular polygonal mating configuration extending parallel to the direction of insertion of the key in the lock, the polygonal mating configuration of the key being provided inside the body and extending longitudinally thereof, and the mating configuration of the lock being provided by a polygonal upstanding post, the post being dimensioned to mate inside the body of the key.

[0004] The polygon may be that of an octagon.

[0005] The exterior of the cylindrical body can be provided with one or more radially-outwardly extending ribs running longitudinally of the cylindrical body, the ribs being insertable through appropriately-located grooves in the lock.

[0006] The key can be provided with a key bow.

[0007] The free end of the post can be provided with a chamfer to ease insertion of the key into the lock.

[0008] For a better understanding of the invention and to show how it may be carried into effect, reference will now be made by way of example, to the accompanying drawings, in which:-

Figure 1 is a perspective view of a key for a radial pin tumbler lock,

Figure 2 is a side view of the key shown in Figure 1,

Figure 3 is a perspective view of the radial pin tumbler lock, and

Figure 4 is a plan view of the radial pin tumbler lock.

[0009] Figures 1 and 2 show a key 1 having a body portion 2 of cylindrical external configuration and an octagonal internal configuration 2A having an open end 2B for insertion in the lock. The body 2 is joined to a key bow 3 and is provided with two radially-outwardly extending ribs 4 running longitudinally of the body 2.

[0010] Radially of the body 2 are provided a plurality of axial cuts (not shown) arranged around the external surface of the open end of the body 2, the cuts being of different axial lengths and spacings to provide different key combinations with the lock.

[0011] The key 1 is designed to be inserted into a mat-

ing hole (not shown) in a radial pin lock core 5 of the lock 6, shown in Figures 3 and 4.

[0012] The lock 6 is provided with a central up-standing post 7, whose free end is chamfered. The post 7 is provided with an external, possibly regular octagonal configuration to match that of the inside of the key 1. Surrounding the post 7 is an annular space with a substantially circular outer diameter, this space defining the core 5 and being so dimensioned to receive the cylindrical body 2 and rib 4, 4A of the key 1. To accommodate the rib 4, 4A, one or more corresponding grooves 8 are provided in the cylindrical wall 9 defining the outer diameter of the core 5.

Claims

1. A radial pin tumbler lock (6) and key (1), the mating configuration of the key (1) being provided by a hollow body (2) open at one end and the key having axial cuts arranged around the external surface of the open end of the hollow body (2) to mate with pins of the lock; **characterised in that** the lock and key each have a non-cylindrical, substantially regular polygonal mating configuration extending parallel to the direction of insertion of the key in the lock, the polygonal mating configuration (2A) of the key (1) being provided inside the body and extending longitudinally thereof, and the mating configuration of the lock (6) being provided by a polygonal upstanding post (7), the post being dimensioned to mate inside the body of the key.
2. A lock and key according to claim 1, wherein the polygon is that of an octagon.
3. A lock and key according to claim 1 or 2, wherein the radial pin tumbler lock is provided with pins to engage mating radially spaced cuts of the key.
4. A lock and key according to claim 1, 2 or 3, wherein the exterior of the cylindrical body of the key is provided with one or more radially-outwardly extending ribs (4, 4A) running longitudinally of the cylindrical body, the ribs being insertable through appropriately-located grooves (8) in the lock.
5. A lock and key according to any one of the preceding claims, wherein the free end of the post (7) is provided with a chamfer to ease insertion of the key into the lock.

Patentansprüche

1. Schloss (6) mit radial angeordneten Stiftzuhalten und Schlüssel (1), bei denen die Passungsstruktur des Schlüssels (1) durch einen Hohlkörper

(2) bereitgestellt ist, der an einem Ende offen ist, und der Schlüssel zur Passung mit Stiften des Schlosses axiale Einschnitte aufweist, die um die äußere Fläche des offenen Endes des Hohlkörpers (2) angeordnet sind, **dadurch gekennzeichnet, dass** das Schloss und der Schlüssel jeweils eine nicht zylindrische, im Wesentlichen gleichmäßig polygonale Passungsstruktur aufweisen, die sich parallel zu der Einführrichtung des Schlüssels in das Schloss erstreckt, wobei die polygonale Passungsstruktur (2A) des Schlüssels (1) in dem Körper bereitgestellt ist und sich in dessen Längsrichtung erstreckt und die Passungsstruktur des Schlosses (6) durch einen polygonalen aufrecht stehenden Ständer (7) bereitgestellt ist, wobei der Ständer dimensioniert ist, um in den Körper des Schlüssels zu passen.

2. Schloss und Schlüssel nach Anspruch 1, bei denen das Polygon ein Achteck ist.
3. Schlüssel und Schloss nach Anspruch 1 oder 2, bei denen das Schloss mit radial angeordneten Stiftzuhalten mit Stiften ausgestattet ist, um in Passung an radial beabstandeten Einschnitten des Schlüssels anzugreifen.
4. Schloss und Schlüssel nach Anspruch 1, 2 oder 3, bei denen das Äußere des zylindrischen Körpers des Schlüssels mit einer oder mehreren sich radial nach außen erstreckenden Rippen (4, 4A) ausgestattet ist, die in Längsrichtung des zylindrischen Körpers verlaufen, wobei die Rippen über geeignet angeordnete Nuten (8) in das Schloss eingeführt werden können.
5. Schloss und Schlüssel nach einem der vorherigen Ansprüche, bei denen das freie Ende des Ständers (7) mit einer Fase ausgestattet ist, um das Einführen des Schlüssels in das Schloss zu vereinfachen.

façon à s'ajuster à l'intérieur du corps de la clé.

2. Serrure et clé selon la revendication 1, dans lesquelles le polygone est un octogone.
3. Serrure et clé selon la revendication 1 ou 2, dans lesquelles la serrure à gorges à broches radiales est munie de broches venant en engagement avec des encoches correspondantes radialement espacées de la clé.
4. Serrure et clé selon la revendication 1, 2 ou 3, dans lesquelles l'extérieur du corps cylindrique de la clé est muni d'une ou plusieurs nervures s'étendant radialement vers l'extérieur (4, 4A) courant longitudinalement sur le corps cylindrique, les nervures pouvant être insérées au travers de rainures (8) situées de façon appropriée dans la serrure.
5. Serrure et clé selon l'une quelconque des précédentes revendications, dans lesquelles l'extrémité libre du plot (7) est pourvue d'un chanfrein afin de faciliter l'insertion de la clé dans la serrure.

Revendications

1. Serrure à gorges à broches radiales (6) et clé (1), la configuration correspondante de la clé (1) étant fournie par un corps creux (2) ouvert à l'une de ses extrémités et la clé présentant des encoches axiales disposées autour de la surface externe de l'extrémité ouverte du corps creux (2) de façon à correspondre aux broches de la serrure ; **caractérisé en ce que** la serrure et la clé présentent chacune une configuration correspondante polygonale sensiblement régulière, non cylindrique, s'étendant parallèlement à la direction d'insertion de la clé dans la serrure, la configuration correspondante polygonale (2A) de la clé (1) étant fournie par un plot polygonal en saillie (7), le plot étant dimensionné de

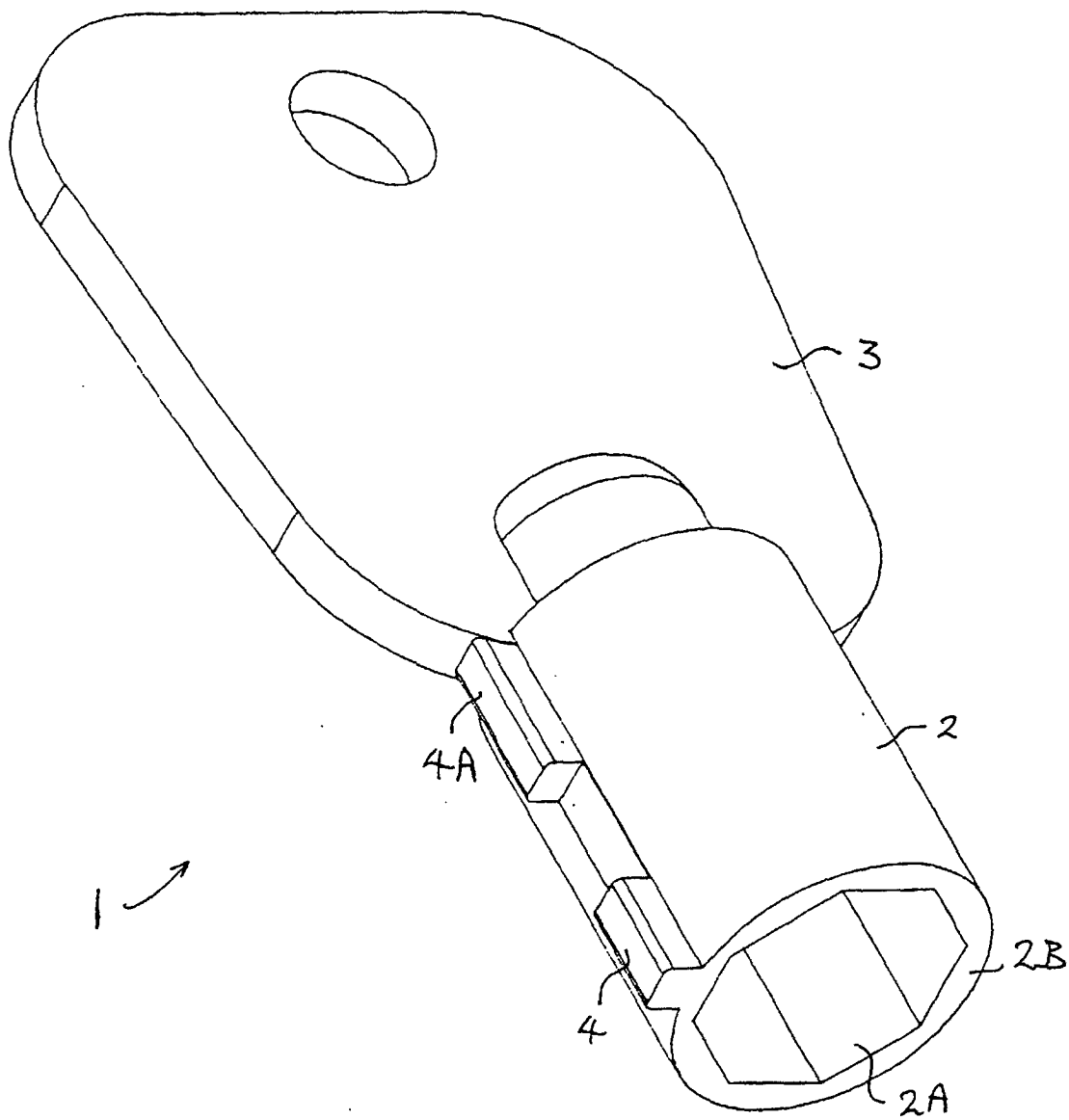


FIG. 1

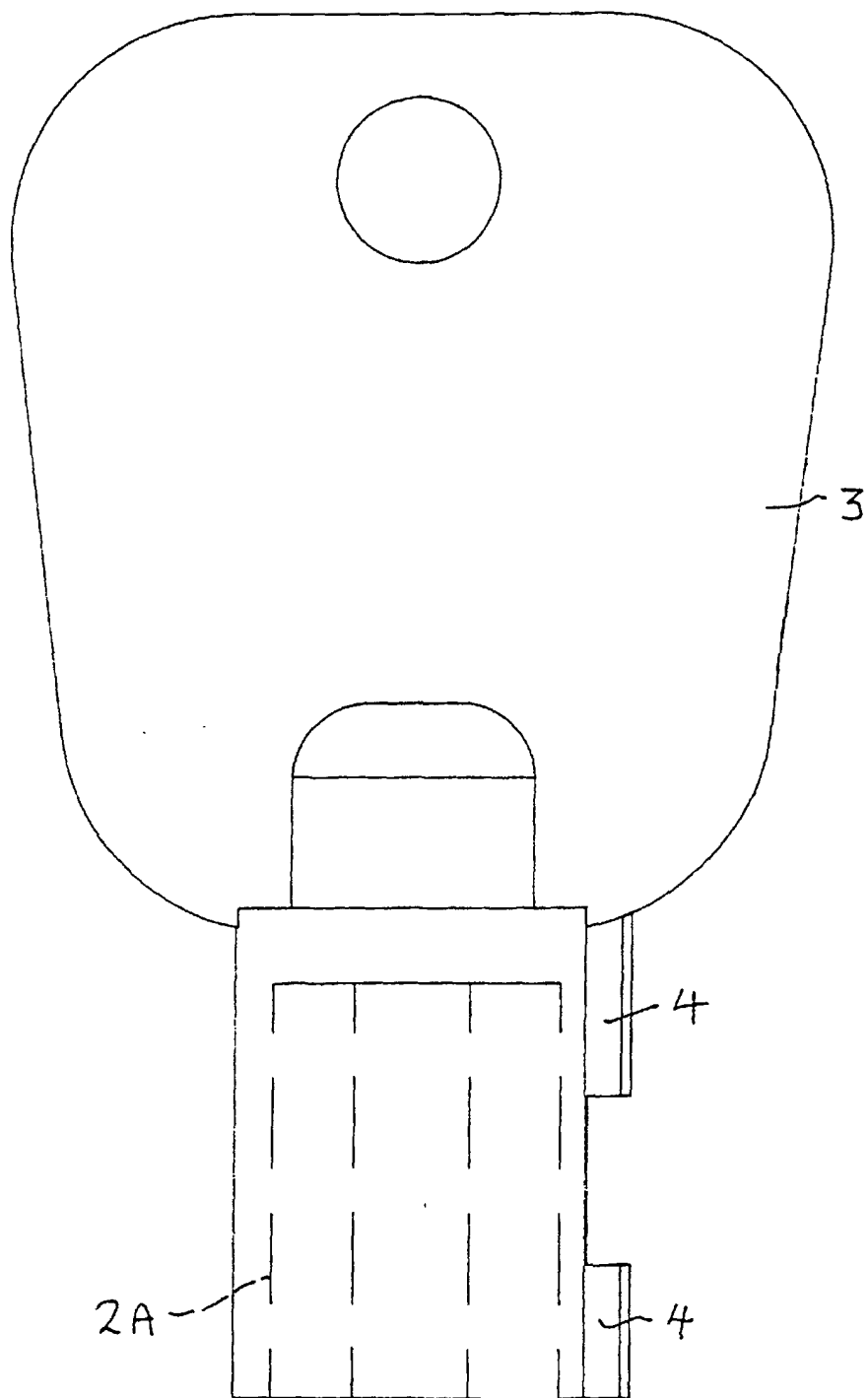


FIG. 2

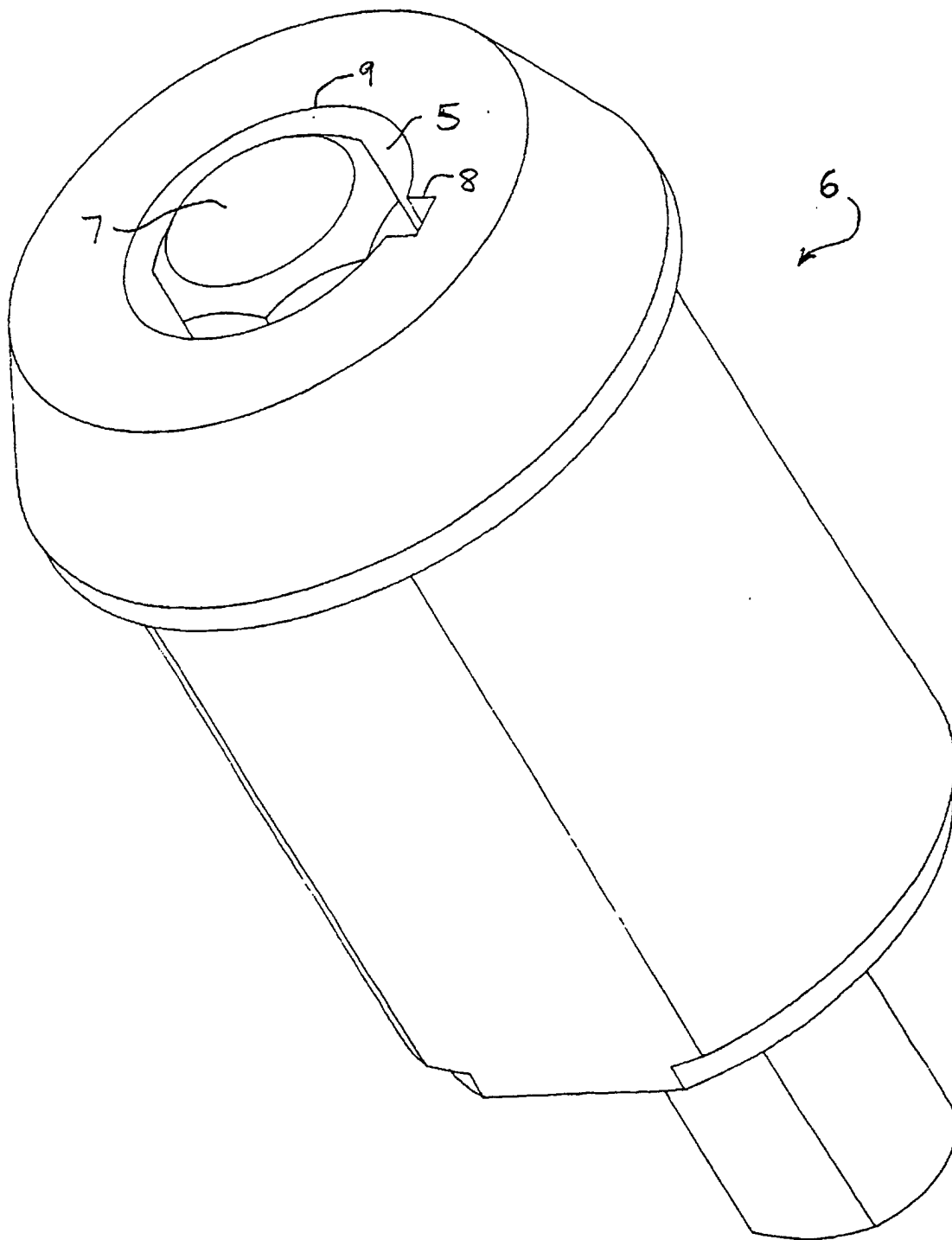


FIG. 3

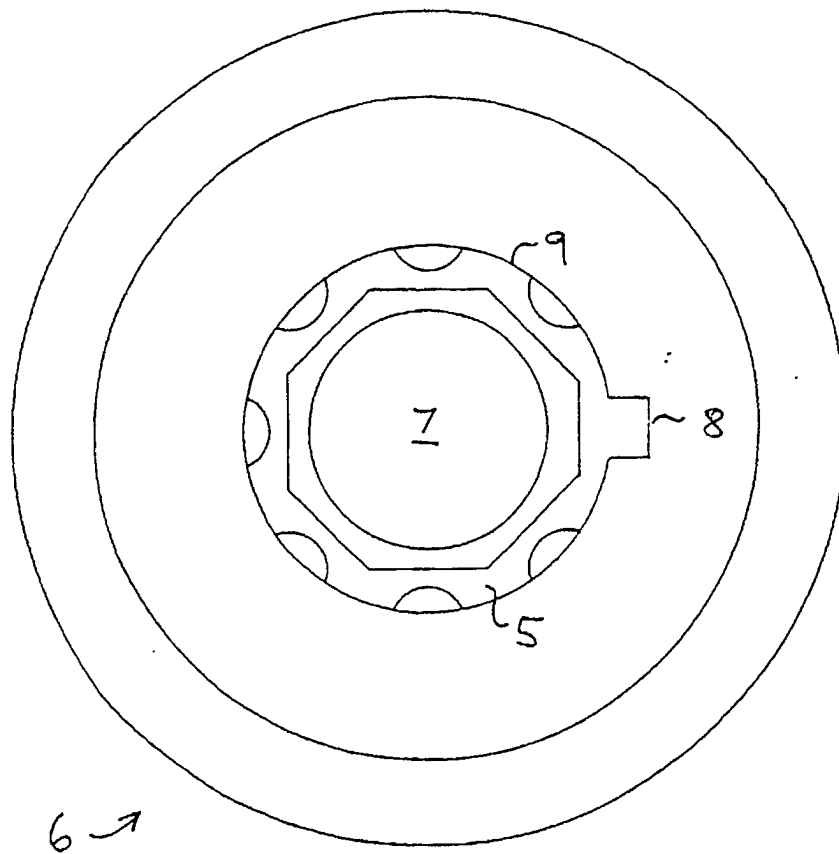


FIG. 4