

[54] **PADLOCK**

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- [51] Int. Cl. **E05b 67/22**
- [58] Field of Search **70/38 A, 417, DIG. 57,**
70/38 R, 38 B, 38 C, 39

[56]

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[57] **ABSTRACT**

The padlock according to this invention comprises a hard metal barrel, a hard metal shackle of a U-form, a locking bar which is rotatively placed within said barrel and extends at right angles to the legs of the shackle so as to intersect partially and a cylinder head for bringing said locking bar to locking or unlocking position. At the intersections, said locking bar and the legs of shackle are provided with semicircular depressions. The characteristic of this invention resides in installing the cylinder head free of picking or tampering. For this purpose, the cylinder head is inserted in a hard metal cylindrical block from behind and the latter is placed in the corresponding frontal depression of the barrel and fixed thereto by means of screws inserted from behind. Long holes for admitting the entrance of a screw driver are drilled within the barrel so as to extend at right angles to the legs of the shackle.

1 Claim, 6 Drawing Figures

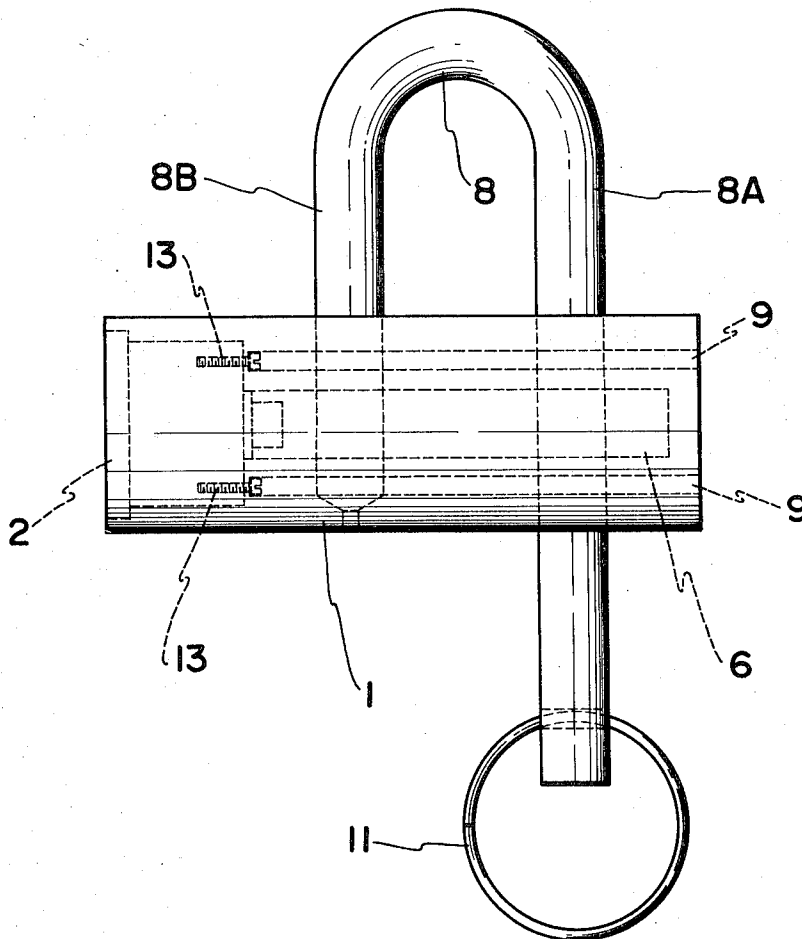


FIG. 1

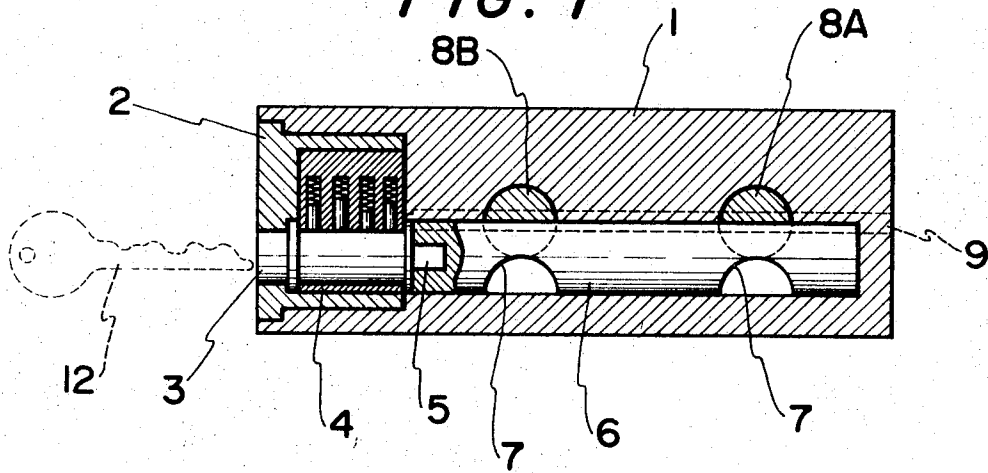


FIG. 2

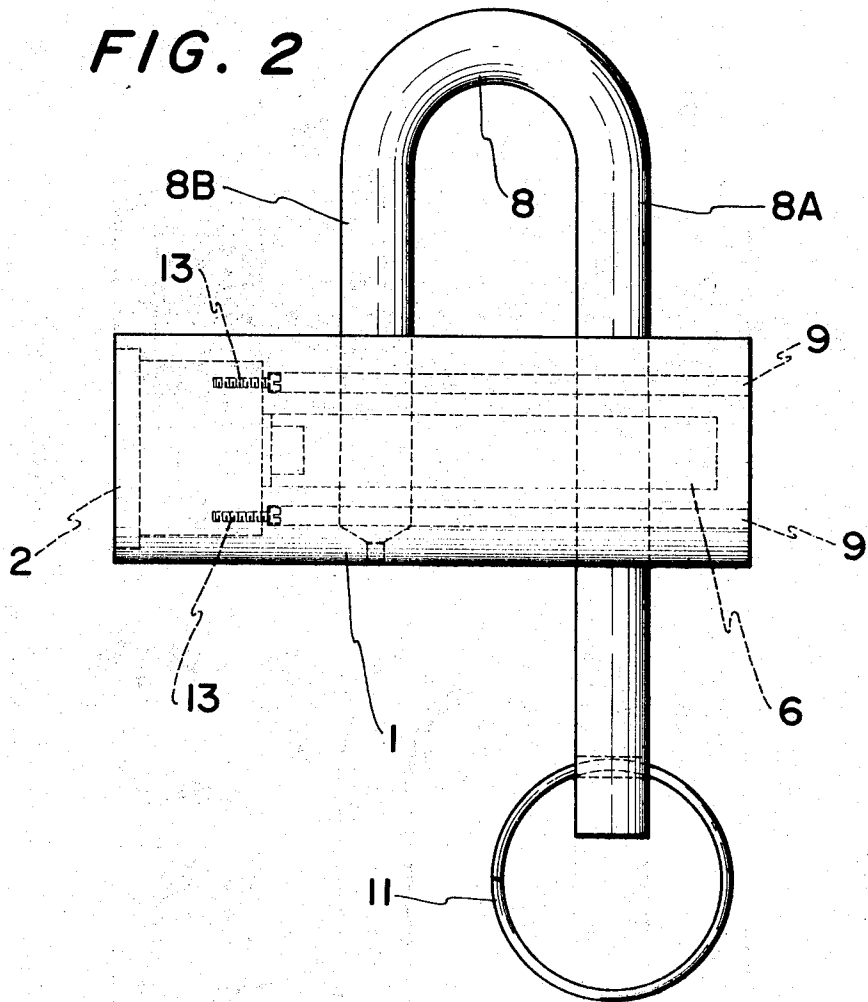


FIG. 3

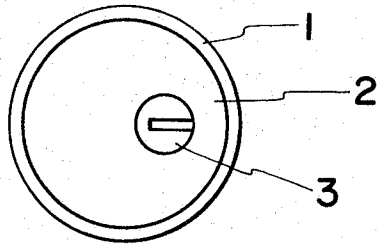


FIG. 6

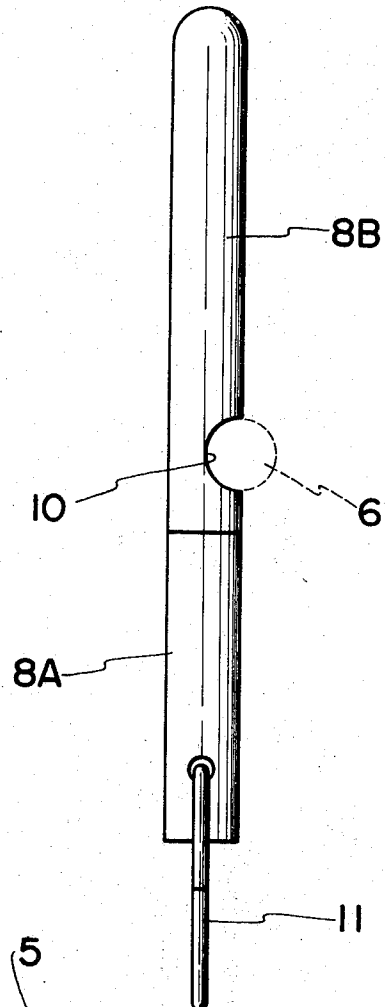


FIG. 4

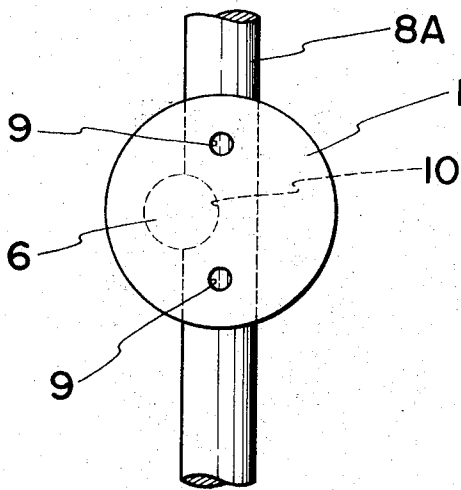
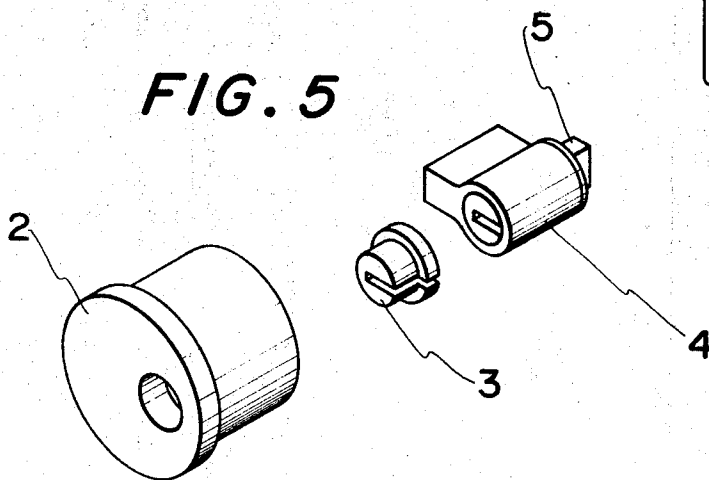


FIG. 5



PADLOCK

This invention has for its object to construct a sturdy and indestructible padlock.

In general, the padlock according to this invention consists of a barrel of solid hard metal block, shackle of a U-form adapted to be inserted diagonally to said barrel, locking bar which is rotatively placed within said barrel and is perpendicular to and partially intersects the legs of said shackle, and a cylinder head for turning said locking bar to locking or unlocking position. At the intersections, the legs of said shackle and locking bar are provided with semi-circular depressions. At the locking position of said locking bar, uncut portions of said locking bar enter into the corresponding semi-circular depressions of the legs of the shackle so as to hinder the latter from moving while at the unlocking position of said locking bar, the semi-circular depressions provided in said locking bar face opposite to the semi-circular depressions provided in the legs of the shackle so as to release the shackle.

The inventor takes greatest care to install the cylinder head within the barrel in order to prevent picking or tampering. According to this invention, the cylinder head is inserted to a metal block from behind and after said block is placed into the depression provided at the front of the barrel, said block is fixed therein by means of screws inserted from behind. In order to turn the screws from behind, long holes are drilled longitudinally in the barrel for admitting the entrance of a long screw driver. Further, as said holes extend perpendicularly to the legs of the shackle, and are blocked by the presence of the shackle, the tip of screw driver can not reach the screws as long as the shackle remains in the barrel whereby it is impossible to pick or tamper the cylinder head.

This invention will be better understood by the following description with reference to the accompanying drawings wherein:

FIG. 1 is a sectional view of the padlock according to this invention,

FIG. 2 is a side view of the same,

FIG. 3 is a front view of the barrel,

FIG. 4 is a rear view of the barrel showing a part of the shackle,

FIG. 5 shows cylindrical block in which the cylinder head is inserted, keyhole cover and cylinder head in perspective, and

FIG. 6 is a side view of the shackle.

1 is a barrel of solid metal block. 8 is a shackle comprising long leg 8A and short leg 8B adapted to be inserted diagonally to the barrel. As shown in the drawings, while the long leg 8A passes through the barrel, the lower portion of the short leg 8B remains within the barrel. 6 is a locking bar rotatively placed within the barrel. Said locking bar extends perpendicularly to the legs of the shackle and partially intersect said legs. At the intersections, the locking bar is provided with semi-circular depressions 7 7 and the legs 8A and 8B are provided with corresponding semi-circular depressions 10 and 10 respectively. In order to turn said locking bar 6 to locking or unlocking position, a cylinder head 4 is provided. Said cylinder head as well as keyhole cover 3 are inserted to a flanged cylindrical block 2 from behind. Then the cylindrical block 2 is placed in a frontal depression provided in the barrel and fixed thereto by

means of screws 13 13 inserted from behind. Long holes 9 9 are drilled longitudinally through the barrel 1 so as to admit the entrance of a long screw driver for turning said screws. As shown, as said holes extend at right angles to the legs of the shackle, the tip of long screw driver can not reach the screw 13 13 as long as the leg 8A remains in the barrel. 5 is the cam piece of the cylinder head 4 engaging with the locking bar 6.

At the locking position of the locking bar 6 [FIG. 1], the uncut portions of the locking bar which are opposite to the semi-circular depressions 7 7 are placed in the corresponding semi-circular depressions 10 10 provided in the legs 8A and 8B whereby said legs are hindered from moving.

To unlock, a key 12 is inserted in the cylinder head 4 and turned it 180° whereby the locking bar 6 rotates and bring its semi-circular depressions 7 7 quite opposite to the corresponding semi-circular depressions 10 10. At this position, the shackle 8 is released and can move freely until the ring 11 attached to one end of the long leg 8A is brought into contact with the barrel 1.

According to this invention, as cylindrical block 2, barrel 1 and shackle 8 are made of tempered metal such as quenched steel, it is virtually indestructible. Further, as the cylinder head 4 is completely protected by tempered metal cylindrical block, it is impossible to pick or tamper it.

Further, as the tip of a screw driver can not reach the screws 13 13 as long as the long leg 8A remains in the barrel 1, it is impossible to dismantle the cylinder head 4 from without.

In case of repairing or replacing the cylinder head, it is necessary to remove the ring 11 and withdrawing the shackle 8 completely from the barrel at the unlocking position.

What I claim:

1. A padlock construction comprising a cylindrical barrel having a principal axis, a longitudinally extending bore commencing at one end of said barrel, and a counter bore communicating with said bore at an inner end thereof; said barrel having a pair of transverse bores communicating with said counter bore; a shackle movable within said transverse bores between opened and closed positions, and selectively completely removable from said transverse bores, a locking bar rotably positioned within said counter bore and cooperating with said shackle to selectively immobilize the same, a lock body positioned within said first mentioned bore and cooperating with said locking bar, said lock body being accessible for the engagement of a key at one end of said barrel, said barrel having at least one elongated longitudinally extending bore therein communicating at an opposite end of said barrel and terminating at an inner counter bore of smaller diameter communicating with said first mentioned bore, said lock body having at least one threaded bore therein aligned with said inner counter bore, said elongated bore intersecting at least one of said transverse bores in said barrels; said lock body being maintained within said barrel by threaded engagement with a screw inserted into said elongated bore, whereby subsequent insertion of said shackle into said barrel prevents access to said screw and unauthorized removal of said lock body from said barrel.

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