May 1, 1951 P. D. LONDO 2,550,833

COMBINED PIN TUMBLER AND BIT KEY LOCK

Filed Nov. 4, 1947

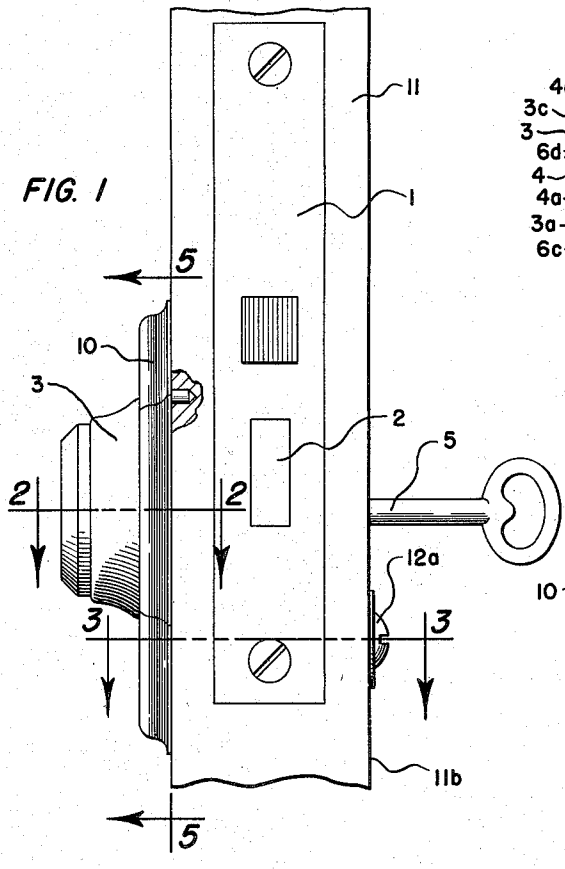


FIG. 1

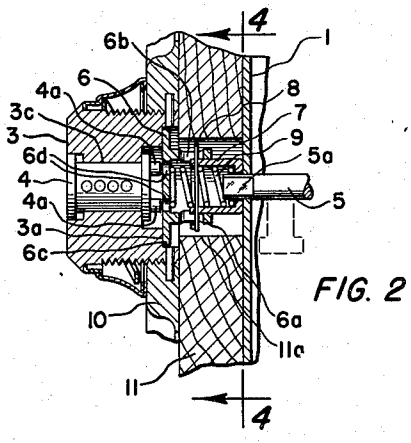


FIG. 2

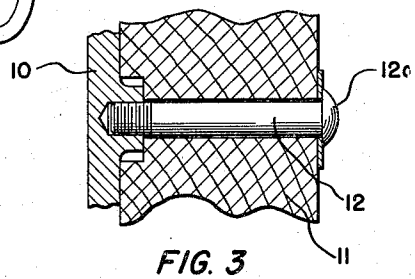


FIG. 3

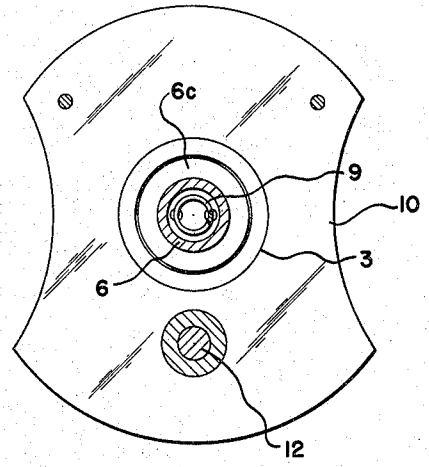


FIG. 5

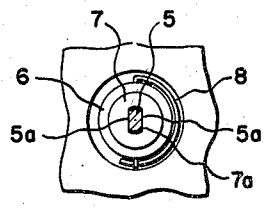


FIG. 4

INVENTOR.
PETER D. LONDO

BY

Wm. H. Dean

AGENT

Patented May 1, 1951 2,550,833

UNITED STATES PATENT OFFICE

2,550,833

COMBINED PIN TUMBLER AND BIT KEY LOCK

Peter D. Londo, San Diego, Calif.

Application November 4, 1947, Serial No. 784,031

8 Claims. (Cl. 70—134)

1

My invention relates to a combined pin tumbler and bit key lock and the objects of my invention are:

First, to provide a lock of this class in which the incorporation of a pin tumbler in combination with a conventional bit key mortise type lock greatly increases the security of house doors or the like;

Second, to provide a novel cooperative arrangement of a conventional pin tumbler lock with a conventional bit key mortise type lock;

Third, to provide a lock of this class which may be readily installed in connection with doors having the conventional bit key mortise type lock;

Fourth, to provide a lock of this class which employs a conventional bit key which may be operated by a pin tumbler cylinder at the outer side of the door for opening of the conventional bit key mortise type lock;

Fifth, to provide a lock of this class which greatly improves the security of door locks with a minimum amount of cost;

Sixth, to provide a lock of this class which may be opened at one side by a conventional bit key and which may be opened at the other side thereof only by a key designed to operate a pin tumbler cylinder cooperating with the bit key; and

Seventh, to provide a lock of this class which is very simple and economical of construction, efficient in operation and which will not readily deteriorate or get out of order.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawing and to the characters of reference thereon forming a part of this application in which:

Figure 1 is an edge elevational view of a conventional door showing my combined pin tumbler and bit key lock in connection therewith and showing a portion broken away and in section to amplify the illustration; Fig. 2 is a fragmentary sectional view taken from the line 2—2 of Fig. 1; Fig. 3 is a fragmentary sectional view taken from the line 3—3 of Fig. 1; Fig. 4 is a fragmentary sectional view taken from the line 4—4 of Fig. 2; and Fig. 5 is a sectional view taken from the line 5—5 of Fig. 1.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawing.

2

The bit key mortise lock frame 1, bolt 2, pin tumbler cylinder frame 3, pin tumbler lock 4, bit key 5, clutch members 6 and 7, clip 8, spring 9, escutcheon 10, door 11, bolt 12 constitute the principal parts and portions of my combination pin tumbler and bit key lock.

The bit key mortise lock frame 1 is installed in the door 11 in the conventional manner. The conventional, slidably mounted locking bolt 2 is operated in the conventional manner by the bit key 5 and this bit key 5 at its extending end is provided with flat portions 5a, as shown best in Figs. 2 and 4 of the drawing. Engaging these flat portions 5a of the bit key 5 is the clutch member 7 which is a hollow cup shaped member having a conforming opening 7a therein engaging the flat portions 5a as shown best in Fig. 4 of the drawing. This clutch member 7 is slidably mounted in the hollow cylindrical skirt portion 6a of the clutch member 6 and the clip 8 extends through elongated slotted portions 6b in the hollow cylindrical portion 6a and also extends through the side walls of the clutch member 7, all as shown best in Fig. 2 of the drawing.

The door 11 is provided with a bore portion 11a at one side of the lock frame 1 in which the clutch members 6 and 7 are positioned and the clutch member 6 is provided with an enlarged diameter flange portion 6c which is alternately engageable with the outer side of the door 11 outwardly of the bore portion 11a and the inner side of the pin tumbler cylinder frame 3 at its recessed portion 3a. The spring 9 is a helical compression spring positioned in the clutch member 7 surrounding the opening 7a therein and the bit key 5 when extended thereinto. The opposite end of this compression spring 9 engages the central portion of the clutch member 6 at its partially enclosed end in which holes 6d are provided to receive extending pins 4a on the inner end of the reciprocally mounted pin tumbler lock 4. This pin tumbler lock 4 is longitudinally slidable in the bore portion 3c of the pin tumbler cylinder frame 3, which is supported on the escutcheon 10 at the outer side of the door 11 in the conventional manner. This escutcheon 10 is secured in connection with the door 11 by means of the bolt 12 having its head portion 12a at the inner side of the door 11.

The operation of my combined pin tumbler and bit key lock is substantially as follows:

When the lock, as shown in Fig. 2 of the drawing is operated by the bit key 5, the bolt 2 in the bit key mortise lock frame 1 is extended in the conventional manner and this bit key 5 is ex-

tended from the inner side 11b of the door 11. When it is desired to lock the door 11 from the outside, the bit key 5 remains in the position as shown in Fig. 2 of the drawing. The operator places the proper key in the pin tumbler lock 4 and forces the same inwardly causing the pins 4a of the pin tumbler lock 4 to engage the openings 6d in the clutch member 6. As the pin tumbler lock 4 is turned by its respective key, the clutch member 6 engaged with the clutch member 7 by means of the clip 8, rotates the clip 8 which in turn turns the bit key 5 for locking or unlocking the door 11. It will be noted that when the key is retracted from the pin tumbler lock 4, that the pin tumbler lock 4 reciprocates in the bore portion 3c of the pin tumbler cylinder frame 3, disengaging the pins 4a of the pin tumbler lock 4 from the opening 6d in the clutch member 6, thus permitting successive operation of the bit key 5 without interference of the pin tumbler lock 4.

It will be here noted that the construction and operation of the clutch members 6 and 7 may be varied considerably in the cooperative relationship of the pin tumbler lock 4 with the bit key 5 of the conventional bit key mortise lock. Also, it will be understood that various types of tumbler locks may be used as desired whether they be pin tumblers, wafer tumblers or other similar cylinder type locks.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to this particular construction, combination and arrangement but desire to include in the scope of my invention, the construction, combination and arrangement substantially as set forth in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a combined pin tumbler and bit key lock of the class described, a conventional bit key mortise type lock, a door in which said lock is positioned, a bit key in said mortise type lock, a pin tumbler lock at one side of said door, clutch means interconnecting said pin tumbler lock and said bit key whereby said bit key may be turned with said pin tumbler lock, said clutch means including a pair of interlocking telescopic members and a spring internally thereof, tending to force said telescopic members apart toward said tumbler lock and said bit key lock.

2. In a combined pin tumbler and bit key lock of the class described, a conventional bit key mortise type lock, a door in which said lock is positioned, a bit key in said mortise type lock, a pin tumbler lock at one side of said door, clutch means interconnecting said pin tumbler lock and said bit key whereby said bit key may be turned with said pin tumbler lock, said clutch means including a pair of interlocking telescopic members and a spring internally thereof, tending to force said telescopic members apart toward said tumbler lock and said bit key lock, said bit key having flat portions thereon engaging said clutch means.

3. In a combined pin tumbler and bit key lock of the class described, a conventional bit key mortise type lock, a door in which said lock is positioned, a bit key in said mortise type lock, a pin tumbler lock at one side of said door, clutch means interconnecting said pin tumbler lock and said bit key whereby said bit key may be turned with said pin tumbler lock, said clutch means including a pair of interlocking telescopic members and a spring internally thereof, tending to force said telescopic members apart toward said tumbler lock and said bit key lock, said bit key having flat portions thereon engaging said clutch means, said pin tumbler lock having a reciprocally mounted cylinder therein adapted to be reciprocally engaged with said clutch means.

4. In a combined pin tumbler and bit key lock of the class described, a conventional bit key mortise type lock, a door in which said lock is positioned, a bit key in said mortise type lock, a pin tumbler lock at one side of said door, clutch means interconnecting said pin tumbler lock and said bit key whereby said bit key may be turned with said pin tumbler lock, said clutch means including a pair of interlocking telescopic members and a spring internally thereof, tending to force said telescopic members apart toward said tumbler lock and said bit key lock, said bit key having flat portions thereon engaging said clutch means, said pin tumbler lock having a reciprocally mounted cylinder therein adapted to be reciprocally engaged with said clutch means, one of said telescopic members engageable with said pin tumbler cylinder.

5. In a combined pin tumbler and bit key lock of the class described, a conventional bit key mortise type lock, a door in which said lock is positioned, a bit key in said mortise type lock, a pin tumbler lock at one side of said door, clutch means interconnecting said pin tumbler lock and said bit key whereby said bit key may be turned with said pin tumbler lock, said clutch means including a pair of interlocking telescopic members and a spring internally thereof, tending to force said telescopic members apart toward said tumbler lock and said bit key lock, said bit key having flat portions thereon engaging said clutch means, said pin tumbler lock having a reciprocally mounted cylinder therein adapted to be reciprocally engaged with said clutch means, one of said telescopic members engageable with said pin tumbler cylinder, said telescopic members engaging said pin tumbler and said bit key respectively.

6. In a lock of the class described, the combination of a conventional bit key mortise type lock, a bit key in said lock adapted to actuate the bolt thereof, a pin tumbler lock at one side of said bit key mortise type lock and clutch means interconnecting said bit key and said pin tumbler lock whereby a key inserted in said pin tumbler lock may be operated to rotate said bit key in said bit key mortise type lock, said clutch means including a pair of interlocking telescopic members and a spring internally thereof, tending to force said telescopic members apart toward said tumbler lock and said bit key lock.

7. In a combined cylinder and bit key lock of the class described, a conventional bit key mortise type lock, a door in which said lock is positioned, a bit key in said mortise type lock, a cylinder lock at one side of said door, clutch means interconnecting said cylinder lock and said bit key whereby said bit key may be turned with said cylinder lock, said clutch means including a pair of interlocking telescopic members and a spring internally thereof, tending to force said telescopic members apart toward said tumbler lock and said bit key lock.

8. In a combined cylinder and bit key lock of the class described, a conventional bit key mortise type lock, a door in which said lock is positioned, a bit key in said mortise type lock, a cylinder lock

at one side of said door, clutch means interconnecting said cylinder lock and said bit key whereby said bit key may be turned with said cylinder lock, said clutch means including a pair of interlocking telescopic members and a spring internally thereof, tending to force said telescopic members apart toward said tumbler lock and said bit key lock, said bit key having flat portions thereon engaging said clutch means.

PETER D. LONDO.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
946,523	Thomas	Jan. 11, 1910
1,277,221	Keizer	Aug. 27, 1918
1,360,289	Gunderson	Nov. 30, 1920
1,505,865	Costa	Aug. 19, 1924
1,814,302	Falk	July 14, 1931