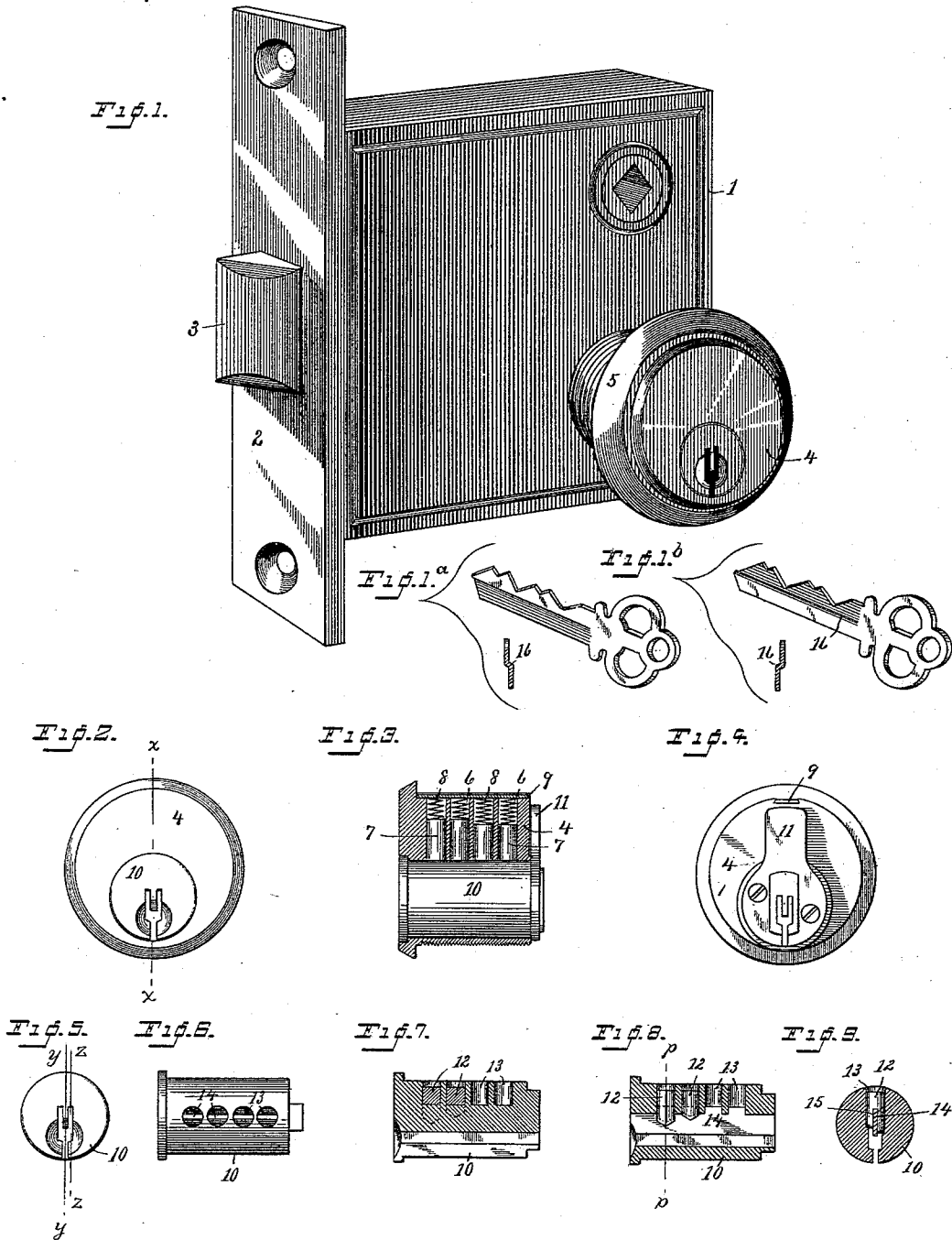


(Model.)

T. TAYLOR.  
MASTER KEY LOCK.

No. 420,174.

Patented Jan. 28, 1890.



WITNESSES

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# UNITED STATES PATENT OFFICE.

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## MASTER-KEY LOCK.

SPECIFICATION forming part of Letters Patent No. 420,174, dated January 28, 1890.

Application filed October 16, 1889. Serial No. 327,206. (Model.)

*To all whom it may concern:*

Be it known that I, THOMAS TAYLOR, a citizen of the United States, residing at South Norwalk, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Master-Key Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the class of locks commonly known as "pin-locks," and has for its object the production of a master-key lock of this class having but one rotating hub or barrel, the usual set of upper and lower pins, and but one key-hole, my improved lock being as simple in construction as an ordinary pin-lock, no more expensive to produce, and being at the same time subject to control by a master-key and by pass or subordinate keys. With these ends in view I have devised an entirely novel construction of pins, a novel construction of key, and a novel hub or barrel corresponding therewith. The term "master-key lock" ordinarily, and as used in this specification, applies to a class of locks in which all the locks in a set or series are subject to the control of a key called a "master-key," each lock being additionally subject to the control of another key called a "pass" or "subordinate" key, no two locks in the series, however, being subject to the control of the same pass-key. A familiar illustration of this class of locks is the special sets of locks made for the rooms of hotels or sections of a hotel, in which each room in the section is under the control of a pass-key, but no pass-key will open any lock except the one to which it belongs, every lock in the hotel or section, however, being subject to the control of a master-key, keys of this class being supposed to be only in the custody of the office or of the housekeeper. The principle, however, is equally applicable to other classes of locks.

In the drawings I have illustrated my invention as applied to an ordinary latch-lock—that is, a lock that is self-locking—a single illustration being deemed sufficient for the purposes of this specification.

In the drawings, Figure 1 is a perspective of a mortise latch-lock detached; Figs. 1<sup>a</sup> and 1<sup>b</sup>, perspectives and cross-sections of two styles of keys adapted to control the lock, one being a master-key, the other a pass-key; Fig. 2, a front elevation of the case of the locking mechanism and the hub; Fig. 3, a section on the line *xx* in Fig. 2; Fig. 4, a rear elevation of the case of the locking mechanism, showing in elevation the talon or arm which retracts the bolt; Fig. 5, a front elevation of the hub or barrel detached; Fig. 6, a plan view thereof; Fig. 7, a longitudinal section on the line *yy* in Fig. 5; Fig. 8, a similar section thereof on the line *zz* in Fig. 5, and Fig. 9 a transverse section on the line *pp* in Fig. 8.

1 denotes an ordinary mortise-lock case; 2, the face-plate thereof; 3, the bolt; 4, the case of the locking mechanism, and 5 an escutcheon, which may or may not be used. Case 4 is ordinarily screw-threaded exteriorly, and passes through the wood of the door, the inner end thereof engaging case 1, as indicated in the drawings. 6 denotes the pin-holes in case 4; 7, the upper pins; 8, the springs, and 9 the slide which covers the pin-holes. These parts may all be of the ordinary or any preferred construction.

10 denotes the hub or barrel, which is socketed in case 4 in the usual manner, and is provided at its rear end with a talon or arm 11, which engages bolt 3 to retract it, it being understood, of course, that said bolt may be thrown by the talon. As the engagement of the talon or arm with the bolt is the same that is commonly found in this class of locks, it is not deemed to require illustration in the drawings.

12 denotes the lower pins, which lie in holes 13 in the hub or barrel. The gist of my invention lies in providing the lower end of each of these pins with two dissimilar operative surfaces, which are adapted to be engaged by different keys. This construction of course necessitates that the pins should be held against turning in holes 13. The desired result may be accomplished in a number of ways, as by providing the pins with one or more flat sides and partially filling in the holes to correspond therewith. This being a

common mechanical expedient, is not deemed to require illustration. I preferably retain the pins in position by placing a bridge 14 longitudinally in the hub. This bridge extends up into pin-holes 13, and each of the lower pins is provided with a slot 15, adapted to receive the bridge, the pins in practice straddling the bridge, as clearly shown in Figs. 7, 8, and 9. The bridge limits their descent and supports them when there is no key in the lock. The shape of the key-hole is clearly shown in Figs. 1, 2, 4, and 5. It is of course apparent that a lock made upon this principle might be provided with independent key-holes—one for the master-key and another for the pass-key. In order to avoid the confusion, however, which would arise from having duplicate key-holes, I make a single key-hole, the upper portion of which is divided by the bridge, each side of the upper portion of the key-hole being offset either to the right or left from the lower portion thereof. The keys are made to correspond with one side of the upper portion of the key-hole, the upper portion of one key—for example, the pass-key—being offset to the left, so that the key in entering the key-hole will pass to the left of the bridge and engage the left bearing-surfaces of the pins, and the other key—for example, the master-key—being offset to the right, so that in entering the key-hole it will pass to the right of the bridge and engage the right bearing-surfaces of the pins, this offset portion of the key being connected to the lower portion by a shoulder 16. (See sections of keys in Figs. 1<sup>a</sup> and 1<sup>b</sup>.) In practice the bridge extends to the front of the key-hole and is in line with the lower portion thereof.

Turning now to Figs. 1<sup>a</sup> and 1<sup>b</sup>, suppose the key in Fig. 1<sup>a</sup> to be an ordinary pass-key. To unlock, the operator inserts the key in the usual manner, it being just as easy to insert it as it is in an ordinary flat or corrugated pin-lock key. The operating-surface of the key, which is offset toward the left, enters the left upper portion of the key-hole and engages the left operative surfaces of the lower set of pins and raises them together with the upper pins, causing the contact-points of said upper and lower pins to register at the contact-point of the hub and the case, leaving the hub free to rotate, so that the talon is readily caused to throw the bolt to the retracted po-

sition. Suppose the key illustrated in Fig. 1<sup>b</sup> to be a master-key, it controls the lock in precisely the same manner, except that the operative portion of the key, which in this instance is offset toward the right, enters the right upper portion of the key-hole and engages the right operative surfaces of the pins.

Having thus described my invention, I claim—

1. In a lock of the class described, a series of lower pins having dissimilar operative surfaces on opposite sides thereof.
2. In a lock of the class described, a series of lower pins having longitudinal slots therein and operative surfaces on opposite sides of said slots.
3. In a lock of the class described, a hub or barrel having a longitudinal bridge extending into the key-hole, as and for the purpose set forth.
4. In a lock of the class described, a hub or barrel having the usual pin-holes and a key-hole, and a bridge extending longitudinally of the hub and into the lower portion of the pin-holes and the upper portion of the key-hole.
5. A lock-key having at one edge an operative surface the vertical plane of which is offset from the plane of the back of the key.
6. In a lock of the class described, the combination, with a hub having pin-holes and a key-hole, and a longitudinal bridge extending into said pin-holes and key-holes, of a series of upper pins and a series of lower pins having slots to receive the bridge and operative surfaces on the opposite sides of said slots.
7. In a lock of the class described, the combination, with a hub having pin-holes and a key-hole, and a bridge extending longitudinally thereof and into said pin-holes and key-hole, and pins having slots to receive said bridge and operative surfaces on opposite sides thereof, of a key the operative edge of which is offset to adapt it to enter the key-hole, passing to one side of the bridge, and to engage the operative surfaces of the pins on that side of the bridge.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS TAYLOR.

Witnesses:

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