(Model.)

W. MICHEL.

LATCH AND LOCK COMBINED.

No. 266,863. Patented Oct. 31, 1882.

Fig. 1.

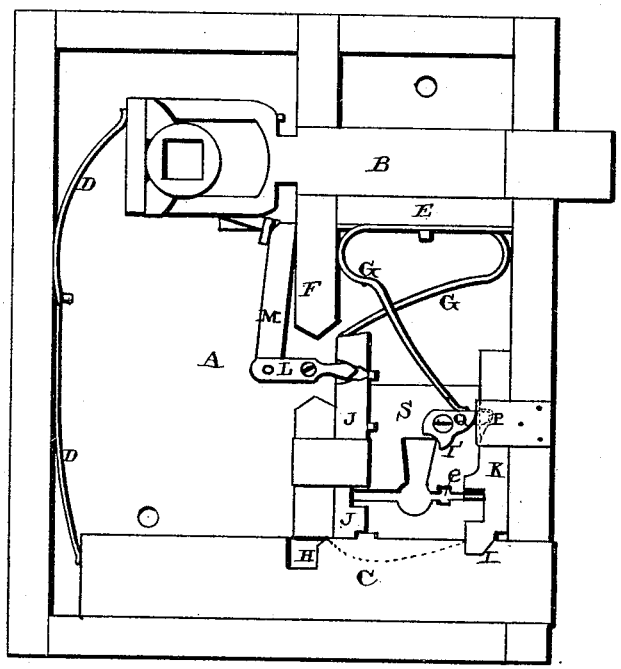


Fig. 6.

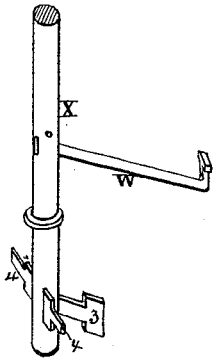


Fig. 3.

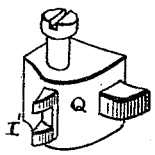


Fig. 4.

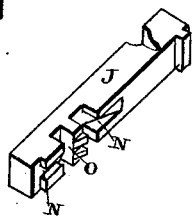


Fig. 2.

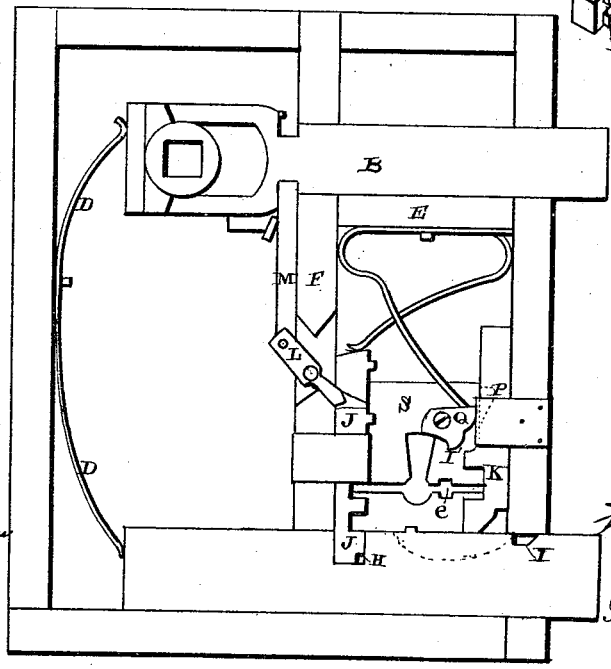
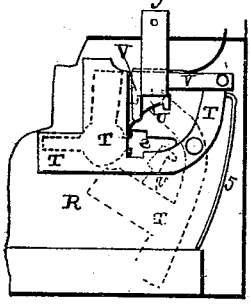


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM MICHEL, OF MOUNT STERLING, OHIO.

LATCH AND LOCK COMBINED.

SPECIFICATION forming part of Letters Patent No. 266,863, dated October 31, 1882.

Application filed June 12, 1882. (Model.)

To all whom it may concern:

Be it known that I, WM. MICHEL, of Mount Sterling, in the county of Madison and State of Ohio, have invented certain new and useful Improvements in 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in locks; and it consists in the combination of a number of tumblers, which are operated by a peculiarly-shaped key, with the locking-bolt and the bolt which is operated by the knob, whereby both of the bolts are locked at the same time.

It further consists in the peculiar devices by means of which the key-hole is closed so that no key or other device can be inserted into the key-hole until the devices have been moved back out of the way.

It still further consists in the combination, with the key, of a device pivoted thereto for the purpose of moving back the devices which close the key-hole before the key can be inserted, all of which will be more fully described hereinafter.

The object of my invention is to construct a burglar-proof lock which can neither be picked nor have a key inserted into the key-hole without the hole is first uncovered, and in which both the key-bolt and the knob-bolt, when the door is locked, will be locked at the same time.

Figures 1 and 2 are plan views of my invention, showing the tumblers in different positions. Fig. 3 is a perspective of the dog which operates one of the tumblers. Fig. 4 is a perspective of the tumbler which locks the bolt when forced outward. Fig. 5 is a plan view of the devices which close the key-hole, showing them in solid lines in one position and in dotted lines in another; and Fig. 6 is the key.

A represents the frame of the lock, in which are placed the bolt B, which is actuated by the knob, and the locking bolt C, which is actuated by the key. Both of these bolts have the spring D bearing against their inner ends, so as to force them outward whenever they are left free to move. The interior of the frame is divided by the partitions E F, as shown, which partitions serve as bearing-points for the two springs G, which operate the tumblers, and as a guide for one of the tumblers. The locking-bolt C has two recesses, H I, made in its top edge, and in which the two tumblers are made to alternately catch. The tumbler J, which locks the bolt when it is forced outward, catches in the recess H, and the tumbler K, which prevents the spring D from forcing the bolt outward, catches in the recess I. The tumbler J is connected to the pivoted lever L, which operates the tumbler M, which locks the door-bolt B by catching in the recess which is made in its lower edge, whereby while the tumbler J is locking the bolt C when the bolt is pressed outward the knob-bolt B is locked at the same time, so that the door is locked by both bolts at once instead of by the single one C, as in the usual manner. When the bolt C is locked inward by the tumbler K the two tumblers M J are thrown out of connection with the bolts, and then the knob-bolt B is free to move in the usual manner. The tumbler J, which locks the bolt C when the bolt is forced outward, has a suitable recess or recesses, N, made in its inner side, and a vertical flange, O, against which the wards of the key strike for the purpose of moving the tumbler back. The tumbler K has a recess, P, made in its upper end, in which an arm from the dog Q catches, which dog Q has two arms or projections, the other extending downward for the arm of the key to catch against. After the key is turned, after it has been inserted in the lock, the widest one, 3, of the arms of the key catches against the projections I′ of the dog Q, and thus turns the dog so as to force the tumbler K upward, and thus lift its lower end out of the recess I in the upper edge of the bolt. As soon as this is done the spring D shoots the bolt forward at the same time the tumbler J is forced into the recess H.

In the top edge of the bolt C is made enough of a recess (shown in dotted lines) to allow the two narrowest arms, 4, of the key to turn freely around without engaging with the bolt; but this recess will not allow the widest one of the three arms to pass through, and hence each time that the key is turned around after the door has been locked, while one of the narrowest arms is forcing back the tumbler J, the

widest arm 3 is forcing back the bolt C, so that the tumbler K can be forced into the recess I. As the key is turned on around after the bolt C has been forced inward the widest one of the three arms of the key engages with the projections I′ on the dog Q, so as to force back the tumbler K at the same time that one of the narrow arms is forcing upward the tumbler J, which, as soon as it is released, shoots into the recess H at the same time that the dog M is forced into the recess in the lower edge of the bolt B.

Separated from the chamber in which the tumblers are placed is a separate and distinct chamber, R, which is made around the key-hole, and which is separated from the tumbler-chamber by means of a plate, S. In this chamber R is pivoted a spring-actuated tumbler, T, of the shape shown, which is intended to close the key-hole, so that no key can be inserted from the outside of the door until a suitable device has been inserted and the tumbler turned sufficiently far to drop downward, when it will leave the key-hole open, so that the regular key can be inserted. As this tumbler is pivoted at its upper end and has a spring, 5, placed back of it, there must be a means of holding it in position after it has been raised, and for this reason it is provided with the arm U, over which the spring-dog V catches. In this position the key-hole is closed, and remains so until sufficient force has been applied to it to force it downward. For this purpose the bent lever W is pivoted to the key X, and the inner end of this lever W is made slightly thicker than at any other portion. A person desiring to unlock the door from the outside must first insert the ends of the lever W through the small part *e* of the key-hole, which is left open, and force away the dog, and then withdraw the lever, when the key can be inserted. The dog T, when forced downward, assumes the position shown in dotted lines, Fig. 5, leaving the key-hole perfectly free. When it is again desired to have the dog cover the key-hole the end of the lever W is again inserted through the extension *e* of the key-hole and made to bear against the short end of dog until the lower end is forced upward to that point where the arm U will catch under the dog V, and thus be held in place.

The key X is provided with three arms or wards, of which the one 3 is made considerably wider at its outer end than either one of the arms 4. The outer ends of these two arms 4 are cut away, as shown, so as to pass through between the projections I′ on the dog Q without operating it.

Having thus described my invention, I claim—

1. In a lock, the combination of the tumblers J M, which are connected together, with the tumbler K, dog Q, and the two bolts C B, substantially as shown.

2. The combination of the tumbler J, the dog Q, having the projections I′, and an arm which catches in a recess in the side of tumbler K, with the key provided with arms or wards, substantially as described.

3. In a lock, the combination of the tumblers J K, actuated by suitable springs, the dog Q, provided with an arm to catch in the side of the tumbler K, and the projections I′, with the bolt C, having the recesses H I made in its upper edge, and a suitable key for operating the tumblers, substantially as set forth.

4. In a lock, the combination of the dog T, having the arm U, with a spring dog or catch, V, and a lever, W, for moving the dog, substantially as shown.

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

WILLIAM MICHEL.

Witnesses:
D. H. DOUGLASS,
B. F. THOMAS.