

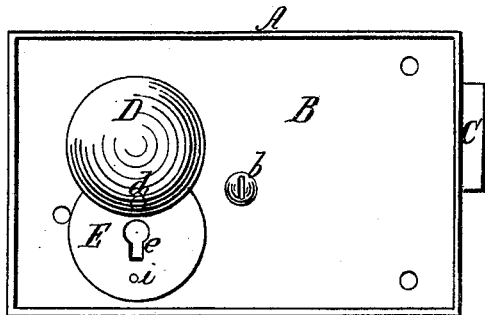
*J. Welsh,*

*Door Lock.*

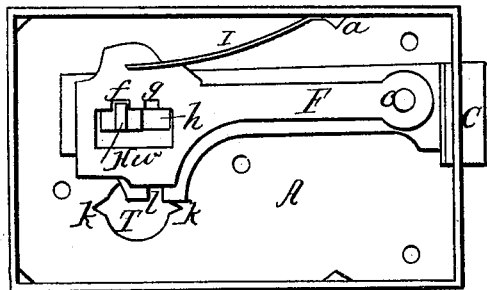
*No. 111,499.*

*Patented Jan. 31. 1871.*

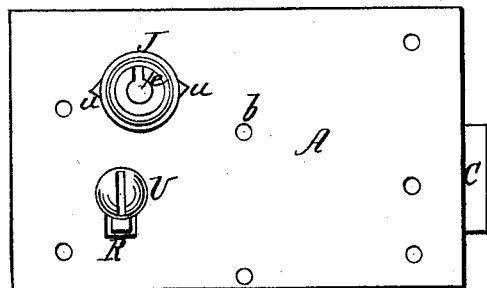
*Fig. 1.*



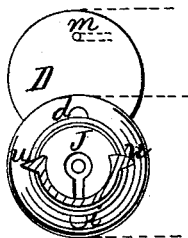
*Fig. 2.*



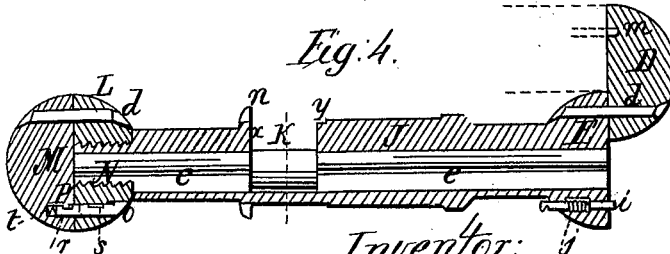
*Fig. 3.*



*Fig. 5.*



*Fig. 4.*



Witnesses:  
Andrew Choffin  
O. M. Hulley

Inventor;  
John Welsh  
by Job Abbott, Attorney.

# United States Patent Office.

JOHN WELSH, OF CANTON, OHIO.

Letters Patent No. 111,499, dated January 31, 1871.

## IMPROVEMENT IN DOOR-LOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern:*

Be it known that I, JOHN WELSH, of Canton, Stark county, Ohio, have invented certain Improvements in Locks; and that the following is a full, clear, and exact specification thereof.

### *Nature and Objects of my Invention.*

My invention relates to the combination, with a door or drawer-lock, of a long-knobbed spindle, having the hole for the key formed in the axis thereof, and provided with a divided knob for the concealment of said key-hole, by which the thief or burglar is delayed in finding the key-hole of the lock in the first instance, and is kept at such a distance from the lock-tumbler mechanism, even after he has discovered the key-hole, as to render the picking of the lock a matter of very considerable difficulty.

### *Description of Accompanying Drawing.*

Figure 1 is a view of the inner face of a rim-lock embodying my improvements.

Figure 2 is a view of the same with the spindle and covering plate removed.

Figure 3 is a view of the outer face of the same.

Figure 4 is a longitudinal section of the spindle.

Figure 5 is a sectional end view of the spindle, showing a section through the slotted portion of the same.

### *General Description.*

A is the lock-case;

B is the covering plate, which is secured to the case A by a screw, *b*;

C is the lock-bolt;

F is the tumbler; and

J is the knobbed spindle.

The spindle J is of a cylindrical form, and has one-half, E, of the outer knob D E, cast with it, as shown, and through the axis of this spindle is cut the key-hole *e*, of a form depending on the kind of key used.

The outer half, D, of the knob D E, is connected by a pivot-pin or rivet, *d*, with the inner half E, so that it can be turned around said pin as an axis, as shown in figs. 1, 4, and 5, in order to give access to the key-hole *e*.

To keep the half D locked down on the half E the sliding pin *i* is arranged in a hole in the part E, with its notched rear end projecting from the back of the half E, as shown in fig. 4, and a spiral spring, *j*, is arranged in the half E around this pin *i*, for the purpose of keeping its front end pressed out toward the half D, as is also shown in fig. 4.

The hole *m* is formed on the inner face of the half D in such a position as that when the pin *i* is drawn back by means of its notched rear end, and the half D is turned down over the half E, the spring *j* will

shoot the pin *i* into the hole *m*, thus locking the half D on the half E, as is readily seen.

The inner half L of the inside knob L M is made separate from the spindle J, in order to allow of the introduction of the spindle into the hole T provided for it in the lock-case. It is screwed onto the threaded end N of the spindle J, as shown in fig. 4, and the half M is secured to it by the pin or rivet *d*, as before described in connection with the outside knob D E.

A modified form of device for locking the half M on the half L is represented in fig. 4, in which P is a sliding pin, arranged in a hole in the half M, which is forced out by a small spiral spring, *t*, placed in the hole behind it.

The sliding rod O is arranged in a hole in the half L directly opposite the pin P in the half M, and its head is made flush with the back of the half L, the hole for the said head being countersunk sufficiently to allow the rod to be pressed back a short distance.

The pins *r* and *s* are inserted in the halves M and L, and fit in slots formed in the sides of the pin P and rod O, by which the end movement of said parts are limited as required.

It is readily seen that when the half M is turned down over the half L, the spring *t* will shoot the pin P into the hole for the rod O, and thus lock the half M, but by pressing on the head of the rod O it can be forced back sufficiently to push the pin P out of the half L, thus unlocking the half M.

The bolt C has the slot *h* cut in its rear end, to allow it to set over the stop H, which is held by the screw U to the case A, said screw being arranged in the slot or hole R in said case.

The tumbler F (or two or more tumblers, if found desirable) is pivoted on the pin *c* in the bolt C, and the notches *f* and *g* are cut at the top of the large square slot *w* in the rear end of the said tumbler, and are so arranged as to drop over a projection on the stop H so as to lock the bolt C at either end of its movement, as is readily seen.

The spring I is fixed in the tumbler F, and presses against the top of the case A, thus serving to force the tumbler down on the projection on the stop H, and the notch *l* is cut in the bottom of the bolt C to allow the bit of the key to raise the tumblers and to throw the bolt.

The slot K is cut in the spindle J, and said spindle is cut out in a semicircular form under said slot to allow of the rotation of the bit of the key.

The spindle J fits in the hole T in the case A and covering plate B, and the wings *u u* on the spindle fit in the notches *k k* at the sides of the hole T, thus preventing any rotation of said spindle.

In order to insert the spindle J the end of the bolt C is raised by means of the screw U in the stop H

until the end of the bolt is cleared from the hole T. The spindle J is then inserted and the screw U is liberated, when the spring I forces down the tumbler F, stop H, and bolt C, thus forcing said bolt into the slot K and locking the bolt in the case.

The spindle J is shouldered at *y* to fit against the plate B, and the rear face of the bolt C drops down close to the face *x* of the slot K, so that the spindle is held firmly.

For further security, as well as for appearance, a ring, *n*, can be secured on the spindle J close up to the case A.

The sides of the hole R have a lip formed around their lower edge, so that a small piece of metal of the exact size of the hole can be placed in said hole, where it can be secured by screwing down the screw U, thus preventing the end of the bolt from being forced down to liberate the spindle J.

From this description it is seen that on approaching the door or drawer nothing is visible except what appears to be a solid knob; nor is there anything to indicate the division of the knob, as the locking devices *i* or *o* are both concealed on the under side of the knob.

If, however, the division of the knob is discovered, and the key-hole exposed to view, the distance from the end of the spindle to the tumblers is such that it would be very difficult to pick the lock.

Where the spindle is applied to a drawer-lock, the inner end of the spindle and the inner knob L M can be omitted.

Although the spindle herein shown has been described as being held from rotating by the wings *u u*, it is evident that this is not a necessary feature of the construction.

The wings *u u* could be omitted so as to allow of a partial rotation of the spindle, so that by combining cam-shaped arms with the spindle it could be made to operate a common spring-latch bolt, arranged in the lock-case above or below the bolt in the ordinary manner.

The two parts of the spindle knobs have been described and represented as "halves," but it is evident that the knob need not necessarily be divided through the center, although I consider this as the better plan.

#### *Claim.*

What I claim herein as new, and desire to secure by Letters Patent, is—

The spindle J, provided with one or two knobs, D E, in combination with the door or drawer-lock A B C, said spindle having the key-hole *e* formed through the center thereof, and the outer half of the knob or knobs being arranged to turn on the half connected with the spindle, substantially as and for the purpose specified.

As evidence of the foregoing witness my hand this 26th day of November, A. D. 1870.

Witnesses:

JOHN WELSH.

MICHAEL WALSH,  
ANDREW CHOFFIN.