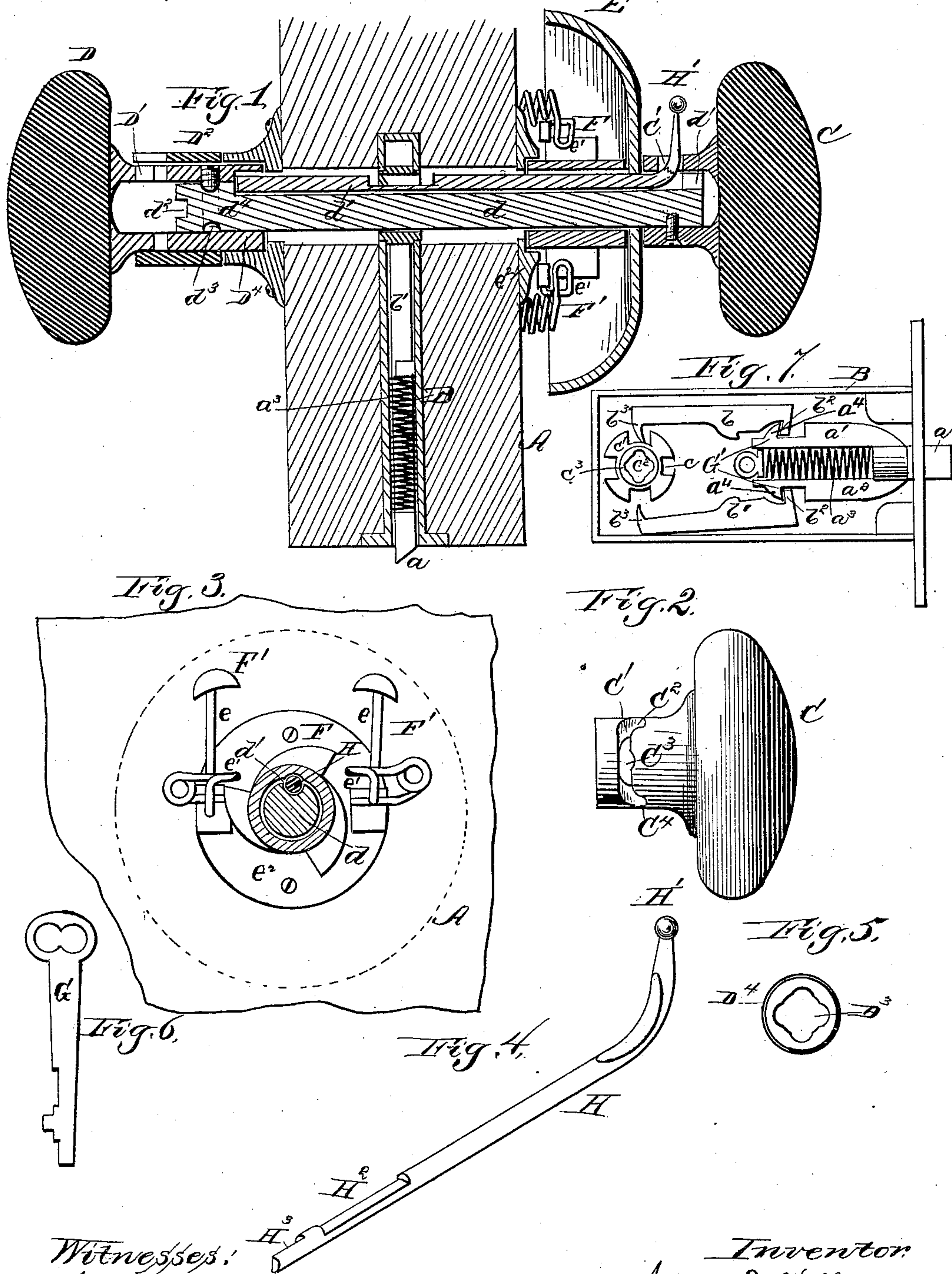


(Model.)

J. E. WELLS.
ALARM LOCK.

No. 253,795.

Patented Feb. 14, 1882.



Witnesses:
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UNITED STATES PATENT OFFICE.

JAMES E. WELLS, OF AUBURN, NEW YORK.

ALARM-LOCK

SPECIFICATION forming part of Letters Patent No. 253,795, dated February 14, 1882.

Application filed June 8, 1881. (Model.)

To all whom it may concern:

Be it known that I, JAMES E. WELLS, a citizen of the United States, residing at Auburn, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Burglar-Alarm 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, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

This invention has for its object to provide a latch and lock for doors which will be burglar-proof, and having connected therewith a burglar-alarm bell.

It consists in a spindle having a longitudinal groove and a key-rod slipped into the groove and connected with both knobs, so that it can be turned to lock both or one of the knobs to the said spindle, and in other mechanism, all of which will be hereinafter fully explained, and pointed out in the claims.

In the drawings, Figure 1 is a section of a lock with its spindles and knobs constructed according to my invention. Fig. 2 shows the inner knob. Fig. 3 shows the bell-ringing mechanism. Fig. 4 is the removable key, which slides into the groove in the spindle. Fig. 5 shows the face of the inner end of the outer knob. Fig. 6 is the key, and Fig. 7 shows the inner mechanism of the lock.

A is the door, in which is placed the mortise lock-casing B. In the casing B is placed the bolt a , which is provided with two parallel arms, a' a^2 , between which is placed the spring a^3 , which holds the bolt to its place. Each of the arms a' a^2 is provided with a hook, a^4 , on its inner end, which engages with a corresponding hook, b^2 , on the ends of the dogs b b' . On the other ends of the dogs are hooks b^3 , which engage projecting cams c' on the hub c .

It will be seen that the hooks b^2 remain constantly engaged with the hooks a^4 on the bolt a , but that only the upper one of the hooks b^3 is engaged. At the same time the lower one is disengaged by the dropping down of the end of the dog. This enables me to reverse the lock, for by turning the casing upside down the dog b drops away from the hub and dis-

engages its hook, and the dog b' drops so as to engage its hook with the said hub.

The hub c is provided on its periphery with the series of projecting hooks c' , which engage the hooks on the ends of the dogs b b' , as hereinafter described. It has formed on its central opening, c^2 , through which the spindle passes, a series of longitudinal semicircular grooves or seats, c^3 , and it is provided with suitable bearings on its ends, which project through the sides of the case B, by which it is held in place as in the ordinary door-lock.

d is the spindle, which has formed in it a longitudinal semicircular groove, d' , corresponding to the shape of the groove in the hub c . On the inner end of the spindle is placed the inner knob, C, and on its outer end is placed the outer knob, D. The inner knob, C, has a circumferential slot, c' , formed in one side of and extended about half way around its shank and through to the central longitudinal opening, which receives the end of the spindle. On the side of the slot c' there are formed small recesses c^2 c^3 c^4 , which serve as stops to hold the end of the key-rod, hereinafter described. The spindle d is made long enough to hold a bell, E, on it between the door and the end of the shank of the knob.

F is a removable cam sleeved on the spindle and placed between the bell and the door and arranged to engage one of two hammers, F', arranged on its opposite sides. The cam can be taken and turned end for end, and thus arranged to operate one or the other of the said hammers, as may be desired.

The outer end of the spindle d is provided with a cross-slot, d^2 , in its end, and with a circumferential groove, d^3 , into which the end of the retaining-screw d^4 of the outer knob, D, is received. The outer knob, when held only by the retaining-screw d^4 , revolves freely on the end of spindle.

The shank of the knob D is provided with a small opening, D', in its side, through which to put the key G into the central open space at the end of the spindle d .

D² is a loose sleeve placed on the shank of knob D as a cover to the screw d^4 and of the key-hole D'. It has an opening which, when turned to the proper place, will admit the passage of the key into the key-hole D'.

The inner end of the shank of the knob D

(see Fig. 5) is provided with a series of longitudinal grooves, D^3 , corresponding in shape and number to the grooves c^3 in the sleeve c .

H is a round key-rod, which is inserted into the groove d' , and projects beyond the periphery of the spindle into the grooves c^3 and D^3 in the sleeve c and shank D^4 . The inner end of the key-rod is bent outward or otherwise provided with a projecting end, H' , which passes outward through the opening or slot c' in the hub of the knob C. At this point, where the key-rod passes through the shank c , it is cut away on one side, as shown at H^2 , so as to reduce it about one-half its diameter and so that the inner face of said cut-away portion will be flush with the periphery of the spindle d when turned as shown in Fig. 1. If, when in the position shown in Fig. 1 the spindle and key-rod revolve freely in the hub c , the key-rod be turned so as to bring the face of the cut-away portion in a vertical position, or radially to the spindle, it will then engage in one of the grooves, c^3 , and lock the spindle and hub c together. The outer end of the key-rod is cut away, as shown at H^3 , at right angles to the cut-away portion H^2 , which may be turned to release or lock the knob D to the spindle in similar manner to the locking of the spindle to the hub c . This cut-away portion H^3 is provided so that the knob D can be released from the spindle and the knob C remain locked thereto when desired. The key-rod can be turned and the end H' set in any one of the recesses c^2 c^3 c^4 .

If the end H' be turned into the recess c^2 , both knobs and the hub c will be locked to the spindle. If the end be turned to the center recess, c^3 , the two knobs will remain locked to the spindle, but the hub c will be released, and if it be turned into the recess c^4 the knob D will be unlocked and the hub c will be locked to the spindle to be operated by the inner knob. When the outer knob is unlocked from the spindle it can be temporarily locked thereto by the key G. The key is inserted through the key-hole D' , and the bit is turned into the cross-slot d^2 in the end of the spindle, which fixes the two parts together so that the bolt a may be thrown back by the outer knob.

The cam F is locked to the spindle by the key-rod, as shown in Fig. 3, by means of a suitable groove, into which the key-rod projects.

In this device I am enabled to dispense with the ordinary sliding bolt in the lock for locking the door. The locking is done wholly by the key-rod and the latch or bolt a . The lock is made burglar-proof without the use of buttons, bolts, keys, or other appliances, and the cutting of key-holes through the door is obviated. The hammers F' are connected to spring-wire stems e , which are bent into proper form to present an elbow, e' , which project inward toward the spindle, and are engaged by the projections on the cam F and cause the

hammer to strike the bell when the spindle is revolved. The ends of the spring-wires are made fast to the bearing or rose plate e^2 .

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

1. The combination, substantially as hereinbefore set forth, of the spindle d , provided with a longitudinal groove, d' , and a circumferential groove, d^3 , the knob D, constructed with one or more longitudinal grooves, D^3 , a retaining-screw put through the shank of the knob D and projecting into the circumferential groove d^3 , with the key-rod d , having a cut-away portion, H^3 , and inserted in the groove d' in spindle d , with its end having the cut-away portion resting in the hub of the knob D and its opposite end carried through the lock and projected at the other knob, substantially as set forth.

2. The combination, with the hub c , having a series of longitudinal grooves, c^3 , formed in its central opening, and provided on its periphery with means for drawing back the latch of the lock, and the spindle d , fitting in the opening in the hub c and having a longitudinal groove, d' , extending from its seat in the hub to the inner end of the key-rod H, placed within the groove d' and passed through the hub c , and constructed with a cut-away portion, H^2 , arranged within the hub and having its outer end projected at the knob C, substantially as set forth.

3. The combination, substantially as hereinbefore set forth, of the spindle d , constructed with a cross-slot, d^2 , in its end, a circumferential groove, d^3 , formed around it near the end, with the knob D slipped into the end of the spindle, and provided with a key-hole, D' , and a set-screw put through the hub of the knob and projecting into the circumferential groove in the end of the spindle, substantially as set forth.

4. The combination, substantially as hereinbefore set forth, of the casing B, the latch-bolt a , having the parallel arms a' a^2 , provided with hooks a^4 , the spring a^3 , the gravitating dogs b b' , having hooks on both ends, and the sleeve c for receiving the spindle d , and provided with the projecting hooks c' , substantially as set forth.

5. The combination, substantially as hereinbefore set forth, of the spindle d , provided with a spline, d' , the key-rod H, the reversible cam F, provided with a longitudinal groove and locked to the spindle d by the key-rod H, and the hammers F' , supported on spring-rods e , bent into elbows e' and made fast to the door or plate e^2 , substantially as set forth.

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

JAMES E. WELLS.

Witnesses:

WILLIAM MICKLY,
CHARLES M. MILES.