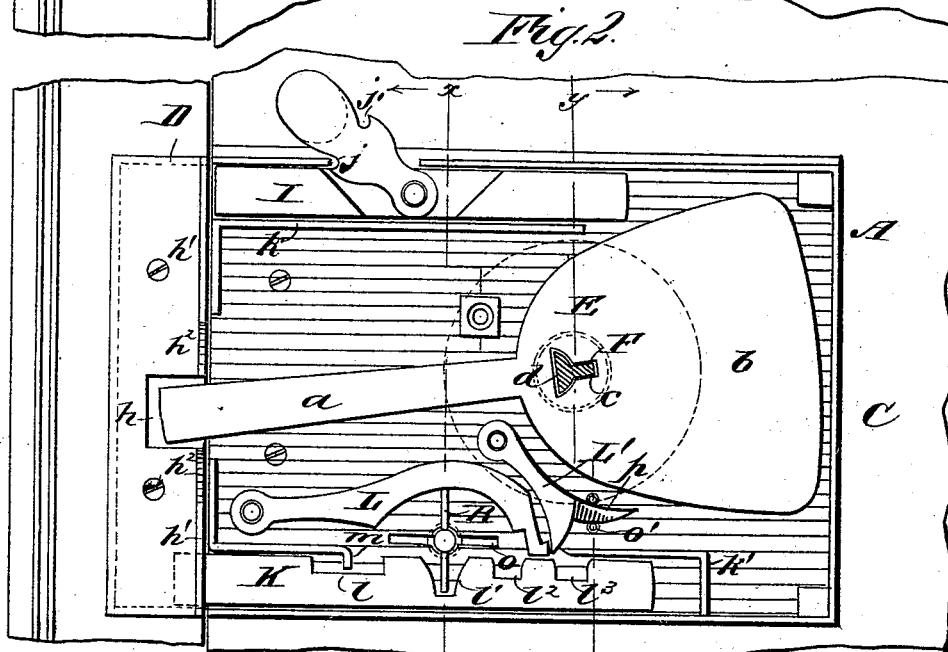
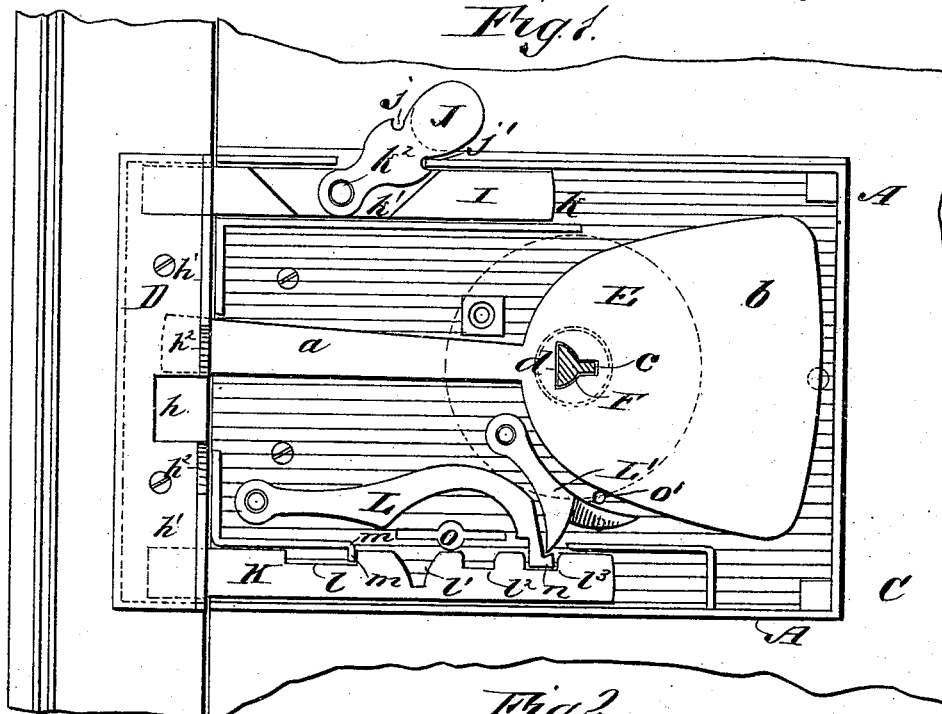


A. PARK.
SPRINGLESS LOCK.

No. 345,072.

Patented July 6, 1886.



WITNESSES:

J. Mc Ardle.
C. Sedgwick

INVENTOR:

A. Park

BY

Munn & Co.
ATTORNEYS.

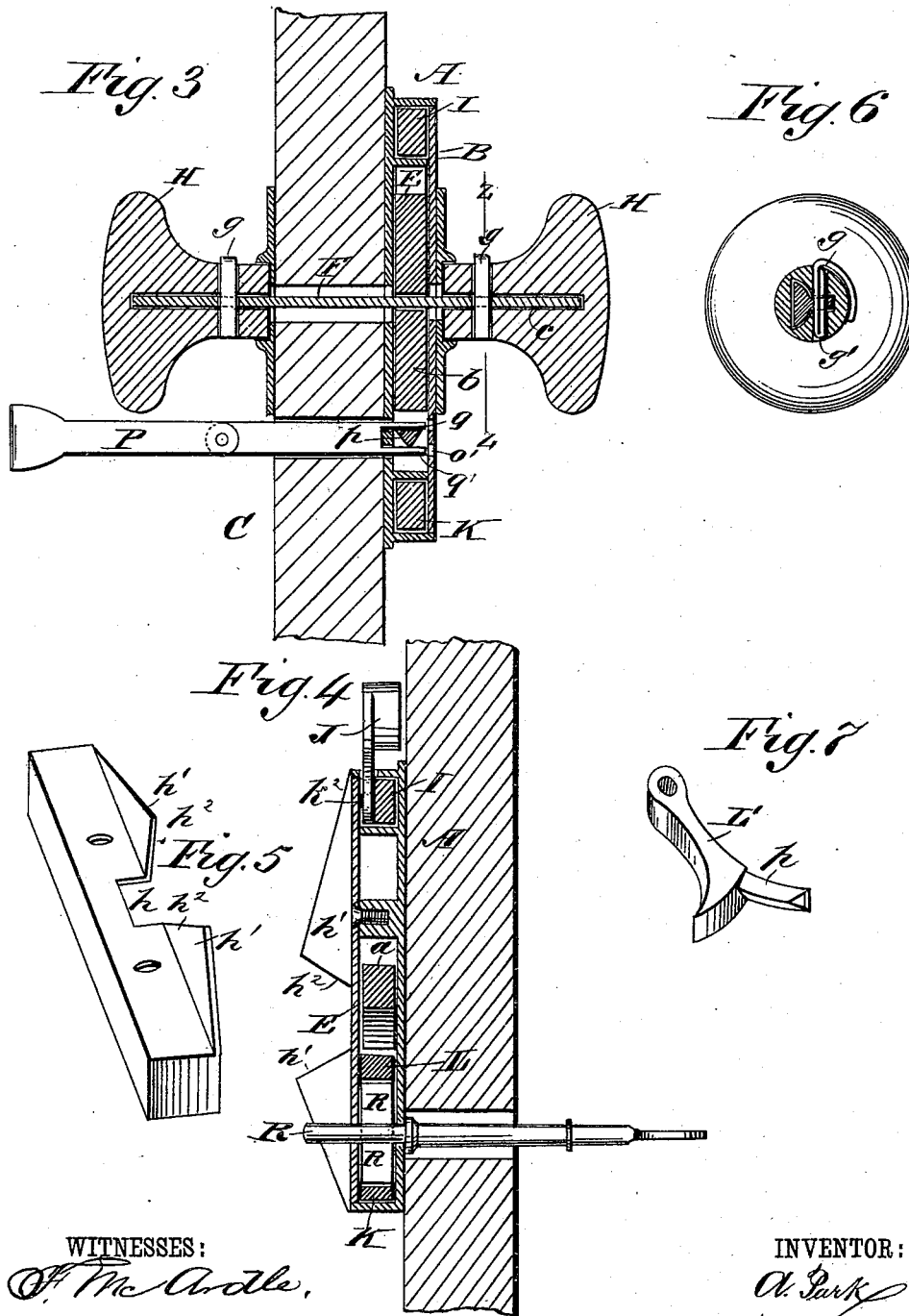
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

AARON PARK, OF OTTUMWA, IOWA.

SPRINGLESS LOCK.

SPECIFICATION forming part of Letters Patent No. 345,072, dated July 6, 1886.

Application filed December 12, 1885. Serial No. 185,476. (No model.)

To all whom it may concern.

Be it known that I, AARON PARK, of Ottumwa, in the county of Wapello and State of Iowa, have invented a Springless Lock, of which the following is a full, clear, and exact description.

The object of this invention is to produce an efficient, cheap, and durable door-lock which will operate without a spring, depending entirely upon the force of gravity for the locking of its parts in the position in which it is desired that they should remain.

The invention consists of a lock wherein there are arranged a knob-latch, a key-operated bolt, and a bolt operated by a cam-faced manipulating-knob.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the lock with a part removed, representing the parts as they appear when the latch-tooth and bolts are in engagement with the keepers. Fig. 2 is a similar view, in which the latch is shown as depressed to a position to clear the keeper, the upper bolt thrown back within the lock, and the lower bolt in an intermediate position. Fig. 3 is a sectional view taken on line *yy* of Fig. 2. Fig. 4 is also a sectional view taken on line *xx* of Fig. 2. Fig. 5 is a perspective view of the keeper. Fig. 6 is a view taken on line *zz* of Fig. 3, and Fig. 7 is a detail view of one of the dogs employed in connection with the key-operated bolt.

In the construction shown in the drawings, A represents the lock-case, which, as usual, is provided with a face or retaining plate, B, the lock being secured to the face of the door C in the usual manner.

The knob-latch E consists of a latch-arm, *a*, and a rearwardly-extending weighted portion, *b*, the knob-spindle F passing through the latch just back of the point of junction of the parts *a* and *b*. This spindle F consists of a rearwardly-projecting flange, *c*, which is preferably formed at right angles to the outer face of the main part *d* of said spindle, which part is semicircular in cross-section, the aperture in the latch being formed so that the spindle closely fits therein. The knobs H H are

formed with protruding shanks, within which the spindle, as usual, fits, the knobs being held in place by a wire, *g*, which is bent upon itself to form the double portion *g'*, which is passed through the shank of the knob, and through the flange *c* of the spindle, the single portion of the wire being bent down over the shank of the knob, as best shown in Fig. 6. The keeper D is formed with an opening, *h*, and with two wings, *h' h'*, each of which has beveled faces, as shown at *h''*, so that as the door is closed and the latch-arm *a* strikes against the beveled surfaces it will be depressed or elevated so that its end will enter the opening *h*, when, after the door is fully closed, the weighted end *b* of the knob-latch E will drop, thus carrying the latch-arm *a* up within the keeper. The upper bolt, I, is mounted in a running-way, *k*, in the upper part of the lock-case, said bolt I being formed with a central recess, *k'*, from about the center of which there projects a stud, *k''*, upon which there is loosely mounted a cam-face manipulating-knob, J, which has notches *j j'*, that project outward through an opening formed in the top of the lock-case, so that when the bolt is forced forward to the position shown in Fig. 1 the knob J will drop down upon the top of the lock-case to the position shown, where it will be held against displacement from the opposite side of the door. The lower bolt, K, is mounted in a raceway, *k'*, near the bottom of the lock-case. This bolt is provided with four notches, *l l' l'' l'''*, the first of which is provided in order that the motion of the lock may be defined as it slides in or out of the case, said notch being entered by a stop, *m*, as best shown in Figs. 1 and 2. Above the bolt K there are mounted two gravity-dogs, L L', each of which is arranged to be operated by a key. When the lock-bolt K is in engagement with the keeper, as shown in Fig. 1, the dogs L L' occupy substantially the position shown in said figure, the toe of the dog L resting in the gain *l'''*, while the toe of the dog L' falls upon the notch *n* upon the upper side of the toe of the dog L. Just above the main key-hole *o* the dog L has a decided upward curve, while the dog L' is formed with a projection, *p*, which is triangular in cross-section, said projection extending between the openings of the auxiliary key-hole *o'*. When it is desired to move

the bolt K back, the key P, which is provided with two prongs, $q q'$, is inserted through the auxiliary key-hole o' , thus raising the dog L to the position shown in Fig. 2. When the main key R, which consists of a shank with two wings, is inserted in the main key-hole o and turned, one of its wings will enter the notch l' , while the other will bear against the inner side of the partially-curved portion of the dog L, and any continued movement of the key will raise the dog out of the notch l' or l'' and shift the bolt forward or back in accordance with the turn given to the key. The weight of the spindle F, and consequently of the knobs, is supported by the lower corner of its semicircular main portion d , which point is, as is clearly shown, in front of the axis of the spindle, so that the preponderance of the weight of the spindle and knobs is to the rear of said axis, from which construction it follows that the weighted rear end of the latch is materially assisted by the weight of the knobs in its operation of throwing the latch.

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

1. In a lock, the combination, with a spindle formed with a flange, c , of knobs H and wires g , substantially as described.
2. The combination, with a lock-case and keeper, of a bolt, K, formed with notches $l' l'' l'''$, dogs L L', and dissimilar keys P R, substantially as described.
3. The combination, with a lock-case, the weighted latch E, and knobs H, of the spindle F, formed with a flange, c , and semicircular main portion d , substantially as described.
4. A latch-spindle formed with a semicircular main portion, d , and a rearwardly-projecting wing, c , substantially as described.

AARON PARK.

Witnesses:

HARRY E. O'NEILL,
G. HERBERT BROWN.