

W. N. Bailey,

Latch.

No. 98,907.

Patented Jan. 18. 1870.

Fig 1

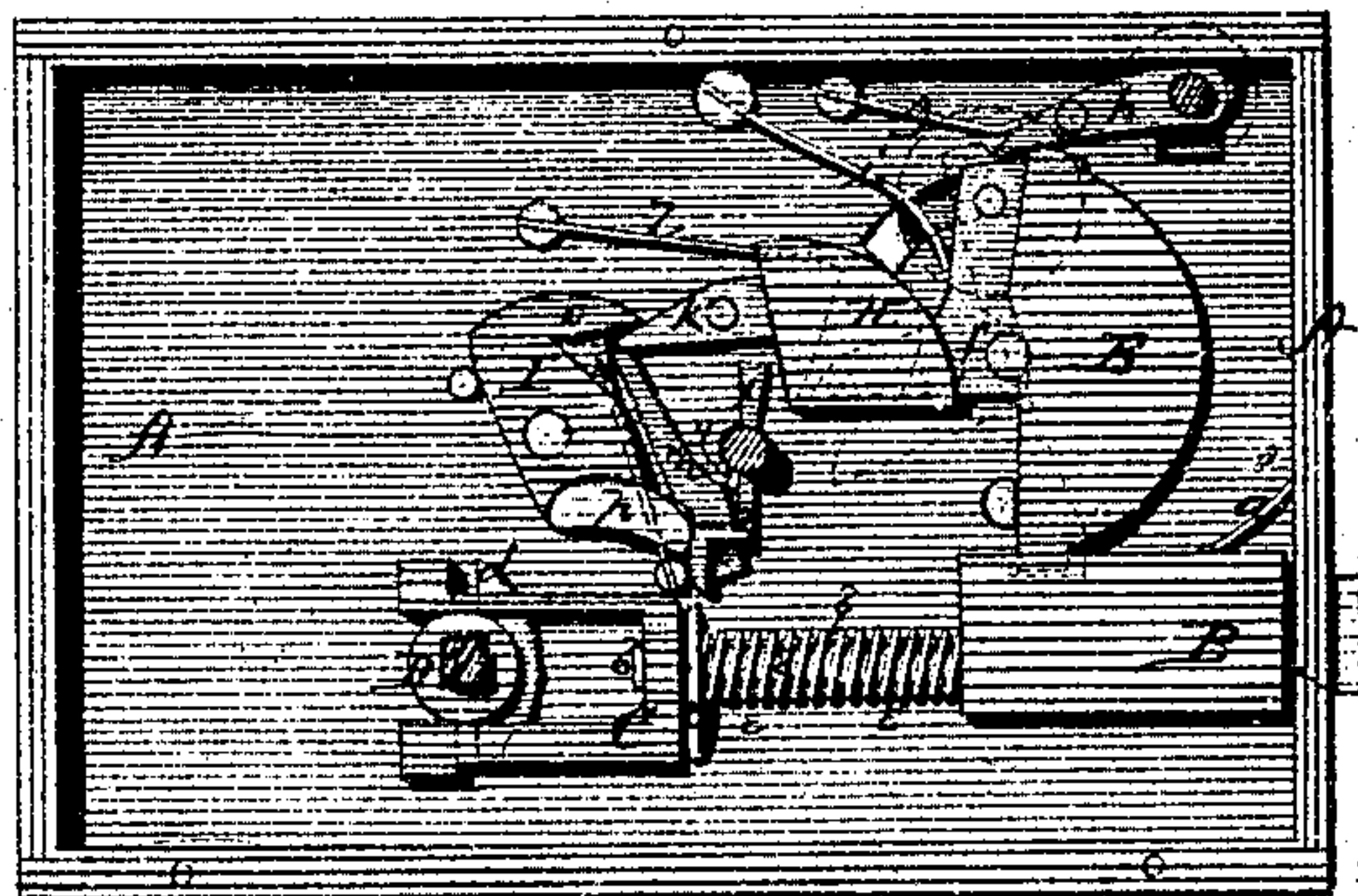
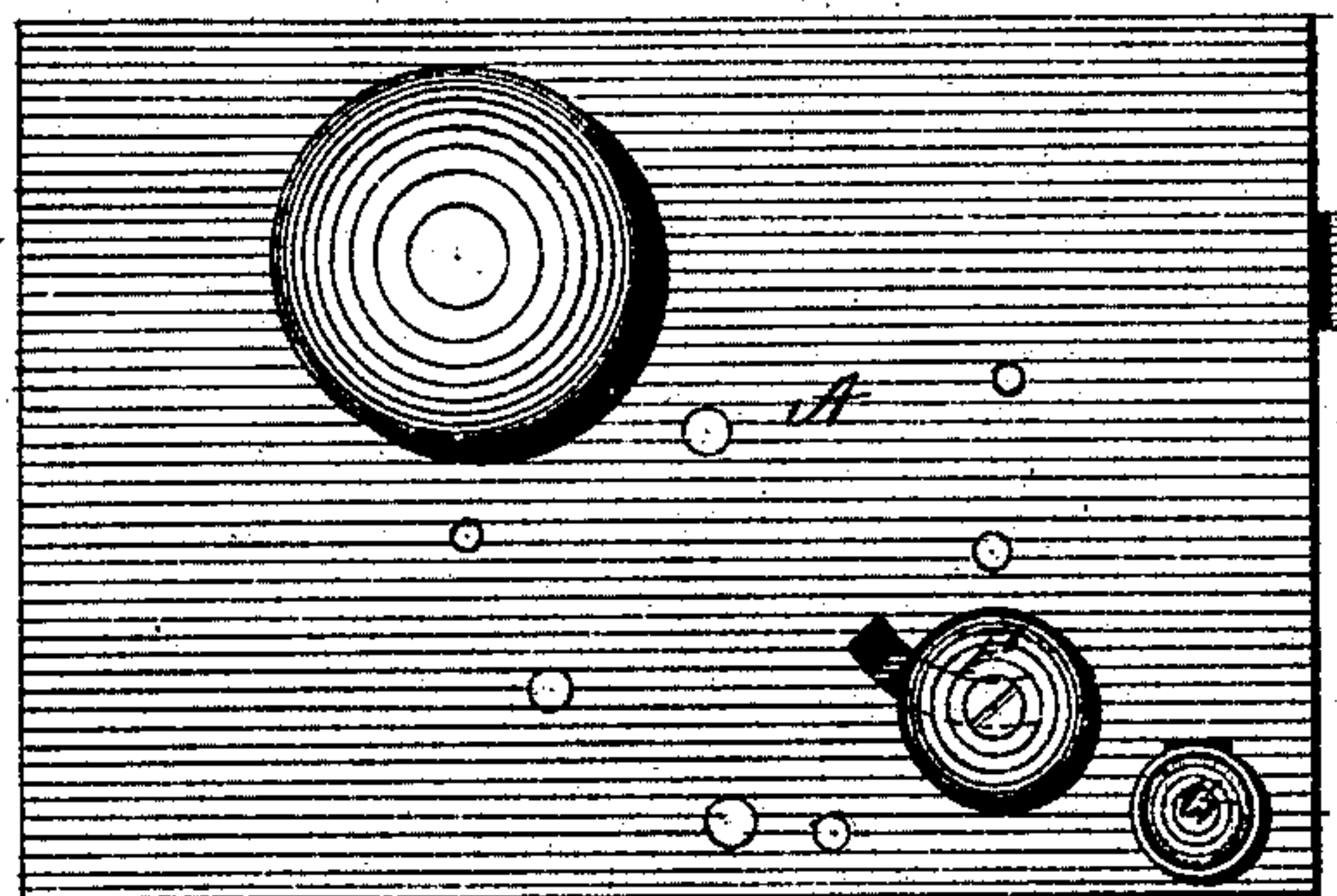


Fig 2



Witnesses.

Harry King
C. L. Cook

Inventor.

W. N. Bailey
per Alexander Mason

Atty.

United States Patent Office.

W. N. BAILEY, OF DUPLAIN, MICHIGAN.

Letters Patent No. 98,907, dated January 18, 1870.

IMPROVEMENT IN COMBINED LATCH AND LOCK

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, W. N. BAILEY, of Duplain, in the county of Clinton, and in the State of Michigan, have invented certain new and useful Improvements in Door-Locks; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and general arrangement of a door-lock, which shall be almost perfectly burglar-proof.

In order to enable others skilled in the art to which my invention appertains, to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is an inside view of the lock, and

Figure 2 is a view of the lock-plate on the inner side of the door.

A represents the lock-box, in the lower part of which the bolt B moves. That portion of the bolt which passes through the front end of the box is bevelled, and a spring, *a*, above the bolt forces it downward in this bevel.

It will thus be seen that when the bolt is withdrawn, it has not only the usual lateral motion, but it is also slightly raised upward, and when the lock is being closed, the bolt moves slightly downward also. The object of giving the bolt this double motion, will be hereinafter set forth.

The inner end of the bolt B is provided with a rod, *b*, which passes through a guide-plate, *c*, and is, at the other side of said guide, secured to a bent bar, C.

The two arms of this bent bar pass, one above, and the other below the sleeve or collar D, through which the knob-spindle passes.

The sleeve D is provided with a projection, *d*, on the upper and lower sides, which projections strike against suitable projections on the ends of the bar C, so that by turning the knob of the lock either way, the bolt B will be withdrawn.

Around the rod *b*, between the guide-plate *c* and the inner end of the bolt B, is placed a spiral spring, *e*, which forces the bolt outward as soon as the force is removed from the door-knob.

On the upper side of the bolt B is a small recess, into which fits a small projection, on the lower end of the semicircular plate E, which is pivoted to the lock-box, and placed with its rounded or circular edge toward the front end of the box.

The upper edge of this semicircular plate E, will, by means hereinafter to be described, be moved toward the rear, which will raise the lower edge, with its projection, out of the recess in the bolt B.

Now, it will readily be seen, that if the bolt were

moved only horizontally from side to side, the projection on the plate E would not catch sufficiently in the recess on the bolt, to prevent the latter from being moved back. But, as above described, the bolt B cannot be withdrawn without being raised slightly upward at the same time, and hence, when the plate E is in the position shown in the drawing, and an attempt is made to open the lock, the bolt B, rising upward, causes the projection on the plate to fill the recess in the bolt, and consequently the bolt cannot be withdrawn sufficiently to open the lock.

The semicircular plate E is pivoted to the lock-box, at the true centre of its circular portion, and from the centre an arm, *f*, extends toward the rear, while, at its upper end, a pin passes through a curved slot in the inside plate of the lock-box, and on this pin a knob, F, is placed. A person can then, from the inside, by moving the knob F along in the slot, raise the lower end of the plate E, with its projection, out of the recess in the bolt, and thus allow the bolt to be withdrawn. When the bolt is turned in this manner, a spring, *g*, presses a dog, *h*, into a notch near the upper edge of the plate, and holds the plate in this position.

The dog *h* is pivoted to the lock-box A, and has, at its front end, a rod passing through it, said rod passing also through elongated slots in both sides of the lock-box, and having, at each end, a small knob, G, screwed on to it. By pressing down on the knob G, on either side of the door, the rear end of the dog is raised up from the notch on the plate E, and a spring, *i*, that bears against the upper rear side of the plate, causes it to resume its first position, that is, as shown in the drawings.

The arm *f*, on the plate E, is covered by a quadrant-shaped plate, H, having an arm, *k*, extending toward the rear, and through which arm, a bolt passes into the lock-box, pivoting the plate to the same.

A spring, *l*, that bears against the upper edge of the plate H, holds the same down in the position shown in the drawings.

Against the rear end of the arm *k*, is pressed a pivoted notched dog, *m*, by means of the spring *n*, preventing the plate H from being turned, so as to uncover the arm *f*.

A bar, I, of the peculiar shape shown in the drawing, is also pivoted to the lock-box A, its upper hook-shaped end *o* resting on top of the rear end of the arm *k*, and at its lower end is a projection, *p*.

The key of this lock is provided, on its upper side, with a pin or projection, *x*, which is wedge-shaped, the thicker end being uppermost. On the lower side of the key are two projections—one, *y*, small and bevelled; the other, *z*, larger and Z-shaped.

When the key is inserted in the lock and turned to-

ward the right, the projection *y* will at once bear upon the dog *m*, and carry it away from the end of the arm *k*. At the same time the projection *z* bears against the projection *p* on the plate *I*, causing the hook *o* to depress the rear end of the arm *k* sufficiently to allow the plate *H* to uncover the arm *f*, so that the projection or pin *x* on the key may strike said arm, and raise the plate *E* out of the recess in the bolt *B*, until the dog *h* falls down in the notch on the upper edge of the plate *E*, and holds it in that position, as already described, when the bolt can be withdrawn.

Having thus fully described my invention,

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

1. In combination with the plate *E*, constructed as described, the springs *i* and *g*, and the dog *h*, provided with a knob, *G*, on each side of the lock, all substantially as and for the purposes herein set forth.

2. The pivoted quadrant-shaped covering-plate *H*, provided with an arm, *k*, and held down in position by means of the spring *l*, substantially as and for the purposes herein set forth.

3. In combination with the quadrant-shaped covering-plate *H* and its arm *k*, the dog *m* and spring *n*, substantially as and for the purposes herein set forth.

4. The bar *I*, constructed as described, and provided with a hook, *o*, at its upper end, and projection *p* at the lower end, substantially as and for the purposes herein set forth.

5. The combination of the covering-plate *H*, dog *m*, and bar *I*, all constructed as described, and operating substantially in the manner and for the purposes herein set forth.

6. The combination of the bolt *B*, semicircular plate *E*, dog *h*, covering-plate *H*, dog *m*, and bar *I*, all constructed as described, and arranged to operate substantially in the manner and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand, this 19th day of July, 1869.

W. N. BAILEY.

Witnesses:

A. BAILEY,
ALBERT J. BALDWIN.