S. Wheeler,

Permutation Lock.

No. 64,605. Patented May 7, 1867.

Fig. 3

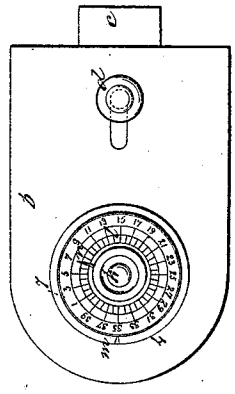


Fig. 4

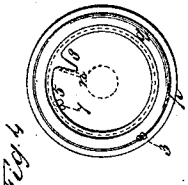


Fig. 2

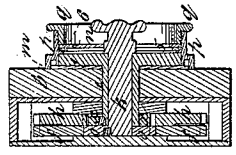
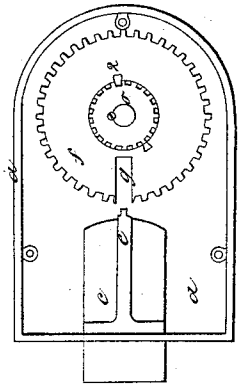


Fig. 1



Witnesses
Peter Mesick
E. Wackerhagen

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SETH WHEELER, OF ALBANY, NEW YORK.

Letters Patent No. 64,605, dated May 7, 1867.

IMPROVEMENT IN PERMUTATION 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, SETH WHEELER, of the city and county of Albany, in the State of New York, have invented and made a certain new and useful Improvement in Locks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is an interior view of the lock with the bolt projected.

Figure 2 is a section through the tumblers and ring key as applied to the lock.

Figure 3 is a view of the front of the lock and dials; and

Figure 4 is an elevation of the key ring, showing also the positions of the parts of the dials in dotted lines.

Similar letters indicate the same parts.

Circular tumblers have heretofore been applied upon sleeves moved by dials outside the lock, around the edges of which tumblers are teeth, and one deep slot to receive a stud or plate on the bolt, and allow of its being moved back. The nature of my said invention consists in a circular tumbler with teeth around its edge and a slot to receive the stud of the bolt, rendered changeable in its position to the dial by means of teeth on permutation-wheels attached to the sleeve or the shaft that connects the dial and tumbler; and I employ a movable stud that can be placed in one of two notches in the tumbler or dial, one being opposite the tooth, the other opposite the space, so that the tumbler may be placed in twice as many positions to the dial as there are teeth around the permutation-wheel; and I employ a ring-shaped key, with adjustable fingers taking the dials, by means of which they and the tumblers may be set to position for opening the lock, even when the numbers or divisions of the dial cannot be seen.

In the drawings, *a* is the case of the lock; *b*, the face of the door or place to which the lock is attached; *c* is the bolt, moved by the knob *d;* and *e* is the plate or stud upon the bolt, which, taking the edges of the circular tumblers *f h*, prevents the bolt being drawn back; but when said tumblers are turned, so that the stud *e* passes into the notch *g*, the bolt may be drawn back. There may be any desired number of these circular tumblers; I have shown two; and *i* is a sleeve to the permutation-wheel *x* of the tumbler *h;* and *k* is a stud or shaft to the permutation-wheel *o* of the tumbler *f*. The sleeve *i* is a prolongation from the dial *l;* and the shaft *k* has an index or pointer, *n*. The tumblers *f* and *h* are formed as rings, and within their openings are the permutation-wheels *o* and *x*, united by small screws, or otherwise, with the sleeve *i* and shaft *k*, respectively. The permutation-wheels *o* and *x* have half the number of teeth that there are divisions upon the dial *l;* and two notches are formed in each tumbler, one opposite the end of one of the teeth, (in *o* or *x*,) the other opposite one of the openings between the teeth. 2 is a movable stud that may be placed in either of these openings. It will now be understood that the tumblers *f* and *h* may be placed upon the permutation-wheels *o* and *x* in any desired position, so that a given number on the dial *l* will correspond to the index on the dial-plate *m*, and the index *n* will point to a given number on *l* when the notches *g* in the tumblers are in position for allowing the bolt to be withdrawn.

In order to form a ring key to open my improved lock, I provide a short cylinder, *p*, upon which is a stud, 3, to stop against a pin, 4, in the dial-plate *m;* and 5 and 6 are fingers upon rings, received within the cylinder *p* upon a flange, and clamped, when in position, by the hollow nut *q*. The finger 5 is to act upon a stop, 7, upon the dial *l*, and the finger 6 to act upon the pointer *n;* hence, when this ring key is applied to the dials and set when the lock is unlocked, the respective parts will be turned into the same position for opening the lock when locked by the application of the ring key, and turning it until the respective fingers and stops are brought into their positions by the said ring key. The wheel *x* may be applied beneath the dial *l* instead of within the tumbler *h;* but I prefer the arrangement shown.

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

1. The permutation-wheel, in combination with a circular tumbler, an indicating dial, a sleeve, and a tooth or space for connecting the tumbler and dial, constructed and arranged substantially as and for the purposes specified.

2. I claim a movable stud or tooth, in combination with the dial or tumbler, as specified, whereby the tumbler can be placed in a greater number of positions relatively to the dial than there are teeth in the gear, as set forth.

3. In combination with a series of tumblers, as set forth, I claim a key formed of a series of changeable or adjustable rings acting on studs or projections, as specified.

In witness whereof I have hereunto set my signature this seventh day of June, A. D. 1866.

SETH WHEELER.

Witnesses:

E. WACKERHAGEN.

WM. B. DERBY.