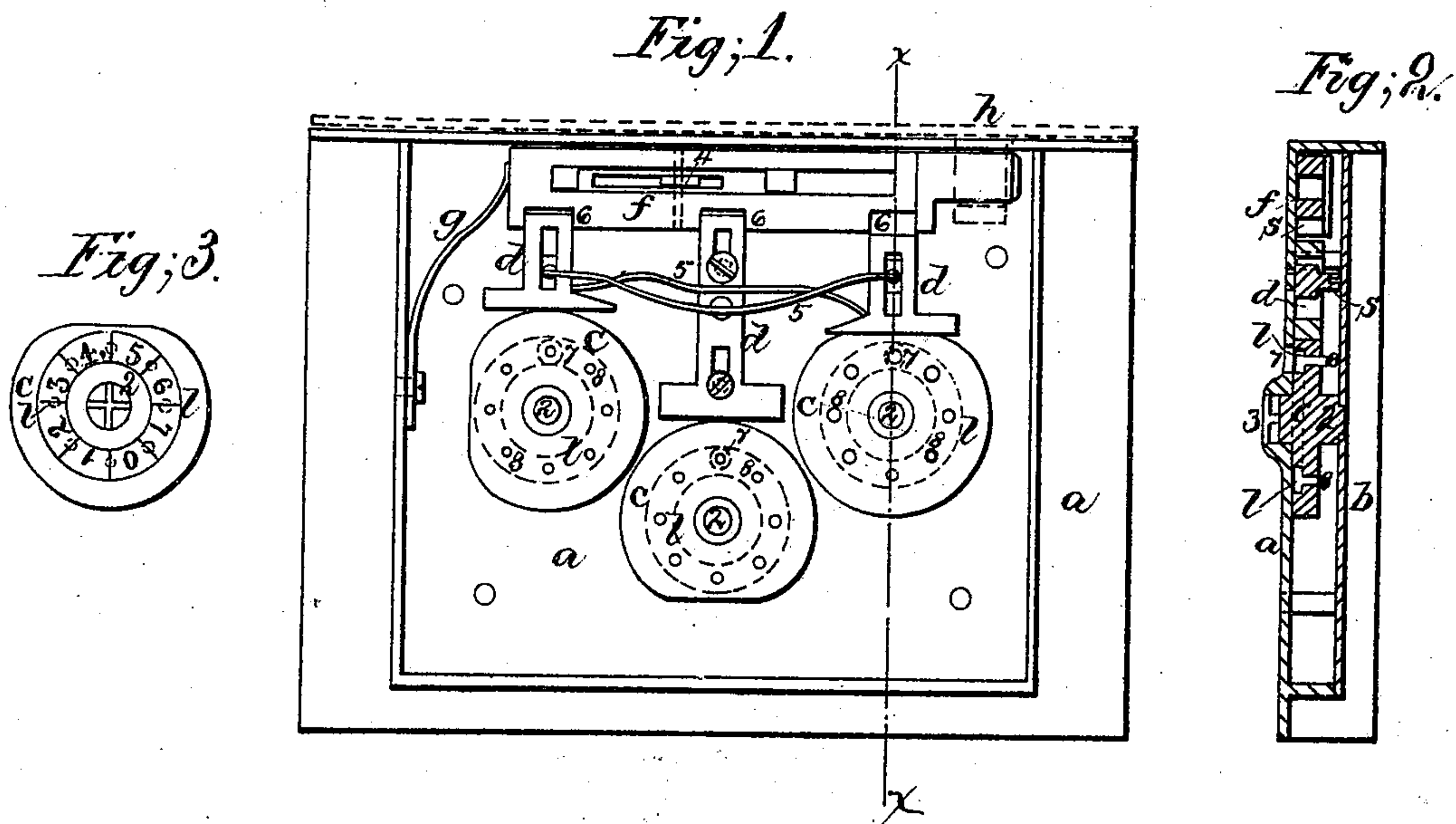


Cole & Ayres.

Permutation Lock.

N^o 86,908.

Patented Feb. 16, 1869.



Witnesses;
 Chas. H. Smith
 Geo. D. Warner

Inventors;
 J. L. Cole
 Wm. E. Ayres

United States Patent Office.

SETH L. COLE AND WILLIAM G. AYRES, OF BROOKLYN, NEW YORK, ASSIGNORS TO
THEMSELVES AND HIRAM W. COLVER, OF SAME PLACE.

Letters Patent No. 86,908, dated February 16, 1869.

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 we, SETH L. COLE and WILLIAM G. AYRES, of Brooklyn, in the county of Kings, and State of New York, have invented, made, and applied to use, a certain new and useful Improvement in Locks; and we do hereby declare the following to be a full, clear, and exact description of the said invention, reference being had to the annexed drawing, making part of this specification, wherein—

Figure 1 is an elevation of the lock from the rear, the cap-plate being removed.

Figure 2 is a section, at the line *x x*, and

Figure 3 is an elevation of one of the dial-plates separately.

Similar marks of reference denote the same parts.

This invention relates to that class of locks in which indicating-dials and tumblers are employed, so that the lock will be opened by placing the tumblers in position as indicated by the dials.

This invention relates to the peculiar construction of the indicating-dials and tumblers, arranged in connection with the main bolt of the lock.

In the drawing—

a represents the front plate of the lock, and
b, the back plate or cap.

c c c are tumblers, of a circular form, with one side cut off, to give to the tumbler a cam-action against the bolt *d*, as said tumbler is revolved.

Each tumbler is mounted upon an axis, 2, one end of which passes into an opening in the front plate *a*, as at 3, and a cross-slot, or polygonal hole is employed for the reception of a key, by means of which the tumbler is to be turned.

The main bolt *f* is fitted to slide at right angles, or nearly so, to the bolts *d*, and is moved endwise by a knob or projection outside the lock-case, connected, at 4, with said bolt, and a spring, *g*, is employed to project the bolt.

We here remark that this bolt, *f*, may pass through the lock-case, and slide horizontally, or the lock may be fitted to place, so that the bolt will stand vertically, as for a drawer, or a hasp may be provided, as shown by red lines at *h*, for the bolt to pass into, as with locks for boxes, desks, &c.

The secondary bolts, *d*, are kept towards the tumblers *c*, by means of the springs 5, and said bolts are sustained by screws or studs in slots, so that the endwise movement is allowed, in order that the main bolt *f* may be locked in place, by the bolts *d* entering notches or talons 6, on said main bolt *f*.

The index or dial-figures on the tumblers, seen in fig. 3, are applied to denote the points at which the lock can be opened, and we provide openings, at 7, in the lock-case, so that the figures can be seen.

These figures or dial-marks are on a ring, *l*, applied to the face of the tumbler, with a projecting pin entering one of a circular range of holes, at 8, around the tumbler, so that the position of this ring, and its marks in relation to the cam-side of the tumbler, can be changed, to vary the letters or numbers indicating when the lock can be opened.

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

The cam-tumblers and changeable dial-rings, in combination with the bolts *d* and *f*, and openings 7, in the lock-case, for observing the dial or index, as and for the purposes set forth.

In witness whereof, we have hereunto set our signatures, this 11th day of November, A. D. 1868.

S. L. COLE.

WM. G. AYRES.

Witnesses:

GEO. D. WALKER,
CHAS. H. SMITH.