

(Model.)

D. J. KENNY.
Permutation Lock.

No. 229,829.

Patented July 13, 1880.

Fig. 1.

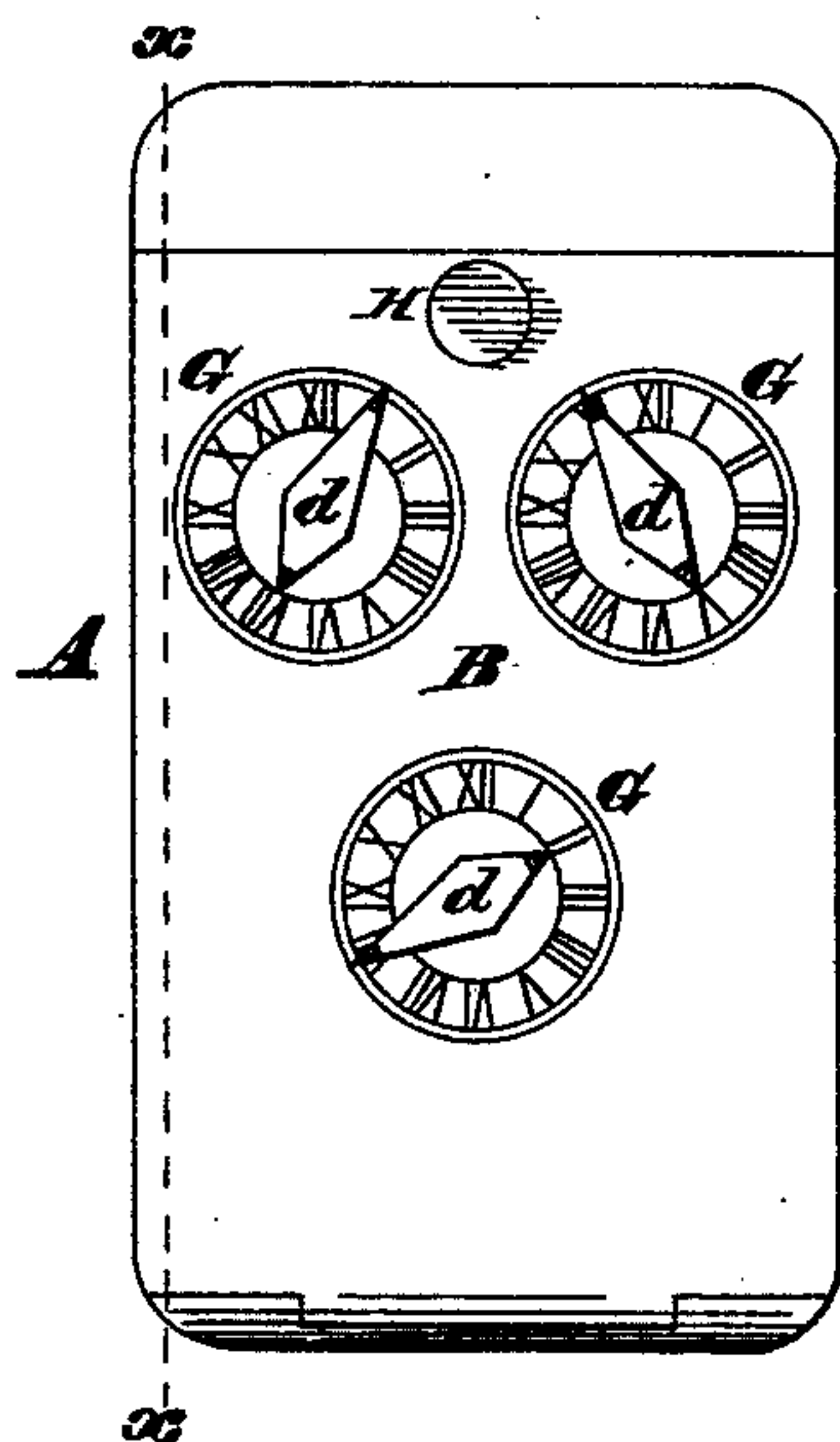


Fig. 2.

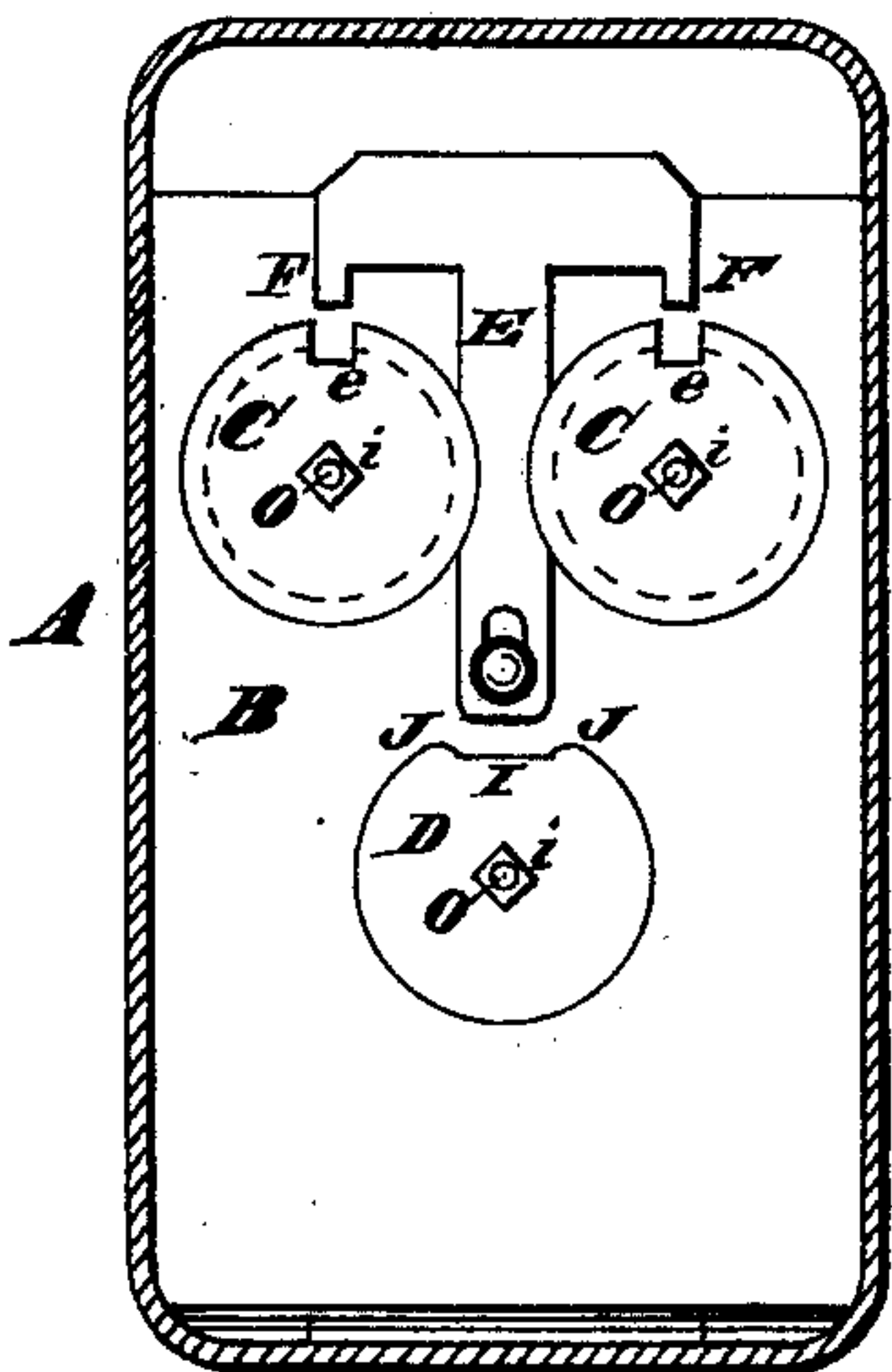
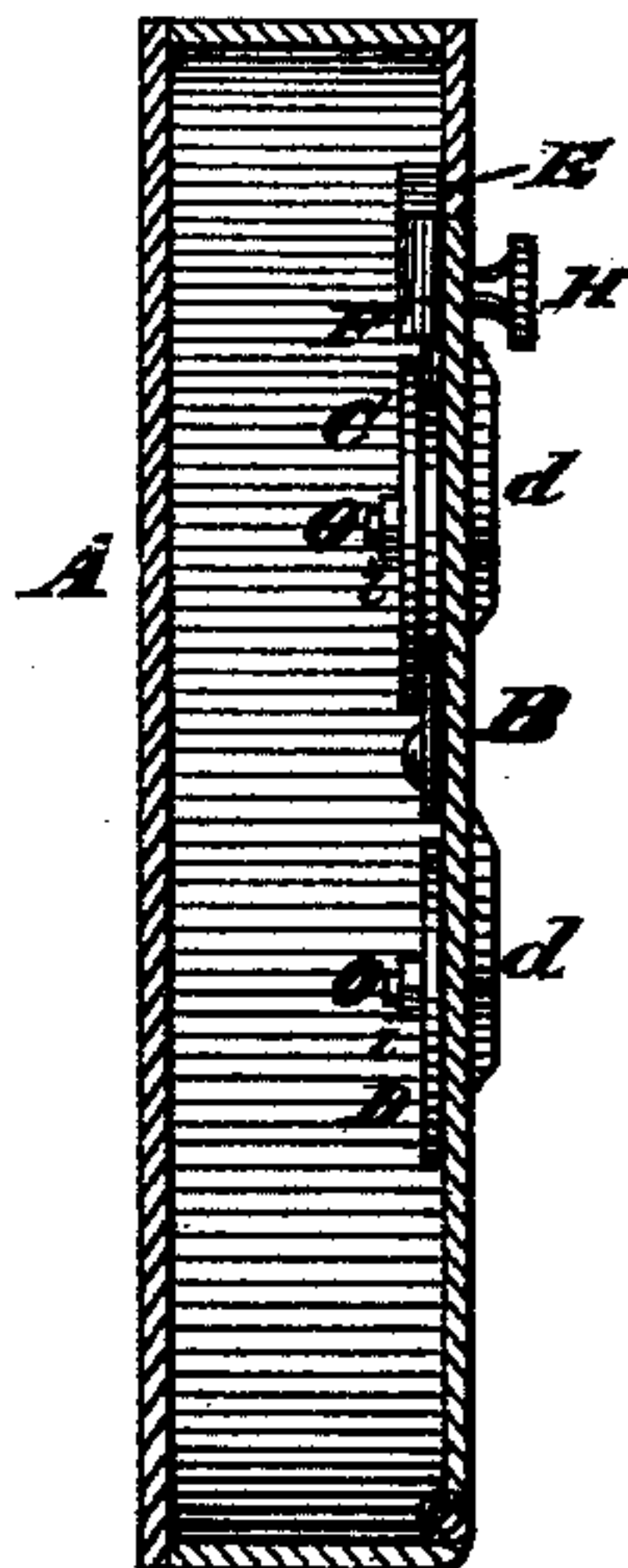


Fig. 3.



Attest

Wm. C. Jones
J. A. Rutherford

Inventor

Daniel J. Kenny

By Fred & Boyd

Attorneys

UNITED STATES PATENT OFFICE.

DANIEL J. KENNY, OF CINCINNATI, OHIO.

PERMUTATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 229,829, dated July 13, 1880.

Application filed May 5, 1880. (Model.)

To all whom it may concern:

Be it known that I, DANIEL J. KENNY, a subject of the Queen of Great Britain, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Permutation-Locks, of which the following is a specification.

My invention relates to an improvement in permutation-locks adapted to be used on boxes, swinging doors, and other articles of use.

It consists in the combination, in a permutation locking device, of a sliding bolt mounted directly upon a swinging door and provided with one or more laterally-projecting dogs, said bolt being loosely arranged in its seat, so as to be retracted for unlocking by its own inherent gravity, due to turning the article with which it is connected into the requisite position, and having no communication with the exterior of the door, with one or more rotary disk-tumblers mounted on the same door, and each provided with a gain or recess to receive a bolt-dog when in proper coincidence therewith, and a cam-tumbler arranged upon the door at the end of the bolt, and provided with a recess to receive the end of the bolt and one or more projections to throw the same, said tumblers being each provided with an index attached to its axis and arranged to traverse a dial upon the front of the door. By this arrangement the usual lock-case is dispensed with, the door to be secured itself serving directly as the only support for the various tumblers and the bolt.

In the accompanying drawings, Figure 1 is a plan view of a box containing in its construction my improvements. Fig. 2 is an inside view of the same with the bottom removed, showing the construction and arrangement of the locking devices in position for opening. Fig. 3 is a vertical section on line *x x*, Fig. 1.

A indicates a common box, on which I have shown, for the sake of illustration, my improvements, it being in a vertical position.

B represents a lid swinging on hinges, and C C tumblers consisting of the hubs *c*, having radially-projecting annular lips *c'*, with recesses or notches *e e* cut in their peripheries.

The tumblers C C D are mounted on shafts or spindles O, to which they are held by nuts *i*. The other ends of spindles or shafts O extend through the plate B, and have fixed to them index hands or pointers *d*, which are provided with a series of numerals or signs, G, arranged circularly in dial form around the path of the pointer *d*.

E represents a common sliding bolt, and F dogs on the ends of the forks thereof. These dogs F are adapted to fit into the notches *e* of the tumblers when the parts are in proper relative position.

The lips *c'* of the tumblers C overlap the bolt, which moves between them and the door and between the two hubs *c*, so that I am thus enabled to dispense with other and permanent bolt-guides, which would add to the cost and trouble of the attachment of the invention to a door.

D represents a tumbler provided with a recess, I, which recess corresponds with notches *e* in position, and receives and sustains the end of bolt E when it is retracted.

J J represent cams, which, when tumbler D is turned, push the bolt forward and lock the device. The index-hands of tumbler or tumblers C C should then be turned, and the bolt is secure until the several parts are brought into the former position, with the notches or recesses adjacent the several ends of the bolt.

A knob, H, may be attached to the exterior of the door, for the purpose of swinging it on its hinges to open and close the same; but it will be understood that this knob has no connection with the bolt-work.

I claim—

In a permutation locking device, the combination, with a sliding bolt mounted directly upon a swinging door and provided with one or more laterally-projecting dogs, and loosely arranged in its seat to be retracted by its own inherent gravity by turning the article with which it is attached in the requisite position, and having no connection with the exterior of the door, of one or more rotary disk-tumblers mounted directly upon the same door and each provided with a recess to receive a

dog when in proper coincidence therewith, and
a cam-tumbler arranged upon the door at the
end of the bolt and provided with a recess
to receive the end of the bolt, and one or more
5 cam-projections to throw the same, said tum-
blers being each provided with an index at-
tached to its axis and arranged to traverse a
dial upon the front of the door, substantially
as described.

In testimony whereof I have hereunto set to
my hand in the presence of two subscribing
witnesses.

DANL. J. KENNY.

Witnesses:

JNO. E. JONES,

THOS. B. REYNOLDS.