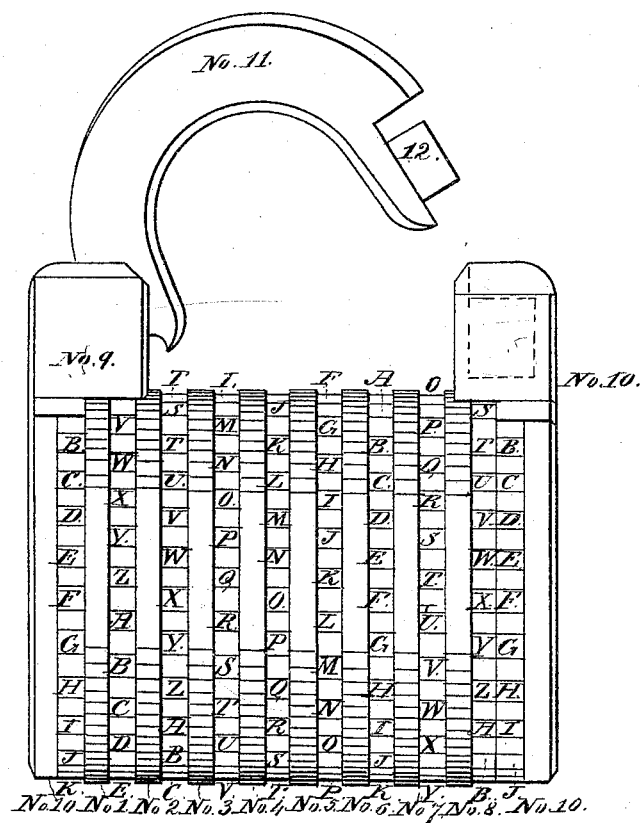


J. B. Gray,
Permutation Padlock.
N^o 2,261. Patented Sep. 18, 1841.



UNITED STATES PATENT OFFICE.

J. B. GRAY, OF FREDERICKSBURG, VIRGINIA.

PERMUTATION OR COMBINATION LOCK.

Specification of Letters Patent No. 2,261, dated September 18, 1841.

To all whom it may concern:

Be it known that I, J. B. GRAY, of Fredericksburg, in the county of Spottsylvania and State of Virginia, have made an improvement in the combination or permutation lock, which is opened and closed by the revolving of a series of rings that are connected together, so as to constitute a cylindrical body, and upon each of which there are numbers, or letters, by the arrangement of which in a determined order the opening is effected without the use of a key.

Locks of this description are too well known to render a particular description of them necessary, and in my improvement upon them I have not made any change in their internal structure; but I have so arranged the letters, or figures, and spaces upon the exterior of said lock as to increase the security against its being opened, without the necessity of rendering it more complex by increasing the number of parts of which it consists.

In the accompanying drawing, I have given a representation of such a lock, consisting of two circular end plates, and of eight revolving rings embraced between said plates. The number of revolving rings may be varied to any extent that may be deemed convenient; and the number of letters and of spaces upon each ring will also admit of a like variation; but the general principle will be best understood by a specific example, with which view I have chosen that which I am about to describe. No. 9, in the drawing is the circular end plate which has the shackle No. 11, attached to it; and No. 10, that which receives the locking stud 12, of the hasp, when the lock is closed; the revolving rings are numbered from 1 to 8. In locks of this kind as heretofore made, there is a mark, or notch, upon each disk, which are made the starting and terminating points in arranging the numbers, or letters, upon the revolving rings; in my lock, I divide the periphery of each of these end plates into a number of spaces, or divisions, corresponding in size with those on the revolving rings; and in the example shown each of these revolving rings has an alphabet of twenty-six letters upon it, and a space, or division, between each letter equal to that occupied by the letter, and there are, of course, fifty-two such divisions, the letters occupying each alternate division. On the peripheries of

the end plates, in the example shown, there are twenty two letters, and twenty-two blank spaces, making forty four divisions; the portion of the circle occupied by the shackle, and by the projection to receive it on the opposite end plate, taking the place of eight divisions. Either of the letters, or spaces upon the end piece No. 9 may be made a starting point at pleasure, and the corresponding letter, or space, on No. 10, the terminus; and a person attempting to open the lock would have, therefore, forty three chances to one against him in the very first step taken by him.

In the revolving rings, each has fifty-two divisions in the example given; and in constructing the rings I make the blank spaces on one portion of them to coincide with the notches on their interior; and the letters on the other portion to coincide with said notches; and as the places of these rings may be changed at pleasure, and as there is not anything on their exterior to indicate whether a letter or a blank space is to constitute a part of the line of direction which must be attained in order to open the lock, the difficulty of doing so is enhanced to an almost inconceivable extent.

Having thus fully described the nature of my improvement in the within described combination, or permutation lock, what I claim therein as new and desire to secure by Letters Patent, is—

1. The dividing of the end plates of said lock on their peripheries, into a considerable number of equal parts, coinciding in size with the divisions on the revolving rings, either of which divisions, whether designated by letters, figures, or blank spaces, may be made the starting point in setting the revolving rings.

2. And I likewise claim, in combination with the foregoing, the so constructing the revolving rings as that one portion of them shall require to be set by the spaces intermediate between the letters, figures, or other marks thereon, so as greatly to enhance the difficulty of opening the lock, from the manner of constructing it, substantially as set forth.

J. B. GRAY.

Witnesses:

THOS. P. JONES,
G. W. BASSETT.