

W. A. Carpenter, Perm. Lock.

No. 27,202.

Patented Feb. 21, 1860.

Fig. 2.

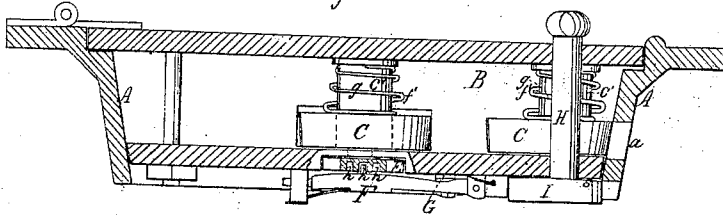
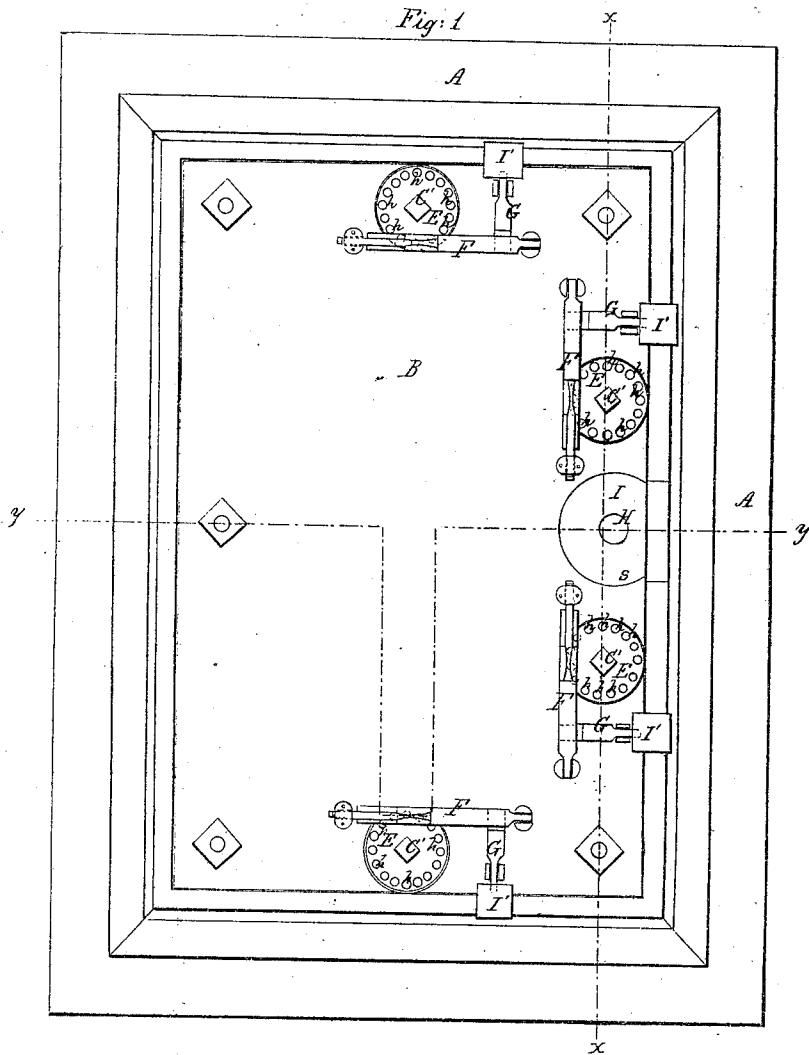


Fig. 1.



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Fig. 5

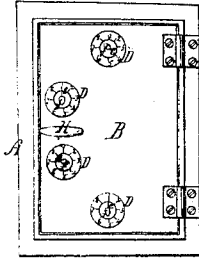


Fig. 3

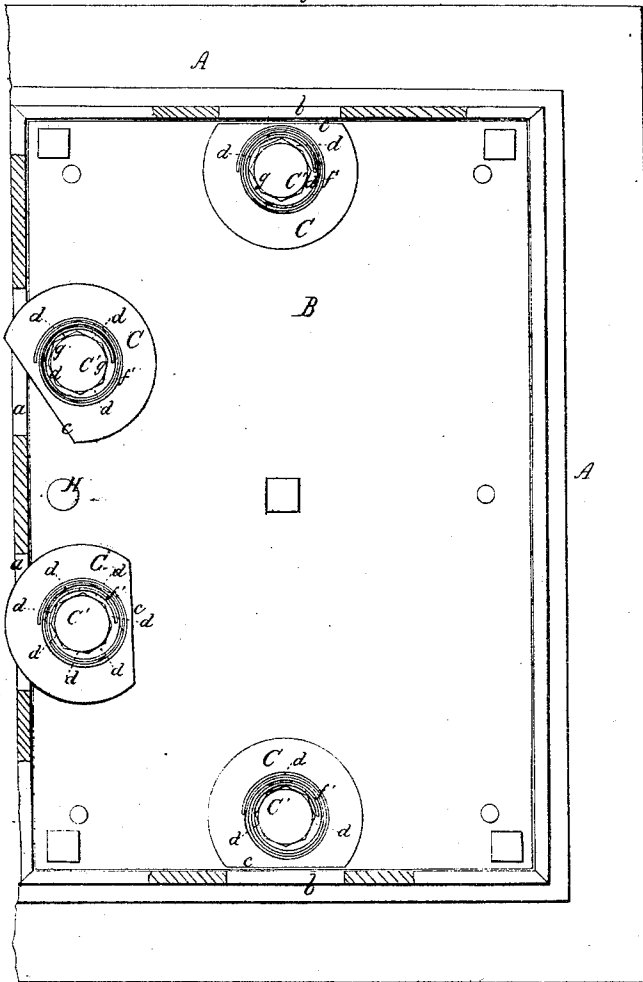
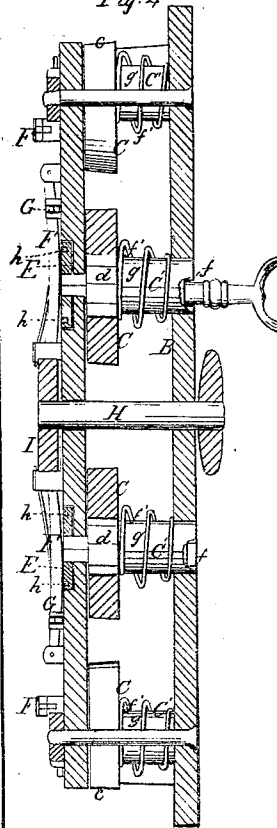


Fig. 4



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM A. CARPENTER, OF ELGIN, ILLINOIS.

PERMUTATION-LOCK.

Specification of Letters Patent No. 27,202, dated February 21, 1860.

To all whom it may concern:

Be it known that I, WILLIAM A. CARPENTER, of Elgin, in the county of Kane and State of Illinois, have invented a new and useful Improvement in Permutation-Locks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1, is a back view of my improvement applied to a safe door. Fig. 2, is a horizontal section of the same in the line *x, x*. Fig. 3, is a front view of same, the covering plate being removed. Fig. 4, is a vertical central section of the same in the line *y, y*, and Fig. 5, is a front view on a smaller scale, the front plate being in place.

Similar letters of reference, in each of the several figures indicate corresponding parts.

The nature of my invention consists, 1st, in the employment of a bolt which is of a form approximately to a circle and is arranged so as to be adjusted on a solid spindle which has an index on its front end, in combination with the face plate of a safe door or a lock which has a circle or a part of a circle of figures or characters marked on it, as and for the purposes hereinafter described.

My invention consists, 2nd, in the combination of a series of bolts of the form stated, having index spindles, with a series of circles or parts of circles, of figures or characters on the face of the lock or safe door, as and for the purpose hereinafter stated.

My invention consists, 3rd, in the combination with the bolts having index spindles, of a turning knob, a wedge plate of the same shape circumferentially as the bolts, a series of spring catches, a series of short levers, a series of stops, and a series of indented plates, as and for the purposes hereinafter stated.

To enable others, skilled in the art, to make and use my invention, I will proceed to describe its construction and operation.

A, represents the frame of a safe door; it is of ordinary construction.

B, is the safe door, it also is of ordinary construction except so far as its being adapted to have my improvements applied to it.

C, C, C, C, are four bolts so arranged

between the front and back plates of the door, that two of them take into the passages *a, a*, of the side jamb and the other two into passages *b, b*, of the top and bottom jambs, as represented. Each bolt is formed by taking a circular piece of metal and cutting off a portion of its circumference, as represented at *c*. Thus constructing the bolt enables me to use different portions of its entire circumference for retaining the door in the frame and at the same time only gives me one unlocking point. The obtainment of so many locking points, and only one unlocking point is one of the essential advantages of my invention. The bolts thus shaped I arrange on spindles *C', C', C', C'*, which pass through the two plates of the door, each of said spindles being provided with an index *e*, and a small key hole *f*, at its front end, and made with a series of square sides *d, d, d, d*, near its rear end along a portion of its length so that the bolt may be shifted from one unlocking position to another or set to unlock at any point the owner of the safe may deem most desirable. To thus shift the bolt, it is only necessary to draw it against the spiral spring *f¹*, toward the front plate until it clears the square of the spindle, and then to turn it on the round portion *g*, of the spindle the desired distance. This being accomplished let the bolt free and the spiral spring will force it back onto the square portion and retain it in place. Instead of this arrangement, the spindle may be made round from end to end and the bolt confined by a set screw so as to be shifted as occasion may require.

In order to enable the owner of the safe to set the respective bolts so as to unlock at different points only known to himself, I arrange a circle of figures or characters around each of the spindles on the face of the front plate of the safe door or lock, as shown at *D, D, D, D*. Thus employing characters I am aware is not new and only describe it here because it is a necessary auxiliary to my invention.

Fast on the extreme rear end of each of the spindles and behind the inner plate of the safe door or lock, I arrange a circular metal disk *E*, which has a series of indentations *h*, in its face, as represented, and on the rear side of the inner plate of the door I arrange a series of hinged spring catches *E, F*, which fall into the indentations of the disks under certain circumstances presently

stated. These catches rest against short levers G, G, G, G, which are also on the rear side of the inner plate of the door. To operate these catches I pass through the door a spindle H, which has a knob on its front end and on its inner end a plate I, of the same form circumferentially as the bolts and with its bearing face *s*, inclined; I also provide a stop I', in rear of the short end of each of the levers G, G, G, G, on the rear edge of the upper, lower and side jambs, as represented. Now if the bolts have all been set to lock at certain movements of the spindles by means of the adjustments before described, and it is desired to lock the safe door, it is necessary first to shut the door and then to turn the knob until the incline bearing surface of the plate I, by binding against the rear edge of the side jamb, draws the door snugly home. Thus drawing the door home, causes the short ends of the levers G, to come in contact with the stops I', I', I', I', and consequently to be forced inward. Thus acting upon the levers causes their long ends to raise the clutches out of the indentations of the disks E, E, E, E. The bolts can now be shot into the recesses of the jambs.

The catches and auxiliary devices described serve an important office, they destroying the chance of a burglar unlocking the safe door by applying a power to the same sufficient to bring the bolts against the sides of the recesses in the jambs and thus enabling him to feel his way in performing his operation of shooting back the bolts, for if a power is thus applied, the contact of the stops with the levers is destroyed, and the spring clutches instantly fall into the indentations of the disks and thus render impossible the turning of the bolts until the door is again forced home.

From the foregoing description, it will be

seen that a system of permutation is produced which will baffle the attempts of the most skillful burglar, for it is impossible for the burglar to know by feeling when he has one of the bolts unlocked, and the chances are that he will, if two or more bolts are used, shoot back and forth one or other of the bolts an innumerable number of times without being able to open the safe.

While my lock, as I believe is burglar proof, it is exceedingly simple and durable and can be constructed by the most ordinary mechanic.

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

1. The employment of a bolt C, which is of a form approximating to a circle and is arranged so as to be adjusted on a solid spindle C', which has an index *e*, on its front end—in combination with the face plate of a safe door or a lock which has a circle or a part of a circle of figures or characters D, marked on it, substantially as and for the purposes set forth.

2. The combination of a series of bolts C of the form stated, having index spindles *d*, C', *e*, with a series of circles or parts of circles of figures or characters D, on the face of the lock or safe door, substantially as and for the purposes set forth.

3. The combination with the bolts C, having index spindles C', *d*, *e*, of a turning shaft H, a wedge plate I, of the same shape, circumferentially, as the bolts, a series of spring catches E, E, a series of short levers G, G, a series of stops I', I', and a series of indented plates E, E; substantially as and for the purposes set forth.

WM. A. CARPENTER.

Witnesses:

GOODWIN Y. AT LEE,
R. W. FENWICK.