

J. P. Lord,

Permutation Lock.

N^o 21,346.

Patented Aug. 3, 1858.

Fig: 1

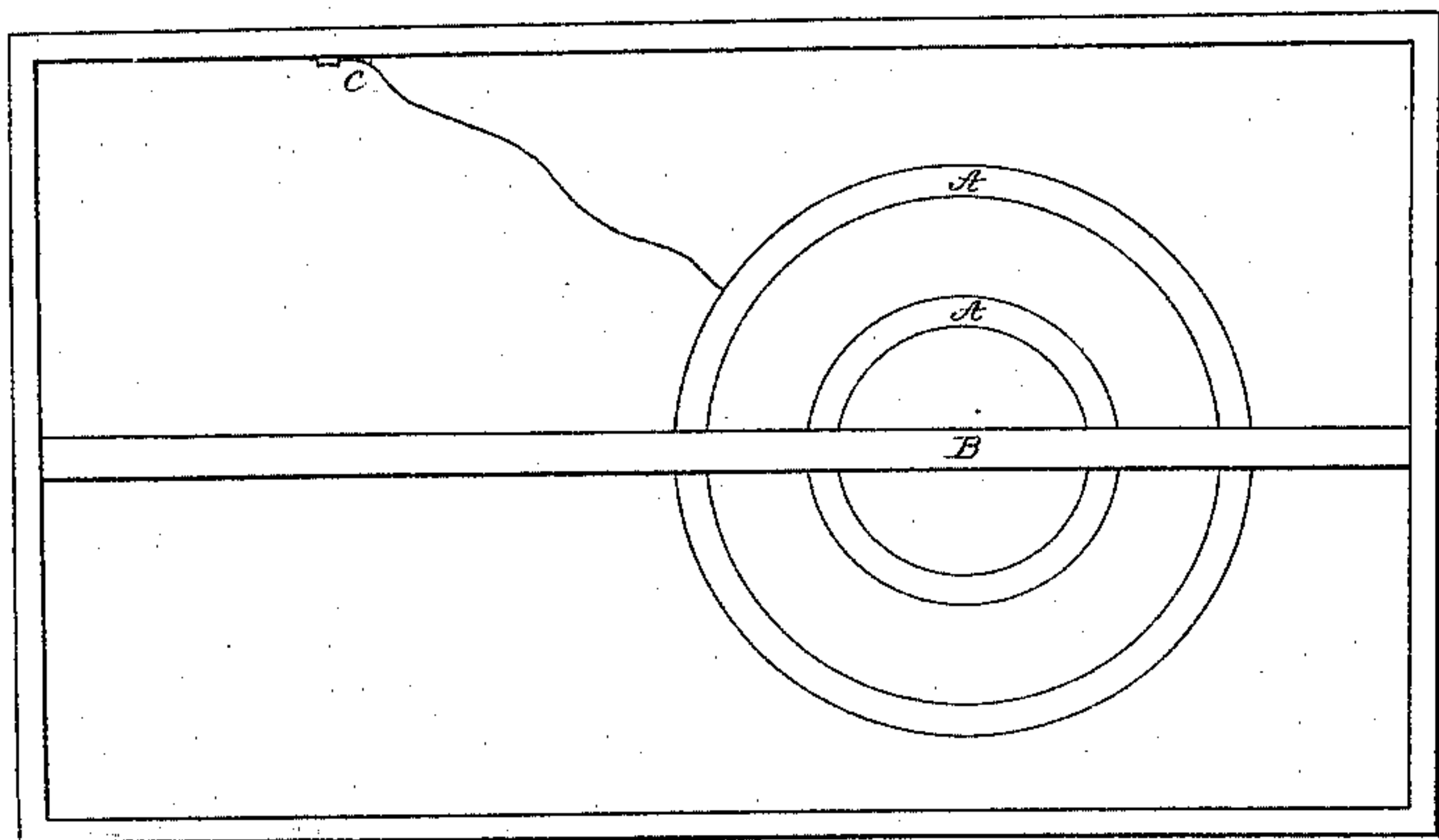


Fig: 2

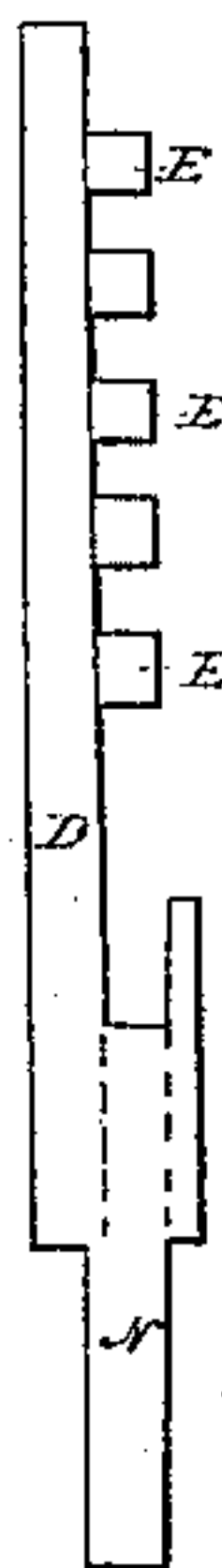


Fig: 3

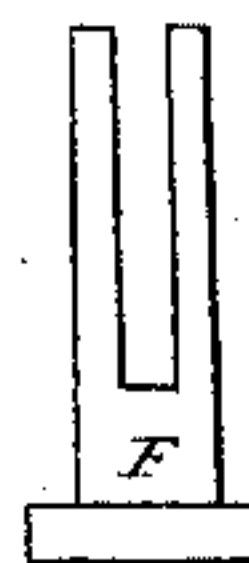


Fig: 4

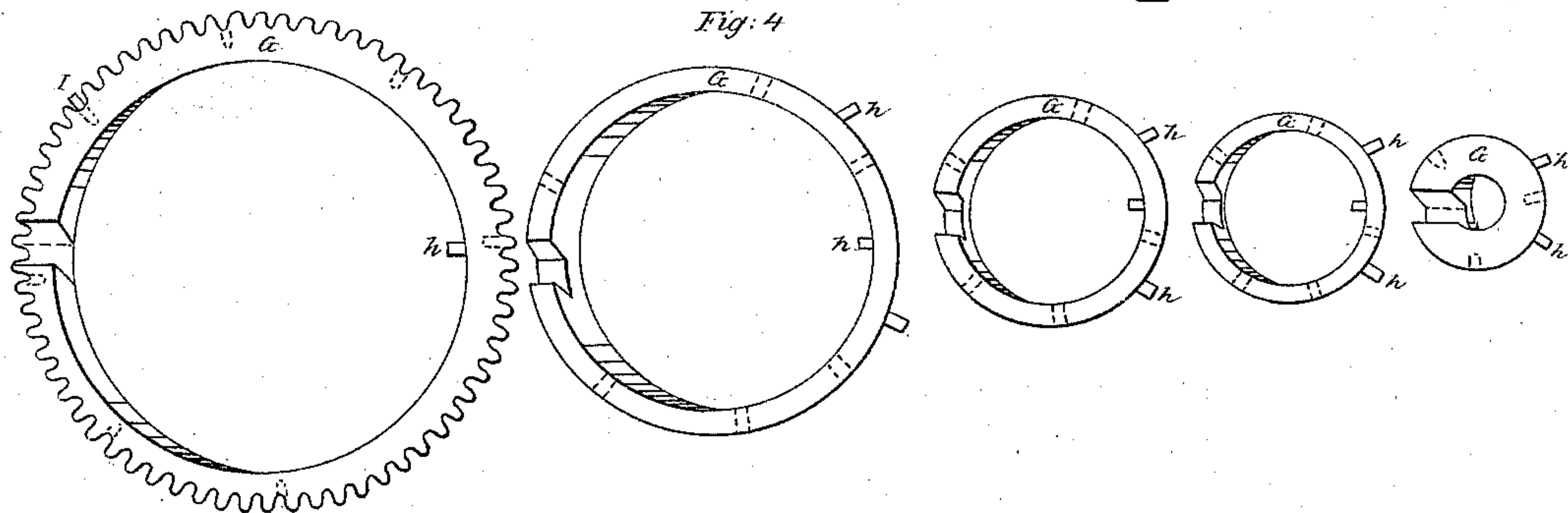


Fig: 5

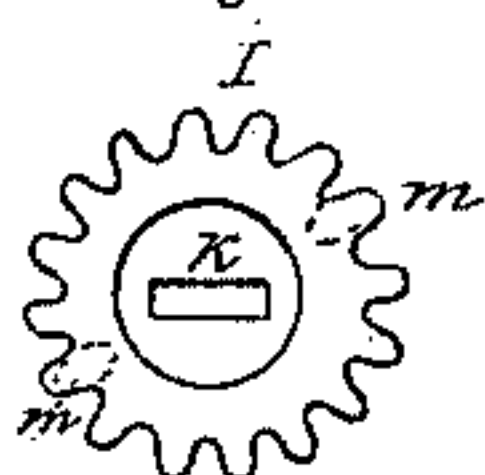


Fig: 6

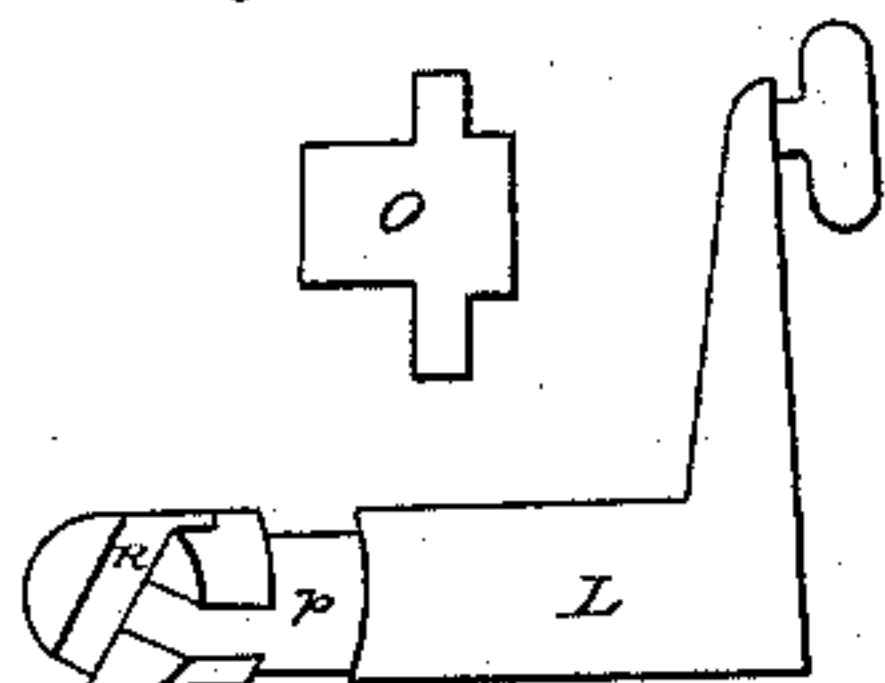
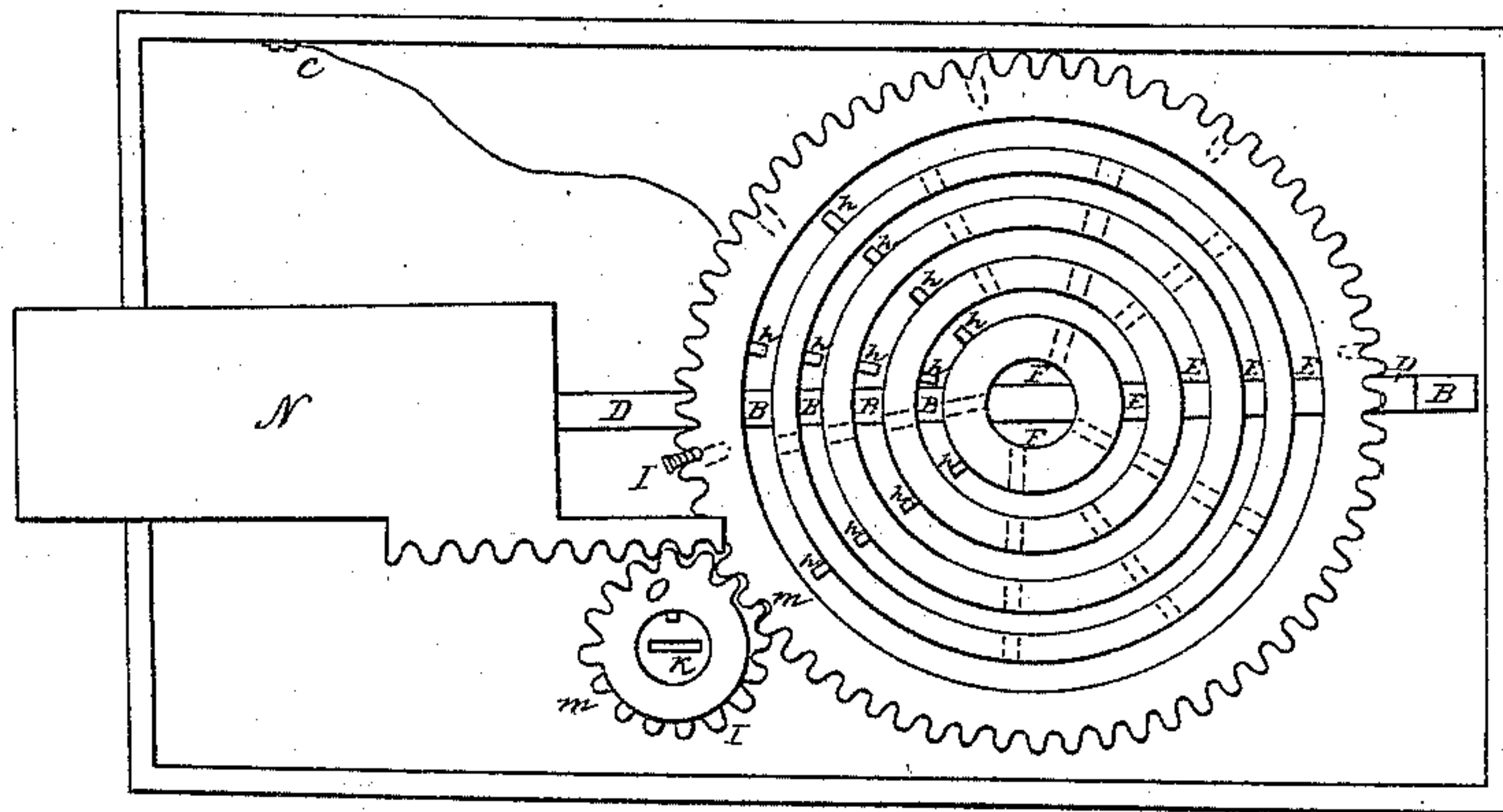


Fig: 7



Witnesses:
J. M. Stauben
W. B. Clark

Inventor.
John P. Lord

UNITED STATES PATENT OFFICE.

JOHN P. LORD, OF MANCHESTER, NEW HAMPSHIRE.

LOCK.

Specification of Letters Patent No. 21,346, dated August 31, 1858.

To all whom it may concern:

Be it known that I, JOHN PUTNAM LORD, of Manchester, in the county of Hillsboro and State of New Hampshire, have invented
5 a new and Improved Mode of Constructing Locks; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed drawings, making a part of this specification.
10 tion.

The same letters indicate like parts in the different figures.

Figure 1, represents the inside of the lock case with the guides *a a a a* as cast or fitted
15 thereon. Also the groove B, and spring C. Fig. 2, the tongue D and guards *e e e e e* connected with the bolt U. Fig. 3, the slotted stud F. Fig. 4, the slotted rotary wards *G G G G G* and movable driving pins
20 *h h h h h h h h h h h h h h h h*. Also the pin or indicator I. Fig. 5, the driving ward gear J, and apertures *m, m*, on its surface also another aperture and lip K, in its center. Fig. 6, the driving bolt gear O, with a lip
25 in its center. Also the key L. Fig. 7, the rotary ward lock, being an elevation of one side with all its parts in their proper places.

The nature of my invention consists in the various ways of adjusting the movable
30 driving pins *h h h h h h h h h h h h h h h h*, so that the location of the rotary wards *G G G G G*, may be known only to the person adjusting them, the movable driving pins being fitted to any desirable number of holes, drilled
35 and tapped in each and all the wards *G G G G G*, at particular distances from each other, thus allowing a great number of changes, and variations to be made.

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

I construct the lock case in any of the known forms of any durable material, and apply to the inside, for guides *a a a a*
45 (more or less) or their equivalent, cast or fitted to project one half the depth of the rotary wards *G G G G G*, or enough to guide and support them. I also apply a groove B, cast or formed in the case long
50 enough for the tongue D, to lie thereon. I also apply a spring C, secured to the inside of the case, for the purpose hereinafter specified.

My invention also consists of a tongue D,
55 or its equivalent, applied to the bolt U, and

fitted to the groove B so to slide forward and backward therein.

My invention also consists in applying five guards *e e e e e* (more or less) or their
60 equivalent to the tongue D with a space between each large enough to allow the slotted rotary wards *G G G G G*, to rotate therein and made to project from the tongue D, evenly with the guides *a a a a*.

My invention also consists of a slotted
65 stud F, applied to the center of the groove B, and guides *a a a a* for the tongue D, to slide therein.

My invention also consists in the application of five rotary wards *G G G G G* (more
70 or less) or their equivalent, with a slot cast or formed in each and all, one half their thickness, and large enough for the guards *e e e e e* to pass through, when all are on a line parallel with them. These wards *G G*
75 *G G G* are constructed with any desirable number of holes, drilled and tapped in their outer and inner surface and nearer to upper face, at particular distances from each other for the purpose hereinafter specified, and
80 are also cast or formed of various sizes, so that they may rotate closely, yet easily, on the outer, and inner, surface of the guides *a a a a* and stud F, allowing a space between each ward sufficient for the guides *a a a a*
85 and the guards *e e e e e*.

My invention also consists, in the application of twelve pins *h h h h h h h h h h h h h h h h*
90 (more or less) or their equivalent made to fit the holes in the outer and inner surface of the wards *G G G G G* so made that they can be moved from any one to all, and are to operate in combination with the rotary wards *G G G G G*, and thus when changed
95 will cause a variation in the location of the wards *G G G G G*, and consequently a change in the manner of unlocking.

My invention also consists in the application of the driving ward gear J, constructed with teeth cut, or cast on the outer
100 surface suited or matched to the teeth, on the outside rotary ward G, and with two apertures *m, m*, (more or less) formed in the teeth and hub, and suited to the pin or indicator I. So at every revolution of the
105 outside ward G, they will receive the pin I, and allow it to pass by. Also with another aperture in its center with a lip *k* fitted therein, and both suited to the key L.

My invention also consists in the peculiar 110

manner of applying a rotary motion to one and all of the wards G G G G G by means of the movable driving pins *h h h h h h h h* being so arranged that each larger ward may be made to make a certain number of revolutions or part revolutions before it will communicate to the next smaller ward.

My invention also consists in the application of teeth to the outside rotary ward, being cut or cast on its outer surface and matched into the teeth of the driving ward gear J.

My invention also consists of one pin, or indicator I, or its equivalent, applied to any one of a number of holes made in the center of the surface of the outside (or largest) ward so at every revolution it will strike against the spring C, thus giving an alarm, and thereby indicating the location of the wards G G G G G. This indicator I, is made to project a very little beyond the teeth, and whenever changed from one hole to another causes a change in the manner of unlocking.

My invention also consists in applying a driving bolt gear O, with a thimble projecting from its face and made to fit in the aperture of driving ward gear with a hole in its center and a lip secured therein. Also with teeth cut or cast on a part of its surface and matched to fit into teeth formed in the bolt U.

My invention also consists in the manner and form of the key L, which is constructed with a groove *p*, around its surface, near the end. Also with a slot Q made parallel with its axis and terminating at the groove *p*, and also a slot R, on its end passing through the center from surface to surface, and all fitted to the lips of the driving ward, and bolt gears, by means of which, the driving ward and bolt gears can be made to move independent of each other.

My invention also consists in the combination of all the parts herein specified, so that whenever the tongue D with guards *e e e e e* are moved to be secured, and the wards G G G G G, are made to rotate, the slots in each ward will pass by the guards *e e e e e*, thus making them secure.

To obtain the manner of unlocking by the indicator I, turn the key L to the right

until the alarm is heard. Observe the location of the key then turn to the left until the slot of the smallest ward is on a line parallel with the guards *e e e e e*, then to the right until the slot in the next larger ward is the same, and thus continue in each direction until all are the same, observing to remember (or mark down) the number of turns and part turns made in each way, and the manner is obtained.

Another way without reference to the indicator I, is to observe the number of turns or part turns made with the key L when locking (so to always lock the same number) then proceed in the same way as before described.

The form used by the indicator is only resorted to whenever the lock has been picked, or the wards in any way changed after locking.

Having thus described the nature of my invention, and the mode of construction, and operation, which I have tried with success, what I claim as my invention and desire to secure by Letters Patent is—

1. The application of the guides *a a a a* or their equivalent, also the groove B and spring C or their equivalent, substantially as specified.

2. The application of the tongue D and guards *e e e e e*, or their equivalent—combined with the bolt U, substantially as specified.

3. The application of the slotted stud F substantially as specified.

4. The application of the slotted rotary wards G G G G G or their equivalent, in combination with the driving pins *h h h h h h h h*, and indicator I, or their equivalent, constructed substantially as specified.

5. The application of the driving ward gear J, and driving bolt gear O, or their equivalent, constructed substantially as specified.

6. The application of the key L, in combination with the ward, and bolt gears, substantially as specified.

JOHN P. LORD.

Witnesses:

J. M. STANTON,
W. G. STARK.