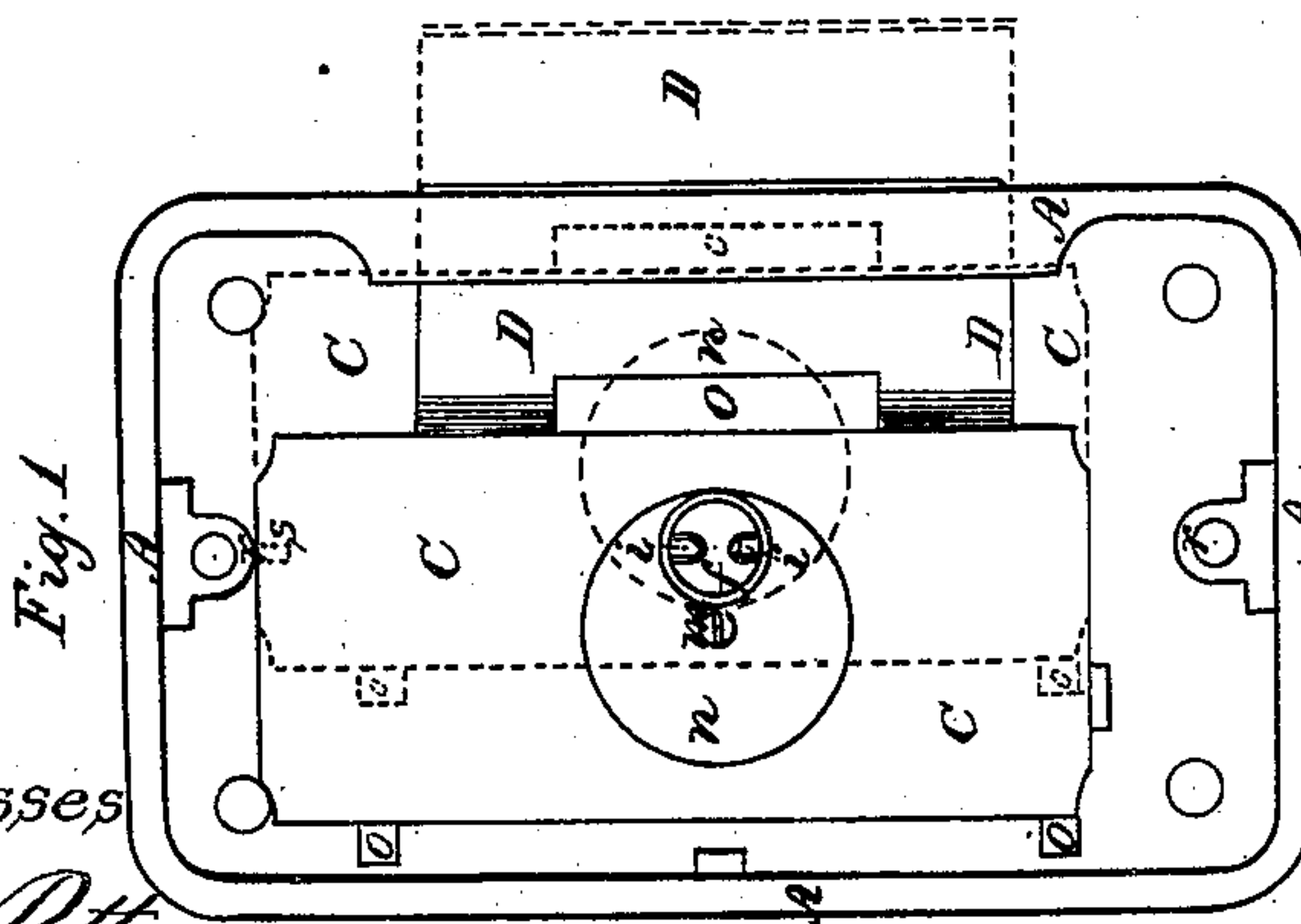
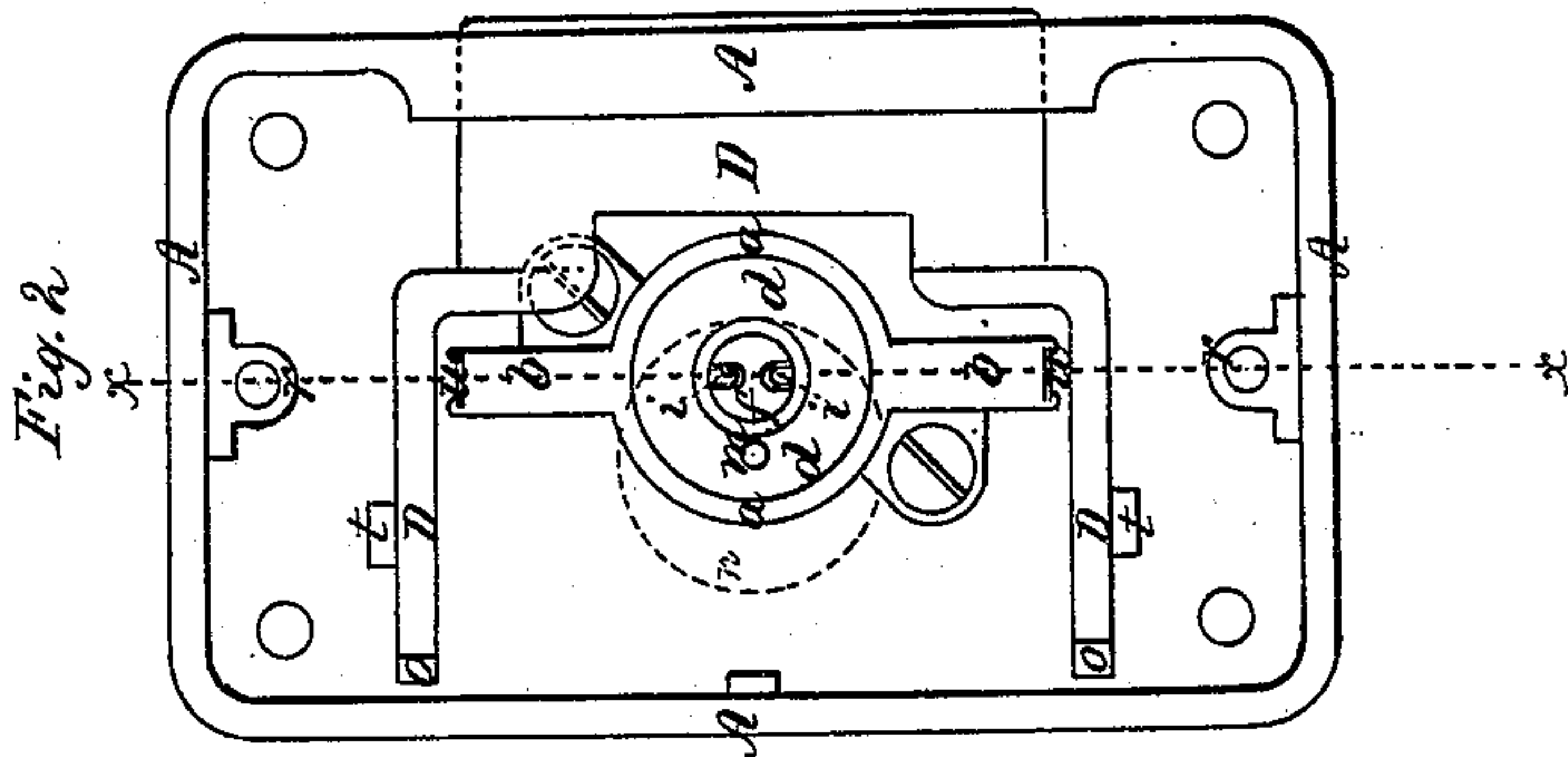
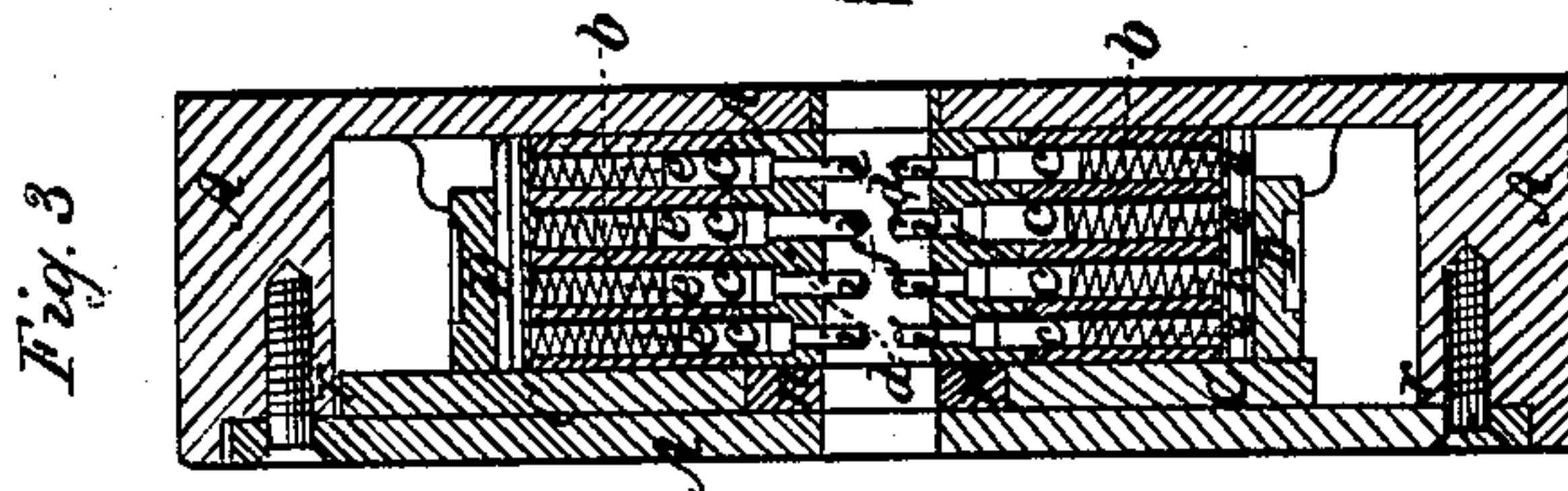
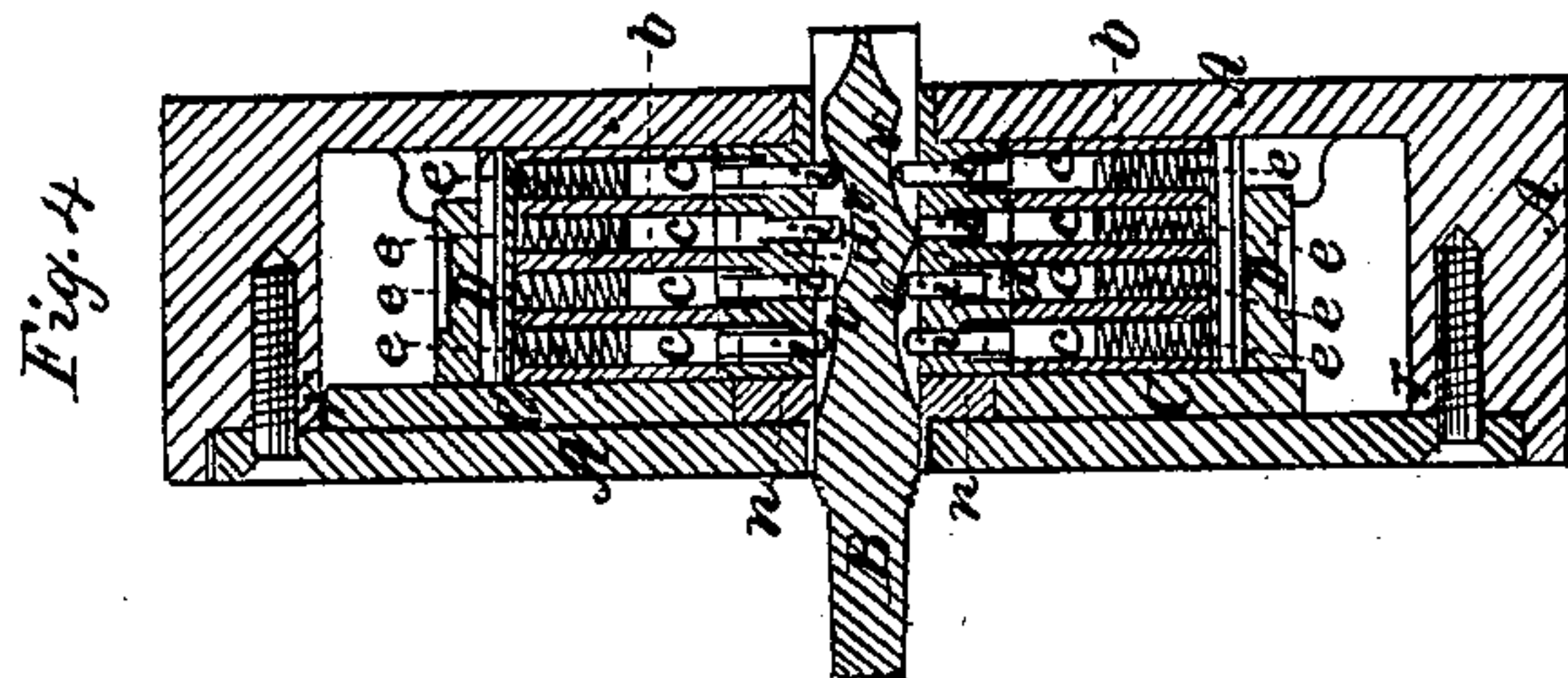


W. I. & J. W. Harris,
 Lock,
 No. 64,975,
 Patented May 21, 1867.



Witnesses
J. D. Patton
T. J. Chamberlain

Inventor.
W. I. Harris & J. W. Harris
 By their atty. *A. B. Stoughton*

United States Patent Office.

WILLIAM I. AND J. W. HARRIS, OF NEWPORT, NEW YORK.

Letters Patent No. 64,975, dated May 21, 1867.

IMPROVEMENT IN DOOR-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, WILLIAM I. HARRIS and J. W. HARRIS, of Newport, in the county of Herkimer, and State of New York, have invented certain new and useful Improvements in Door and other Locks; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a view of the lock with the top plate or cover removed to show the interior thereof.

Figure 2 represents a view of the lock, with the top plate and the slide both removed to show the parts under the slide.

Figures 3 and 4 represent sections through the lock taken at the red line *x x* of fig. 2, the key being removed in fig. 3 and in its position in fig. 4.

Similar letters of reference, where they occur in the separate figures, denote like parts of the lock in all of the drawings.

Our invention consists, first, in the combined use of an eccentric and slide in connection with the key for the purpose of moving the bolt, by which means a very smooth, quick, continuous, and durable movement is secured, and the bolt firmly held in any and all of its movements; and our invention further consists in combining with the eccentric and slide a stop, against which the slide impinges at the exact point in both the locked and unlocked positions to admit of the use of the key.

To enable others skilled in the art to make and use our invention, we will proceed to describe the same with reference to the drawings.

The case or shell of the lock may be of any suitable size and shape, and in the interior is firmly attached a circular hub, *a*, with hollow or chambered radial arms *b* upon it diametrically opposite each other. In the chambers of these arms is arranged a series of bolts or studs, *c*, with springs *e*, behind them for projecting them from their chambers. Inside of the hub or ring *a* there is fitted a cylinder, *d*, so that it may be turned by the key *B* when inserted. This cylinder has a key-hole, *f*, made through it, so that, with the holes in the lock-case and cap or cover, the key may be inserted from either side of the lock. At right angles to the line of the key-hole, in the cylinder, and opposite to the spring-bolts or studs *c*, there is arranged a series of tumblers or pins, *i*, one for each spring-bolt. These tumblers or pins project into the key-hole, and the insertion of the key in the hole moves them back, and they in turn move back and arrange the spring-bolts or studs in line and exactly on the line between the cylinder *d* and the hub or ring *a*, so that the cylinder may be turned by the key. When the key is withdrawn the springs *e* shoot their bolts across or past the joint between the cylinder and hub or ring, and thus lock the two parts firmly together; nor can the tumblers and bolts be arranged to admit of the cylinder being moved by any other instrument than the proper key, because if the tumblers or pins *i* be moved in the slightest degree beyond the exact point, as they can be moved, they become locking-bolts, and if the spring-studs be not moved to the exact point they continue to act as locking-bolts to the cylinder, so that the exact positions they must assume cannot be felt by a pick or any other instrument than the key specially made for the lock, as is well understood in locks of this description. To the cylinder *d* is secured eccentrically, as at *m*, a disk, *n*, with a hole through it to match the key-hole; and this disk turns with the cylinder only. Over the disk or eccentric *n* is placed a sliding plate, *C*, that has a circular opening through it to admit the eccentric; and this plate *C* lies upon the lock-bolt *D*, being kept in proper position thereon by lugs or projections *O O O*. The turning of the eccentric *n* causes the sliding plate *C* to move in two directions, viz, laterally, to move the lock-bolt *D* out or in, as the case may be, and longitudinally until it comes against one or the other of the stops *r r*, there being one at each end of the lock-case; and these stops hold the slide at the exact position or point in both the locked and unlocked positions to admit of the use of the key, or of its withdrawal from the lock. As the stopping of the plate *C* at the exact point is important in the use and disuse of the key, the plate, and stops, one or both, may be of steel or other hardened metal, to prevent wearing, or, as shown at *s*, fig. 1, a steel or other hard pin may be used, which can be replaced or adjusted should any undue wear take place. The stops *r* we use, also, to pass the screws through for holding the plate or cover to the lock-case, but, of course, can be stops without such use. The bolt is guided as it moves out and in by lugs *t*, and the positions of the bolt, slide, and eccentric are shown in black lines and red lines in fig. 1, the black lines showing the bolt as drawn into the

lock, and the red lines as shot out to take the keeper. In the ends of the arms *b* there are slides or covers *u*, which may be withdrawn to gain access to the springs and bolts in said arms, to place, remove, or replace them when necessary to do so. The portion of the key that enters the lock is round, with two grooves cut longitudinally therein on opposite sides, or diametrically opposite each other; and the bottoms of these grooves are cut into a series of curved or inclined planes, as shown at *v*, fig. 4, so as to arrange the bolts *c* properly through the pins *i* of varied lengths.

Having thus fully described our invention, what we claim therein as new, and desire to secure by Letters Patent, is—

1. In combination with the key for arranging the tumblers, the eccentric and slide for moving the lock-bolt, substantially as described.

2. We also claim, in combination with the slide, the stops, against which it impinges or brings up at the exact point in both the locked or unlocked positions for the admission and withdrawal of the key, substantially as described.

W. I. HARRIS,
J. W. HARRIS.

Witnesses:

NEWELL MOREY,
J. G. BARRY.