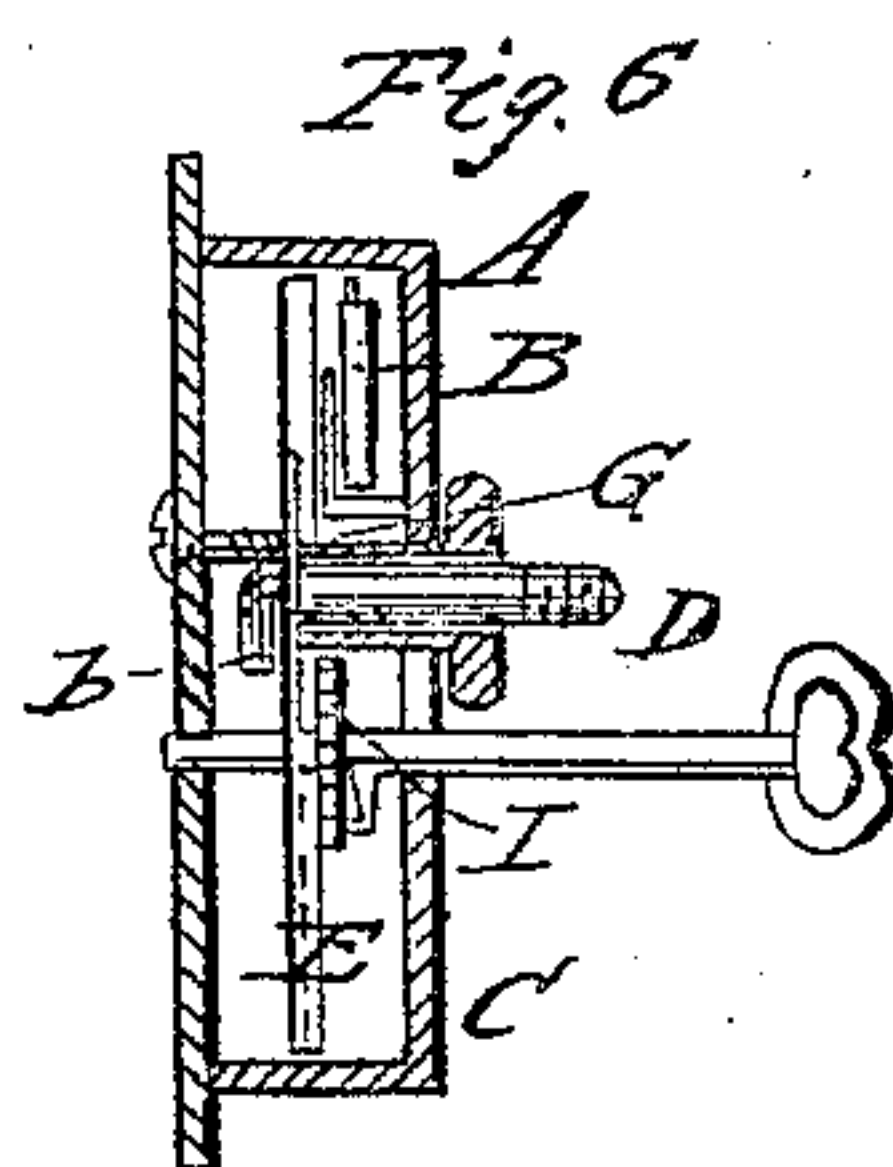
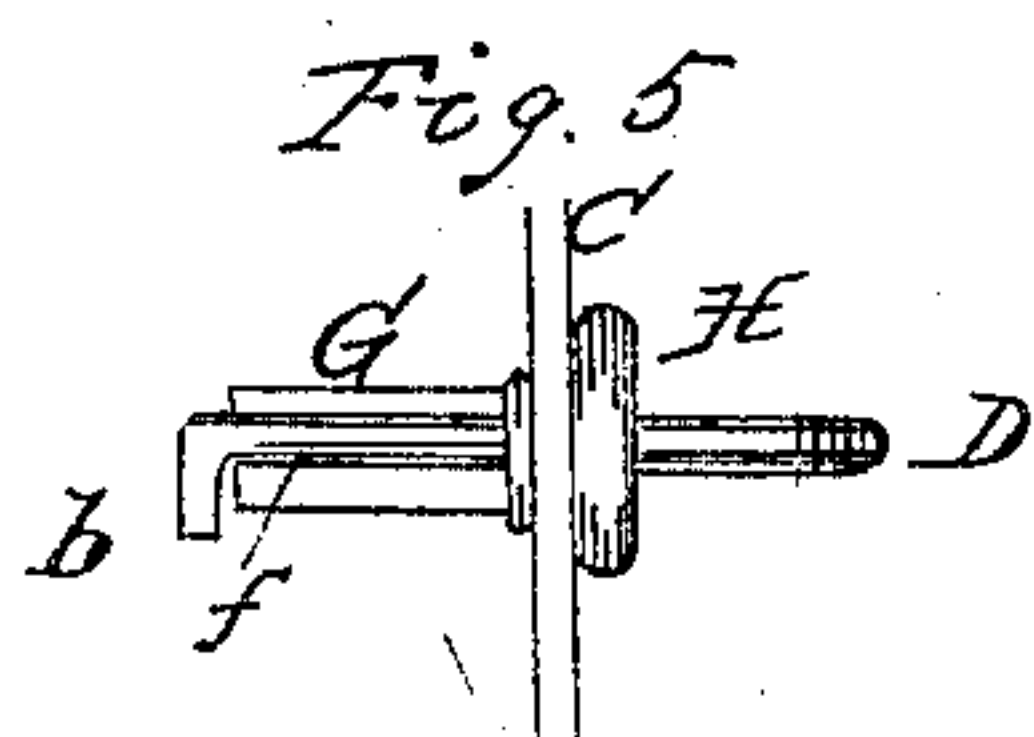
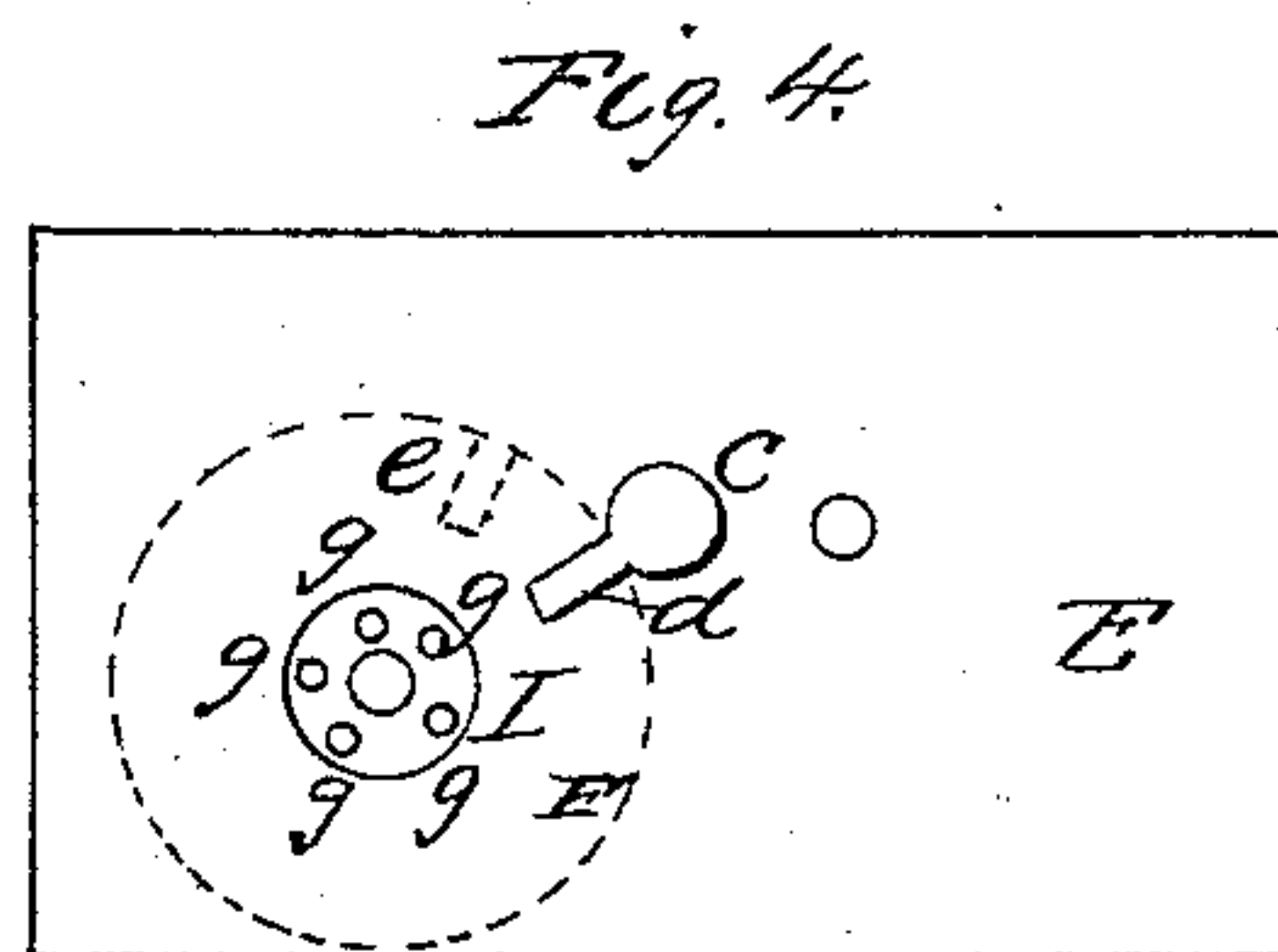
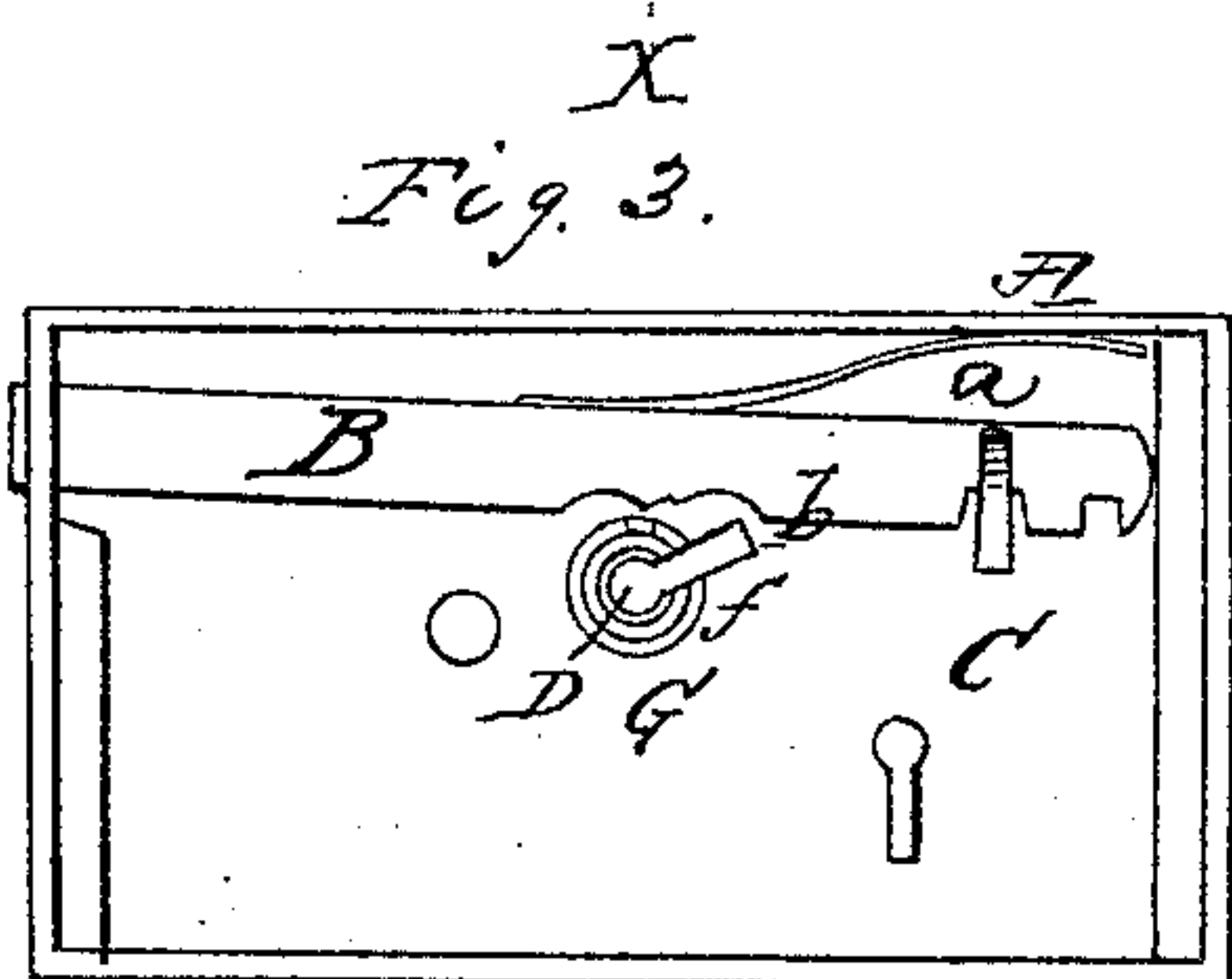
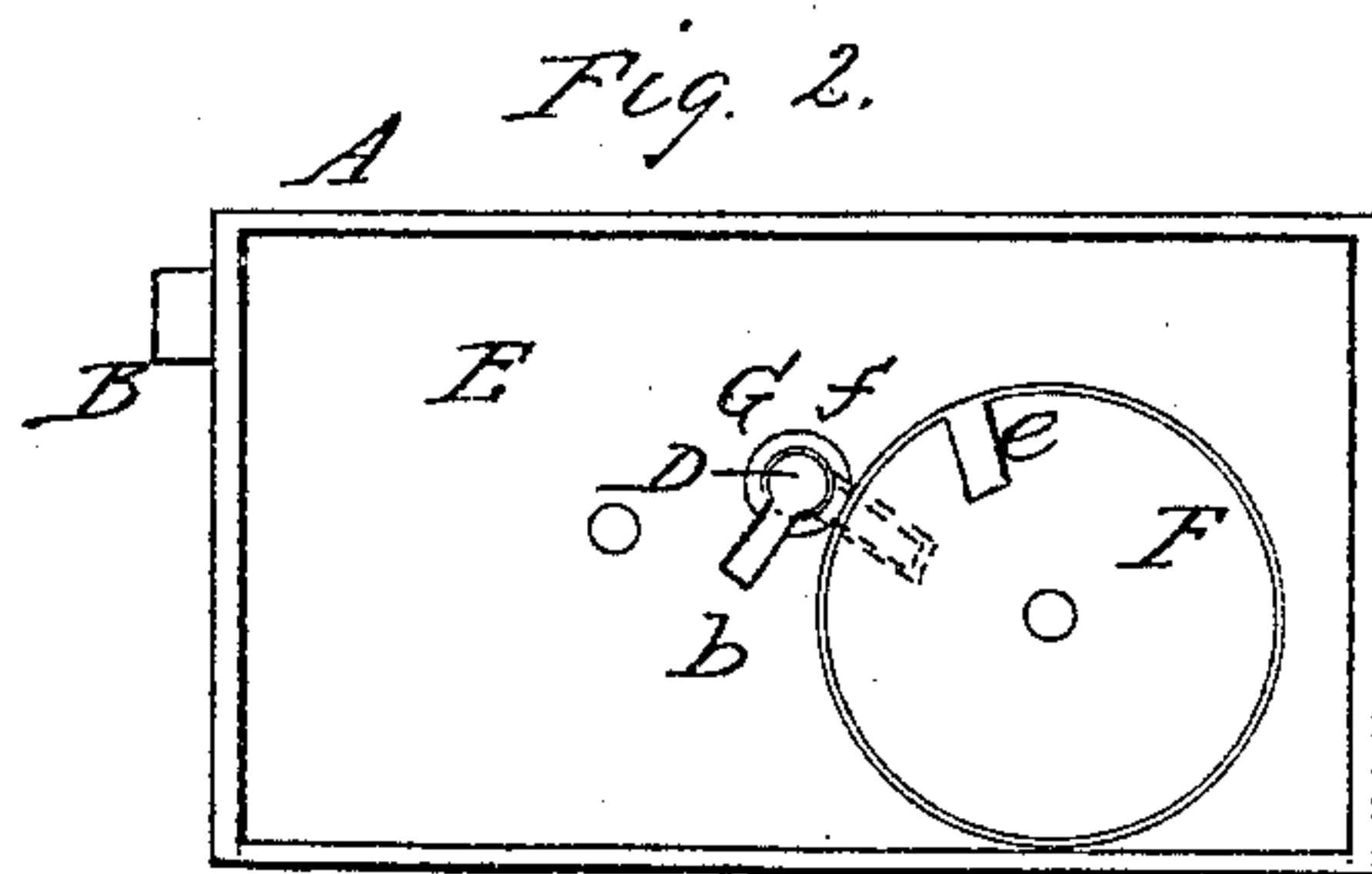
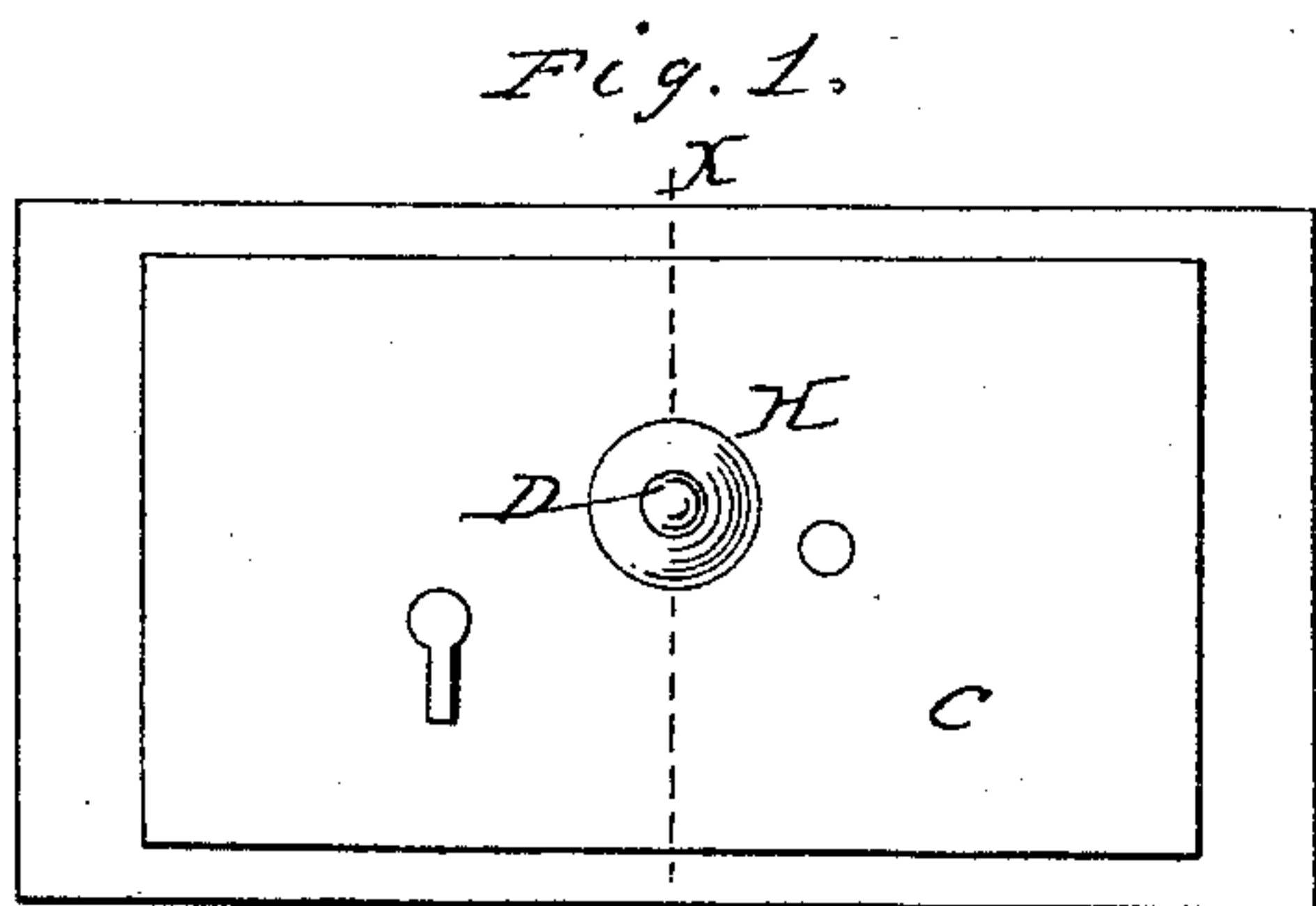


R. Ketchum,
Permutation Lock.
N^o 9,451. Patented Dec. 7, 1852.



UNITED STATES PATENT OFFICE.

RICHARD KETCHAM, OF SENECA CASTLE, NEW YORK.

LOCK.

Specification of Letters Patent No. 9,451, dated December 7, 1852.

To all whom it may concern:

Be it known that I, RICHARD KETCHAM, of Seneca Castle, in the county of Ontario and State of New York, have invented a new and Improved Lock; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a front view of the lock. Fig. 2 is a back view of ditto, the back plate being removed for the purpose of showing the circular tumbler, slotted collar, and the end of the spindle, and the manner in which the spindle may be released so that it can be made to act upon the bolt. Fig. 3 is also a back view of ditto with the back plate removed and also the center plate taken from within the lock. This view shows the manner in which the spindle acts upon the bolt. Fig. 4 is a front view of the center plate.

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

The nature of my invention consists in the peculiar arrangement and combination of a slotted collar and tumbler which keep the spindle of the knob in a certain position and prevent it from acting upon the bolt, the collar and tumbler requiring to be moved and placed in a certain position before the spindle can be made to act upon the bolt, as will be hereafter shown.

By the above arrangement and combination a perfectly secure lock is obtained, defying the artifices of burglars, as it cannot be picked or operated on with skeleton keys nor the bolt withdrawn by obtaining a pressure upon it.

To enable others skilled in the art to construct locks upon my improved plan, I will proceed to describe fully its construction, and the manner in which it is operated.

A, is the case of the lock, of the usual rectangular form.

B, is the bolt, which is placed against the inner side of the front plate C, of the case. The bolt has the usual spring (a), see Fig. 3, and is otherwise arranged in the ordinary way.

D, is a spindle, to the outer end of which the knob is attached. The knob is not represented as it is common to all locks and its application and use familiar to every one. The inner end of the spindle D, is bent so

that the bent portion forms a right angle with the other portion. The bent portion, however, may with propriety be called a dog projecting from the end of the spindle and forming a right angle with it. The dog is designated by (b), see Figs. 2, 3, 5, and 6.

E, is a plate fitted within the case A, and dividing it longitudinally and vertically into two parts, see Fig. 6. Near the center of the plate E, there is a circular aperture (c) and slot (d) adjoining it, through which the spindle D, and dog (b) pass, as also the slotted collar, which will be presently described. The dog (b) acts upon the bolt B, as the spindle D, is turned and throws the bolt out or draws it in according to the direction in which the spindle is turned, see Fig. 3.

F, is a circular tumbler placed on the back side of the center plate E. Said tumbler has a recess (e) in its edge large enough to allow the dog (b) of the spindle to pass through, see Fig. 2.

G, is a collar which passes through the front plate C, of the case. This collar has a longitudinal slot (f) cut in it to allow the spindle to be drawn in it, the slot (f) being for the dog (b) to work in. The collar has a small circular projection or knob H, on its outer end, which is on the outer side of the front plate C, see Figs. 1, 5, and 6.

When the bolt B, is thrown out it is in a locked state, and the object of the invention is to prevent the dog (b) from acting upon the bolt and prevent it from being withdrawn. In order to do this the dog (b) is passed through the center plate E, the dog (b) passing through the slot (d) in the plate E, and also through the recess (e) in the tumbler F. The tumbler, when this is done, is turned and also the collar G, so that the slot (f) of the collar, the recess (e) of the tumbler, and the slot (d) of the center plate E, are not in line. While the slots (f) (d) are in this position and the dog (b) on the back side of the center plate, as seen in Figs. 1 and 2, the dog (b) can not act upon the bolt. It must first be drawn through the center plate and slots. The black lines in Fig. 2 show the position of the parts when the bolt B, is forced outward. The thing required to be done then in order to withdraw the bolt is to bring the slots (f) (d) and recess (e) in line in order to allow the dog (b) to be

drawn through the center plate E. This is done in the following manner: A key J, is inserted into the lock and acts upon a small disk I, on the front of the center plate E, 5 said disk being perforated around its edge with apertures (g), see Fig. 4. The key has a point which fits in either of these apertures. This disk is attached to the axis of the tumbler F, and consequently when the 10 key is turned the tumbler also revolves, the collar G, is turned by operating the projection or knob H, and the spindle is turned by the ordinary knob before mentioned. Now the slot in the collar and the recess (e) in 15 the tumbler are brought in line by means of turning the tumbler and collar to letters, figures or secret marks on the face plate of the lock. These characters are not represented, as they are employed on various 20 locks and are well known. When the slots (f) and recess (e) are in line, the spindle D, is drawn through the center plate and made

to act upon the bolt B, by turning the spindle as before mentioned.

I do not confine myself to the circular 25 tumbler because a sliding disk with a slot in it would probably answer the same purpose. Also other devices equivalent to the circular tumbler might be employed.

Having thus described the nature and 30 operation of my invention, what I claim as new and desire to secure by Letters Patent, is—

The circular tumbler F, or its equivalent, in combination with the slotted collar G 35 which encompasses the spindle D of the knob, said collar and tumbler or its equivalent being constructed and operating in the manner substantially as herein described.

RICHARD KETCHAM.

Witnesses:

O. D. MUNN,
JAMES D. JOHNSON.