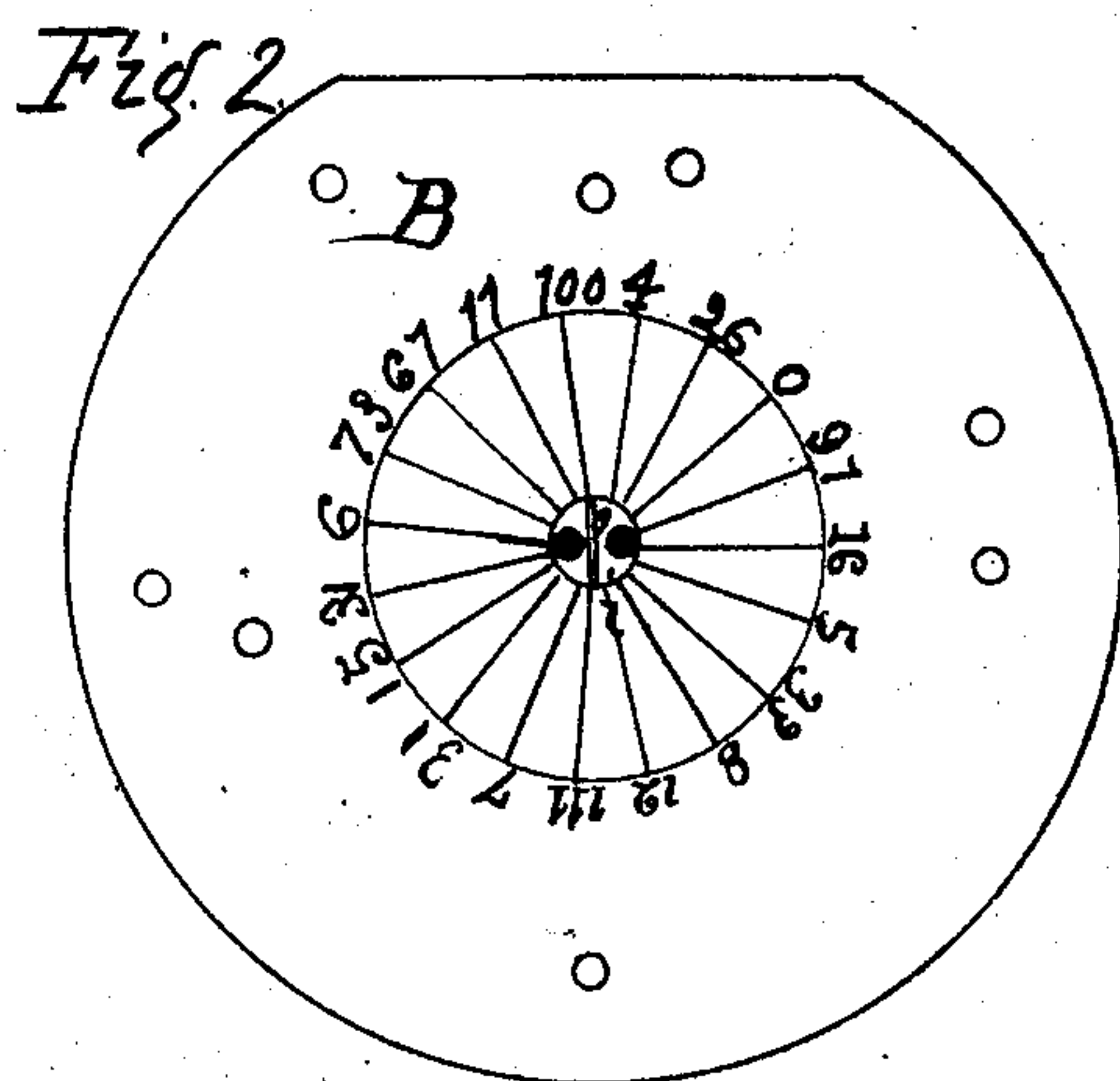
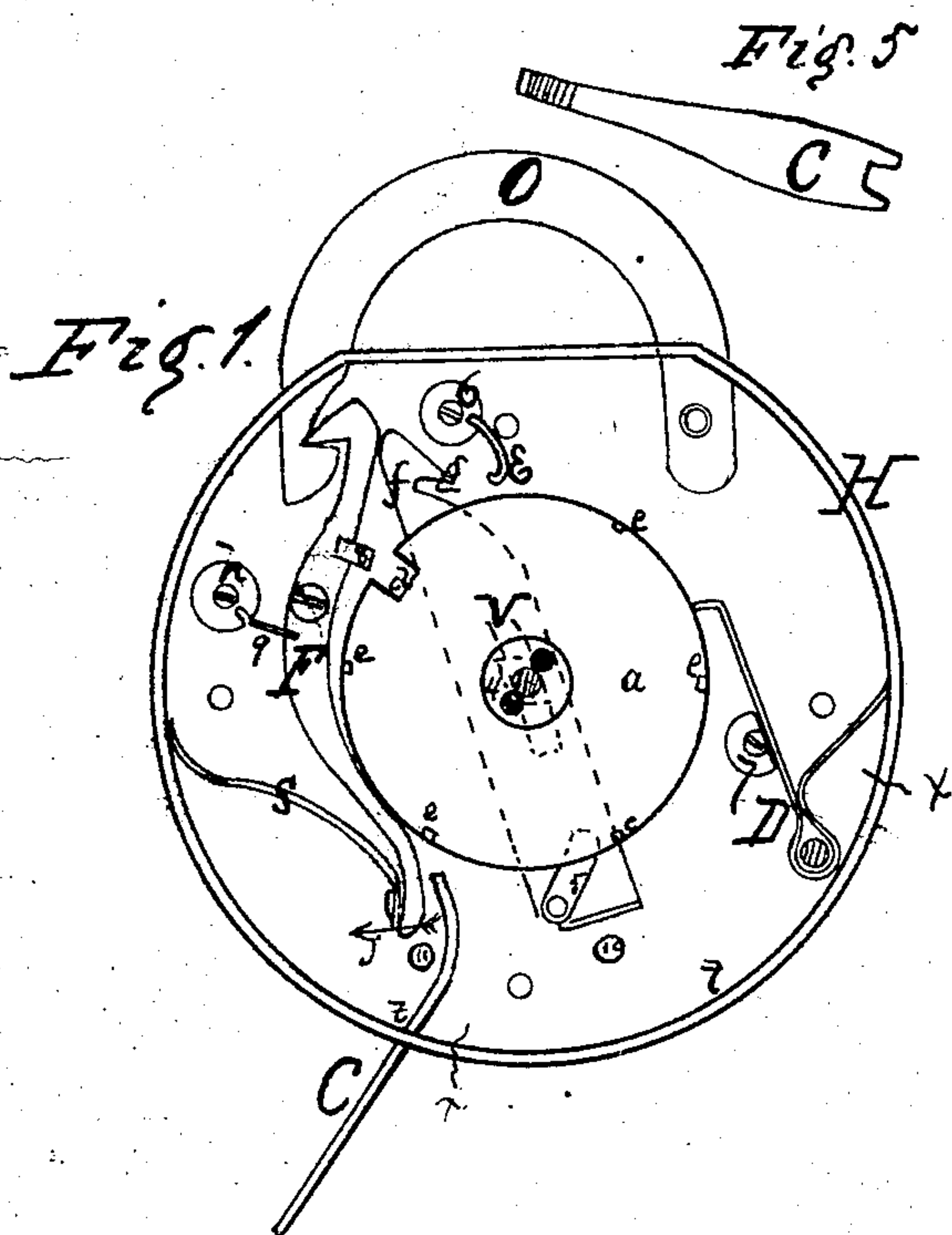
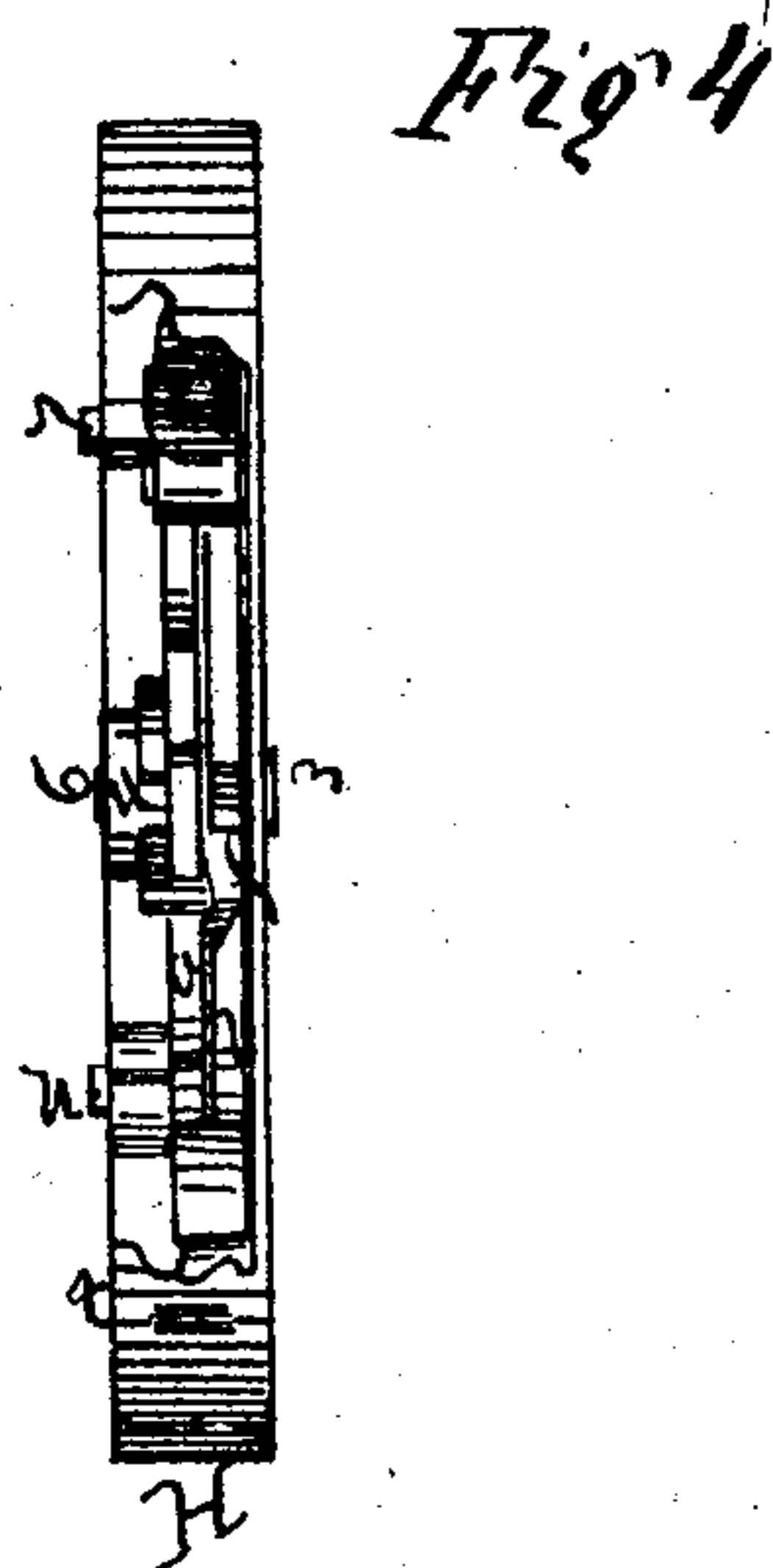
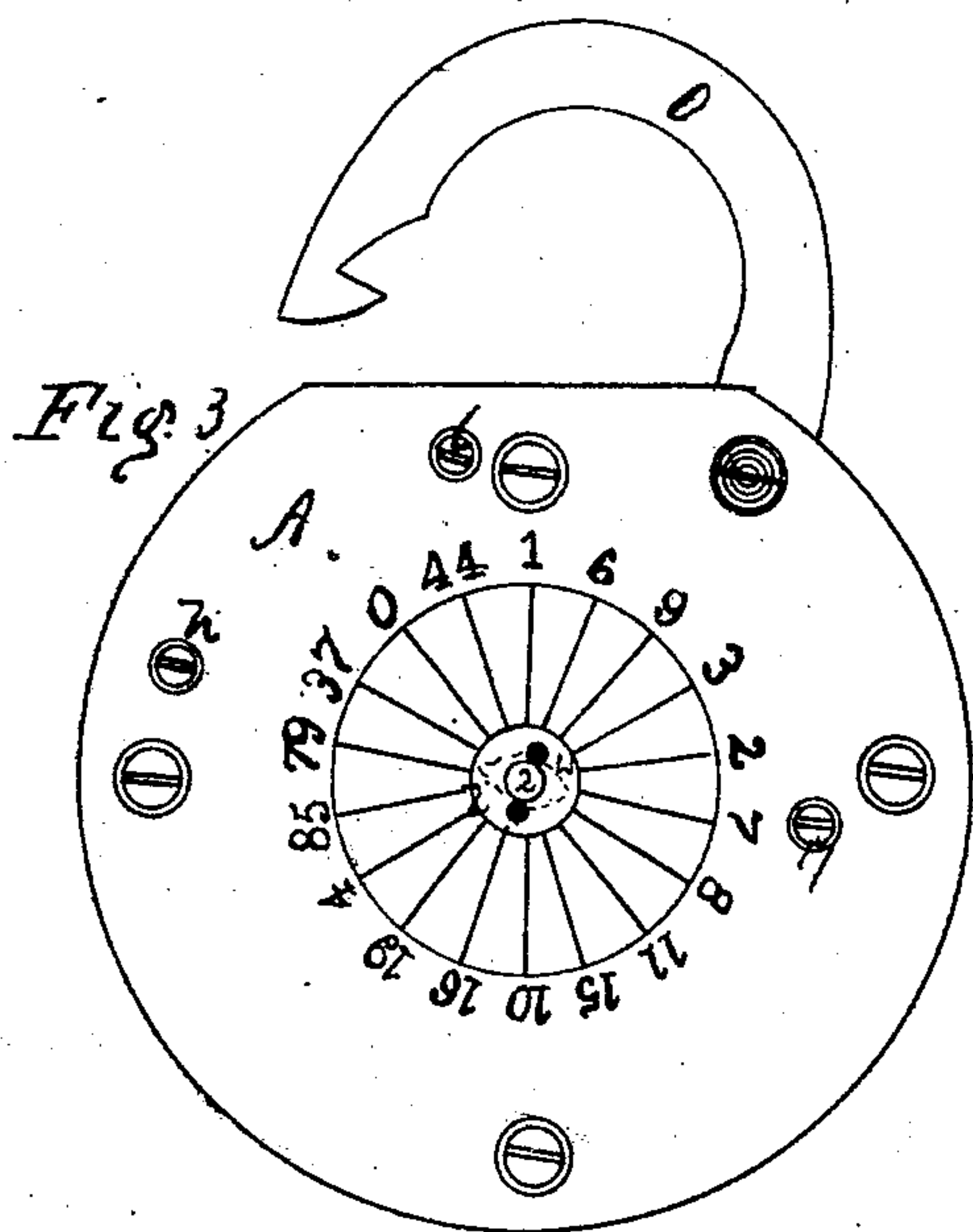


E. E. Stubbs

Padlock

No. 75216

Patented Mar. 3. 1868



Witnesses
J. P. R. Peck
J. C. Clark

United States Patent Office.

ENOCH E. STUBBS, OF WEST ELKTON, OHIO.

Letters Patent No. 75,216, dated March 3, 1868.

IMPROVEMENT IN COMBINATION PADLOCKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ENOCH E. STUBBS, of West Elkton, in Preble county, in the State of Ohio, have invented certain new and useful Improvements in Locks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 represents the internal mechanism of my improved lock, the front plate being removed to exhibit the parts.

Figure 2 represents the rear plate as removed from the lock, as exhibited in fig. 1.

Figure 3 represents the front of the lock.

Figure 4 is an edge view with that portion taken away between the lines *x x* of fig. 1.

Figure 5 represents the key.

My invention relates to certain improvements in "combination-locks," and consists in the combination of mechanism to prevent the lock from being "picked" or unlocked by the use of the key in the hands of a person who is not informed of the combination by which the locking was last done.

In the accompanying drawings, A and B denote the two opposite sides of a padlock. The front side, A, has a central circular orifice, around which is described a circle, with radiating lines between it and the orifice, and figures are set opposite the outer termination of each radiating line. The rear side or plate of the lock, denoted by the letter B, is also provided with similar lines and figures around a central hole, as represented in fig. 2. In the centre of the lock there are two circular tumblers, *a* and *b*. The latter is provided with an arbor, 2, and a journal, 3. The arbor 2 passes out through the centre of the tubular arbor or hub 4, which also serves as a journal in the orifice of plate A. There are two indentations or holes in each of the journals 3 and 4, indicated by the large black dots, into which the prongs of key C will fit. The small dot *i*, also on the ends of these journals, serves as an indicator, the use of which is hereinafter explained.

The tumblers *a* and *b* are provided with radial slots *d*, and may be also provided with slots *e*, as seen in fig. 1. Between the disk-tumblers *a b*, the sliding slotted safety-bolt *f* is placed, with its central slot embracing the arbor 2 of the tumbler *b*, and a stud, fastened to the plate B, projects through the diagonal slot 5 of this bolt. E is a hook, connected with the loose stud 6, which is journalled in both the plates A B. The hook E may be partially rotated, by means of its stud, for the purpose of hooking with the safety-bolt *f*, which has a slot, *g*, formed near its end, for the purpose of receiving the curved end of hook E, to hold the safety-bolt *f* against the pivoted hook F. The spring-pawl D falls into the slots *e* of the tumblers, when the eccentric-stud 7 is adjusted to the position represented in fig. 1. But when this stud is partly turned around upon its journals, in the plates A B, the pawl will be held out of contact with the disk-tumblers *a b*. The hook F is furnished with two spurs, 8 9. The former fits into the slots *d* of the tumblers *a b*, when they are properly adjusted to admit it, and the latter enters the radial slot of the independent tumbler or stud *h*, when the latter is properly adjusted to receive it. The studs *h*, 6, and 7, are journalled in the front and rear plates A and B, and on the front plate there are, surrounding each of the grooved ends of these studs, dots arranged irregularly, by which the person using the lock is enabled to properly set them for locking and unlocking. One end of the key C is made narrow and flat, to fit the grooves in the front ends of the studs *h* 6 7. The spring *s* is connected with the hook F, and rests with its other end against the hoop H of the lock, and serves to press the concave side of the hook against the periphery of the two tumblers, thereby forming a brake to retain the tumblers from being rotated upon their axes, except by the use of the key. There are two holes, *t*, in the hoop H, through which the key may be inserted, for the purpose of unlocking, and for removing the safety-bolt *f* into position to receive the hook E. But when the hook E is thrown out of contact with bolt *f*, and the hasp *o* is to be opened or unlocked, by moving the hook F in the direction of the arrow *j*, the hook F will act upon the bolt *f* and throw it downwards towards the key-holes *t*, and the diagonal slot 5, working on its stud, will cause the bolt to move out of the way of the hook F.

The dotted lines *v* denote the central slot in the bolt, through which the central arbor 2 projects. Instead of using the key C for thrusting the safety-bolt in behind the hook F, to receive the catch E, or for unlocking,

the two holes in the hoop, at $t\ t$, may be closed, and two eccentric-hands or studs, similar to the stud 6, with its hooked arm E, may be placed at the points 10 and 11, with their journals on the two plates A and B, to be operated by the narrow end of the key, on the outside of the lock, to actuate the safety-bolt f , and to unlock the hook F and hasp o. When my lock is thus constructed, there will be no openings into which gunpowder could be inserted to destroy the lock.

In fig. 1 the several parts are adjusted so that a movement of the key C, in the direction of the arrow j , will unlock and release the hasp o; and when the parts are thus adjusted, the dots $i\ i$, on the journals 3 and 4, are in apposition, one with the radial line 8, and the other, which is at the front side of the lock, with the line 7 9, as may be seen in figs. 2 and 3.

I propose, in constructing my lock, to make the arbor 2 separately from the disk-tumbler b , with the portion of the arbor which will be inserted in tumbler b , of octagonal form, and a correspondingly-formed hole in the centre of the tumbler, so that the person using the lock can change the relative position of the indicating-dot i on the journal 3, in regard to the several figures at the termination of the radial lines of the rear plate B.

It will be observed that one or more of the devices for securing the hook F from being detached from the hasp may be used without the others. For instance, the studs 6 h , and bolt f , may occupy the position as represented in fig. 1, and the disk a may be turned upon its axis so as to let the pawl D fall into one of the slots e , which will take the slot d , of disk-tumbler a , out of range with the spur 8, which alone will prevent the lock from being unlocked; or the safety-bolt f and hook E may be employed without any change in the relations of the other devices with respect to the hook F. If the slotted stud h is so placed that its slot is not in apposition with the spur g , the hook F cannot be detached from the hasp, although the tumblers $a\ b$, pawl D, and bolt f , may be so adjusted as to entirely free the hook F from their resistance.

The disk-tumblers, provided with radial slots, operating in combination with a bolt, having a spur to fit into the slots, are not new as applied to locks, and therefore I do not claim such devices irrespective of their combination and arrangement with the other features with which I employ them.

It is proper that I should here state that I propose to place the figures which surround the circular lines, on both front and rear plate of the lock, on separate movable rings of metal, by which means I can change the figures from time to time, which will indicate the positions to which the dotted journals must be set to unlock the hasp.

Having fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the safety-bolt f with the hook E and hasp-hook F, arranged and operating substantially as described for the purpose specified.

2. The spring-pawl D and eccentric-stud 7, in combination with tumbler a and pivoted hook F, arranged and operating conjointly in the manner and for the purpose described.

Dated this 13th day of January, 1868.

ENOCH E. STUBBS.

Witnesses:

J. G. CLARK,

H. P. K. PECK.