

E. E. STUBBS.
 Improvement in Permutation-Locks.
 No. 128,672. Patented July 2, 1872.

Fig. 1.

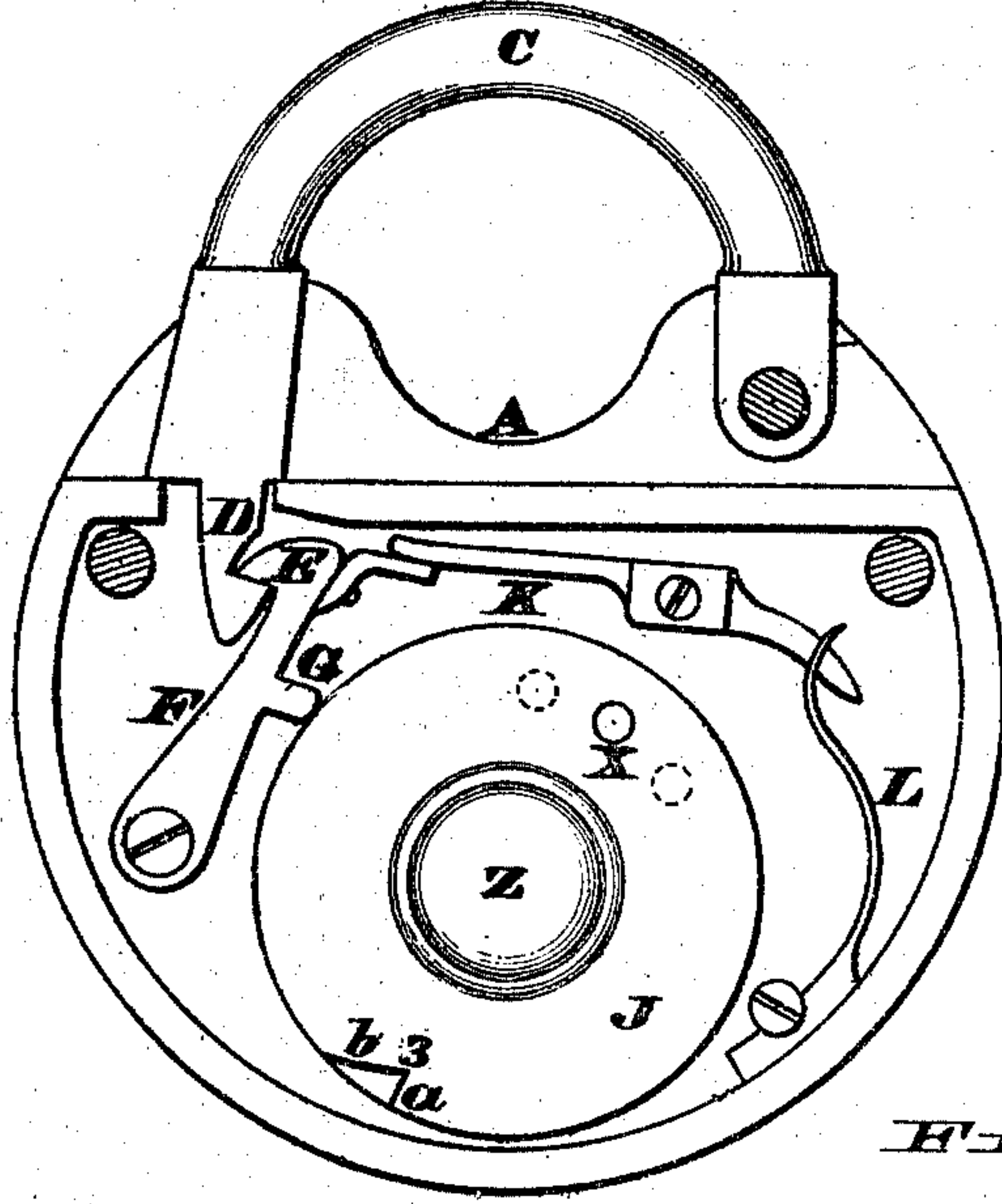


Fig. 2.

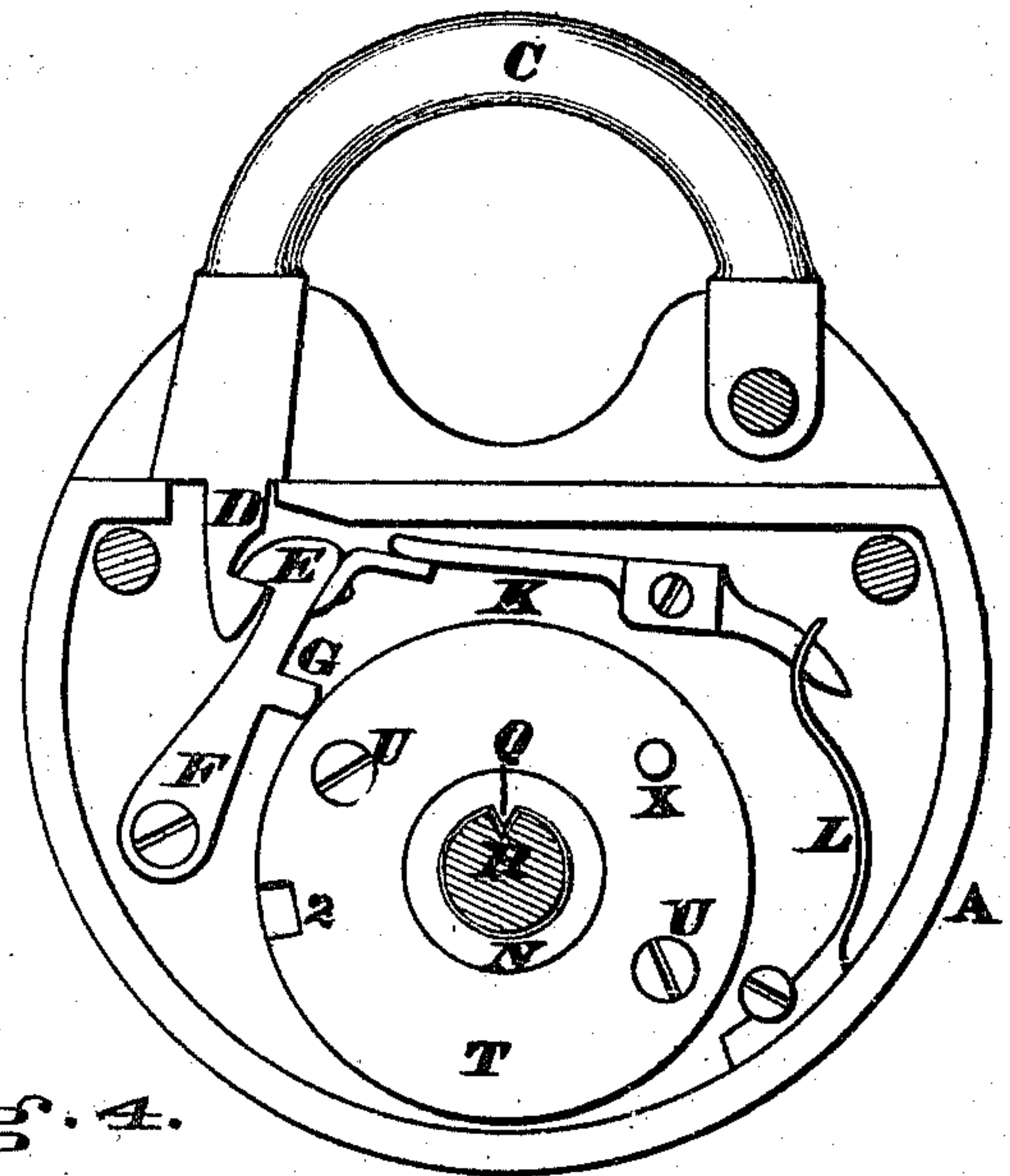


Fig. 4.

Fig. 3.

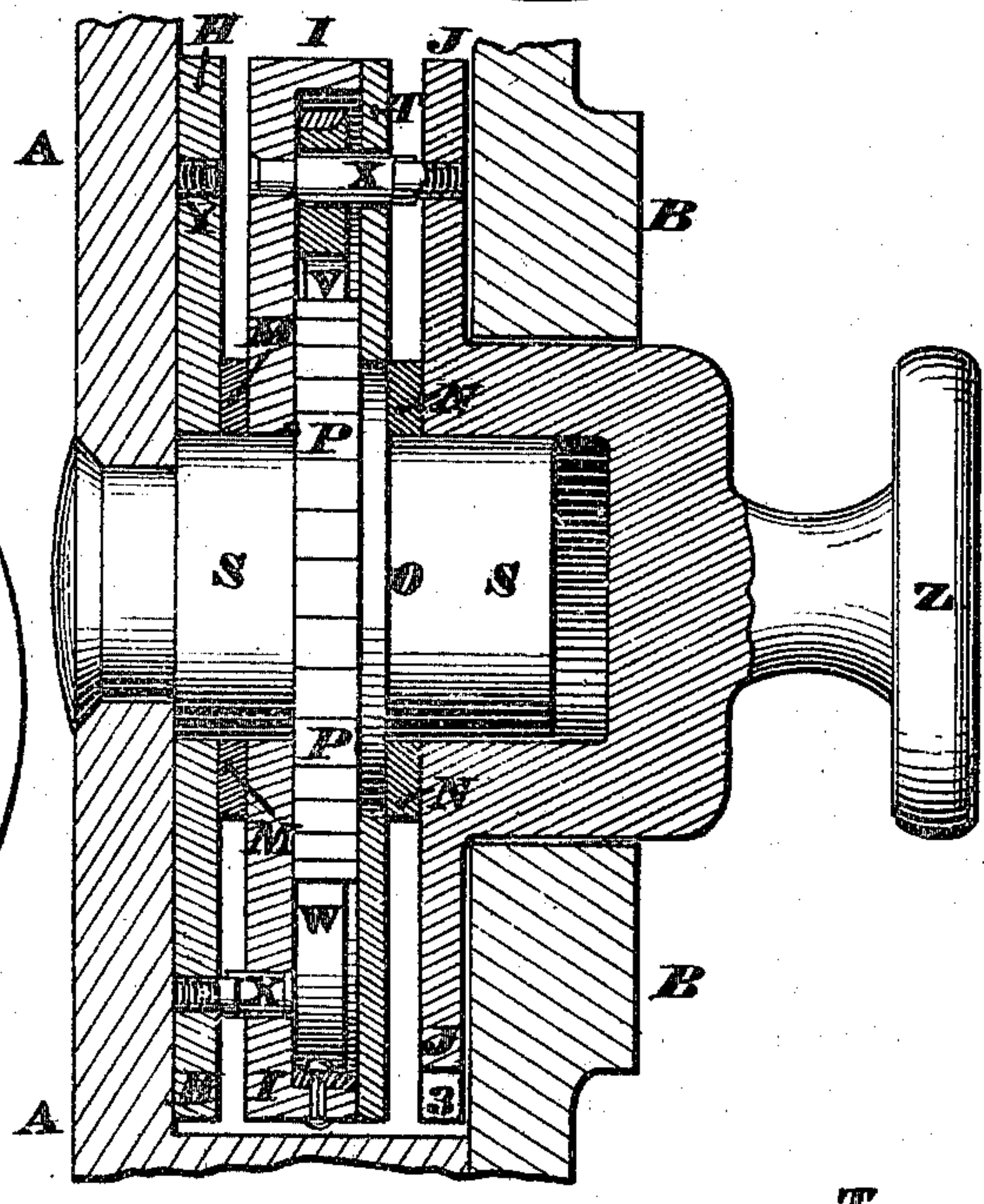
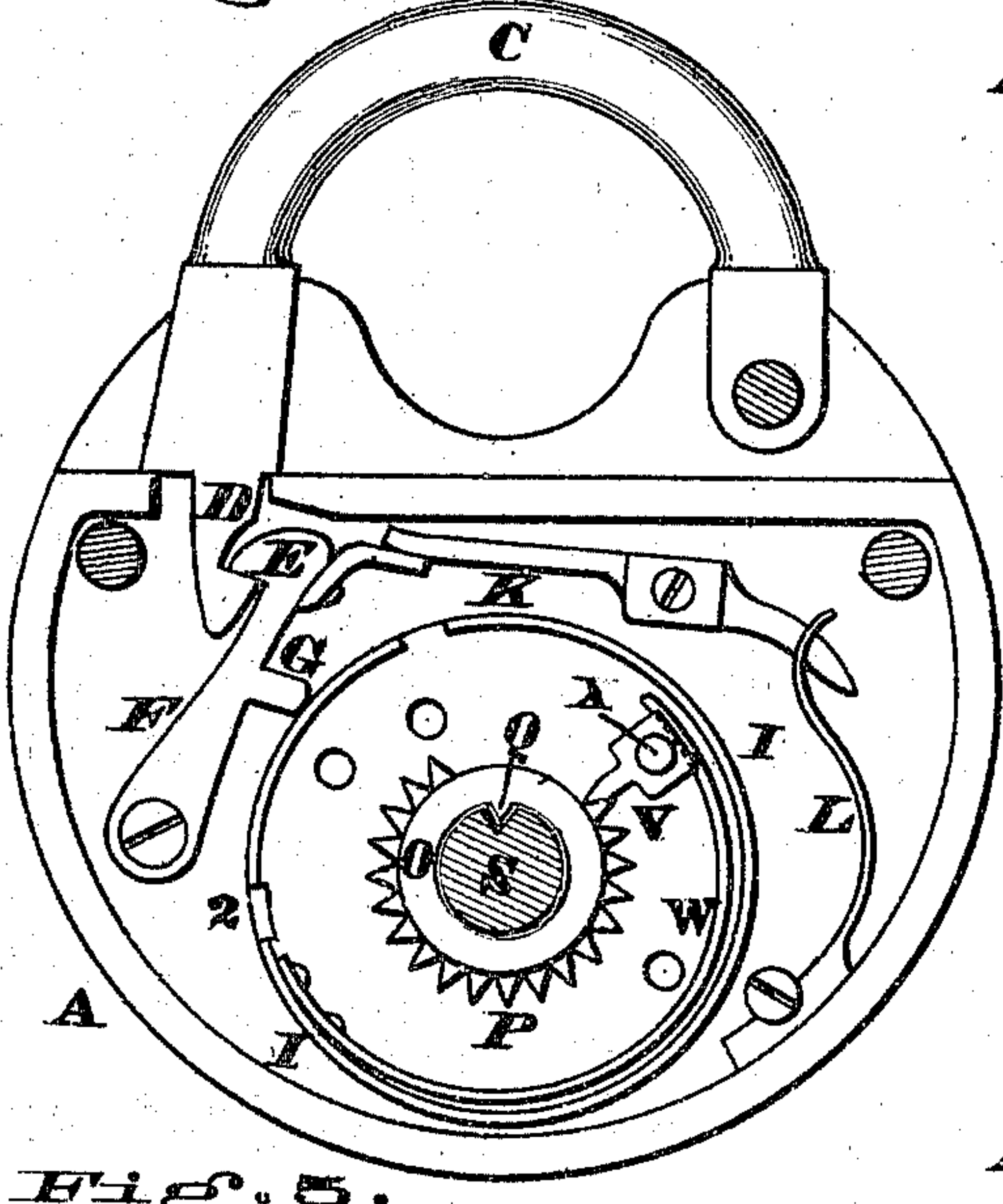


Fig. 5.

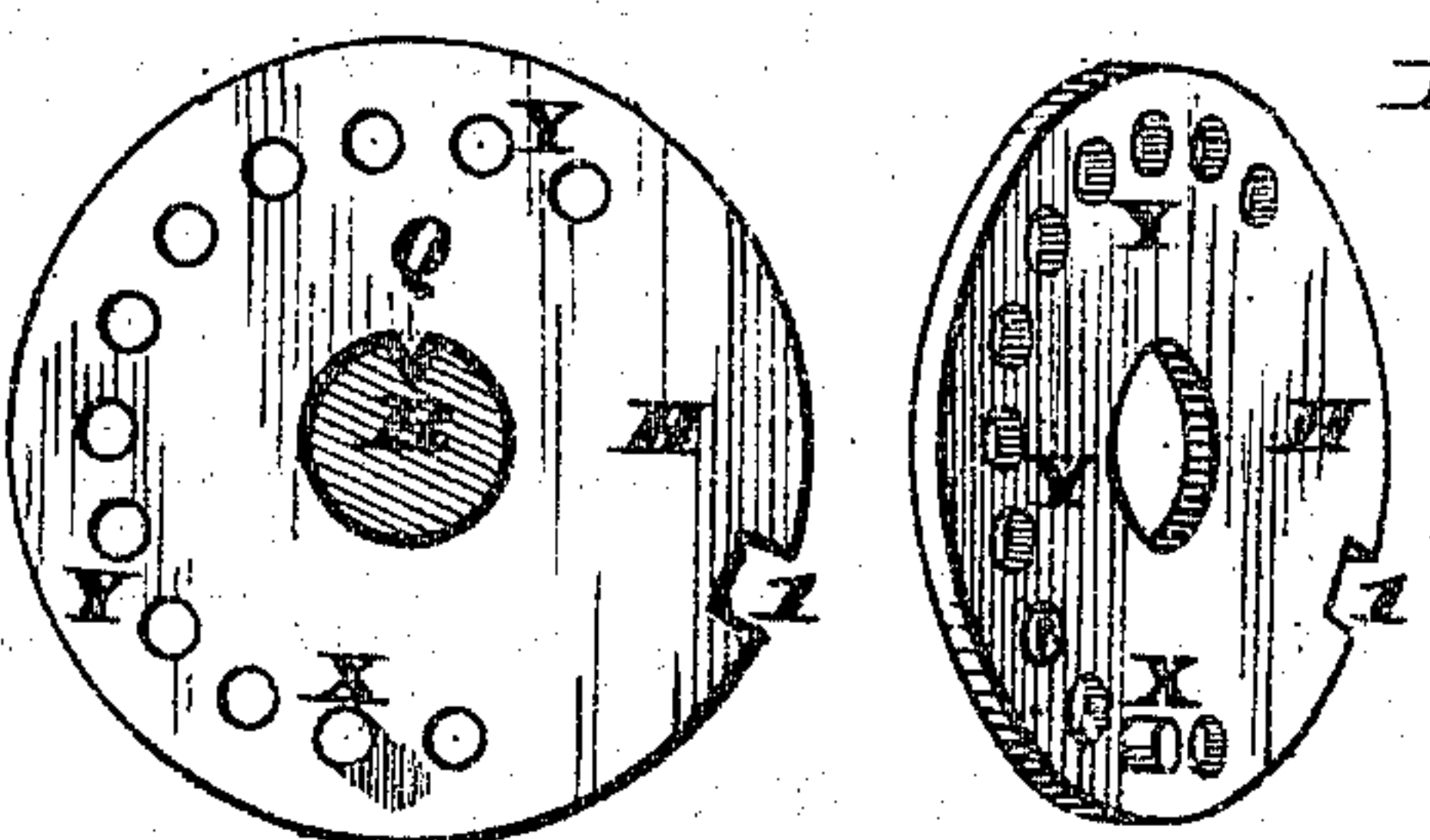
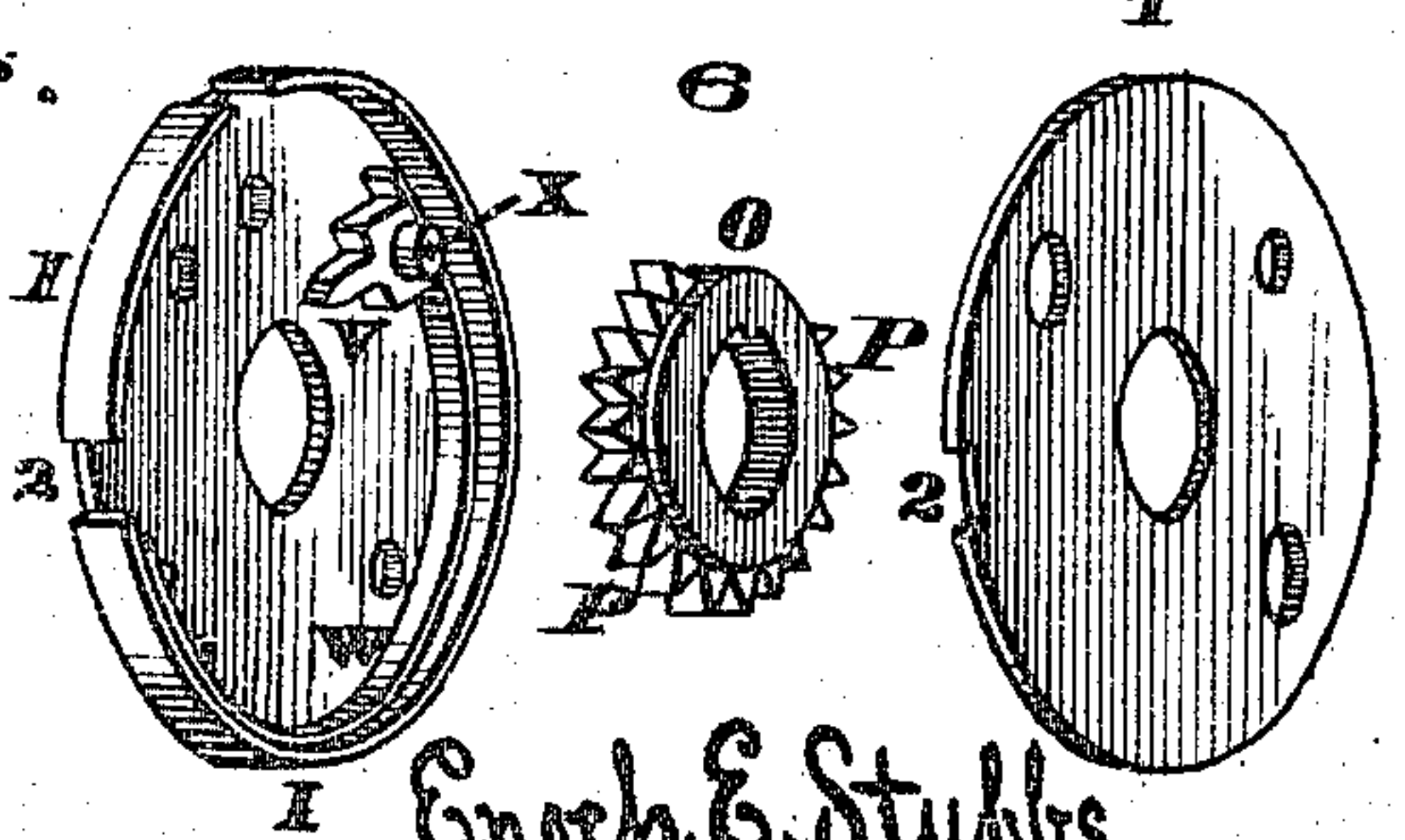


Fig. 6.



Attest.
 Jas. H. Bowman.
 W. F. Barns.

Enoch E. Stubbs
 by Knight Bros.
 Att'ys.

UNITED STATES PATENT OFFICE.

ENOCH E. STUBBS, OF WEST ELKTON, OHIO.

IMPROVEMENT IN AURICULAR PERMUTATION LOCKS.

Specification forming part of Letters Patent No. 128,672, dated July 2, 1872.

Specification of a new and useful Improvement in Auricular Permutation Locks, invented by me, ENOCH E. STUBBS, of West Elkton, Preble county, Ohio.

This is an improvement in those locks which are locked and unlocked by the forward and backward rotation of a knob or handle, and which impart to mechanism within the lock a succession of audible clicks, in accordance with a prescribed secret formula, and without the use of a key.

The invention consists in arranging the clicking device within the tumbler, as hereinafter described.

Description of the Drawing.

Figure 1 is a front elevation of a padlock embodying my invention, the same being shown in its locked condition and having its outer cap removed. Figs. 2 and 3 are similar views, having, respectively, the intermediate and the innermost cap removed. Fig. 4 is an axial section of the locking mechanism on a larger scale. Fig. 5 is a plan of the lower disk. Fig. 6 represents, by perspective, the several disks and washers in the order of their superposition when in the lock.

The several parts are in the positions they assume at the commencement of the unlocking process.

A is the case; B, its cap; C, the bow or shackle, whose notch D receives, when locked, the hook E of dog F, whose tusk G enters the gates or notches 1 2 3 of the revolving tumblers or disks H I J. A sear, K, caused to press upon the dog F by means of spring L, operates to throw the tusk G into the gates of the tumblers whenever they are brought into line. Of the three washers, M N O, the upper one, O, is armed around three-fourths of its periphery with teeth P, and all of them are held to a stationary position by a tongue, Q, which enters a notch, R, in the stud S, about which all the tumblers and washers are centered and the tumblers revolve. The tumbler I is made in box-form, and has a cap, T, secured by screws U. The tumbler I has pivoted within it a T-formed click, V, whose point engages with the teeth P, so that when the

said tumbler is revolved the said point, in striking the successive teeth, makes an audible clicking sound, capable of being easily counted by the operator. A spring, W, at back of the click V, holds the latter in contact with the teeth of the washer with sufficient force to make the sounds of impact plainly audible. X are the customary pins or projections which communicate motion from each tumbler to that next below it in the manner well known with such locks.

The combination may be changed by shifting the pin X of the lower tumbler to any one of the holes Y.

As set up in the present illustration, the lock is operated as follows: To unlock, the knob or handle Z is given at least three entire revolutions, (in order to insure the contact of all the pins,) until the click reaches the pause caused by the blank upper part of the washer O. The rotation to the right is then continued until ten successive clicks are heard. The knob is then rotated to the left seven clicks, and again to the right until the square shoulder *a* on the outermost tumbler J is felt to impinge against the tusk G, that being an indication that the dog is gated and the shackle at liberty to be withdrawn. To lock, the shackle is reinserted, and the knob being turned to the left sufficiently for the inclined side *b* of the notch on the upper tumbler to throw the dog out of gate, after which a continued rotation of the knob in either direction operates to scatter the tumblers beyond the chance of accidental unlocking.

My invention is especially designed for padlocks.

I claim as new and of my invention—

The box-tumbler I T U, click V, toothed washer O P Q, notched stud R S, and spring W, together with their described or equivalent accessories, arranged to operate substantially as and for the purpose set forth.

In testimony of which invention I hereunto set my hand.

ENOCH E. STUBBS.

Attest:

GEO. H. KNIGHT,
J. B. FORAKER.