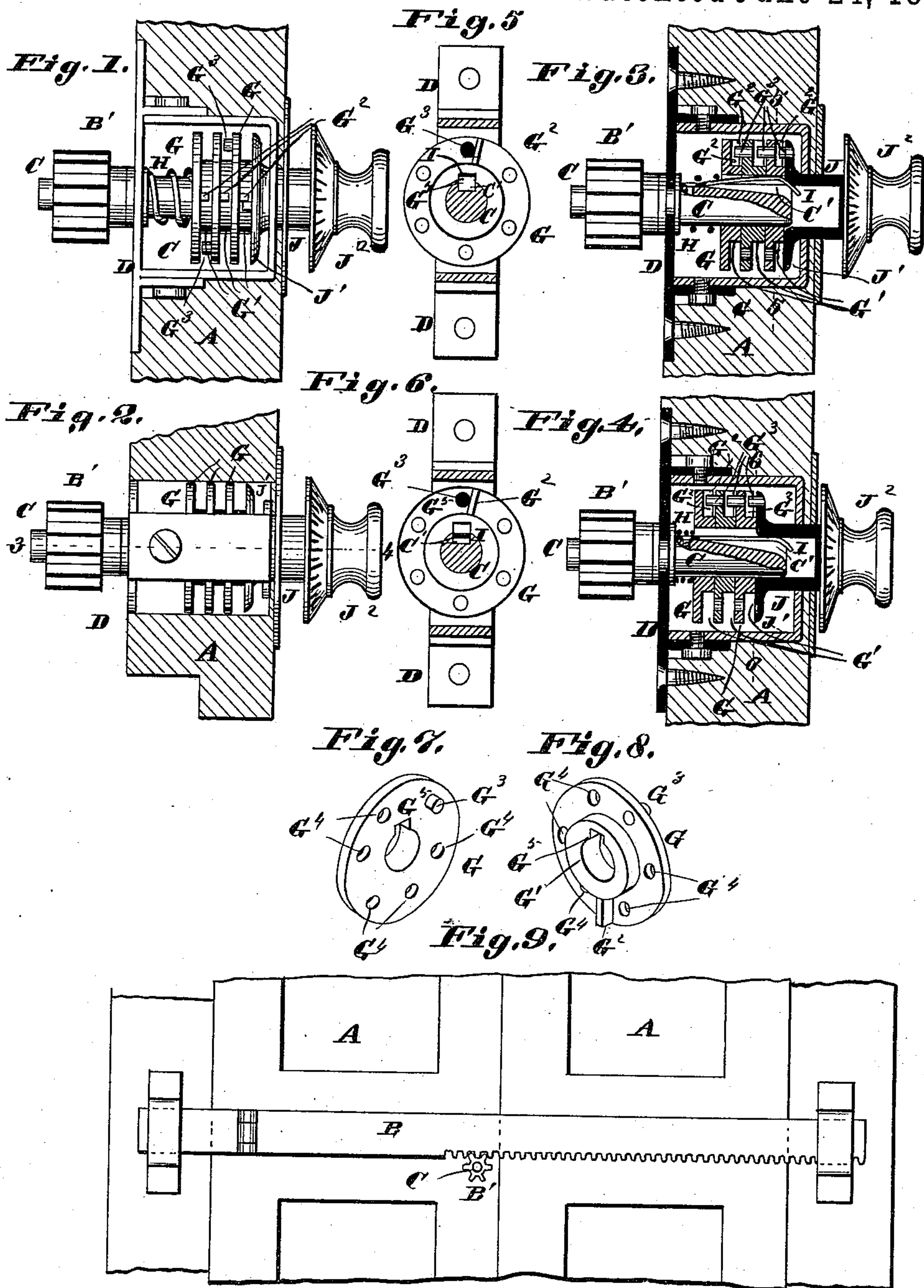


(No Model.)

W. S. HILL.
PERMUTATION LOCK.

No. 300,868.

Patented June 24, 1884.



Attest:
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Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM S. HILL, OF CUTLER, ILLINOIS.

PERMUTATION-LOCK.

SPECIFICATION forming part of Letters Patent No. 300,868, dated June 24, 1884.

Application filed January 28, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. HILL, of Cutler, in the county of Perry and State of Illinois, have invented a certain new and useful Improvement in Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

10 Figure 1 is a side view of the lock, showing part of a door in vertical section. Fig. 2 is a top view of the lock, showing part of a door in horizontal section. Figs. 3 and 4 are vertical sections taken on line 3 4, Fig. 2, and 15 showing the parts in different positions. Fig. 5 is a section taken on line 5 5, Fig. 3, and Fig. 6 is a section taken on line 6 6, Fig. 4. Fig. 7 is a perspective view showing one side of one of the locking-disks, and Fig. 8 is a similar 20 view showing the other side. Fig. 9 illustrates a door-fastening in connection with which my lock is designed to be used.

My invention relates to a lock intended to be used in connection with the door-fastening 25 patented by myself September 11, 1883, No. 284,961; and it consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, A A represent 30 doors, and B B' represent, respectively, the rack or bar and the pinion that engages the rack of my door-fastening above referred to. The pinion is made fast to the end of a shaft or spindle, C, supported by a plate, D, secured to the door and held from moving end- 35 wise, as shown in Figs. 3 and 4. On the inner portion of the spindle are loose disks G, with short hubs G' to hold them apart. Secured to or formed upon one side of these disks are 40 lugs or projections G², and upon the other side are pins G³, removably secured in holes G⁴. Each disk has one lug and one pin, as shown in Fig. 8, and the pin may be put in any one of the holes G⁴ to change the combination of 45 the lock. The disk nearest the pinion, however, is not provided with a pin, as there is no disk for it to engage with. Surrounding the spindle is also a spiral spring, H, which tends to force the disk outward upon the spin- 50 dle.

I represents a flat spring secured by one end to the spindle, and whose free end can be forced down into a slot, C', in the spindle. (See Figs. 4 and 6.) When the combination is set, this spring enters notches G⁵ (see Figs. 55 7 and 8) in the disks. (See Figs. 3 and 5.) Fitting over the inner end of the spindle is also a sleeve, J, which has a flange, J', upon its inner end and a knob, J², upon its outer end. Like the disks, the flange J' is also provided with a pin, G³, which, when the knob is 60 turned, comes in contact with the lug on the adjacent disk. The spring H also acts to force the sleeve outward, as well as the disks, (see Fig. 3,) when it is not pressed inward, as 65 shown in Fig. 4, and the outer or free end of the spring I is bent downward, so that it will be allowed to spring up when the sleeve is in its outer position and be forced downward 70 when the sleeve is pressed in. I prefer to have a L-piece inclose the disks, as shown, which is connected to the plate D.

The operation is as follows: Supposing the combination to be set as shown in Fig. 3, the knob is then turned, which turns the spindle 75 and pinion thereon until the rack B is brought into the position shown in Fig. 9, and the doors thus fastened. Then the combination is broken, so that a person unacquainted with it will not be able to unfasten the doors by 80 forcing the parts inward into the position shown in Fig. 4, and then turning the knob a little, so that when the spring H forces the disks and spindle into their outer position 85 again part or all of the notches G⁵ of the disks will not be opposite or over the spring I, which will thus be held from engaging with the disk, so that turning the knob will not unfasten the doors. When the doors are to be unfastened, the combination is set, by a person acquainted 90 with it, which connects the knob J and pinion B' through means of the disks G and spring I.

I claim as my invention—

1. The combination of a rack-bar, a spindle having a pinion to advance and retract the 95 rack-bar, interlocking disks on said spindle, a sleeve having a flange provided with a pin to engage the adjacent disk, and a spring-plate to lock the disks to the spindle when the combination is set, as set forth. 100

2. The combination of the spindle having a longitudinal recess, a flat spring to occupy the recess, and a pinion to engage a rack-bar, interlocking disks, each having a notch to receive the flat spring when the latter is free, a sleeve to lock with the adjacent disk, and to slide inward with the disks and press the flat spring out of engagement with the disks, and a spring to force both the disks and sleeve outward when the latter are released.

WILLIAM S. HILL.

In presence of—

CHARLES ROBBINS,
A. T. McCLURE.