

Anton Wetzel.

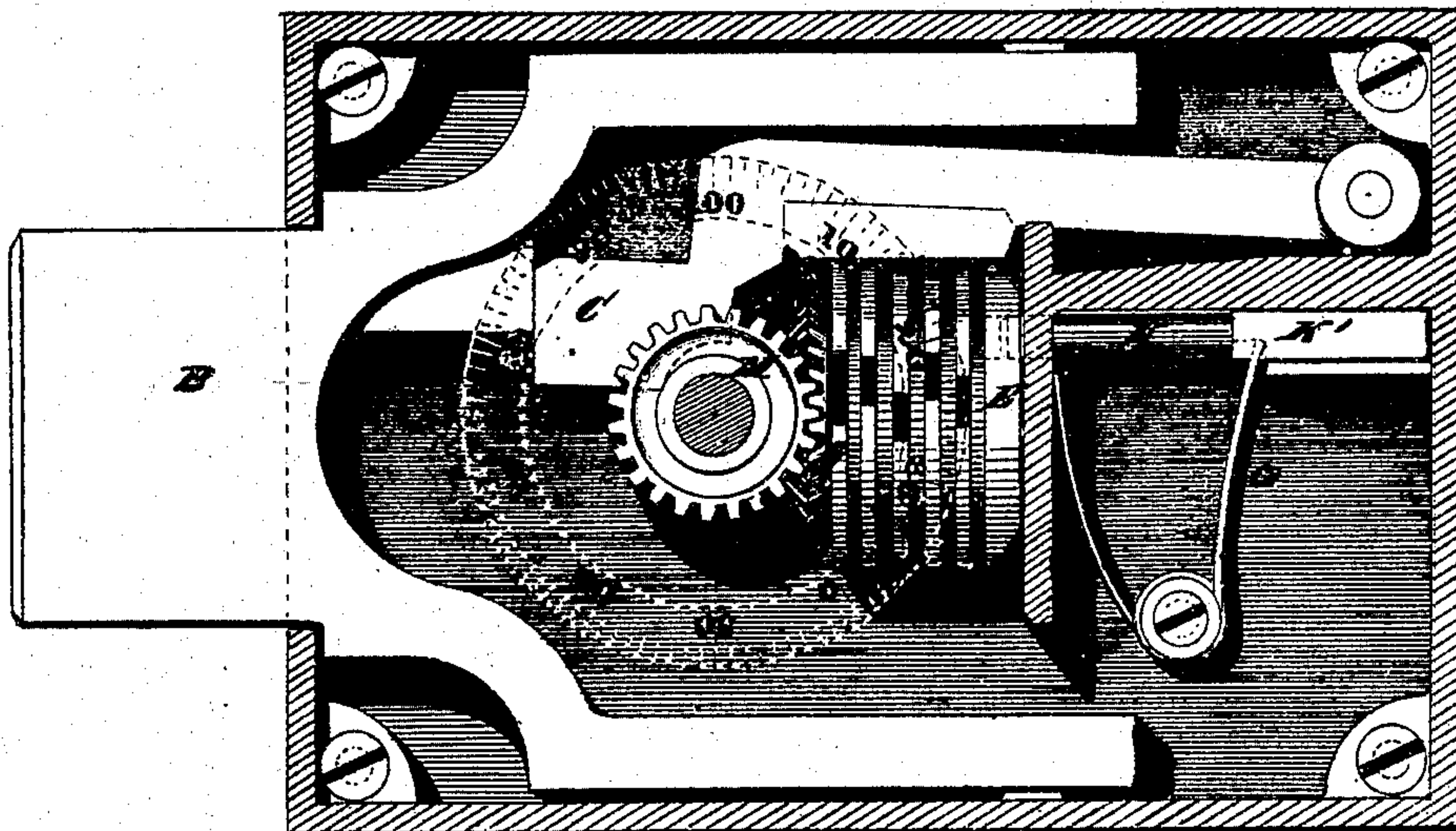
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**Safe Lock.**

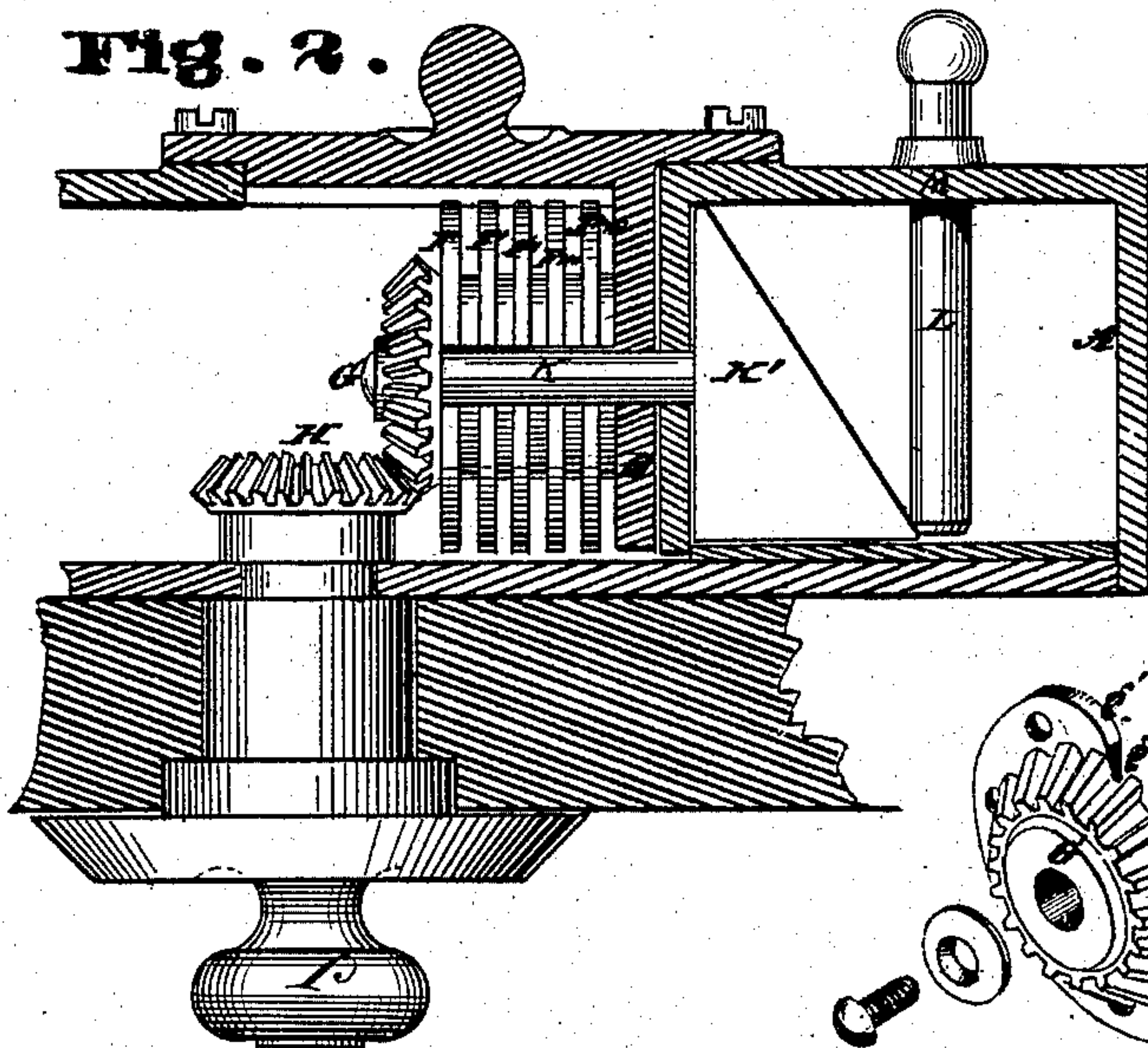
PATENTED

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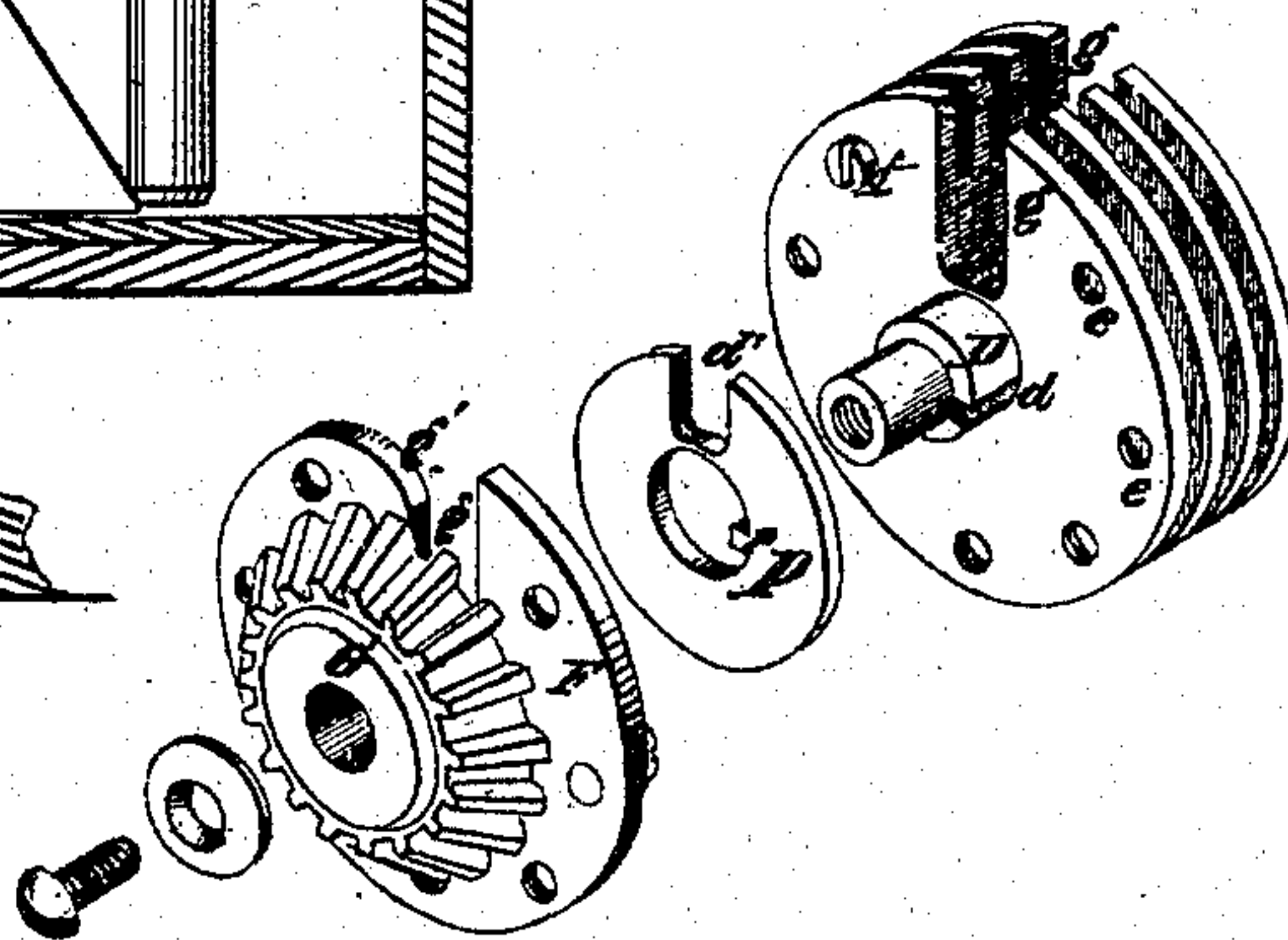
**Fig. 1.**



**Fig. 2.**



**Fig. 3.**



Inventor.

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# United States Patent Office.

ANTON WETZEL, OF CINCINNATI, OHIO.

*Letters Patent No. 74,781, dated February 25, 1868.*

## IMPROVEMENT IN PERMUTATION-LOCKS.

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

### TO WHOM IT MAY CONCERN:

Be it known that I, ANTON WETZEL, of Cincinnati, Hamilton county, Ohio, have invented new and useful Improvements in Bank or Safe-Locks; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

My invention relates to the class known as permutation-locks, operated by means of a handle having graduated dials attached, and consists in such a construction and such devices that the tumbler or disk-shaft may be operated at right angles to the shaft of the lock-handle by means of bevel-gearing for the purpose of making it further removed from the danger of picking.

My invention further consists in devices for ascertaining, on the inside of the door, at will, and at any time, the "combination" of the lock, so that the said combination may be set at random by a simple change of the pins of the disks, or of the relative position of the bevel-gearing with reference to the dial of the handle. In the accompanying drawing--

Figure 1 is an interior elevation of a lock embodying my invention.

Figure 2 is a sectional plan of a part of the same.

Figure 3 is a perspective view of the disks and shaft.

A is the case of the lock; B, the bolt; C, the interlocking tumbler. D is a stud-shaft, on which the disks revolve, projecting forward, rigidly secured to the plate E of the lock-case. The disks F F' F'' F''' F'''' freely revolve on the shaft D, and are provided with holes *e*, adjusting pins *f*, and slots or gates *g*, into which latter the tumbler C falls, when the lock is free to open. The disk F is adapted to raise the tumbler C in locking, by means of the inclined face *g'*, and is secured to the miter-wheel G. H is a match miter-wheel rigidly secured to the handle I of the lock. The handle is provided with the ordinary dial-face J. K is a bolt or pin I use to find out the combination of the lock. It is adapted to be pushed forward, as the disks are revolved and the slots *g* brought opposite to it, by means of the pushing-pin L, sliding through a hole, M, in the case, and acting on the inclined head K'. The bolt K K' is retracted on the withdrawal of the pin L by means of the spring O. The stationary intermediate disks P, which are feathered, *p*, to fit the groove *d* of the shaft D, form guides by means of slots *d'* for the passage of the pin or bolt K through the disks F F' F'' F''' F''''.

When it is necessary to find out the "combination," the pin L is inserted through the aperture M, and pressed tightly against the inclined face K'. The bolt K is thus pressed against the disk F'''. The handle I is then revolved until the slot *g* is opposite the pin or bolt K, when said bolt passes through the disk, and the number on the dial opposite the usual pointer on the case is noted. The operation is then repeated by the customary reversal of motion for each figure until the bolt K has passed through all the disks, when the whole combination is discovered.

I claim herein as new, and of my invention--

1. In combination with the tumbler D, the miter-wheels G H, by which the gated disks F F' F'' F''' F'''' are situated and operated at right angles to the operating-handle I of the lock, as described and for the purpose specified.

2. The inclined headed bolt K K', pin L, spring O, and disks P *p* *p'*, arranged and operating in the manner and for the purpose set forth.

In testimony of which invention I hereunto set my hand.

ANTON WETZEL.

Witnesses:

J. G. DOUGLASS,

THOS. O'DOWD.