

No. 713,092.

Patented Nov. 11, 1902.

J. GONOROVSKY.  
TIME LOCK.

(Application filed July 28, 1902.)

(No Model.)

FIG. 1.

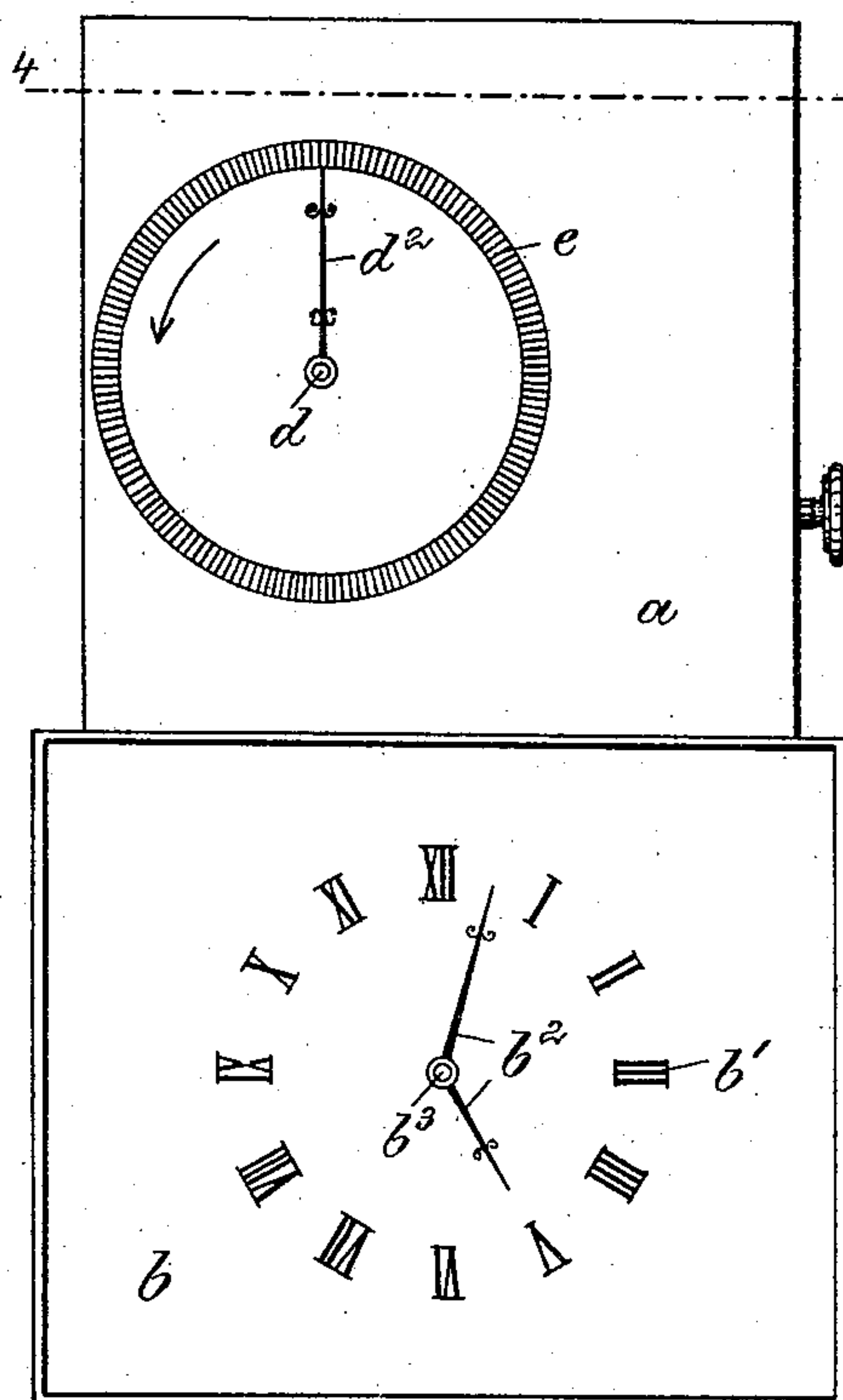


FIG. 2.

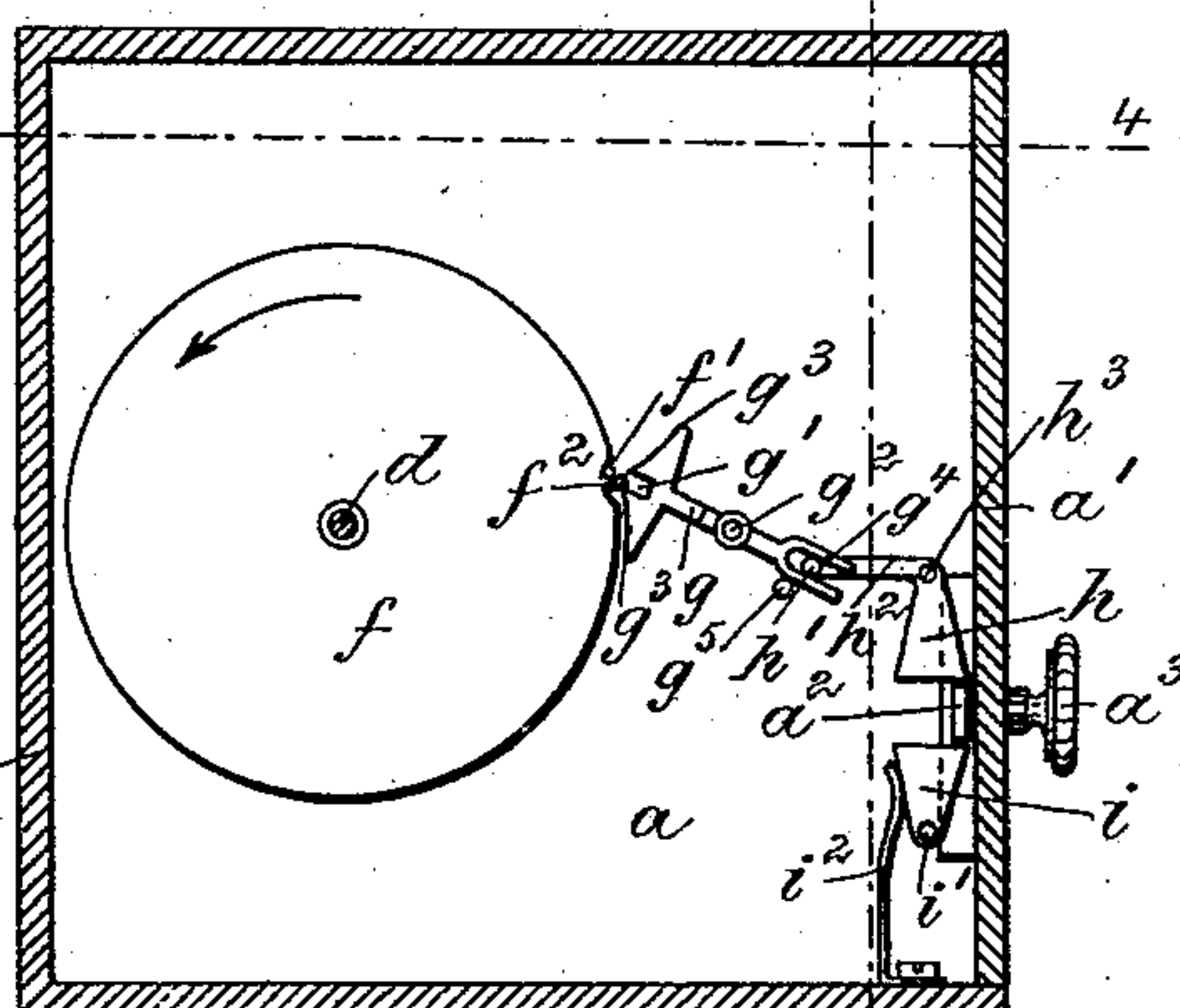


FIG. 5.

FIG. 6.

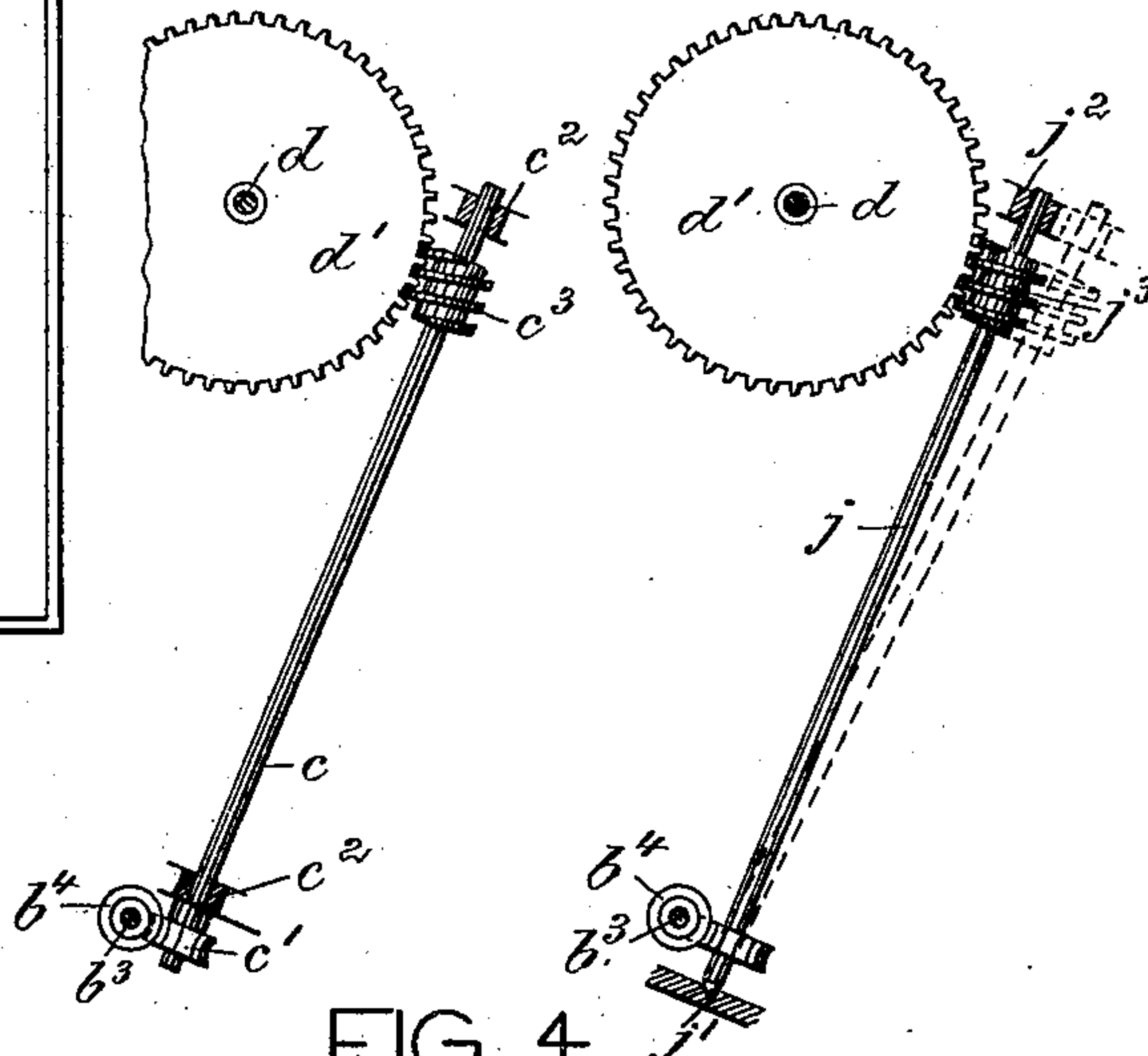


FIG. 3.

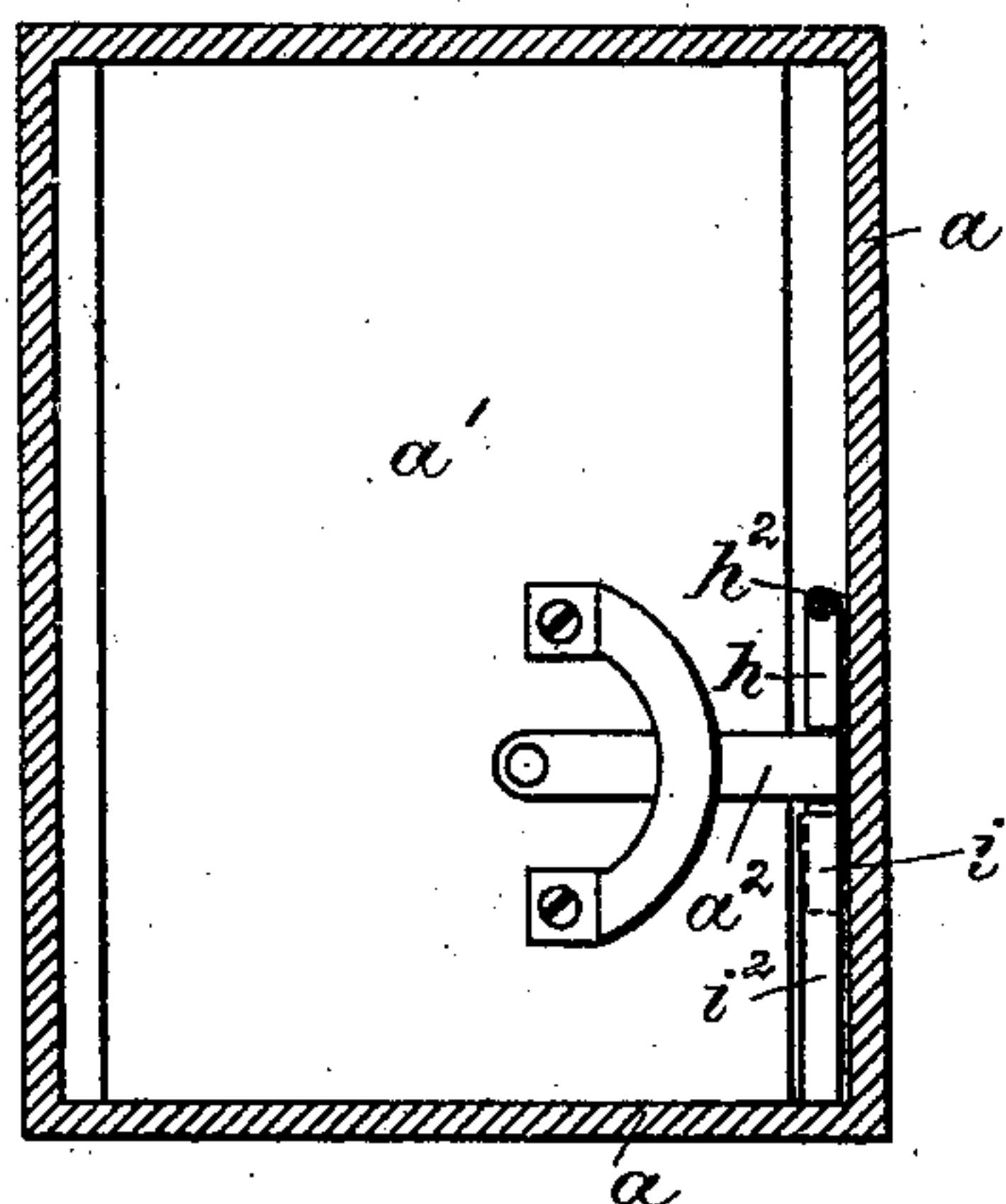
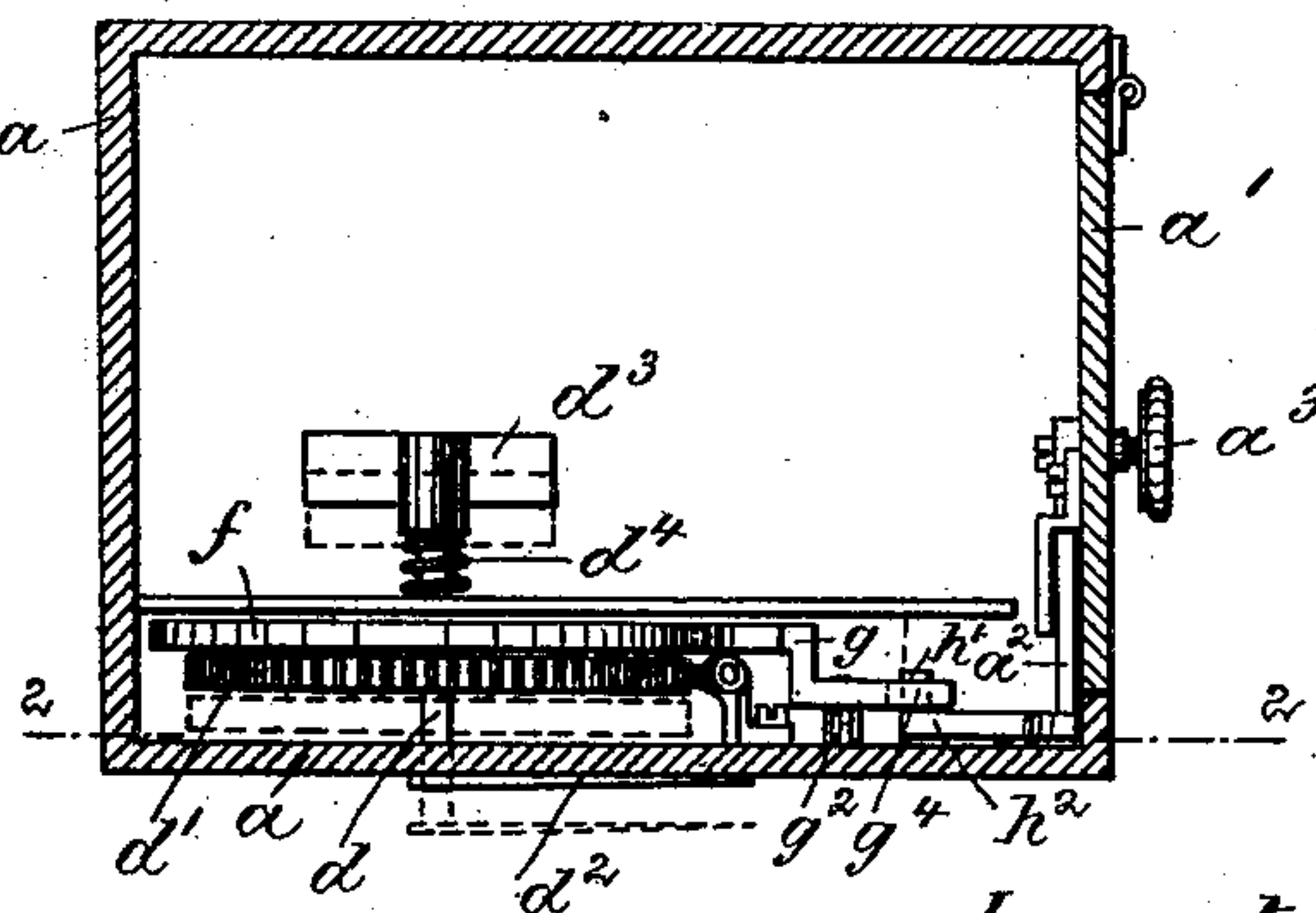


FIG. 4.



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Inventor:  
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# UNITED STATES PATENT OFFICE.

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## TIME-LOCK.

SPECIFICATION forming part of Letters Patent No. 713,092, dated November 11, 1902.

Application filed July 28, 1902. Serial No. 117,246. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH GONOROVSKY, a citizen of the United States, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Time-Locks, of which the following is a specification.

This invention relates to a time-lock for toy savings banks and other receptacles which is of novel construction and reliable in its operation.

In the accompanying drawings, Figure 1 is a front elevation of my improved time-lock; Fig. 2, a vertical section on line 2 2, Fig. 4; Fig. 3, a vertical section on line 3 3, Fig. 4; Fig. 4, a horizontal section on line 4 4, Figs. 1 and 2; Fig. 5, a detail of the worm shaft and wheels, and Fig. 6 a modification of the same.

The letter *a* represents the body or box of a toy savings-bank or other receptacle to which the time-lock is to be applied. This receptacle is provided with a hinged door *a'*, having a pivoted latch *a²*, that may be operated by a knob *a³*. To the box *a* is suitably connected the casing *b* of a clockwork having the usual dial *b'* and hands *b²*. The clock-arbor *b³* carries a worm *b⁴*, that intergears with a worm-wheel *c'*, fast on one end of a shaft *c*, which is rotatable in bearings *c²*, Fig. 5. The other end of shaft *c* carries a worm *c³*, that meshes into a worm-wheel *d'*, fast on a spindle *d*, which is rotatably supported in bearings of box *a*. The spindle *d* is axially movable in its bearings, so that the wheel *d'* may be thrown into or out of engagement with worm *c³*. A pointer *d²*, movable over a dial *e* of box *a*, is mounted upon the front of spindle *d*, while at its rear end the spindle carries a handle *d³* and is surrounded by a spring *d⁴*, that normally draws the spindle back, so that the wheel *d'* is brought into alinement with worm *c³*. Upon the spindle *d* is further mounted a disk *f*, provided at its circumference with a notch *f'* and with a pin *f²*, that extends through the notch to a point slightly beyond the periphery of the disk. This pin *f²* engages the slotted inner end *g'* of a lever *g*, turning on fulcrum *g²* and having a double concave rear face *g³* of a curvature corresponding to that of disk *f*. The forked outer

end *g⁴* of lever *g* engages a pin *h'* on one arm *h²* of an elbow-lever turning on fulcrum *h³*, the other arm *h* of which constitutes the upper detent of latch *a²*. The detent *h* is arranged in the path of the latch *a²*, but does not interlock or contact with the same, so that during an attempt to swing the latch the strain is not transmitted to the clockwork. The lower detent *i* of said latch turns on fulcrum *i'* and is influenced by a spring *i²*. The detent *i* is arranged at a distance from the detent *a* so as to accommodate and confine the latch *a²* between the detents. A stop *g⁵* below lever *g* relieves the clockwork from pressure of the locking device.

The operation is as follows: To set the time-lock, the spindle *d* is pushed forward by handle *d³* until wheel *d'* clears worm *c³*, and then the spindle is rotated in the direction of the arrow, Fig. 1, to set the pointer *d²* to the time at which the door is to be opened. Upon releasing the spindle the wheel *d'* will be drawn into engagement with worm *c³* by spring *d⁴*, so that it will be set in motion by the clockwork. The door is then closed and will remain locked until the time to which the pointer is set is about to expire. At this time the rotation of the pin-disk *f*, moving along lower concave rear edge *g³* of lever *g*, has brought its pin *f²* into engagement with the slot *g'* of lever *g*, and thus said lever *g* will be swung with its outer end upward. In this way the arm *h²* is also tilted, and the detent *h* is withdrawn from the path of latch *a²*, so that the door *a'* may be opened by turning the knob *a³* and swinging the latch *a²* upward. Should the exact time be missed at which the door is to be opened, the lock will nevertheless remain open, because the further rotation of disk *f* will swing the rear upper concave face *g³* of lever *g* against the periphery of the disk, so that the lever remains locked in its tilted position and the detent *h* remains withdrawn. When the time-lock has been reset, the detent *h* will thereby be swung into its normal position, Fig. 2, and therefore the latch *a²* must be swung down before the door is closed. After the door has been closed the latch is swung up past the momentarily-yielding lower detent *i*, so as to become relocked between the detents.

In Fig. 6 the worm-shaft  $c$  is replaced by a worm-shaft  $j$ , stepped in a fixed bearing  $j'$  and turning in a sliding bearing  $j''$ . In this modification the engagement between the worm-wheel  $d'$  and the worm  $j^3$  may be interrupted by swinging the shaft  $j$  sidewise (dotted lines) in lieu of displacing the shaft  $d$  axially, as in Figs. 4 and 5.

What I claim is—

1. In a time-lock, the combination of a clock-work, with a worm-shaft actuated thereby, a worm-wheel engaging the worm-shaft, a spindle upon which the worm-wheel is mounted, a pin-disk upon said spindle, a lever adapted to be engaged thereby, a pivoted detent having an arm engaged by the lever, a second

spring-influenced detent, and a latch intermediate the detents, substantially as specified.

2. In a time-lock the combination of a rotatable pin-disk with a slotted lever having a double concave face adapted to engage the periphery of the disk, a detent operated by the lever, a second spring-influenced detent, and a latch intermediate the detents substantially as specified.

Signed by me at New York city, New York, this 26th day of July, 1902.

JOSEPH GONOROVSKY.

Witnesses:

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WILLIAM SCHULZ.