

(No Model.)

I. PFORZHEIMER.  
CASH BOX.

No. 415,396.

Patented Nov. 19, 1889.

Fig. 1

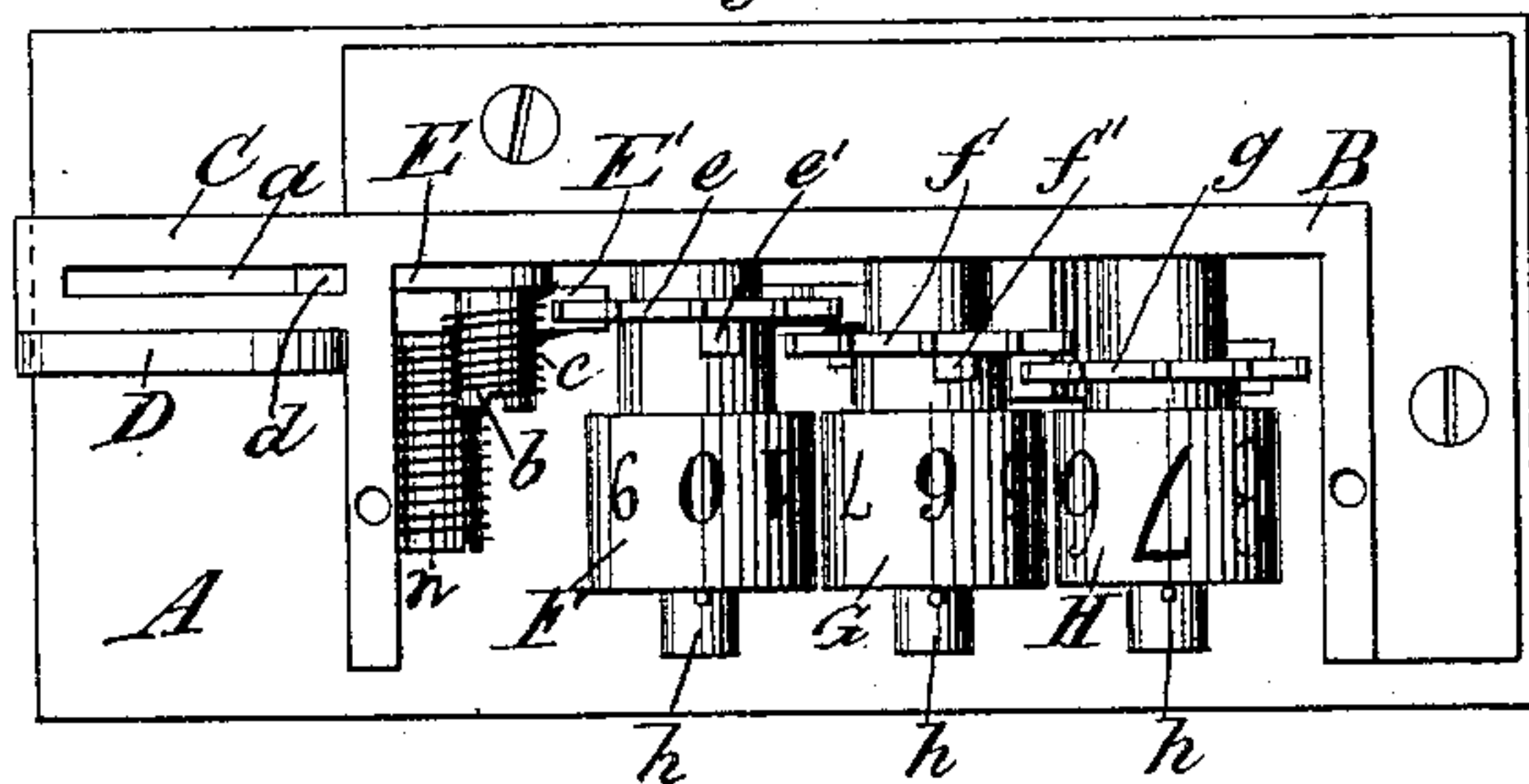


Fig. 2

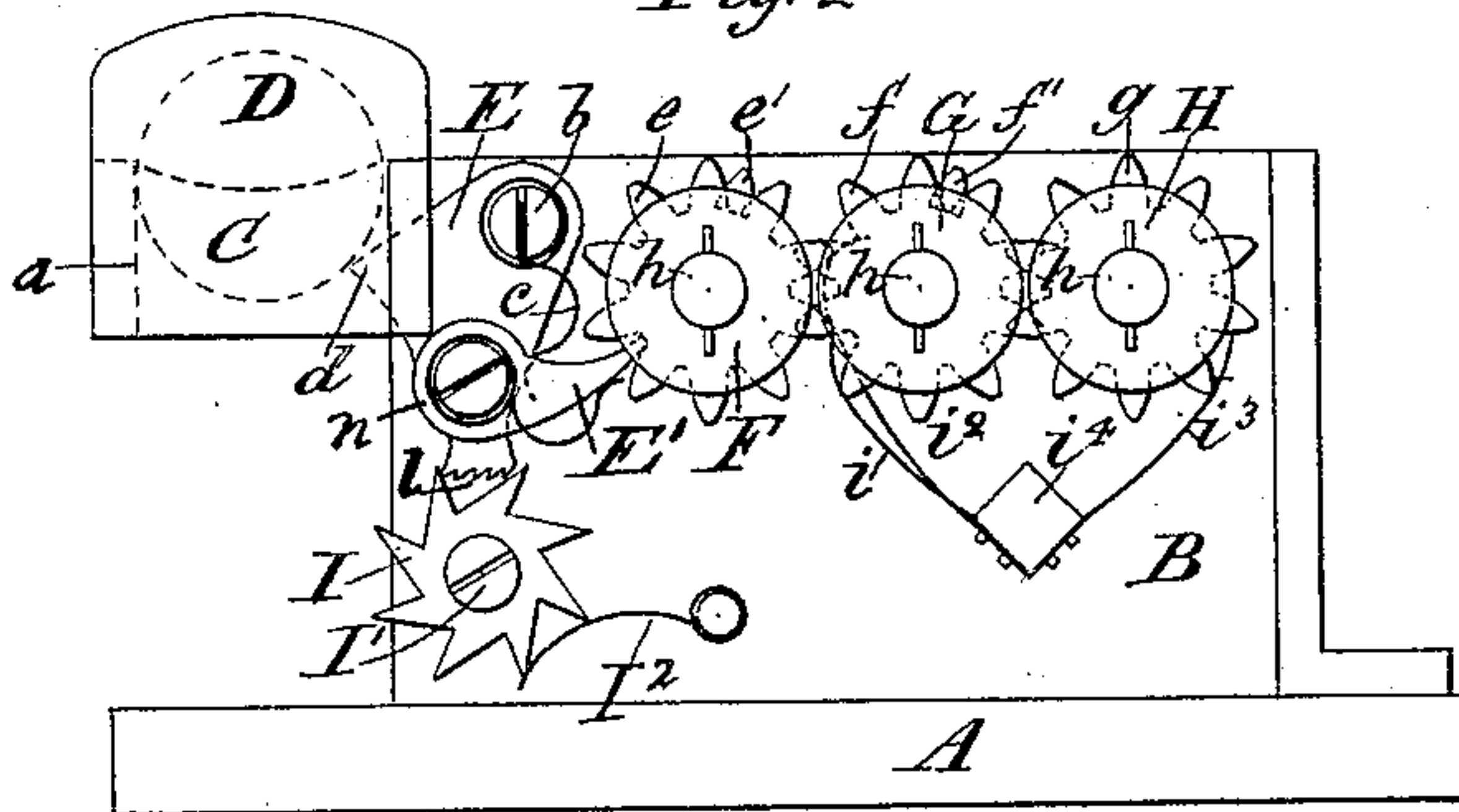
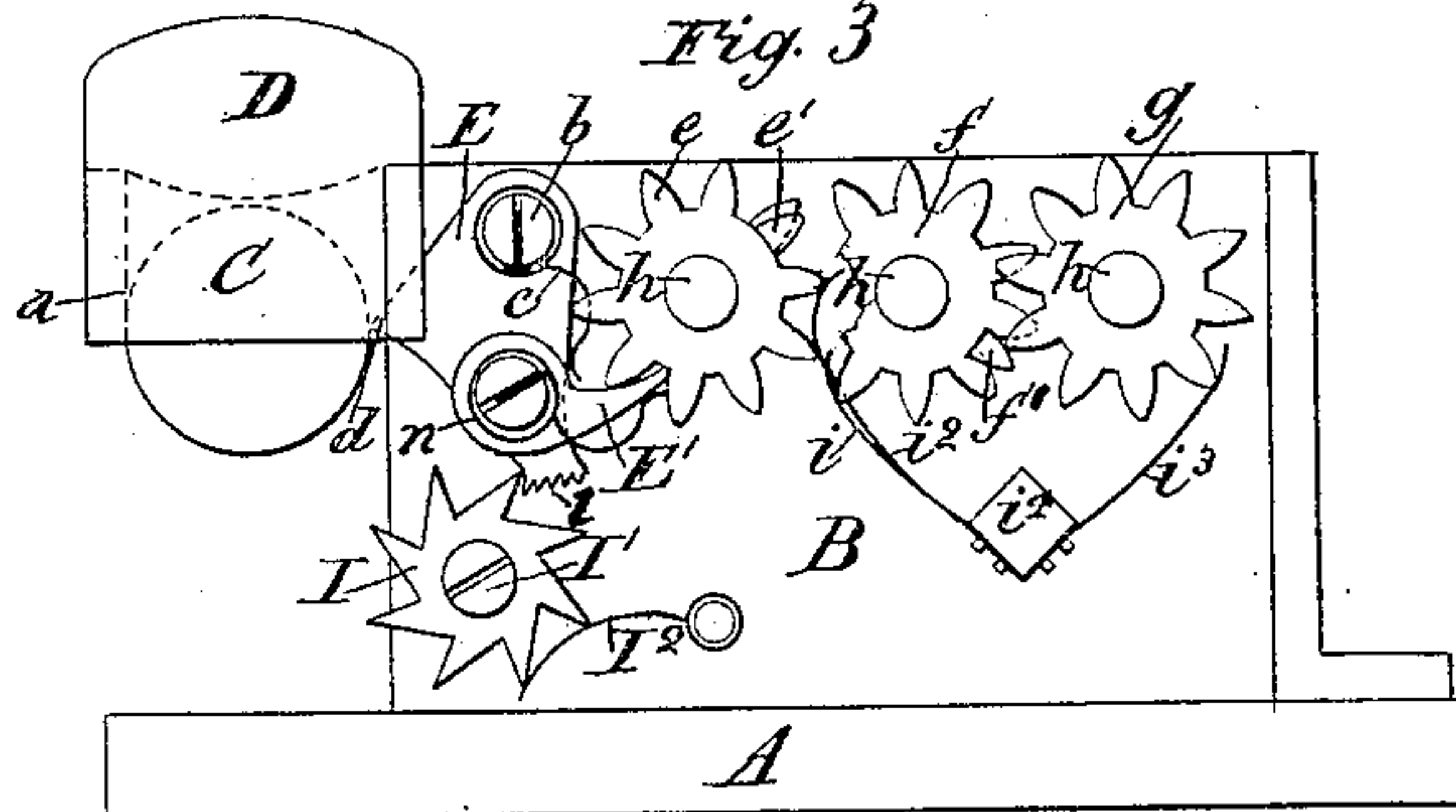


Fig. 3



Witnesses:

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John Becker

Inventor:

Isaac Pforzheimer  
by his Attorneys  
Brown & Griswold

# UNITED STATES PATENT OFFICE.

ISAAC PFORZHEIMER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO  
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## CASH-BOX.

SPECIFICATION forming part of Letters Patent No. 415,396, dated November 19, 1889.

Application filed March 7, 1889. Serial No. 302,355. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC PFORZHEIMER, of the city, county, and State of New York, have invented a certain new and useful Improvement in Cash-Boxes, of which the following is a specification.

My improvement relates to cash-boxes in which the value of a coin when deposited therein will be registered.

I will describe in detail my improvement, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a plan or top view of a cash-box embodying my improvement. Fig. 2 is a side elevation of the mechanism employed therein. Fig. 3 is a similar view showing the parts in a different position from that shown in Fig. 2, certain indicator-wheels being removed in order to more clearly disclose other parts.

Similar letters of reference designate corresponding parts in all the figures.

I have omitted from all the views the box or case in which the mechanism is to be contained, as the same may be of any ordinary construction.

A designates a base-piece for the mechanism, and B designates a frame-plate secured upon the base-piece and upon which the mechanism is mounted.

C designates a plate, preferably cast with the frame-plate B, and in which is an opening *a* for the reception of a coin. This opening will constitute in effect an opening in the case or box in which the mechanism is inclosed.

In the example of my improvement shown upon one side of the opening *a*, and preferably formed with the plate C, is a guard D. This guard extends upwardly and is arranged quite close to the opening *a*. When a coin is to be passed through the opening, it must be pressed downwardly, and after being passed a certain distance through the opening *a* it cannot be grasped by the finger and thumb to again withdraw it, as the guard will operate to prevent this. A coin in being passed through the opening contacts with a swinging piece E, which piece constitutes in this instance a bell-crank lever fulcrumed upon a screw *b*, secured in the frame B. A spring *c*,

secured near one end to the screw *b* and bearing at its other end upon the lower portion of the swinging piece E, tends to force a projecting portion *d* of the lever into the opening *a* and into a position where the coin will contact with it when pressed inwardly.

Upon the swinging piece E is mounted a spring-actuated pawl E', a spring *n* being employed, which pawl engages the teeth upon a gear-wheel *e*. Upon the hub of the gear-wheel *e* is secured a units indicator-wheel F. Upon one side of the gear-wheel *e* is a tooth *e'*, occupying such a position that each time the gear-wheel *e* has made a complete rotation it will engage the teeth upon a gear-wheel *f*, and will move the latter a distance equivalent to the distance between two of its teeth. Upon the hub of the gear-wheel *f* is a tens indicator-wheel G. Upon one side of the gear-wheel *f* is a tooth *f'*. When the gear-wheel *f* has made a complete rotation, the said tooth will engage one of the teeth upon a gear-wheel *g*, and will rotate the latter a distance equivalent to the distance between two of its teeth. Upon the hub of the gear-wheel *g* is mounted a hundreds indicator-wheel H. All of the indicator-wheels, together with their respective gear-wheels, are loosely mounted upon studs *h*, secured in the frame B.

Coacting with the gear-wheels *e*, *f*, and *g* are spring *i* *i*<sup>2</sup> *i*<sup>3</sup>. These springs are all secured near one of their ends to a rigid support *i*<sup>4</sup>, extending horizontally from the frame B, and arranged in this instance beneath the indicator-wheels. The spring *i* bears upon the teeth of the gear-wheel *f*, the spring *i*<sup>2</sup> bears upon the teeth of the gear-wheel *e*, while the spring *i*<sup>3</sup> bears upon the teeth of the gear-wheel *g*. All these springs operate to maintain the gear-wheels, and consequently the indicator-wheels, in the position into which they may have been adjusted. Of course when either the tooth *e'* or the tooth *f'* engages, respectively, the teeth upon the gear-wheels *f* and *g* they will cause the rotation of such gear-wheels a distance somewhat beyond the distance between two of the teeth on the gear-wheels before wholly leaving said teeth, and the gear-wheels, if allowed to remain in such position, might cause the figures upon the indicator-wheels to be thrown out of register



with the openings through which they may be viewed, and eventually an improper register. To overcome this difficulty, I make the springs  $i$   $i^3$  of such length and conformation at their free ends that they will remain in contact with the gear-teeth during this excess of movement, and when the teeth  $e'$  or  $f'$  have left contact with the gear-wheels  $f$  or  $g$ , as the case may be, the springs will operate to reverse the rotation of the wheels  $f$  or  $g$  far enough to compensate for the excess of motion, thus bringing the indicator-wheels in proper register. I have shown the outer ends of the springs  $i$   $i^3$  as curved to accomplish this purpose, and extending in a curve between the gear-teeth on the gear-wheels.

In Fig. 3 the tooth  $f'$  is illustrated as just imparting the excess of motion to the gear-wheel  $g$  as it about leaves the gear-wheel, and it will be seen that when it does leave the gear-wheel the spring  $i^3$  by its curved end will operate to reverse the rotation of the gear-wheel  $g$  until the end of the spring strikes the next adjacent tooth.

In order to prevent tampering with the indicator by inserting a coin a certain distance and then removing it a number of times, I employ a retaining device which will operate to hold the swinging piece E in any position into which it may be adjusted until the coin has been passed wholly down through the opening. I have illustrated a convenient retaining device consisting of a star-wheel I loosely mounted upon a stud or screw I'. A spring I<sup>2</sup>, bearing upon the teeth of said star-wheel, operates to maintain it in any position into which it may be rotated. Upon the lower portion of the swinging piece E are a number of ratchet-teeth  $l$ , which teeth, when the movable piece is moved inwardly during the downward passage of the coin, will play over the adjacent tooth of the star-wheel. If the coin should be partly inserted and then withdrawn, the ratchet-teeth will engage a tooth of the star-wheel and the swinging piece E will not return to its normal position. If, however, the

coin be fully inserted, the ratchet-teeth will all be moved past a tooth of the star-wheel and into the position shown in Fig. 3. As soon as the coin is slipped in past the swinging piece E a sudden impulse is given to the movable piece E by the spring  $c$ , which causes the swinging piece to rotate the star-wheel a distance of one tooth and bring it again into the position shown in Fig. 2, in which the ratchet-teeth are between two of the teeth on the star-wheel. Of course during the inward movement of the coin the pawl E' has caused the rotation of the gear-wheel F a distance equal to the distance between two of the teeth on the gear-wheel, and when the swinging piece E returns to its normal position the pawl swings back over the adjacent tooth of said gear-wheel and thence inwardly between the teeth in position for a repetition of the operation.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a cash-box, the combination, with a case provided with an opening to receive a coin, of a swinging piece having a projection normally extending into said opening, a pawl on said swinging piece, registering-wheels actuated by said pawl during the movement of the swinging piece upon the insertion of a coin, and a retaining device engaging said swinging piece to prevent the return of said swinging piece to its normal position in said opening until a coin has been moved past said projection, substantially as specified.

2. In a cash-box, the combination, with a case provided with an opening in the form of a slot through which a coin is passed, of a guard extending upwardly at one side of the slot for preventing the coin from being removed from the slot after it has been passed a certain distance into the same, substantially as specified.

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Witnesses:

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