

(No Model.)

2 Sheets—Sheet 1.

F. E. MORGAN.
PREPAYMENT VENDING APPARATUS.

No. 550,633.

Patented Dec. 3, 1895.

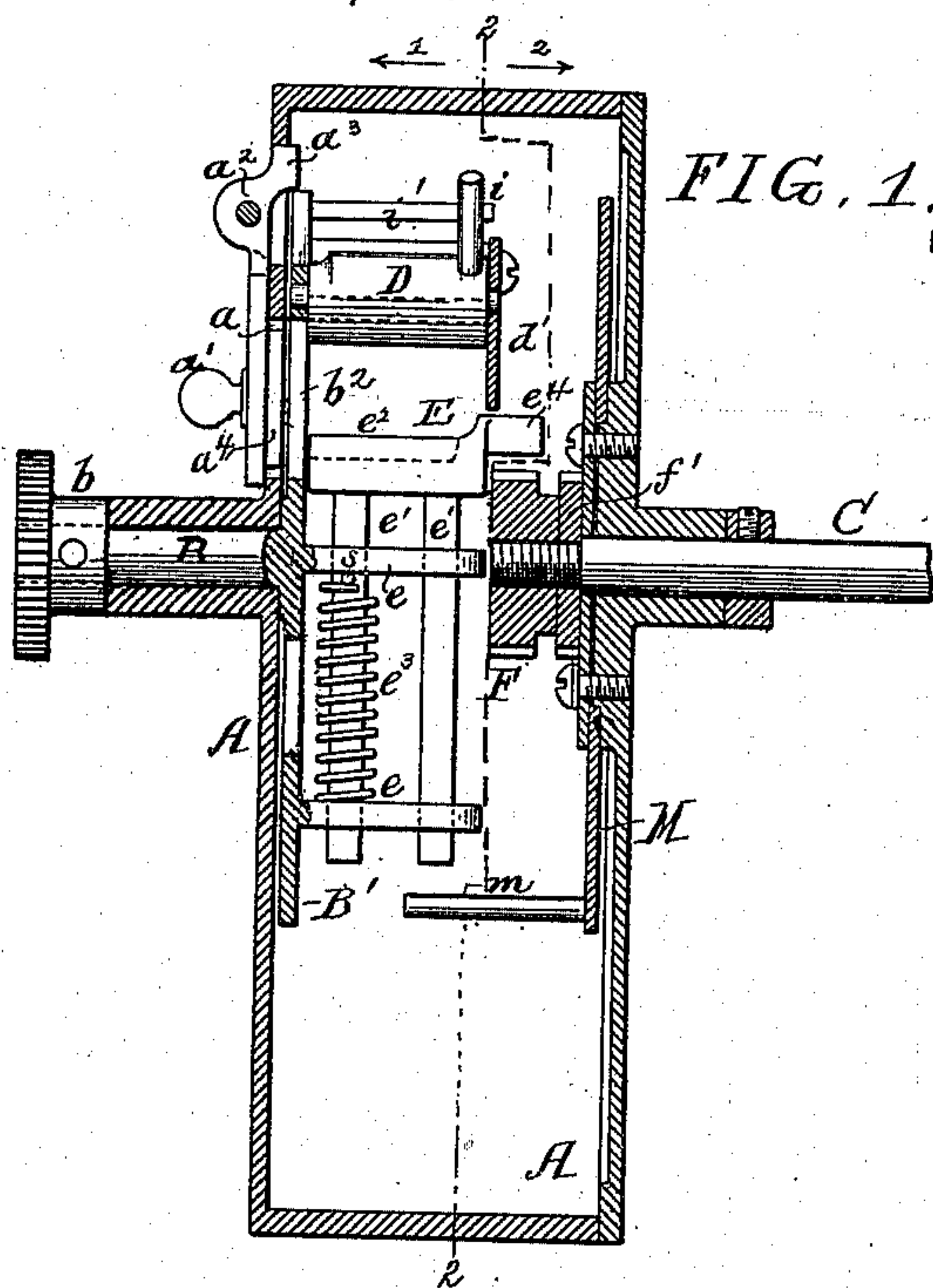


FIG. 1.

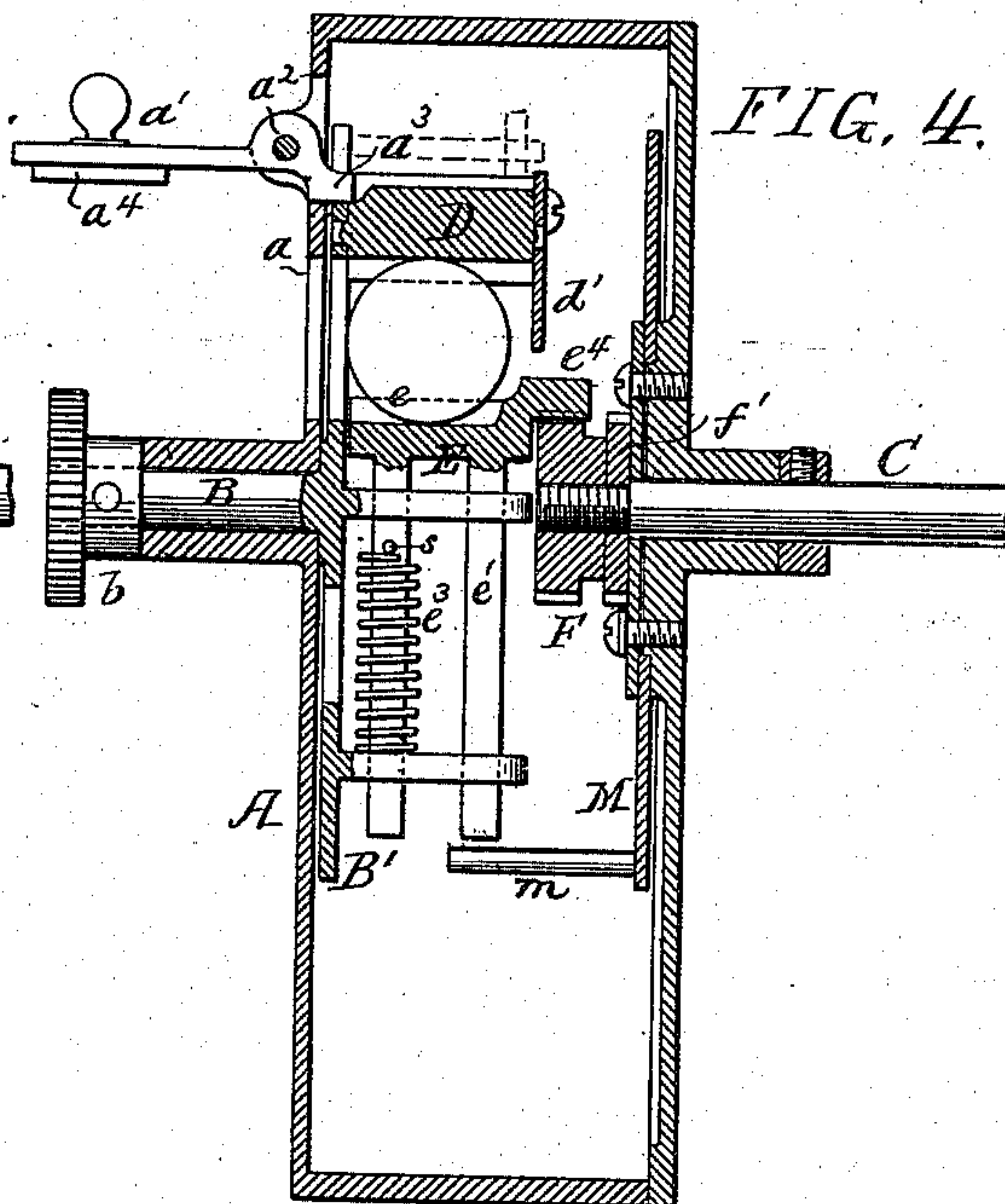
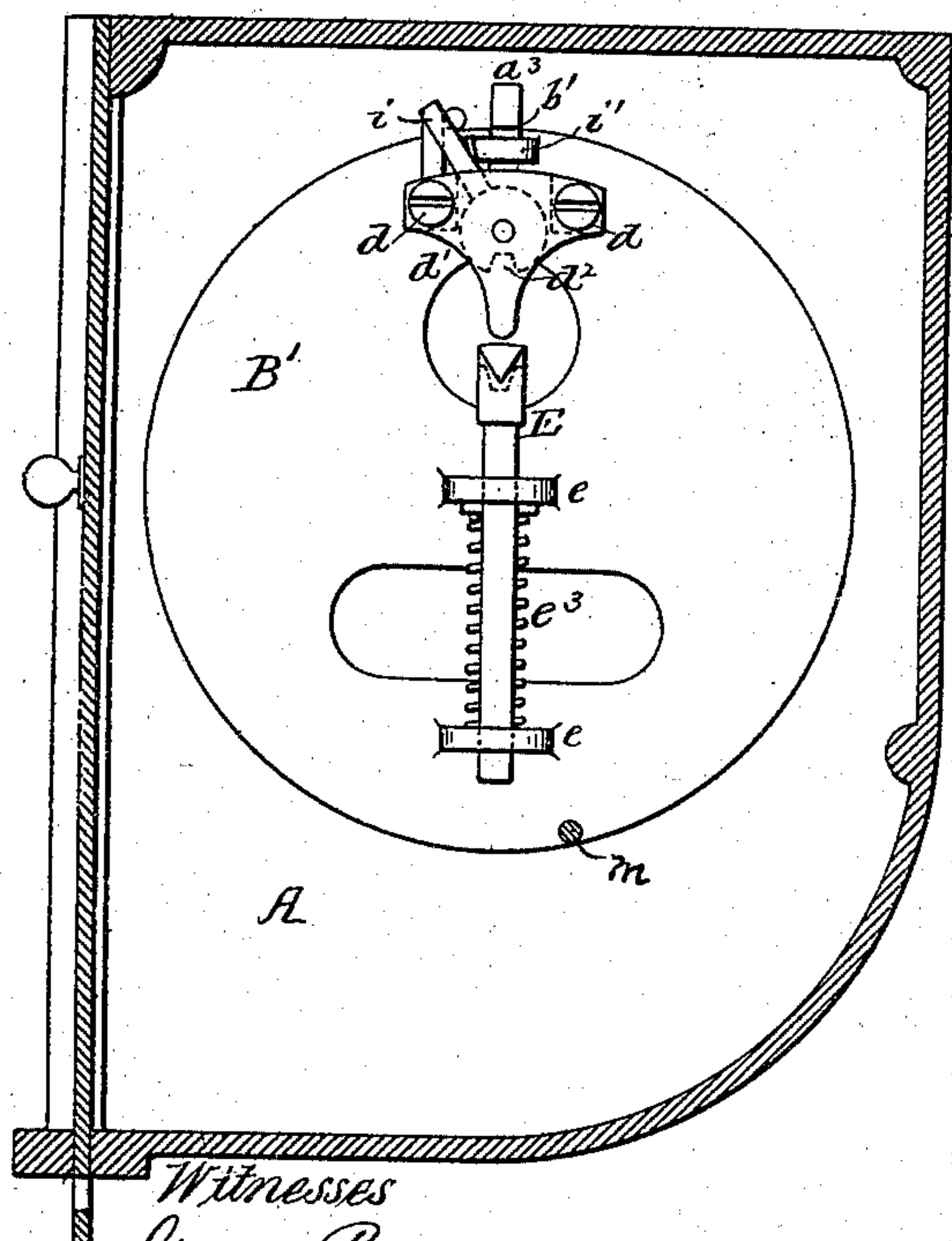


FIG. 4.

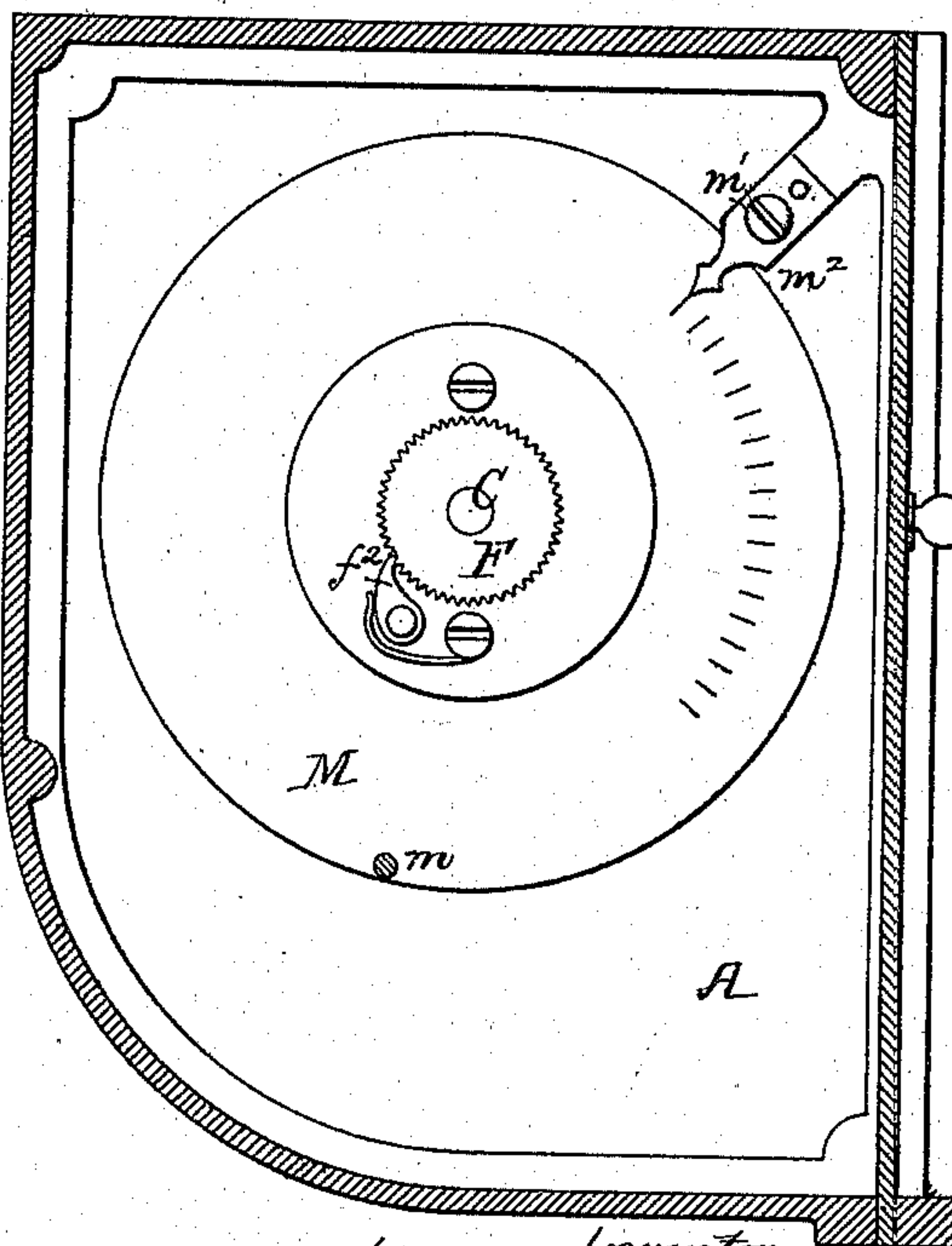
FIG. 2.

FIG. 3.



Witnesses

George Baumann
Edith J. Griswold



Inventor

Inventor
Frank Edward Morgan
By his Attorneys
Howson and Howson

(No Model.)

2 Sheets—Sheet 2.

F. E. MORGAN.
PREPAYMENT VENDING APPARATUS.

No. 550,633.

Patented Dec. 3, 1895.

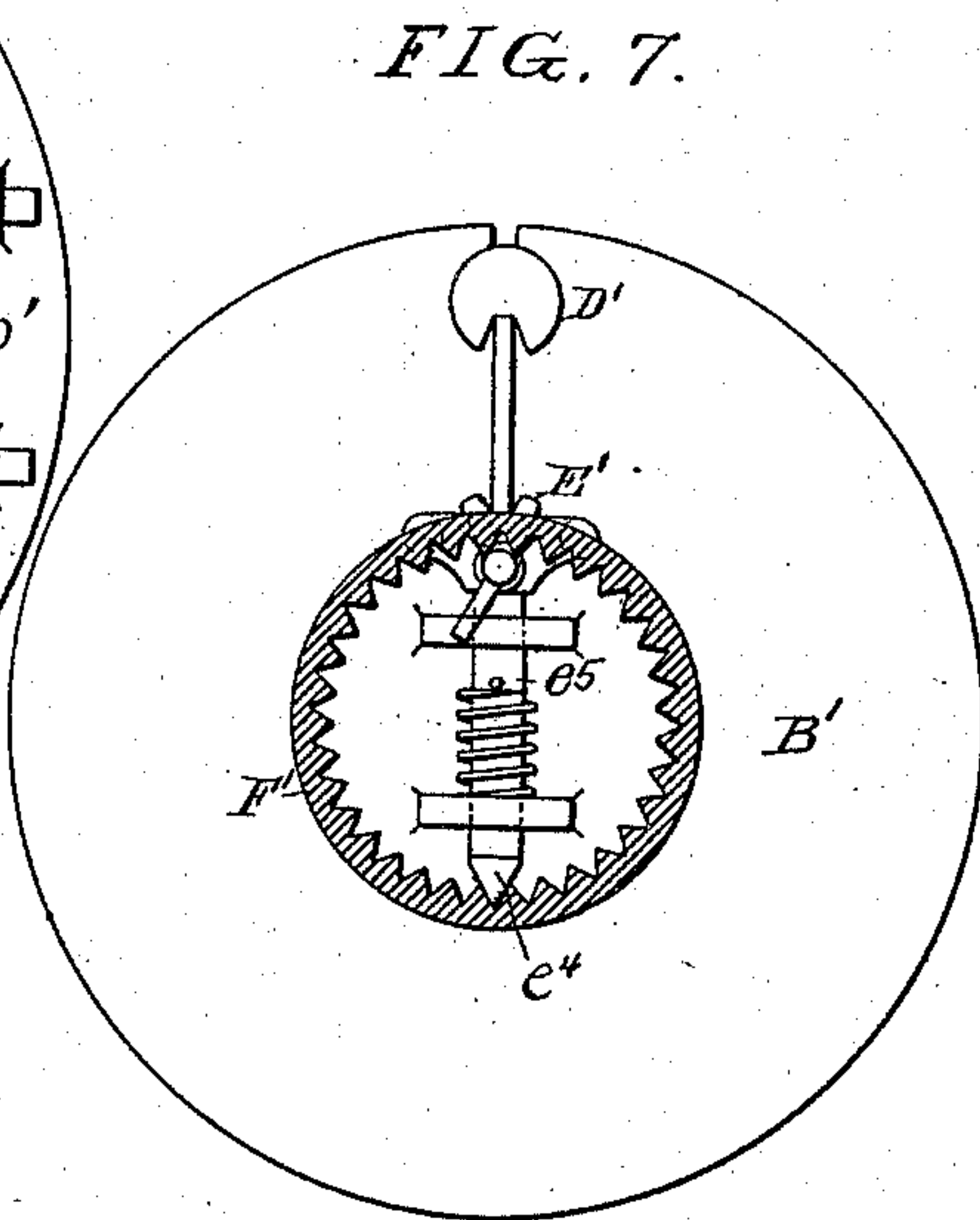
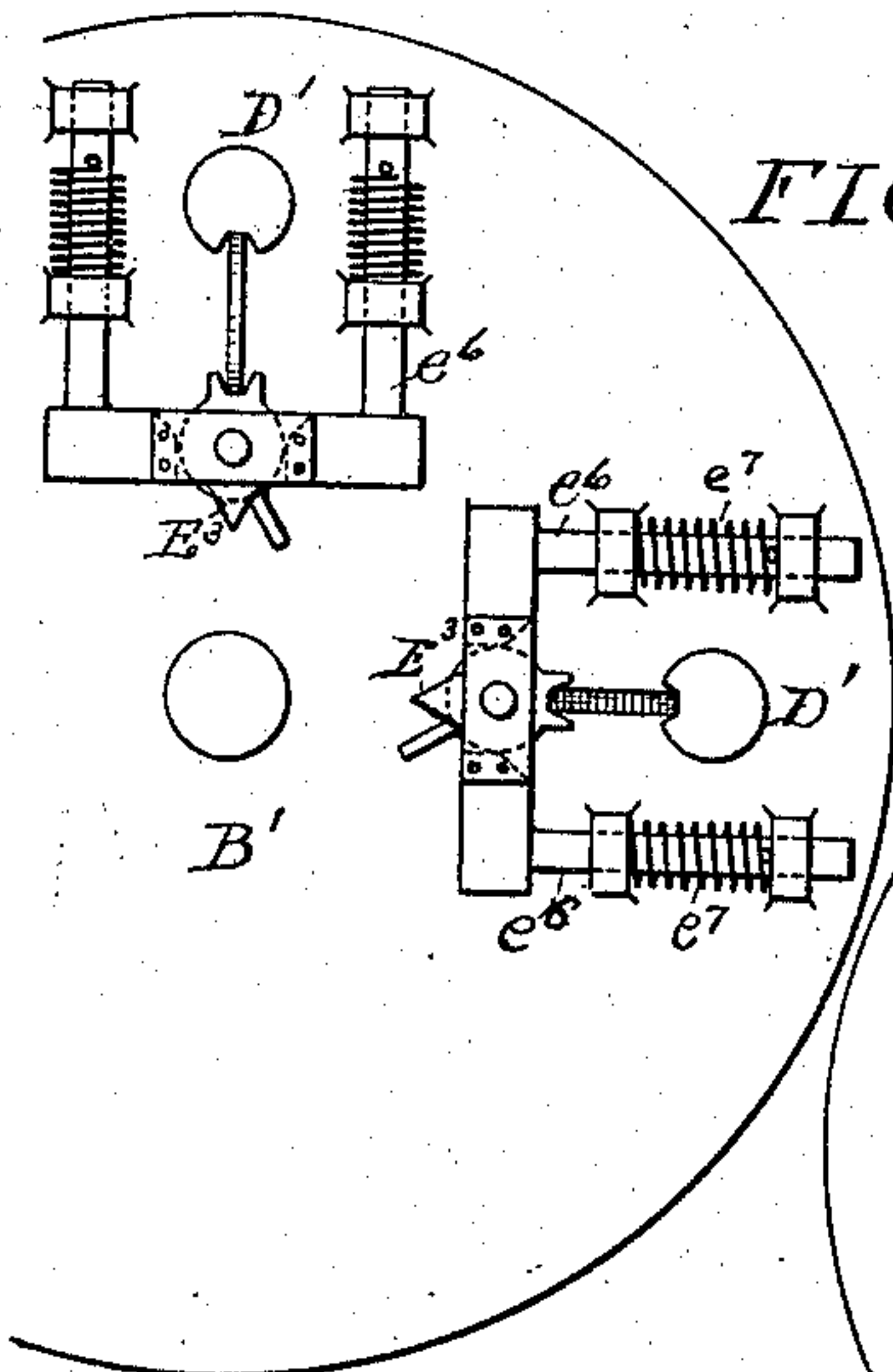
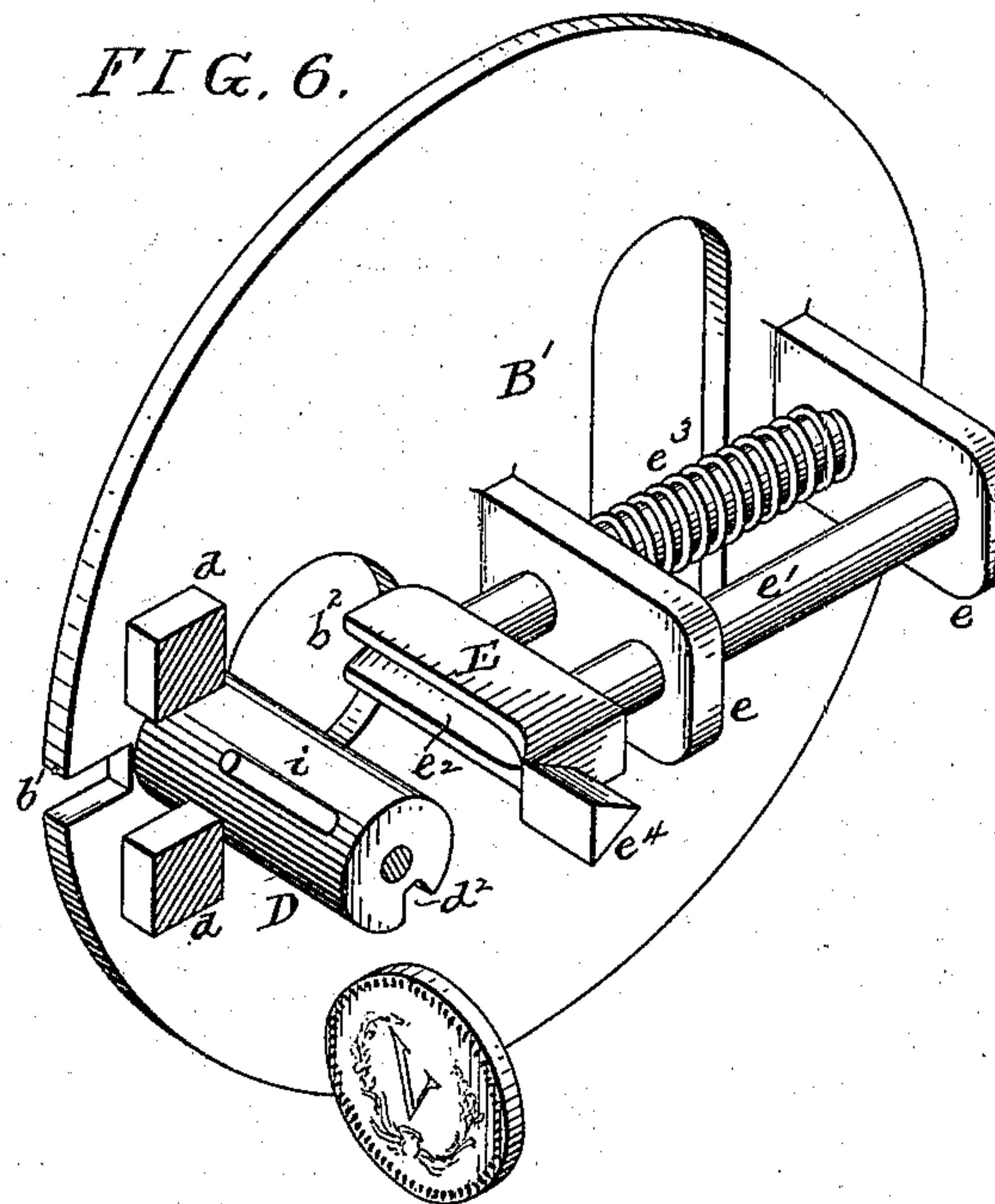
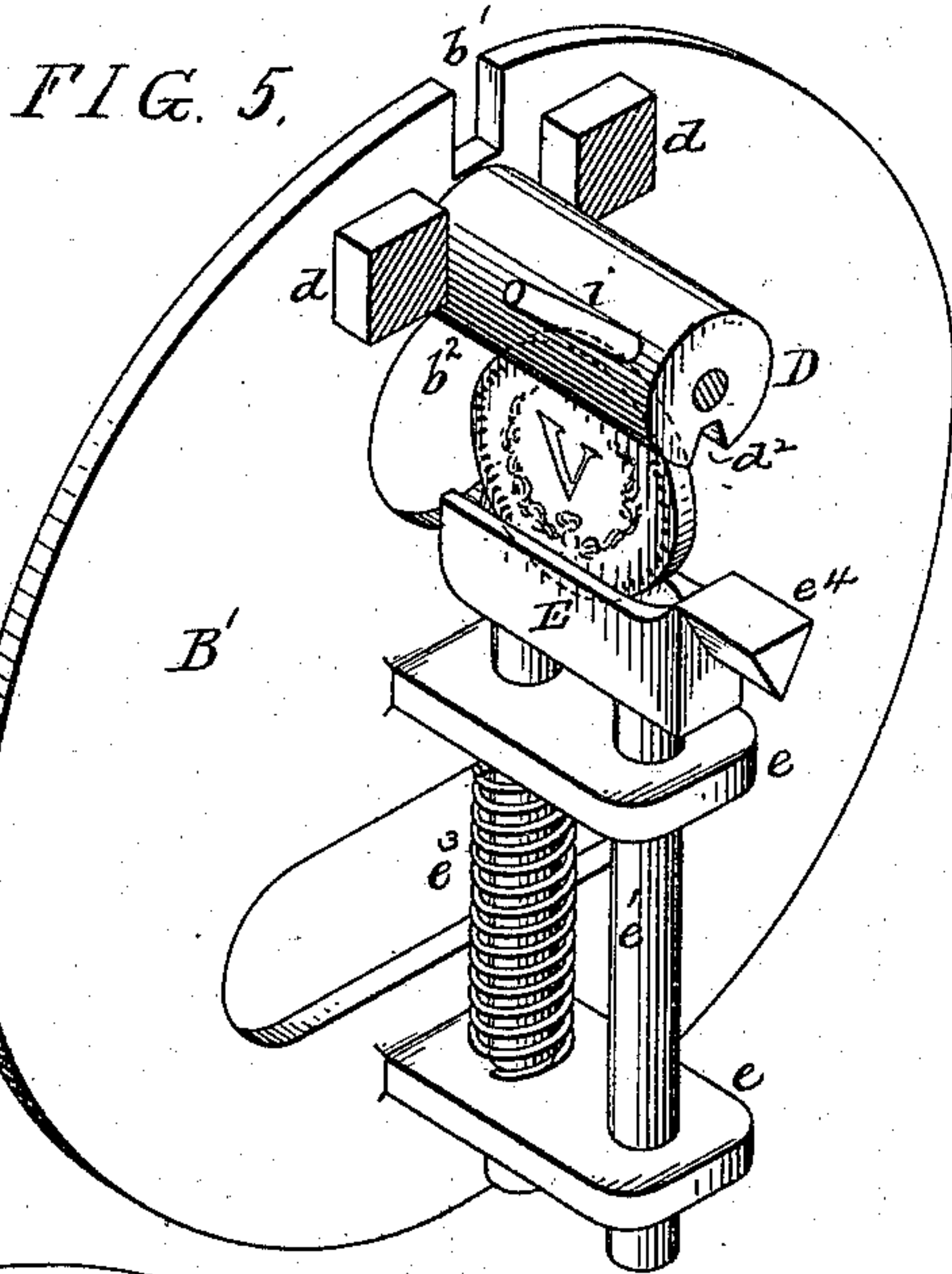


FIG. 10.

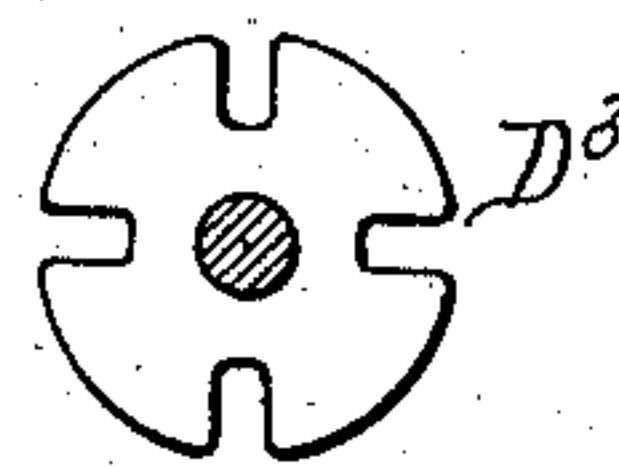


FIG. 11.

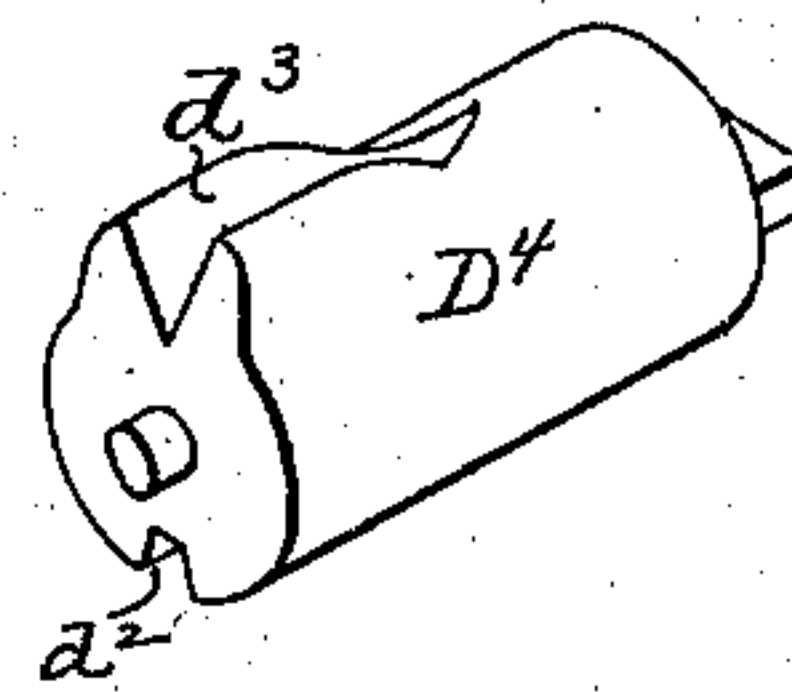
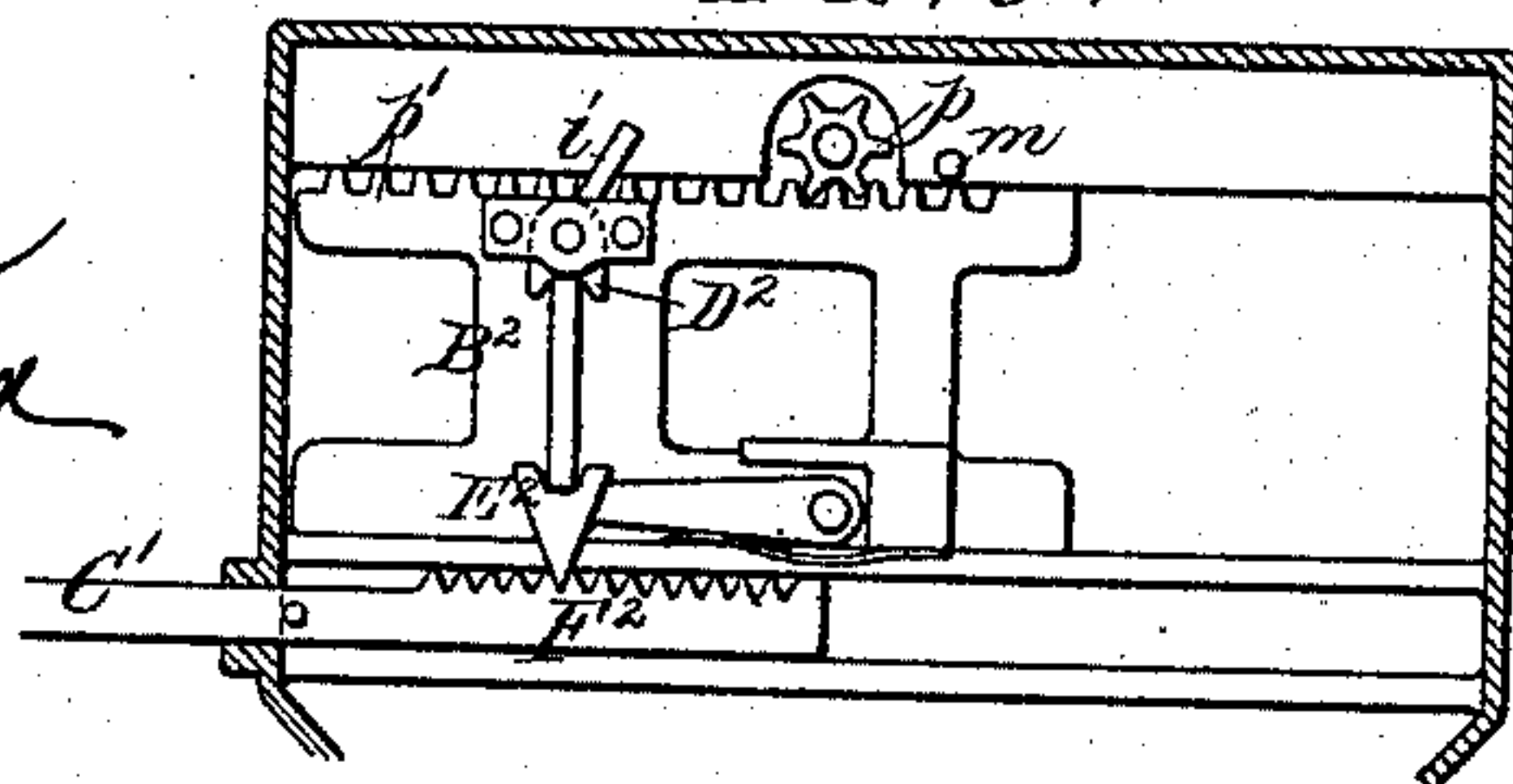


FIG. 9.



Witnesses

George Baumann
Edith J. Griswold

Inventor
Frank Edward Morgan
By his Attorneys
Howson and Howson

UNITED STATES PATENT OFFICE.

FRANK EDWARD MORGAN, OF WEST HAVEN, CONNECTICUT, ASSIGNOR OF
ONE-HALF TO WILLIAM N. MILSTED, OF NEW YORK, N. Y.

PREPAYMENT VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 550,633, dated December 3, 1895.

Application filed February 4, 1895. Serial No. 537,207. (No model.)

To all whom it may concern:

Be it known that I, FRANK EDWARD MORGAN, a citizen of the United States, and a resident of West Haven, New Haven county, Connecticut, have invented Improvements in Prepayment Vending Apparatus, of which the following is a specification.

The object of my invention is to construct a simple but efficient prepayment vending apparatus, which may be conveniently attached to measuring, weighing, or other coin-controlled apparatus, and which can be operated by the insertion of a coin and operated through the coin itself.

In the accompanying drawings, Figure 1 is a transverse sectional view of my apparatus. Fig. 2 is a sectional view on the line 2-2, Fig. 1, looking in the direction of the arrow 1. Fig. 3 is a sectional view on the same line looking in the direction of the arrow 2. Fig. 4 is a view similar to Fig. 1, with the coin in position. Figs. 5 and 6 are perspective diagrams illustrating the operation of the mechanism. Figs. 7, 8, 9, 10, and 11 are views of modifications of my invention.

A is the casing of the apparatus.

B is the operating-shaft, and C is the controller-shaft, to which motion is imparted, this shaft C being connected to any of the supply-controlling parts of a gas-meter or any other measuring, weighing, delivery, or vending apparatus. The shaft B is provided with a suitable handle *b*, by which it can be turned.

In the casing is a coin-slot *a*, to be closed by a hinged cover *a'*, pivoted at *a²* to the casing and having a dog *a³*.

To the shaft B is attached a disk *B'* and the parts which constitute the coin-carrying mechanism. In the disk is a coin-slot *b²*, which can be brought in line with the coin-slot *a* in the casing, and when these two slots align with each other a notch *b'* in the periphery of the disk *B'* is in line with the dog *a³* on the cover *a'*, so that then and then only this cover can be raised to insert a coin.

Upon the disk *B'* are mounted two coin-receiving jaws *D* and *E*, one movable toward and from the other and one capable of being turned upon its axis or pivot to a limited extent. The jaw *D*, which has a groove *d²* for

the reception of the coin, is mounted to be capable of rotation in bearings in the disk *B'* and a bearing-plate *d'*, which is carried by studs *d d* on the disk.

In bearings *e e*, projecting from the disk *B'*, are rods or stems *e'*, carrying the jaw *E*, which is mounted directly opposite the jaw *D* and has a slot *e²*, also for the reception of the coin. When the coin is inserted between the jaws, the latter alone will positively clamp and hold the same between them.

On one of the posts *e'* is a spring *e³*, which tends to force the jaw *E* toward the jaw *D*, so far as a stop-pin *s* will allow. The jaws *D* and *E* are in line with the slots *a* and *b²*, so that when a coin is passed through the slots *a* and *b²* it will enter between and be firmly held directly by the jaws *D* and *E*, which, owing to the spring *e³*, may be termed "spring-jaws." A projection *a⁴* is provided on the inner face of the door *a'* to push the coin through the opening in the casing and between the jaws *D* and *E* when the door is closed. The normal space between the jaws in relation to the size of the coin for which the device is intended is such that when the coin is forced between the jaws the jaw *E* slides or is moved away from the jaw *D* and the projection *e⁴* on the jaw *E* is caused to engage with a toothed wheel *F* on the shaft *C*. If then the shaft *B* is turned, the shaft *C* will also be turned with it, but when the coin is released from control of the jaws, the spring *e³* will move the jaw *E* to disengage the projection *e⁴* from the wheel *F*, and the disk *B'* can then be turned back to its normal position without turning the shaft *C*. On the shaft *C* is a ratchet-wheel *f'*, with which engages a pawl *f²* on the casing, thus preventing the accidental return of the shaft *C*.

In order to automatically discharge the coin from the jaws, I pivot the jaw *D*, as already explained, and provide means for swinging the jaw on its pivot to throw out the coin at any desired point in the rotation of the coin-carrying mechanism. Projecting from the back of the jaws is a pin or lug *i*, which is normally set in the position shown in Fig 2 by a spring *i'*, and this pin or lug is so set in respect to a stop *m*, directly or indirectly on

the casing, that when the disk B' is turned the pin will strike the stop m and turn the jaw D , as shown in Fig. 6, and cause the coin to be then thrown out from between the jaws.

5 The spring of the jaw E aids in discharging the coin when the jaw D is turned. The stop m in the present instance is mounted on an adjustable plate or disk M , which is confined to the casing by a clamp-screw m' and clamp
10 m^2 ; but on releasing the clamp-screw the plate can be turned to adjust the stop m to any desired position, according to the indicating-marks which I preferably use on the disk, as shown in Fig. 3. If, for instance,
15 the device is to be applied to a prepayment gas-meter and the coin is a five-cent piece, then the disk is set so that five cents' worth of gas may be used on the insertion of the coin. If the apparatus is used to receive coins of
20 other denominations, or the price of gas varies, then the disk may be turned so that the apparatus will cause the desired quantity to be automatically measured out or delivered for the value paid.

25 In Fig. 7 I have shown a modification in which the projection e^4 on one of the posts or rods e^5 of the jaw E' engages with the teeth of an internal gear F' , which will then occupy the place of the gear F . (Shown in Fig. 1.) In
30 this case the jaw D' is fixed, while the jaw E' is adapted to rotate in its carrier-posts e^5 to eject the coin when the carrier B' has been turned the required distance.

In the modification shown in Fig. 8, also,
35 the jaw D' is fixed, while the jaw E^3 is adapted to be movable from and toward the jaw D' and also to be free to have a partial rotary movement in the sliding frame e^6 , acted on by springs e^7 , which tend to draw the frames e^6
40 and rotary jaw E^3 outward radially from the axis of the carrier-disk B' . In this figure I have shown two sets of coin-jaws and the carrier-disk for coins of different denominations, and it will be understood that more than two
45 sets may be used without departing from my invention.

The spring i' has been omitted from Figs. 5 to 8 for the sake of clearness of illustration.

In Fig. 9 I have shown a slide B^2 , carrying
50 the two jaws D^2 and E^2 . The latter being the movable jaw is in the form of a spring-arm, while the jaw D^2 can be turned upon its pivot. The coin-carrier slide B^2 can be moved back and forth by a pinion p on a shaft with a handle, such as $B b$, hereinbefore described, this
55 pinion p gearing with a rack p' on the slide. A projection on the jaw E^2 engages when the coin is inserted with teeth F^2 on a longitudinally-movable shaft C' , controlling the vend-
60 ing mechanism.

In Fig. 10 the rotatable jaw D^3 is shown provided with a series of notches for the coin, so that the jaw can simply turn in one direction, thus dispensing with the return-spring i' , or
65 the jaw D^4 may be made, as shown in Fig. 11, with a wedge-shaped slot d^3 , into which the

dog a^3 on the door a can enter upon the opening of the door to positively turn the jaw back to its original position after it has discharged the coin.

I claim as my invention—

1. The combination, in a prepayment vending apparatus, of the casing having an opening for the passage of the coin, with a movable carrier having two jaws adapted to align
75 with the opening and receive the coin between them, one of said jaws being movable toward and from the other, the said jaws being arranged to positively hold the coin in place between them by their clamping action alone,
80 with connections between the movable carrier and a supply controlling device so that on the movement of the carrier away from the opening with a coin between the jaws the feeder or controller will be operated, and
85 means for discharging the coin from the jaws, substantially as described.

2. The combination, in a prepayment vending apparatus, of the casing having an opening for the passage of the coin, with a movable carrier having two jaws adapted to align
90 with the opening and receive and hold the coin directly between them, one of said jaws being movable toward and from the other and adapted to engage a supply-controlling
95 device, so that on the movement of the jaws away from the opening with the coin between them the feeder or controller will be operated, with means for discharging the coin from the
100 jaws, substantially as described.

3. The combination, in a prepayment vending apparatus, of a carrier having two jaws, one movable in respect to the other with means whereby said movable jaw engages
105 with a supply-controlling device when a coin of the proper denomination is inserted between the jaws, means for moving the carrier and a stop acting on one of said jaws to release the coin, substantially as described.

4. The combination, in a prepayment vending apparatus, of a carrier having two jaws, one movable in respect to the other, with means whereby the movable jaw engages with
110 a supply-controlling device when a coin of the proper denomination is inserted between the jaws, means for moving the carrier, and an adjustable stop acting on one of said jaws to release the coin, substantially as described.

5. The combination, in a prepayment vending apparatus, of a carrier having two jaws, one jaw adapted to slide toward and from the
120 other jaw, and one jaw being adapted to rotate on an axis, with means for turning the carrier, a toothed wheel with which said sliding jaw engages when a coin is inserted between the two jaws, and means for rotating the
125 rotary jaw to discharge the coin, as the carrier is turned, all substantially as described.

6. The combination of the disk, two jaws on said disk, one of said jaws being movable
130 toward and from the other, and means for partially rotating one of said jaws and dis-

charging the coin and a shaft by which the disk is turned, with a stop acting on the rotatable jaw, a toothed wheel with which the sliding jaw engages, when the coin is between the jaws, and a spring tending to close the jaws, substantially as described.

7. The combination of the casing, an opening therein for the passage of the coin, an operating shaft, jaws mounted on said shaft, one of said jaws being movable from and toward the other, and a spring tending to close the jaws, with a toothed wheel with which the sliding jaw engages, and a stop acting to discharge the coin when the jaws are moved away from the slot in the casing, to a predetermined point, substantially as described.

8. The combination of the casing, an opening therein for the passage of the coin, and a cover for said opening, with a carrier having jaws for the coin within the casing, said carrier being so set in relation to the cover that the cover cannot be opened except when the coin jaws are opposite the opening, and the carrier cannot be operated except when the cover is closed, substantially as described.

9. The combination of the casing having a coin-opening, an operating shaft, a disk on said shaft having a notch and jaws carried by said disk to receive the coin, with a cover for the opening in the casing, said cover having a portion adapted to enter the notch in the disk and so situated that the cover cannot be opened except when the notch is brought opposite the cover, substantially as described.

10. The combination of the casing, having a slot for the coin, with an operating shaft, a rotary disk thereon, jaws carried by said disk, one jaw being movable in respect to the other, and one jaw having a rotary motion to discharge the coin, a spring tending to close the jaws, a projection on said rotative jaw, and

a stop against which the projection strikes when the disk is turned, substantially as described.

11. The combination of the casing having a slot for the passage of the coin, an operating shaft and a disk thereon, jaws mounted on said disk, one jaw being movable from and toward the other, and one jaw being adapted to rotate, and a spring tending to close the jaws, with a stop for striking the rotary jaw, a projection on the sliding jaw, an operated shaft, and a toothed wheel on said shaft with which the projection engages, when a coin is inserted, substantially as described.

12. The combination in a prepayment vending apparatus, of the casing having a coin slot and a movable coin-carrier within the casing having a pair of jaws to receive and hold the coin between them, with a hinged cover having a projection to enter the slot and a lug on said cover for retaining the carrier in position for the insertion of a coin, substantially as and for the purpose described.

13. The combination, in a prepayment vending apparatus, of the casing having a coin-slot, a coin carrier with two jaws one movable toward and from the other, one of said jaws being rotatable, and having a groove, a door to cover the slot in the casing and having a dog to pass into the groove in the rotary jaw to turn it, so that its coin slot will align with the opening in the casing, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK EDWARD MORGAN.

Witnesses:

HENRY L. BRANT,
HUBERT HOWSON.