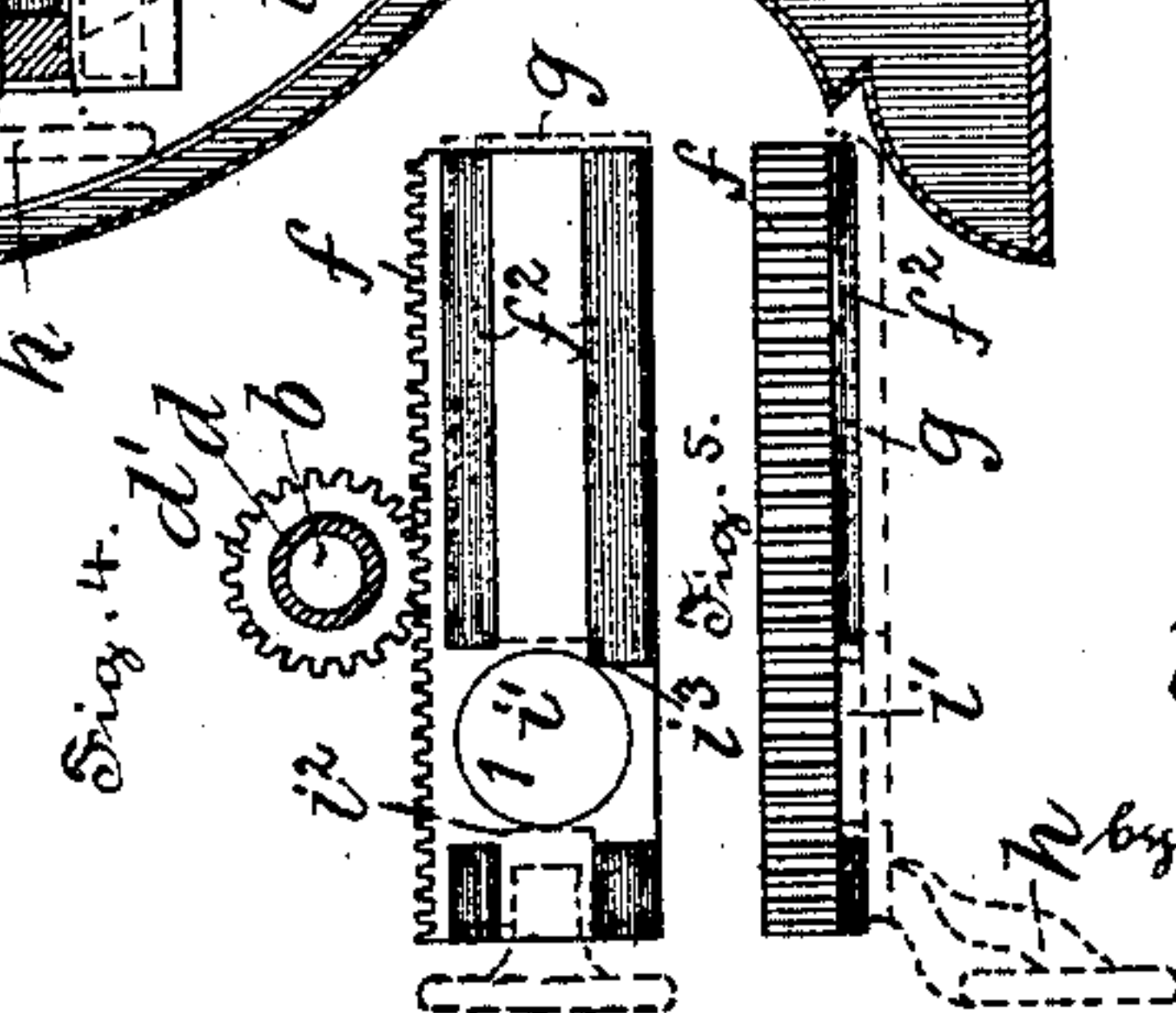
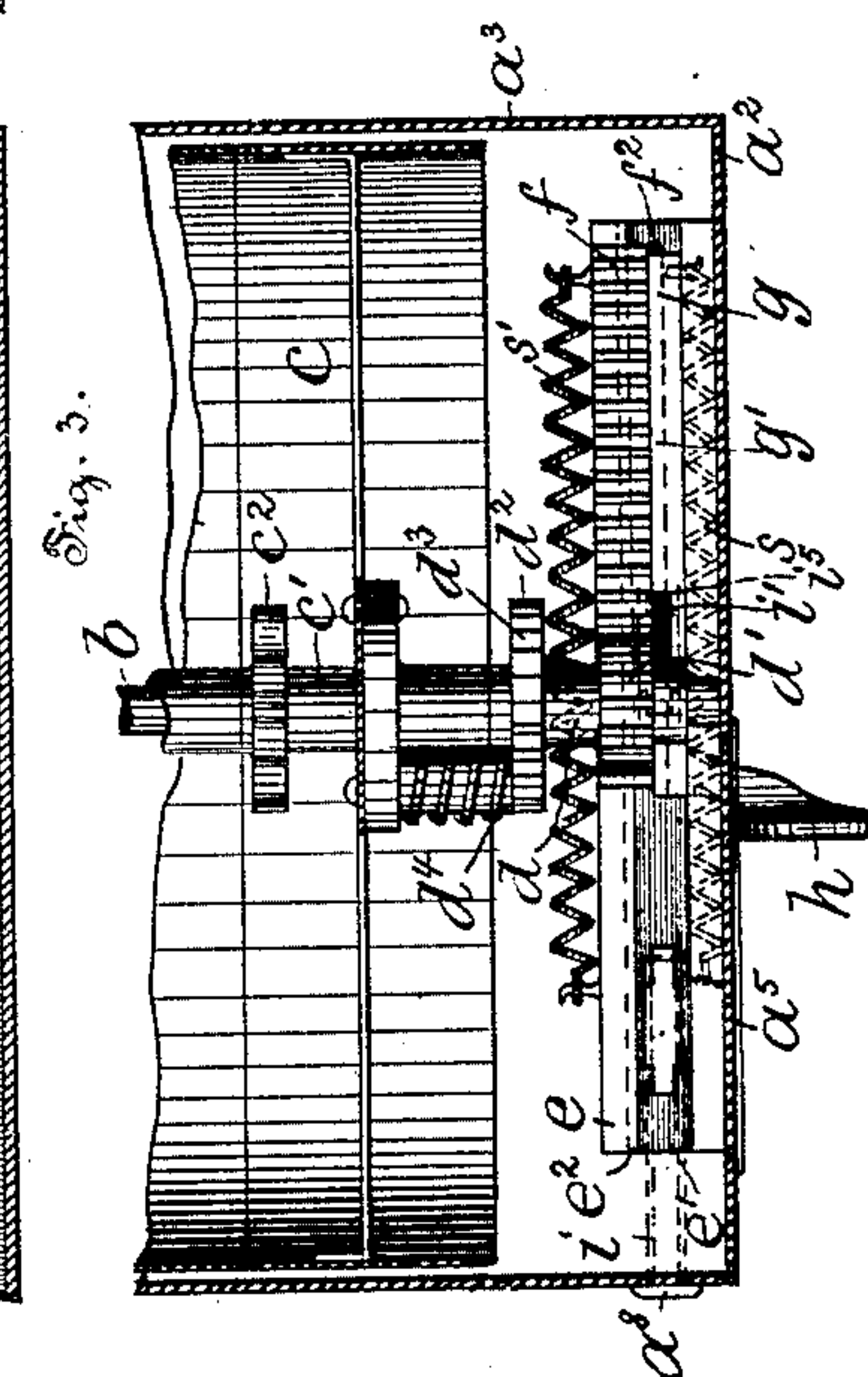
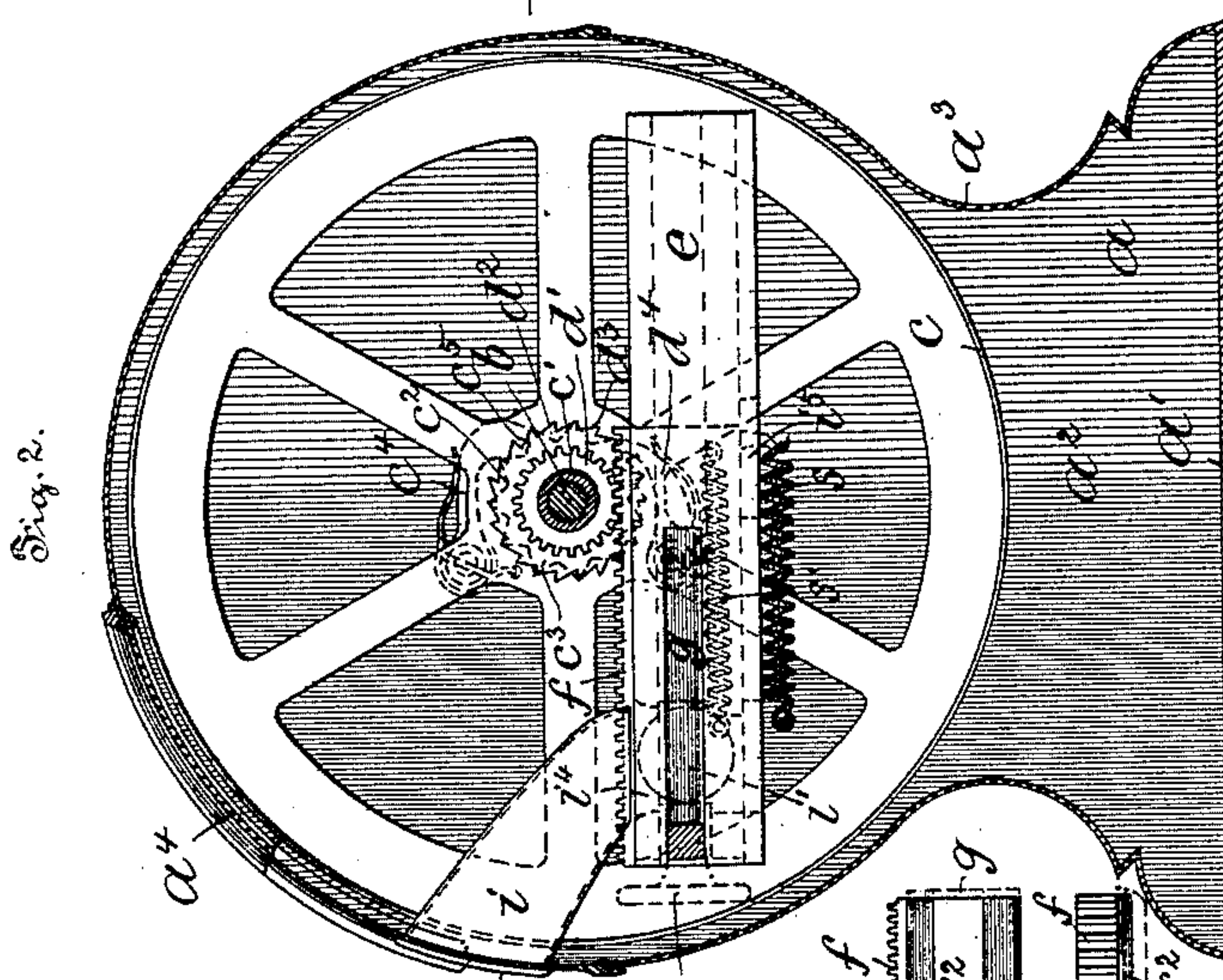
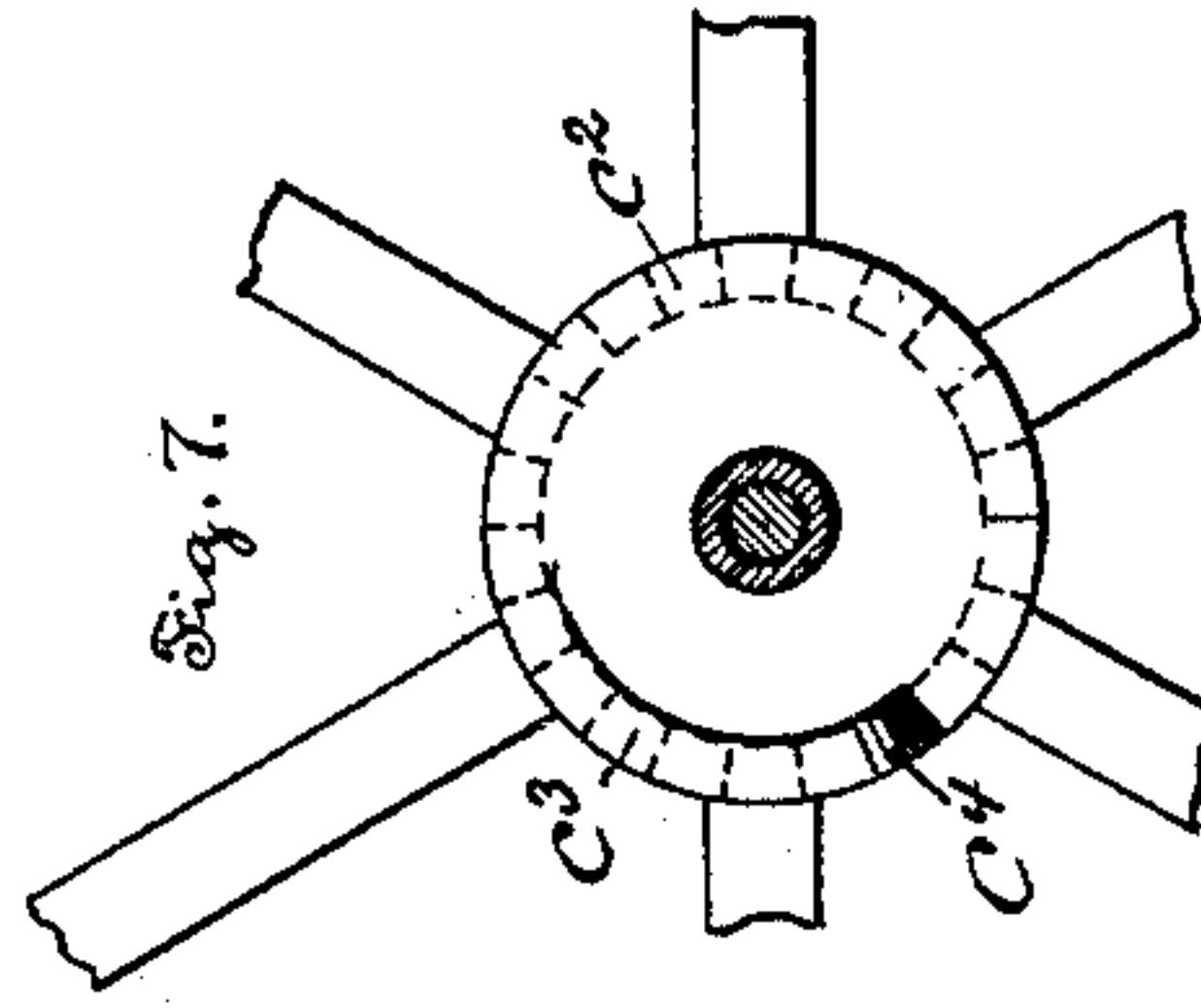
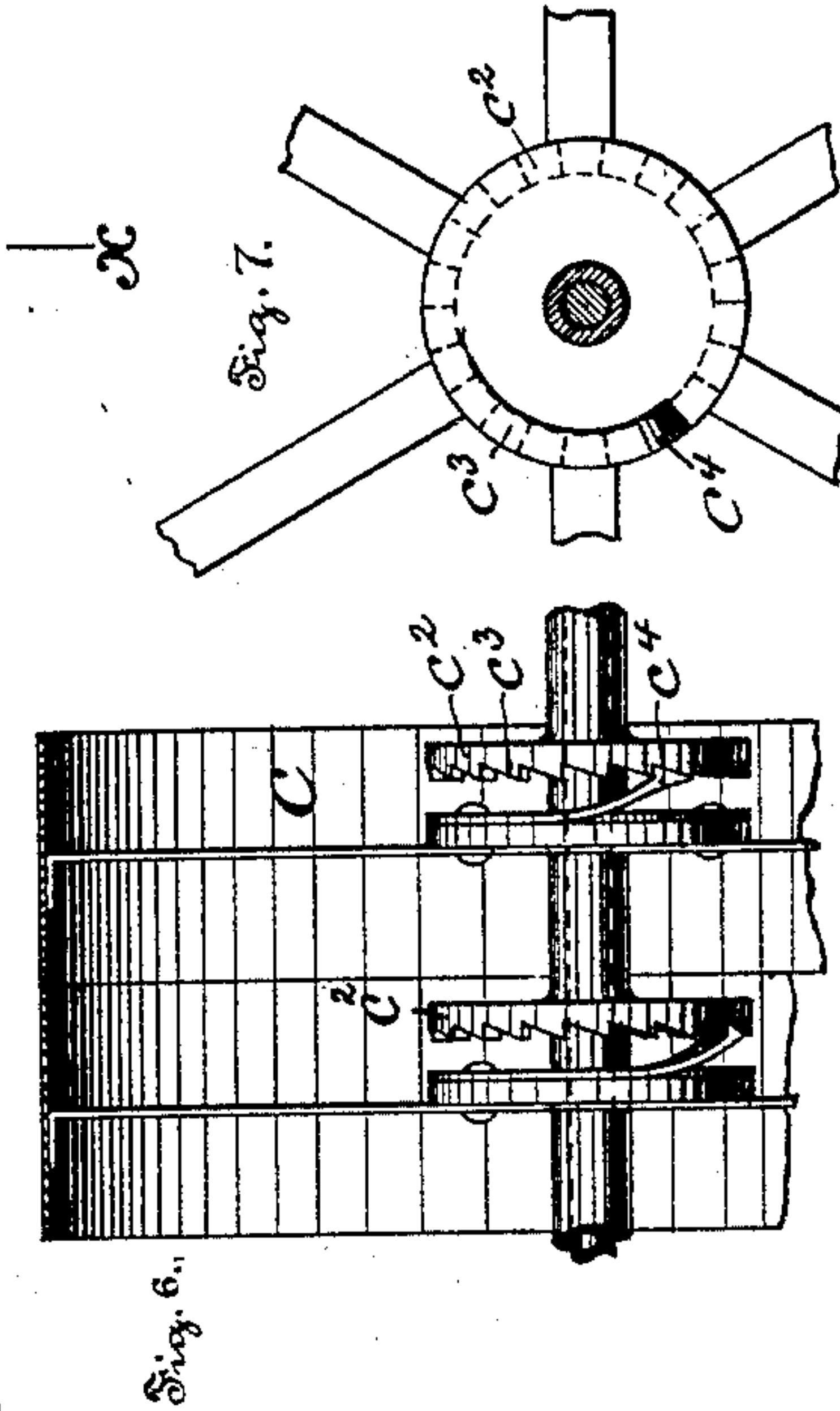
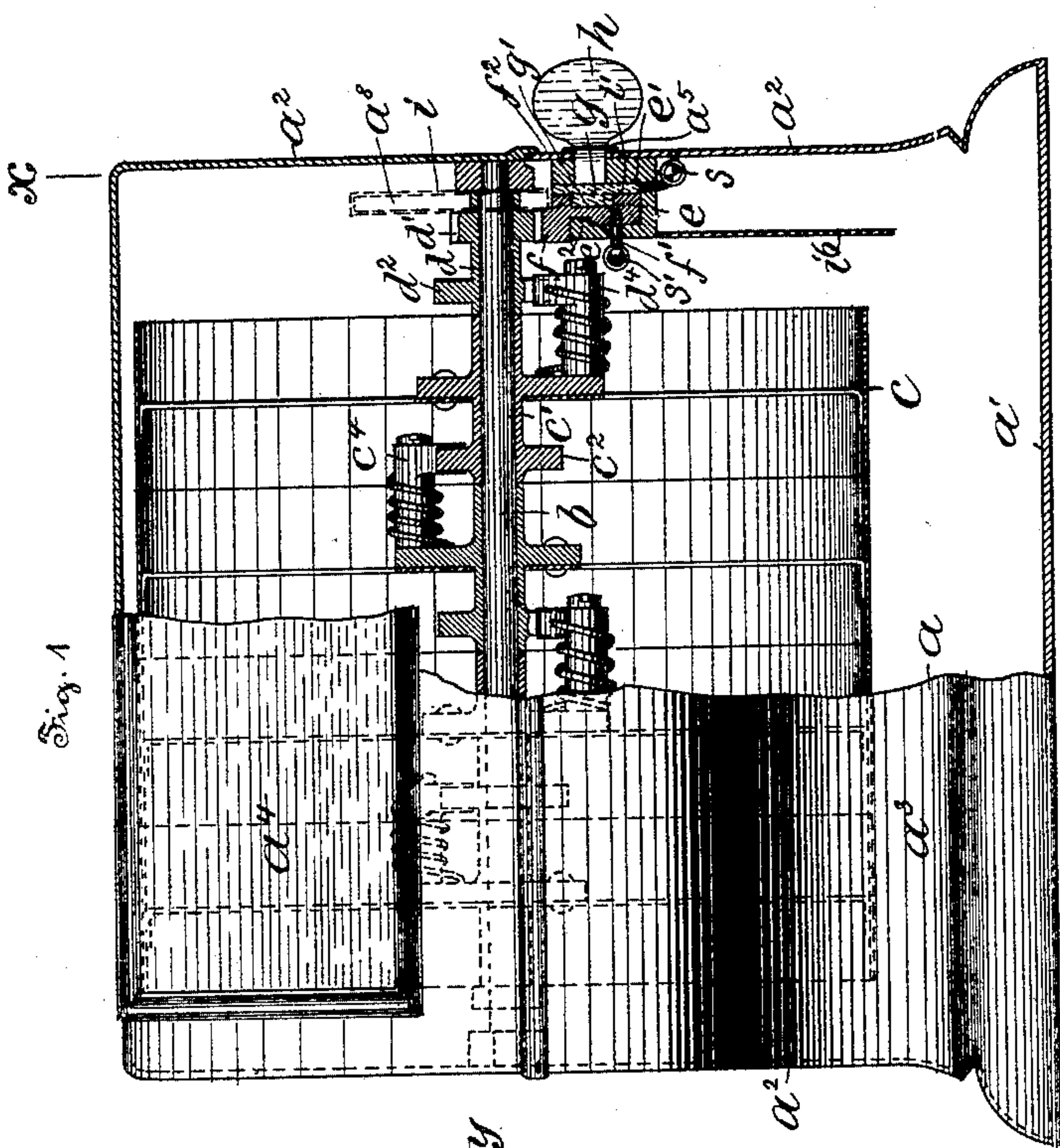


(No Model.)

V. O. STROBEL, H. A. LEWIS & L. G. LAUREAU.  
COIN CONTROLLED MACHINE.

No. 462,283.

Patented Nov. 3, 1891.



Witnesses:  
Karlmann Bornmann.  
Thomas M. Smith.

Inventors:  
Vito O. Strobel, Harry A.  
Lewis & Louis G. Laureau  
J. Walter Douglas.  
Atty.



# UNITED STATES PATENT OFFICE.

VICTOR O. STROBEL AND HARRY A. LEWIS, OF PHILADELPHIA, PENNSYLVANIA, AND LOUIS G. LAUREAU, OF NEW YORK, N. Y.

## COIN-CONTROLLED MACHINE.

SPECIFICATION forming part of Letters Patent No. 462,283, dated November 3, 1891.

Application filed February 24, 1891. Serial No. 382,622. (No model.)

*To all whom it may concern:*

Be it known that we, VICTOR O. STROBEL and HARRY A. LEWIS, of the city and county of Philadelphia, in the State of Pennsylvania, and LOUIS G. LAUREAU, of the city and county of New York, in the State of New York, all citizens of the United States, have invented certain new and useful Improvements in Coin-Controlled Machines, of which the following is a specification.

Our present invention relates, in general, to coin-controlled machines comprising an inclosing case having an opening, a plurality of character-wheels visible therethrough and free to revolve on a shaft, ratchet-and-pawl connections between the shaft and character-wheels, a hand-knob and coin-controlled mechanism between the hand-knob and shaft for permitting of the rotation of the latter by means of the former after a coin has been inserted in a slot, in order to cause said character-wheels to be revolved with different velocities and subsequently arrested by friction in line with the openings, or nearly so; and our invention relates more particularly to certain improvements in the construction and arrangement of the coin-actuating mechanism and of the means for imparting motion from the coin-actuating mechanism to the character-wheels.

The principal objects of our present invention are, first, to provide a simple, durable, and compact coin-controlled machine for affording pleasure and amusement to its patrons and profit to its proprietors, and, second, to reduce the cost and number and simplifying the construction and arrangement of the parts comprising such a machine.

Our invention consists of a coin-controlled machine having a plurality of character-wheels free to revolve upon a shaft, suitable means for connecting the same, a sleeve mounted loosely on said shaft and provided with a pinion and ratchet wheel having saw-teeth, a spring-detent attached to one of said character-wheels and adapted to mesh with and slide on said saw-toothed ratchet-wheel, and means for imparting motion to said pinion.

Our invention further consists of a coin-controlled machine having a series of charac-

ter-wheels free to revolve upon a shaft and provided with projecting hubs, ratchet-and-pawl connections between each of said character-wheels and the hub of the next wheel of the series of character-wheels, and means for positively rotating one of said series of character-wheels.

Our invention further consists of a coin-controlled machine having a series of rotatable character-wheels, suitable means for connecting the same, a pinion for actuating said wheels, a rack-guide, a spring-actuated rack working therein and adapted to mesh with said pinion, a spring-actuated sliding plate provided with a hand-knob and a pocket between said rack and sliding plate adapted for the reception of coins.

Our invention further consists of the improvements in coin-controlled machines hereinafter fully described, and particularly pointed out in the claims.

The nature and objects of our present invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a side view, partly in section, of a coin-controlled machine embodying features of our invention and showing a series of character-wheels free to revolve upon a shaft and provided with projecting hubs and having ratchet-and-pawl connections interposed between each of said character-wheels and the hub of the next wheel of the series of character-wheels; also showing a sleeve mounted loosely on said shaft and provided with a pinion and with a ratchet-wheel for rotating one of said character-wheels. Fig. 2 is a transverse section on the line *x x* of Fig. 1, showing a rack for meshing with a pinion for rotating one of the character-wheels and also showing a sliding plate and coin-controlled devices adapted to permit of motion being imparted to said rack from the sliding plate by means of an interposed coin. Fig. 3 is a horizontal section on the line *y y* of Fig. 2, showing a slot for the reception of coins and a hand-knob for actuating the machine after a coin has been deposited in the slot. Fig. 4 is a side view of a rack and pinion, showing in dotted lines a sliding plate provided with



a hand-knob and also showing a pocket in said rack and plate for the reception of a coin which causes the motion of the sliding plate to be transmitted to the rack. Fig. 5 is a top or plan view of Fig. 4. Fig. 6 is a transverse section of a part of a series of character-wheels, showing a modified form of ratchet and pawl embodying features of our invention in application thereto; and Fig. 7 is a side view of the hub of one of the series of character-wheels illustrated in Fig. 6, showing the pawl formed integral with and struck up from the hub thereof.

In the drawings, *a* is a case of any suitable size and configuration, comprising a base *a'* and plates *a<sup>2</sup>* and curved side and top plates *a<sup>3</sup>*.

*a<sup>4</sup>* is an opening protected by a glass cover and formed in the top plate *a<sup>3</sup>*, for a purpose to be hereinafter described.

*b* is a shaft, preferably attached rigidly at the respective extremities thereof to the end plates *a<sup>2</sup>*. However, this shaft *b* may be supported in suitable bearings and permitted a freedom of rotary motion.

*c* are wheels provided, respectively, with laterally-projecting hubs *c'*.

*c<sup>2</sup>* are ratchet-wheels having V-shaped teeth *c<sup>3</sup>*, Figs. 1, 2, and 3, and attached to or formed integral with the hubs *c'*.

*c<sup>4</sup>*, Figs. 1 and 2, are spring-actuated pawls attached, respectively, to the wheels *c* and provided with V-shaped extremities *c<sup>5</sup>*, adapted to engage in the V-shaped teeth *c<sup>3</sup>* of the ratchet-wheels *c<sup>2</sup>*. These pawls *c<sup>4</sup>* and ratchet-wheels *c<sup>2</sup>* serve to transmit motion from one of the series of wheels *c* to the other wheels of the series and the V-shaped extremities *c<sup>5</sup>* of the respective pawls *c<sup>4</sup>* permit the successive wheels *c* of the series to continue to revolve after the preceding wheels of the series have been brought to rest by friction and until the former are arrested by the sliding contact of the ends of the respective pawls between two of the ratchet-teeth. Moreover the spring-actuated pawls *c<sup>4</sup>* cause each of the wheels *c* to turn either in one direction or the other before coming to rest, so that the numbers or characters upon the periphery of each of the wheels may come opposite or nearly so to the opening *a<sup>4</sup>*, it being understood that there are as many teeth upon each ratchet-wheel *c<sup>2</sup>* as there are numbers or characters disposed around the periphery of each of the wheels *c*.

*d* is a sleeve loosely mounted upon the shaft *b*, and provided with a pinion *d'* and with a ratchet-wheel *d<sup>2</sup>*, having saw-teeth *d<sup>3</sup>*.

*d<sup>4</sup>* is a spring-actuated pawl attached to the first wheel of the series of wheels *c*, and adapted to mesh with the saw-toothed ratchet-wheel *d<sup>2</sup>*, so that when the sleeve *d* is rotated toward the right in Fig. 2 the ratchet-wheel *d<sup>2</sup>* engages the pawl *d<sup>4</sup>* and rotates the first wheel of the series with a positive motion, and the rotary motion of this wheel is transmitted to the other wheels of the series by means of the ratchet-wheels *c<sup>2</sup>* and pawls *c<sup>4</sup>*.

When the sleeve *d* is rotated in the other direction—that is, toward the left in Fig. 2—the pawl *d<sup>4</sup>* slides over the saw-teeth *d<sup>3</sup>* of the ratchet-wheel *d<sup>2</sup>* without imparting motion to any of the wheels *c*.

*e* is a rack-guide attached to one of the sides *a<sup>2</sup>* of the case *a* and provided with ways *e'* and with a projection *e<sup>2</sup>*.

*f* is a rack adapted to mesh with the pinion *d'* and provided at the rear thereof with a longitudinal recess *f'*. This rack *f* is adapted to be shifted in the ways *e'*, and is prevented from moving in a vertical direction by the projection *e<sup>2</sup>*, working in the recess *f'*, Fig. 1.

*f<sup>2</sup>* are longitudinal ways formed in the face of the rack *f*, Fig. 4.

*g* is a sliding plate supported in the ways *e'* and provided with a feather *g'*, working in the ways *f<sup>2</sup>* of the rack.

*h* is a hand-knob attached to the sliding plate *g* and protruding through a slot *a<sup>5</sup>*, formed in the side *a<sup>2</sup>* of the case *a*, so that the plate *g* may be shifted in either direction by the simple operation of shifting the hand-knob *h* in the slot *a<sup>5</sup>*, as shown in Figs. 1 and 3.

*s* is a spiral or other preferred form of spring, attached at one extremity thereof to the sliding bar *g* and at the other extremity thereof to the casing *a*. This spring *s* serves to retain the sliding bar *g* in its normal position, as shown in Fig. 2, and to return the same to such position.

*a<sup>8</sup>* is an aperture formed in the casing *a* and adapted for the reception of coins.

*i* is a chute for conducting the coins from the aperture *a<sup>8</sup>* to a pocket *i'*, Figs. 4 and 5. This pocket *i'* is located between the rack *f* and sliding plate *g*, and is formed by the edges *i<sup>2</sup>* of the feather *g'* and the edges *i<sup>3</sup>* of the ways *f<sup>2</sup>* of the rack *f*.

*i<sup>4</sup>* is a slot located beneath the extremity of the chute *i* and adapted to permit of the passage of coins of less than a predetermined diameter past the sides or edges *i<sup>2</sup>* and *i<sup>3</sup>* and through the pocket *i'*. It will be understood that coins of larger than a predetermined diameter cannot be inserted into the aperture *a<sup>8</sup>*. When a coin of a predetermined diameter *l*—for example, a five-cent piece—is inserted in the aperture *a<sup>8</sup>* it descends through the chute *i* and comes to rest in the pocket *i'*, with its periphery in engagement with the edge *i<sup>2</sup>* and *i<sup>3</sup>*, as shown in dotted lines in Fig. 4, thus forming a connection between the sliding bar *g* and rack *f*, so that when the former is shifted by means of the knob *h* toward the right (in Fig. 2) the coin *l* causes the rack *f* to travel with it toward the right in Fig. 2. The knob *h* is released as soon as the sliding bar *g* and rack *f* have been shifted into their extreme right-hand positions, whereupon the edges *i<sup>2</sup>* and *i<sup>3</sup>* are separated slightly, and the coin *l* being thus released drops through a slot *i<sup>5</sup>* in the rack-guide *e* past a partition *i<sup>6</sup>*, Fig. 1, into the bottom of the case *a*, so that the sliding plate *g* is released from the rack *f* and is returned



automatically by the spring *s* to its normal position. As soon as the rack *f* is released from the sliding plate *g* by the escape of the coin *l*, the spring *s'*, which is attached to the rack *f* and to the rack-guide *e*, causes the rack to be shifted toward the left into its normal position, thus imparting motion to the sleeve *d* and series of wheels *c*, as has been above explained. In practice the coins *l* may be removed from the bottom of the case *a* by means of a door, or in any other preferred manner.

The above-described machine may be used as a means for furnishing amusement by first depositing a coin of the proper diameter—for example, a nickel or five-cent piece—in the slot *a*<sup>8</sup>, then shifting the hand-knob and rack *f* toward the right in Fig. 2, and releasing the hand-knob, whereupon the coin *l* falls to the bottom of the case *a*, and thus permits the spring *s'* to cause the rack *f* to rotate the wheels *c*, and finally guessing the designs, numbers, or characters which will be visible through the opening *a*<sup>4</sup> after the wheels *c* have come to rest.

The construction and mode of operation of the modified form of wheels illustrated in Figs. 6 and 7 are as above described with reference to Figs. 1, 2, 3, 4, and 5, with the following exceptions, that the ratchet-wheels *c*<sup>2</sup> are provided with saw-teeth *c*<sup>3</sup>, disposed upon one of their respective faces, and the pawls *c*<sup>4</sup> are struck up from the hubs of the wheels *c* and are provided with extremities adapted to engage with the saw-teeth *c*<sup>3</sup> when the ratchet-wheels are rotated in one direction and to slide or travel freely over the same when the ratchet-wheels are rotated in the other direction.

It will be obvious to those skilled in the art to which our invention appertains that modifications may be made in the details thereof without departing from the spirit of our invention. Hence we do not limit ourselves to the exact arrangement of parts hereinbefore described; but

Having thus described the nature and objects of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A coin-controlled machine having a plurality of character-wheels free to revolve upon a shaft, pawl-and-ratchet connections between said wheels, a rotatable sleeve provided with a pinion and ratchet-wheel, a spring-detent attached to one of said character-wheels and adapted to mesh with said ratchet-wheel, and coin-controlled devices for imparting motion to said pinion, substantially as and for the purposes set forth.

2. A coin-controlled machine having a plurality of character-wheels free to revolve upon a fixed shaft, pawl-and-ratchet connections between said wheels, a sleeve loose on said shaft and provided with a pinion and ratchet-wheel having saw-teeth, a spring-detent attached to one of said character-wheels and adapted to mesh with said saw-teeth when the

sleeve and pinion are rotated in one direction and to slide on said ratchet-wheel when the sleeve and pinion are rotated in a reverse direction, and means for imparting motion to said pinion, substantially as and for the purposes set forth.

3. A coin-controlled machine having a shaft, a series of character-wheels movably connected with each other at the hubs thereof and free to revolve upon and independently of said shaft, and coin-controlled devices connected with the hub of one of said character-wheels for rotating the same, the construction being such that each wheel actuates the next wheel of the series, substantially as and for the purposes set forth.

4. A coin-controlled machine having a series of character-wheels free to revolve upon a shaft and provided with laterally-projecting hubs, ratchet-and-pawl connections between said hubs, and coin-controlled devices for positively rotating one of said series of character-wheels, substantially as and for the purposes set forth.

5. A coin-controlled machine having a series of character-wheels free to revolve upon a shaft and each provided with laterally-extending hubs, ratchet-wheels on said hubs, spring-pawls struck up from said hubs and adapted to engage said ratchet-wheels, and coin-controlled devices for positively rotating one of said character-wheels, substantially as and for the purposes set forth.

6. A coin-controlled machine having a series of rotatable character-wheels, suitable devices for movably connecting the same, a pinion for actuating one of said wheels with a positive motion, a spring-actuated rack adapted to mesh with said pinion, a spring-actuated sliding plate provided with a hand-knob, and a pocket between said rack and sliding plate and adapted for the reception of a coin, substantially as and for the purposes set forth.

7. A coin-controlled machine having a series of rotatable character-wheels, suitable devices for movably connecting the same, a pinion for actuating one of said wheels with a positive motion, a spring-actuated rack adapted to mesh with said pinion and provided with ways, a spring-actuated sliding plate provided with a hand-knob and with a feather working in said ways, and a pocket between said ways and feather and adapted for the reception of coins, substantially as and for the purposes set forth.

8. A coin controlled machine having a series of rotatable character-wheels, suitable devices for movably connecting the same, a pinion for actuating one of said wheels with a positive motion, a rack-guide having a slot for the escape of a coin, a spring-actuated rack adapted to mesh with said pinion, a plate provided with a hand-knob and adapted to slide on said rack, and a pocket between said rack and plate for receiving and retaining a coin and adapted to deposit the same



through said slot, substantially as and for the purposes set forth.

9. A coin-controlled machine having a fixed shaft, a series of rotatable wheels thereon, ratchet-and-pawl connections between the hubs of said wheels, a sleeve loosely mounted on said shaft and provided with a pinion and with a ratchet-wheel, a detent on one of said wheels and adapted to engage said ratchet-wheel when the latter is rotated in one direction, a spring-actuated rack meshing with said pinion, a sliding bar provided with a hand-knob, and a pocket between said bar and rack adapted for the reception of a coin, substantially as and for the purposes set forth.

In witness whereof we have hereunto set our signatures in the presence of two subscribing witnesses.

VICTOR O. STROBEL.  
HARRY A. LEWIS.  
LOUIS G. LAUREAU.

Witnesses as to Victor O. Strobel and Harry A. Lewis:

THOMAS M. SMITH,  
HERMANN BORMANN.

Witnesses as to Louis G. Laureau:

WALLACE MACFARLANE,  
WILLIAM L. BREWSTER.