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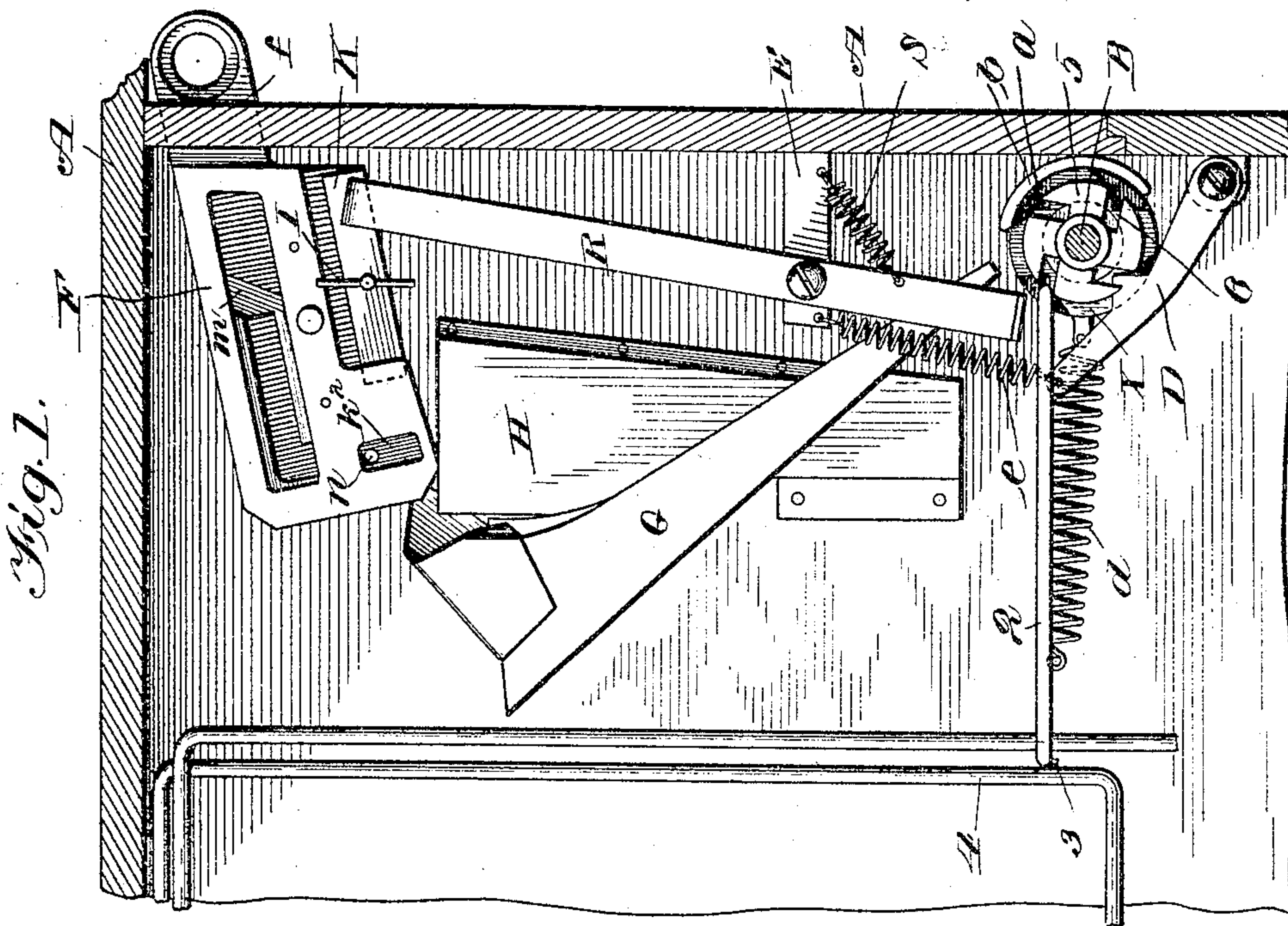
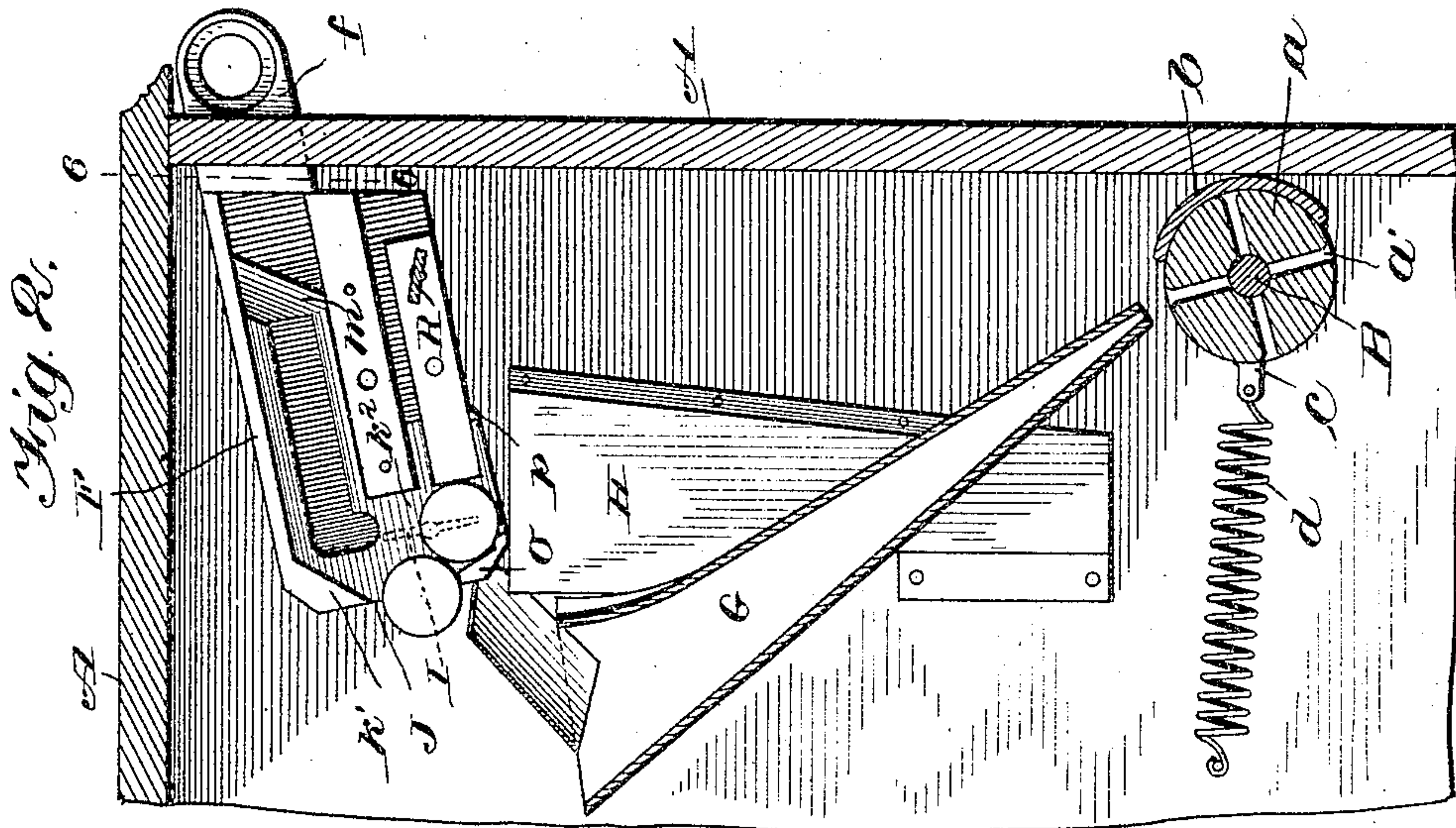
PATENTED AUG. 9, 1904.

C. H. JOY & C. T. FRANTZ.
COIN SELECTIVE AND COIN ACTUATED MECHANISM FOR VENDING
MACHINES.

NO MODEL.

APPLICATION FILED FEB. 17, 1903.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 3.

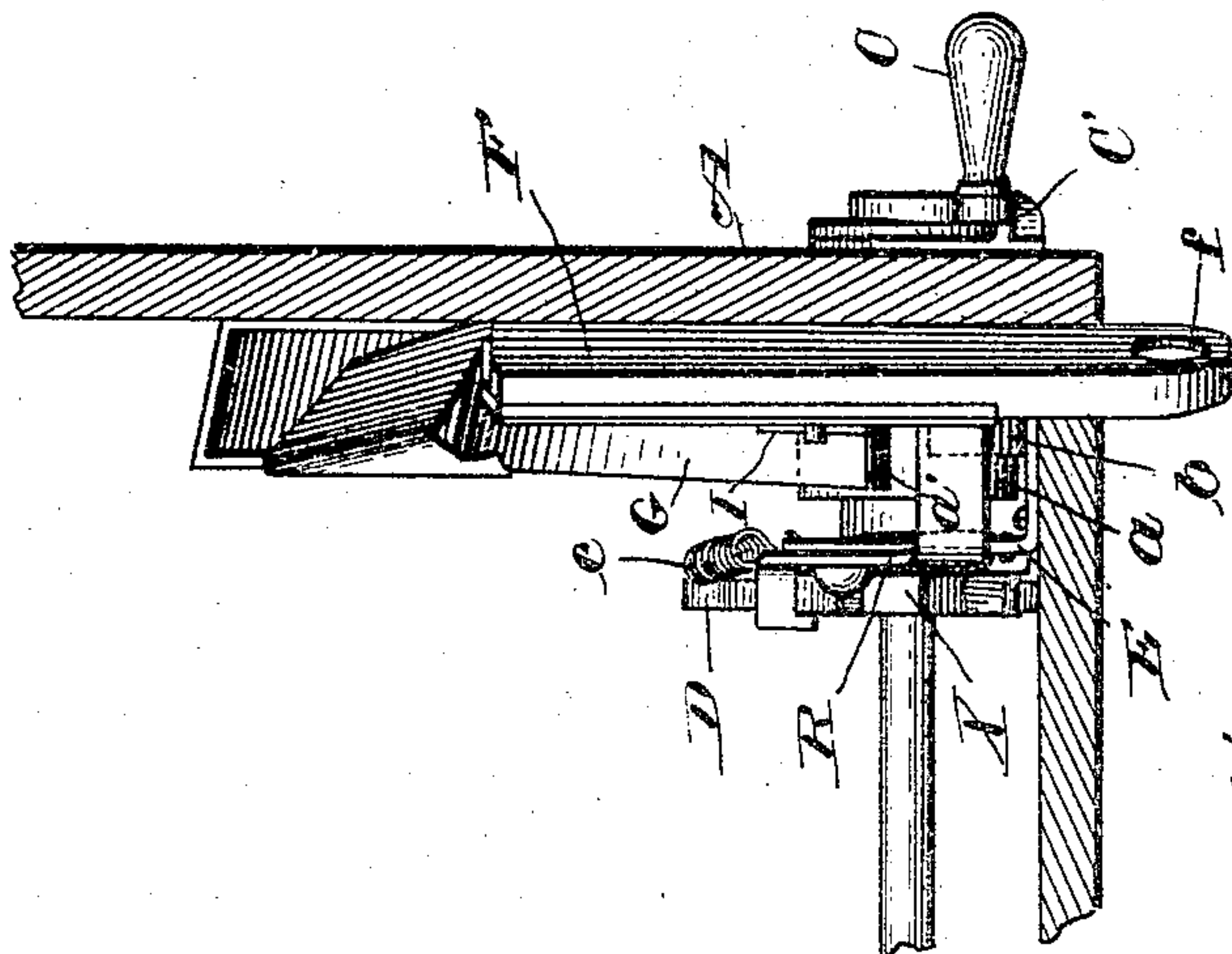


Fig. 4.

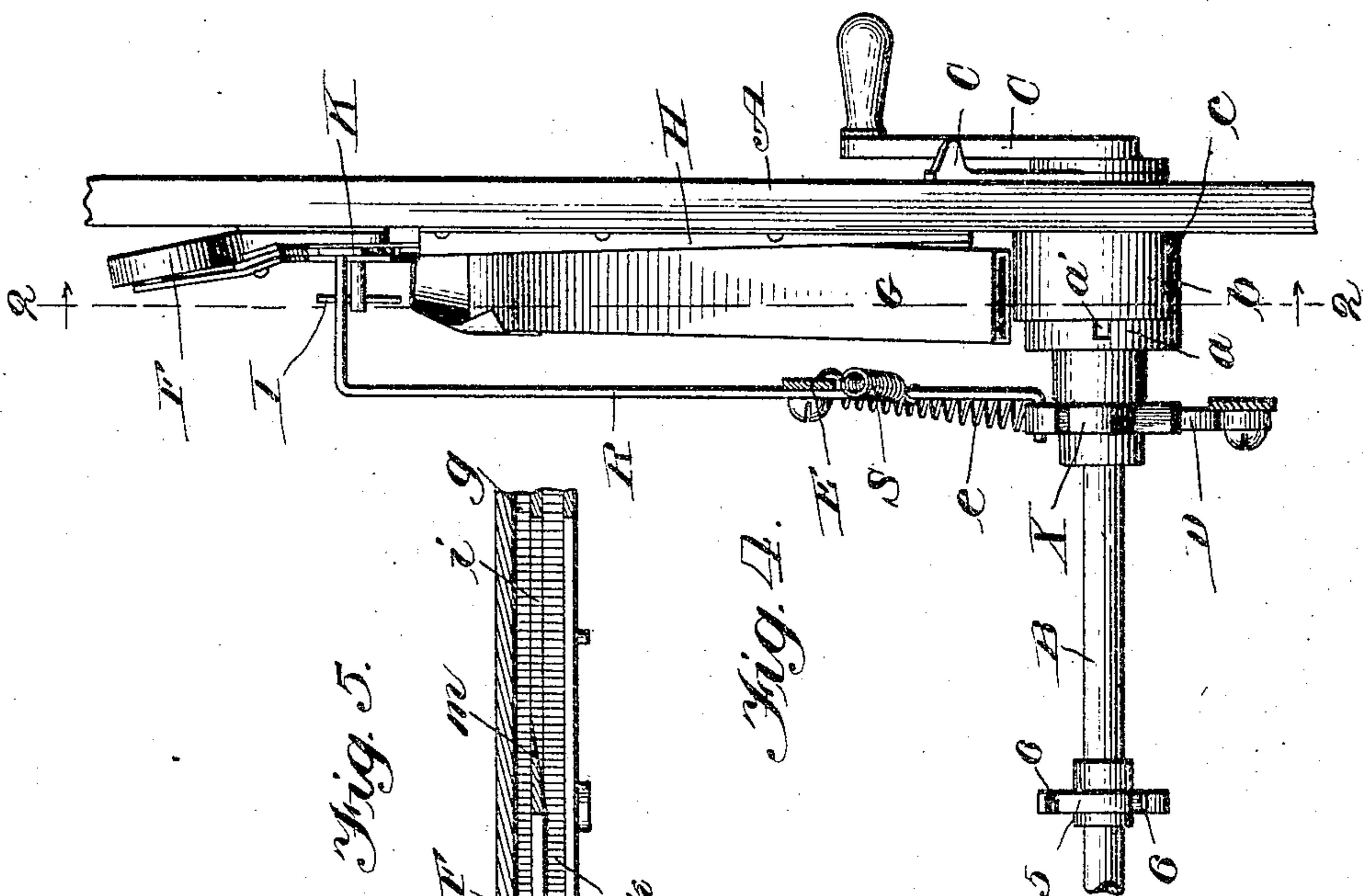
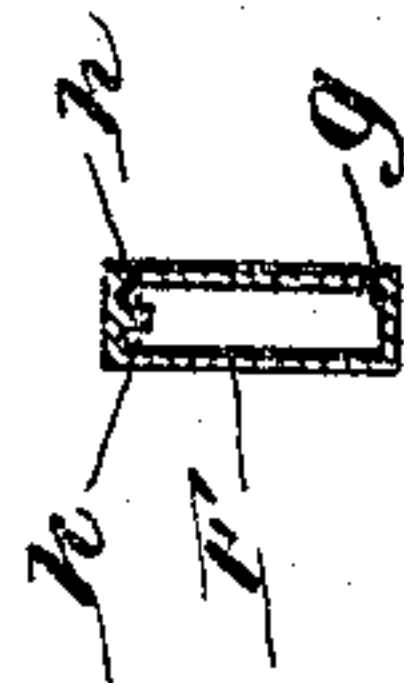


Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

CHARLES H. JOY AND CHARLES T. FRANTZ, OF CHICAGO, ILLINOIS.

COIN-SELECTIVE AND COIN-ACTUATED MECHANISM FOR VENDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 767,345, dated August 9, 1904.

Application filed February 17, 1902. Serial No. 94,444. (No model.)

To all whom it may concern:

Be it known that we, CHARLES H. JOY and CHARLES T. FRANTZ, citizens of the United States, and residents of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Coin-Selective and Coin-Actuated Mechanism for Vending-Machines, of which the following is a specification.

Our invention relates more particularly to coin-operated newspaper-vending machines, although it can be profitably used in conjunction with machines for vending other things.

The objects of the invention are, first, to provide simple, economical, and effective means to enable the machine to select and direct the course of coins of different denomination, so that when the machine is adjusted for the sale of, say, a five-cent issue of a newspaper it could not be operated by the insertion of a penny therein; second, when the machine is adjusted for the sale of a two-penny paper the depositing therein of one penny would fail to operate it, although, third, the mechanism could be adjusted to enable it to be manipulated by a single penny for the sale of a penny publication when desired. This we accomplish by the means hereinafter fully described and as particularly pointed out in the claims.

In the drawings, Figure 1 is a vertical section of a portion of the case of a coin-operated newspaper-vending machine, showing a side elevation of our improvements applied to the inner surface of the side wall thereof. Fig. 2 is a similar view taken in a vertical plane sufficiently near the said side wall as to show the face-plate of the coin-runway removed, the coin-chute and the coin-actuated clutch in section. Fig. 3 shows a corner of the case of the machine in horizontal section and a plan view of our invention. Fig. 4 shows a front elevation of said invention together with a portion of the wall to which it is attached. Fig. 5 is a horizontal section. Fig. 6 is a detail view showing a cross-section of the coin-runway.

Referring to the drawings, A represents portions of the case of the vending-machine

to which our improvements are applied. About the center of height of the case and near the front thereof is a transverse shaft B, one end of which is suitably journaled in the side of the case opposite that to which our improvements are applied and the other end of which is loosely journaled in the hollow boss of a crank C, that is suitably journaled in bearings in the same side of the case to which our said improvements are secured. Just inside of case A next its bearings the hollow boss of the crank C is provided with a plate or disk *c*, one edge of which is provided with a segmental hood *b*, projecting longitudinally therefrom into the machine, the curvature of the inner surface of which is struck from the center of shaft B. Secured on said shaft B is a cylindrical head *a*, which is provided with a series of equidistant radial slots *a'*, preferably four in number, each of which are of sufficient dimensions to receive any coin of the smaller denominations. This head is of such diameter and is so located on shaft B that the hood *b* laps against and covers a segment of its circumference, substantially as shown. Hood *b* is normally retained in the position shown in Figs. 1, 2, and 4 of the drawings by means of a coil contraction spring *d*, one end of which is secured to a lug projecting from plate *c* and the other end to a pin projecting from the side wall of the casing A, substantially as shown. The normal position of the handle C is vertical, and when it is depressed, so as to rotate hood *b*, spring *d* automatically moves it toward its original position when released until it strikes against the stop *C'*, projecting from the outer surface of the side wall of the case, as shown in Figs. 3 and 4.

Secured on shaft B adjacent to the head *a* is a ratchet X of suitable construction, which is engaged by a pivoted pawl or detent D, which is kept in constant engagement therewith by a contraction-spring *e*, connecting the extremity of its extension to the end of a bracket E, secured to and projecting inward from the front of the case, substantially as shown. The action of this pawl and ratchet prevents the return movement of shaft B when the crank is automatically returned to its original position and insures an intermit-

tent movement of the shaft continuously in one direction.

When a coin is deposited in the uppermost radial slot or pocket *a'* by the mechanism constituting the principal part of our invention and the crank is depressed, hood *b* rotates until its adjacent edge comes in contact with the portion of the coin projecting out of said pocket and causes the cylindrical head *a* and the shaft B to revolve therewith during the remainder of its downward movement, and thus operates as a clutch upon shaft B whenever the machine is properly operated by the insertion of the proper coin to turn shaft B and cause it to actuate the devices for the delivery of the thing or article stored in and vended by the machine. It is immaterial, so far as the object of our invention is concerned, what these devices for delivering the article sold by the machine to the purchaser or what said articles are; but we have in Fig. 1 of the drawings shown means in conjunction with which our improvements may be used. These means, briefly described, consist of a tray 2, upon which when in a horizontal position the article to be sold rests. The rear edge of this tray is supported upon a shoulder 3, projecting forward from a guide-frame 4 near its lower end. The forward edge of this tray rests upon the periphery of a recessed disk 5, fast on shaft B, the relative position of the recesses 6 in the periphery of which is such that when shaft B is intermittently moved the forward edge of the tray enters one of said recesses and is carried therein past the center of shaft B, whereupon it drops of its own gravity and discharges the article or thing supported thereby.

Secured to the inner surface of the side of the case A, near the top thereof, is an inclined metallic coin-runway F, the upper part of which is tipped or inclined outward from the wall to which its lower part is attached. This upper part is hollow throughout its entire length and is provided with a forward extension *f*, which projects a suitable distance beyond the front of the case, where its extremity is provided with a lateral opening *f'* of sufficient dimensions to permit of the largest coin which it is intended to use in conjunction with the machine to be inserted therein. The passage *g*, into which the coin first enters, is of such height that such largest coin can easily roll therein, and it extends straight through the runway, but at a point just inside the case. The side wall of this passage *g* is cut away for a short distance, all with the exception of a slight drop-wall *h*, to form a byway *i*, which leads to a parallel passage *k*. If a large coin be inserted into opening *f* of the runway, it will roll down passage *g*, past the byway *i*, which the drop-wall *h* prevents it from entering, and will continue to roll therein out of the lower end of the runway into the upper larger end of a cornucopia-shaped chute G,

which is rectangular in cross-section and has a limited spiral course toward its lower end, through the restricted slot-like orifice of which the coin is discharged direct into the pocket *a'* of the cylinder-head *a*. The coins of smaller size and denomination when deposited in the runway roll down passage *g* until they reach the byway *i* and then, by reason of the lateral tilt given the upper portion of the runway, pass under the drop-wall *h*, through said byway *i*, into the passage *k*. The opposing side *m* of the byway is preferably undercut and beveled on the side thereof toward which the runway is tilted, so as to facilitate and offer as little resistance as possible to the travel of the smaller coin from passage *g* to passage *k*. The lower end of passage *k* is provided with a downwardly-extending offset, into which the coins are directed by the inclined end wall *k'* of said passage. If the machine is intended to be operated only by the larger coins—say nickels—this offset *k* is left open and unobstructed and any smaller coin will drop down through and out of this offset into a chute H and from thence into any suitable receptacle for receiving the coins without affecting the actuating mechanism of the machine. If it is desired to actuate the delivery mechanism with one penny, a key or pin *l* is inserted in a suitable transverse hole *n*, located in the center of this offset passage *k'*, and the penny in transit strikes upon and rides on this obstruction out through an exit-opening J in the lower terminus of the inclined end wall *k'* into the chute G, which directs it to and into one of the pockets of the cylinder-head *a*.

When it is desired to utilize the machine for selling a two-penny publication, a reciprocal bar K is moved longitudinally toward the abutting wall *o*, located at the lower corner of the lower end of the runway at one side of the outlet of the offset passage, so as to restrict said outlet to such an extent that when the first penny is inserted in the runway it will fall into the offset and remain there until after the second penny has been inserted and the crank manipulated. When the second penny is inserted into the runway, it rolls into and through passage *k* and drops upon and rides over the penny confined in the offset and then passes out of the runway through exit J into chute G and from thence into the uppermost pocket of the cylinder-head. The reciprocal bar is supported at the end nearest the offset *k* by the lateral stud *p* and at its opposite end is pivotally connected to the upper end of the longer arm of the vertically-disposed lever of the first class R, which is fulcrumed to the bracket E. The normal tendency of lever R is to keep the reciprocal bar shot toward the offset passage *k'* and its lower end (which is deflected laterally) bearing against the ratchet X. This we accomplish by the coil contraction-spring S, connect-

ing the lower arm of said lever R. Now when one penny is detained in the offset passage k^2 and a second penny is inserted into the machine and in the manner hereinbefore explained is deposited in the upper pocket of the cylinder-head a the turning of crank C not only actuates the shaft B, but through the engagement of the lever R by the ratchet X the reciprocal bar is moved longitudinally away from the abutting wall o , thus releasing the penny held in the offset, which falls through chute H into a suitable receptacle below. When it is desired to leave offset passage k^2 open, bar K is reciprocated back from the offset to the limit of its movement and there held by the insert of the key or pin l , and thus moves the lever R out of the reach of the ratchet.

What we claim as new is—

1. In a coin-operated vending-machine, a runway for coins having a downwardly-extending offset device provided with exits in its side and lower end, in combination with longitudinally-operating means for closing said exit and arresting a coin, and diverting the succeeding coin, and means for actuating said exit-closing and coin-arresting means upon the deposit of the next succeeding coin.

2. In a coin-operated vending-machine, a runway for coins having a continuous passage and a second passage operatively communicating with said continuous passage, a downwardly-extending offset having exits in the side and lower end, in combination with sliding means for closing said side exit and arresting a coin in position for a second coin to pass over, and mechanism for releasing the first-named coin through the action of the second-named coin on said mechanism.

3. In a coin-operated vending-machine, a runway for coins having a downwardly-extending offset near its inner end, a chute, means arranged to be projected lengthwise to arrest a coin between the runway and the chute in the path of travel of a second coin whereby said second coin is guided, and mechanism controlled by a coin for retracting said coin-arresting means.

4. In a coin-operated vending-machine, a runway for coins having a continuous passage and a second passage operatively communicating therewith, a downwardly-extending offset having exits in its side and lower end, in combination with means yieldingly held across said exit to arrest the first coin, and means for actuating said coin-arresting means upon the deposit of the next succeeding coin.

5. In a coin-operated vending-machine, a runway for coins having a continuous passage and a second passage operatively connected therewith, a downwardly-extending offset having exits in its side and lower end, in combination with longitudinally-movable means arranged to arrest the discharge of the first

coin, and means for reciprocating said longitudinally-movable means upon the deposit of the next succeeding coin.

6. In a coin-operated vending-machine, a runway for coins, having a continuous passage and a second passage operatively communicating therewith, a downwardly-extending offset having exits in the side and lower end, in combination with means for closing said side exit and arresting a coin and diverting a succeeding coin, and an oscillating member connected with said exit-closing and coin-arresting means for actuating the same upon the deposit of the next succeeding coin.

7. In a coin-operated vending-machine, a runway for coins having a continuous passage extending from end to end thereof and having a second passage therethrough operatively communicating with said continuous passage near its entrance which is provided at the opposite end thereof with a downwardly-extending offset having exits in the side and lower ends thereof, in combination with means yieldingly projected and automatically retracted for temporarily obstructing the passage of a coin through said side exit and directing it into said lower end exit.

8. In a coin-operated vending-machine, a runway for coins having a continuous passage extending from end to end thereof, and having a second passage therethrough operatively communicating with said continuous passage near the entrance of the latter, and provided at its opposite end with a downwardly-extending offset having exits in the side and lower end thereof, in combination with a reciprocal bar which is adapted to temporarily project into and obstruct the said side exit.

9. In a coin-operated vending-machine, a longitudinally-inclined, laterally tilted runway for coins, having a continuous passage extending from end to end thereof and having a second passage therein, a byway operatively connecting said second passage near the entrance of the latter and provided at its opposite end with a downwardly-extending offset passage having exit-openings in the side and lower ends thereof, and a drop-wall depending from the top of said runway in the plane separating said continuous and said second passage, substantially as described.

10. In a coin-operated vending-machine, a runway for coins having a continuous passage extending from end to end thereof, and having a second passage therein, a byway operatively connecting said second passage with said continuous passage near the entrance of the latter and having a drop-wall in the plane separating said passages and provided at its opposite end with a downwardly-extending offset passage having exit-openings in the side and lower end thereof, in combination with longitudinally-sliding means for obstructing passage through said side exit.

11. In a coin-operated vending-machine, a runway for coins having a continuous passage extending from end to end thereof, and having a second passage therein, a byway operatively connecting said second passage with said continuous passage near the entrance of the latter and having a drop-wall in the plane separating said passages and provided at its opposite end with a downwardly-extending offset passage having exit-openings in the side and lower end thereof, in combination with a reciprocal bar for temporarily obstructing the side exit of said offset, and an automatically-returnable lever operatively connected to said bar.

12. In a coin-operated vending-machine, a runway for coins having a continuous passage and a second passage operatively communicating therewith, a downwardly-extending offset having exits in its side and lower end, in combination with reciprocating means arranged to arrest the discharge of the first coin, a lever operatively connected with said reciprocating means, and a mechanism connected with said lever for releasing said first-named coin through the action of a second coin upon said mechanism.

13. In a coin-operated vending-machine, a runway for coins having a continuous passage and a second passage operatively communicating therewith, a downwardly-extending offset having exits in its side and lower end, in combination with a sliding bar arranged to arrest the passage of the first coin, a lever pivotally connected with said bar, and a mechanism released by the second coin for operating said lever and bar to permit the discharge of the first coin.

14. In a coin-operated vending-machine, the combination with a longitudinally-inclined and laterally-tilted runway having two longitudinal passages therein one of which extends beyond and has an entrance outside of said machine, and the other of which has operative communication therewith near said entrance and is provided with a downwardly-extending offset passage at its opposite end having exits in its side and lower terminal, of a reciprocal bar adapted to temporarily obstruct the lower exit of said offset, an automatically-returnable lever operatively connected to said bar, an intermittently-revoluble shaft, a ratchet suit-

ably operated adapted to move said lever and means for actuating said shaft.

15. In a coin-operated vending-machine the combination with a longitudinally-inclined and laterally-tilted runway having two longitudinal passages therein one of which extends beyond and has an entrance outside of said machine, and the other of which has operative communication therewith near said entrance and is provided with a downwardly-extending offset passage at its opposite end having exits in its side and lower terminal, of a reciprocal bar adapted to temporarily obstruct the lower exit of said offset, an automatically-returnable lever operatively connected to said bar, an intermittently-revoluble shaft, a ratchet suitably operated adapted to move said lever a chute adapted to receive the coins from said runway, a cylindrical head on said shaft having coin-pockets therein to which the chute delivers, an automatically-returnable crank, and a hood connected thereto which is concentric with said shaft and adapted to engage the cylinder and actuate said shaft.

16. In a coin-operated vending-machine, a runway for coins having a continuous passage and a second passage operatively communicating therewith, a downwardly-extending offset having exits in its side and lower end, in combination with means arranged to project across said side exit and arrest the discharge of the first coin, an oscillating member connected with said arresting means, and a mechanism released by the movement of the second coin for operating said member to retract said arresting means and permit the discharge of the first coin.

17. In a coin-operated vending-machine, a runway for coins having a continuous passage and a second passage operatively connected with said continuous passage, a downwardly-extending offset having exits in the side and lower end, in combination with means for arresting a coin, and means for actuating said coin-arresting means upon the deposit of the next succeeding coin.

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