

No. 767,142.

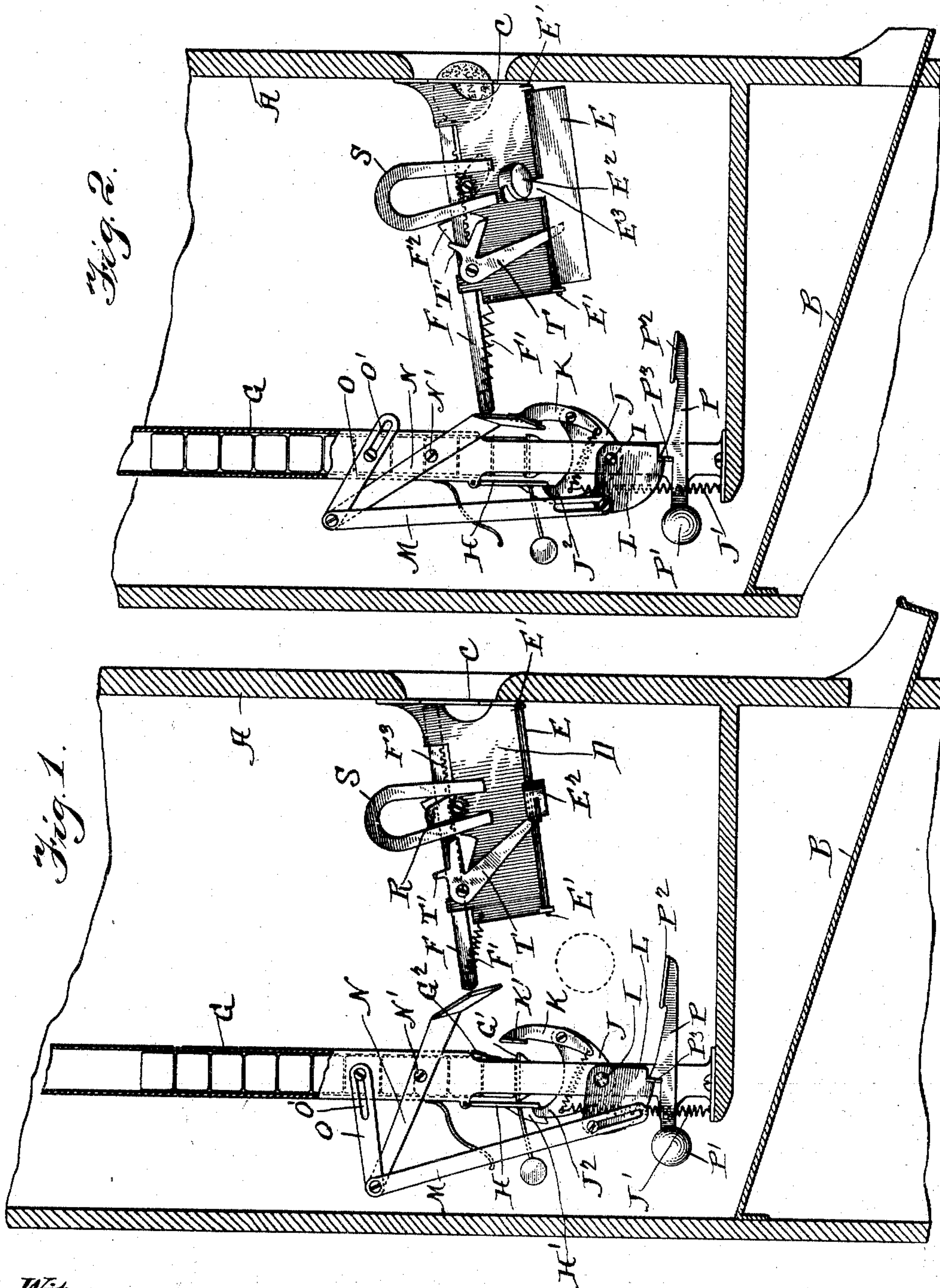
PATENTED AUG. 9, 1904.

J. M. GREUL.
VENDING MACHINE.

APPLICATION FILED MAR. 5, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
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2 SHEETS—SHEET 2.

Fig. 4.

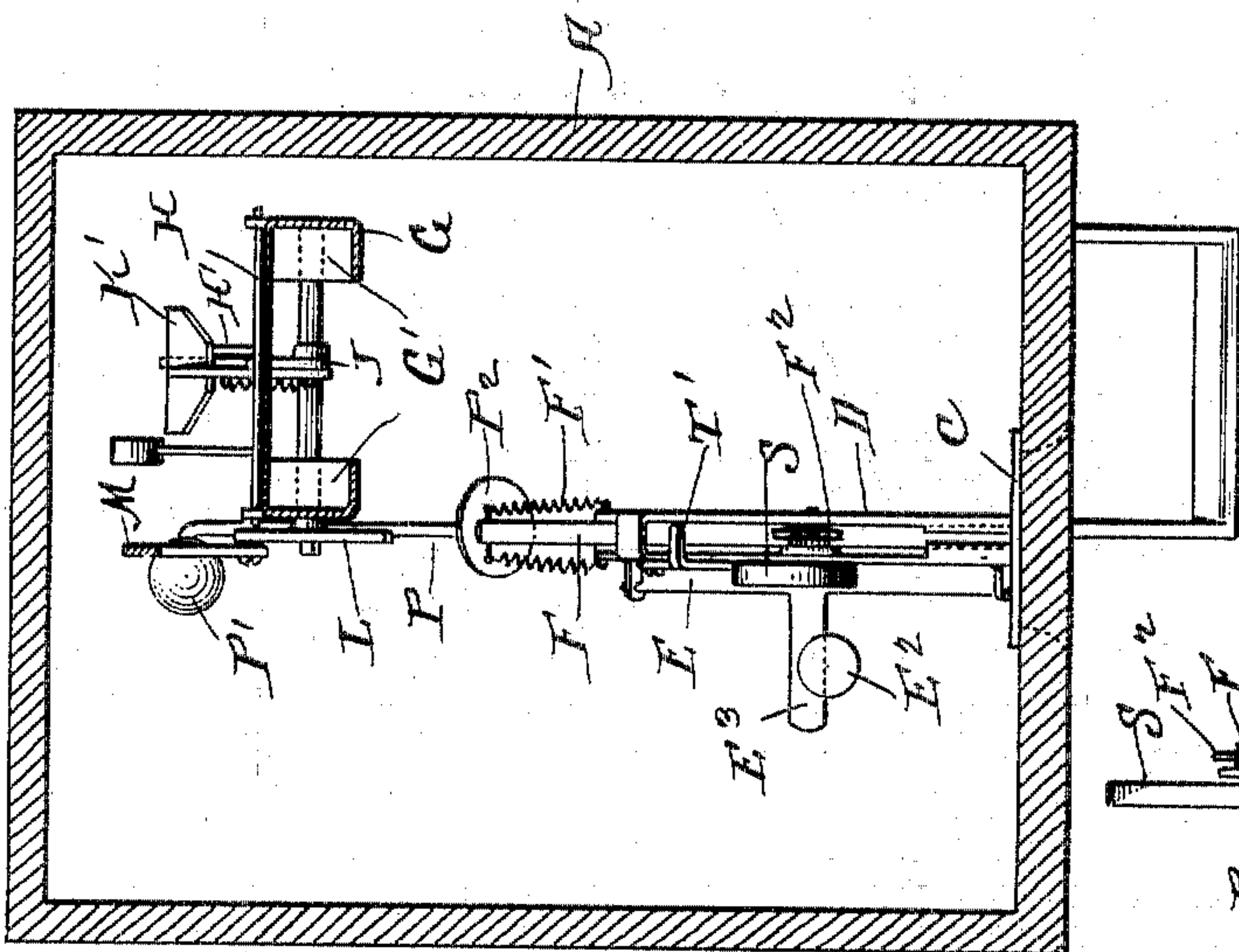


Fig. 5.

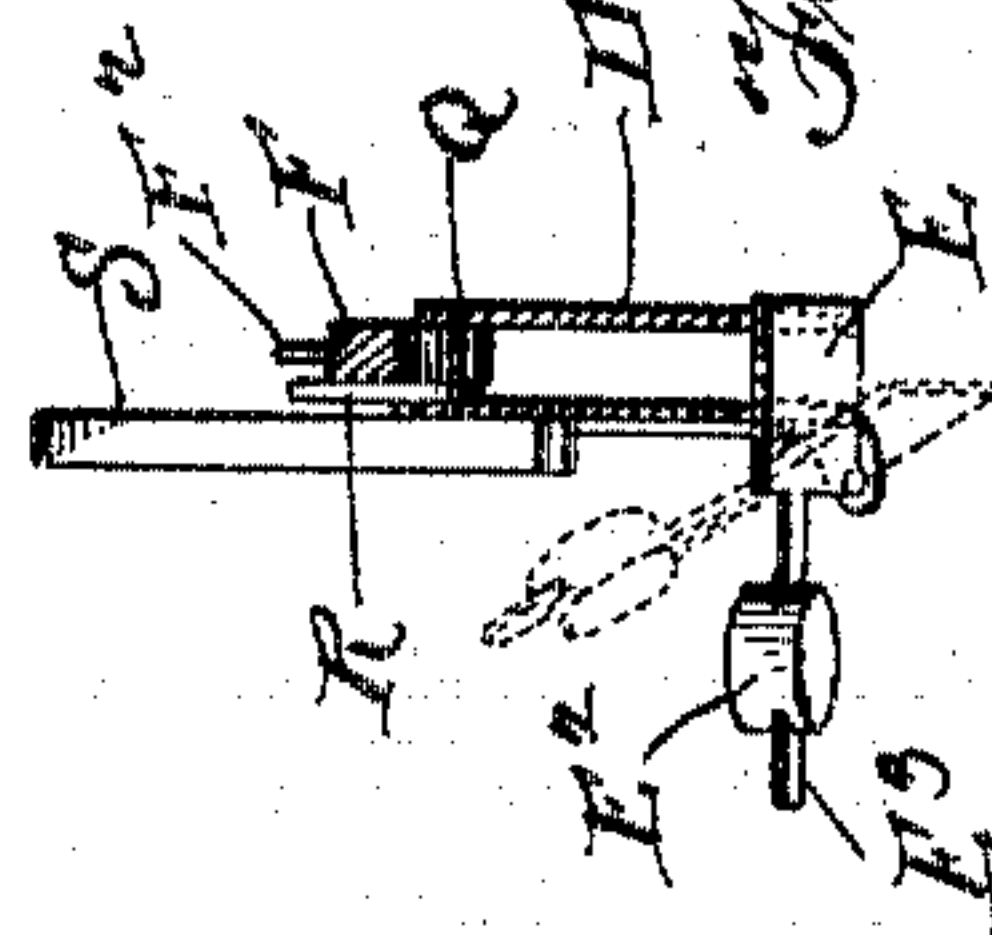
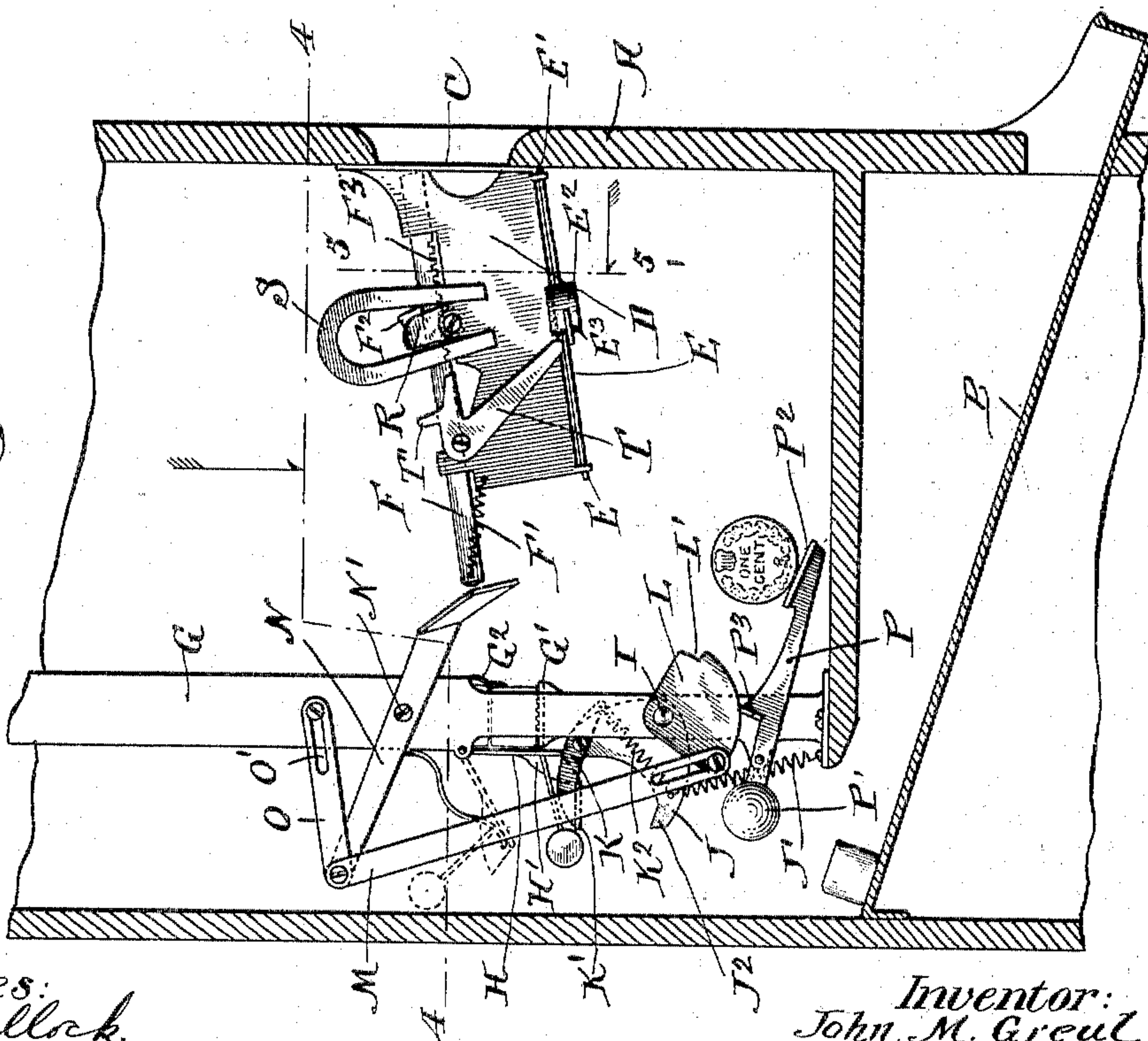


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN M. GREUL, OF PHILADELPHIA, PENNSYLVANIA.

VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 767,142, dated August 9, 1904.

Application filed March 5, 1904. Serial No. 196,733. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. GREUL, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Vending-Machines, of which the following is a specification.

My invention relates to a new and useful improvement in vending-machines, and has for its object to provide a vending-machine which is operated automatically and so constructed that upon the first insertion of the coin the spring-actuated delivery mechanism is set, and this delivery mechanism is then tripped by the weight of the coin falling upon the treadle, the merchandise being locked in the holder at all times except when the lower package of merchandise is being discharged; and a further object of my invention is to provide the coin-chute with a movable bottom, whereby obstructions and illegal coins are allowed to drop through the bottom of the chute.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of my improved vending-machine mechanism, the parts being shown in the position assumed upon the first insertion of the coin, the delivery mechanism being set; Fig. 2, a similar view to Fig. 1, showing the parts in position just before the coin falls upon the tripping-lever; Fig. 3, a similar view to Figs. 1 and 2, showing the position of the parts after the delivery mechanism has been tripped and the package of merchandise discharged; Fig. 4, a section taken on the line 4 4 of Fig. 3; Fig. 5, a section taken on the line 5 5 of Fig. 3.

A represents the casing of the machine, which may be of any suitable shape or design and does not enter into my patent.

B is the delivery-chute for the merchandise.

C is a plate provided with an opening of just sufficient size to allow the insertion of the proper coin therethrough. To the rear of the plate is secured the coin-chute D, which consists of two side walls, between which a proper coin may pass, and a movable bottom E. Said bottom is pivoted at the points E' to one of the sides of the chute, and the bottom is held normally up, so as to close the chute by means of a weight E², secured upon an extended arm E³.

F is a bar adapted to slide longitudinally of the coin-chute, this bar being arranged at the upper end of the chute, a sufficient distance being left between the bar and the bottom of the chute to allow the proper-size coin to roll therethrough; but the forward end of said bar lies rearward of the upper end of the slot through the plate C, so that when the coin is first inserted, as shown in Fig. 1, the bar will be pushed rearward a sufficient distance to allow the coin to drop downward into the chute.

G is the merchandise-holder, in which the packages of merchandise are arranged one on top the other and fed downward by gravity. The lower package of merchandise rests upon a platform G', and the front and rear of the holder G is cut away from the platform upward a distance a little greater than the height of one package of merchandise; but the lower package of merchandise is prevented from falling forward by light springs G², which bear against the forward face of said package, and this lower package of merchandise is prevented from being removed except at the proper time from the rear by means of the swinging door H, pivoted at its upper end to the merchandise-holder. This door is weighted so that it will normally always swing downward.

I is a shaft journaled in the standards which support the merchandise-holder, and upon this shaft is secured a plate J, and this plate is normally held in the position shown in Fig. 3 by means of the spring J'. Pivoted to the plate J at its forward end is a finger K, which finger has a plate K'. To the other end of the finger upon the opposite side of the pivotal point is secured one end of a spring K².

The other end of the spring K^2 is secured to the plate J. A stop is provided upon the finger K to limit its movement in the direction in which the spring tends to throw the same. Thus when the parts are in their normal position, as shown in Fig. 3, the finger K will be underneath the swinging door H, and said finger will be held in contact with the lower edge of the door by means of the spring K^2 , and the lug H' , extending rearward from the door H, lies behind the plate K' upon the finger, so that the door H is locked in its closed position, and therefore the lower package of merchandise cannot be removed or jarred from its place in the holder. Secured upon the shaft I is a segment L, to which is secured eccentrically the lower end of a link M, the link being slotted at its lower end, a screw passing through the slot in the segment L. The upper end of the link M is pivoted to one end of a lever N, said lever being pivoted to the framework intermediate of its two ends at the point N' .

O is a link the outer end of which is pivoted at the same point where the link M and lever N are connected together. The other end of the link O is provided with a slot O' , through which passes a screw into the framework.

Below the segment L is arranged a trip-lever P, pivoted intermediate of its two ends to the framework, and upon the rearward end of said lever is provided a weight P' , and the forward end of said lever is broadened, as indicated at P^2 , providing a plate upon which the coin is adapted to fall from the chute D. This trip-lever P is provided with a projection P^3 , adapted to engage the notch L' , formed in the segment L.

The forward end of the lever N lies, while in its normal position, directly back of the bar F, so that when said bar is pushed rearward by the insertion of a coin, as shown in Fig. 1, the lever N will be rocked upon its pivotal point, which will pull upward upon the link M, and thereby rock the segment L and revolve the shaft I. As soon as the notch L' of the segment L comes in register with the projection P^3 upon the trip-lever P the weight P' will then raise the forward end of the lever P and cause the projection P^3 to engage the notch L' , and thus hold the parts in the position shown in Figs. 1 and 2 against the action of the spring J' . By the revolving of the shaft I the plate J is rocked, and this plate J, carrying the spring-finger K, will carry said finger forward underneath the door H and platform G^3 until it assumes the position shown in Figs. 1 and 2, and the plate K' upon the finger K will be caused to pass underneath the lug H' upon the door H, because as the finger is dragged underneath the door it will be pressed downward, and therefore the plate K' will pass underneath the projection H' , and as soon as the finger has passed

clear of the platform G' it will spring into its normal position relative to the plate J, and when in this position a projection J^2 upon the plate J will come behind the door H, as shown in Figs. 1 and 2, and therefore again lock the door to prevent the accidental displacement of the lower package of merchandise.

The coin in passing from the chute D will drop upon the forward end of the trip-lever P, and the weight of the coin is sufficient to overbalance the weight P' , and therefore remove the projection P^3 from the notch L' , and therefore allow the spring J' to act to rock the plate J, the shaft I, and segment L. As soon as the plate J is returned to its normal position by the spring J' the spring-finger K will be carried rearward with it and engage the forward face of the lower package of merchandise and remove the same from the rear of the holder, the platform G' being divided, as shown in Fig. 4, to allow for the passage of the spring-finger in between, and as soon as the plate J commences to move to its normal position the door H will be unlocked and it will swing upward to allow the passage of the package of merchandise, and as soon as said package has passed it will drop downward in the position shown in Fig. 3 and again be automatically locked.

The bar F is returned to its normal position by means of the spring F' , and the lower surface of said bar is provided with teeth F^2 , adapted to engage a small gear-wheel Q, journaled in the sides of the chute D. Secured upon the same shaft as the gear-wheel Q is a finger R, located in between the sides of the chute.

S is a magnet secured to the chute, and this magnet is adapted to attract and hold any iron or steel washers or disks placed in the machine, and when the next coin is placed in the machine the finger R in revolving will disengage said iron washer or disk from the side of the chute where it is held by the magnet and allow it to drop downward through the bottom of the chute, the door at the bottom of the chute having been automatically opened in the manner I will now describe.

T is a bell-crank lever pivoted upon the outside of the chute, and one member of this bell-crank lever rests upon the door E inside of the pivotal point of the door, so that when this member of the lever is depressed the door will be swung open against the action of the weight E^2 . The member of the bell-crank lever which is in contact with the door E is depressed on the first insertion of the coin, and the finger R in revolving contacts the other member of the bell-crank lever, and therefore will rock the same downward, opening the door. This will allow any matter previously located in the chute to escape, and on the continued movement of the bar F by means of the coin a wedge-shape lug F^2 upon the top of the bar F will come in con-

