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PATENTED FEB. 6, 1906.

G. C. YOCUM.  
AUTOMATIC VENDING MACHINE.

APPLICATION FILED OCT. 28, 1904.

2 SHEETS—SHEET 1.

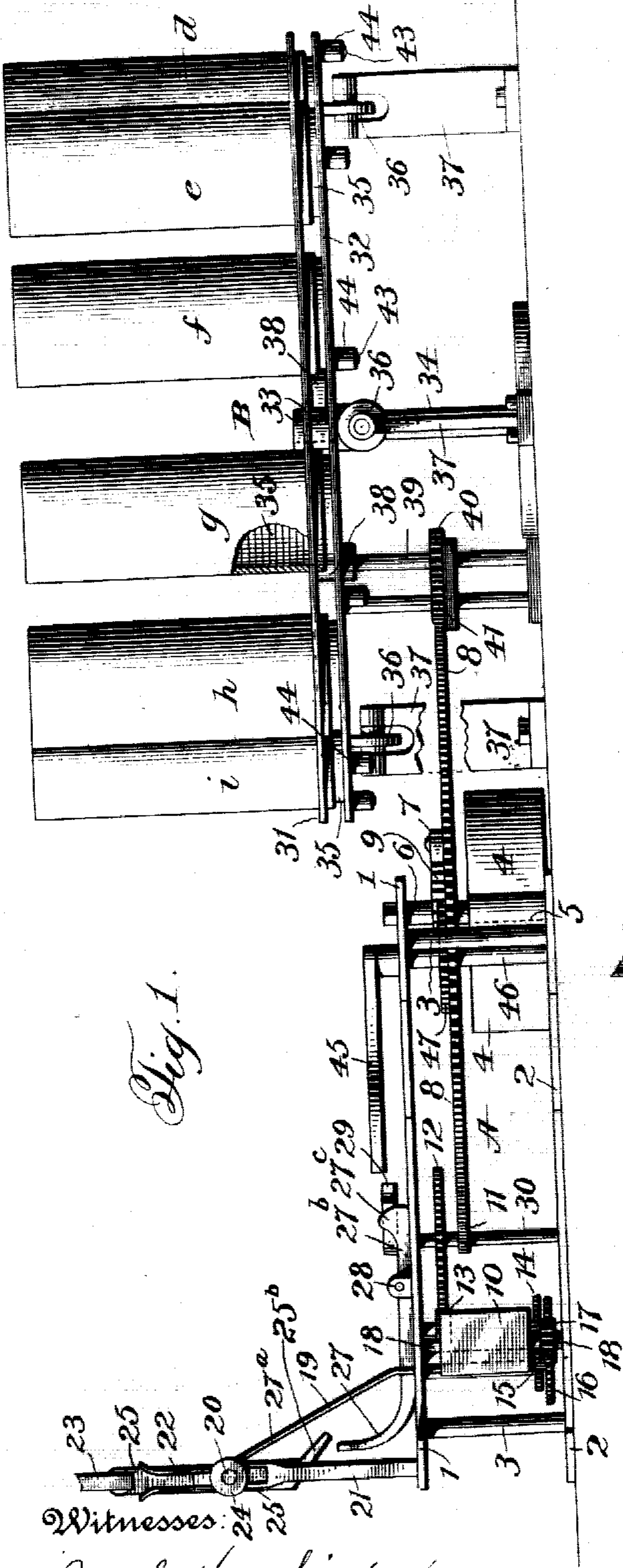


Fig. 1.

Witnesses:

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J. M. Gillman, Jr.

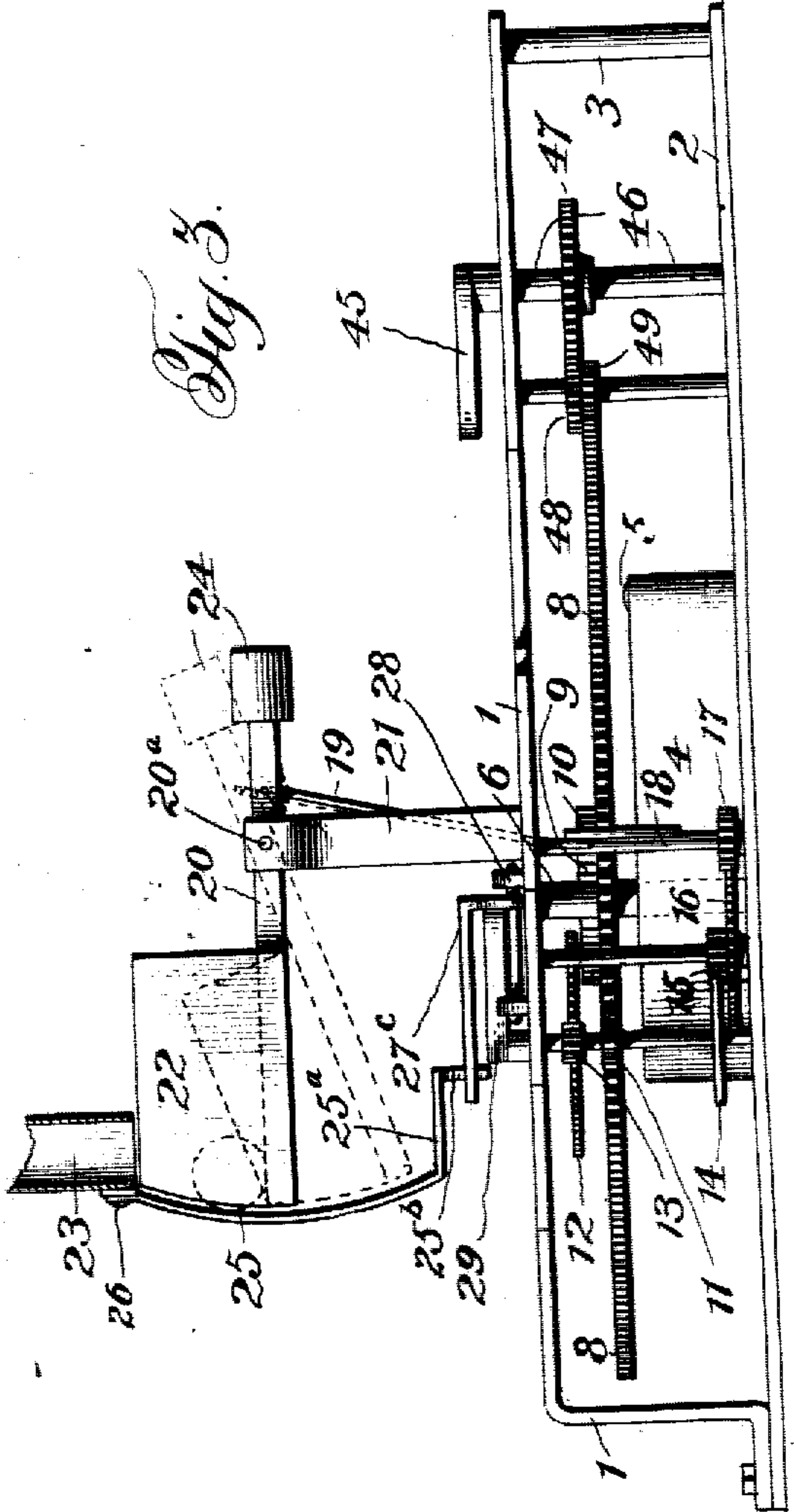


Fig. 3.

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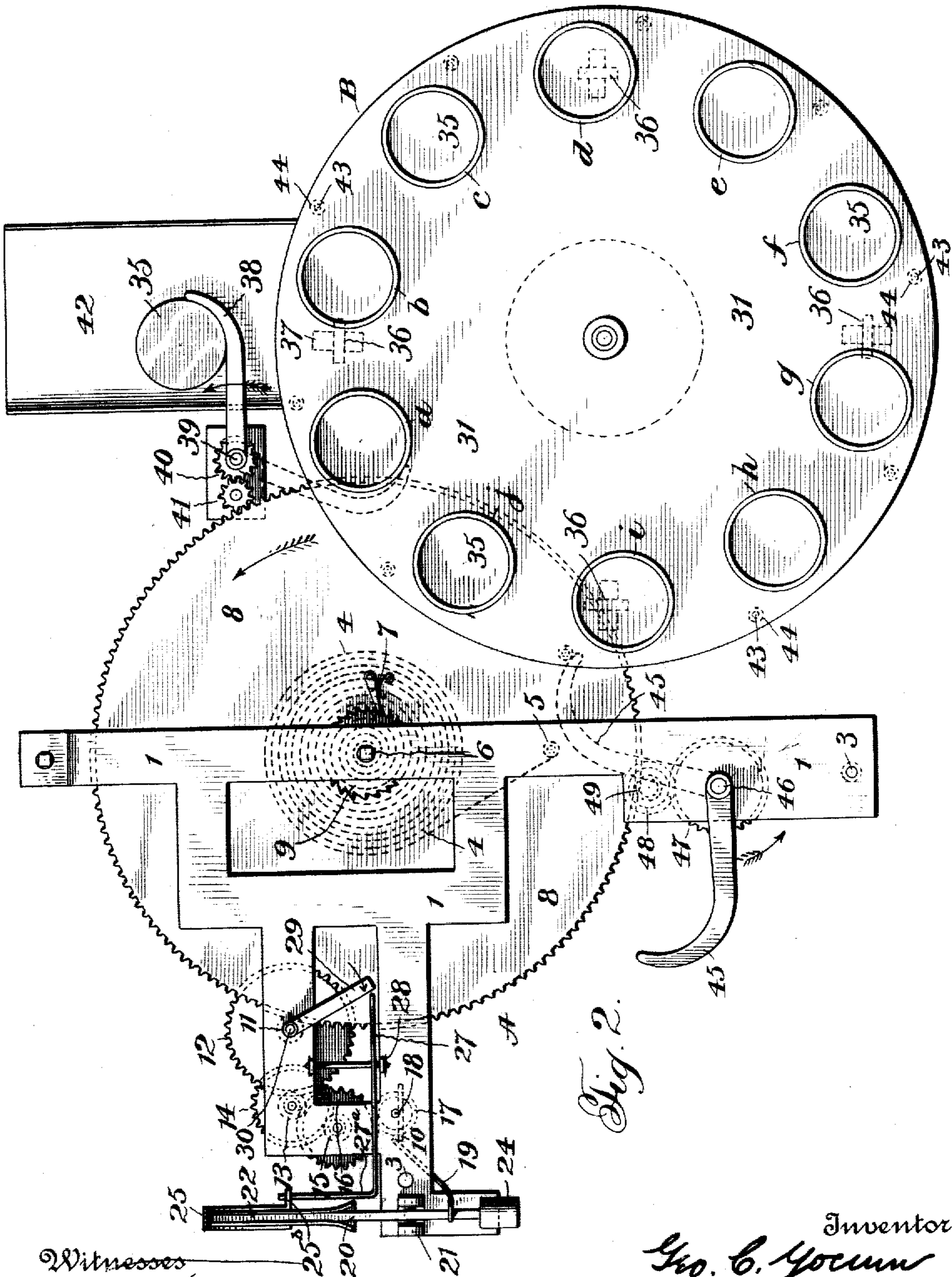


Fig. 2.

Witnesses

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# UNITED STATES PATENT OFFICE.

GEORGE C. YOCUM, OF SCRANTON, PENNSYLVANIA.

## AUTOMATIC VENDING-MACHINE.

No. 811,756.

Specification of Letters Patent.

Patented Feb. 6, 1906.

Application filed October 28, 1904. Serial No. 230,346.

*To all whom it may concern:*

Be it known that I, GEORGE C. YOCUM, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Vending-Machines, of which the following is a specification.

In the sale of beverages at soda-water fountains it is customary at present to require the customer to purchase a check or coupon from the cashier in the store and to present this check or coupon to the clerk who attends to the soda-water fountain, in exchange for the beverage. This custom saves the clerk at the soda-fountain, whose hands are usually wet, the trouble and delay of making change and handling money, and it also serves as a check upon the honesty of the clerk. Where a large business is done, however, the services of one clerk are almost constantly required in making change and issuing checks or coupons to be exchanged at the soda-fountain for drinks.

It is the purpose of my present invention to provide a machine which will automatically deliver such checks or coupons when coins of the proper denomination are inserted into the machine by the customers, thus saving the services of one clerk. While the machine is especially designed for this purpose, it is also suitable for use as an automatic vending-machine, in which case the machine is to be loaded with vendible articles instead of checks which are to be exchanged for vendible articles.

The details and operation of my invention will be clear from the following specification, taken in connection with the accompanying drawings, in which—

Figure 1 is a side view of the interior mechanism of the machine. Fig. 2 is a plan view of the same; and Fig. 3 is an end view of the machine looking from the left in Fig. 2, the magazine-carrier being omitted.

Referring to the drawings, A indicates a spring-motor, the various shafts of which are journaled in upper and lower parallel frames 1 and 2, respectively, which are held at fixed distances apart by suitably-arranged posts or pillars 3. The mainspring 4 of the motor has one end secured to a post 5, and the opposite end is secured to a winding-shaft 6, having an angular end, as shown, suitable for engagement by a key. A spring holding-pawl 7, pivoted to a large main operating-

gear 8, engages a ratchet-wheel 9 upon the winding arbor or shaft 6. The operating-gear 8 is arranged to drive a fan-governor 10 through a series of intermediate speed-multiplying pinions and gears 11 to 17, inclusive, the gear 17 being arranged upon the shaft or arbor 18, which carries the fan-governor. The operating-gear is normally held against rotation when the mainspring is wound by means of a rod 19, which has one of its ends secured to a lever 20 and its other end arranged to engage and hold the fan-blade 10, as shown in Fig. 2. The lever 20 is journaled upon a suitable standard 21, and upon the longer arm of the lever is arranged a grooved coin-receptacle 22, which is in line with a coin-chute 23, extending through the casing of the machine. The shorter arm of the lever, to which the rod 19 is attached, is provided with a counterbalance 24, which tilts the lever, so that the rod 19 will intercept the fan and the coin-receptacle will be in its upper position adjacent to the end of the coin-chute, as shown in Fig. 3.

When a coin of the proper denomination is inserted into the coin-chute, it falls into the receptacle 22, and the weight of the coin tilts the lever 20 into the position shown in dotted lines, Fig. 3, thus lifting the rod 19 out of engagement with the fan and permitting the motor to operate at a speed which is controlled by the fan. The coin which has entered the receptacle is held therein temporarily, while the lever 20 is tilted into the position shown in dotted lines, Fig. 3, by a coin-retaining device consisting of a rod or bail 25, made from a flat strip of metal, said bail being pivoted at 26 to the coin-chute 23 and curved concentric with the pivotal axis 20<sup>a</sup> of the coin-lever 20. The bail is arranged to hang close to the rear open end of the coin-receptacle, so that a coin dropped into the coin-receptacle will rest against the curved part of the bail until the latter is swung to one side. The lower part 25<sup>a</sup> of the bail extends horizontally beneath the coin-receptacle and terminates in a downwardly-inclined lateral arm 25<sup>b</sup>, which projects over a lateral extension 27<sup>a</sup> of a release-lever 27, which is pivoted at 28 to the motor-frame. The shorter arm 27<sup>b</sup> of the release-lever has an upwardly-projecting cam-surface 27<sup>c</sup>, arranged in the path of movement of a lever-operating arm 29, which is secured to the vertical shaft or spindle 30, which carries the pinion 11 and gear 12.



When the motor is started into operation by the withdrawal of the rod 19 from engagement with the fan-governor, caused by the weight of the coin in the coin-receptacle, the releasing-arm 29 moves in the direction of the arrow, Fig. 2, and the motor continues to operate until this arm engages the cam-surface 27<sup>c</sup> and depresses the shorter arm 27<sup>b</sup> of the release-lever. This causes the longer arm 27<sup>a</sup> to press upward against the inclined arm 25<sup>b</sup> of the coin-retaining device, and thus swing the curved part of said device laterally out of the way of the coin, so that the latter may drop out of the receptacle. As soon as the coin is released, the coin-controlled lever 20 rocks into its normal position and the rod 19 is moved downward into position to engage the fan and stop the further operation of the motor. The releasing-arm 29 passes over  
 25 the cam-surface 27<sup>c</sup> before the motor comes to a stop, so that the releasing-lever assumes its normal position just before the motor stops, and the parts are then in position to repeat the operation when another coin is inserted into the machine.

A rotatable magazine-carrier B is arranged adjacent to the motor A, and it comprises two parallel horizontally-arranged disks 31 and 32, rigidly secured together at the center  
 30 by a bushing 33, which is journaled upon the upper end of a stationary post or bearing 34. The upper disk 31 carries near its periphery a circular series of magazines *a b c d*, &c., each magazine consisting of a vertically-arranged  
 35 tube open at the top and bottom and secured within an opening in the disk 31. The lower disk 32 serves as a table to support the checks 35, which are placed within the magazines, and this table is separated from the lower  
 40 ends of the magazines by a distance slightly greater than the thickness of one check, so that the lowermost checks or other articles to be delivered may be withdrawn from beneath the vertical columns of articles in the maga-  
 45 zines without removing any of the others. The magazine-carrier may be further supported by roller or ball bearings 36, arranged upon suitable supports 37 and arranged beneath the supporting-table 32, which carries  
 50 the entire weight of the checks or other articles in the magazines.

One check or other article is withdrawn from beneath a magazine each time the motor is started into operation by means of a rotatable delivery-arm 38, which is mounted  
 55 upon a vertical shaft 39 adjacent to the magazine-carrier. The shaft 39 is driven by a gear 40, secured to the shaft 39 and meshing with a gear 41, which in turn meshes with the operating-gear 8. The ratio of gearing is such  
 60 that during each period when the motor is in operation the delivery-arm 38 will make one complete revolution, and this arm is arranged to sweep over the supporting-table 32 beneath the adjacent magazine and carry the

lowermost check from the magazine onto a delivery-chute 42, which carries it outside of the casing, so that the check or other article may be obtained by the purchaser.

In the drawings ten magazines are shown  
 70 which combined will hold a large number of checks such as are used at soda-fountains. Instead of arranging the machine so that all of the checks from one magazine will be removed before any are removed from the suc-  
 75 ceeding magazines I arrange feeding mechanism which will rotate the magazine-carrier one step to bring a succeeding magazine to the delivery-point each time a check is delivered or after two checks are delivered from  
 80 a single magazine. By this arrangement the checks from all the magazines become exhausted at about the same time and the load upon the carrier is evenly distributed. In the drawings I have shown the means for  
 85 moving the carrier one step after two checks have been removed from the magazine. As shown in the drawings, a series of ten equidistant studs 43, projecting downwardly from the supporting-table near its periphery, carry  
 90 rollers 44, which are engaged successively by a curved rotary arm 45, mounted upon a shaft 46, which is driven from the operating-gear 8 by means of a train of gears 47, 48, and 49. These gears are so proportioned  
 95 that the arm 45 makes one-half of a revolution during each period when the motor is in operation. During two operations of the motor the delivery-arm 38 makes two revolutions and withdraws two checks, while the  
 100 table-moving arm 45 makes one revolution and engages one stud on the table and moves the latter one step to bring a succeeding magazine within the range of the delivery-arm.

Having described my invention, what I  
 105 claim, and desire to secure by Letters Patent, is—

1. The combination with a motor, and means for starting and stopping the same, of a movable magazine-carrier having a series of  
 110 magazines thereon and supporting means, movable with the carrier, for supporting articles in the magazines, a delivery device operated by the motor and arranged to remove an article from one of said magazines while the  
 115 carrier is stationary, and mechanism operated by said motor for moving the carrier intermittently to bring the magazines successively into operative relation to said delivery device.

2. The combination with a motor, and means for starting and stopping the same, of a movable magazine-carrier having a series of  
 120 magazines thereon and supporting means, movable with the carrier, for supporting articles in the magazines, a delivery device and means for moving said device to eject an article from one of said magazines each time  
 125 the motor is started into operation, and while the carrier is stationary, and a feeding device  
 130

arranged to operate said carrier one step after the delivery device has operated two or more times.

3. The combination with a motor comprising an operating-gear, and means for stopping and starting the motor, of a magazine-carrier having a series of magazines thereon and supporting means, movable with the carrier, for supporting articles in the magazines, a delivery-arm geared to said operating-gear and arranged to pass between the magazine and said supporting means to remove an article from said magazine while the carrier is stationary, and a feeding device geared to said operating-gear and arranged to move the carrier intermittently.

4. The combination with a motor having an operating-gear, and means for stopping and starting the motor, of a rotatable magazine-carrier arranged adjacent to said gear and having a series of magazines thereon and means, movable with said carrier, for supporting articles in the magazines, an article-delivery arm driven by said gear and arranged to pass between said magazines and supporting means to remove articles from the magazines, and an arm operated by said gear and arranged to move the magazine-carrier intermittently.

5. In an automatic vending-machine, a

magazine-carrier comprising a horizontally-arranged rotatable table, a series of magazines supported above and rotatable with said table, a rotatable delivery-arm arranged to pass between said table and the lower ends of said magazines, a rotatable feed-arm arranged to move said table intermittently and a motor for operating said delivery and feed arms.

6. In an automatic vending-machine, the combination with a motor, of a magazine-carrier comprising a horizontally-arranged centrally-pivoted table, a disk or spider rotatable with the table and having a circular series of magazines secured thereto and supported with their lower ends a short distance above the table, a corresponding series of pins or studs secured to said table, a feed-arm operatively connected to the motor and adapted to engage said studs successively, and a delivery-arm operatively connected to the motor and adapted to pass between the table and the lower ends of the magazines.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE C. YOCUM.

Witnesses:

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B. M. SMITH.