No. 815,860. PATENTED MAR. 20, 1906.

F. T. PERCY.

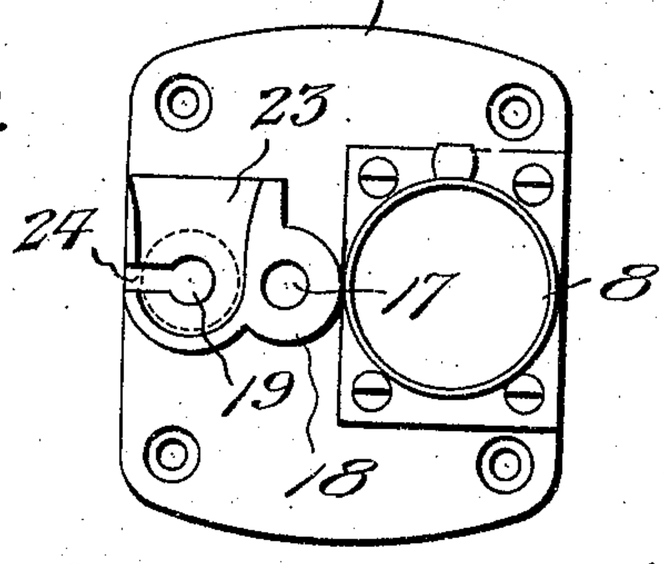
COIN CONTROLLED DISPENSING APPARATUS.

APPLICATION FILED NOV. 1, 1904.

3 SHEETS—SHEET 1.

Fig. 1.

Fig. 9.



Witnesses

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3 SHEETS—SHEET 2.

Fig. 2.

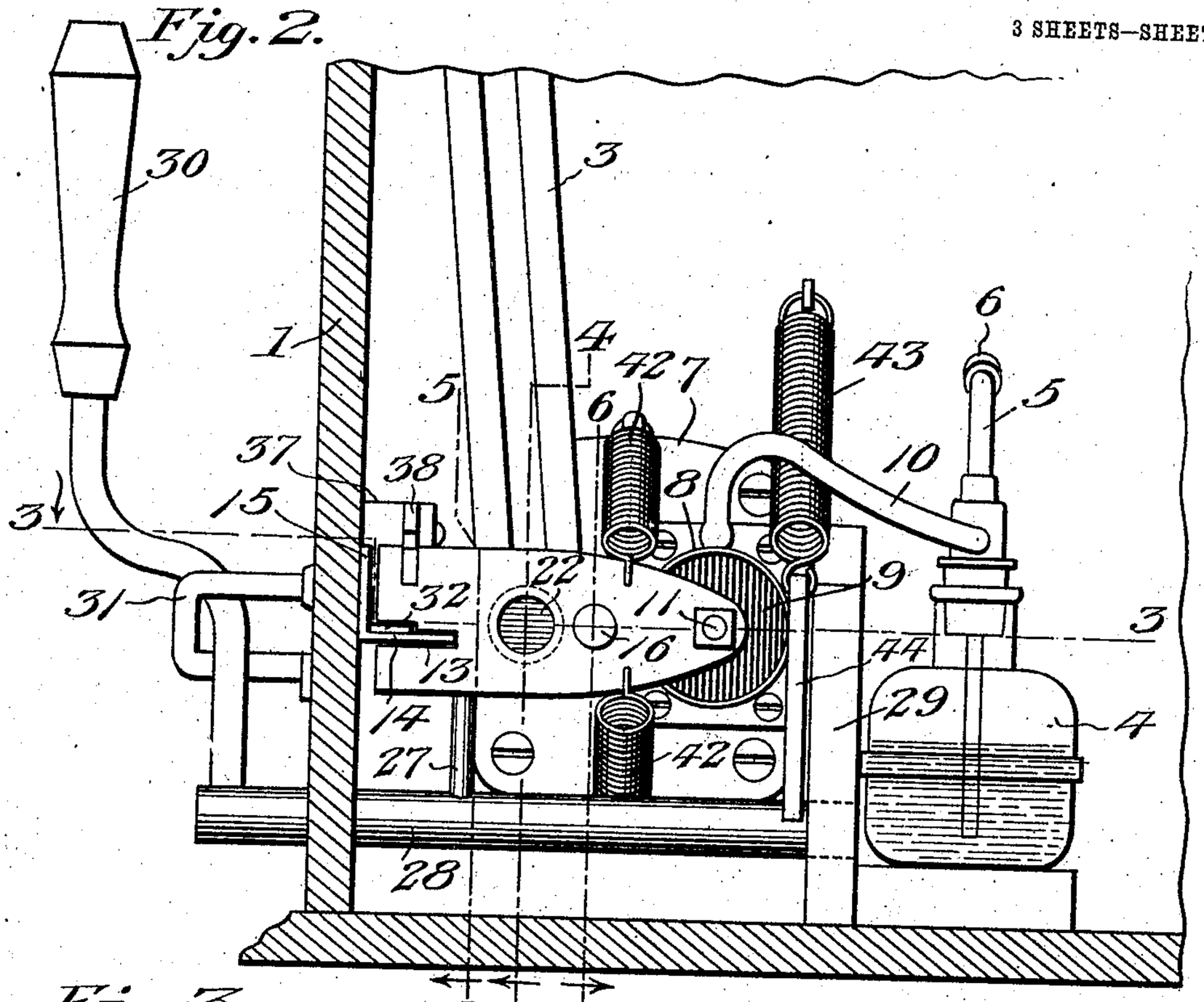
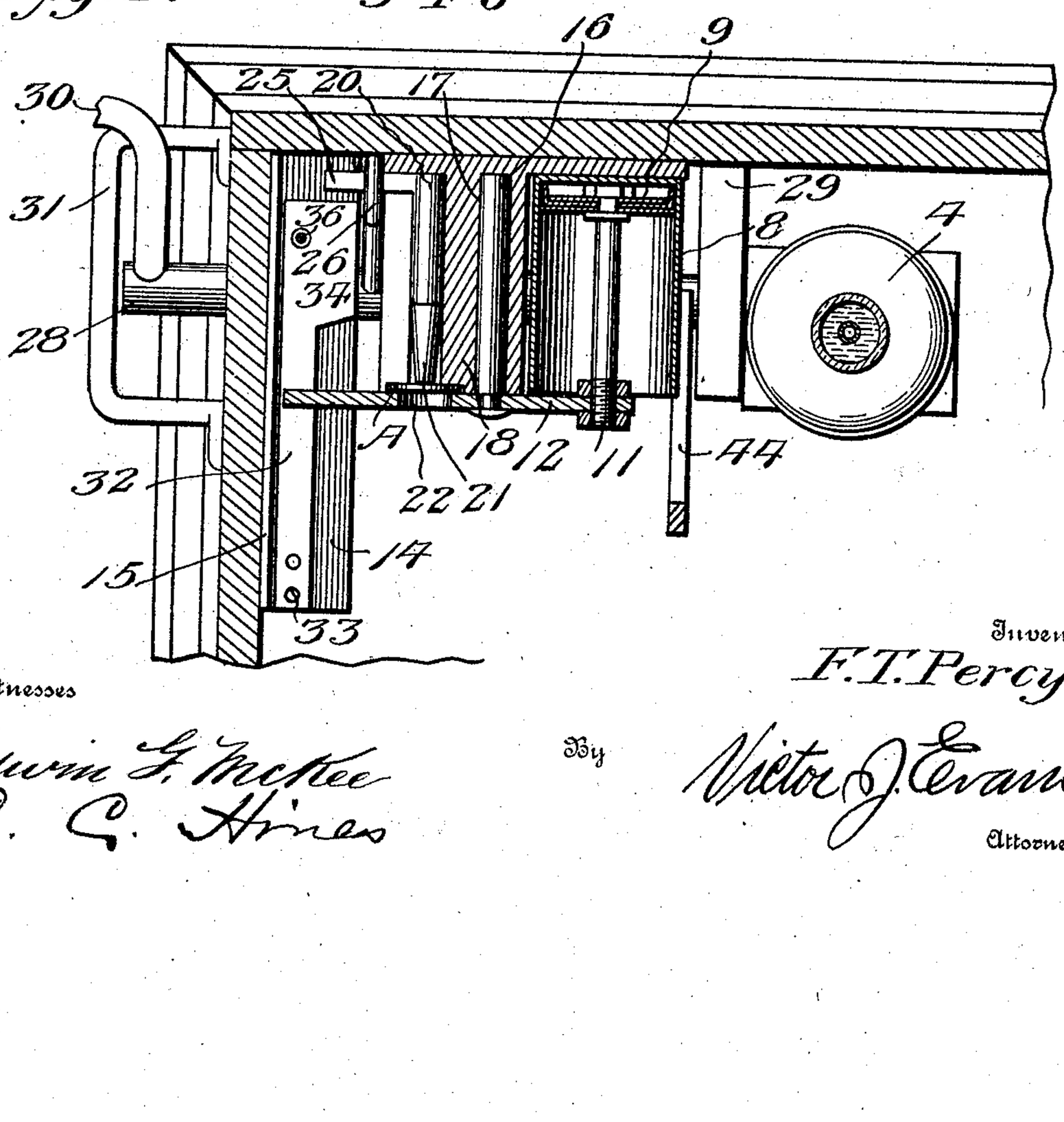


Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

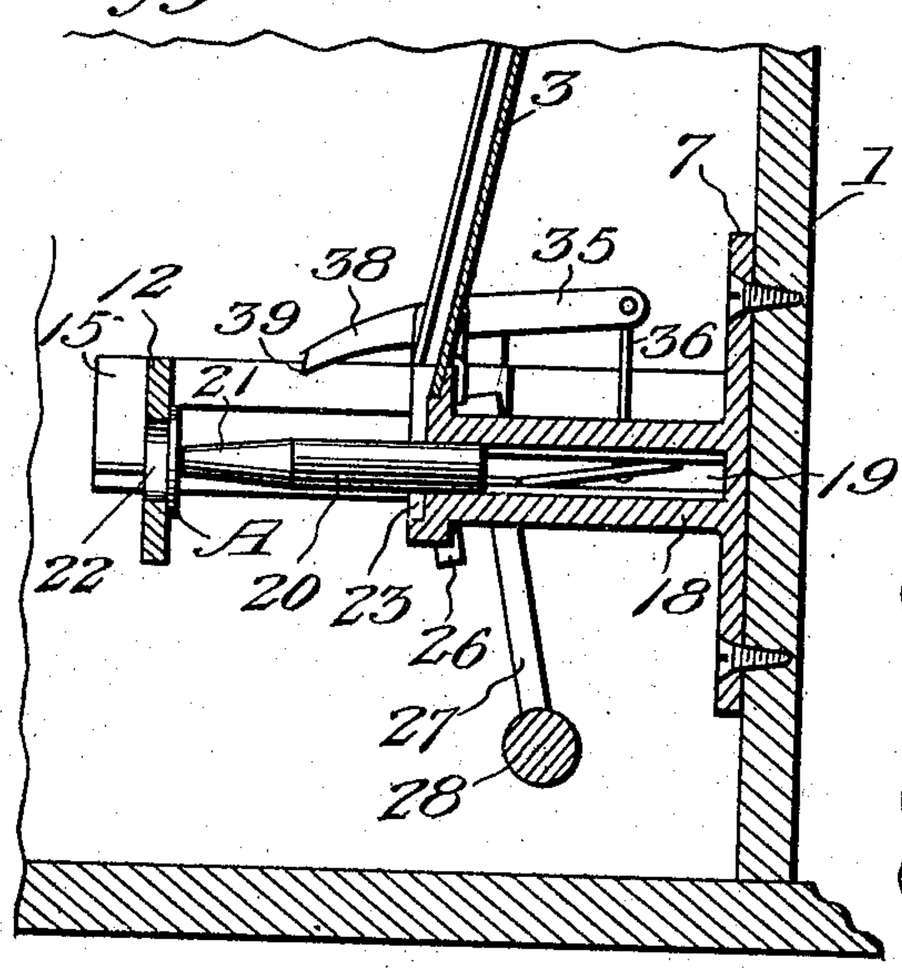


Fig. 5.

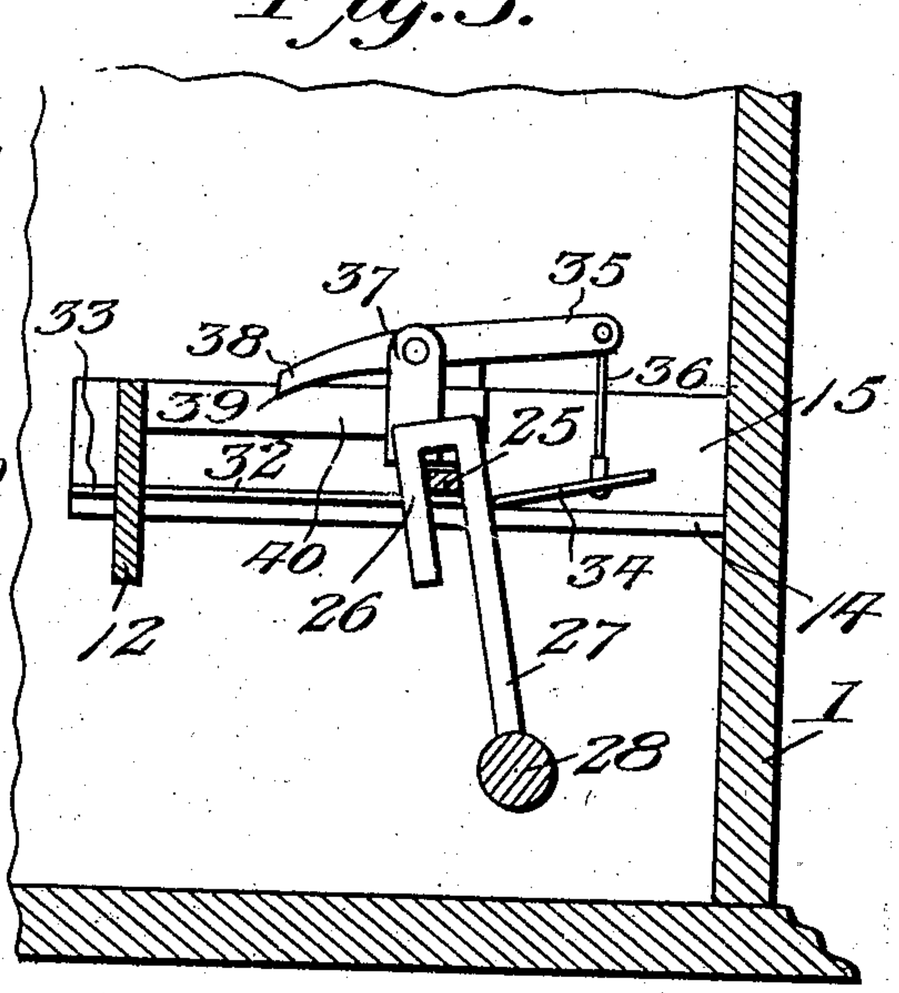


Fig. 6.

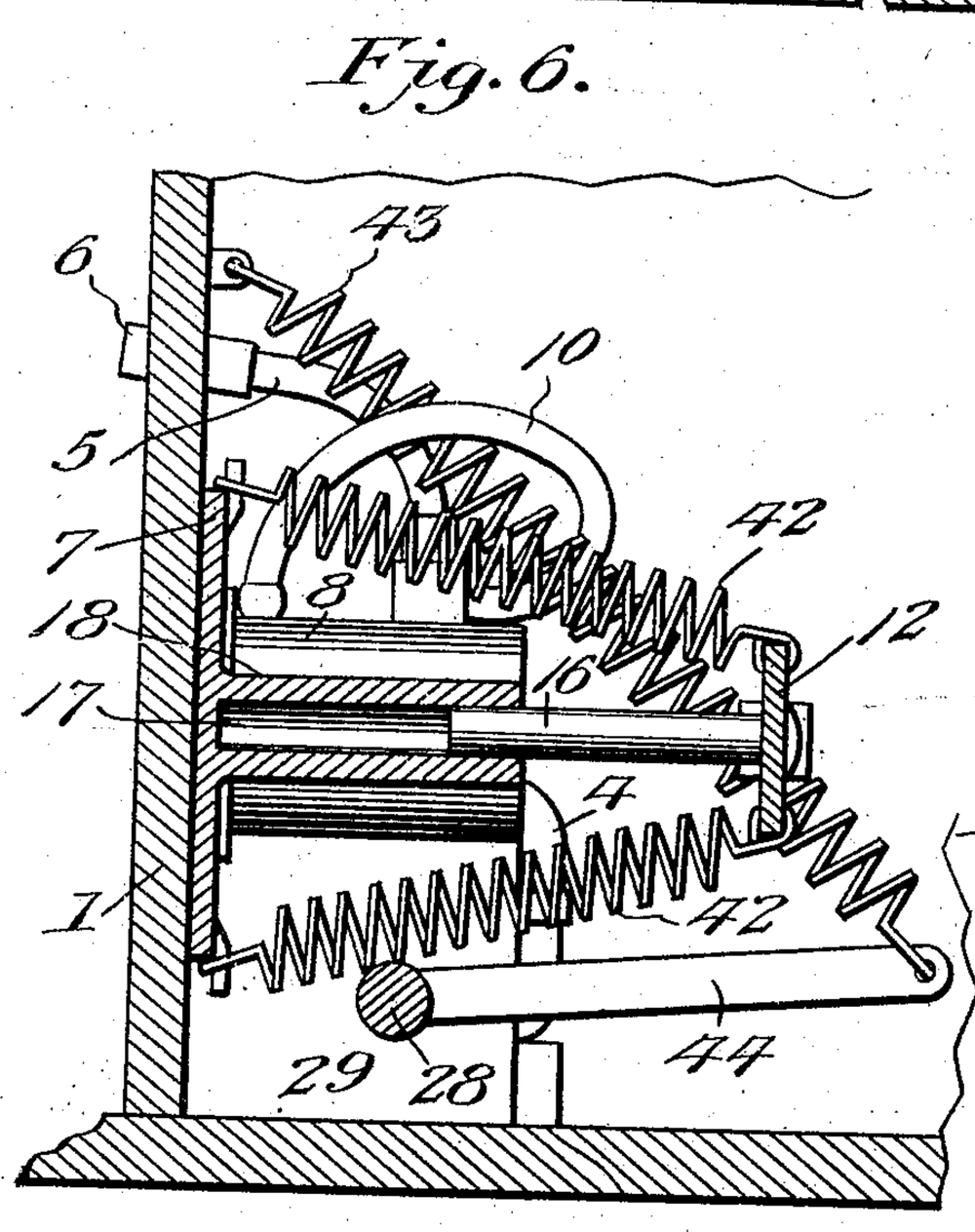


Fig. 7.

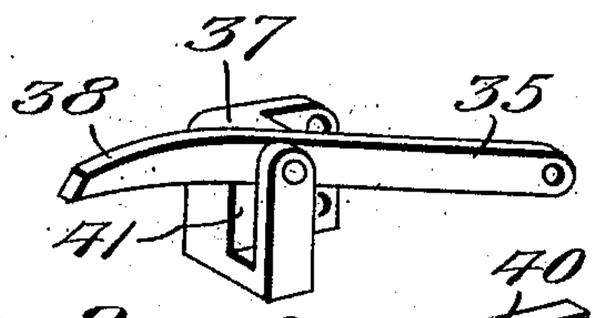
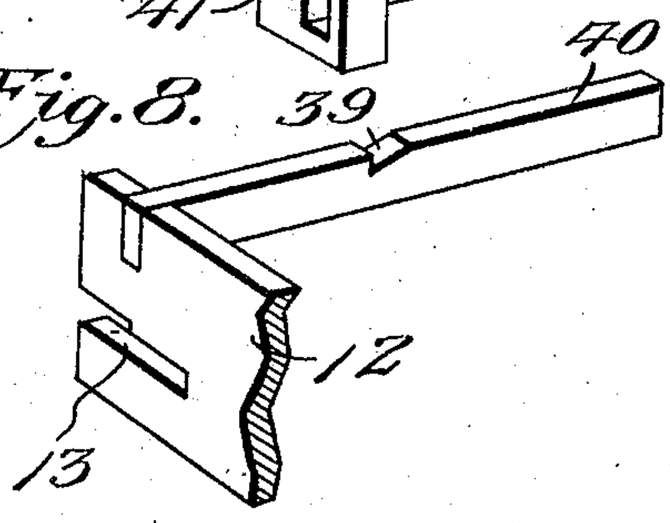


Fig. 8.



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UNITED STATES PATENT OFFICE.

FRANK T. PERCY, OF ROCHESTER, NEW YORK.

COIN-CONTROLLED DISPENSING APPARATUS.

No. 815,860. Specification of Letters Patent. Patented March 20, 1906.

Application filed November 1, 1904. Serial No. 230,956.

To all whom it may concern:

Be it known that I, FRANK T. PERCY, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Coin-Controlled Dispensing Apparatus, of which the following is a specification.

My invention relates to coin-controlled vending or dispensing apparatus, and particularly to an apparatus designed for dispensing a spray or small quantity of liquid, such as cologne, upon each successive actuation thereof following the deposit of a prescribed coin.

The object of the invention is to provide a vending or dispensing apparatus of this type which is simple of construction, efficient in use, and comparatively inexpensive of production and which embodies improved means connected by the deposited coin to a prime operating device whereby upon the actuation of such device a definite quantity of the liquid will be delivered.

With this and other objects in view the invention consists of the features of construction, combination, and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a vending apparatus embodying my invention. Fig. 2 is a fragmentary section through the casing of the same looking toward the rear of the vending or dispensing mechanism. Fig. 3 is a horizontal transverse section through the vending or dispensing mechanism, taken on the line 3 3 of Fig. 2. Figs. 4, 5, and 6 are vertical front-to-rear sections taken on the lines 4 4, 5 5, and 6 6 of Fig. 2. Fig. 7 is a detail view of the pawl or latch and its supporting-bracket. Fig. 8 is a similar view of the keeper-bar and the contiguous end of the power-transmitting head or plate, and Fig. 9 is a detail view of the supporting-bracket.

Referring now more particularly to the drawings, the numeral 1 represents a casing, which may be of any approved form and construction and which is provided with a coin-slot 2 at the front thereof and a coin-chute 3, leading on the interior of the casing downwardly from said slot. Within the casing is arranged a reservoir 4, containing the liquid to be dispensed and having a nozzle 5 connecting with an outlet-tube 6, fitted in the front wall of the casing, through which the liquid is dispensed. The storage-reservoir 4 and its discharge-nozzle 5 may be embodied in the form of an ordinary sprayer or vaporizer or may be of any other construction to suit the purpose. Secured upon the interior of the front wall of the casing is a bracket 7, to which is attached one end of a cylinder 8, in which operates a piston 9, the said cylinder and piston constituting an air compressor or supplying device whereby air under pressure may be furnished to expel the contents of the reservoir. The eduction end of the cylinder is closed and is in communication with the nozzle 5 through a suitable pipe or conductor 10, while the outer end of the cylinder is open for projection of the piston-stem 11.

The outer end of the stem 11 is suitably secured to one end of a head or power-transmitting member 12, which is provided at its opposite end with a slot 13, receiving a guide-plate 14, formed upon or carried by a bracket 15, secured to one of the end walls of the casing, whereby the head or plate is supported and guided in its movements. The said plate or head 12 is also connected to a guide-stem 16, which fits and slides in a receiving bore or opening 17 in a boss 18, formed upon and projecting inwardly from the bracket 7. In the boss 18 is also formed a guide-chamber 19, in which reciprocates a plunger 20, having an outer reduced end 21, disposed in alinement with an opening 22, formed in the head or plate 12, the said opening being of a diameter somewhat smaller than the coin intended to be used, so that the deposited coin when inserted is brought to lie against the inner side of said plate, will close said opening, and form an abutment against which the reduced end of the plunger may bear to communicate motion to the plate or head 12. The outer end of the boss 18 is formed with a coin-receiving pocket 23 communicating with the outer end of the chamber 19 and with the lower end of the coin-chute 3, said pocket being designed to receive the inserted coin and support the same in proper relation to the plate or head 12 to prevent the reduced end 21 of the plunger 20 from passing through the opening 22, so that when said plunger is moved outwardly it will hold the coin in contact with the head 12, thus enabling the latter to be forced outwardly under pressure therefrom to transmit outward motion to the piston 9, as will be readily understood. The boss 18 is further provided with a longitudinal slot 24, opening through one side thereof and communicating

with the chamber 19, and through this slot projects an arm 25, extending from the inner or rear end of the plunger 20. The arm 25 is engaged by the hooked free end 26 of a crank-arm 27, carried by a rock-shaft 28, journaled in one of the end walls of the casing and a bearing-bracket 29 and provided at its outer end with an operating handle or lever 30, moving in a guide 31, the said shaft and operating-lever constituting a prime operating element for transmitting movement to the head 12, and consequently to the air-compressor 8 9. When the parts are in their normal position, as shown in Fig. 2, and prior to the insertion of a coin, the plunger 20 is free to move through the opening 22 in the head 12, so that the lever 30 may be vibrated and the plunger reciprocated without transmitting motion to the head, and consequently without operating the air-compressor, thus preventing the discharge of fluid from the reservoir 4 until a coin of a proper denomination is inserted and feeds into the pocket 23.

The outer or free end of the arm 25 is arranged to move above the flange or plate 14 of the bracket 15, and upon said plate 14 is arranged a spring-plate 32, secured at one end thereto, as shown at 23, and provided at its opposite end with an enlargement or extension 34. The plate 32 is disposed in close relation to the bracket 15 and is of less width than the flange 14, while the enlarged portion 34 thereof is approximately of the same width as the plate 14. The enlarged portion 34 is bent upwardly at an angle, as clearly shown in Figs. 4 and 5, so that when the plunger 20 reciprocates in its casing 19 the outer end of the arm 25, which projects over upon the flange 14 a distance substantially equivalent to the width of the extension 34, moves beneath said extension upon the outstroke of the plunger and then upon the instroke of the plunger rides upwardly upon said extension 34 and depresses the same, the extension 34 resuming its normal position when the arm 25 reaches the limit of its upward movement by its spring action or resiliency. The said arm 25 and extension 34 of the spring-plate 32 form a trip device for periodically communicating motion to a pivoted latch 35, which is connected by a link or bail loop 36 to the extension 34. The latch 35 is pivoted upon a bracket 37, disposed above the flange 14, and is provided with a pawl 38 to engage a notch or tooth 39 in a keeper-bar 40, slidable in a guide-slot 41, formed in the bracket 37, and connected at its outer end to the head 12.

When the plunger 20 moves outwardly and engages a coin A, inserted in the pocket 23, and communicates motion to the head 12, the keeper-bar 40 will slide outwardly with the head, and when the latter reaches the limit of its outward movement the pawl 38 will engage the tooth or notch 39, and thus lock said bar and head against inward movement or retraction while the plunger is returning to its normal position, thus permitting the plunger to move away from and release the coin A, which thereupon drops down to the bottom of the casing or into a suitable chamber provided for its reception. The outward movement of the head 12 is resisted by retraction-springs 42, connected thereto and to the bracket 7, and rearward movement of the rock-shaft 28 and lever 30 is similarly resisted by a retracting spring 43, connected at one end to the casing and at the other end to an arm 44, projecting from said shaft, and the action of the pawl 38 in engaging the notch 39 of the bar 40 is to resist the retraction of the head 12 under the action of the springs 42 until the plunger 20 has moved rearwardly or been retracted to a predetermined extent, sufficient at least to release the coin A, the retraction of the plunger, its acting rock-shaft, and the lever for operating said shaft being, however, permitted, as the retractive action of these parts is not regulated by said pawl. As the plunger nears the limit of its inward or retractive movement the projecting end of the arm 25 connected thereto rides upon the inclined portion or extension 34 of the plate 32 and depresses the same, thereby drawing down upon the connection 36 to swing the latch 35 and retract the pawl 38, thus permitting the springs 42 to return the head and its coacting parts for further operation.

It will thus be understood that when the lever 30 is moved rearwardly and imparts rearward motion to the rock-shaft 28 the arm 27 will transfer motion to the arm 25 of the plunger 20, and if a coin has been inserted in the slot 2 and passed through the chute 3 to the pocket 23 the reduced end 21 of said plunger will engage said coin and transmit motion to the head 12. On this outward motion of the plunger and head the extended end of the arm 25 moves under the trip-spring 34, and consequently does not engage said spring, while the outward movement of the head 12 transmits motion to the piston 9, which is forced outwardly within the cylinder 8. When the parts reach the limit of their outward movement and the extended end of the arm has passed the lower end of the spring-trip 34, the pawl 38 engages the notch 39 in the bar 40 and locks the head 12 against rearward movement. The plunger 20 upon it being retracted by the action of the spring 43 and return movement of the shaft 28 and handle 30 releases the coin A, which drops down into the bottom of the casing, and upon the continued inward movement of the plunger the extended end of the arm 25 rides up on the spring-trip 34 and depresses the same to disengage the pawl and permit the parts to return to their normal positions, as above described. The inward

movement of the head 12 causes the plunger 9 to be forced back on its return stroke in the cylinder 8 and to force the air previously taken into said cylinder through the pipe or connection 10 into the reservoir 4, the charge of air supplied to said reservoir forcing a portion of the liquid contained therein out through the nozzle 5 and discharge-tube 6.

From the foregoing description, taken in connection with the accompanying drawings, the construction and mode of operation of the invention will be understood without a further extended description.

Changes in the form, proportions, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described the invention, what is claimed as new is—

1. In a coin-controlled dispensing apparatus, the combination of an air-compressor, a head for operating the same, said head having an opening therein, a plunger normally movable through said opening, operating means connected with the plunger, means for positioning a coin between the plunger and opening in the head, a rack-bar carried by and movable with the plunger, a suitably-supported pawl adapted to engage said rack-bar to lock the head against retraction and permit the plunger to have independent retractive movement to release the coin, a spring-retracted trip member, an operating connection between the pawl and trip member, a projection upon the plunger adapted to operate said trip member, and springs for retracting the plunger and head.

2. In a coin-controlled vending apparatus, the combination of a compressor-cylinder, a piston operating in said cylinder, an intermediately-guided head connected at one end to said piston and provided at its opposite end with an opening and a guide-slot, a plunger normally movable through said opening and arranged parallel with the cylinder, springs for retracting the head and plunger, means for positioning a coin between the plunger and opening in the head, latch mechanism coöperating with that end of the head in which the opening is formed to lock the head against retraction and permit the plunger to have independent retractive movement to release the coin, a spring-retracted trip member controlling said latch mechanism, said trip member being independent of but operatively connected to the latch mechanism, and a projection upon the plunger adapted to operate said trip member.

3. In a coin-controlled dispensing apparatus, the combination of a casing, a guide-bracket carried by the casing, a supporting-bracket also carried by the casing, an air-compressor carried by said bracket, a head provided with a central guide member movable in the guide-bracket and attached at one end to the operating member of the air-compressor and guided at its opposite end by said guide-bracket, said head being provided between the guide-bracket and its intermediate guide member with an opening, a plunger carried by the supporting-bracket and normally movable through said opening, springs for retracting the head and plunger, means for positioning a coin between the plunger and opening in the head, a latch element carried by the head, a second latch element arranged in juxtaposition to the guide-bracket and adapted to engage the first-named latch member to lock the head against retraction and permit the plunger to have independent retractive movement to release the coin, a trip member carried by the guide-bracket and controlling the latter-named latch member, and a projection upon the plunger adapted to operate said trip member.

4. In a coin-controlled vending apparatus, the combination of an air-compressor, a head for operating the same, said head being formed with an opening therein, a plunger normally movable through said opening, means for positioning a coin between the plunger and opening in the head, means for retracting the head and plunger, coöperating latch elements for locking the head in projected position to permit the plunger to have independent retractive movement to release the coin, a spring-strip operatively connected to one of said latch elements, and a projection on the plunger movable upon the outward movement of the plunger without engaging said strip and adapted upon its return movement to depress said strip and actuate the latch element to release the head.

5. In a coin-controlled vending apparatus, the combination of an air-compressor, a head for operating the same, said head having an opening therein, a plunger normally movable through said opening, means for retracting the head and plunger, means for positioning a coin between the plunger and opening in the head, a rack-bar carried by the head, a pivoted pawl to engage said bar and lock the head in projected position to permit the plunger to have independent retractive movement to release the coin, a spring-strip having a bent end connected to said pawl, and an arm carried by the plunger adapted in the outward movement of the plunger to clear said bent end of the spring-strip and upon its return movement to engage and depress the same and swing the pawl out of engagement with the rack-bar, thereby permitting the head to be retracted, substantially as described.

6. In a coin-controlled dispensing apparatus, the combination of an air-compressor, a head for operating the same, said head having an opening therein, a plunger normally movable through said opening, operating

means connected with the plunger, means for positioning a coin between the plunger and opening in the head to connect the same for movement, springs for independently retracting the head and the plunger and its operating means, a rack-bar carried by and movable with the plunger, a pivoted pawl adapted to engage said rack-bar to lock the head against retraction and permit the plunger to have independent retractive movement to release the coin, a supporting-bracket a spring-plate carried by said bracket and having an enlarged upwardly-bent trip portion, a connection between said trip portion and the pawl to retract said pawl when said trip portion is depressed, and an arm on the plunger guided by said bracket, said arm being adapted on the outward movement of the plunger to pass under said trip portion and upon its return movement to ride over and depress said trip portion to tilt and retract the pawl, substantially as described.

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

FRANK T. PERCY.

Witnesses:

WALTER TRIPP,

C. W. GAYLORD.