No. 846,766. PATENTED MAR. 12, 1907.

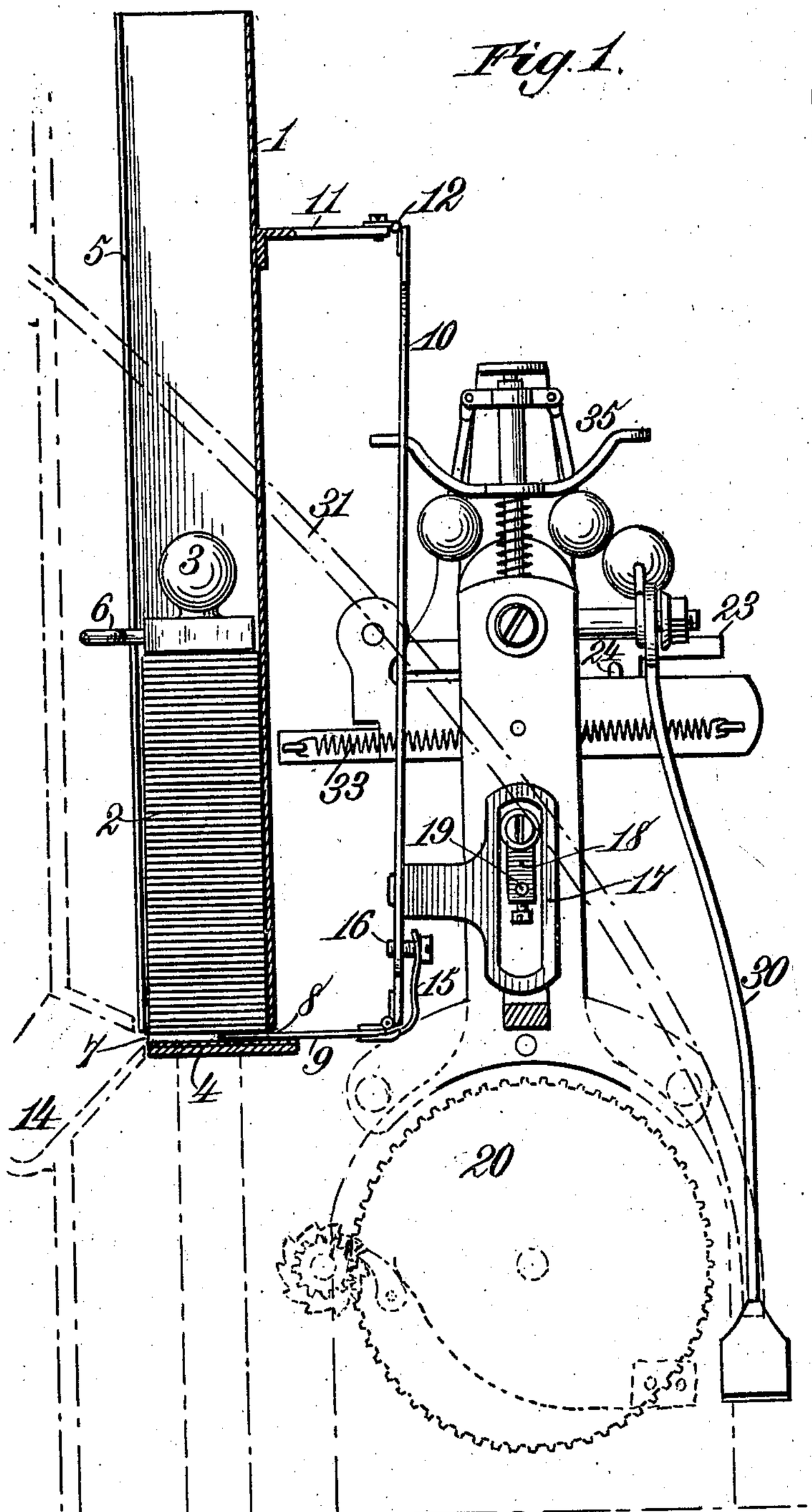
A. WANTZEN.

COIN CONTROLLED TICKET ISSUING MACHINE.

APPLICATION FILED JAN. 6, 1906.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses.
Gertrude M. Stucker
H. C. Mateer

Inventor.
Anton Wantzen
By Meyers, Crohman & Rea.
Attys.

THE NORRIS PETERS CO., WASHINGTON, D. C.

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3 SHEETS—SHEET 2.

Fig. 3.

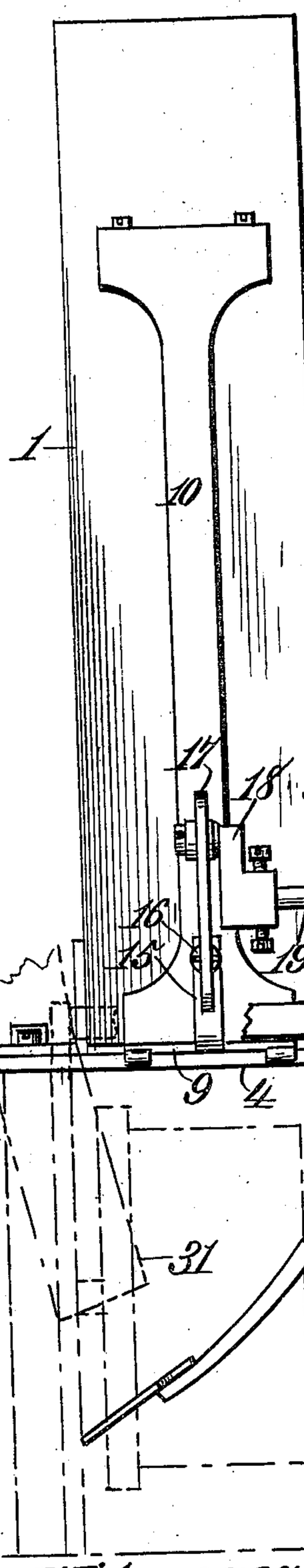

Fig. 2.

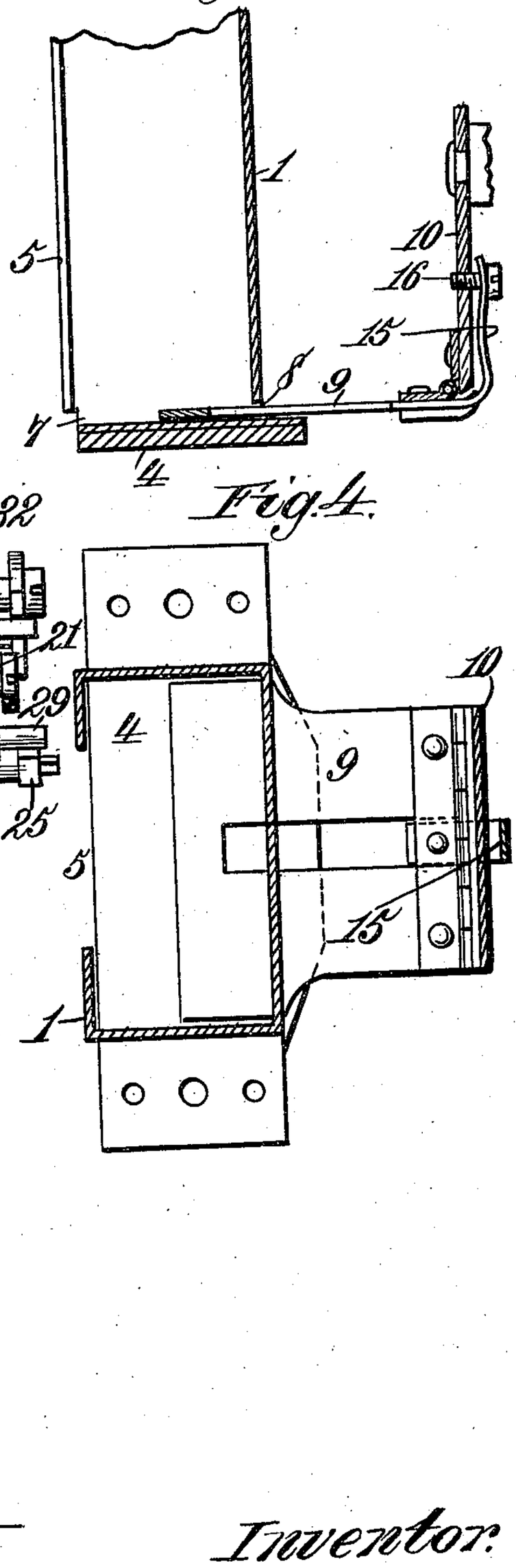

Fig. 4.

Witnesses.
Gertrude M. Stasker
H. C. Mellis.

Inventor:
Anton Wantzen
By Meyers, Cushman & Rea.
Attys.

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3 SHEETS—SHEET 3.

Fig. 5.

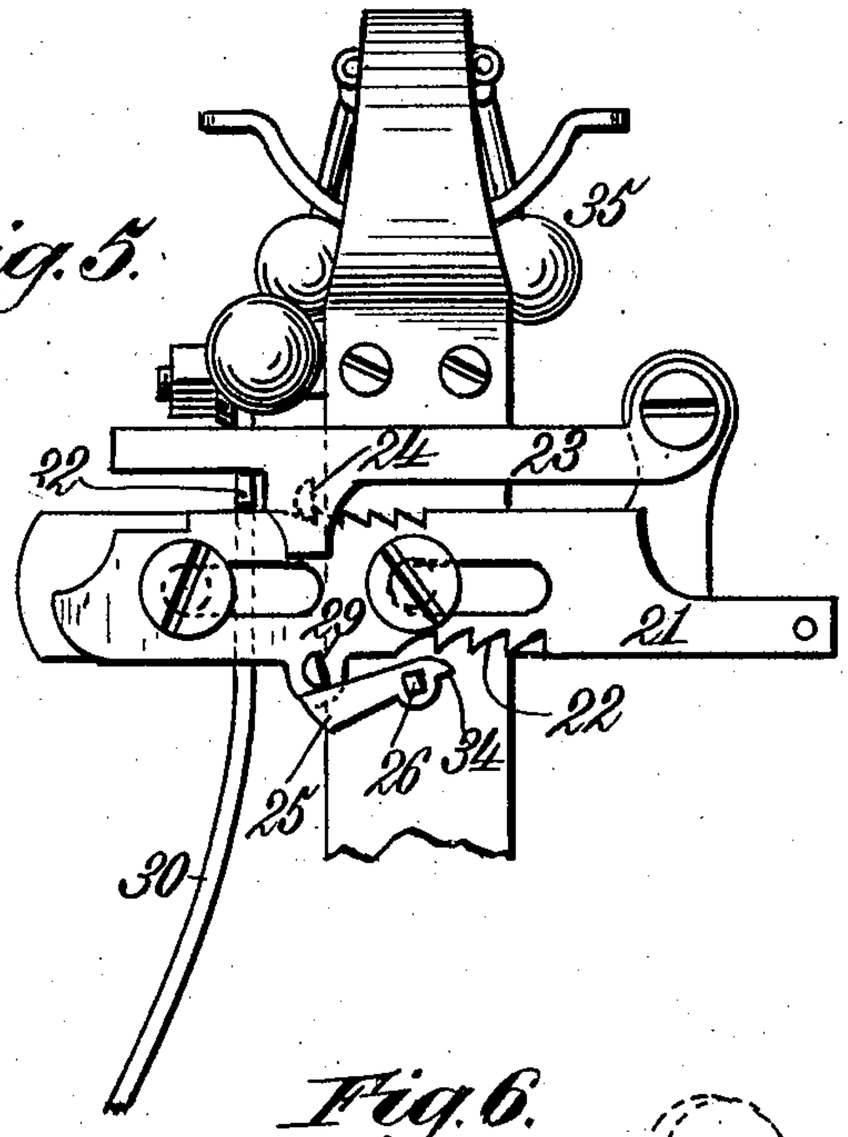


Fig. 6.

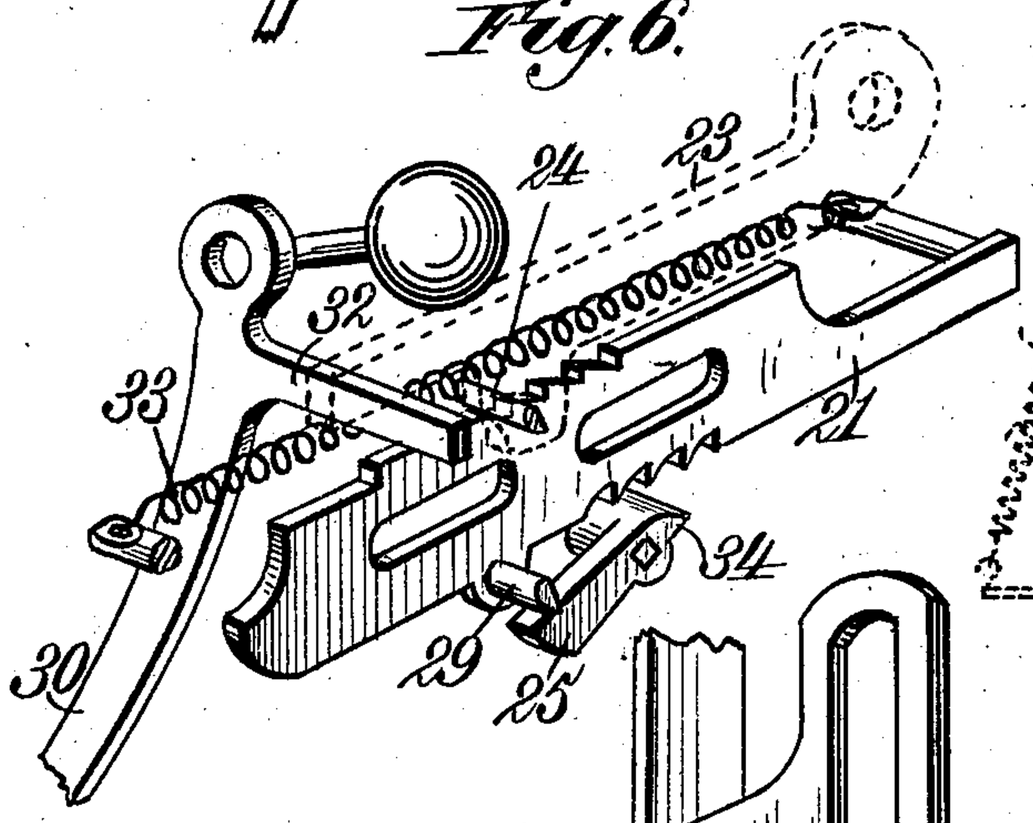


Fig. 7.

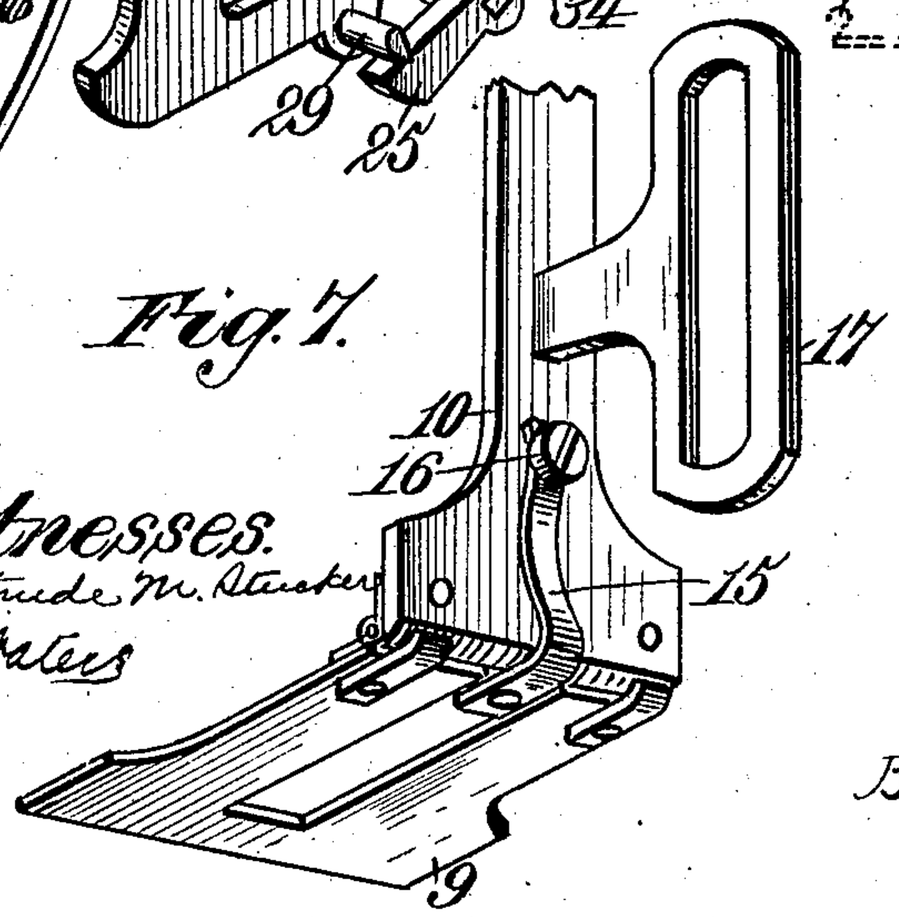
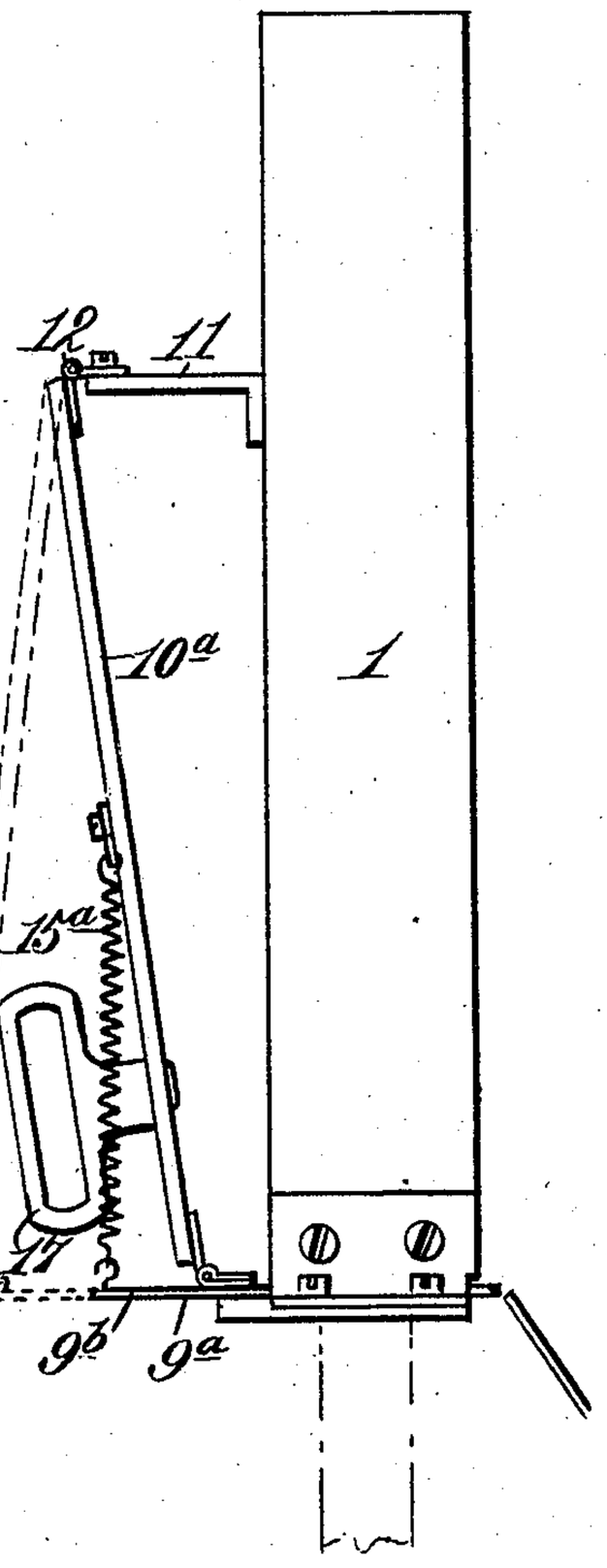


Fig. 8.



Witnesses.
Gertrude M. Stuckey
M. C. Mateer

Inventor:
Anton Wantzen.
By Meyers, Cushman & Rea.
Attys.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ANTON WANTZEN, OF LONDON, ENGLAND.

COIN-CONTROLLED TICKET-ISSUING MACHINE.

No. 846,766. Specification of Letters Patent. Patented March 12, 1907.

Application filed January 6, 1906. Serial No. 294,894.

To all whom it may concern:

Be it known that I, ANTON WANTZEN, a subject of the German Emperor, residing at London, in the county of London, England, have invented new and useful Improvements in Coin-Controlled Ticket-Issuing Machines, of which the following is a specification.

My invention relates to improvements in vending or dispensing machines particularly, though not exclusively, intended for the sale or delivery of tickets in response to the payment to the mechanism of the equivalent of the article to be dispensed.

The invention has for its object the provision of such a machine embodying a new manner of delivery mechanism simple of construction and mode of operation and certain and reliable in delivery action.

The invention comprehends, furthermore, novel controlling means for permitting the operation of the delivery mechanism and arresting the operation thereof upon the accomplishment of the designed article delivery.

To the ends stated the invention resides in a machine possessing the features hereinafter described and claimed, reference being had to the accompanying drawings, in which I have shown, as the statute requires, that which I regard as the best known embodiment of my invention.

That which is claimed as new will be set forth in the clauses of claim appended to the description.

I will refer to my invention in the accompanying drawing as a ticket vending or dispensing mechanism without, however, intending to limit the same to such use, but merely as illustrative of one use of the mechanism. I claim my invention for all the uses of which it is capable.

Figure 1 is a view, generally in section and side elevation, of a machine embodying my invention. Fig. 2 is a rear view; Fig. 3, a vertical sectional detail of the ticket-deliverer; Fig. 4, a cross-section taken through the lower end of the ticket-receptacle and showing the deliverer in top plan; Fig. 5, a detail elevation of the mechanism for controlling the action of the ticket-deliverer; Fig. 6, a detail perspective thereof; Fig. 7, a detail perspective of the ticket-deliverer; Fig. 8, an elevation of a modified form of deliverer.

In the accompanying drawing the reference-numeral 1 designates a receptacle supported upon any suitable frame or base and consisting, as shown, of a vertically-disposed chamber of form and dimension suitable to receive a number of the articles, such as tickets, to be dispensed, which articles are arranged therein in a pile or in superposed relation, as best shown in Fig. 1 of the drawing at 2. A follower 3, of suitable avoirdupois, where the stack or pile of articles themselves are or may not be sufficient for the purpose, is arranged in the receptacle 1 to follow down upon or press down the stack or pile of articles to bring the lowermost article of the pile to the floor 4 of the receptacle. When such follower is employed and where otherwise desirable—as, for instance, to expose the contained articles to inspection for the purpose of avoiding exhaustion of supply of articles in the container—one wall of said container is open, as best shown at 5 in Fig. 4, and within the opening 4 an extension 6 of the follower may be disposed to be within easy reach of an operative, whereby the follower may be lifted out of the chute to facilitate the introduction into the container of a fresh supply of articles. A discharge-mouth 7, Figs. 1 and 3, is formed at the lower end of the chute above and adjacent the floor 4, and diametrically opposite said discharge-mouth is a slot or opening 8, through which works the article-deliverer. This deliverer consists of pusher 9, pivotally connected to the free end of a support consisting of a pendulous arm 10, supported from the receptacle 1 by means of a bracket 11, to which it is connected by means of a hinge or pivot 12. The active end of the pusher 9 is disposed for operation in or through the opening 8 in contact with the floor 4 of the container. In operation the pendulous member is vibrated or oscillated by suitable mechanism, causing the pusher 9 to engage against one edge of the lowermost of the stack or pile of articles in the container and push it from beneath the pile out of the container, where it may be taken by the vendee. In Fig. 1 of the drawing a receiver-pocket 14, into which the article is delivered, is shown in dotted lines; but my invention does not concern such pocket and the same may or may not be used.

In order to maintain the pusher 9 in proper

operative position with relation to the floor of the container and to the lowermost of the pile or stack of articles throughout the oscillatory movement of the pendulous element 10, means are provided to hold the pusher element in contact with the floor. In the illustrated example of my invention this means consists of a spring connected to the pusher and to the pendulous element. As shown in Fig. 1, the spring is designated by the numeral 15 and consists of a flat or leaf spring connected at one end to the pusher, as best shown in Fig. 7, and at its other end to the pendulous element 10. The connection with said element may be an adjustable one to vary the tension of the spring as may be required. One suitable adjustable connection is shown in the drawing as consisting of a screw 16, the head of which abuts the free end of the spring, which is forked and straddles the shank of the screw.

In Fig. 8 of the drawing a somewhat different arrangement of the pusher is shown, according to which the pusher 9^a is hinged or pivoted to the pendulous element 10^a at a point removed from the edge pusher, leaving a tailpiece 9^b, to which a coil or spiral spring 15^a is connected at one end, the other end of said spring being attached to the pendulous element. In this arrangement the action of the spring on the tail of the pusher keeps the forward or active part of the pusher in proper active contact with the floor of the container and in proper relation to the lowermost article of the pile or stack to engage and deliver the same through the discharge-mouth of the container.

The pusher is reciprocated to perform its operation by any suitable means, one novel type of which is illustrated in the drawing. As shown, the pendulous element is provided with a loop 17, in which works a crank 18, mounted upon a shaft 19, geared to and driven by a motor 20, which is shown conventionally and may be of spring type. Combined with the motor is a controller which normally locks the motor from operation and regulates the operation thereof to impart to the pusher the desired number of strokes. As shown, the controller is organized to permit but a single active stroke of the pusher and then lock the motor from operation. It is obvious that it might be organized to permit the pusher to have a plurality of active strokes to deliver a plurality of articles. The specific controller shown comprises, Figs. 5 and 6, a plate or bar 21, provided with teeth 22 on its opposite edges, a pivoted arm 23, carrying a dog 24, a key in the form of a crank-arm 25 on a shaft 26, having a gear 27 in mesh with a gear 28 on the shaft 19, and a stop 29 on the plate 21, adapted when the pusher has performed its intended operation to engage the crank-arm and prevent rotation of the gears 27 and 28, and thus lock the motor from operation. The normal position of the parts—that is, the position when the motor is at rest—is illustrated in Figs. 5 and 6 and is maintained by a spring 33. The release mechanism which I prefer to employ and which is illustrated in the drawing, but to which, of course, my invention is not restricted, is coin-actuated, and consists of a pivoted trip 30, Figs 1 and 2, the free end of which is disposed beneath a coin-chute 31. The trip is provided with a finger 32, extending beneath the arm 23, as best shown in Fig. 6, so that when a coin is deposited in the chute 31 and falls against the free end of the trip 30 the arm 23 is lifted by the finger 32, whereupon a spring 33, connected to the plate 21, moves said plate and withdraws the stop 29 from active relation to the crank 26, whereupon the crank and the train of gearing described is free to rotate, and under the impulse of the motor the pusher is actuated. The degree of operation is controlled by a pawl 34, operatively associated with the crank 26, in the present example being formed integral therewith, which when the crank rotates engages the adjacent teeth of the bar 21 and returns the same to the normal position (shown in Fig. 6) against the tension of spring 32, when its further rotation will be prevented by the stop 29, and the motor thus be locked from operation. In this return movement of the bar 21 the dog 24 racks over the teeth with which it coöperates, comes to rest in engagement with one of said teeth, and maintains the normal position of the bar until released therefrom by the operation of the trip in the manner above described. In the particular organization shown the bar 21 is provided with a plurality of teeth at its opposite edges because of the relative values of the gear 27 and 28. If the value of the gear 27 is equal to 28, it is apparent that the crank 26 need have but one rotation and the parts be proportioned to bring the stop into engagement with said crank at end of such rotation, and consequently the bar need have but one tooth to engage therewith and that there need be but one tooth for coöperation with the dog 24. A governor 35 is connected in the mechanism for obvious purposes.

I have in the drawings illustrated a complete operative mechanism involving a motor and a particular controlling mechanism in combination with the pusher. I desire it understood, however, that I do not limit my invention to such motor or controlling mechanism in the broader aspects of said invention as set forth in some of the clauses of claim appended hereto. The particular controlling mechanism shown is, however, novel, simple, and efficient, and I claim it as an

item of invention in some of the clauses of claim, but for the purposes of those clauses only.

Having thus described my invention, what I claim as new is—

1. In a vending-machine, the combination with a container having a delivery-mouth, of a pendulous element operatively associated with said container, a pusher connected to said element and arranged to be reciprocated in the container to deliver articles from the mouth thereof, means for oscillating said pendulous element to reciprocate the pusher, a pressure-applying means combined with said element and pusher for maintaining the operative position of the pusher against the floor of the container, and means for releasing the oscillating means for operation.

2. In a vending-machine, the combination with a container having a delivery-mouth, of a pendulous element operatively associated with said container, a pusher pivotally connected to said element and arranged to be reciprocated in the container to deliver articles from the mouth thereof, means for oscillating said pendulous element to reciprocate the pusher, a pressure-applying means combined with said element and pusher for maintaining the operative position of the pusher against the floor of the container, and means for releasing the oscillating means for operation.

3. In a vending-machine, the combination with a container having a delivery-mouth, of a pusher, means for movably supporting said pusher, oscillatory means for reciprocating said pusher, an automatic pressure-applying means combined with said pusher, the said movable supporting means and said reciprocating means for maintaining the pusher in line with the delivery-mouth against the bottom of the container, and means for releasing the oscillatory means for operation.

4. In a vending-machine, the combination with a container having a delivery-mouth adjacent the floor thereof, a pusher arranged to reciprocate in said container, a support for said pusher, and a spring connected to said support and said pusher and acting to maintain the latter in contact with floor of the container, means for reciprocating the pusher, and means for releasing the pusher-reciprocating means for operation.

5. In a vending-machine, the combination with a container provided with a delivery-mouth adjacent the floor thereof, of a pendulous element, a pusher pivotally connected therewith and arranged to reciprocate in said container upon the floor thereof and in line with the delivery-mouth, a spring combined with said pusher and pendulous element for maintaining the operative position of the pusher against the floor of the container, pusher-reciprocating means, and means for releasing the pusher-reciprocating means for operation.

6. In a vending-machine the combination with a container having a delivery-mouth, of a pusher arranged to reciprocate in said container, a motor for reciprocating said pusher, a controller for regulating the action of the reciprocating means comprising a movable toothed bar provided with a stop, a key cooperating with said toothed bar and stop arranged on a shaft in gear with the motor, a pivoted arm provided with a dog to coöperate with the toothed bar, and a spring connected to said bar, and release means associated with said pivoted arm.

7. In a vending-machine, the combination with a container provided with a delivery-mouth adjacent the floor thereof, of a pendulous element, a pusher pivotally connected therewith and arranged to reciprocate in said container upon the floor thereof and in line with the delivery-mouth, means combined with said pusher and pendulous element for applying pressure to the pusher thereby maintaining the operative position thereof against the floor of the container, pusher-reciprocating means, and means for releasing the pusher-reciprocating means for operation.

8. In a vending-machine, the combination with a container provided with a delivery-mouth adjacent the floor thereof, of a pendulous element pivotally connected at its upper end with said container, a pusher pivotally connected at one end to the lower end of said element and arranged to reciprocate in said container upon the floor thereof and in line with the delivery-mouth, a spring element connected at one end to said pendulous element and at its outer end engaging said pusher, said spring element adapted to maintain the operative position of the pusher against the floor of the container, pusher-reciprocating means, and means for releasing the pusher-reciprocating means.

9. In a vending-machine, the combination with a container provided with a delivery-mouth adjacent the floor thereof, of a pendulous element pivotally connected at its upper end with said container, a pusher pivotally connected at one end to the lower end of said element and arranged to reciprocate in said container upon the floor thereof and in line with the delivery-mouth, an adjustable spring element connected at one end to said pendulous element and at its outer end engaging said pusher, said spring element adapted to maintain the operative position of the pusher against the floor of the container, pusher-reciprocating means, and means for releasing the pusher-reciprocating means.

10. In a vending-machine, the combination with a container provided with a delivery-

mouth adjacent the floor thereof, of a pendulous element pivotally connected at its upper end with said container, a pusher pivotally connected at one end to the lower end of said element and arranged to reciprocate in said container upon the floor thereof and in line with the delivery-mouth, an adjustable spring element connected at one end to said pendulous element and at its outer end engaging said pusher, said spring element adapted to maintain the operative position of the pusher against the floor of the container, a loop carried by the pendulous element, and means engaging in said loop for oscillating the pendulous element thereby reciprocating the pusher, and means for releasing the pusher-reciprocating means.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ANTON WANTZEN.

Witnesses:
H. D. JAMESON,
F. L. RAND.