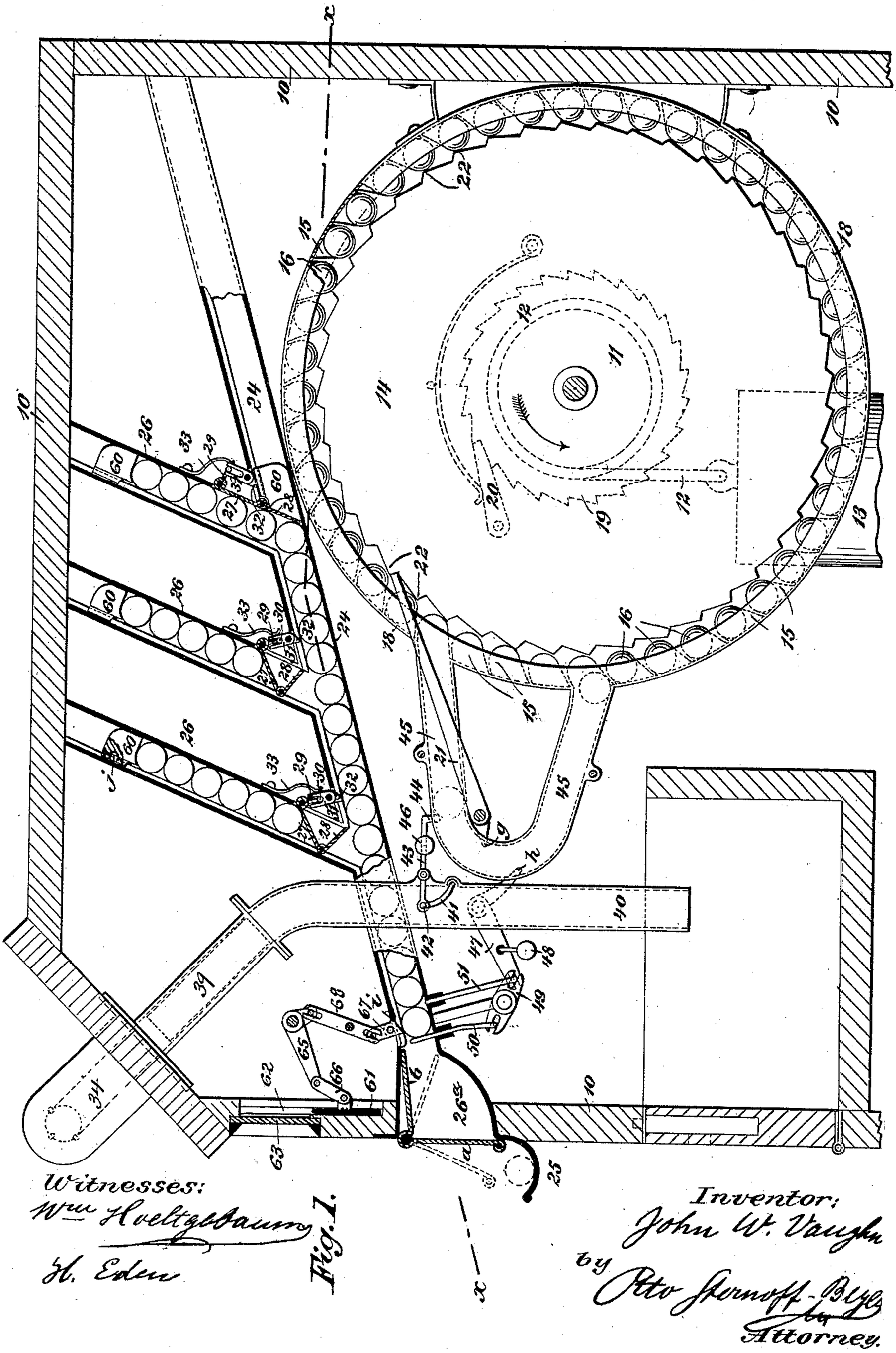
(No Model.)

3 Sheets—Sheet 1.

J. W. VAUGHN.

AUTOMATIC SELLING MACHINE.

No. 396,674. Patented Jan. 22, 1889.



Witnesses:
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Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

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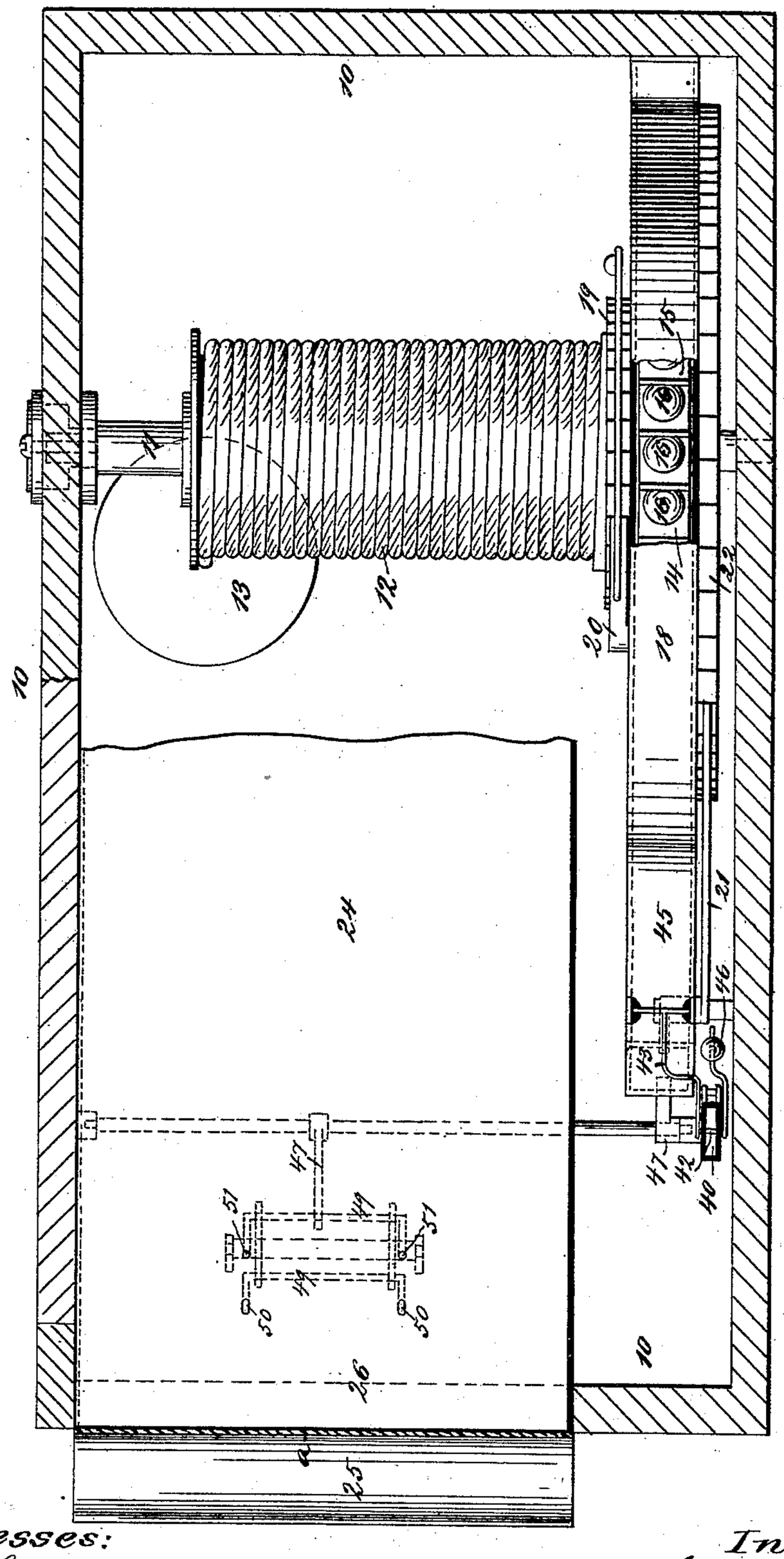

Fig. 2.

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Fig. 6.

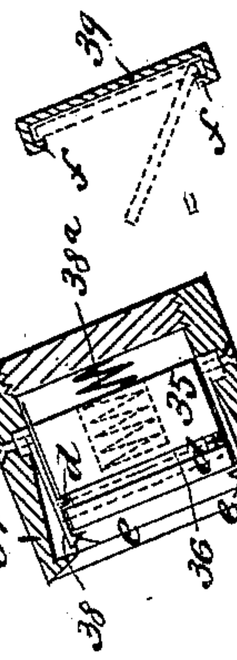


Fig. 4.

Fig. 5.

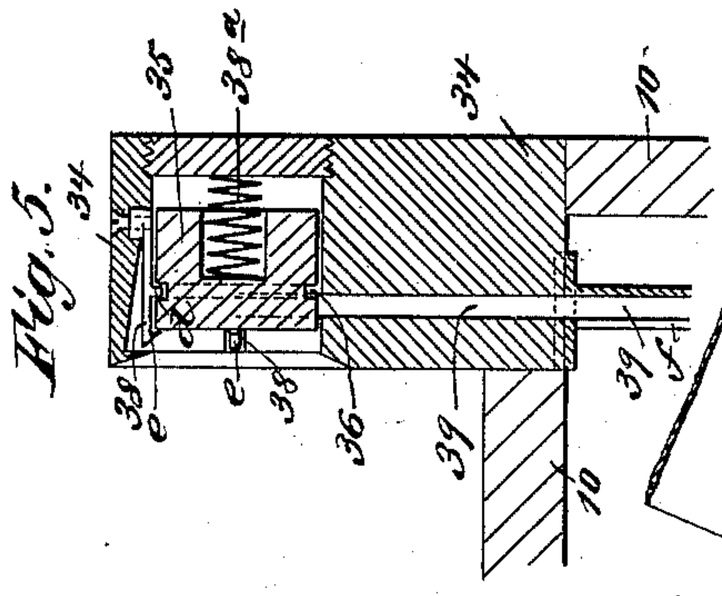


Fig. 7.

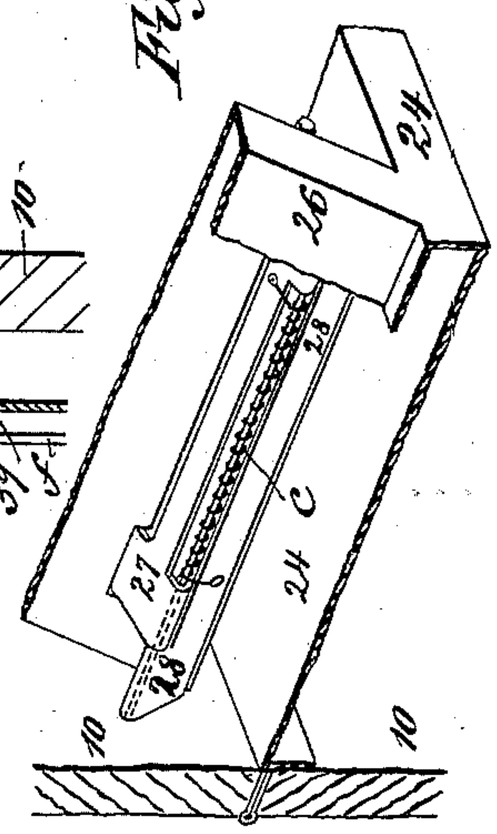
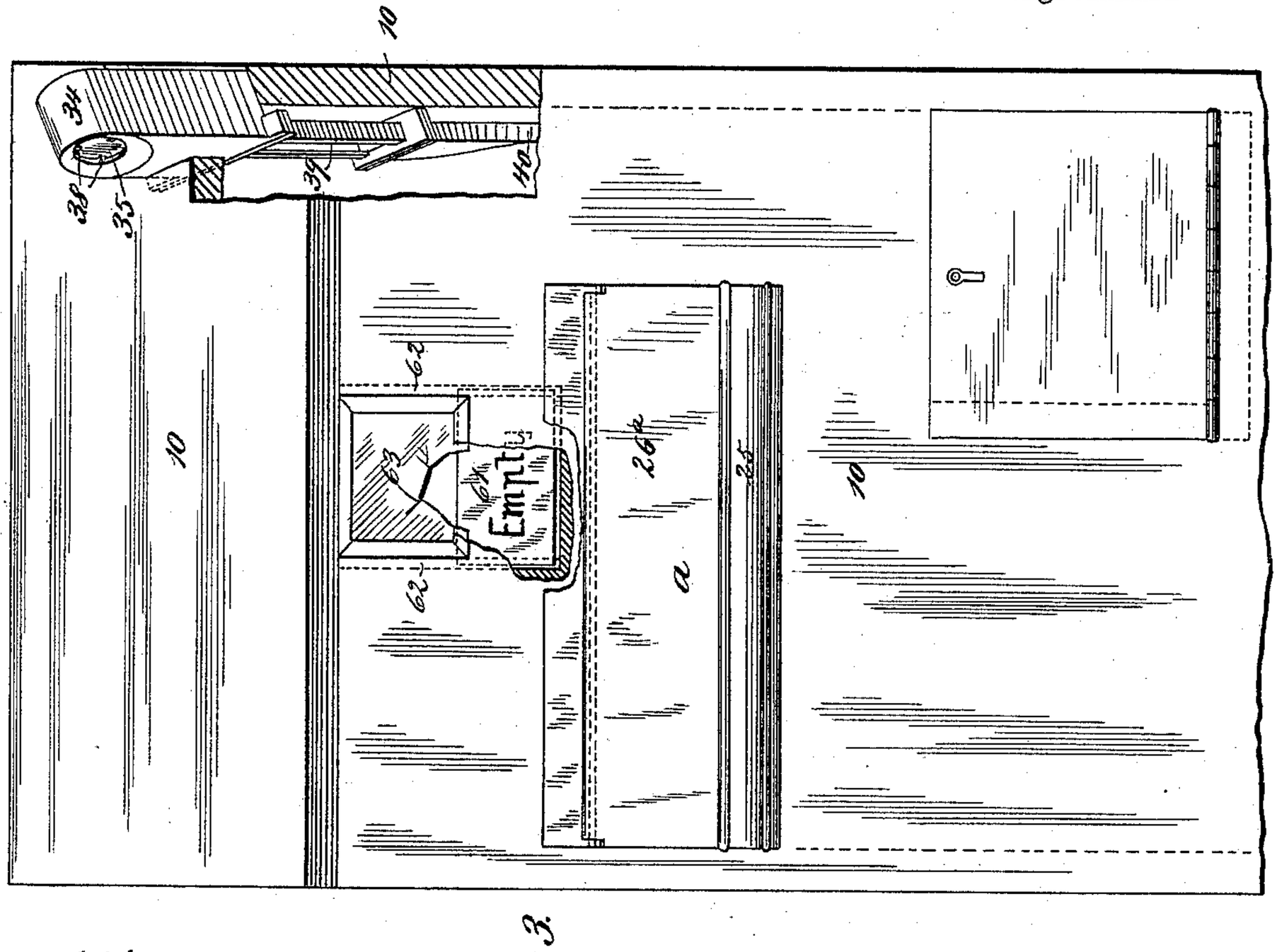


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN W. VAUGHN, OF JERSEY CITY, NEW JERSEY.

AUTOMATIC SELLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 396,674, dated January 22, 1889.

Application filed June 14, 1888. Serial No. 277,087. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. VAUGHN, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Automatic Selling-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to certain improvements in apparatus for the reception of coin of prescribed value and the automatic delivery of goods in exchange therefor, the main objects of the invention being, first, to so organize the coin-receiving device that coins of less diameter than those in connection with which the machine is designed to operate will fall from the coin-chute, while larger coins will not be admitted thereto, and, second, to provide a mechanism which, upon the deposit of a proper coin, will release a weight, said weight in falling acting upon the delivery mechanism in a manner such that a single article will pass to a position such that it may be taken by the depositor of the coin.

Reference is to be had to the accompanying drawings, in which similar reference figures and letters indicate corresponding parts in all the views.

Figure 1 is a longitudinal sectional elevation of my improved selling-machine. Fig. 2 is a plan view of the same, taken on line *x x* of Fig. 1. Fig. 3 is a front view, parts being broken away. Figs. 4, 5, and 6 are detail views of the upper section of the coin-chute. Fig. 7 is a detail view, in perspective, of the delivery-chute.

The machine shown in the drawings is designed to deliver cigars; but it will, of course, be understood that the machine could be organized to deliver other articles, or that it could be organized to deliver packages of goods.

Referring now to the specific construction shown, 10 is a case in which there is mounted a drum, 11, upon which there is wound a cord, 12, that supports a weight, 13. The shaft of the drum 11 supports a circular carrier, 14, in the peripheral face of which there are a number of pockets or receptacles, 15, that are adapted to receive ball-shaped weights 16, the weights being held within their receptacles by an inclosing-shield, 18.

In order that the cord 12 may be wound up on the drum 11 without disturbing the position of the carrier 14, and in order that said carrier may be advanced when the weight 13 acts to turn the drum in the direction of its arrow, I provide the drum with a ratchet, 19, which is engaged by a spring-pressed pawl, 20, that is pivotally connected to the end of the carrier; and in order that the carrier may be held against any movement, except upon the deposit of a coin, I provide a retaining-lever, 21, which engages a ratchet, 22, that is formed upon or rigidly connected to the carrier, as shown best in Fig. 1, this lever being tripped at times, as will be hereinafter explained. Above the carrier 14 I arrange an inclined chute, 24, the lower end of which is quadrant-shaped and extends through the front wall of the case 10, the chute leading to a tray, 25, to which the goods are delivered.

The chute 24 is closed by a safety trap or door, 26^a, said trap or door consisting of two rigidly-connected leaves, *a* and *b*, the door normally resting in the position in which it is shown in full lines in Fig. 1; but when an article passes from the machine to the tray 25 the door moves to the position shown in dotted lines in said figure, the leaf *b* at this time closing the entrance to the chute proper, thus preventing all tampering with the contents of the chute.

A number of auxiliary chutes, 26, lead to the chute 24, and at the bottom of these chutes there are mounted traps 27, which carry auxiliary traps 28, the auxiliary traps being hinged to the lower ends of the traps 27 and normally held, as shown toward the left in Fig. 1, by spiral springs *c*, that are arranged about the pintles of the hinges. To each of the traps 27 there is connected a lever-arm, 29, that is provided with a pin, 30, said pin riding between the upwardly-extending arms of a bifurcated operating-lever, 31, which said lever is formed with an inclined-faced downwardly-extending projection, 32, said projection entering the chute 24.

The levers 31 are borne upon by springs 33

which press the levers forward to a position such that the traps 27 will be held to close the chutes 26.

Upon the outside of the case 10 I secure a housing, 34, within which there is arranged a plunger, 35, that is of a diameter about equal to that of the coin in connection with which the machine is designed to operate. In the peripheral face of the plunger 35 there is a groove, 36, which groove is entered by projections *d*, that are formed upon spring-tongues 38, said tongues being mounted in recesses about the plunger. Upon the ends of the tongues 38 there are formed inclined faces or projections *e*, which overlap the forward end of the plunger, the plunger being held against the inner faces of the projections *e* by a spring, 38[a].

A coin-chute, 39, leads from one side of the housing 34, and the upper portion of this chute is slightly inclined to one side, the lower side face of the chute being provided with flanges *f*, the open space between the flanges being so proportioned that a coin of the prescribed value will be held by the upper flange and will pass from the upper inclined portion of the chute to the lower vertical portion thereof, which said lower vertical portion is shown at 40; but if a coin of less diameter should enter the chute 39 its upper edge would be unsupported and it would fall from the chute before reaching the vertical section thereof.

In the walls of the vertical chute-section 40 there are formed curved slots 41, through which slots there is passed a pin, 42, said pin being supported by the arms of a bifurcated lever, 43, that is pivotally mounted just to the rear of the chute-section 40. The rear end of the lever 43 is turned downward, as shown at 44, and this turned-down portion enters a slot that is formed in the upper wall of a U-shaped weightway, 45, which said weightway leads from and to the jacket 18, the arrangement being such that as one of the receptacles 15 comes in register with the upper leg of the way one of the weights 16 will enter said leg and roll down against the projection 44, there to be held until a coin passes down the chute-section 40; but upon the passage of a coin the pin 42 will be depressed and the rear end of the lever 43 thereby raised, thus carrying the projection 44 out of its slot and permitting the weight to roll down onto the lower leg of the way, and thence into one of the receptacles of the carrier 14. When the weight moves, as above described, it first bears against a toe, *g*, which extends from the lever 21 into the way 45, and in passing this toe depresses it and raises the rear end of the lever 21 from engagement with the ratchet 22, thus permitting the weight 16 to act to advance the carrier 14 to a position such that another of the weights 16 will be delivered to the way 45, the lever 21 dropping back in time to engage the next tooth of the ratchet 22, and the weight delivered to the way being stopped by the projection 44, which is returned to the position in which it is shown in Fig. 1 by the action of a weight, 46, that is carried by the lever 43. After passing the toe *g* the falling weight 16 strikes a toe, *h*, which extends into the way 45, said toe being connected to a lever, 47, that is normally held, as shown in Fig. 1, by a weight, 48. This lever 47 engages a rocking frame, 49, which is mounted beneath the chute 24, slides 50 and 51, which pass through slots formed in the bottom of said chute being connected to the rocking frame, the arrangement being such that when one of the weights 16 passes the toe *h* out of the way 45 the slide 50 will be lowered and the slide 51 raised.

In operation the chutes 24 and 26 are filled with the articles to be delivered, and above the articles in each chute there is placed a weight, 60. Then if a proper coin be passed into the housing 34 and pressed against the inclined faces of the projections *e* the tongues 38 will be forced back and the projections *d* carried out of the groove 36, so that any continued pressure upon the coin will carry it against the plunger 35, and said plunger being freed from engagement with the projections *d* may be pressed in until the coin may be moved to one side and into the chute-section 39, to pass thence into the chute-section 40, there to operate upon the pin 42 of the lever 43, which lever when tripped will, as before stated, release one of the weights 16 and leave such weight free to pass through the way 45. When the weight 16 trips the toe *h*, the slide 50 will be lowered, and the lowest article in the chute 24 will be free to fall downward and into the tray 25, the door 26[a] being at this time moved to the position shown in dotted lines in Fig. 1. As the leaf or slide 50 is lowered, the leaf 51 will be raised in advance of the second lowest article in the chute 24, and consequently but one article will be delivered upon the deposit of a single coin. After all the articles above the uppermost one of the chutes 26 have moved downward below the lower end of said chute, the weight 60 in the chute 24 will strike against the projection 32 of the lever 31, and such lever will be moved to the position shown upon the right in Fig. 1, the auxiliary traps 28 at this time acting to prevent any further downward movement of the weight 60 within the chute 24, the necessary pressure to force the articles downward being supplied by the weight in the upper chute, 26, which said weight will in turn act to open the trap of the next lower chute, and so on until all of the chutes have been delivered of their contents. When all of the articles have been delivered from the machine, it is desirable that notice of such fact be given to intending purchasers; and to this end I provide a slide, 61, upon which there appears the word "empty," said slide being mounted in ways 62 upon the inside of the front wall of the case, normally resting just below a glass

panel, 63, as shown in Fig. 1. This slide 61 is connected to a lever, 65, by a link, 66, and the lever in turn is connected to a trip, 67, by a rock-arm, 68, the trip being mounted just above the chute 24 in a position such that the lower inclined end will enter said chute, there to be borne upon by the last weight, 60, so that when the trip is thrown in the direction of its arrow the lever 65 will be thrown as indicated, and the slide 61 will be carried up to a position such that it may be seen through the panel 63, the weight 60 being held from any farther downward movement by a spur, *i*, which is formed upon the trip 67, said spur entering a recess, *j*, formed in the upper face of the weight 60.

The motive mechanism herein shown and described is also shown and described in my application, Serial No. 279,328, filed July 7, 1888, for a ticket-selling machine.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In an automatic selling-machine, a coin-chute provided with one solid side, a top and a bottom, and flanges projecting from said top and bottom toward each other from the edges of said top and bottom opposite the edges connected with the solid side, thereby forming a longitudinally-slotted side of the chute opposite the solid side, said chute having its sides inclined to the vertical plane, substantially as herein shown and described.

2. In an automatic selling-machine, the combination, with a weightway, of a weight-releasing lever, an article-releasing mechanism, substantially as set forth, and a lever connected with the article-releasing mechanism and provided with a toe which enters the weightway, substantially as herein shown and described.

3. In an automatic selling-machine, the combination, with a coin-chute, of a weightway, a tripping-lever arranged in connection with the chute and way, an article-releasing mechanism, substantially as set forth, and a second tripping-lever arranged in connection with the releasing mechanism and the weightway, substantially as herein shown and described.

4. In an automatic selling-machine, the combination, with a weightway, of a weight-carrier, a weight-releasing lever, a tripping-lever arranged in connection with the weight-carrier, an article-releasing mechanism, substantially as set forth, and a lever connected with said releasing mechanism and provided with a toe which enters the weightway, substantially as herein shown and described.

5. The combination, with a drum, of a weight connected thereto by a cord, a weight-carrier formed with weight-receiving recesses in its peripheral face and mounted to turn forward with the drum, a ratchet rigidly connected to the weight-carrier, a jacket surrounding the weight-carrier, a way leading therefrom, a lever mounted to engage the ratchet and provided with a toe which enters the weightway, a tripping-lever formed with a projection which enters the weightway and provided with a pin which enters a coin-chute, said chute, a rocking frame, a lever connected thereto and formed with a toe which enters the weightway, a delivery-chute, and slides arranged in connection therewith and connected to the rocking frame, substantially as described.

6. The combination, with a delivery-chute, of a trap or door formed of two leaves that are rigidly connected at an angle to each other, and hinged at the lower or delivery end of said chute, substantially as herein shown and described.

7. The combination, with a case or housing, of a spring-pressed plunger mounted therein, spring-tongues arranged in connection with the plunger, and a coin-chute leading from the case or housing, substantially as described.

8. The combination, with a case or housing, of a spring-pressed plunger mounted therein and formed with a groove in its peripheral face, spring-tongues formed with projections which normally rest within the plunger-groove and with inclined-faced projections which overlap the plunger's end, and a coin-chute leading from the case or housing, substantially as described.

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

JOHN W. VAUGHN.

Witnesses:
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H. EDEN.