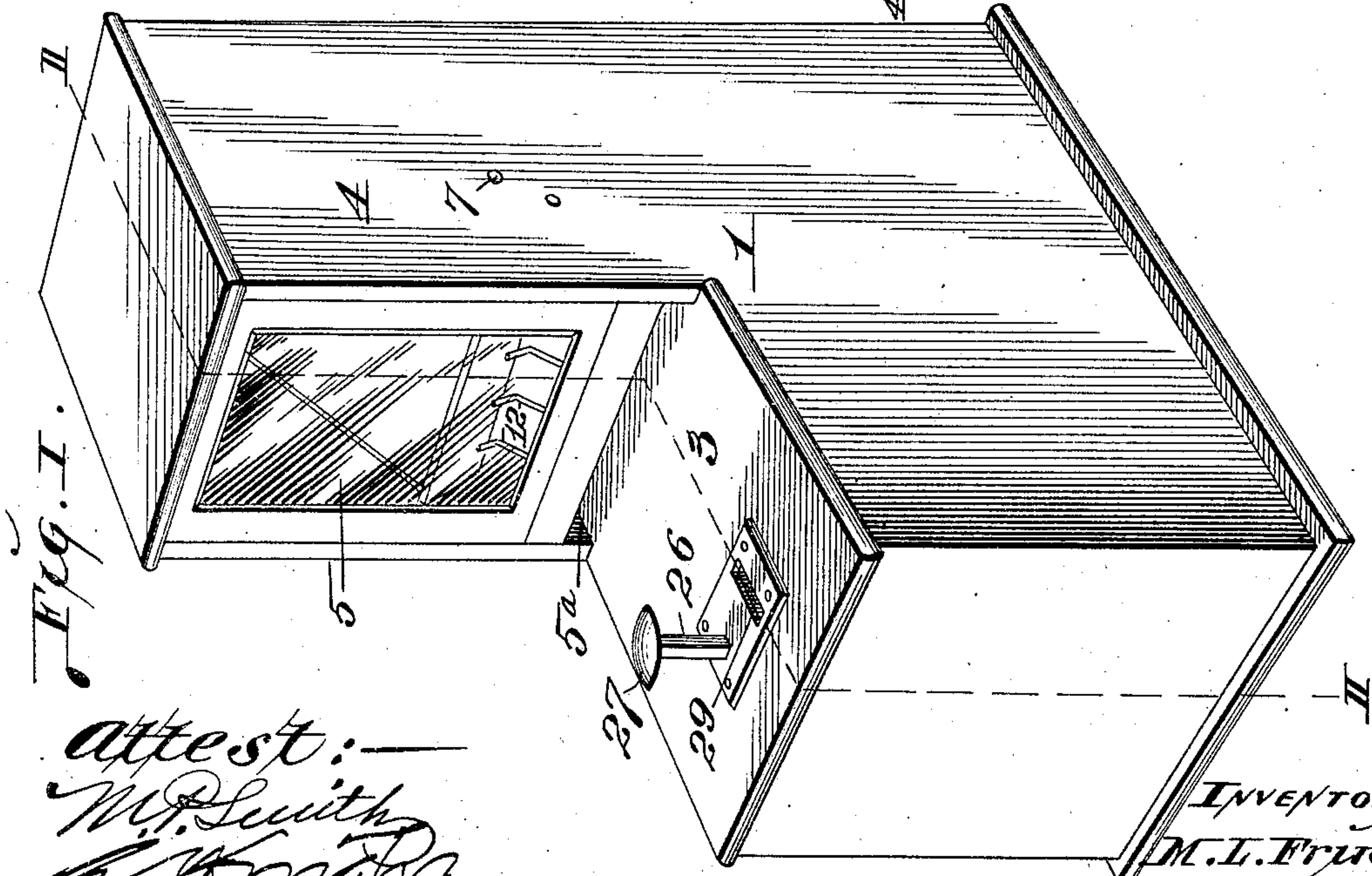
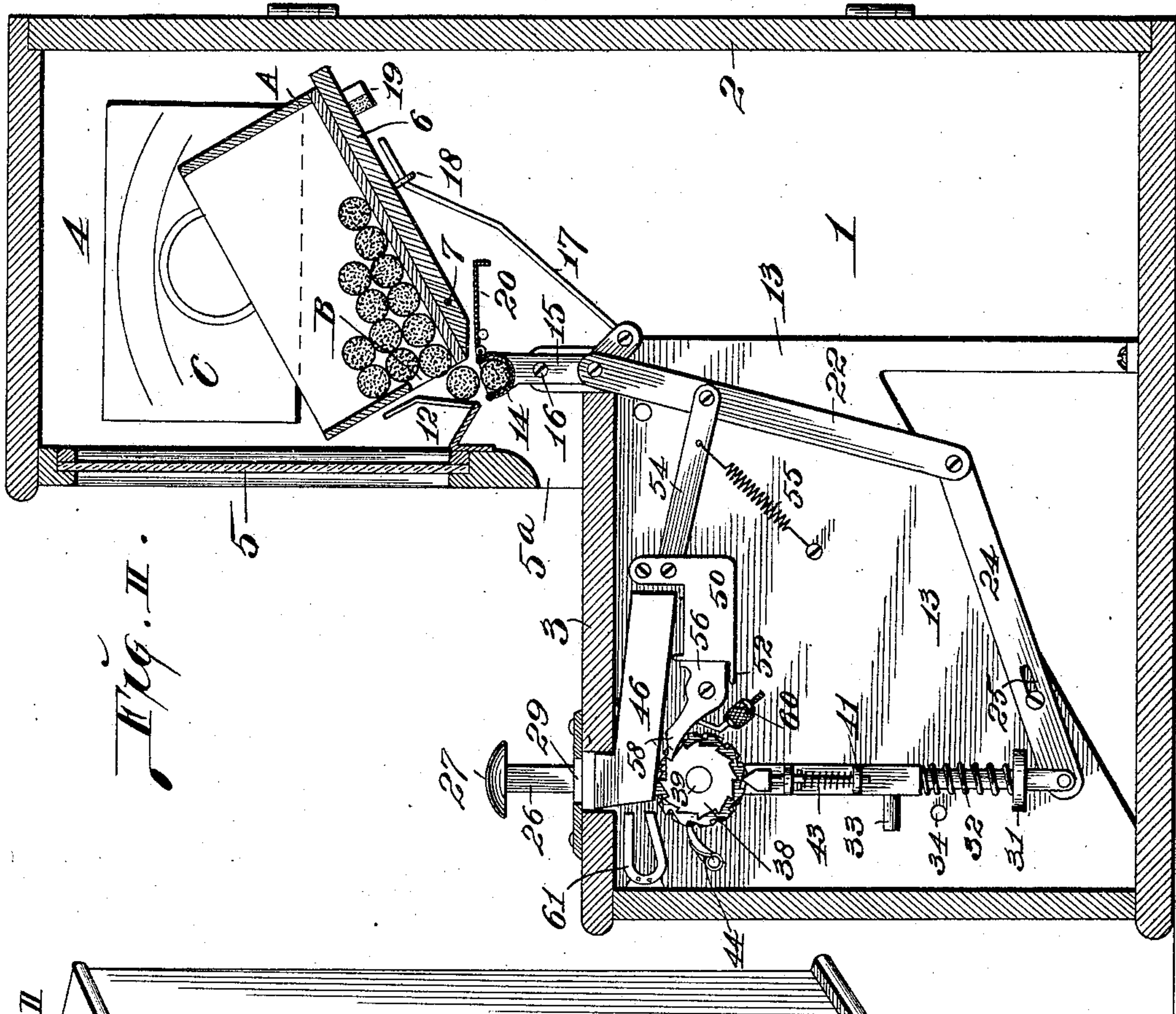


No. 785,416.

PATENTED MAR. 21, 1905.

M. L. FRINK.  
CIGAR VENDING MACHINE.  
APPLICATION FILED JULY 5, 1904.

3 SHEETS—SHEET 1.



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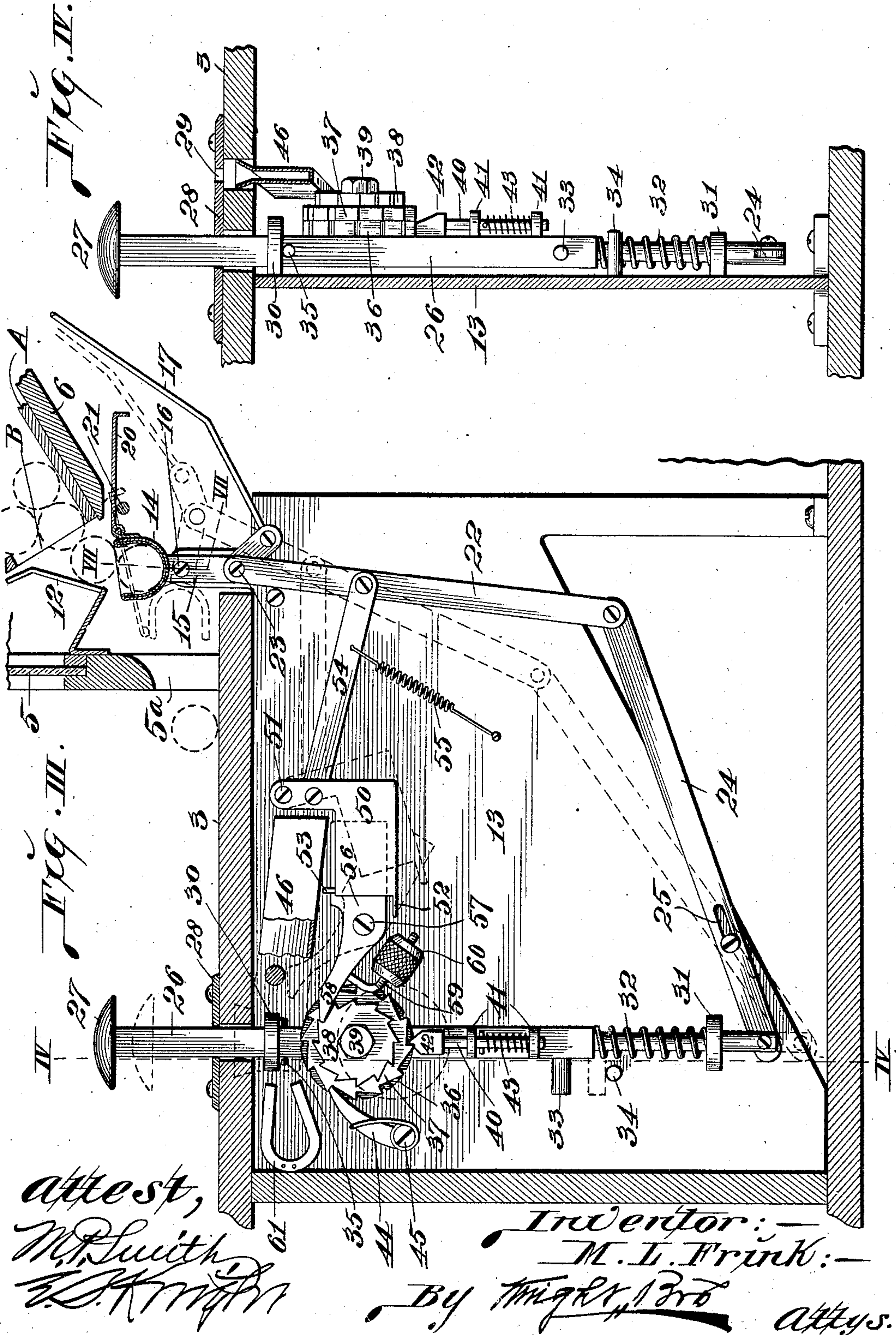
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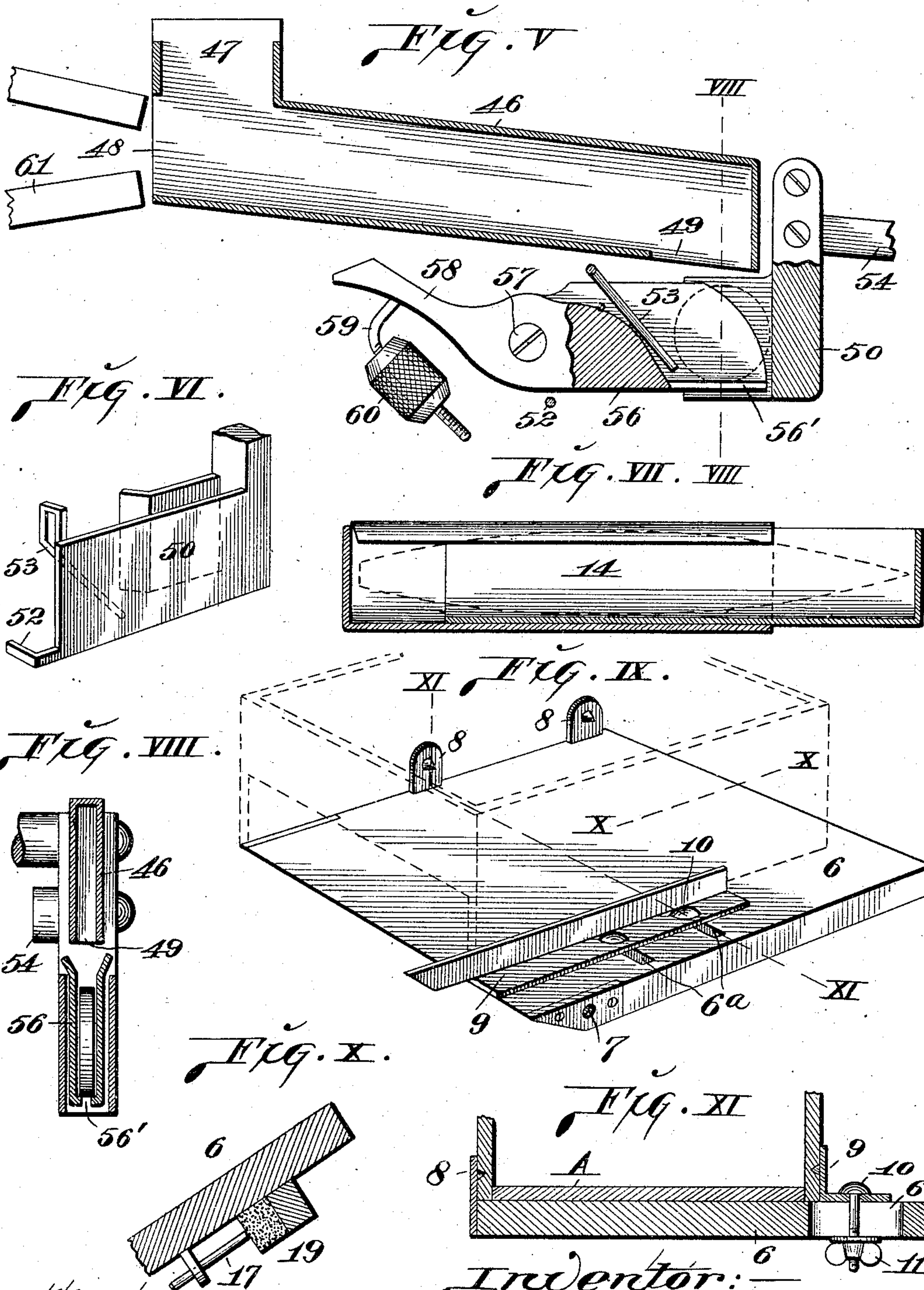


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3 SHEETS—SHEET 3.



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By Wright Bros Attys.



# UNITED STATES PATENT OFFICE.

MELVIN L. FRINK, OF ST. LOUIS, MISSOURI, ASSIGNOR TO CLARENCE R. POPE, OF EAST ST. LOUIS, ILLINOIS.

## CIGAR-VENDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 785,416, dated March 21, 1905.

Application filed July 5, 1904. Serial No. 215,224.

*To all whom it may concern:*

Be it known that I, MELVIN L. FRINK, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Cigar-Vending Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a machine for use in vending cigars and embodying operating mechanism that is designed to be controlled by a coin introduced into the machine to provide for the actuation of the mechanism after the coin has been deposited.

Figure I is a perspective view of my cigar-vending machine. Fig. II is an enlarged vertical longitudinal section taken on line II II, Fig. I. Fig. III is an enlarged vertical section of the forward part of the machine, taken on approximately the same line as the section illustrated in Fig. II. Fig. IV is a vertical cross-section taken on line IV IV, Fig. III. Fig. V is a longitudinal section taken through the coin-chute of my machine and the parts by which the coin is received after passing through said chute. Fig. VI is a perspective view of the coin-box of the machine. Fig. VII is a vertical longitudinal section of the cigar-receiving pocket, taken on line VII VII, Fig. III. Fig. VIII is a vertical cross-section taken on line VIII VIII, Fig. V. Fig. IX is a perspective view of the cigar-box shelf. Fig. X is an enlarged longitudinal section taken on line X X, Fig. IX. Fig. XI is an enlarged transverse section taken on line XI XI, Fig. IX.

1 designates the casing of my machine, which is provided at its rear with a door 2 and has at its forward part a shelf 3, above and at the rear of which is an extension 4 of the casing. Said extension is provided with a transparent front 5, through which a view of the interior thereof is obtained. At the bottom of said front is an exit 5<sup>a</sup> for cigars dispensed from the machine, which are deposited onto the table 3.

6 designates an inclined shelf situated in the upper portion 4 of the casing 1 and having piv-

otal connection at its forward end at the point 7 with the casing, so that it is susceptible of vertical oscillation, for the purpose to be hereinafter named. The shelf 6 is adapted to receive a cigar-box A, in one of the end walls of which is cut an opening B, through which the cigars escape in the process of vending them. The lid C of the cigar-box is preferably suspended at the side of the box within the casing of the machine, as seen in Fig. II, so that it is in view of purchasers of cigars from the machine. At one side of the shelf 6 are prong-bearing fingers 8, that are adapted to receive the bearing of the cigar-box at one of its sides, as seen in Figs. IX and XI.

9 is a prong-bearing strip that is adjustably mounted on the shelf 6 to be moved into engagement with the side of the cigar-box opposite to that engaged by the fingers 8. This adjustable strip 9 has seated in it set-bolts 10, that pass through slots 6<sup>a</sup> in the shelf 6 and bear thumb-nuts 11. This construction provides for the adjustment of the strip 9 across the shelf 6 to clamp cigar-boxes of various widths between the members 8 and 9.

12 designates a series of guard-fingers located above the cigar-exit 5<sup>a</sup> and in front of the forward edge of the box-supporting shelf 6. (See Figs. I, II, and III.)

13 designates a vertical frame positioned in the casing 1 and by which the operating mechanism of my vending-machine is supported.

14 is a cigar-receiving pocket that is located immediately in front of the box-supporting shelf 6, where it is in a position to receive the cigars singly as they descend through the cigar-box opening B, as indicated by dotted lines, Fig. III. This pocket 14 is composed of two telescoping sections, as seen most clearly in Fig. VII, each of which has a closed outer wall and an open inner end, thereby providing for expansion and contraction of the pocket to render it of a suitable length for the reception of various-length cigars that may be dispensed from my machine. The pocket 14 is supported by a rocker-arm 15, pivoted at 16 to the mechanism-supporting frame 13.

17 is a kicker-rod secured to the lower end of the rocker-arm 15 and extending rear-



wardly from said arm to and through the eye 18 at the lower side of the cigar-box-supporting shelf 6. The free rear end of this kicker-rod is positioned in opposition to a bumper 19, depending from the shelf 6. (See Figs. II and X.) The function of these parts will hereinafter appear.

20 is an apron pivoted to the cigar-receiving pocket 14, at the rear side thereof, and extending beneath the forward edge of the shelf 6, where it serves as a support for cigars falling thereonto when the pocket 14 is thrown forwardly, as illustrated in dotted lines, Fig. III. This apron is upheld by and rides upon pins 21.

22 designates an oscillating bar having its upper end pivoted at 23 to the rocker-arm 15. Pivoted to the lower end of said oscillating bar is a connecting-link 24, that has slot-and-pin connection 25 with the frame 13.

26 designates a push-rod having at its upper end a head 27. This push-rod 26 operates through a plate 28, mounted on the table 3 of the machine, in which is a coin-slot 29. Within the casing of the machine the push-rod is fitted in brackets 30 and 31, projecting from the frame 13, the rod being normally held in raised position by an expansion-spring 32, surrounding its lower end and resting upon the bracket 31. (See Figs. II, III, and IV.) The downward movement of the push-rod is restricted by a stop-finger 33, carried by the rod, and a stop-finger 34, projecting from the frame 13, the former of which is adapted to engage with the latter when said rod is depressed. The upward movement of the push-rod is restricted by studs 35, carried by the rod, which strike against the lower side of the bracket 30 when the rod is elevated under the action of the spring 32.

36 designates a stop-wheel, and 37 and 38 ratchet-wheels, all carried by the push-rod 26 and united together as a unit, the said wheels being rotatably positioned on a bolt 39, that constitutes a shaft and is seated in the push-rod 26. The periphery of the stop-wheel 36 is merely notched, the notches being preferably of V shape, while the teeth on the ratchet-wheel 37 face forwardly and the teeth on the ratchet-wheel 38 face rearwardly, as seen in Figs. II and III.

40 is a lock-bolt slidably mounted in ears 41, projecting from the push-rod 26 and having a V-shape head 42, the point of which is adapted to enter into the notches in the stop-wheel 36. The lock-bolt is normally held projected toward the stop-wheel by a spring 43, that surrounds it and is positioned between the ears 41.

44 is a spring-controlled dog that is pivoted to the frame 13 at 45 and which engages the ratchet-wheel 37 for the purpose of imparting rearward rotation to the series of wheels 36, 37, and 38 when the push-rod 26 is depressed.

46 designates a coin-chute that is situated

adjacent to the push-rod 26 and is inclined downwardly from its coin-receiving end to its coin-discharge end. The mouth 47 of this chute is positioned immediately beneath the coin-slot 29, through which coins are introduced into the machine, and the chute is also provided with an opening 48 at its upper and forward end and an exit 49 at its lower and rear end.

50 is a coin-box positioned beneath the exit end of the chute 46 and swingingly connected at 51 to the frame 13. This coin-box consists of a suspension-arm and a pair of wings. The coin-box is shown in detail in Fig. VI. One of its wings carries a trip-arm 52 and an ejector-arm 53, to which more particular mention will hereinafter be made.

54 is a link that connects the coin-box to the oscillating bar 22 and which is controlled by a spring 55, connecting it to the frame 13 for the purpose of normally maintaining the coin-box in elevated condition.

56 designates a channel coin-pocket that is positioned within the coin-box 50 and is pivoted at 57 to the frame 13, the said pocket being located immediately beneath the exit of the coin-chute 46 in order that coins passed through the chute will fall into the channel of the pocket to lodge also within the coin-box 50. The trip-arm 52 carried by the coin-box occupies a position beneath the coin-pocket 56 and the ejector-finger 53 and extends from the upper edge of the coin-box into the pocket 56, as seen most clearly in Fig. V. The coin-pocket 56 is provided with a pawl 58, which extends forwardly to engage the ratchet-wheel 38. Depending from said pawl is a threaded arm 59, on which is adjustably mounted a counterbalance 60, that serves to hold said pawl in engagement with said ratchet-wheel when the mechanism of the machine is at rest, thereby preventing rearward rotation of said ratchet-wheel until a coin is deposited in the machine to lift the pawl out of engagement with said wheel and permit the wheel's rotation. At the same time that the ratchet-wheel 38 is held from rearward rotation the ratchet-wheel 37 is held from forward rotation by the dog 44 in engagement therewith, and therefore the combined wheels 36, 37, and 38 are locked from movement in either direction, and as a consequence it is impossible to depress the push-rod 26 until the pawl 58 is actuated, due to the insertion of a coin into the pocket 56.

61 designates a horseshoe-magnet positioned alongside of the upper end of the coin-chute 46 adjacent to the opening 48 therein. This magnet is designed for service in withdrawing from the coin-chute through said opening any iron slug or disk introduced therein with fraudulent intent to operate the machine.

In the practical use of my machine the operation is as follows: The box containing cigars is first put in condition for use in my ma-



chine by forming the opening B in one of its end walls to permit escape of cigars therefrom when the box is mounted in the machine. The cigar-box is then placed upon the shelf 6 and secured thereto through the medium of the fingers 8 and adjustable strip 9. After this has been done the machine is ready for operation. When a coin is introduced through the slot 29 in the plate 28 on the table 3 of the machine, said coin passes into the chute 46 and after rolling therethrough emerges through the exit 49 of the chute to fall into the coin-pocket 56 and coin-box 50, as indicated by dotted lines, Fig. V. The weight of the coin is sufficient to occasion downward movement of said coin-pocket, as a consequence of which the pawl 58 is lifted out of engagement with the ratchet-wheel 38, and when this occurs the coin is still retained between the coin-pocket and the coin-box 50, notwithstanding the lowered condition of said coin-pocket. The operator then depresses the push-rod 26, and as said rod descends it carries with it the stop-wheel and ratchet-wheels 36, 37, and 38, and said wheels are rotated rearwardly, due to the engagement of the dog 44 with the ratchet-wheel 37, the extent of their movement corresponding to the length of one of the teeth of said ratchet-wheel. When rotation to the degree mentioned has taken place, the head 42 of the lock-bolt 40 again engages in one of the notches of the stop-wheel 36 and prevents accidental movement of the combined wheels, so that a tooth of the ratchet-wheel 38 will be in proper position to receive engagement of the coin-pocket pawl 58. When the downward movement of the push-rod takes place, the connecting-link 24, united to the lower end of said push-rod, is drawn forwardly and its rear end is thrown upwardly, with the result that the oscillating bar 22 is oscillated, its lower end being swung forwardly and its upper end being swung rearwardly. The oscillating bar imparts rearward movement to the rocker-arm 15, swinging said arm on its pivot, and the cigar-pocket 14 is thrown forwardly to discharge a cigar previously contained thereby onto the table 3 through the opening 5<sup>a</sup> in the front of the machine-casing, as indicated by dotted lines, Fig. III. When the rocker-arm 15 is thrown rearwardly, it carries therewith the kicker-rod 17 and causes the rear end of said rod to strike against the bumper 19 for the purpose of jarring the shelf 6 and agitating the cigars in the box on the shelf to keep them rolled downwardly to the lowermost end of the box, so that they will roll through the box-opening B to deposit in the pocket 14 singly and in succession as the pocket is emptied from time to time. Simultaneously with the actuation of the cigar-pocket to discharge a cigar therefrom the coin-box 50 is drawn rearwardly, due to its connection with the oscillating bar 22, thereby separating the rear portion of the coin-box from the rear end of the coin-

pocket 56 and permitting the escape of the coin from the position it occupied within said members. In moving the coin-box carries therewith the ejector-finger 53, and said finger by passing through the coin-pocket serves to eject the coin therefrom if there should be any tendency of the coin to stick in the pocket. Immediately after the push-rod is released subsequent to the operation of the machine the spring 32 elevates said rod to normal position, and the various parts connected thereto are consequently also returned to normal positions, including the coin-box. As the coin-box ascends its trip-finger 52 strikes against the coin-pocket 56 and acts to elevate said pocket to occasion renewed engagement of the pawl 58 with its ratchet-wheel 37, thereby again locking the mechanism of the machine to remain in locked condition until a coin is again introduced to permit the actuation of the parts.

The coin-pocket 56 is slotted at its lower edge, as seen at 56', Figs. V and VIII, for the purpose of permitting a coin of less thickness than the one for which the machine is intended to pass directly through the coin-pocket without actuating it to cause release of the pawl 58 from its ratchet. It will therefore be seen that it is impossible to operate the machine by dropping a copper cent thereinto when the machine is intended to be actuated upon the deposit of a five-cent piece.

I claim as my invention—

1. In a cigar-vending machine, the combination of a movably-mounted cigar-receiving member, a push-rod having connection with said member for operating it, and means for controlling said push-rod; said controlling means consisting of a series of wheels placed side by side and integral as a unit and carried by said push-rod, means mounted independent of said push-rod and wheels for preventing rotation of said wheels in one direction, and a coin-actuated member independent of said push-rod and wheels and engaging one of said wheels to prevent rotation of the wheels in the opposite direction, substantially as set forth.

2. In a cigar-vending machine, the combination of a movably-mounted cigar-receiving member, a push-rod having connection with said member for operating it, and means for controlling said push-rod; said controlling means comprising a series of wheels placed side by side and integral as a unit and carried by said push-rod, a dog mounted independent of said push-rod and wheels for controlling the rotation of said wheels in one direction, and a coin-actuated member independent of said push-rod and wheels, and engaging one of said wheels in a position opposing said dog and serving to prevent rotation of the wheels in a direction the reverse of that in which their rotation is prevented by said dog, substantially as set forth.



3. In a cigar-vending machine, the combination of a movably-mounted cigar-receiving member, a push-rod having connection with said member for operating it, and means for  
5 controlling said push-rod; said controlling means consisting of a series of wheels placed side by side and integral as a unit and carried by said push-rod, a dog mounted independent of said push-rod and wheels for engagement  
10 with one of said wheels, a coin-actuated member independent of said push-rod and wheels, and engaging one of said wheels in a position opposing said dog and serving to prevent rotation of the wheels in a direction the reverse  
15 of that in which their rotation is prevented by said dog, and a lock-bolt carried by said push-rod for engagement with one of said wheels, substantially as set forth.

4. In a cigar-vending machine, the combination of a cigar-receiving member, mechanism for actuating said member, a pivotally-mounted channeled coin-pocket having an open end and provided with means for controlling said cigar-receiving-member-operating mechanism, and a coin-box pivotally  
20 mounted independent of said coin-pocket and telescoping the open rear end of said coin-pocket and having connection with said cigar-receiving-member-operating mechanism, substantially as set forth.  
30

5. In a cigar-vending machine, the combination of a cigar-receiving member, mechanism for operating said member, a coin-pocket

provided with means for controlling said operating mechanism, a swingingly-mounted  
35 coin-box connected to said operating mechanism, and an ejector carried by said coin-box and operating in said coin-pocket, substantially as set forth.

6. In a cigar-vending machine, the combination of a cigar-receiving member, mechanism for operating said member, a channeled pivotally-mounted coin-pocket provided with means for controlling said operating mechanism and open at its rear end, a swingingly-  
40 mounted coin-box telescoping the rear open end of said coin-pocket and connected to said operating mechanism, and a trip-arm carried by said coin-box and adapted to engage said coin-pocket, substantially as set forth.  
50

7. In a cigar-vending machine, the combination of a cigar-receiving member, mechanism for operating said member, a ratchet-wheel carried by said mechanism, a coin-pocket mounted independent of and adjacent to said  
55 ratchet-wheel and provided with a pawl for engagement with the ratchet-wheel, means for preventing rotation of said ratchet-wheel while said pawl is in engagement therewith, an arm carried by said pawl, and a counter-  
60 balance adjustably mounted upon said arm, substantially as set forth.

MELVIN L. FRINK.

In presence of—

BLANCHE HOGAN,  
M. P. SMITH.