

No. 701,978.

Patented June 10, 1902.

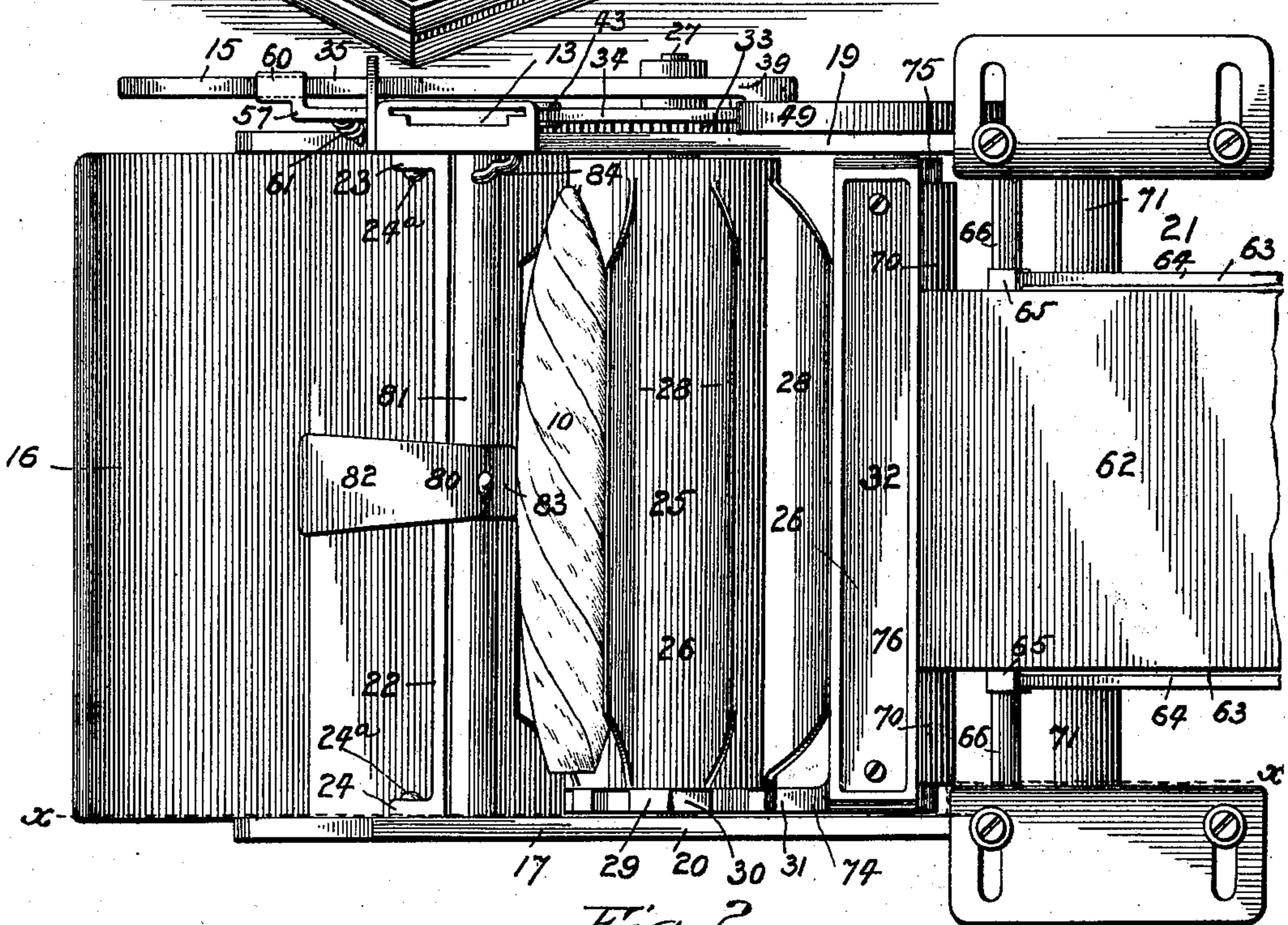
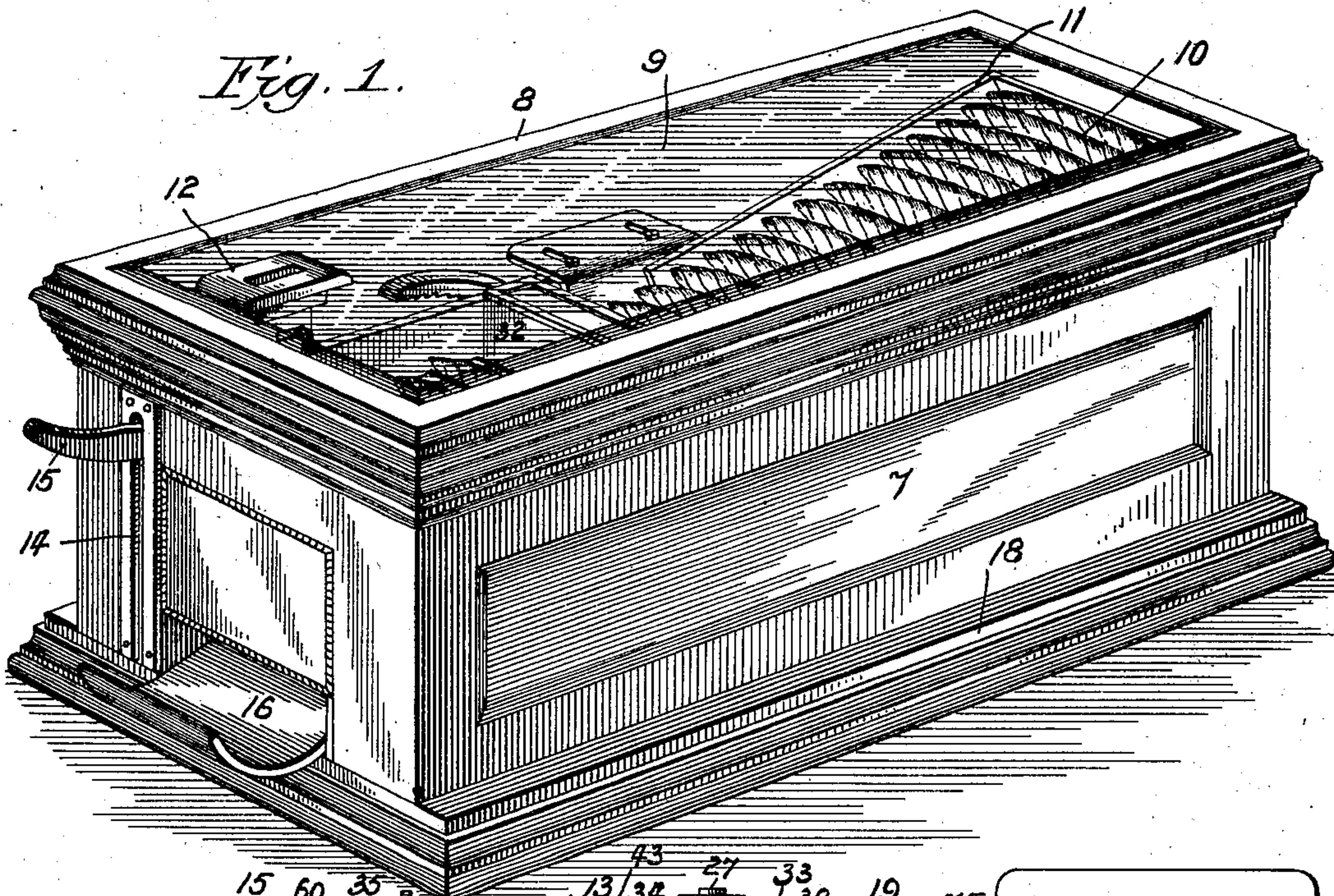
D. McL. WINANS.

COIN CONTROLLED CIGAR EXHIBITING AND VENDING APPARATUS.

(Application filed Sept. 14, 1899.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES  
*John Anders Jr.*  
*Stockman*

*Fig. 2.*

INVENTOR  
*Daniel McLeod Winans*  
by *Joseph W. Burr*  
his Attorney



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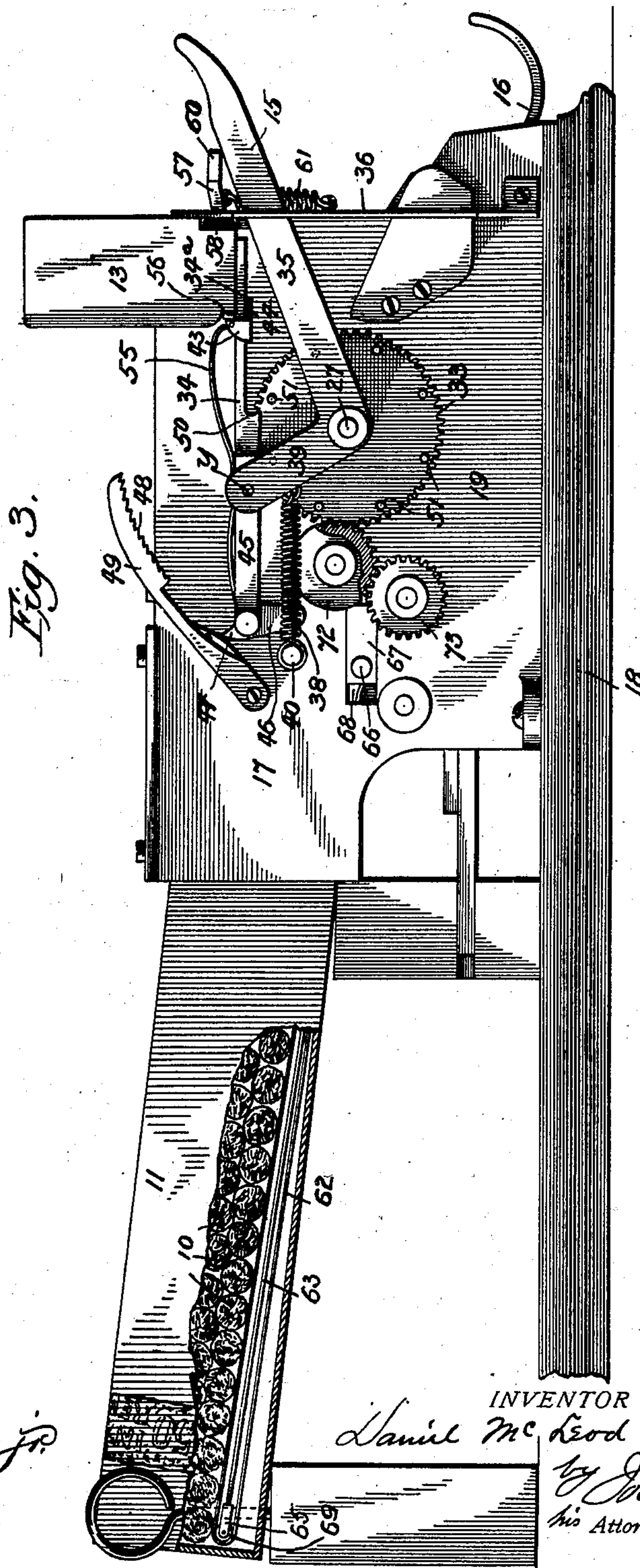


Fig. 3.

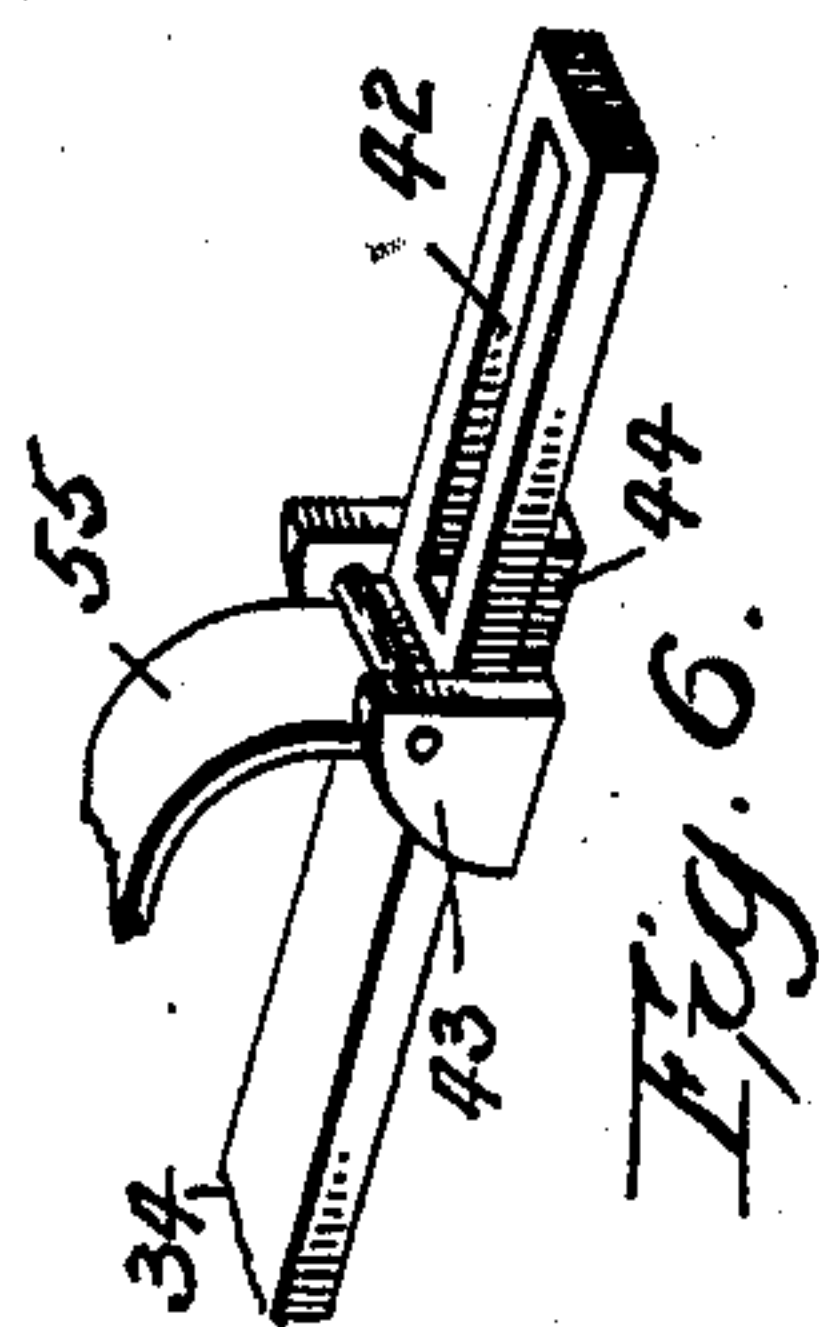


Fig. 6.

WITNESSES

John Enders, Jr.  
C. J. Strickman

INVENTOR

Daniel McLeod Winans  
by Joseph W. Smith  
his Attorney



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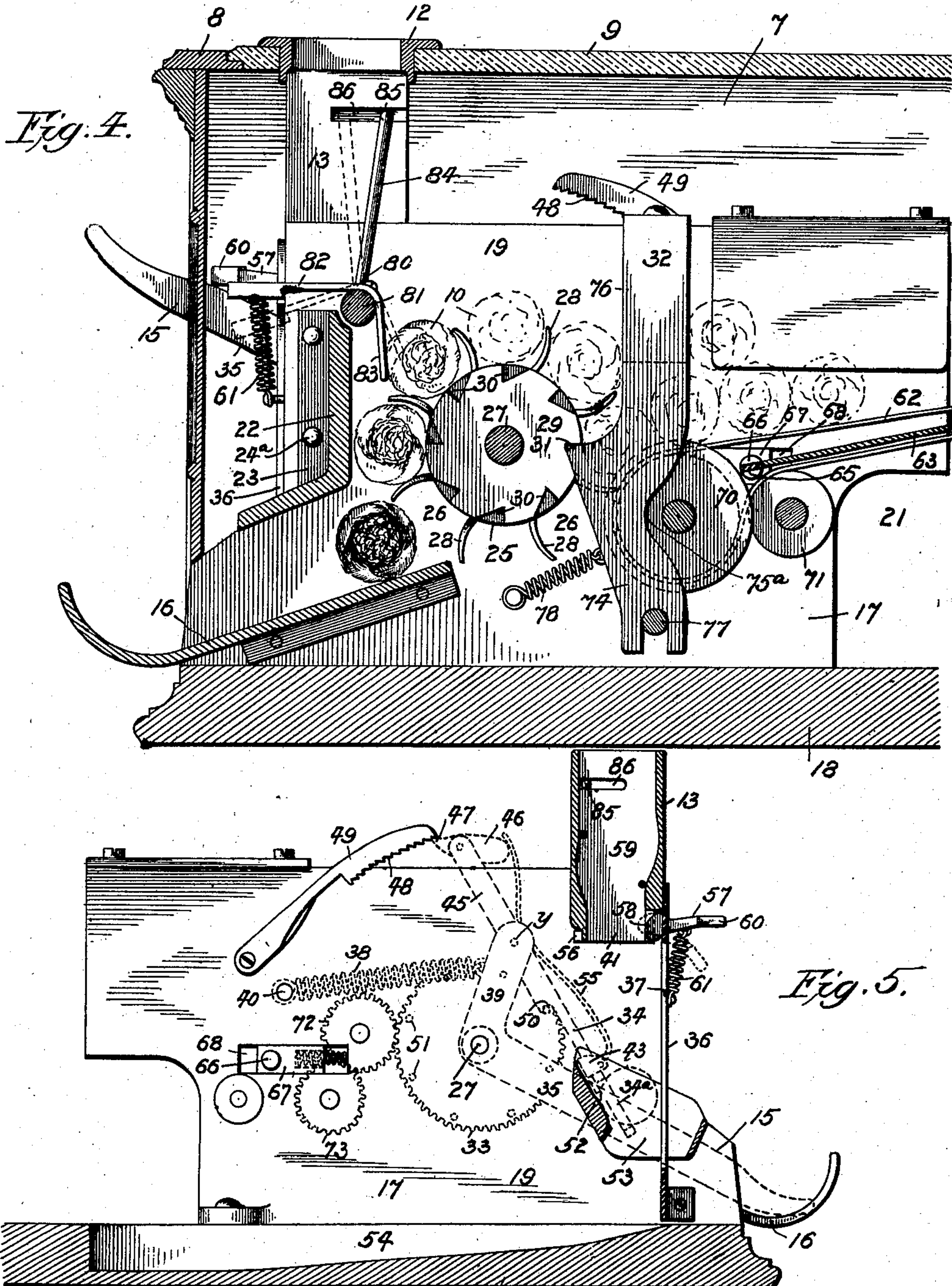
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(Application filed Sept. 14, 1899.)

(No Model.)

3 Sheets—Sheet 3.



WITNESSES  
*John Enders, Jr.*  
*by Stockmen*

INVENTOR  
*Daniel McLeod Winans*  
*by Joseph M. Beall*  
his Attorney



# UNITED STATES PATENT OFFICE.

DANIEL MCLEOD WINANS, OF BINGHAMTON, NEW YORK, ASSIGNOR TO  
ALBERT L. WEAVER, OF NEW YORK, N. Y.

## COIN-CONTROLLED CIGAR EXHIBITING AND VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 701,978, dated June 10, 1902.

Application filed September 14, 1899. Serial No. 730,484. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL MCLEOD WINANS, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Coin-Controlled Cigar Exhibiting and Vending Apparatus; 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.

My invention relates to a device and apparatus for exhibiting and automatically vending merchandise articles, and more especially to that class of devices in which a conveyer-belt is employed for the withdrawal of articles, such as cigars, from a box in a manner to display and advance them to a point of delivery; and said invention consists, essentially, of coin-controlled mechanism for automatically operating the delivery-drum and connecting apparatus of such a machine as herein shown and described.

That my invention may be better understood, I have illustrated in the accompanying drawings one form of embodiment thereof without intending, however, to limit my invention in its usefulness to the exact embodiment which I have shown.

In the drawings, Figure 1 represents in perspective a one-case compartment containing a box of cigars as arranged for vending according to my invention. Fig. 2 represents a top plan view of the same with the cover removed, while Fig. 3 represents in side elevation, with cover removed and in full length, said machine when combined with a cigar-box arranged in vending relation therewith. Fig. 4 represents in cross-section on line  $x x$  of Fig. 2 a side elevation of said machine. Fig. 5 represents in partial view and partial cross-section a side elevation of the box and coin-operating mechanism. Fig. 6 represents a detail of the coin-receiving arm, showing a fragmentary portion thereof.

Like numerals indicate like parts in the several figures.

The reference-numeral 7 in said drawings indicates the machine-case, which is preferably constructed of wood and glass. The general shape thereof is rectangular, while a

removable cover 8 is provided that has on its top a heavy transparent glass 9 to allow for the proper display of the cigars 10, which are exposed to view in the original package or box 11 in show-case fashion, thereby affording an opportunity for the official inspection of the original cigar box or package by the internal-revenue officials to disclose to them the capacity of the box and to make observable that the tax-stamp and caution-notice required to be affixed by law have been complied with without necessitating the unlocking and opening of the case. The box to be used in the case is the ordinary commercial cigar-box, which is packed with cigars at the factory in the usual manner and from which the end may be removed to provide an exit for the withdrawal of the cigars when placed in operative position with relation to the withdrawal apparatus within said case. Such a case may be employed separately in vending cigars, or several of them may be arranged in a series to form one large show-case for displaying a variety of brands of cigars to afford a price, color, and size selection; but for the purpose of this invention it will be sufficient to describe the same as employed in connection with a single case. The cover 8 is also provided on its top front portion or ledge with a coin-mouthpiece 12, that alines with the entrance of the coin-chute 13, arranged within the case, while the front end of the cover is provided with a vertically-disposed slotted portion 14, that is of sufficient height to allow for the up-and-down play of the main actuating lever or handle 15.

An apron or trough-piece 16 is secured above the front base portion of the machine and is adapted to extend at a suitable incline to a point where it is conterminous with the radial wings of a delivery-drum to be hereinafter described and which is adapted to receive the cigar after it has been dropped out in such a manner as not to break the wrapper of the cigar.

17 represents the rectangular-shaped metal box or framework, which is mounted on and secured to the base 18 and which carries and contains the operating mechanism and which provides between its side walls or plates 19 and 20 an open way 21, through which the articles to be vended are made to progress.



sively travel. In the forward part of this box or framework and arranged at a proper height above the delivery-apron is a fender-plate 22, which spans the way and which is provided with supporting-brackets 23 and 24 for joining with screw-bolts 24<sup>a</sup> to the side plates of the box, respectively. Arranged at a suitable distance back of the fender-plate is the horizontally-disposed rotatable delivery-drum 25, that is provided with pockets 26 on its periphery and which is mounted rigidly on the shaft 27, that extends transversely across the way and which is sustained in suitable bearings in the side plates of said box. The pockets or longitudinally-disposed receptacles may be made in various ways; but I have illustrated pockets formed from narrow strips of metal bent and cut to form concave wings 28, that are arranged and secured in a radial relation to said drum.

Mounted on the axis 27 between the drum and the side plate 20 is rigidly secured a ratchet-wheel 29, having teeth 30 in its periphery at regular intervals, which are adapted to be engaged by a pawl 31, carried by the adjacent upright portion of the rocking gate 32, thereby providing for said gate a rocking motion, as well as holding the drum against retrograde movement.

The mechanism for automatically operating the delivery-drum when a coin has been deposited in the coin-chute is located principally on the outer face of the side plate 19, as shown in Fig. 3.

Upon the same shaft 27 with the delivery-drum and upon the portion thereof that extends outwardly beyond said plate is rigidly mounted the spur gear-wheel 33, while at the extreme end of said shaft is pivotally mounted a spring-controlled main actuating bell-crank lever 15. Through the instrumentality of this lever and the coin-actuated companion lever 34 the ratchet gear-wheel 33 controls the forward rotation of the delivery-drum, and as it is essential to the proper and consecutive working of the vender that the drum shall be rotated a distance of one pocket every time a determinate coin is dropped into the chute and the main actuating-lever is depressed a predetermined distance I provide in operative relation therewith the following mechanism: The longer arm 35 of the main actuating bell-crank lever 15 extends at a suitable angle through the slotted plate 36 to a point where it projects in front of the case to form a handle or finger that is within convenient reach of the operating purchaser. The range of vertical movement of this handle is normally controlled by the length and disposition of the vertical slot 37 in the plate 36, while the coil-spring 38, arranged in opposition to said handle 15 and attached at one end to the short arm 39 of the bell-crank lever and at its other end to the post 40, causes the lever 15 to always be returned to assume the position shown in Fig. 3 after it has been depressed to its downward limit and the hand of

the operator has been released. Pivoted to the free end of the short arm 39 at  $y$ , midway of its length, is the (normally) horizontally-disposed companion lever 34, the forward end of which extends into the pathway of the coin-chute 13 a sufficient distance to close the discharge-opening 41 thereof. This forwardly-extending arm is provided with a longitudinally-extending elongated slot 42, (see Fig. 6,) that registers with the chute-opening 41 for the reception of a coin, thereby constituting a coin-receiving arm, that is normally held in a closed position against the outlet of said chute by a sliding spring-controlled catch 43, which normally abuts against the chute, and that is provided with an under shoulder 44 and which is mounted to move longitudinally on the coin-receiving arm at the inner end of the coin-receiving slot, and which is thereby capable of varying the length of said slot by its longitudinal travel. The counterbalancing-arm 45 of the lever 34 is provided at its end with a spring-controlled pawl-block 46, that normally swings loosely, but which is permitted when the coin-receiving arm 34<sup>a</sup> is depressed and the counterbalancing-arm 45 is tilted up sufficiently to engage with its toothed end 47 the inclined teeth 48 of the segmental rack 49, that extends at a suitable angle to present its toothed track in an arc arranged concentrically to the fulcrums of the respective lever-arms 15 and 34 and which when in engagement with the pawl prevents the retraction of the coin-depressed lever until the spring-held pawl 46 has been forced to travel step by step over the entire notched surface of the rack.

In order to govern the rotation of the wheel 33 and the drum 25, fast on the same shaft, and to allow them to move forward only upon the dropping into the coin-receiving arm of a determinate coin, I provide the lower edge of the coin-receiving arm with a cut-away portion to form a slot or notch 50. The action of the coin upon the aforesaid lever-arm in depressing the same has for its object to engage the said slot or notched portion successively with the series of contact pins or studs 51, that are rigidly secured and annularly arranged to project at proper intervals from the outer face of the actuating gear-wheel 33, thereby forming a clutch mechanism to turn said wheel a predetermined distance for the purpose set forth, and by reason of the undue inclination given to the coin-receiving lever when it reaches the limit of its downward travel the coin carried thereby is made to strike a projecting lug 52 in the pocket 53, and said coin is gently tipped out and dropped into the inclined channel or groove 54.

The reason for providing a longitudinally-sliding spring-controlled catch will now be explained.

When the lever 34 is at rest in a horizontal position, the catch 43 by reason of the action of the blade-spring 55 is made to abut the chute 13 by shouldering against the small lug



56. When in that position, the slot 42 is reduced in length to the proper size to receive the determinate coin of a given weight and dimension; but when a heavier coin or dummy of the proper size is used in the machine it will in its descent strike the shoulder 44 of the catch 43 and by its increased weight overcome the spring 55, controlling the position of the catch in its abutment against the chute 13, and thereby push the shoulder out of the way, allowing the coin or dummy to drop through the enlarged slotway into the pocket 53. Should a coin of lighter weight but proper size be employed, it would lodge in the slot 42, but would not depress the receiving-arm sufficiently to allow the catch 43 to clear the lug 56 or to enable the slot or notch 50 to engage any of the series of pins 51 on the wheel 53. While the receiving-arm was in this position the slightest touch upon the operating bell-crank lever 15 would instantly widen the slot 42 by forcing the retreat of the sliding catch 43 along the receiving-arm of the lever 34 and the lighter weight coin or dummy would be dropped into the chute 53.

Arranged in connection with the lower portion of the chute I pivotally mount a small bell-crank lever 57, having one of its arms 58 extending normally to one side of the coin-passage 59 in the chute 13, while the other arm 60 extends outwardly from the metal box to a point where it strikes and rests in a raised position and in contact with the main actuating lever or handle 15 with which it is designed to cooperate and which is held in forced contact therewith by reason of the spring 61 or other elastic connection which is arranged to pull said arm down upon the handle-lever 15, and which when said lever is depressed forces the contacting arm in a following downward movement to a distance sufficient to throw the arm 58 in a direction to lessen the width of the coin-chute at that point, as shown in dotted lines, thereby serving to arrest any coin deposited within the chute at a time when the handle 15 is depressed for any purpose whatsoever; but when the handle is returned to its normal position of rest it strikes the arm and overcomes the power of the small spring 61 and throws the arm in the direction of increasing the width of the chute, thereby providing for a clear passage for the deposited coin and allowing it to drop into the slot 42 and then operate the machine, as before described.

Arranged adjacent to the receiving side of the delivery-drum and in a feeding relation—i. e., projecting on a line that will admit of the conveyance of articles to the pockets of the delivery-drum—is the rearwardly-extending rotary band or endless belt 62, that is intended to advance progressively forward to the delivery-drum. This endless belt is stretched and folded over a rectangular-shaped carrying-frame 63, that comprises a pair of thin flat metal arms 64, arranged in parallelism and connected at their extremities

by a like thin cross-piece 65, all lying in the same plane. This frame is pivoted at its inner end on a horizontally-arranged shaft or axis 66, the trunnion ends of which are journaled in spring-held bearing blocks or boxes 67, located, respectively, in the recesses or slots 68, formed in the wall-plates of the box and which are capable of longitudinal adjustment. The belt when in position passes over the guiding-roller 69 at the extremity of the frame, while the inner enlarged end of the belt passes over the driving roller or pulley 70. It is important that there shall be no slipping of the endless conveyer, and to this end there is mounted adjacent to the forward end of the belt and in horizontal parallelism behind the pulley 70 the idler presser-roller 71, which in conjunction with the adjustable tension-blocks 67 act as take-ups to maintain the belt always in a taut or stretched condition and the frame in a buoyant condition. The belt is made, preferably, of felt material and when arranged in connection with the carrier-frame forms a thin blade, that may be raised and lowered by hand to suitable inclinations and levels and which may be thrust endwise into the bottom of a cigar-box packed with cigars, so as to lie in operative contact with the undermost layer of cigars, and thereby feed them forward out of said box to the delivery-drum. Travel is imparted to the conveyer-belt from the wheel 33 through the intermediate gear-wheel 72 and pinion 73, which are in train therewith, while said pinion 73 is made fast on the pulley-shaft 70.

Extending transversely across the way above the forward end of the conveyer-belt, where it engages the pulley 70, and immediately adjacent to the receiving side of the delivery-drum there is disposed a vertically-movable rocking (clearing) gate 32, that comprises a pair of uprights 74 and 75, that project normally between the ends of the pulley 70 and the respective walls of the box and which are indented or offset, as shown at 75<sup>a</sup>, to allow of their rearward swing to a point where they contact with the trunnions of shaft 70. These uprights are sustained by their bifurcated ends, which rest upon the trunnions 77, that project horizontally from the inner faces near the bottom portions of the wall-plates, and the gate is held yieldingly in such pivotal relation by the downpull of the spring 78, which connects with the upright and is anchored, as shown in Fig. 4. The upright 74 is provided on its forward edge with an integral projection or pawl 31, that engages with the teeth 30 of the ratchet-wheel 29 to cause when actuated the rocking of said uprights to and fro. The uprights are connected at their top portions by the cross-piece 76, which spans the way and which extends downward toward the plane of the conveyer-belt sufficiently to form a passage-way of a height that will allow of the feeding of cigars therethrough only in a single layer, while the cigars that have been drawn to that point



and which tend to pile up are gently pushed back, thereby avoiding all chance of clogging the way to the interference of their proper successive delivery to the drum.

5 It is important to provide a means for preventing the insertion of coins when the delivery-drum has been emptied of all the cigars fed thereto, and I will now proceed to describe a means that I provide for closing  
10 the chute against the deposit of a coin therein.

Arranged in operative relation to the delivery-drum is the vibrating lever 80, that is centered on the rocking spindle 81, that is sustained in suitable bearings in the respective wall-plates of the metal box. The vibrating lever is provided on its outwardly-extending arm 82 with a counterbalancing-weight, which has a tendency to throw arm 83 into range of the wings of the drum; but  
20 when the pockets of said drum are filled with cigars the bodies thereof project sufficiently to maintain the feeling-arm 83 in the position shown in full lines in Fig. 4. The horizontally-disposed spindle also carries on its inner  
25 end at substantially right angles the upwardly-extending rod 84. This rod is bent in a suitable manner for the purpose of presenting at its free end a cross-pin arm 85, that extends in a plane horizontally coincident with that of the slot 86 in the side of the  
30 chute near its entrance. The cross-pin arm is yieldingly sustained within said slot in the right-hand position shown in Fig. 4 as long as the arm 83 of the vibrating lever contacts  
35 successively with the respective bodies of the cigars as they are brought to that point in the revolution of the drum; but when an empty pocket is brought into operative relation with said arm 83 the weighted arm causes  
40 the spindle to turn to allow the arm 83 to swing into the nearest pocket, while the rod and cross-pin are thrown to a left-hand position, as shown in dotted lines, and the arm

in said slot bars the way to the insertion of a coin in said chute. 45

The operation of the foregoing mechanisms and devices being apparent from the foregoing description, what I desire to claim as new and useful is—

1. In combination with a gravity-lever extended into the pathway of the discharge-opening of a coin-chute, and which is provided with a coin-receiving slot that registers with said opening, of a spring-controlled longitudinally-movable catch that is ranged to  
55 travel over said slot to vary its length, and which is adapted to rest in abutment against said chute, substantially as described.

2. In a coin-chute-closing device comprising a spindle mounted to partially rotate and carrying a rod that extends upward at substantially right angles, a cross-arm projecting from said rod, in a plane horizontally coincident with and into a slot in the side wall of the coin-chute; and a vibrating lever centered on said spindle in range of the travel  
65 of the delivery-drum, as and for the purpose set forth.

3. The combination with a main actuating-lever in a coin-operated machine, of a smaller bell-crank lever pivotally mounted at one side of the coin-passage of the coin-chute, to present one arm that is held by a down-pulling spring, in normal contact with the main actuating-lever, while the other arm thereof is  
70 positioned to swing into the coin-passage to arrest a coin dropped therein, when the outer arm is allowed to be pulled down in consequence of the depression of the main actuating-handle, substantially as described. 75

In testimony whereof I affix my signature in presence of two witnesses. 80

DANIEL MCLEOD WINANS.

Witnesses:

JULIA AKERS,

WM. HEPBURN RUSSELL.