No. 630,661. Patented Aug. 8, 1899.

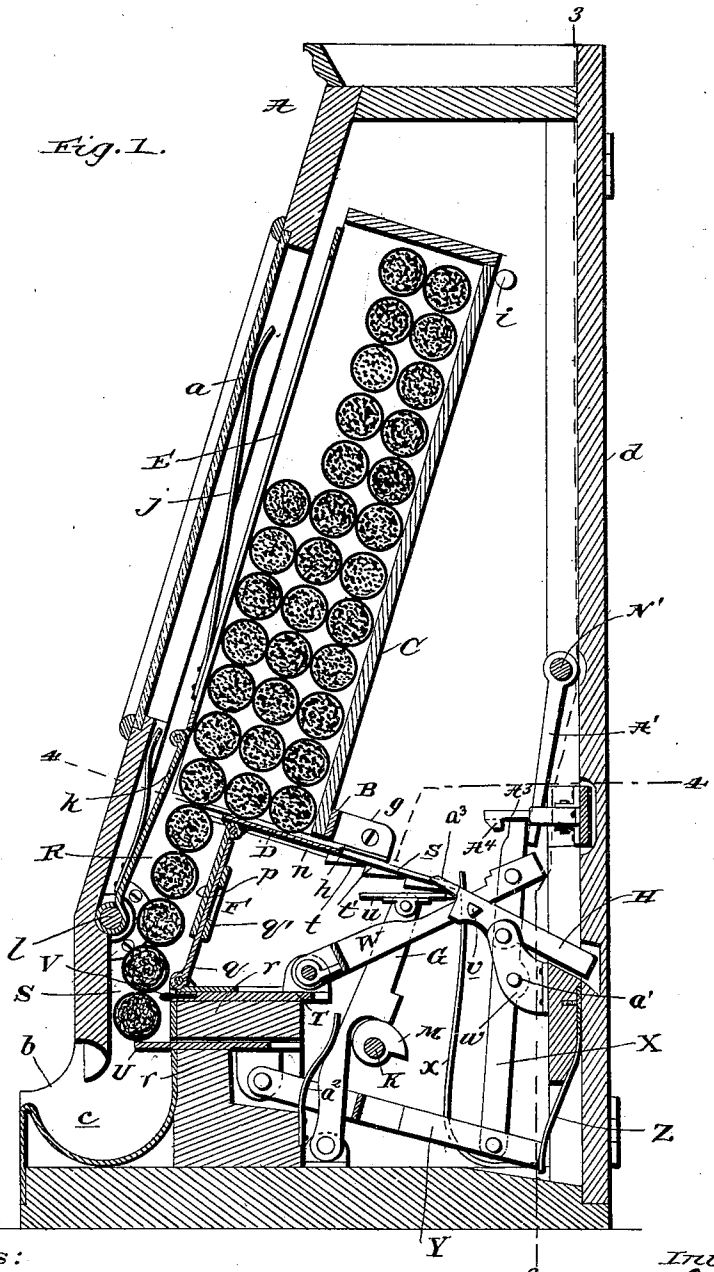
M. S. CODY.

VENDING APPARATUS.

(Application filed Dec. 7, 1898.)

(No Model.) 4 Sheets—Sheet 1.

Fig. 1.



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No. 630,661. Patented Aug. 8, 1899.

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Fig. 2.

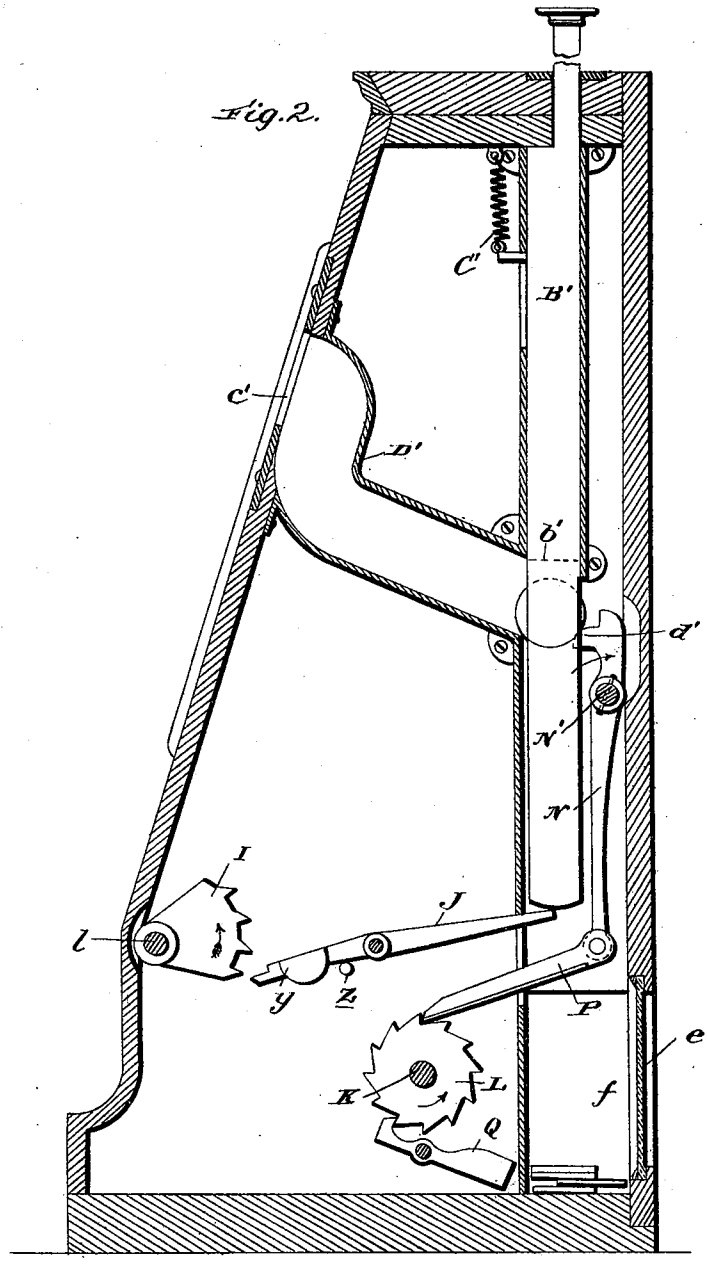
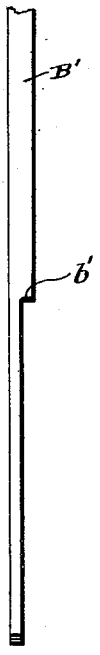


Fig. 8.



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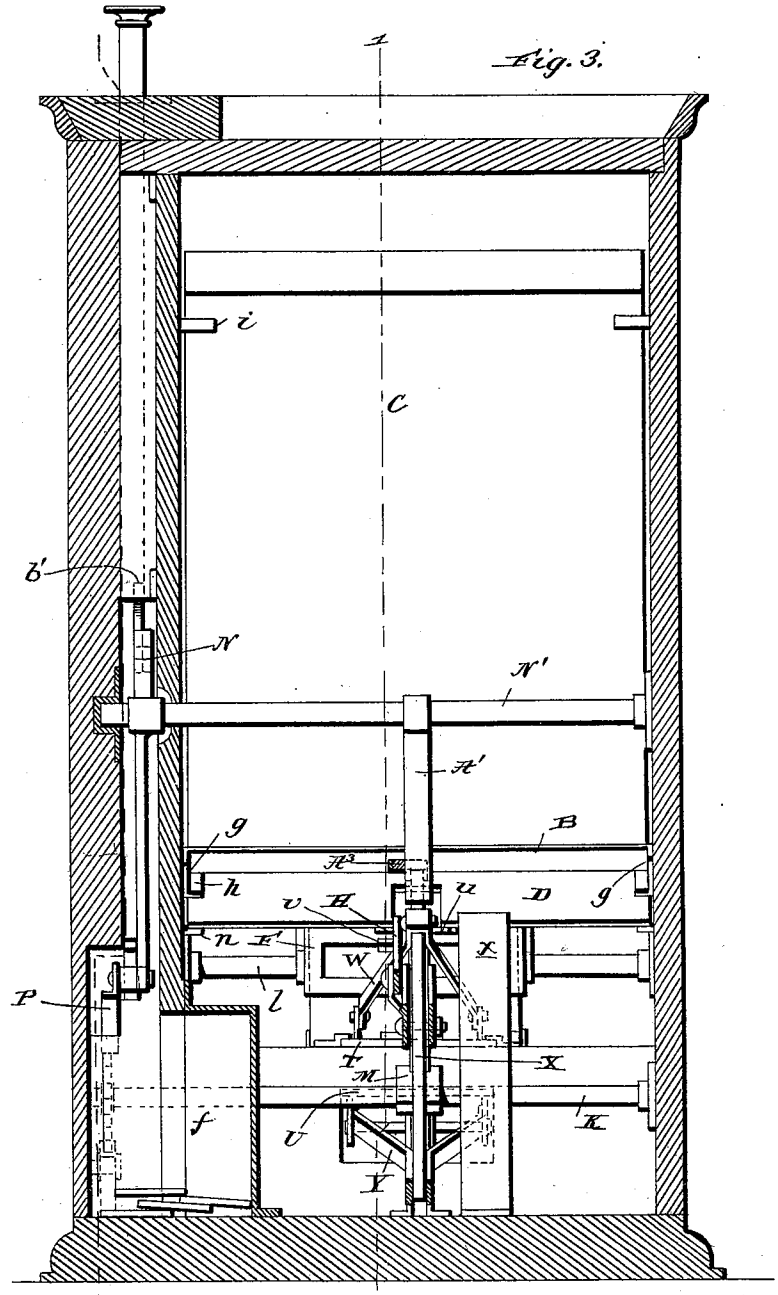
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VENDING APPARATUS.

(Application filed Dec. 7, 1898.)

(No Model.) 4 Sheets—Sheet 3.

Fig. 3.



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VENDING APPARATUS.

(Application filed Dec. 7, 1898.)

(No Model.) 4 Sheets—Sheet 4.

Fig. 4.

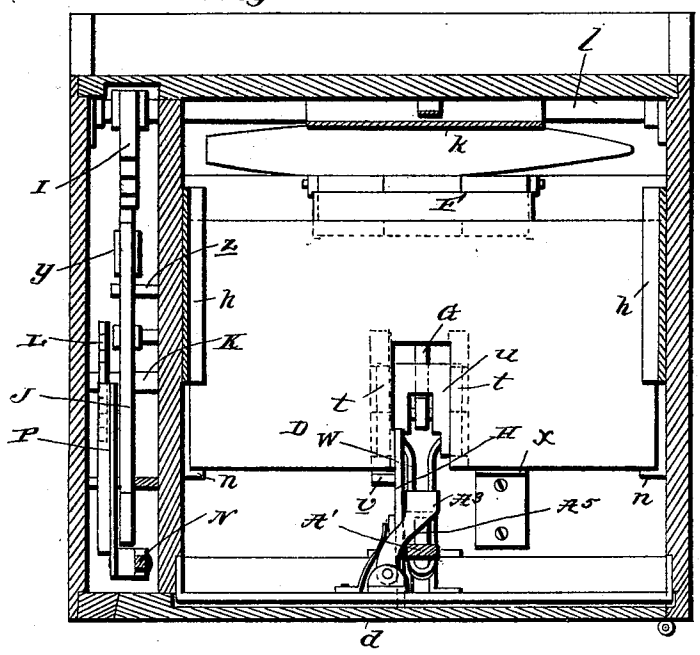


Fig. 7.

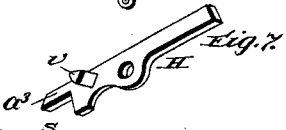


Fig. 5.

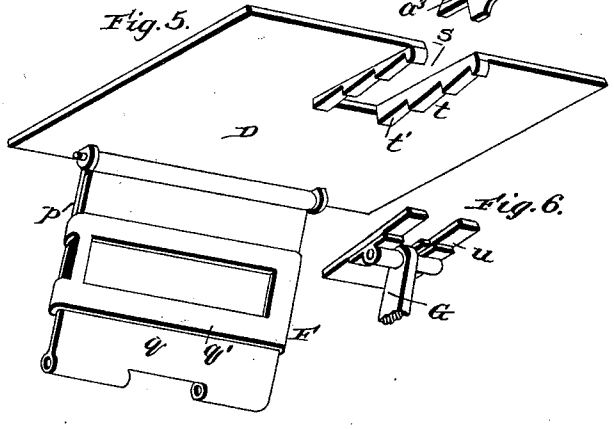


Fig. 6.

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UNITED STATES PATENT OFFICE.

MILES S. CODY, OF WASHINGTON, DISTRICT OF COLUMBIA.

VENDING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 630,661, dated August 8, 1899.

Application filed December 7, 1898. Serial No. 698,541. (No model.)

To all whom it may concern:

Be it known that I, MILES S. CODY, a citizen of the United States, residing at Washington, in the District of Columbia, have invented new and useful Improvements in Vending Apparatus, of which the following is a specification.

My invention relates to coin-controlled cigar-vending apparatus; and it consists in the peculiar and advantageous construction, certain novel combinations, and the adaptation of parts hereinafter described, and particularly pointed out in the claims appended.

In the accompanying drawings, Figures 1 and 2 are vertical sections of my improved vending apparatus, taken in the planes indicated by the dotted lines 1 1 and 2 2, respectively, of Fig. 3. Fig. 3 is a section taken in a plane at right angles to Figs. 1 and 2, as indicated by the broken line 3 3 of Fig. 1. Fig. 4 is a horizontal section taken in the plane indicated by the dotted line 4 4 of Fig. 1, with the cigar-box omitted. Fig. 5 is a perspective view of the cigar-supporting plate and the extensible wall connected thereto. Fig. 6 is a detail perspective view of a portion of the lever and dog through the medium of which the cigar-supporting plate is moved. Fig. 7 is a perspective view of the pawl for holding the cigar-supporting plate against casual retrograde movement. Fig. 8 is an edge elevation of the plunger.

In the said drawings similar letters designate corresponding parts in all of the several views.

The casing A of my improved apparatus is preferably made of wood and is provided in its front wall with a glass panel *a* and an opening *b*, the latter being arranged in communication with a cup or receptacle *c*, which is placed, as shown in Fig. 1, to receive the cigars as they are ejected from the interior of the apparatus. The rear wall of the casing is formed by a hinged door *d*, which permits of cigar-boxes being readily placed in and removed from the apparatus and also permits of the ready removal of coins. The said door *d* is designed to be secured in its closed position by a lock, (not shown,) and is preferably provided with a glass panel *e*, arranged coincident with the coin-receptacle *f* and designed to expose the contents of the same to view.

B is a transverse bar having lugs *g* at its ends, connected to the side walls of the casing, and also having angle-iron arms *h* (see Fig. 4) arranged against said walls, and C is an ordinary cigar-box. This box C has its cover and one end wall removed, and it is arranged in the casing A with its open end bearing on the arms *h* of the bar B, its upper portion resting against removable pins *i*, placed in the side walls of the casing, and its open side adjacent to the glass panel *a*, so as to expose its contents to view.

In order to support all but the foremost layer of cigars in the box C, a plate D is provided below the lower end of the box, and in order to prevent casual movement of the foremost layer of cigars without hiding the same from view an open frame E is provided in front of the cigars, as best shown in Fig. 1. The frame E is pressed against the cigars by springs *j* and is pivotally connected at its lower end to a plate *k*, which is fixed upon a transverse rock-shaft *l* and is backed by a spring or springs for a purpose presently described.

The cigar-supporting plate D is arranged to move between the arms *h* of the bar B and suitable ledges *n* and is pivotally connected adjacent to its forward end to the upper section *p* of an extensible wall F, the lower section *q* of which takes loosely through a strap *q'* on the upper section and is pivotally connected to a block or support *r*, as shown. At its rear end the plate D is bifurcated, as indicated by *s*, and at either side of said bifurcation it has racks *t*, each provided with teeth *t'*. These racks are designed for the engagement of the two prongs of a dog *u*, which is pivotally connected to the upper end of a spring-backed lever G. The teeth of one rack are also designed for the engagement of a lateral lug *v* on a pawl H, which is fulcrumed on a bracket *w* and rests in the bifurcation *s* of the plate D above one of the prongs of the dog *u* and has for its purpose to prevent casual forward movement of said plate D notwithstanding a spring *x*, which is designed to press against the rear end thereof, as presently described.

The shaft *l*, before described, is provided, in addition to the plate *k*, with a toothed segment I. This segment I is designed to be en-

gaged, for a purpose presently described, by a lever J, which is fulcrumed at an intermediate point of its length and has a weighted arm *y*, the downward movement of which is limited by a stop *z*.

K is a transverse shaft which is equipped with a ratchet-wheel L and also with a cam M, the latter being arranged to engage the lever G, as best shown in Fig. 1. The ratchet-wheel L has a plurality of teeth, corresponding in number to the number of cigars comprised in each layer in the box C. It is designed to be rotated through the medium of a lever N, fixed on a shaft N′, and a dog P, pivotally connected to the lever. A pawl Q serves to hold it against retrograde movement without interfering with its rotation in the direction indicated by arrow.

By reason of the wall F, interposed between the support *r* and the cigar-supporting plate D, being extensible, as before described, it is enabled to accommodate itself to the movements of the plate D and at all times serve in conjunction with the plate *k* to form a throat R for the downward passage of the cigars from the box C. The throat R merges at its lower end into a slightly-contracted discharge-passage S, and this discharge-passage S, which is formed between the block *r* and the forward wall of the casing A, merges in turn into the cup or receptacle *c*, as shown.

T U are cut-offs which are arranged in suitable guideways in the block or support *r* and are adapted when moved forwardly to intersect the passage S. The upper of these cut-offs is provided at its forward end with a rubber or other soft lip V, so as not to injure the cigars as it takes between them, and it is connected at its rear end in a pivotal manner to a preferably-bifurcated pitman W, (see Figs. 1 and 3), which in turn is pivotally connected to an upright lever X. The lever X is fulcrumed at an intermediate point of its length, as indicated by *a*′, and is pivotally or loosely connected at its lower end to a pitman Y. This pitman Y, which is also preferably bifurcated, as shown, is pivotally connected at its forward end to the lower cut-off U and impinges at its rear end against a spring Z, the purpose of which is to return the cut-offs to and normally hold them in the relative positions shown in Fig. 1.

Fixed on the same shaft N′ as the lever N is an arm A′, which is arranged in rear of the upper portion of the lever X and is designed when the shaft N′ is rocked in the direction indicated by arrow (see Fig. 2) to throw the upper portion of said lever X forwardly, and thereby move the upper cut-off F forwardly across the passage S and retract the lower cut-off U.

B′ is a handle, preferably a reciprocatory plunger, which is arranged to engage the lever J and has a coin-engaging offset *b*′ at an intermediate point of its length. C′ is a spring connected to the plunger and casing and having for its purpose to return the plunger to and normally hold it in the position shown in Fig. 2, and D′ is a coin-chute which leads from an opening *c*′ in the front wall of the casing and terminates at its inner end at a point immediately below the offset *b*′ of the plunger B′ when said plunger is in its normal position. It follows from this that when a coin of a predetermined denomination is inserted through the opening *c*′ of the casing it will fall down the chute D′ and assume a position below the offset *b*′ of the plunger and between said offset and a toe *d*′ on the lever N, as shown in Figs. 2 and 3. Consequently when the plunger B′ is depressed the coin acting against the toe *d*′ of lever N will rock said lever and the shaft N′ in the direction indicated by arrow in Fig. 1 and will then drop past the toe *d*′ of lever N′ into the coin-receptacle *f*.

In the practice of the invention when a box of cigars is placed in the apparatus the several parts rest in the positions shown in Figs. 1 and 2, and the spring *x* is spent and exerts no pressure against the rear end of the plate D. With this in mind the general operation of the apparatus will be fully understood from the following.

When a coin of the predetermined denomination has assumed a position between the offset *b*′ of plunger B′ and the toe *d*′ of lever N and the plunger is depressed, the lever J is rocked and, acting against the toothed segment I, rocks the shaft *l* in the direction indicated by arrow in Figs. 1 and 2, and thereby disengages the frame E from the outer layer of cigars and leaves such layer of cigars free to fall. At the same time the plunger B′ through the medium of the interposed coin rocks the lever N and shaft N′ in the direction indicated by arrow and through the medium of the said lever and the pawl P moves the ratchet-wheel L the distance of one tooth in the direction indicated by arrow for a purpose presently described. The rocking of the shaft N′ in the direction indicated by arrow also operates through the arm A′ to effect the forward movement of the upper portion of the lever X and the forward throw of the upper cut-off and retraction of the lower cut-off attendant thereon. When such movement of the cut-offs takes place, the cigar that had permanently rested upon the lower cut-off drops into the cup or receptacle *c* and the upper cut-off supports the remainder of the cigars in the outer layer. When the lever N is pressed in the direction indicated by arrow, the coin is released and drops past the toe *d*′ thereof into the receptacle *f*, as before described. The lever N and shaft N′ are also released by the fall of the coin, and the spring Z is enabled to return all of the parts subject to its action to the positions shown in Fig. 1. As the return of the said parts to their normal position takes place incident to the depression of the plunger and while the frame E is disengaged from the outer layer of cigars, it follows that the said layer of cigars is free

to descend until the lowermost cigar rests upon the lower cut-off U. When the plunger B′ returns to its normal position and the frame E presses against the outer layer of cigars, the apparatus is ready to be again operated after the manner described. As before described, the ratchet-wheel L is turned the distance of one tooth incident to each depression of the plunger B′. It follows from this that the said ratchet-wheel, the shaft K, and the cam M will make one complete revolution incident to twelve depressions of the plunger B′ and the ejection of twelve cigars, which is the number comprised in a layer, from the apparatus. The completion of the revolution of the cam M takes place incident to the ejection of the last cigar of the first layer into the cup *c*, and at that time the said cam will have moved the lever G forward sufficiently to carry the dog *u* of said lever into engagement with the heels of the second teeth *t′* from the right-hand ends of the racks *t* on the plate D. When the dog *u* of the lever G is thus placed in engagement with the second teeth *t′* of the plate D, a spring a^2, acting against the lever G, moves said lever, and consequently the plate D, rearwardly, and thereby releases the middle layer of cigars and enables the same to drop until the lowermost cigar thereof rests on the lower cut-off U. When the plate D is moved rearwardly, as described, the right-hand end tooth *t′* of one rack is engaged by the lug *v* of the pawl H, and it is thereby held against casual forward movement. When the second or middle layer of cigars is released by the plate D, the frame E and plate *k* will automatically accommodate themselves to the said middle layer of cigars, and the apparatus is then ready to be again operated until all of the cigars of the second layer are ejected. At this time—*i. e.*, when the second layer has been ejected—the lever G will have been moved forward sufficiently far to carry its dog *u* into engagement with the heel of the third tooth *t′* from the right-hand end of the plate D, when the spring a^2, acting against the lever G, will move the plate D rearwardly, so as to release the third or inner layer of cigars and enable the same to drop down until the lowermost cigar rests on the lower cut-off U. When the plate D is thus moved, the lug *v* of pawl H will engage the heel of the second tooth *t′* from the right-hand end of one rack, and thereby hold said plate against casual forward movement. At the same time the frame E and plate *k* will accommodate themselves to the inner layer of cigars and hold the same in proper order.

Incident to the ejection of the inner layer of cigars from the apparatus the lever G will be moved forwardly, and as the last cigar is ejected the dog *u* will engage the heels of the teeth at the left-hand ends of the racks *t* and the plate D will be moved rearwardly until the lug *v* of pawl H engages the heel of the third tooth from the right-hand end of the rack *t*.

After all of the cigars in the box C have been ejected from the apparatus the door *d* is opened, the plate D is returned to the position shown in Fig. 1, and the box C is removed and replaced with a similar full box.

The return of the plate D to the position shown in Fig. 1 is effected by the spring *x* subsequent to the disengagement of the said plate from the dog *u* of lever G and the lug *v* of the pawl H. Such disengagement of the plate is accomplished by the operator raising the rear end of the pawl H, which movement carries the lug *v* of the pawl out of engagement with the tooth of the plate and enables the forward extremity a^3 of said pawl to press the dog *u* down and out of engagement with the teeth of the plate.

The toothed segment I is fixed on the same shaft *l* as the plate *k*, and hence it will be seen that as the plate *k* and the frame E move to accommodate themselves to the quantity of cigars in the box C the gear-segment will accommodate itself to the lever J, so as to be properly engaged by the same for the purpose before described.

In order to prevent a mischievous person from operating the apparatus by moving the lower cut-off U, I have provided the horizontally-movable spring-backed locking-arm A^3, which is best shown in Figs. 1 and 4. This arm A^3 is pivotally mounted at the rear of the casing A and is provided with a toe A^4, which normally rests in front and in the path of the upper end of the lever X. As the rearward movement of the lower cut-off U must be attended by a forward movement of the upper end of the lever X, it will be seen that the arm A^3 will effectually prevent unauthorized movement of the cut-off U and the surreptitious removal of cigars from the apparatus.

To prevent the locking-arm A^3 from interfering with the operation of the apparatus through the medium of the plunger B′ and lever N, the said arm is provided with a beveled edge A^5, (see Fig. 4,) so arranged with respect to the arm A′ that when said arm A′ is swung forward the arm A^3 will be swung laterally and its toe A^4 moved from in front of the lever X. The arm A^3 will be held in this latter position by the arm A′ until the lever X and the arm A′ reassume their normal positions, when the arm A^3 will also return to its normal position, with its toe A^4 in front of lever X.

It will be appreciated from the foregoing that my improved apparatus requires no attention except when it is necessary to remove a depleted cigar-box and replace the same with a full box. It will also be appreciated that the cigars are in full view of a prospective purchaser, and all he has to do to obtain one is to place a nickel or other predetermined coin in the slot *c′* and then depress the plunger B′. It will also be observed that the con-

struction of the apparatus is very simple and that it embodies no delicate parts such as are likely to get out of order after a short period of use.

I prefer the embodiment of my invention as herein shown and described, but do not desire to be understood as confining myself to the specific construction and relative arrangement of parts, as such changes or modifications may be made in practice as fairly fall within the scope of my invention.

When desirable, the plate D may be moved rearwardly to release the second layer of cigars when seven of the first layer have been ejected and may be moved rearwardly to release the third layer when seven of the second layer have been ejected. This may be effected by providing the ratchet-wheel L with seven instead of twelve teeth and is advantageous because it enables the second layer of cigars to assume a position above the last five of the first layer and the third layer to assume a position above the last five of the second layer and prevents the cigars from becoming disordered.

Having thus described my invention, what I claim is—

1. In a coin-controlled vending apparatus, the combination of a casing having a discharge-opening, a discharge-passage leading to said opening, upper and lower cut-offs movable in guideways and arranged to intersect the discharge-passage, a lever fulcrumed at an intermediate point of its length, pitmen connecting the upper and lower portions of the lever and the upper and lower cut-offs, respectively, a spring normally holding one cut-off in a retracted position and the other in a position intersecting the discharge-passage, a coin-chute, a plunger, mechanism for rocking the lever arranged to be actuated by the plunger when a coin is interposed between it and the plunger, and a lock for the lever arranged to be moved out of the path of the same by the lever-actuating mechanism, substantially as specified.

2. In a coin-controlled vending apparatus, the combination of a casing having a discharge-opening, a discharge-passage leading to said opening, upper and lower cut-offs movable in guideways and arranged to intersect the discharge-passage, a lever fulcrumed at an intermediate point of its length, pitmen connecting the upper and lower portions of the lever and the upper and lower cut-offs, respectively, a spring normally holding one cut-off in a retracted position and the other in a position intersecting the discharge-passage, a coin-chute, a plunger, mechanism for rocking the lever arranged to be actuated by the plunger when a coin is interposed between it and the plunger; said mechanism comprising a swinging arm arranged to act against the lever, and a spring-pressed locking-arm movable in a plane at right angles to the lever-actuating arm and having a toe for engaging the lever and also having a bevel-surface for the engagement of the lever-actuating arm, substantially as specified.

3. In a coin-controlled cigar-vending apparatus, the combination of a casing having a discharge-opening, a cut-off having a soft lip or portion at its free end, a coin-chute, a handle, and mechanism for moving the cut-off arranged to be actuated by the handle when a coin is interposed between it and said handle, substantially as specified.

4. In a coin-controlled cigar-vending apparatus, the combination of a casing having a discharge-opening, a discharge-passage leading to said opening, upper and lower cut-offs arranged in guideways and adapted to intersect the discharge-passage; the upper cut-off having a soft lip at its forward end, a lever fulcrumed at an intermediate point of its length, pitmen connecting the upper and lower portions of the lever and the upper and lower cut-offs respectively, a coin-chute, a handle, and mechanism for rocking the said lever arranged to be actuated by the handle when a coin is interposed between it and said handle, substantially as specified.

5. In a coin-controlled cigar-vending apparatus, the combination of a casing having a glass panel and a discharge-opening, a cigar-box supported in the casing and having one side and its lower end open, a movable cigar-support disposed below the open end of the box, a discharge-passage leading from the lower end of the cigar-box to the discharge-opening, upper and lower cut-offs movable in guideways and adapted to intersect the discharge-passage, a coin-chute, a handle, and mechanism, for moving the cut-offs and the cigar-support, arranged to be actuated by the handle when a coin is interposed between it and said handle, substantially as specified.

6. In a coin-controlled cigar-vending apparatus, the combination of a casing having a discharge-opening, a cigar-box supported therein and having its lower end open, a movable cigar-support disposed below the cigar-box, a discharge-passage leading from the lower end of the cigar-box to the discharge-opening, upper and lower cut-offs movable in guideways and adapted to intersect the discharge-passage, a coin-chute, a handle, and mechanism, for moving the cut-offs and the cigar-support, arranged to be actuated by the handle when a coin is interposed between it and said handle, substantially as specified.

7. In a coin-controlled cigar-vending apparatus, the combination of a casing having a discharge-opening, a movable cigar-support, a discharge-passage leading to the discharge-opening, a cut-off device suitably guided and arranged to intersect the discharge-passage, a coin-chute, a handle, mechanism, for moving the cut-off device, arranged to be actuated by the handle when a coin is interposed between it and said handle, and suitable mechanism for moving the cigar-support; the latter mechanism being controlled by the former, substantially as specified.

8. In a coin-controlled cigar-vending apparatus, the combination of a casing having a discharge-opening, a cigar-box supported therein and having its lower end and front side open, a cigar-support movable in guideways in the casing, an extensible wall connected to the front end of the cigar-support and the casing, a pivoted spring-pressed plate serving in conjunction with the extensible wall to form a throat, a spring-pressed frame loosely connected to the plate, a discharge-passage, leading to the discharge-opening and forming the terminal of the throat, a cut-off device suitably guided and arranged to intersect the discharge-passage, a handle, mechanism arranged to be actuated by the handle for relieving the pressure of the frame against the cigars at intervals, a coin-chute, mechanism, for moving the cut-off device, arranged to be actuated by the handle when a coin is interposed between it and said handle, and mechanism for moving the cigar-support controlled by the coin-actuated mechanism, substantially as specified.

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

MILES S. CODY.

Witnesses:
JESSIE G. CRONEY,
C. H. RAEDER.