No. 884,236. PATENTED APR. 7, 1908.

W. B. SULLIVAN.

COIN CONTROLLED VENDING APPARATUS.

APPLICATION FILED NOV. 7, 1907.

2 SHEETS—SHEET 1.

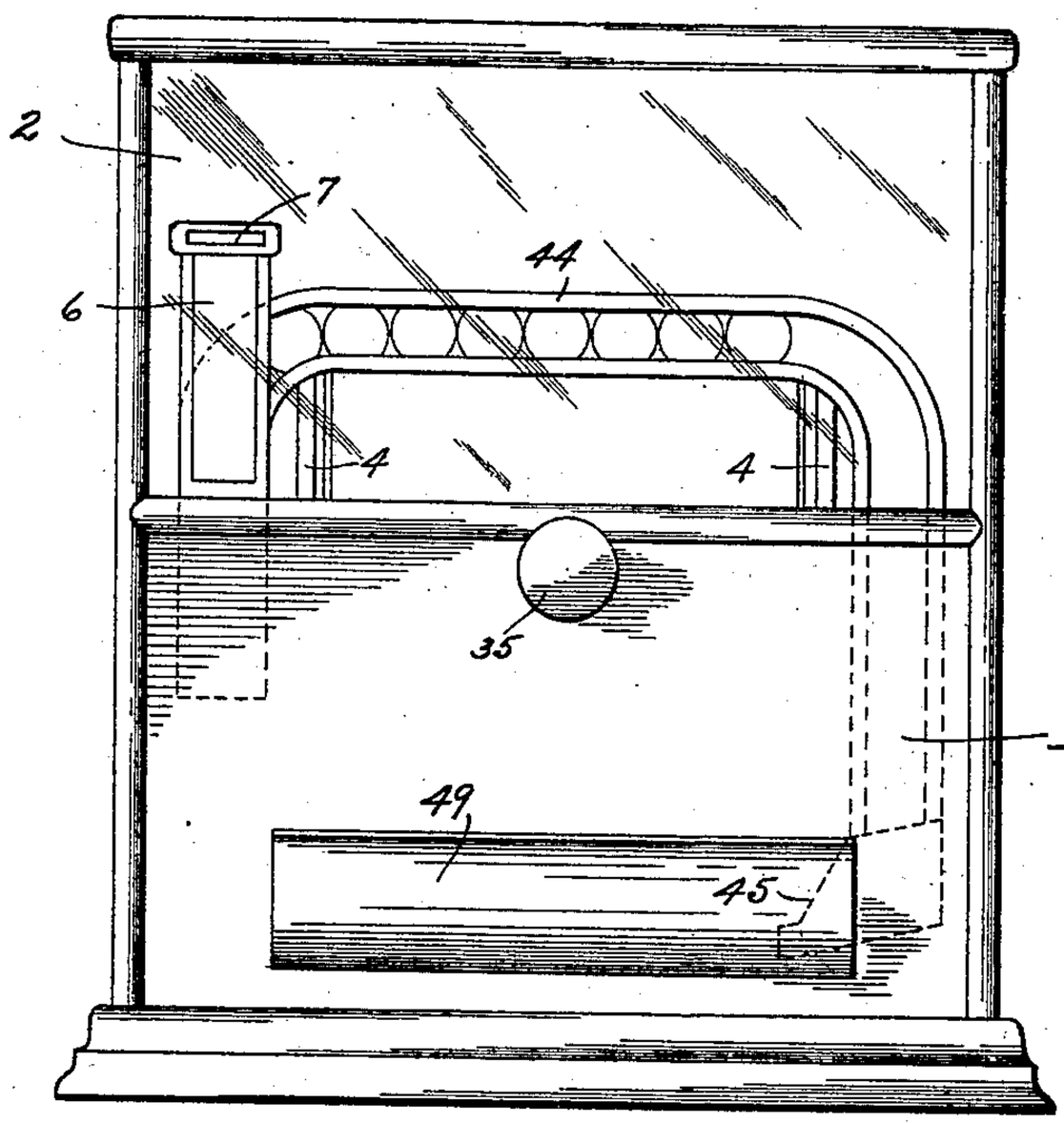

FIG. 1.

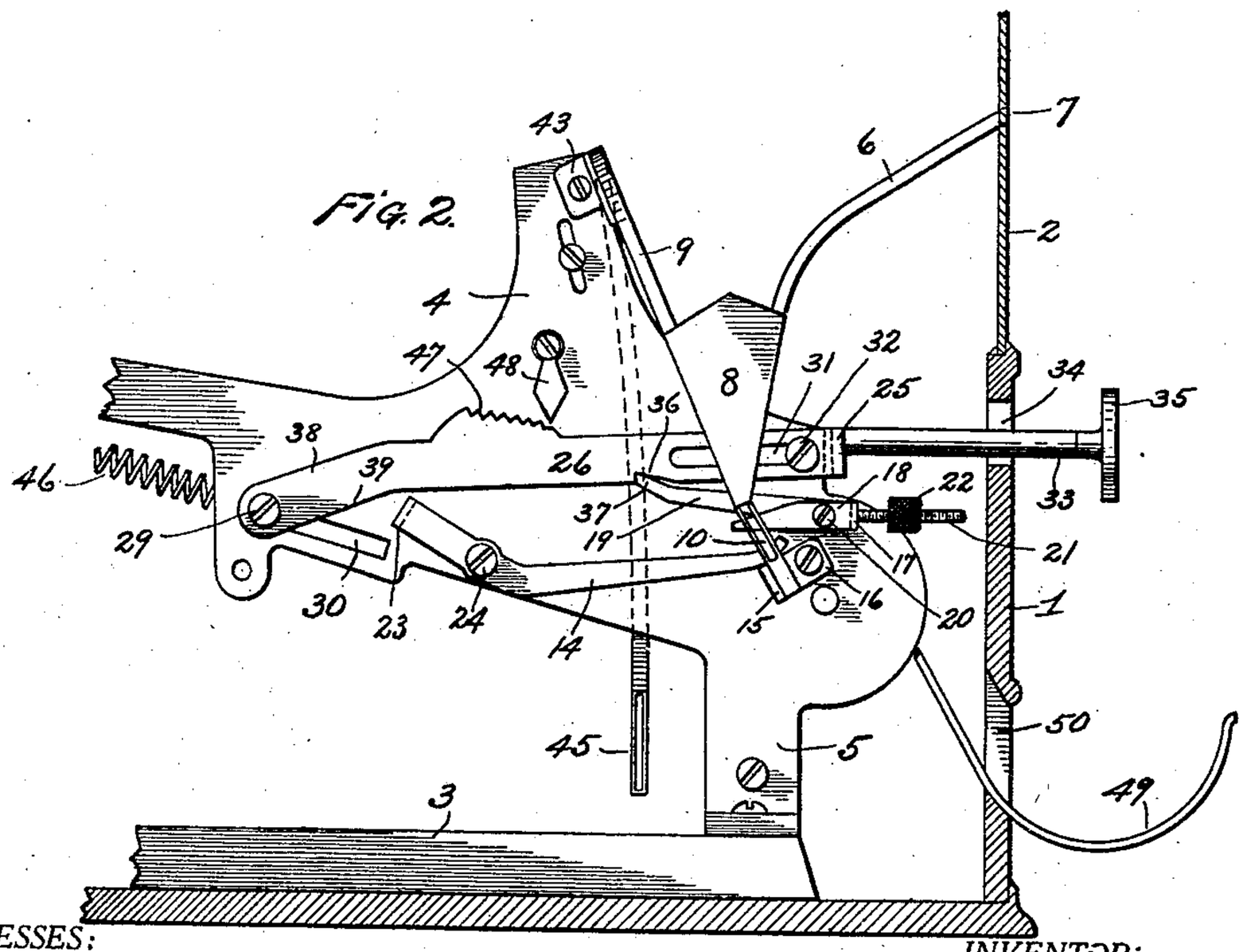

FIG. 2.

WITNESSES:

C. Jas. Webster

Clara Conley

INVENTOR:

William B. Sullivan,

BY Bruce D. Elliott,

ATTORNEY.

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2 SHEETS—SHEET 2.

FIG. 3.

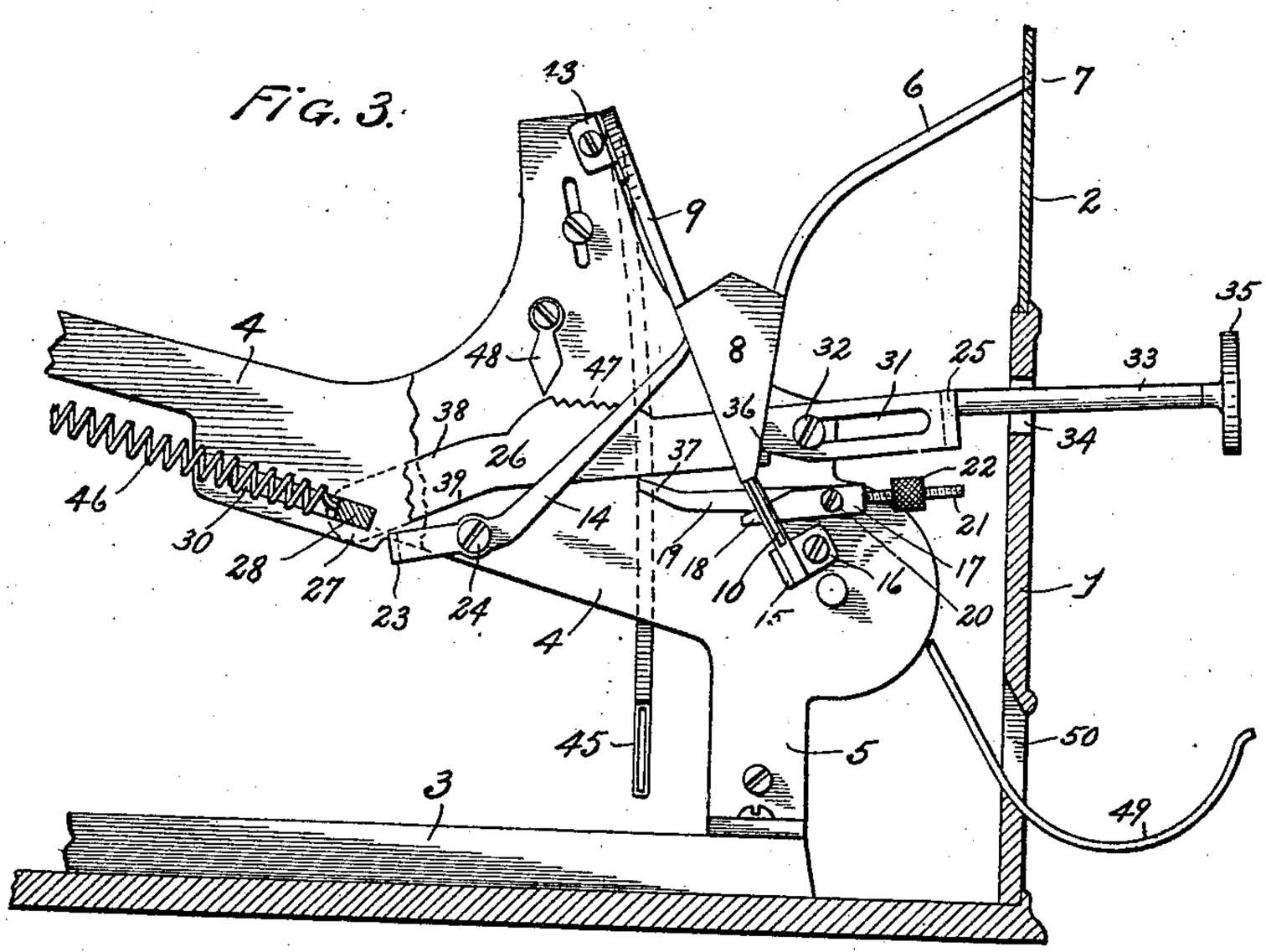
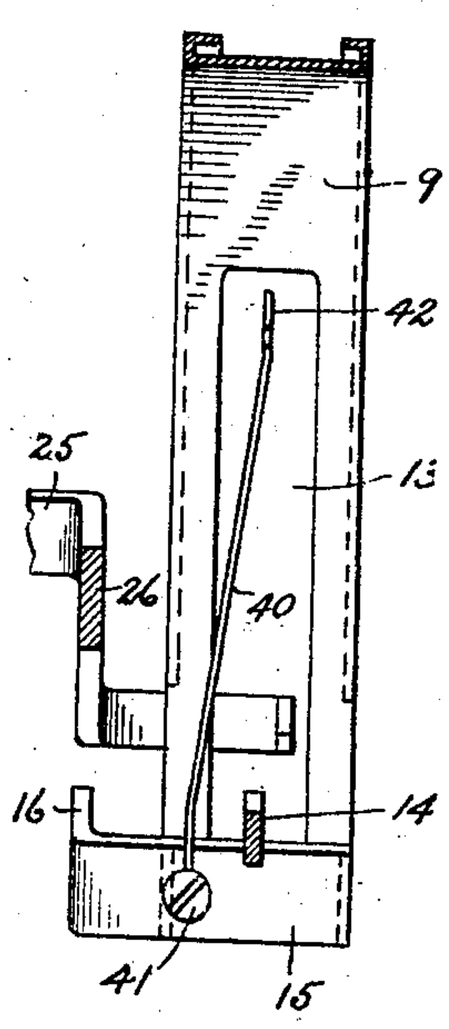


FIG. 5.



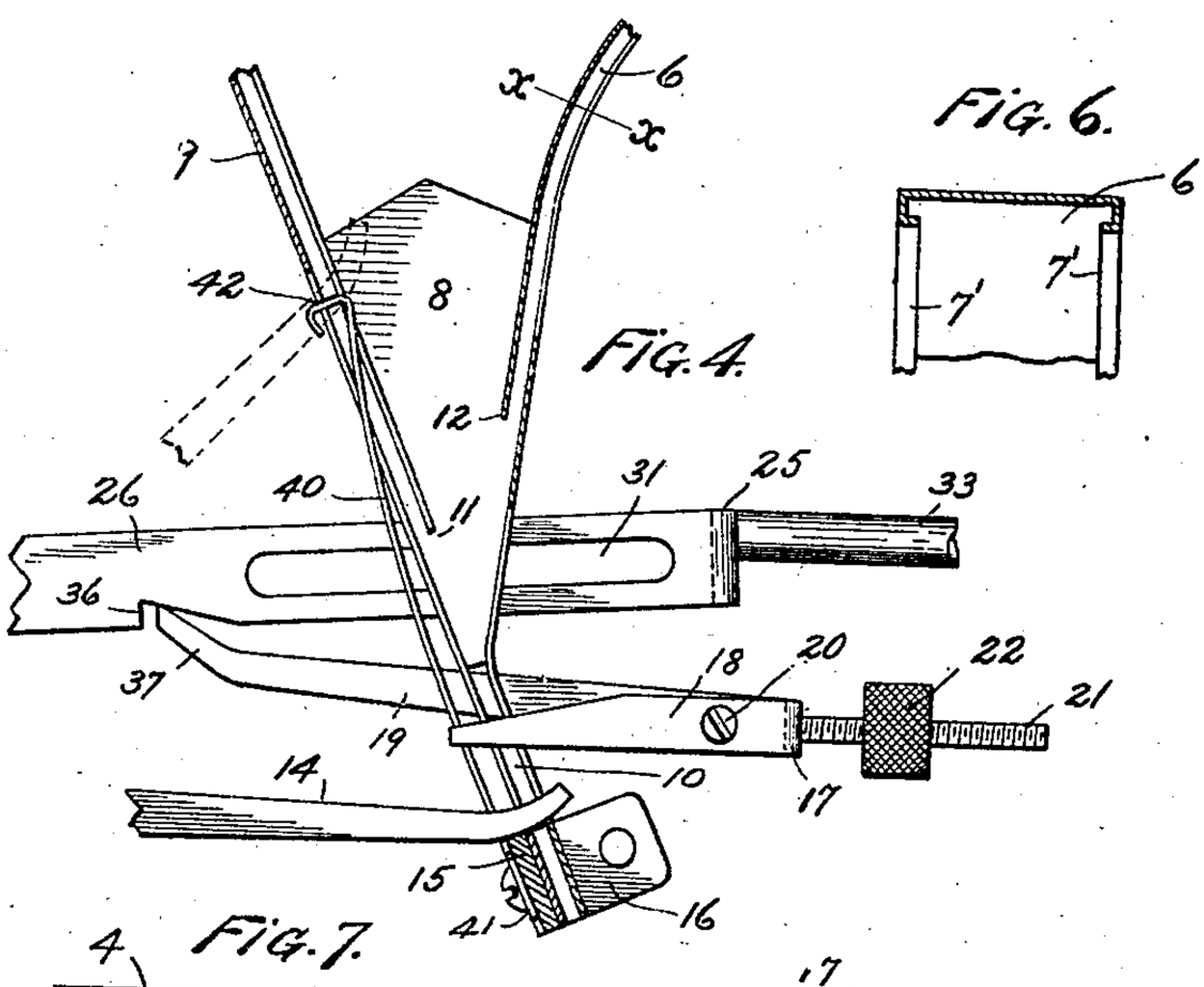
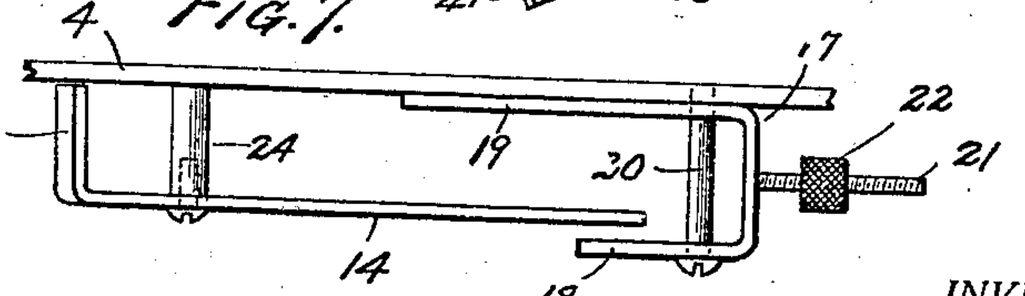


FIG. 6.

FIG. 4.

FIG. 7.



WITNESSES:

E. Jas. Webster

Elora Conley

INVENTOR.

William B. Sullivan

BY

Bruce A. Elliott

ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM B. SULLIVAN, OF ST. LOUIS, MISSOURI.

COIN-CONTROLLED VENDING APPARATUS.

No. 884,236. Specification of Letters Patent. Patented April 7, 1908.

Application filed November 7, 1907. Serial No. 401,053.

To all whom it may concern:

Be it known that I, WILLIAM B. SULLIVAN, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have invented new and useful Improvements in Coin-Controlled Vending Apparatus, of which the following is a specification.

This invention relates to certain new and useful improvements in coin controlled vending machines, and has special reference to mechanism for controlling the operation of a machine adapted to deliver a cigar upon the insertion into the machine of a coin and the subsequent manual manipulation of the machine by the purchaser.

The invention resides in novel mechanism operating normally to lock the machine against operation, and movable by the impact or weight of the inserted coin out of engagement with a movable part of the machine, which may then be operated to cause the delivery.

The invention further resides in novel mechanism associated with the coin chute, and in means for operating said mechanism, in the operation of causing the delivery of a cigar, for throwing the inserted coin permanently out of engagement with the locking member of the machine.

The invention further resides, in combination with the mechanism aforesaid, of a coin trough, which is adapted to cause the coin or check, which has been used to operate the machine, to be placed in position to be readily seen by anyone observing the machine, so that one will be deterred from placing an iron slug or other spurious coin into the machine, knowing that the proprietor, or any other person observing him operating, and then observing the coin trough, will readily see that he has fraudulently obtained a cigar.

The invention further resides in means for preventing the return of the slide member of the machine, which impels the delivery of the cigar, before the movement and consequent delivery is complete, thus preventing the cigars from being mashed or from being caught in the machine and stopping the operation thereof, by reason of the failure of the operator to operate the machine properly.

The invention further resides in certain features of construction and in combinations, operations and arrangements of parts, all of which will hereinafter more fully appear.

The present application referring only to the coin-controlled mechanism, only such parts of the machine as are necessary to an understanding of the mechanism are illustrated and described herein. In a companion application, filed November 7, 1907; Serial No. 401,054, the machine is illustrated in its entirety.

In the accompanying drawings:—Figure 1 is a view in front elevation of my machine, showing the arrangement of the coin trough, whereby coins inserted in the machine are exposed to view after the machine is operated; Fig. 2 is a transverse sectional view on an enlarged scale through a portion of the casing, and showing in elevation the coin controlled mechanism and parts directly associated therewith, all the parts being in their normal positions; Fig. 3 is a similar view showing the parts in the positions they occupy after the machine has been manipulated to cause a cigar to be delivered; Fig. 4 shows on a still larger scale certain of the parts shown in Figs. 2 and 3, but the coin chute and trough being shown in section; Fig. 5 is a view in rear elevation of a portion of the coin trough, showing, partly in section and partly in elevation, the parts immediately associated therewith; Fig. 6 is a section of a portion of the coin chute, taken on the line *x*—*x* of Fig. 4; and Fig. 7 is a detached view of the locking dog and throw lever for the coin.

Referring now to these drawings, 1 indicates the casing of the machine, a portion of the front of which is formed by a pane of glass 2, similar panes being provided on the two sides of the machine, but not shown.

3 indicates the base of the machine, which is firmly secured to the bottom of the casing 1, and to which is secured the metal framework of the machine proper. Such framework may be described generally as comprising two similar side plates 4, each of which has at its front a leg 5 and at its rear a similar but longer leg (not shown), the bottom of these legs being flanged and apertured and having screws passing through such apertures into the base 3, whereby the framework is secured to said base.

The coin chute proper is indicated at 6, and, as shown in Figs. 2 and 3, is curved outward to the front of the casing, where a coin opening 7 is provided. The said chute has its bottom and front side formed by two side flange members 7′, the space between the

edges of said flanges being less than the width of a five-cent piece, but greater than the width of a penny or of a dime. Should either one of these latter two coins be inserted through the opening 7 it will fall out of the coin chute 6 before passing to the locking dog. The coin chute 6 is secured to and forms one side of a triangular shaped housing 8. The opposite or rear side of this housing is formed by what I will term a coin trough 9, which extends some distance below the housing 8, as indicated at 10, forming a receptacle for the coin after it is inserted in the machine. The inner wall of the coin trough 9 terminates some distance above the bottom of the housing 8, as indicated at 11, and the inner wall of the coin chute 6 terminates a slight distance above the point 11, as indicated at 12, the purpose of which is to permit the coin inserted in the chute to pass out of the same into the trough 9. The front side of the depending portion 10 of the trough 9 is opened and has the same construction as the front side of the chute 6. The rear side of the trough 9 is provided with a relatively long opening 13. Through the slot 13, and through the opening of the front of the trough, passes the outer end of a throw lever 14, which normally rests upon a bridge-piece 15, which is secured to and braces the lower end of the trough 9 and has a flange extension 16 at one end, by means of which it is secured to the side 4 of the frame.

17 indicates a locking dog, which in practice comprises a strip of metal bent at two points at right angles to itself to form a short arm 18 and a long arm 19. The said dog is pivotally mounted on the frame by means of a screw 20, passing through the two arms. Projecting from the body of this dog is a screw-threaded arm 21, on which is mounted a screw-threaded weight 22. The throw-lever 14 has its free end lying in a plane closely adjacent to the short arm 18 and at its opposite or inner end is provided with an inward extending arm 23, which is designed to be engaged by a slide member to operate the throw lever, as later described. The throw-lever 14 is pivotally mounted on a stud 24, which in turn is mounted on the side 4.

25 indicates a cross-bar extending across the front of the machine and which at its opposite ends is provided with arms 26 and 27, which are parallel to each other and which project rearward in close proximity to the sides 4 of the frame. The ends of the bars 26 and 27 are connected by a cross-bar 28 through the medium of screws 29, said cross-bar 28 having its opposite ends extending through and adapted to slide in slots 30, formed in the side plates of the machine. Toward its front end each of the arms 26 and 27 is provided with a slot 31 through which extends a screw 32, which engages in the side plate of the frame. The bar 25, with arms 26 and 27, forms a slide frame, which is guided in its movements by the slots 30 and 31 and which is adapted to operate the delivery mechanism.

33 indicates a handle, which projects from the center of the bar 25 through an opening 34, in the front of the casing, and has on its outer end a knob 35, by grasping which the operator may pull the sliding frame outward, or toward the front of the machine. The arm 26 of said sliding frame, which is the only one that need be referred to in detail in the present case, is provided on its under side with a notch 36, and the long arm 19 of the locking dog has its inner end bent upward, as indicated at 37, to engage in said notch. When in such engagement, it will be impossible to pull the sliding frame outward. To operate the machine, a coin of the requisite denomination, in the present instance, a five-cent piece, is inserted through the opening 7, and passing down the coin chute 6, it falls upon the short arm 18 of the locking dog, which passes through the extension 10 of the coin trough in an opposite direction to that of the throw-lever 14, and the weight of said coin is sufficient to move the said short arm 18 downward, and turn the locking dog upon its pivot 20, carrying the end of the long arm 19 of the dog out of engagement with the notch 36. The coin now rests in the extension 10 of the trough upon the arm 18. The operator now grasps the knob 35 and pulls the bar 25 with the arm 26 outward. The inner end of the arm 26 is bent downwardly, as shown at 38, to form an inclined portion 39 at its rear end. As the arm 26 moves outward this inclined portion engages the projection or arm 23 on the throw-lever 14, thereby depressing the rear end of said throw-lever and causing its outer or free end to be thrown upward. In such upward movement the end of the throw-lever 14 engages the under side of the nickel, which rests upon the short arm 18 and forces it upward in the trough 9.

40 indicates a spring arm, which may be formed of wire, and has its lower end secured to the bridge-piece, as indicated at 41. The said arm extends upward for some distance parallel with the rear side of the coin trough and is then bent on a long curve across the plane of the coin trough through the slot 13, and has its outer end bent in a reverse direction to form a support 42. As the arm 14 carries the coin upward, the latter will press the spring arm 40 inward until the coin has passed the upper end of said arm, and when the throw-lever 14 descends the coin will then rest upon the support 42. This is to prevent the coin from falling back upon the short arm 18. The coin trough 9, as shown in Figs. 1, 2 and 3, extends upward to the top of the side 4, where it is braced by a cleat 43, whence it extends across the front of the ma-

chine in a horizontal direction, as indicated at 44, Fig. 1, and is then curved downwardly, and has its outlet beneath the frame, as indicated at 45, Fig. 3. As will be apparent from Fig. 1, the horizontal portion 44 of the coin trough is clearly visible through the plate 2. The first coin inserted in the machine will rest upon the support 42 of the spring arm 40 after the throw-lever descends. Each succeeding coin, however, will operate by impact to force the preceding coin up into the horizontal portion 44 of the coin trough, where it is clearly visible. Should a person insert a spurious coin, or a slug, in the opening 7, and operate the machine thereby, this fact will become immediately apparent upon the machine being operated by the next person, as the counterfeit coin can be readily seen through the glass front.

So far as I am aware, all devices which have heretofore been devised for preventing the operation of slot machines by imitation coins have failed in their purpose; and while, of course, the provision of a coin-trough adapted to display the coins inserted, as herein described, will, in no sense, prevent the insertion into the machine of an imitation coin, it will act as a strong deterrent, as the great majority of the class who would not hesitate to obtain a cigar wrongfully, would still hesitate to risk a public exposure of their wrongdoing. After the coin has been lifted off of the short arm 18, in the manner described, the latter will return to its normal position under the influence of the weight 22, and as soon as the arm 26 returns to its normal position the arm 19 will spring into engagement with the notch 36. Springs 46 are employed for causing the slide frame to return to its normal position.

It frequently happens that a cigar vending machine of this character is rendered inoperative, by reason of the fact that one attempting to operate the same will not pull or push the device which operates the delivery wheel to the extreme limit of its movement. In such improper operation of the machine, the cigar which has been started on its delivery will be thrown back in a reverse direction, causing a crowding of the other cigars and frequently resulting in one of the cigars being jammed in the machine, preventing its operation. To obviate this difficulty, I provide on the upper side of the arm 26 of the slide frame, a rack plate 47, and I pivotally mount on the side plate 4 a gravity pawl 48, the lower engaging end of which occupies a plane slightly below that of the teeth of said rack. It will be seen that as the sliding frame is pulled outward the rack 47 will ride under the gravity pawl, slightly swinging it to one side, and if this movement is continued, said rack plate will pass entirely from under said pawl, so that in the return movement of the slide frame pawl 48 will be swung to one side in a reverse direction and again ride over the teeth of the rack plate. Supposing, however, the operator pull the slide frame only part of the way outward and releases his hold upon the knob 35, in such case the pawl 48 will engage the teeth of the rack plate and prevent the return of the sliding frame. The operator, not having received his cigar, and finding it impossible to push the knob inward, will do the next obvious thing, which is to pull it outward and will naturally continue to do so until the cigar is delivered. The spring 46 insures the full return movement of the sliding frame.

49 indicates a trough, which projects through an opening 50 in the front of the casing and is adapted to receive the cigars delivered from the machine.

I have not herein shown or described the delivery wheel and mechanism connected therewith for operating the same, which mechanism is operated by the sliding frame herein described, as such features form the subject matter of a separate application for Letters-Patent, as above indicated.

I claim:

1. In a coin-controlled vending apparatus, in combination with a slidable actuating member, a coin chute, a locking member associated with said chute and normally in locking engagement with said slidable member and adapted to be released from such engagement by the impact of a coin deposited in said chute and to support said coin, and means operated by said slidable member for lifting the coin off of the locking member.

2. In a coin-controlled vending apparatus, in combination with a slidable actuating member, a coin chute, a pivoted locking member associated with said chute and normally in locking engagement with said slidable member and adapted to be released from such engagement by the impact of a coin deposited in said chute and to support said coin, and a pivoted throw-lever operated by said slidable member for lifting the coin off of the locking member.

3. In a coin-controlled vending apparatus, in combination with a slidable actuating member, a coin chute, a pivoted locking member having two arms, one of which is normally in locking engagement with said slidable member, and the other of which occupies a position relative to said coin chute in which it is adapted to receive the impact of and to support the coin inserted in said chute, and thereby to be depressed and carry the first-named arm out of engagement with said slidable member, and a pivoted throw-lever operated by said slidable member for lifting the coin off of the arm of said locking member.

4. In a coin-controlled vending apparatus, in combination with a slidable actuating

member having an inclined portion, a coin chute, a pivoted locking member having two arms, one of which is normally in locking engagement with said slidable member, and the other of which is located in the path taken by a coin deposited in said chute and is adapted to receive the impact of and to support said coin and to be depressed thereby to carry the first-named arm out of engagement with said slidable member, and a throw-lever pivotally mounted intermediate its ends on the machine and adapted to be engaged at one end by the inclined portion of said slidable member to throw the opposite end upward, and thereby lift the deposited coin off of the arm of said locking member.

5. In a coin-controlled vending apparatus, in combination with a spring-controlled slidable actuating member, a coin chute, a locking member associated with said chute and normally in locking engagement with said slidable member and adapted to be released from such engagement by the impact of the coin deposited in said chute and to support said coin, means operated by said slidable member for lifting the coin off of the locking member, and means operating to prevent the return to its normal position of said slidable member under the influence of its spring in the event that said slidable member shall not have been moved the prescribed distance to operate the machine.

6. In a coin-controlled vending apparatus, in combination with a casing having a glass front, mechanism inclosed in said casing and adapted to be manually operated to deliver an article, said mechanism being normally locked against movement, means operated by the impact of a coin inserted in said machine to release the lock, a coin trough extending across the front of said casing, and means, operated by the manipulation of said mechanism to deliver the article, to force the coin employed therefor into said coin trough.

7. In a coin-controlled vending apparatus, in combination with a slidable actuating member, a coin chute, a coin trough adapted to receive the coin inserted into said chute, and having a horizontal portion extending transversely across the front of the machine, a locking member associated with said chute and normally in locking engagement with said slidable member and adapted to be released from such engagement by the impact of a coin deposited in said chute and to support the coin, a pivoted throw-lever adapted to be engaged by said slidable member to lift the coin from said locking member and carry it upward into said coin trough, means for preventing the return of said coin, and a casing inclosing the described mechanism and having a glass front through which said coin trough is clearly visible.

8. In a coin-controlled vending apparatus, in combination with a slidable actuating member, a coin chute, a coin trough adapted to receive coins inserted into said chute and having open sides in one portion thereof, a locking-dog for said slidable member adapted to be released by the inserted coin and to support the same, a throw-lever operated by said slidable member to lift the coin from said locking-dog and carry it upward in said trough, and a spring arm having a free end passing through said trough and providing at its free end a support for the coin, the combination operating as described.

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

WILLIAM B. SULLIVAN.

Witnesses:

BRUCE S. ELLIOTT,

CLORA CONLEY.