R. F. EMMERICH.

COIN CONTROLLED VENDING MACHINE.

APPLICATION FILED FEB. 2, 1909.

923,958.

Patented June 8, 1909.

5 SHEETS—SHEET 1.

Fig. 1.

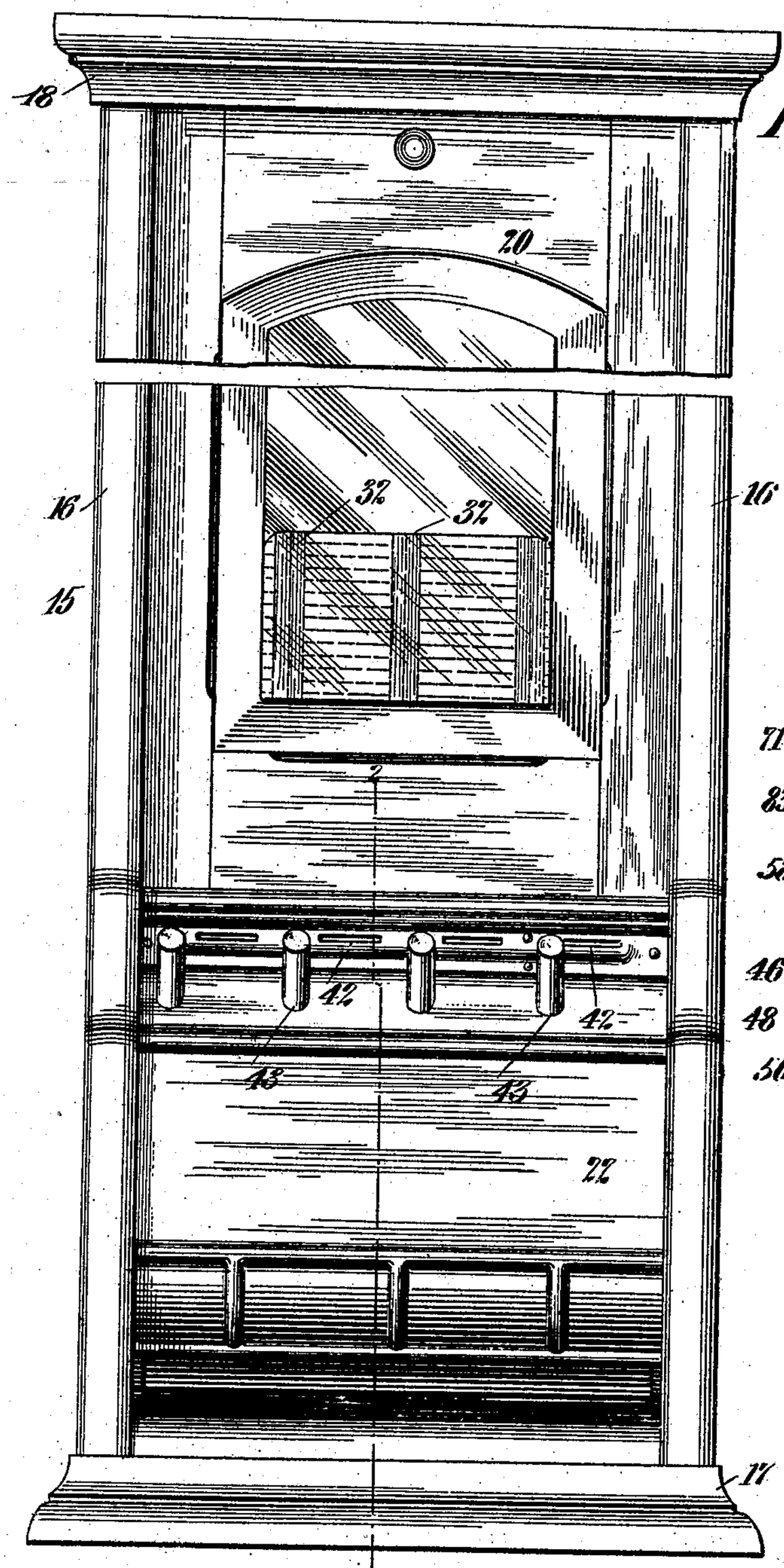
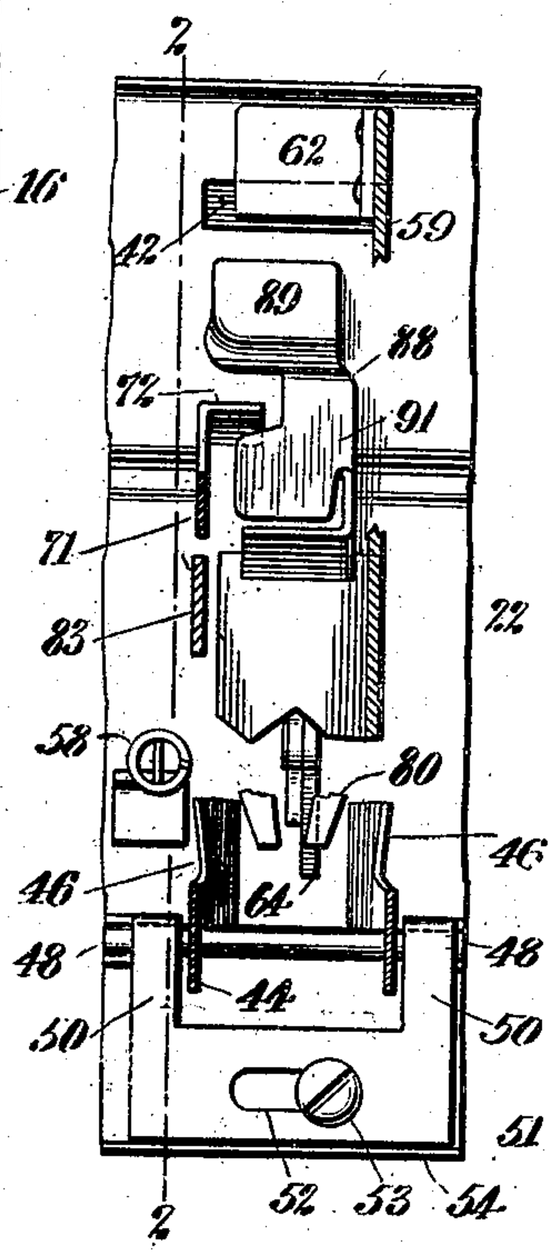



Fig. 3.

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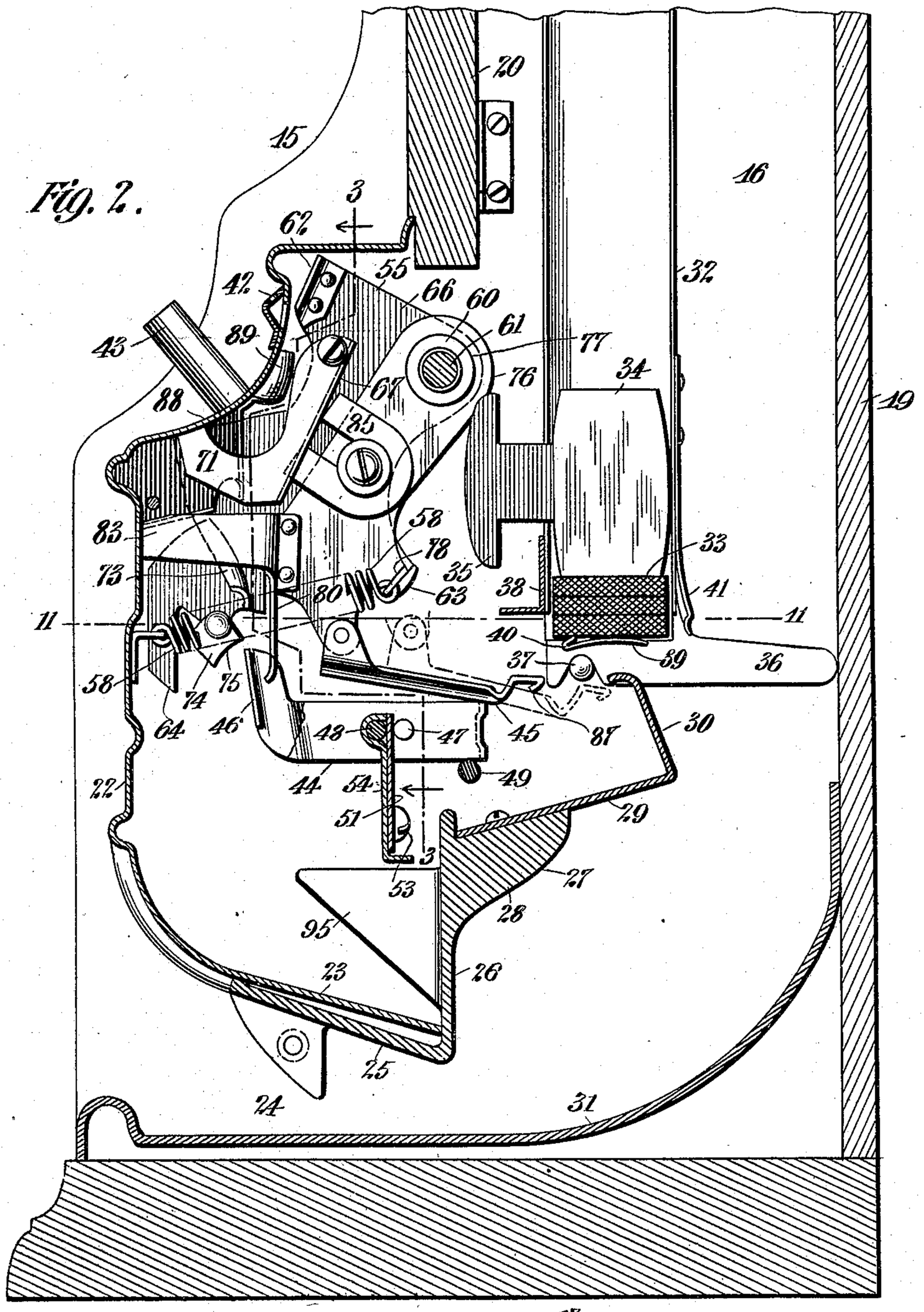
5 SHEETS—SHEET 2.

*Fig. 2.*

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5 SHEETS—SHEET 3.

*Fig. 4.*

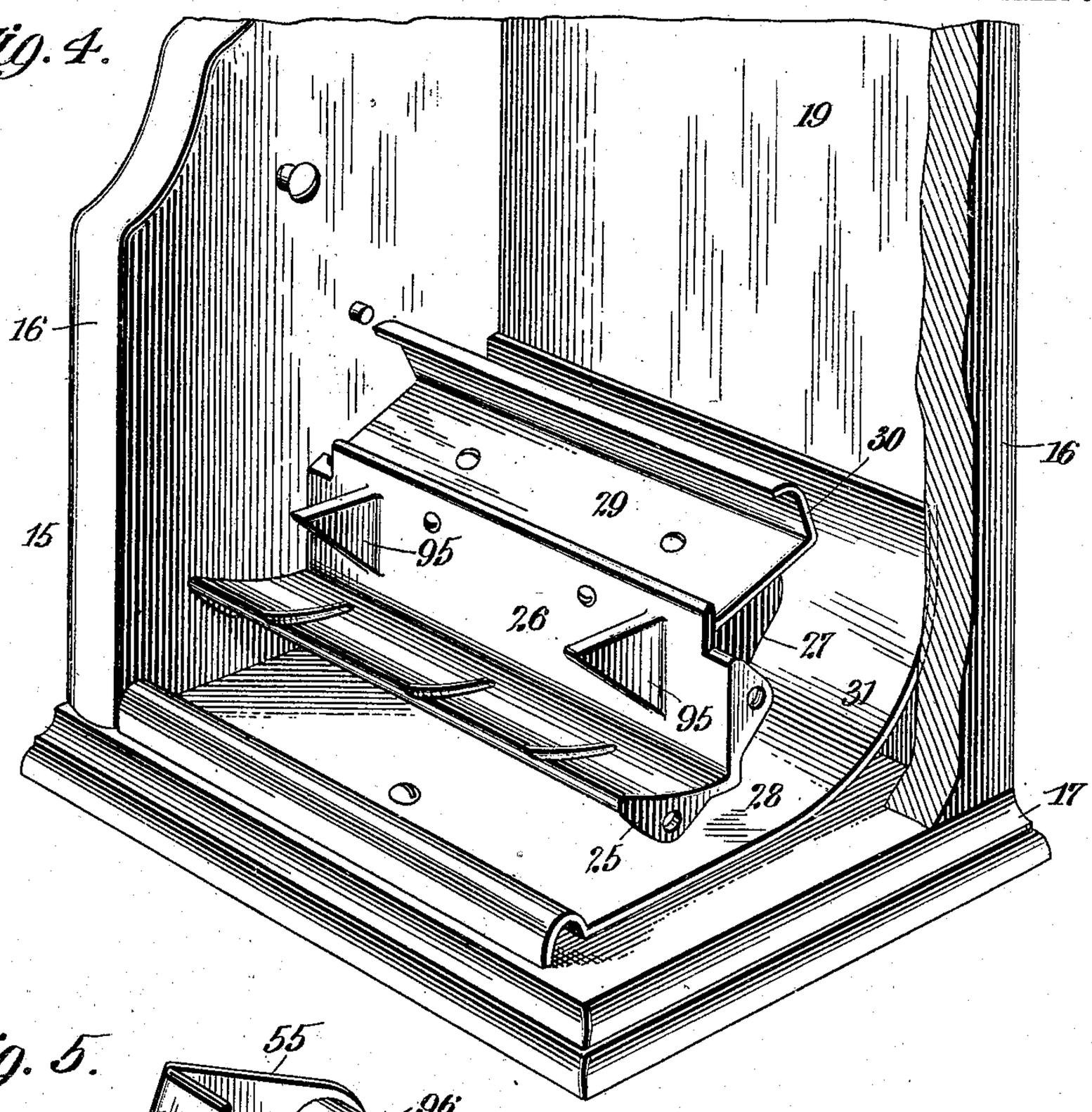


*Fig. 5.*

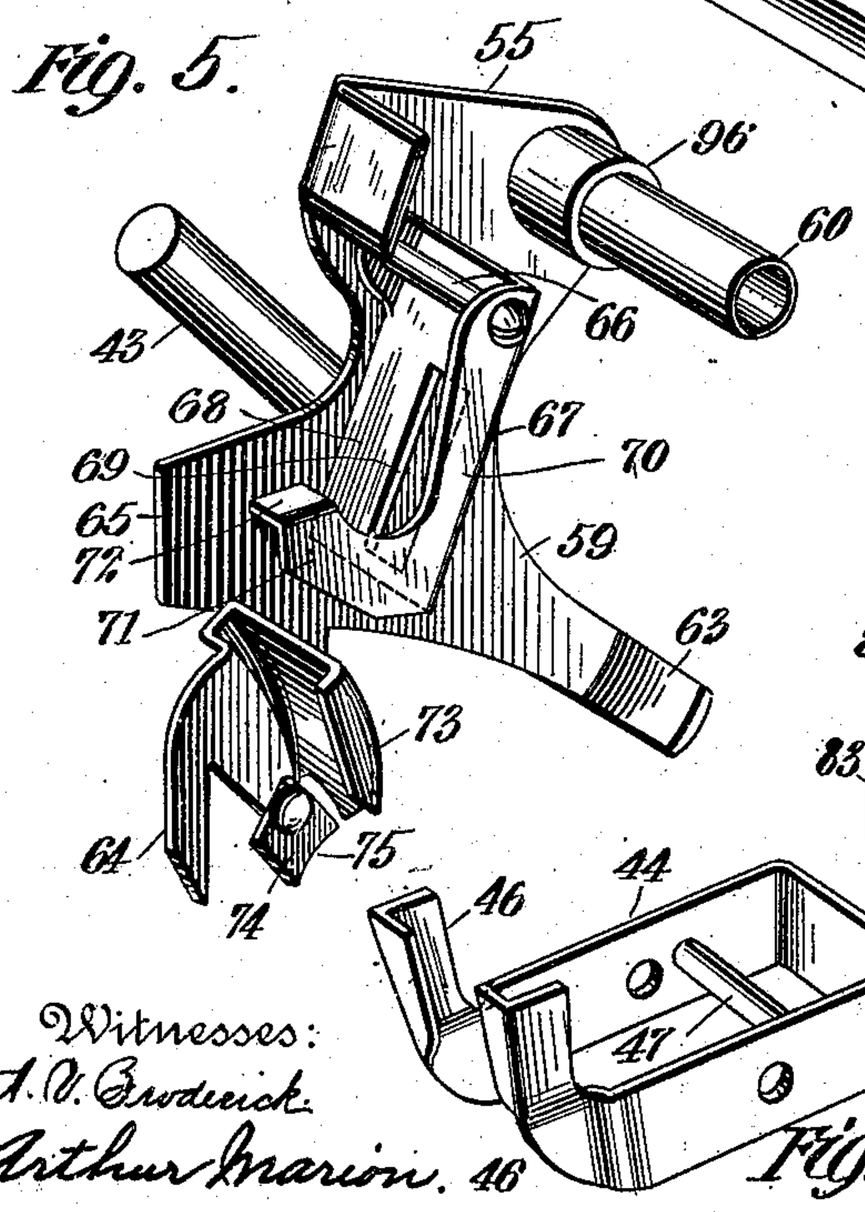


*Fig. 6.*

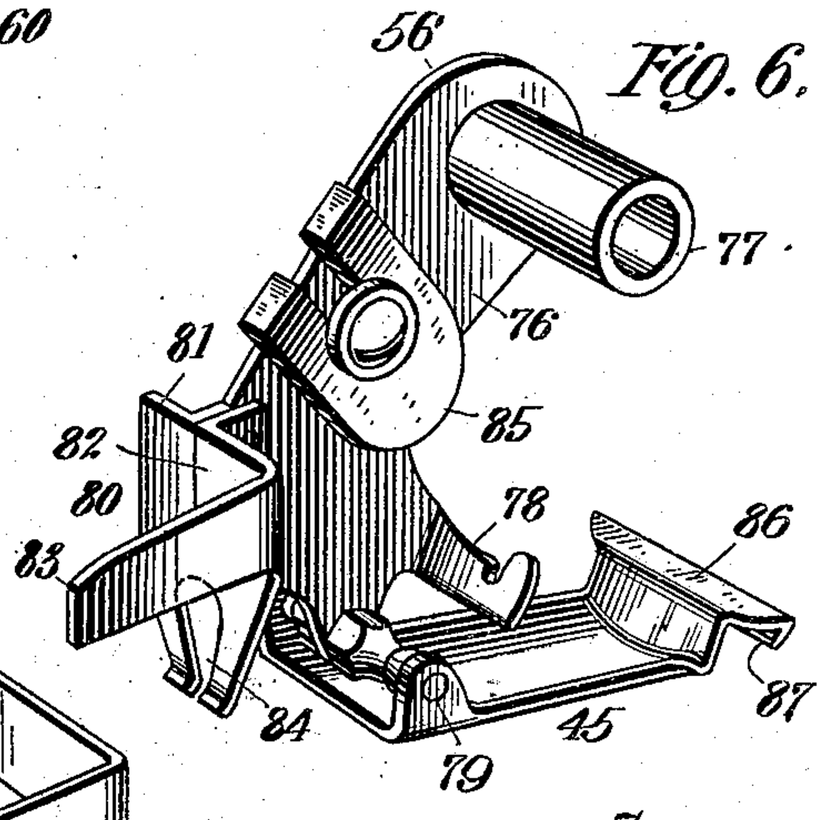


*Fig. 7.*

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5 SHEETS—SHEET 4.

Fig. 8.

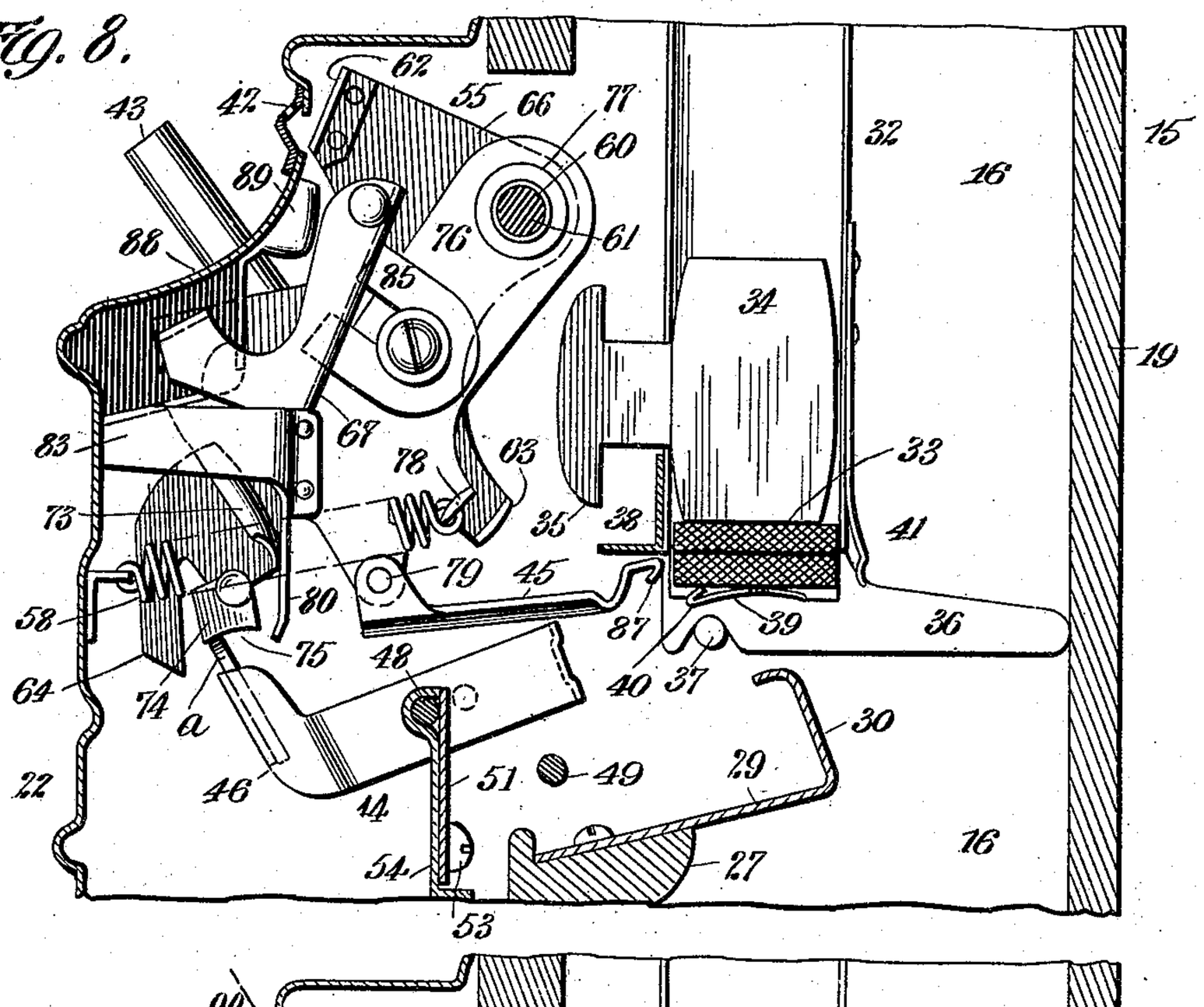
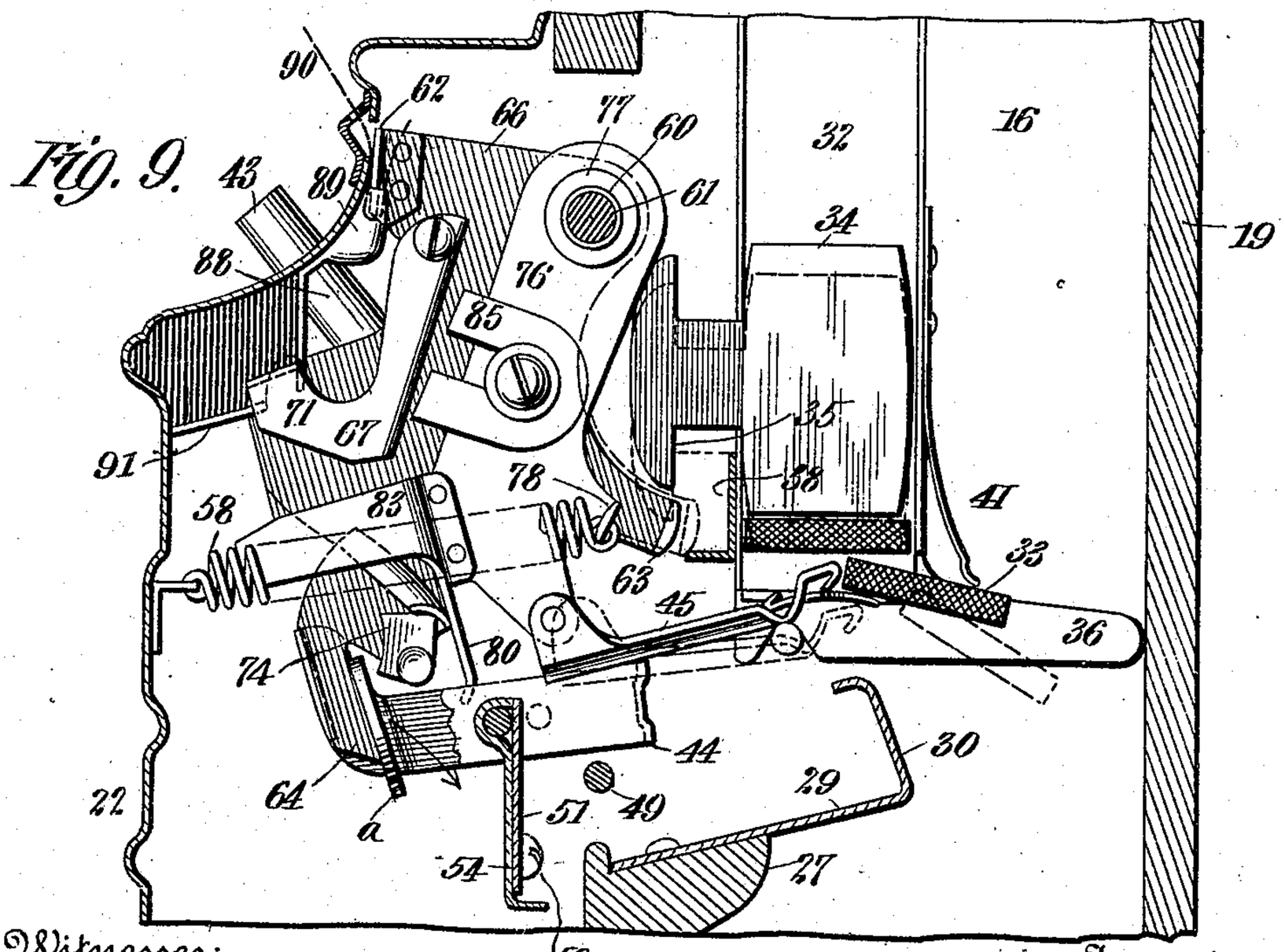



Fig. 9.

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5 SHEETS—SHEET 5.

*Fig. 10*

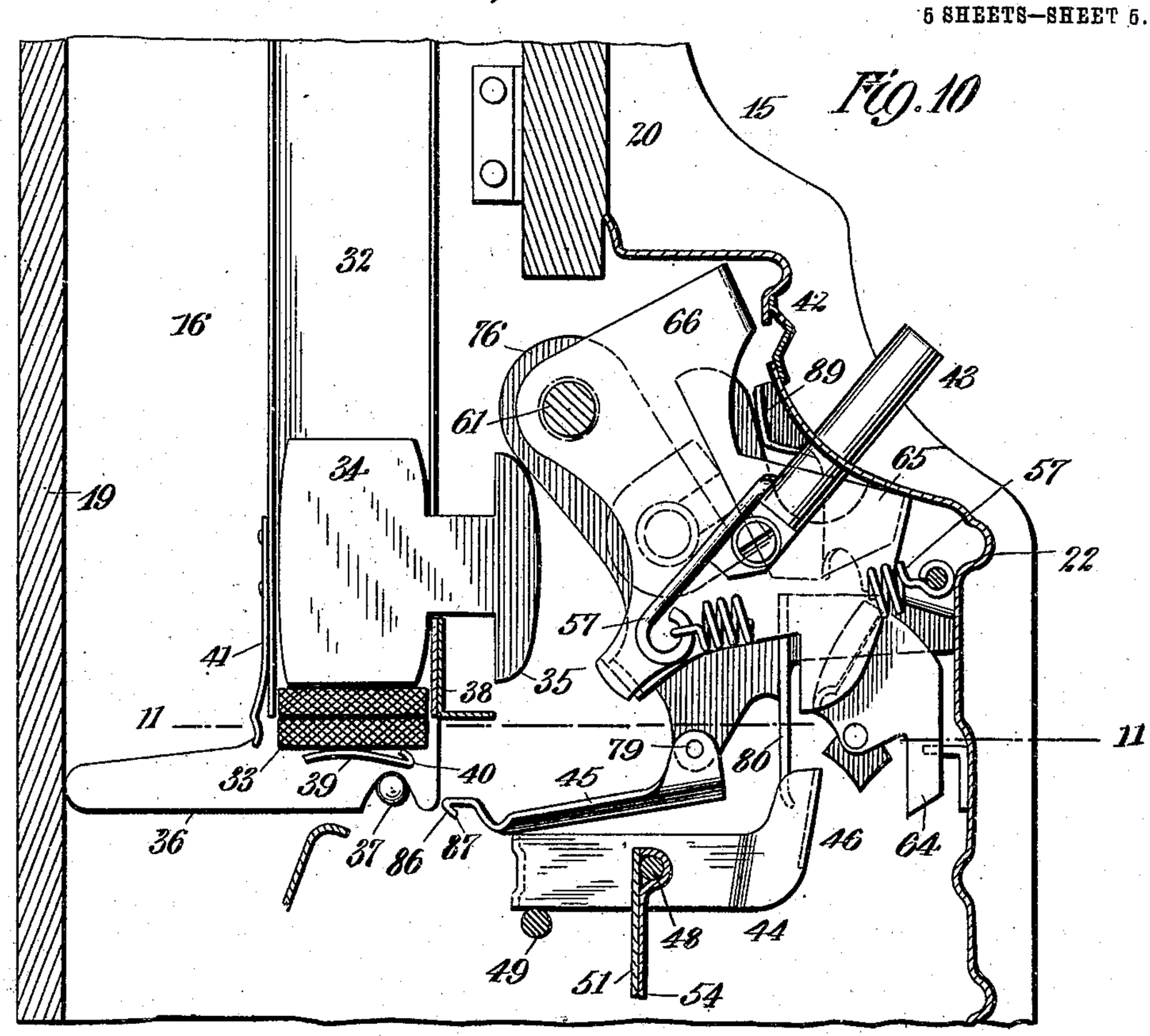
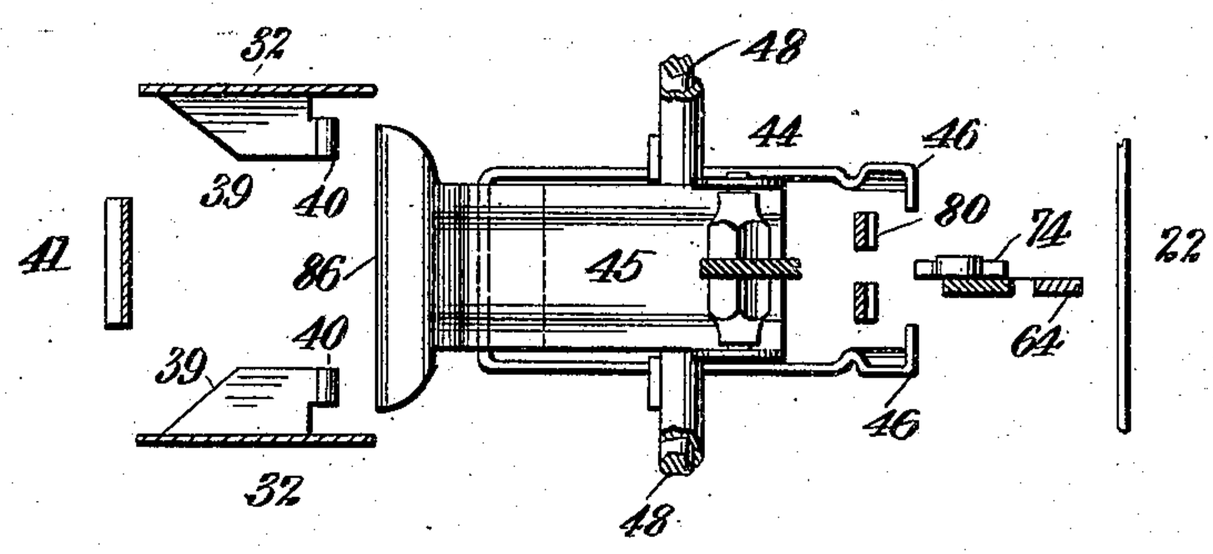



*Fig. 11.*

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# UNITED STATES PATENT OFFICE.

RUDOLPH F. EMMERICH, OF BROOKLYN, NEW YORK.

## COIN-CONTROLLED VENDING-MACHINE.

No. 923,958. Specification of Letters Patent. Patented June 8, 1909.

Application filed February 2, 1909. Serial No. 475,565.

*To all whom it may concern:*

Be it known that I, RUDOLPH F. EMMERICH, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Coin-Controlled Vending-Machines, of which the following is a specification.

The invention relates to improvements in coin-controlled vending machines, and consists in the novel features, arrangements and combinations of parts hereinafter described, and particularly pointed out in the claims.

The invention made the subject of this application comprises improvements on the vending machine for which Letters Patent No. 862,519 were granted to me, as assignee, on August 6, 1907.

The present invention pertains more particularly to a novel construction and arrangement of the interior manually operative mechanisms of the machine, whereby increased durability and certainty and security in the general operation and use of the machine, are attained.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a front elevation, partly broken away, of a vending machine embodying my invention; Fig. 2 is a vertical section of the lower portion of the same on the dotted lines 2—2 of Figs. 1 and 3; Fig. 3 is a vertical section of the same on the dotted line 3—3 of Fig. 2; Fig. 4 is a perspective view, partly broken away and partly in section, of the lower portion and interior stationary parts of the cabinet of the machine, the coin-receiving and goods ejecting mechanisms being omitted; Fig. 5 is a detached perspective view of one section of the manually operative mechanism for dislodging the goods to be sold from the vertical trays holding the same; Fig. 6 is a like view of the other or mating section of the same carrying the pivoted goods-ejector; Fig. 7 is a detached perspective view of the tiltable coin-receiver; Fig. 8 is a sectional view substantially corresponding with Fig. 2 but illustrating the mechanism in a state of operation, a coin (*a*) having entered and tilted the coin receiver to elevate the inner or rear end of the goods-ejector in line with the lower piece of goods in the vertical tray or holder therefor and the plunger and parts connected therewith having been pressed, to a slight extent, inwardly; Fig. 9 is a like view of the same showing the relative positions of the operative parts after the manually operative plunger has been pressed inwardly to a sufficient extent to substantially dislodge the lower piece of confections or goods from said tray; Fig. 10 is a sectional view substantially corresponding with Fig. 2 but illustrating the manually operative parts of the interior mechanism from the side opposite to that shown in Fig. 2, and Fig. 11 is a horizontal section of a portion of the interior mechanism of the machine on the dotted line 11—11 of Figs. 2 and 10.

In the drawings, 15 designates the general cabinet or casing of the machine comprising sides 16, a bottom 17, a top 18, a back 19, a removable front 20, and a lower metallic front section 22, having at its lower end an inwardly turned portion or member 23 upon which the coins are finally received and below which is formed a passage 24, through which the purchased pieces of chocolate or other material may be removed in the customary manner. The inner portions of the section or member 23 of the front section 22 are disposed upon a rigid transverse frame comprising a front outwardly inclined section 25, a vertical section 26 and an upper rearwardly and upwardly inclined section 27, and this frame, which as a whole is numbered 28, is secured to the sides of the main casing and will preferably be of metal and of very rigid and durable character, so as to prevent, as far as possible, its being broken by an instrument inserted through the space 24 and pried upwardly against said frame. Upon the upper section 27 of the frame 28 is secured a transverse plate 29, which inclines upwardly and rearwardly and is formed at its rear edge with an upwardly and slightly forwardly extending flange 30, whose upper edge curves forwardly. The front section 22, frame 28 and plate 29 with its flange 30 prevent access to the receiving chamber containing the operative mechanism and formed above the portion 23 of said front section 22. Below the frame 28 is provided a customary chute 31 upon which the ejected goods descend and which directs them forwardly through the space 24.

Within the cabinet is, in the usual location, mounted the usual vertical trays or

holders 32 for the pieces of chocolate or other goods to be sold, and upon the stacks of pieces 33 to be sold I place weights 34, each having a forwardly projecting portion creating a hook 35 whose purpose will be hereinafter explained. The weight 34 descends with the stack of goods as the pieces of the latter are one after another dislodged from the lower end of the tray or holder 32.

The trays 32 in this class of machines vary in number, and when a series of them are employed, they are connected together, side by side, and removably supported within the cabinet. In the present instance the set of trays 32 at their lower opposite outer edges are provided with bars 36 notched to rest upon pins 37 secured to the inner sides of the cabinet. The lower front portion of each tray 32 is closed by a transverse angle-plate 38, which is above the extreme lower end of the tray, a distance about equal to the thickness of one of the pieces 33, as shown in Fig. 2. At each side of the lower edge of each tray 32 is an inwardly extending horizontal flange 39 having its front edge bent upwardly and rearwardly, so as to form a hook 40, while between the facing edges of the flanges 39, the bottom of the tray is left entirely open for the passage between said flanges of a portion of the goods-ejector, which will engage the bottom piece 33 of the stack and, at the proper time, push the same rearwardly until it falls from off the flanges 39 and descends to the chute 31. The stack of pieces 33 are thus supported on the inwardly turned edge flanges 39 at the bottom of each tray. Upon the rear side of each tray 32 I secure a leaf-spring 41, which projects downwardly in rear of the lower edge of the tray and will yield rearwardly to a sufficient extent to permit the lower piece 33 of the goods to be ejected, whereupon said spring will return to its normal position, shown in Fig. 2. In Fig. 11 I illustrate the relative positions of the inwardly turned flanges 39, which support the stack of goods 33, the spring 41 and the goods-ejector, which will be hereinafter described.

Within the chamber formed in rear of the metal front section 22 I mount the operative mechanism of the machine and which is duplicated for each tray 32 that may be employed. Each set of mechanism comprises a pivotally mounted or tiltable two-part frame which receives the coin from the coin-slot 42 and is operable by means of a plunger rod 43, a pivotally mounted or tiltable coin-receiver 44 into which the coins fall from said two-part frame, and a goods-ejector 45 which is pivoted to one member of said two-part frame and disposed above the coin-receiver 44, so as to be tilted upwardly at its rear edge into the path of the lower piece of confections, as shown in Fig. 8, when a coin *a* enters the front end of the receiver 44 and by depressing said end, causes the rear end thereof to move upwardly against and elevate the inner or rear portion of the goods-ejector, after which, in the regular operation of the machine, the plunger 43 is pressed inwardly to thereby tilt rearwardly the two-part frame connected with it and drive the inner or rear edge of the goods-ejector against the lower piece of the stack of confections and push it rearwardly from the tray 32, in the manner represented in Fig. 9.

Each coin-receiver 44 is preferably formed from a strip of sheet metal and constitutes a frame consisting of opposite sides, a rear end connecting said sides and angular upwardly extending front arms 46 between which the coins *a* are received and temporarily held and the sides of which converge downwardly, as shown in Figs. 3 and 11, and are so spaced apart that a coin of proper dimensions will be held by said sides, while a smaller coin will pass between them. The sides of each coin-receiver 44 are preferably connected by a rod 47 (Fig. 7).

The coin-receivers 44 are pivotally supported on a transverse rod 48, and at their rear ends rest, in their normal position, on a stationary transverse rod 49. Each receiver 44 is located between the upwardly extending arm 50 (Fig. 3) of an individual plate 51 formed with a slot 52 receiving the screw 53 by which the plate is secured to a transverse bar 54, extending between the sides of the front metal section 22 and at its upper edge curved to pass partly around the rod 48. The receivers 44 are individually adjustable on the rod 48 by means of the plates 51, slots 52 and screws 53 so that they may be given just the correct position for performing their duties. The bar 54 is cut out below the receivers 44 and between the arms 50 of the plates 51 so that it may not interfere with the tilting movements of said receivers.

The two sections or portions of the two-part tiltable frame operable from the plunger 43 to dislodge the pieces 33 sold, are illustrated, detached from each other, in Figs. 5 and 6, and for convenience of description I number said sections 55 and 56 respectively. The plunger-rod 43 is pivotally secured to the side of the section 55 (Fig. 10) and said section is yieldingly held in its outer position against the front section 22 by means of a coiled spring 57. The section 56 is yieldingly held in its outer position by a separate coiled spring 58, and the force of both springs 57, 58 must be overcome by the pressure applied to the plunger 43 when the machine is operated. The construction of the two-part frame is such, however, that

the section 55 thereof has a slight movement inwardly before the section 56 starts to move with it, as hereinafter explained.

The section 55 comprises a side plate 59 having at its upper rear end a tubular bearing 60 (Fig. 5) to pass on or receive the transverse supporting rod 61, at its upper front end a laterally projecting arm or shutter 62 for at the proper time closing the coin-slot 42, at its lower rear portion a laterally projecting arm 63, at its lower front end or portion a coin-ejector finger 64 standing inwardly from the side of the plate 59 and projecting downwardly, and above said finger a forwardly projecting arm or part 65 which serves as a stop to engage the metal front 22 when the plate 59 is in its at rest position. The plate 59 has pivotally hung on a rod 66 projected from its face, a coin-chute 67 which comprises a plate 68 slotted at 69 and having at one edge a side 70 which has at its lower end a forwardly projecting arm 71 having a laterally turned end or flange 72 projected toward the plate 59. The chute 67 normally inclines downwardly and forwardly and below it the plat 59 is provided with a rearwardly and downwardly inclined plate 73 upon which the coins fall from said chute and which deflects the coins to a position from which they may with certainty enter the coin-receiver 44. The frame-section 55 is provided below the deflector plate 73 and in rear of the coin-ejector finger 64 with a pivoted drag-plate or tumbler 74 having a curved edge 75 to engage the upper edge of the coin *a* (Fig. 8) when the latter is in the coin-receiver and the two-part frame starts rearwardly and before the finger 64 acts against the coin.

The two-part-frame section 56 (Fig. 6) comprises the side plate 76 having at its upper rearwardly projecting end a tubular bearing 77 adapted to fit upon the tubular bearing 60 carried by the frame-section 55, at its lower rear portion a laterally extending arm 78 to which one end of the spring 58 is attached, at its lower end a transverse pin 79 upon which is freely hung the goods-ejector 45, and at its lower front portion, a face plate or coin-guide 80 which may be formed by bending a portion of the plate 76 to form a flange 81 and attaching to the plate 76 a plate 82 to match the said flange and form the front face 80. The plate 82 is provided with a forwardly projecting arm 83 which, in the normal condition of the operative parts of the machine, engages the front metal section 22, as shown in Fig. 2, as a stop. The lower central portions of the coin-guide or face-plate 80 are cut away to form a vertical slot or opening 84 which is in line with the tumbler or plate 74 carried by the frame-section 55. Upon one face of the plate 76 of the frame-section 56 is secured a magnet 85 whose poles project forwardly.

In assembling the frame-sections 55, 56, the tubular bearing 77 of the section 56 is slipped upon the tubular bearing 60 of the section 55, the plate 76 being moved as close to the plate 59 as the collar or shoulder 96 on the section 55 will permit. The length of the collar 96 is about equal to one-half of the width of the coin-chute 67, and hence when the parts 55, 56 are assembled, the plate 76 will be substantially in line with the middle portion of said chute 67, and this relation of the parts enables the poles of the magnet 85 to enter the slot 69 in said chute. Upon the sections 55, 56 being assembled, the arm 78 of the section 56 will be at the front of the arm 63 of the section 55, and the coin-guide or face-plate 80 of the section 56 will beat the rear of the plate 73 of the section 55 and coöperate with said plate in affording surfaces down which the coin may slide on its passage to the coin-receiver 44. The coins fed through the coin-slot 42 fall upon the coin-chute 67 and sliding down the same pass against the downwardly and rearwardly deflected plate 73 and striking the plate 80 are directed into the coin-receiver. The lower portion of the face-plate 80 extends below the plate 73 and enters the space between the front arms 46 of the receiver 44, and hence operates to prevent the coin from passing rearwardly clear of said arms 46 and confines the coin in its movement so that it will be caught between said arms 46. The purpose in having the slot 69 in the coin-chute 67 is to enable the magnet 85 to grasp a steel disk or the like should the same, in lieu of a coin, be fed to the machine.

The goods-ejector 45 will preferably be formed of a strip of sheet metal having upwardly turned ears at its front end to receive the ends of the pin 79 and at its rear end being bent upwardly and then forwardly to form an ejector or pressure edge 86, at which the metal turns downwardly and forwardly to create a hook 87, the purpose of which is to coöperate with the hooks 40 on the flanges 39 of the tray 32 to compel a full rearward movement of the goods-ejector after the latter has started rearwardly and before it can return to its extreme forward position. When the ejector is positioned to move against the lower piece of confection, as shown in Fig. 8, the edge 86 of the ejector becomes elevated above the horizontal plane of the flanges 39, and thereupon during the rearward movement of the ejector, the hook 87 and edge 86 thereof, travel above the flanges 39, as shown in Fig. 9. If, for any reason, the pressure on the plunger 43 should be released before the ejector has completed its full rearward movement, the springs 57,

58 would operate to pull the coin chute frame forwardly and draw the ejector 45 frontwardly, but the full frontward movement of the ejector would be prevented by the hook 87 on the ejector passing into engagement with the hooks 40 on the flanges 39. Before the machine could be again operated the plunger would have to be fully depressed and the ejector 45 given its full rearward movement, dislodging the lower piece of confections and carrying its hook 87 beyond the rear edges of the flanges 39, upon reaching which position, the rear end of the ejector will descend or fall to a plane below the flanges 39 and thus upon the return of the plunger 43 to its outward position the ejector 45 will return to its initial position, its rear end passing frontwardly below the flanges 39. Thus when the ejector 45 is driven rearwardly, after being properly positioned, its inner end moves above the flanges 39, while on its return, after dislodging a piece of confection, said end moves below said flanges. If, for any reason, there should be any tendency on the part of the rear edge of the ejector 45 not to descend below the flanges 39 after reaching its rear position, the spring 41 against which it will move, will compel its downward movement so that it must return to its initial position by moving below said flanges.

The two-part coin-chute frame is employed in coöperation with a plate 88 secured to the inner face of the front metal section 22. The rear face of the plate 88 is shown in Fig. 3, and the opposite edges thereof in Figs. 2 and 10, respectively. The upper portion 89 of the plate 88 sets rearwardly from the front section 22, as shown in Fig. 10, whereby there is formed by said portion 89 a pocket to receive the lower portion of the shutter 62 when the plunger 43 is driven inwardly, as shown in Fig. 9. The portion 89 of the plate 88 performs two duties, one being to insure coins admitted to the coin-slot reaching the coin-chute 67, said portion 89 forming a breast over which the coins must pass and which prevents them from turning straight downwardly the moment they escape through the coin-slot, said coins being thereby caused to fall on the chute 67. A second duty performed by the rearwardly projecting portion 89 of the plate 88 is to prevent the manipulation of the operative mechanism by means of a strip of paper inserted through the coin-slot.

It has been found that in some vending machines, a strip of stiff paper or the like inserted through the coin-slot may be caused to reach and tilt the coin-receiver or such member as may be used to position the goods-ejector, and that thereafter the machine may be operated to dislodge a piece of the confections. In the present construction if a strip of paper, which I indicate at 90 in Fig. 9, should be inserted downwardly through the coin-slot, it will likely enter the open upper end of the pocket formed by the portion 89 of the plate 88, and if said strip of paper should not enter said pocket it will cross over the top of the same and in such position prevent the shutter 62 from entering said pocket to a sufficient extent to enable the complete operation of the plunger 43. The action of the lower edge of the shutter 62 against a strip of paper crossing the upper end of the plate 89 would be to crowd the paper into the pocket behind said plate and this would check the action of the operative mechanism to such extent that the piece of goods could not be ejected.

The lower portion 91 of the plate 88 forms an angular outline, as shown in Figs. 8 and 9, and within this outline extends the laterally projecting end 72 of the coin-chute 67. The portion 91 of the plate 88 permits the coin-chute 67 to recede inwardly with the other parts connected with the plunger rod 43 until the latter has nearly completed its movement, at which time the said end 72 will reach the wall of the part 91 and become arrested thereby, thus stopping the coin-chute 67, while the other portions of the operated mechanism continue rearwardly to complete their movement. The purpose of stopping the coin-chute 67 before the operative mechanism has completed its inward tilting action is to detach or strip from the magnet 85 any washer, disk or the like which may at the time be held by the same against the chute 67. Upon the separation of the chute 67 from the magnet 85, any steel disk or the like held on said chute by the magnet will descend down the chute and fall to the front of the plate 73 and finger 64 and enter the coin receiving chamber, the position of the end 72 on the coin-chute being such that the chute will become arrested while in an inclined position and at a sufficient angle to direct the disk or the like frontwardly of the plate 73 instead of allowing it to take the course of the coins, which travel rearwardly over said plate 73.

In Fig. 2 I illustrate the operative parts of the machine in their normal or initial condition. When it is desired to operate the machine a coin will be introduced through the coin slot 42 and be permitted to descend downwardly along the coin chute 67 and between the plates 73, 80, whence it will enter the front holding portion of the coin-receiver 44 and depress the same, as shown in Fig. 8, thereby causing the rear end of the said receiver to tilt upwardly against and position the goods ejector 45 whose rear edge will be arrested or prevented from moving upwardly to an undue extent by the horizontal flange of the angle plate 38.

Thereupon the plunger 43 will be pressed inwardly to force the rear edge of the ejector against the lower piece of confections and thereby dislodge the same. The tilting coin-chute-frame is held in its normal position by the springs 57, 58 and is returned to that position after an operation of the machine by said springs. During the first portion of the inward movement of the plunger 43, the frame-section 55 has a slight tilting movement independently of the frame-section 56, this independent movement being sufficient to cause the plate 73 of the section 55 to close against the plate 80 of the section 56, whereupon both sections 55, 56 will perform their inwardly tilting motion together, all of the parts moving in unison until the coin chute 67 becomes arrested by its bent end 72 reaching and becoming arrested by the portion 91 of the plate 88. During the inwardly tilting movement of the coin-chute-frame represented by the sections 55, 56, the curved edge 75 of the tumbler or plate 74 will engage and hang upon, for a limited period, the upper edge of the coin *a*, as shown in Fig. 8, thereby assuring the retention of the goods-ejector 45 and coin receiver 44 in correct position until the ejector has entered above the flanges 39 of the tray 32, notwithstanding any slight differences that may exist in the diameters of the coins or in the exact elevation of the same in the receiver 44 and notwithstanding a slight tendency that exists for the ejector when starting rearwardly to depress the rear end of the receiver. The tumbler or plate 74 acts as a light weight to keep the coin-receiver and goods-ejector in their tilted positions until the ejector enters above the flanges 39 of the tray. Following the engagement of the tumbler or plate 74 with the coin *a*, the inward movement of the coin-chute-frame continuing, the coin-ejector finger 64 will pass between the sides of the front end of the coin-receiver 44 and push or eject the coin therefrom, this taking place, as shown in Fig. 9, after the rear edge of the goods ejector 45 has performed a part of its operation. I have explained hereinbefore the operation of the goods-ejector and referred to the special features with which its hooked edge 87 coöperates.

When the last piece of goods is ejected from the tray 32 the weight 34 then descending to the bottom of the tray will carry its hooked end 35 downwardly to the front of the arm 63 constituting a portion of the frame-section 55, as represented by dotted lines in Fig. 9, and said portion 35 of the weight will at such time prevent the return of the tiltable operative mechanism to its front position, thereby retaining the shutter 62 over the coin-slot 42 and preventing the introduction of further coins through that particular slot, there then being no goods in the tray 32 to be sold. At all times when the plunger 43 is away from its initial position, the shutter 62 closes the coin-slot 42, and when the tray is empty, the hook 35 on the weight will lock the tiltable frame and plunger 43 at their inward position and thus maintain the coin slot permanently closed.

It has sometimes occurred that persons have lost their coins by substantially simultaneously inserting a coin in the coin-slot and pushing the operative plunger, thus driving the ejector rearwardly before it could be positioned by the coin entering the receiver. In the use of the structure hereinbefore described, the coin passes very quickly to the coin-receiver 44, but if anyone should succeed in pushing the plunger 43 inwardly before the coin reaches the receiver the coin will not be lost to the purchaser since the first action of the plunger is to move the frame-section 55 to carry its plate 73 against the plate or coin-guide 80 of the frame-section 56, whereby the coin will be caught within the pocket formed between said parts 73, 80 or pinched between said parts and carried inwardly with the operative frame and then outwardly with said frame to a position at which it may (when the frame-section 55 moves slightly forwardly of the frame-section 56 upon the arrival of said sections at their initial positions) descend into the coin-receiver 44, whereupon if the plunger is again pushed inwardly, which is a natural consequence, the piece of goods will be discharged.

In applying the lower metal front section 22 carrying the operative mechanism to the cabinet, care should be taken to insert the inwardly extending part 23 of said section against the lower inclined edges of the projections 95 of the frame 28, which edges will guide the section 22 downwardly and assure the location of the inner ends of the goods-ejectors below the horizontal flange of the angle plate 38 secured to the trays 32.

What I claim as my invention and desire to secure by Letters Patent, is:

1. In a vending machine, a holder for the articles to be sold, a pivotally mounted frame comprising a downwardly extending coin-chute and having an exposed handle, and a goods-ejector pivotally secured to and carried by said frame at the front of the lower end of said holder, combined with a pivotally mounted coin-receiver below said ejector having at its front end means to receive a coin descending from said coin chute and adapted upon receiving the coin to tilt at its rear end against said ejector and position the same for action, said frame also having a pivoted tumbler normally at the front of said coin receiver to drag on the

upper edge of the coin in said receiver when said frame is moved inwardly, and a coin-ejector normally at the front of said receiver for at the proper time dislodging the coin therefrom; substantially as set forth.

2. In a vending machine, a holder for the articles to be sold, a pivotally mounted frame comprising a downwardly extending coin-chute and having an exposed handle, and a goods-ejector pivotally secured to and carried by said frame at the front of the lower end of said holder, combined with a pivotally mounted coin-receiver below said ejector having at its front end means to receive a coin descending from said coin chute and adapted upon receiving the coin to tilt at its rear end against said ejector and position the same for action, said frame also having a pivoted tumbler normally at the front of said coin receiver to engage the upper edge of the coin in said receiver when said frame is tilted inwardly for maintaining said receiver for a proper period in correct position with relation to the goods-ejector; substantially as set forth.

3. In a vending machine, a holder for the articles to be sold, a pivotally mounted frame comprising a downwardly extending coin-chute and having an exposed handle, and a goods-ejector pivotally secured to and carried by said frame at the front of the lower end of said holder, combined with a pivotally mounted coin-receiver below said ejector having at its front end means to receive a coin descending from said coin chute and adapted upon receiving the coin to tilt at its rear end against said ejector and position the same for action, said frame also having a coin-ejector normally at the front of said receiver to, on the operation of said frame, dislodge the coin from said receiver, and said holder having on its lower front portion and above its lower end a distance equal to the thickness of one of the packages to be sold a forwardly projecting plate 38 to arrest the rear end of said ejector in line with the lower piece of goods in said holder; substantially as set forth.

4. In a vending machine, an exterior casing, a vertical holder 32 therein for the goods to be sold having just above the horizontal plane of the lower article in the holder a forwardly projecting stop-plate (38), a forwardly projecting stationary part 95 having a downwardly and rearwardly inclined edge, a removable front section 22 having an inwardly extended lower portion 23 to engage and be directed downwardly to position by said part 95, and operative mechanism carried by said front section and comprising a pivotally mounted frame comprising a downwardly extending coin-chute and having an exposed handle, and a goods-ejector pivotally secured to and carried by said frame at the front of the lower end of said holder, combined with a pivotally mounted coin-receiver below said ejector having at its front end means to receive a coin descending from said chute and adapted on receiving a coin to tilt at its rear end against said ejector and position the same for action, said plate 38 being positioned to prevent the ejector from being tilted upwardly to an undue extent and said part 95 serving to guide the operative mechanism carried by said front section 22 to position so that the ejector will initially be below said plate; substantially as set forth.

5. In a vending machine, an exterior casing, a vertical holder 32 therein for the goods to be sold, a plate 31 for the forward discharge of the goods sold, a rigid transverse frame 28 above said plate comprising a forwardly projecting portion 25, a vertical portion 26 and an upper rearwardly and upwardly inclined portion 27, a plate 29 secured on said portion 27 and having an upwardly and forwardly extending flange 30, a removable front section 22 having an inwardly extended lower portion 23 to pass above the forwardly projecting portion 25 of said frame, and operative mechanism carried by said front section and comprising a pivotally mounted frame comprising a downwardly extending coin-chute and having an exposed handle, and a goods-ejector pivotally secured to and carried by said frame at the front of the lower end of said holder, combined with a pivotally mounted coin-receiver below said ejector having at its front end means to receive a coin descending from said chute and adapted on receiving a coin to tilt at its rear end against said ejector and position the same for action, said frame 28 being an integral casting secured to the sides of said casing; substantially as set forth.

6. In a vending machine, a holder for the articles to be sold, a pivotally mounted frame comprising a downwardly extending coin-chute and having an exposed handle, and a goods-ejector pivotally secured to and carried by said frame at the front of the lower end of said holder, combined with a pivotally mounted coin-receiver below said ejector having at its front end means to receive a coin descending from said coin chute and adapted upon receiving the coin to tilt at its rear end against said ejector and position the same for action, a transverse rod 48 on which said receiver is mounted, a plate 54 having members 50 straddling said receiver, a transverse plate 51 to which said plate 54 is secured, and means for adjusting said plate 54 so as to accurately position the receiver on said rod; substantially as set forth.

7. In a vending machine, a vertical holder for the articles to be sold having at the sides of its lower end inwardly extending flanges

39 to support the stack of articles and formed with hooks 40 at their front ends, a pivotally mounted frame comprising a coin-chute and having an exposed handle, and a goods-ejector pivotally secured to and carried by said frame at the front of the lower end of said holder and having a rearwardly extending portion 86 to pass above said flanges 39 while another portion thereof passes between the same, said portion 86 of the ejector having a hook portion 87 to engage said hooks 40 should the ejector start to return before making a full rearward movement, combined with a pivotally mounted coin-receiver below said ejector having at its front end means to receive a coin descending from said chute and adapted on receiving a coin to tilt at its rear end against said ejector and position the same for action; substantially as set forth.

8. In a vending machine, a holder for the articles to be sold, a pivotally mounted two-part frame having an exposed handle, a goods-ejector carried by said frame at the front of the lower portion of said holder, a pivotally mounted coin-receiver below said frame having at its front end means to receive a coin descending from said frame and adapted on receiving a coin from said frame to tilt at its rear end and position said ejector for action, and independent springs connected with the parts of said frame for yieldingly holding them in their initial position, said frame comprising a section 55 having a coin-guide plate 73 and a section 56 having a coin-guide plate 80 between which plates the coins pass to said receiver, combined with means for initially holding said sections to leave an exit space between said plates, said handle being connected with the section 55 so that said section may be moved alone until the plates 73, 80 close together, after which both sections move together; substantially as set forth.

9. In a vending machine, a holder for the articles to be sold, a pivotally mounted two-part frame having an exposed handle, a goods-ejector carried by said frame at the front of the lower portion of said holder, a pivotally mounted coin-receiver below said frame having at its front end means to receive a coin descending from said frame and adapted on receiving a coin from said frame to tilt at its rear end and position said ejector for action, and independent springs connected with the parts of said frame for yieldingly holding them in their initial position, said frame comprising a section 55 having a pivoted slotted coin-chute 67 and a section 56 having a magnet 85 entering the slot in said chute, combined with means for arresting the lower end of said chute after said frame has moved inwardly a definite distance so as to separate said chute and magnet; substantially as set forth.

10. In a vending machine, a holder for the articles to be sold, a pivotally mounted two-part frame having an exposed handle, a goods-ejector carried by said frame at the front of the lower portion of said holder, a pivotally mounted coin-receiver below said frame having at its front end means to receive a coin descending from said frame and adapted on receiving a coin from said frame to tilt at its rear end and position said ejector for action, and independent springs connected with the parts of said frame for yieldingly holding them in their initial position, said frame comprising a section 55 having a pivoted slotted coin-chute 67 and a coin-guide plate 73 below the same and a section 56 having a magnet 85 entering the slot in said chute and a coin-guide plate 80 to coöperate with said plate 73, combined with means for arresting the lower end of said chute while said frame is moving inwardly, and means for initially holding said sections to leave an exit space between said plates, said handle being connected with the section 55 so that said section may be moved alone until the plates 73, 80 close together, after which both sections move together; substantially as set forth.

11. In a vending machine, a holder for the articles to be sold, a pivotally mounted two-part frame having an exposed handle, a goods-ejector carried by said frame at the front of the lower portion of said holder, a pivotally mounted coin-receiver below said frame having at its front end means to receive a coin descending from said frame and adapted on receiving a coin from said frame to tilt at its rear end and position said ejector for action, and independent springs connected with the parts of said frame for yieldingly holding them in their initial position, said frame comprising a section 55 to which said handle is connected and a section 56 to which said goods-ejector is pivoted and said sections forming a coin chute leading to said receiver, combined with stops for said frame sections, and means for causing the section 55 after it has moved inwardly alone a short distance to engage and cause the section 56 to move inwardly with the section 55, thereby allowing the ejector an increased period for becoming positioned before the section 56 commences to move; substantially as set forth.

12. In a vending machine, an inclosed casing having an entrance coin-slot, a holder for the articles to be sold, a pivotally mounted coin-chute frame having an exposed handle and provided at its upper end with a transverse shutter plate 62 for closing said coin-slot when said frame is away from its initial position, and a goods-ejector operable from said frame, combined with a pivotally mounted coin-receiver below said ejector having at its front end means to re-

ceive a coin from said frame and adapted on receiving a coin to tilt at its rear end against and position said ejector for action, and a plate 89 secured within said casing below said coin-slot and forming a pocket open at its upper end into which the lower edge of said shutter passes when the machine is operated; substantially as set forth.

Signed at New York city, in the county of New York, and State of New York, this first day of February, A. D. 1909.

RUDOLPH F. EMMERICH.

Witnesses:
CHAS. C. GILL,
ARTHUR MARION.