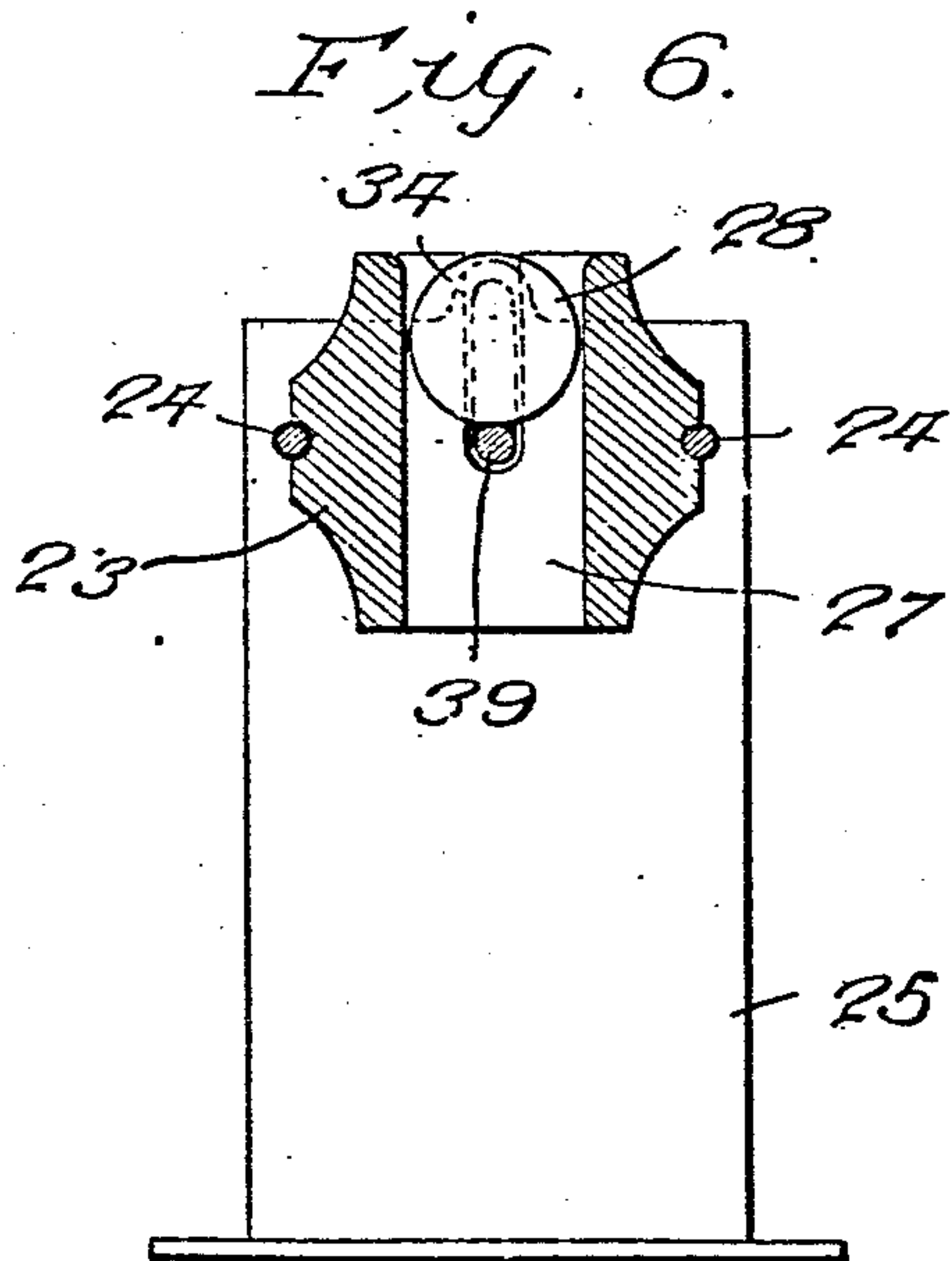
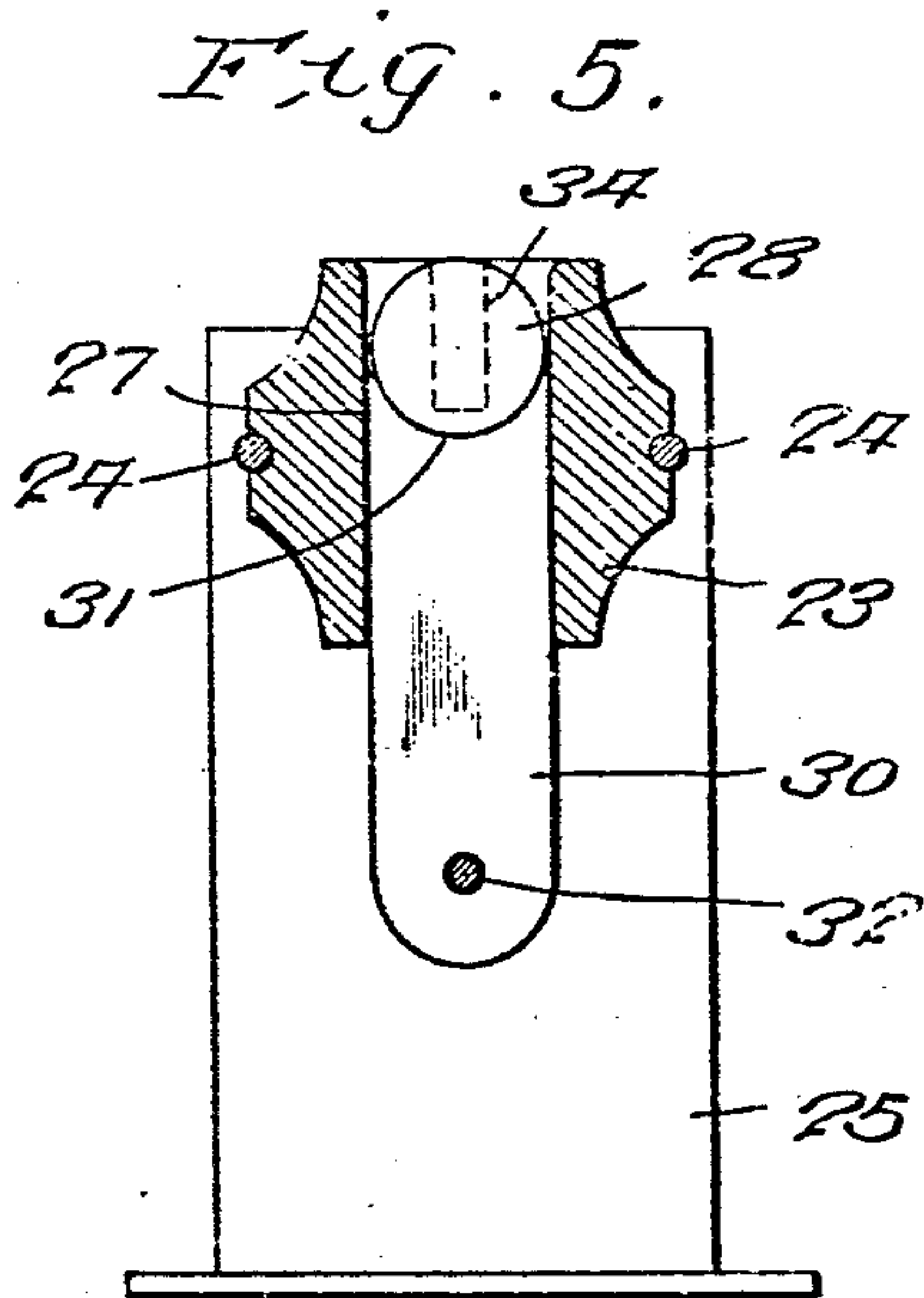
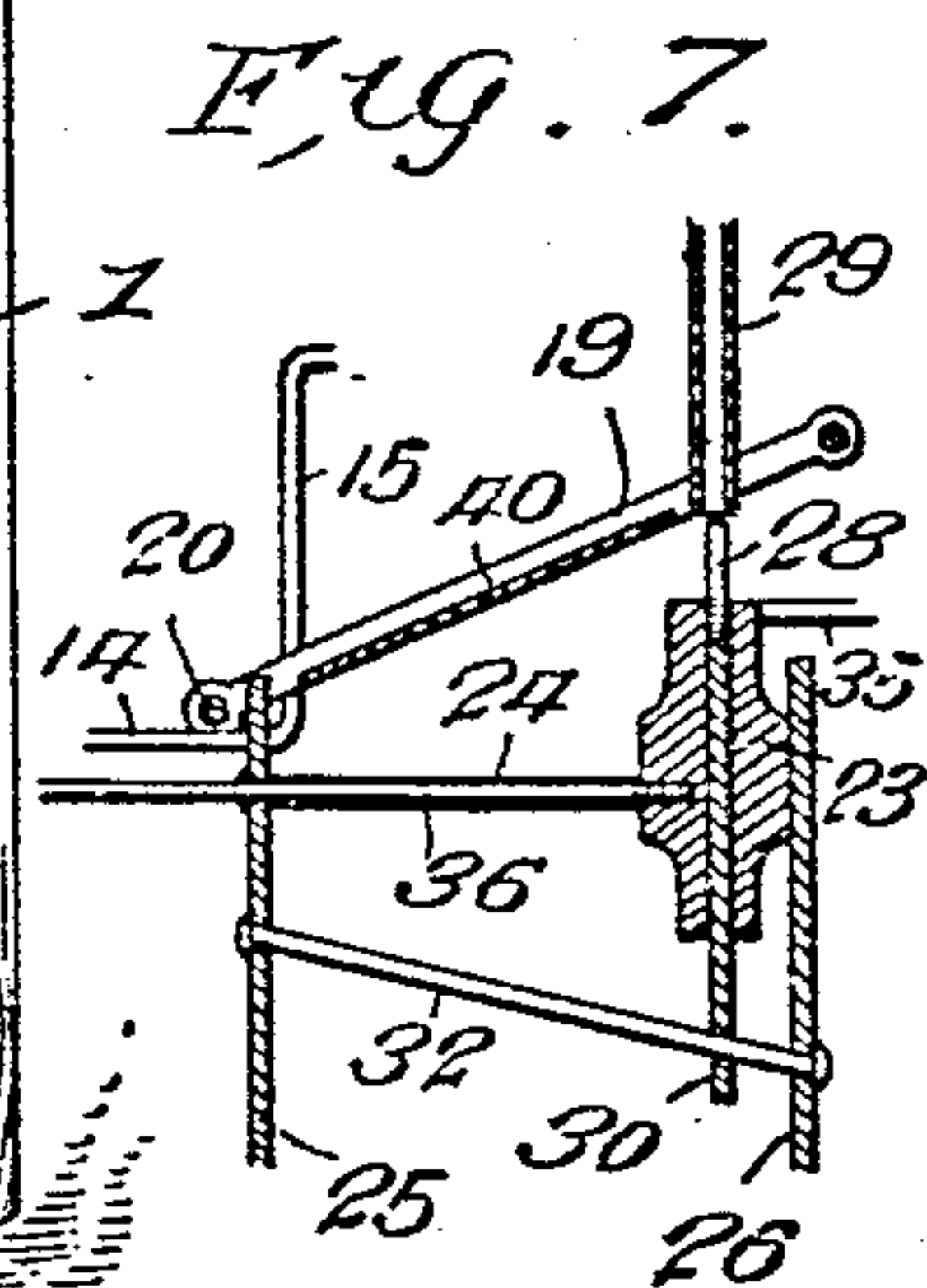
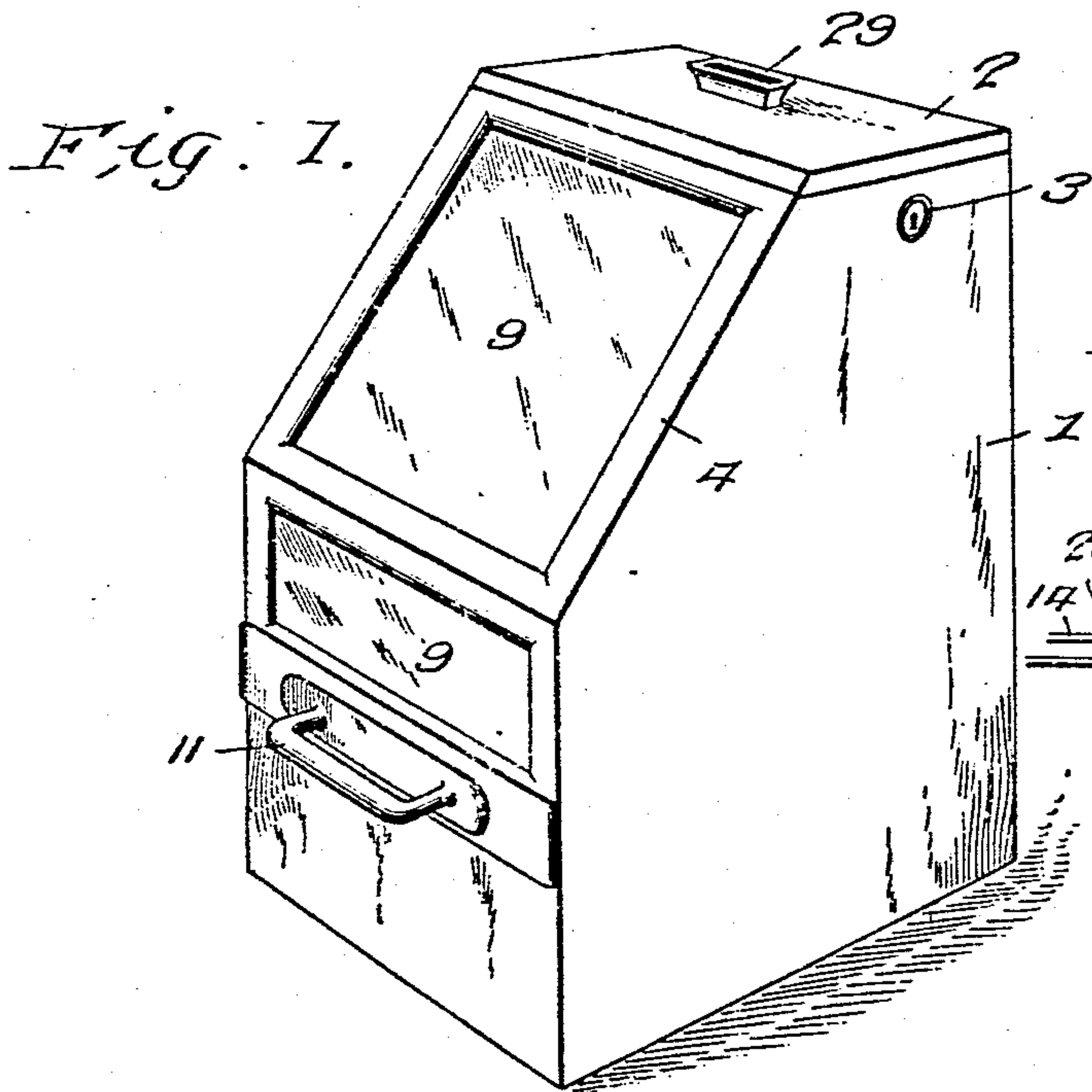


A. RUNYON.
VENDING MACHINE.
APPLICATION FILED MAR. 3, 1908.

898,930.

Patented Sept. 15, 1908.

4 SHEETS—SHEET 1.



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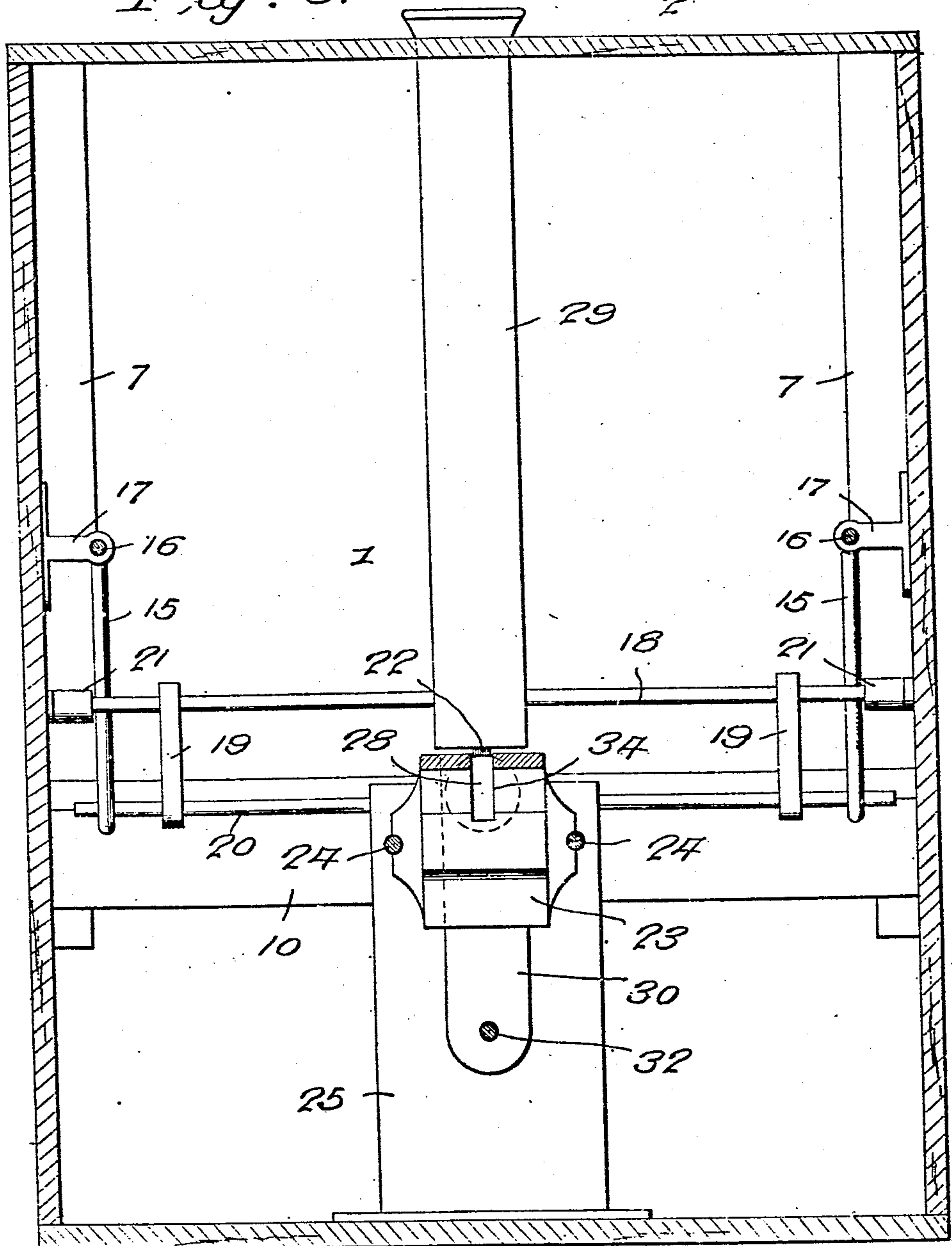
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4 SHEETS—SHEET 3.

Fig. 3.



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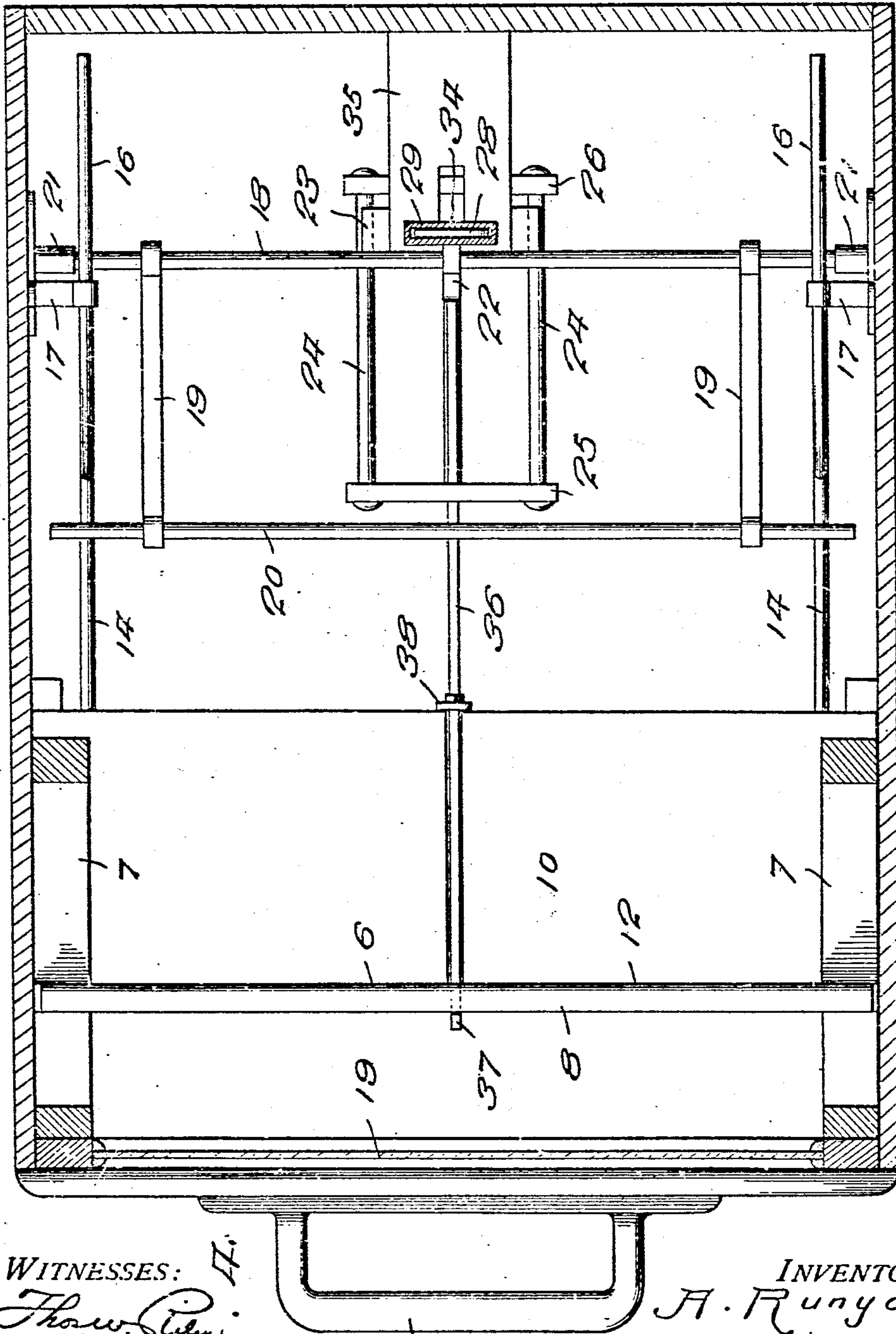
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UNITED STATES PATENT OFFICE.

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VENDING-MACHINE.

No. 898,930.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed March 3, 1908. Serial No. 418,979.

To all whom it may concern:

Be it known that I, ALEXANDER RUNYON, a citizen of the United States, residing at Muscatine, in the county of Muscatine and State of Iowa, have invented certain new and useful Improvements in Vending-Machines; 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 new and useful improvements in vending machines and more particularly to that class adapted to be used for vending small articles or packages, such as lead pencils or other similar articles and my object is to provide controlling means for releasing the article-delivering mechanism.

A further object is to provide means for preventing the loss of the coin when the parts of the machine are not properly set to receive the coin.

A still further object is to prevent the operation of the delivering parts of the vender when the magazine thereof is empty and a still further object is to provide means for setting the releasing mechanism, whereby a coin of a predetermined size will be required to operate the locking mechanism.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a perspective view of my improved vending machine complete. Fig. 2 is a vertical, sectional view through the vender, showing the upper portion thereof broken away. Fig. 3 is a vertical sectional view as seen on line 3—3, Fig. 2. Fig. 4 is a sectional view as seen on line 4—4, Fig. 2. Fig. 5 is a detail, sectional view as seen on line 5—5, Fig. 2. Fig. 6 is a similar sectional view, showing a slightly modified form of means for removing a coin, and, Fig. 7 is a detail, sectional view showing a slightly modified form of device for releasing the delivering mechanism.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the casing of my improved vending machine, to which is secured a removable cover or closure 2, which cover may be secured to the casing in any preferred manner, as by means of a lock 3.

One upper edge of the casing 1 is removed to form an inclined face 4, below which is located a suitable article receptacle 5, and in this instance, I have shown the same as adapted to hold a plurality of lead pencils 6, or similar articles, the receptacle being formed by placing cleats 7 on the two end walls of the casing, said cleats being inclined towards their lower ends and brought substantially together, a space or opening 8, being left between the converging cleats of sufficient width to admit of the delivery of the pencils one at a time and in order to readily ascertain when the receptacle is nearly empty, the inclined face 4 and front wall of the casing 1 are provided with panels of glass 9, or similar transparent material.

Slidably mounted below the converging edge of the receptacle 5, is a delivering plunger 10, one end of the plunger extending beyond the front wall of the casing 1 and having thereon a hand-hold 11, by which means the plunger may be readily moved longitudinally.

Extending laterally across the plunger 10 and at a point adapted to register with the opening 8, at the lower end of the receptacle 5, is a gutter 12 to receive the pencil 6, as it descends from the receptacle, the depth of the gutter being equal to the diameter of the pencil and in order to prevent the pencil from leaving the gutter when the plunger is being moved outwardly, a shield 13 is placed above the plunger between the front cleats 7 and the forward wall of the casing.

To prevent the withdrawing of the plunger 10 until such time as a coin has been properly deposited in the casing, I provide locking bars 14, which extend rearwardly from each edge of the plunger 10 and are provided with vertical portions 15 adjacent their longitudinal centers and horizontal portions 16 from the vertical portions rearwardly, the horizontal portions 16 being entered through clips 17 to form bearings therefor.

Fixed to a shaft 18, are links 19, through the outer ends of which extends a shaft 20, said shaft being of sufficient length to extend in the path of the vertical portions 15 of the locking bars when the links are in their lowered position, thereby holding the plunger 10 within the casing 1 until such time as the shaft 20 is elevated above the vertical portions 15.

The shaft 18 is rotatably mounted in bearings 21 and has adjustably secured thereto a

trigger 22, which depends from the shaft 18 and in the path of the upper end of a coin receptacle 23, said receptacle being slidably mounted on guides 24 carried by standards 5 25 and 26, the coin receptacle having a vertical slot 27 adapted to receive a coin 28.

The coin is delivered to the receptacle 23 through a chute 29 extending downwardly through the cover 2, the lower end of the 10 chute terminating immediately over the vertical slot 27 in the receptacle 23 when said receptacle is in its rearward position, the downward movement of the coin being limited by means of a slide 30, extending into the vertical 15 slot 27 from the lower end thereof, the upper end of the slide having a concavity 31 therein to receive the coin and, by retaining the coin adjacent the upper end of the slot 27, said coin will engage the trigger 22 as the 20 plunger is moved forwardly and elevate the shaft 20 above the vertical portion 15 of the locking bars, thereby permitting the plunger to move outwardly a sufficient distance to deliver the article resting in the gutter 12 and 25 at the same time the coin is moved upwardly and out of the slot 27 by mounting the lower end of the slide 30 on an inclined guide bar 32, the coin dropping into the bottom of the casing 1.

The trigger 22 is adjustably mounted on the shaft 18 in any preferred manner, as by means of a set-screw 33 and when the trigger is set for a coin of a pre-determined size, a 35 coin of a smaller size will fail to release the article delivering parts as the shaft will not raise above the vertical portions 15 and to prevent the trigger from being operated through the forward movement of the coin receptacle 23, the upper end of said receptacle is provided with a channel 34, which 40 channel is in alinement with the trigger 22, whereby when the coin receptacle is moved forwardly, the trigger will enter said channel and if there is no coin in the receptacle, the 45 trigger will not be operated to elevate the shaft 20.

In view of the fact that the plunger and locking bars carried thereby move forwardly simultaneously with the upward movement 50 of the shaft 20, the links 19 are of sufficient length to extend the shaft a sufficient distance forwardly of the vertical portions 15 to permit the shaft to clear the path of the vertical portions before the vertical portions are 55 moved forwardly a sufficient distance to engage the shaft and as the plunger and coin receptacle may be moved forwardly until the vertical portions engage the shaft 20, providing there is no coin in the vertical slot 27, 60 said vertical slot would be moved out of alinement with the lower end of the chute 29, whereby a descending coin would fail to enter the vertical slot and to prevent the coin from becoming lost, a platform 35 is secured to the 65 coin receptacle 23 adjacent its upper end and

extends rearwardly therefrom, said platform being adapted to travel below the lower end of the chute when the coin receptacle is moved forwardly, thereby preventing the coin from leaving the chute until such time 70 as the vertical slot is in registration with the lower end of the chute, said platform being of sufficient length to always extend below the chute when the coin receptacle is moved forwardly. 75

The coin receptacle is caused to move forwardly with the plunger 10 by means of a rod 36, one end of the rod being secured to the coin receptacle 23 while the forward end thereof is provided with a hook 37, the rod 80 being of sufficient length to extend the hook 37 beyond the opening 8 at the lower end of the receptacle 5, so that when a pencil descends into the gutter 12, it will rest in the path of the hook 37 and will be engaged by the 85 hook when the plunger is moved forwardly, thereby simultaneously moving the coin receptacle forwardly and elevating the shaft 20. To permit the plunger to move forwardly a sufficient distance to deliver the pencil car- 90 ried by the plunger and in order to return the coin receptacle with the return of the plunger 10, a collar 38 is secured around the rod 36 and adapted to be engaged by the rear end of the plunger, as the plunger moves inwardly, 95 thereby returning the coin receptacle to its rearward position.

Instead of employing the slide 30 for limiting the downward movement of the coin and delivering the same from the vertical slot 100 when the coin receptacle is moved forwardly, the channel 34 is extended downwardly a sufficient distance to receive one end of an inclined rod 39, the lower end of the rod being secured to the standard 26 while the op- 105 posite end thereof is secured to the upper end of the standard 25 and by this arrangement, it will be seen that the rod will limit the downward movement of the coin and deliver the same from the vertical slot when the coin 110 receptacle is moved forwardly.

As shown in Fig. 7, the trigger 22 may be dispensed with and a trip-board 40 secured to the arms 19, whereby the coin 28 will en- 115 gage the board 40 and elevate the shaft 20 out of the path of the vertical portions 15, said board being so arranged that the coin receptacle will pass below the same when a coin is not in the slot in the receptacle.

In operation, the receptacle 5 is filled with 120 articles to be vended, one of which passes through the opening 8 at the bottom of the receptacle and into the gutter 12 and when a coin of the proper size has been deposited in the chute 29, and a forward pull given to the 125 plunger 10, the shaft 20 will be swung upwardly and will rest on the horizontal portions 16 when the plunger is in its forward position and as soon as the article has been removed and the plunger returned to its ini- 130

tial position, the horizontal portion 16 will pass from below the shaft 20 and permit said shaft to descend until it rests on that portion of the locking bars in alinement with the plunger 10.

If the receptacle 10 should be empty or one of the articles fail to descend into the gutter 12, the plunger 10 cannot be moved outwardly farther than to engage the shaft 20 with the vertical portions 15 of the locking bar, as the hook 37 would fail to move the coin receptacle forwardly.

It will thus be seen that I have provided a very cheap and efficient form of vending machine and one wherein the articles cannot be removed without depositing a coin of the proper size and it will further be seen that the coin will not become lost by entering the same in the chute at a time when the parts of the vending machine are not in the proper position to receive the coin and it will likewise be seen that the parts of the device are so simple in construction as not to become readily disarranged or inoperative.

What I claim is:

1. In a vending machine, the combination with a casing having a receptacle therein adapted to hold articles; of a plunger slidably mounted below said receptacle and having a gutter to receive one of the objects from the receptacle, means adapted to lock said plunger in its inward position, a coin receptacle, and means to move the coin receptacle upon the presence of an article in the gutter co-incident to the movement of the plunger and release the locking mechanism when a coin is in the receptacle, the movement of the coin receptacle depending on the article within the gutter.

2. In a vending machine, the combination with a casing having a receptacle therein adapted to contain articles and deliver the same one at a time; of a plunger slidably mounted below said receptacle adapted to receive said article, a coin receptacle slidably mounted in the rear of said plunger, means extending from said coin receptacle adapted to be engaged by the article on the plunger and cause the coin receptacle to move forwardly and a locking mechanism having means thereon adapted to extend in the path of said coin-receptacle and be operated by coin in the receptacle, whereby the plunger will be released and permitted to move forwardly its full stroke.

3. In a vending machine, the combination with a casing having a receptacle therein adapted to contain articles and deliver the same one at a time; of a plunger adapted to receive said article, locking bars carried by said plunger, a shaft adapted to engage portions of said locking bar and hold the plunger against longitudinal movement, means depending on the article to be delivered to elevate said shaft and additional means to move

a coin into engagement with the elevating mechanism, whereby the shaft may be moved out of engagement with the locking bars and the plunger released.

4. In a vending machine, the combination with means for delivering articles; of a plunger, a coin receptacle having a vertical slot, means to deliver a coin in said slot, a rod carried by the coin receptacle adapted to engage the article carried by the plunger and move the coin receptacle forwardly and a locking mechanism between the plunger and coin receptacle adapted to be engaged and operated by the coin.

5. In a vending machine, the combination with an article-delivering mechanism therefor; of a coin receptacle having a slot therein, means to deliver a coin in said slot, additional means to limit the downward movement of the coin and release the coin from the slot when the coin receptacle is moved forwardly and means coöperating with the article delivering mechanism adapted to move the coin receptacle forwardly and engage the coin with the locking mechanism, whereby said locking mechanism will be released.

6. In a vending machine, the combination with an article-delivering plunger, locking bars carried by said plunger having vertical portions, a shaft adapted to extend in the path of said vertical portions, links supporting said shaft, a pivotally mounted shaft at the opposite ends of said links, a trigger adjustably mounted on said pivoted shaft and means depending on the article to be delivered adapted to move a coin in the path of said trigger, whereby the shaft at the outer ends of the links will be elevated and the article-delivering plunger released.

7. In a vending machine, the combination with an article-delivering plunger, locking bars carried by said plunger, a shaft adapted to extend in the path of portions of said bars and hold the plunger against longitudinal movement and a trigger adapted to elevate said shaft and release the plunger; of a coin receptacle having a vertical slot therethrough and a channel adjacent the upper end of the receptacle, means to deliver a coin into said slot, a rod extending forwardly from said receptacle and means on the forward end of the rod adapted to engage the article on the plunger and move the coin carried by the receptacle into engagement with the trigger when the plunger is moved forwardly.

8. In a vending machine, the combination with an article-delivering plunger, a locking mechanism therefor and a trigger adapted to operate said locking mechanism; of a coin receptacle having a vertical slot therethrough and a channel at the upper end of the receptacle, a platform carried by said receptacle, means to deliver a coin to said slot and additional means depending on the article to be

delivered to move the receptacle forwardly and the coin into engagement with the trigger, whereby the locking mechanism will be operated and the plunger released.

- 5 9. In a vending machine, the combination of a delivery plunger, a coin receptacle, means engaging an article to be delivered by the plunger for imparting movement to the coin receptacle and a locking mechanism to

be engaged and operated by a coin inserted 10 within the coin receptacle.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALEXANDER RUNYON.

Witnesses:

T. R. FITZGERALD,
F. L. BIHLMEIER.