No. 881,688. PATENTED MAR. 10, 1908.

M. HOFHEIMER.

COIN CONTROLLED MACHINE.

APPLICATION FILED NOV. 19, 1904.

2 SHEETS—SHEET 1.

Fig. 2.

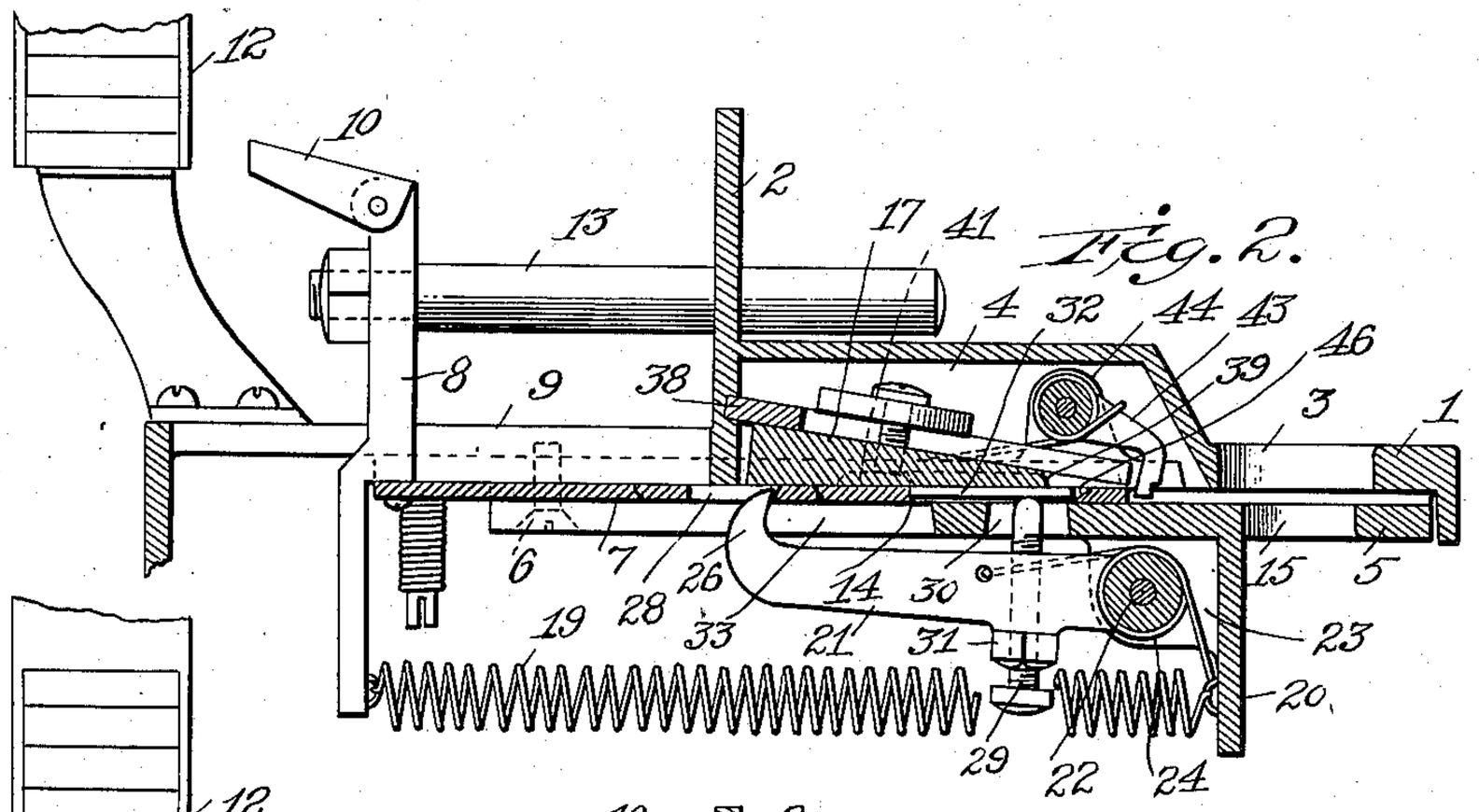


Fig. 1.

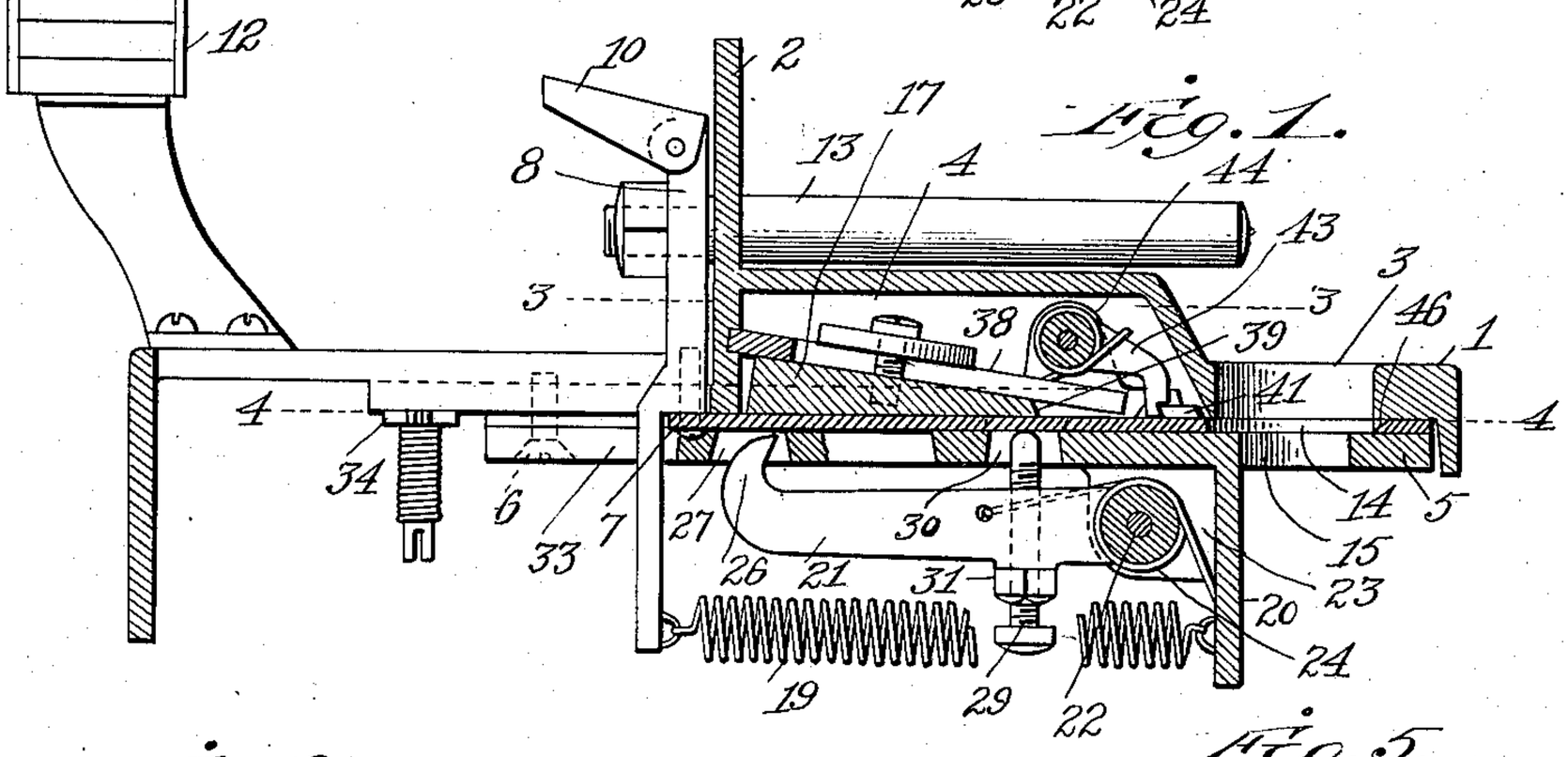


Fig. 6.

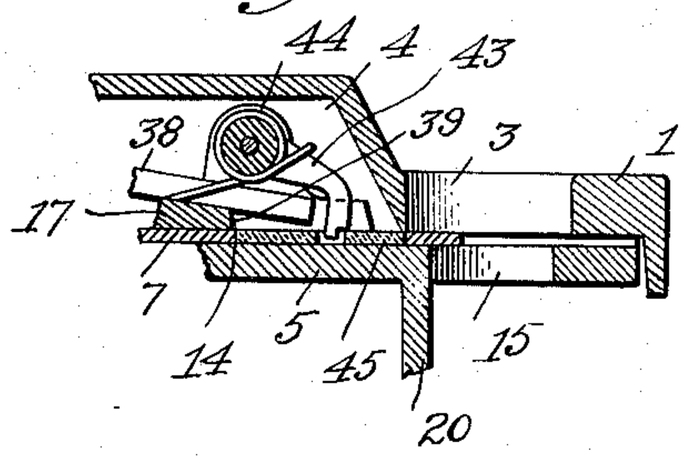
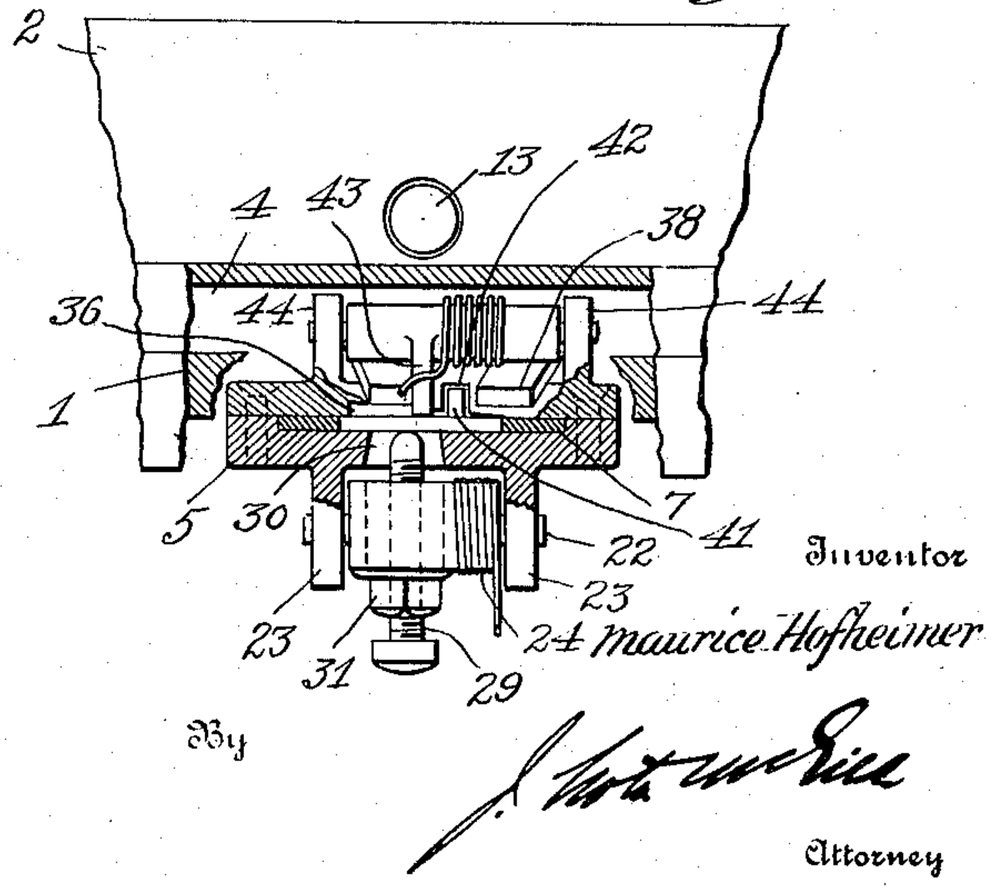


Fig. 5.



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2 SHEETS—SHEET 2.

Fig. 4.

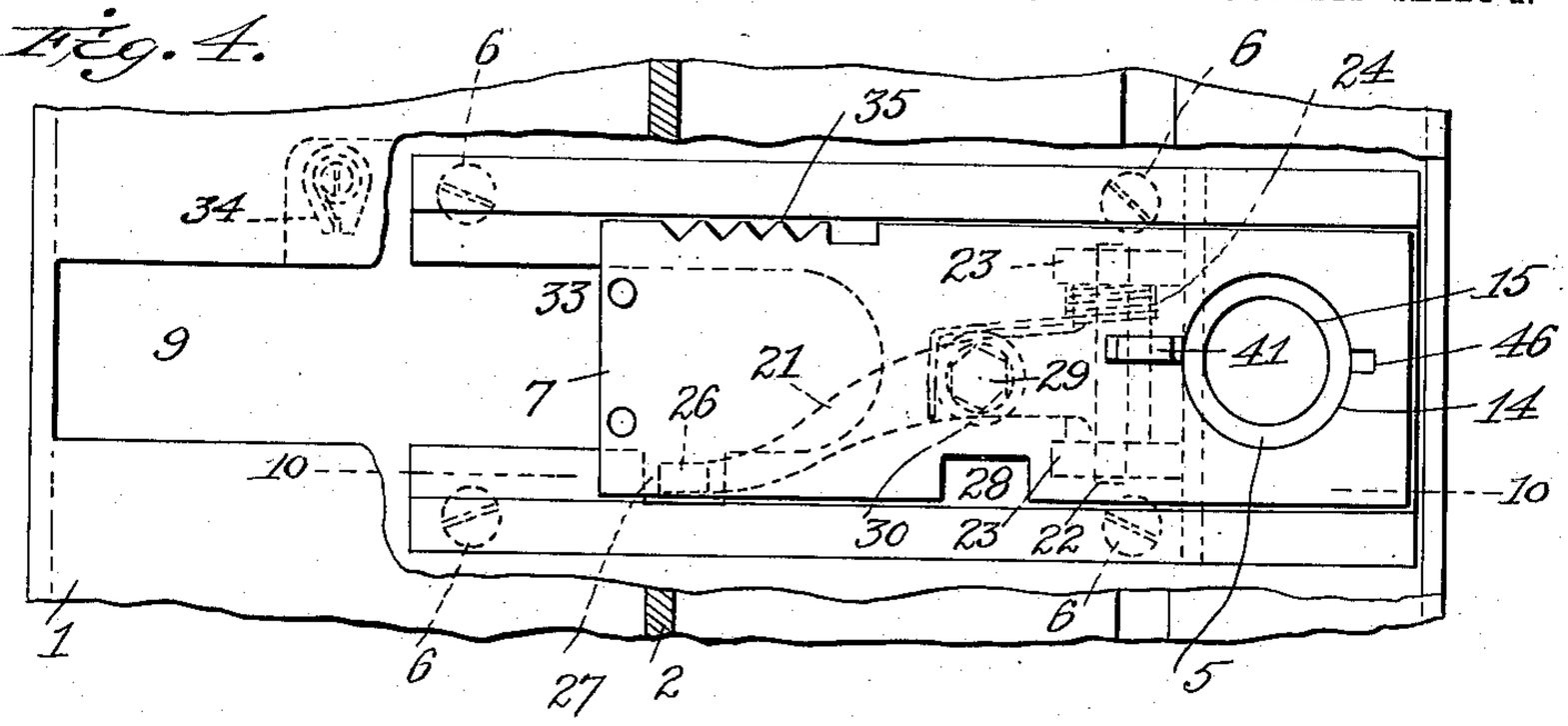


Fig. 3.

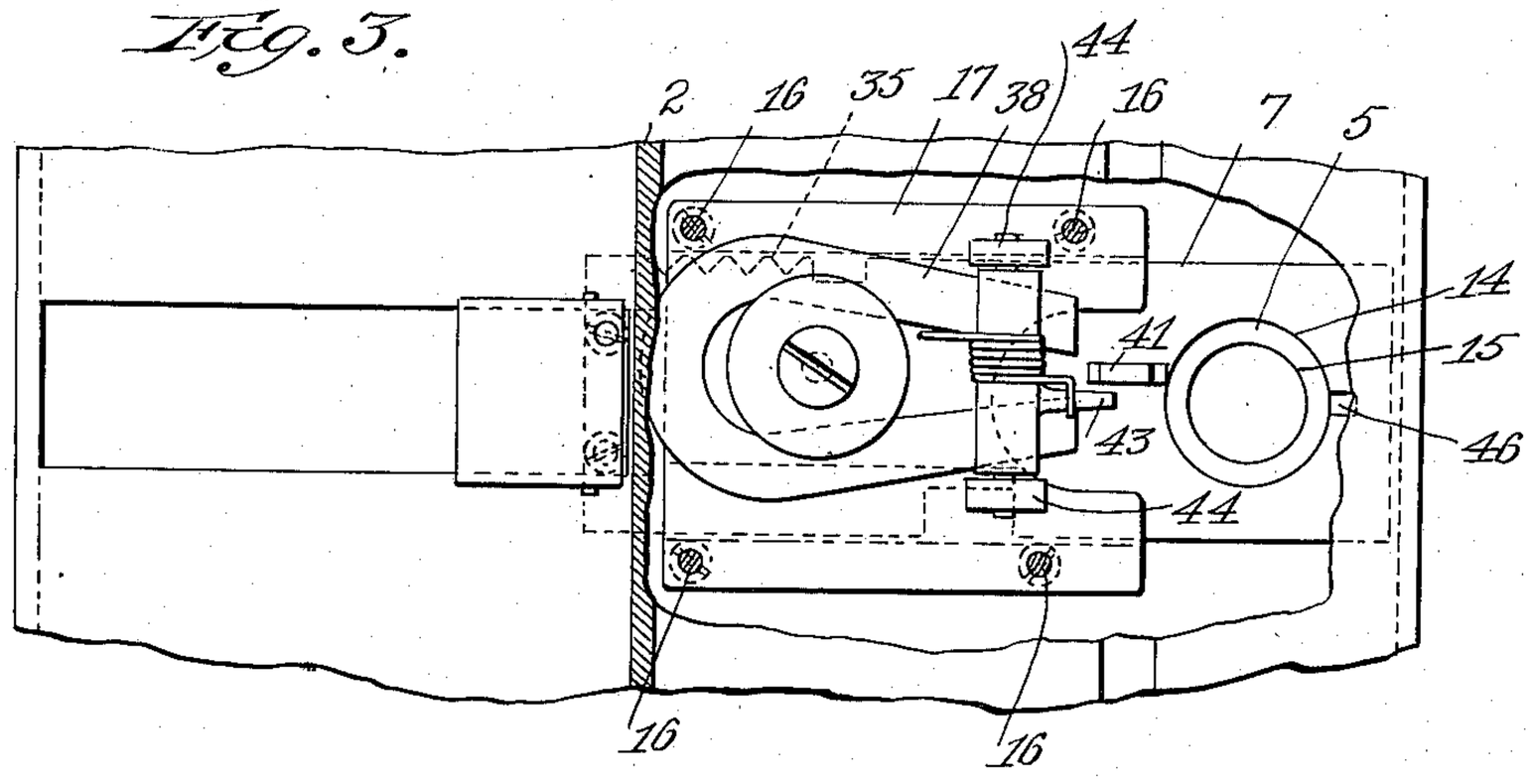


Fig. 8.

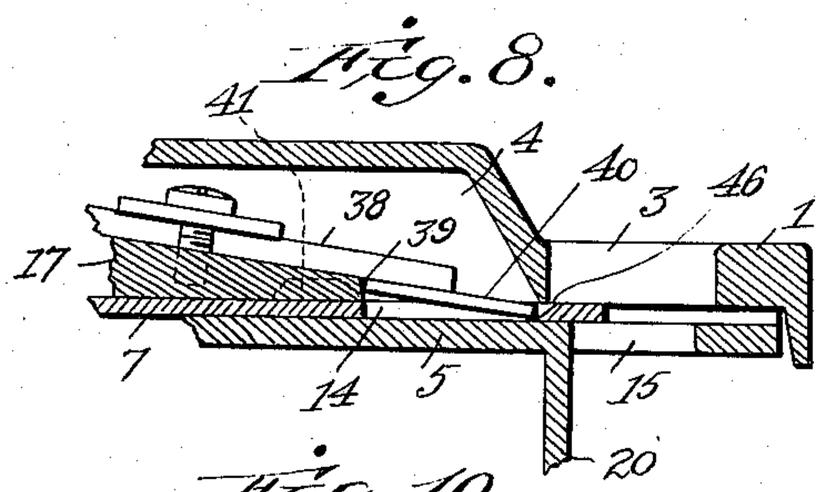


Fig. 7.

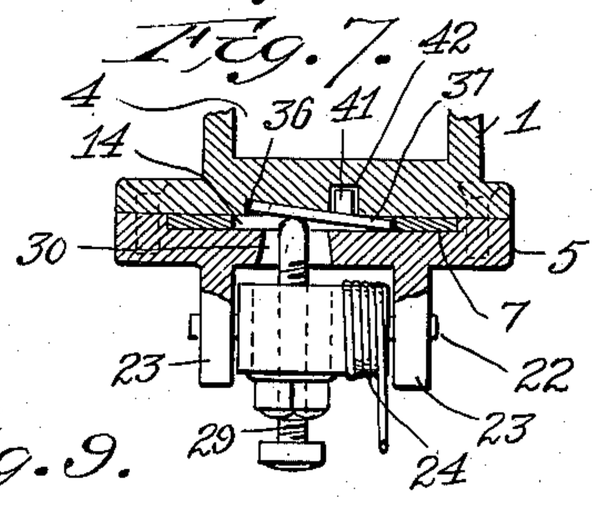


Fig. 10.

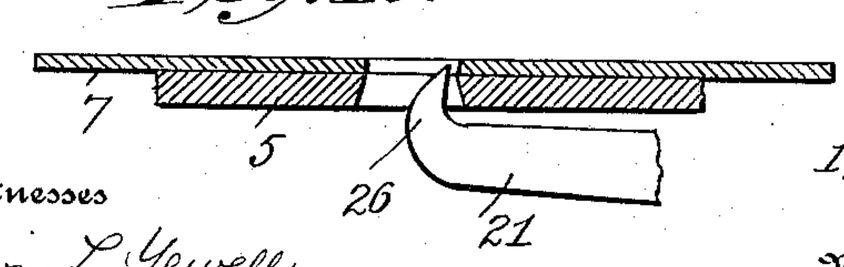
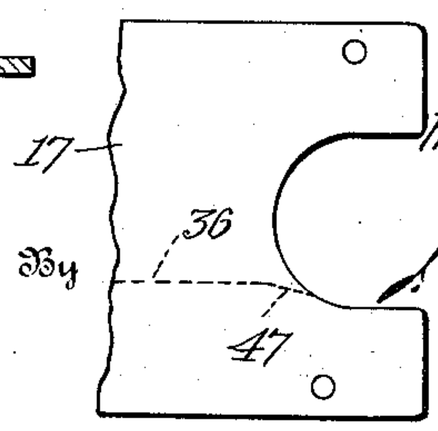


Fig. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

MAURICE HOFHEIMER, OF NEW YORK, N. Y.

COIN-CONTROLLED MACHINE.

No. 881,688. Specification of Letters Patent. Patented March 10, 1908.

Application filed November 19, 1904. Serial No. 233,453.

To all whom it may concern:

Be it known that I, MAURICE HOFHEIMER, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Coin-Controlled 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.

The object of this invention is to provide improved mechanism whereby the ejectment of an article of merchandise may be effected upon the insertion of a proper coin, but not with a slug or spurious disk, the parts being ordinarily locked and their release dependent upon the presence of a coin of proper size and character.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal sectional view, with some of the parts in side elevation, all being shown in their normal positions. Fig. 2 is a similar view with the ejector pushed rearward but retained by the lock. Figs. 3 and 4 are horizontal sectional views on lines 3—3 and 4—4, respectively, of Fig. 1. Fig. 5 is a front elevation, partly in section. Fig. 6 is a fragmentary sectional view, showing means for arresting a washer. Fig. 7 is a similar view of the means for arresting a coin or slug of insufficient diameter. Fig. 8 is a sectional view showing the means for arresting a steel or iron slug. Fig. 9 is a detail. Fig. 10 is a section on line 10—10, Fig. 4.

I have not shown the inclosing casing of a vending machine, nor any of the adjuncts thereof not necessary to an understanding of my invention, since the latter relates only to the operating mechanism as to which the description will be confined. It is obvious that an inclosing casing of any preferred design having merchandise compartments and cash receptacles in proper relation to each other may be employed.

Referring to the drawings, 1 designates a horizontally disposed plate or casting to which the operating parts are secured. This plate has an upright member 2, intended to be in line with the front wall of the inclosing casing (not shown) so as to divide the inner or inclosed parts from the outer or exposed portions. In this plate 1, near its outer edge, is a coin inlet opening 3, and between the latter and the upright member 2 plate 1 is raised or hollowed out, as at 4, to provide space to accommodate some of the parts. To the underside of plate 1, and forming a space between itself and said plate, is secured a second plate or casting 5, being held by screws 6. In the space between these plates, or, more properly speaking, in the groove of the top of plate 5, is fitted a coin-conveying slide 7 to the rearward end of which an upright casting 8 is secured, such casting projecting through a longitudinal opening 9 of plate 1. It carries at its upper end a tongue or ejector 10 which is on the same plane as the lowermost article of merchandise in a magazine 12 suitably mounted within the machine. To this casting 8 a push rod 13 is secured, such rod projecting through an opening in the upright member 2 so that it may be operated from the front of the machine.

In the forward portion of slide 7 is an opening 14 which normally coincides with the coin-inlet opening 3 and a second but smaller opening 15 in plate 5. By means of this latter opening coins or slugs which may become wedged in opening 3 may be pushed out again by a finger or tool inserted through opening 15. A coin of proper size placed in opening 3 will drop into opening 14 of slide 7 and will be drawn rearwardly with the latter.

To the upper side of plate 5 is attached by screws 16 a plate 17 which projects up into the hollowed out portion of plate 1. The slide 7 travels against the underside of plate 17 as well as between plates 1 and 5 where the latter are joined together, the several plates forming a continuous guideway for the slide. The slide is held in its normal position by a spring 19 attached to a depending portion of casting 8 and to a depending member 20 of plate 5.

21 designates a locking lever which is fulcrumed at one end on a pin 22 mounted in lugs 23 depending from the underside of plate 5, such lever being held in its normal position by a coil spring 24. At its rearward end this lever terminates in a hook 26 which projects through a notch 27 in plate 5 (see Fig. 4), such hooked end being in line with a second notch 28 formed in the coin slide 7. A set screw 29 extends upwardly through lever 21 and projects through an opening 30 in plate 5 so that the rounded end of such screw will normally press against the underside of the slide, being so held by spring 24. A jam nut 31 holds the set

screw in proper position after it is adjusted. In effecting this latter, a proper coin is inserted in the slide, which is then pushed rearwardly until the set screw is in contact with the coin, whereupon the set screw is turned, one way or the other, until the hooked end of lever 21 is just clear of the slide. When the slide is moved rearwardly, at the time the coin opening 14 thereof is over the set screw 29 the notch 28 is adjacent to the hooked end of lever 21, so that when the slide carries a proper coin this hooked end will be held clear of notch 28. But if there be no coin in the slide, the set screw will enter the opening 14, under the action of spring 24, and the hook will thereupon enter notch 28 and lock the slide as against further rearward movement. If a disk of insufficient thickness be carried by the slide it will likewise fail to effect the lowering of the hooked lever sufficiently to permit the latter to clear the slide. This is shown in Fig. 2 where a disk of insufficient thickness is indicated at 32. Obviously when the slide is thus locked an article of merchandise cannot be ejected. On the other hand, when a coin of proper thickness is carried by the slide the latter may be pushed freely beyond the hooked end of the lever, whereupon the ejector will dislodge the lowermost article of merchandise. When this has been done the coin will drop out of the slide through an opening 33 in plate 5. A two-way pawl 34 by engaging a rack 35 on the slide prevents the latter from returning to its normal position until the full stroke shall have been completed and the coin released, insuring likewise the completion of such return before another stroke may be effected.

In the underside of plate 17 is formed a groove 36, as shown in Figs. 5 and 7, such groove being beveled so that at one side it will terminate flush with the under face of plate 17. The edge of this groove is so positioned relatively to the wall of the opening 14 of slide 7 that a coin of proper diameter will overlap or span such edge and glide along the surface of the plate, as shown in Fig. 5, but a slug of insufficient diameter will be pressed into the groove by the set screw 29, as shown in Fig. 7, (wherein the slug is marked 37,) resulting in the locking of the slide by the hooked lever 21. This is due to the fact that the set screw 29 is not directly in the center of line of travel of the coin, but is a little to the side toward the edge of groove 36. Thus coins and slugs upon contacting with the end of the screw will be pushed over to the opposite side and into the groove if of insufficient diameter to glide along the edge of the groove. Upon the return of the parts to their normal positions the arrested slug may be removed from opening 3 by a finger inserted through opening 15.

38 designates a magnet mounted on the upper inclined face of plate 17, the poles of such magnet being in close proximity to the slide. The inclined portion of this plate terminates in a shoulder 39 a short distance in rear of the magnet poles. If a slug of steel or iron be introduced it will be drawn up by the magnet and its edge will lodge against shoulder 39, thus preventing the further movement of the slide, the lower edge of the slug remaining in contact with the slide. This is shown in Fig. 8 in which the slug is marked 40. Upon the return of the parts the slug may be removed through opening 3, and in order to insure the return of the slug a lug 41 is projected upwardly from the slide so as to pass between the poles of the magnet and through a groove 42 extended longitudinally in the underside of plate 17.

43 designates a spring-pressed pawl or finger pivotally mounted between two ears 44 of plate 17. The end of this pawl normally rests on the top of the slide 7 and allows a coin to pass freely thereunder when carried by the slide. But if a washer is introduced the end of the pawl will lodge in the hole thereof and prevent the further movement of the slide. This is shown in Fig. 6 in which 45 designates the washer. The end of the pawl is notched so as to form a shoulder to prevent the washer from slipping up over the pawl. The coin-carrying slide 7 may be beveled at 46 in the path of the free end of the pawl so as to allow the latter to ride over it when there is no coin in the opening. Were this not the case the pawl might lock the slide, and the frequent pushing of the empty slide by mischievous persons would put an undue strain on the pawl. With the slide beveled, however, so as to permit the pawl to ride upwardly this strain will fall upon the locking lever which is heavier and stronger than the pawl.

It is manifest that changes may be made in the construction of the parts without departing from the scope of my invention. For instance, the set screw of the locking lever may be placed in the center of the line of travel of the coin, instead of to one side thereof. Then, when a washer is introduced the end of the set screw will enter the hole in the washer, and the hooked end of the lever will thereupon engage the notch in the slide. When the set screw is thus positioned, the spring-pressed pawl for arresting washers may be dispensed with, as well as the bevel 46 on the slide, and the entrance of disks of insufficient diameter into the groove would be insured by slightly beveling the forward end of groove 36 as at 47, Fig. 9.

The coin inlet opening 3 is of such size as to admit proper coins, but to refuse those of too great diameter, while the space between plates 1 and 5 will not admit slugs greater in thickness than proper coins. It will thus be seen that the latter may freely operate

the machine, but that washers, iron disks or slugs which are imperfect in any dimension will be rejected.

I claim as my invention:

1. The combination with the coin-conveying slide having a coin-opening, and a guideway for said slide, of a spring-pressed member designed to project into said opening to one side of the center thereof, and a plate against which said slide is fitted having in its underside a beveled groove of less width than said opening, the deeper end of such groove being nearer the line of movement of said spring-pressed member than is the other end thereof, so that a coin or disk of insufficient diameter engaged by said member will be forced out of said opening into said groove.

2. The combination with the coin-conveying slide having an opening, a guideway therefor, and a plate against which said slide travels, said plate having in its underside a beveled groove of less width than said opening, of a spring-pressed lever for arresting said slide, and a screw mounted in said lever for entering said opening to one side of the center thereof and forcing coins or slugs of insufficient diameter into said groove, said screw being out of line with the center of travel of a coin or slug carried by the slide and nearer the deeper end of said groove than it is to the other end thereof.

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

MAURICE HOFHEIMER.

Witnesses:

FRANK J. SINNOTT,

M. B. FREIDENRICH.