

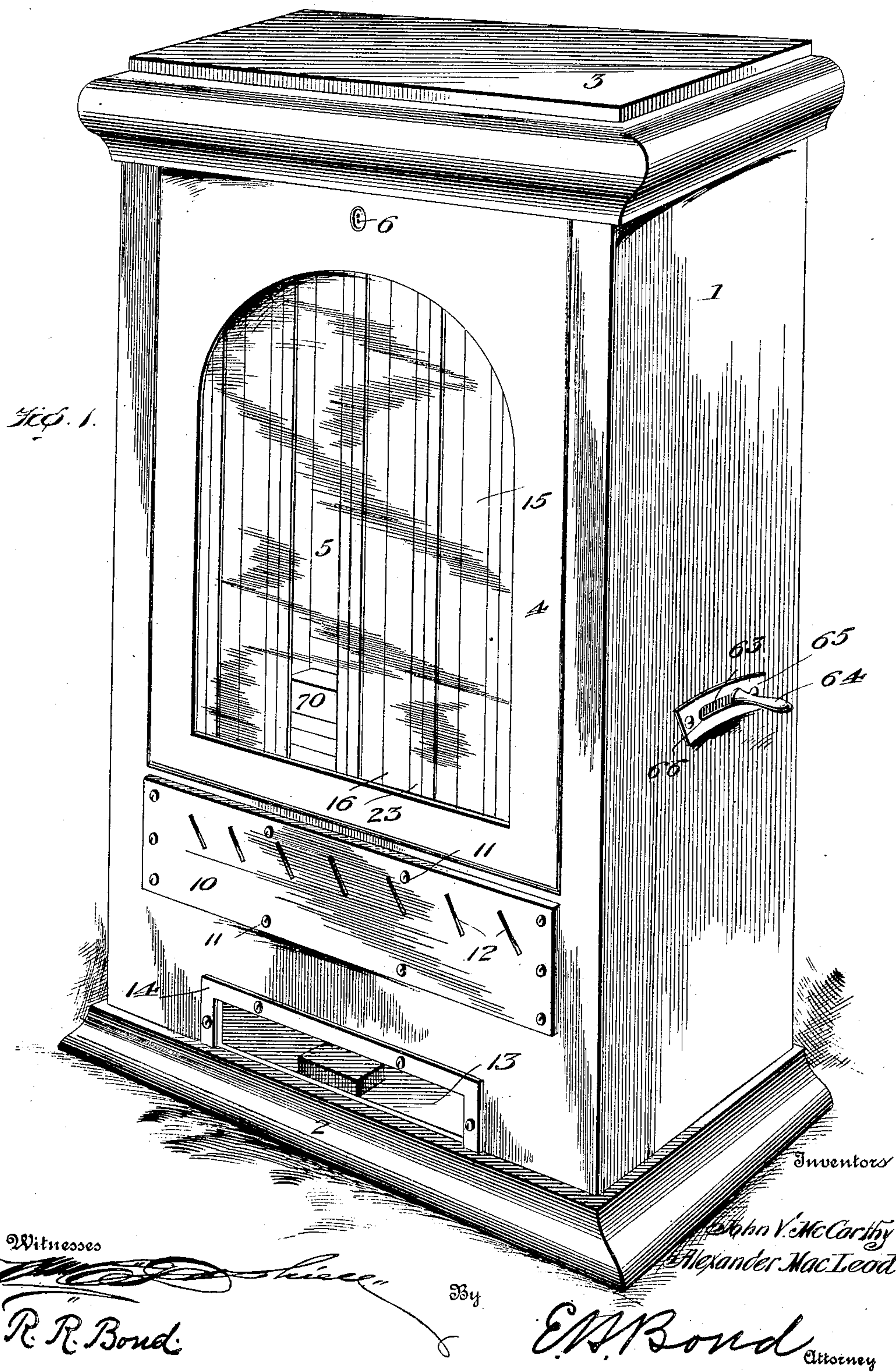
No. 897,989.

PATENTED SEPT. 8, 1908.

J. V. McCARTHY & A. MACLEOD.  
VENDING MACHINE.

APPLICATION FILED FEB. 8, 1907.

3 SHEETS—SHEET 1.





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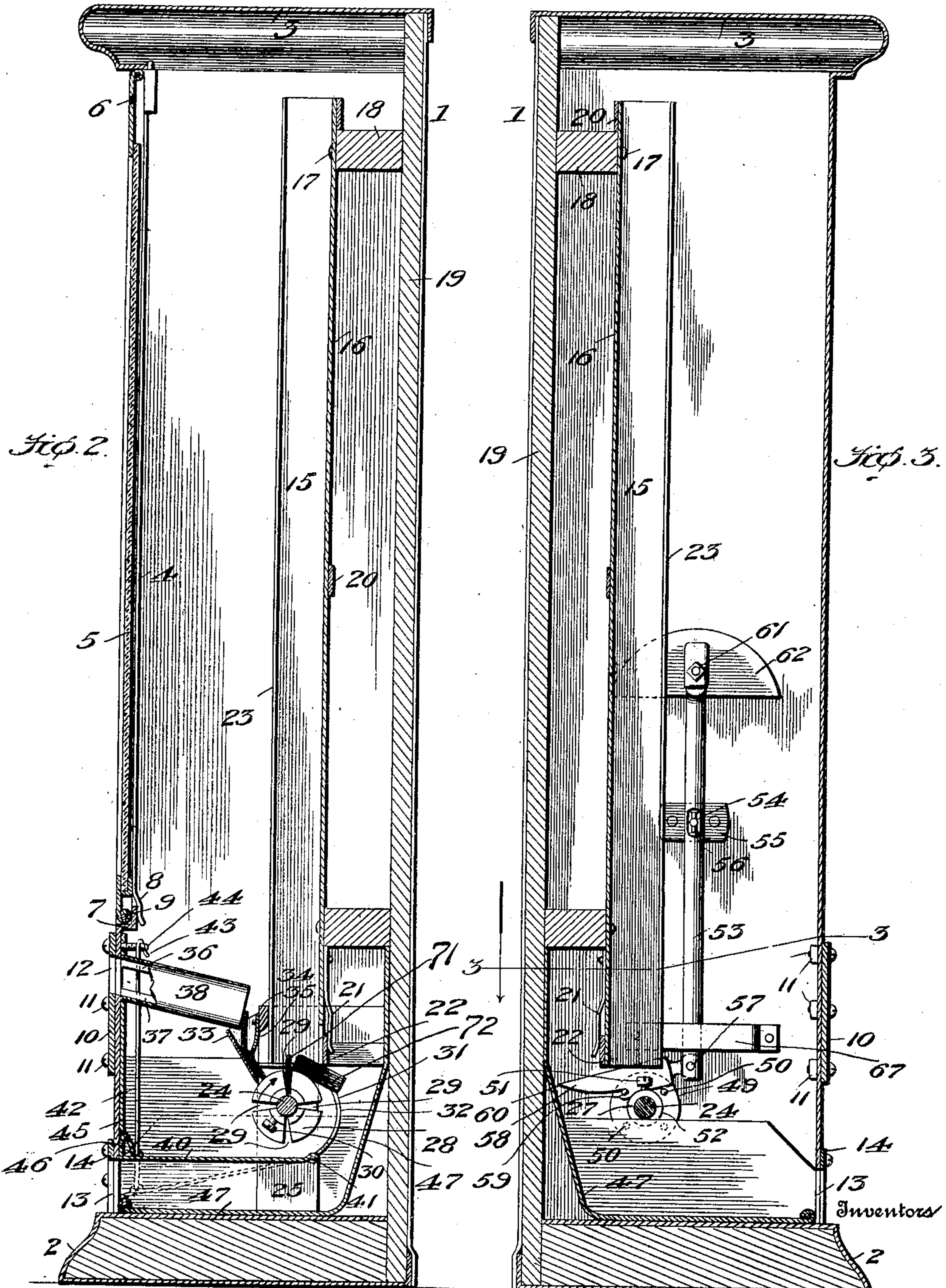
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Witnesses

*[Signature]*

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John V. McCarthy and  
Alexander MacLeod.

By

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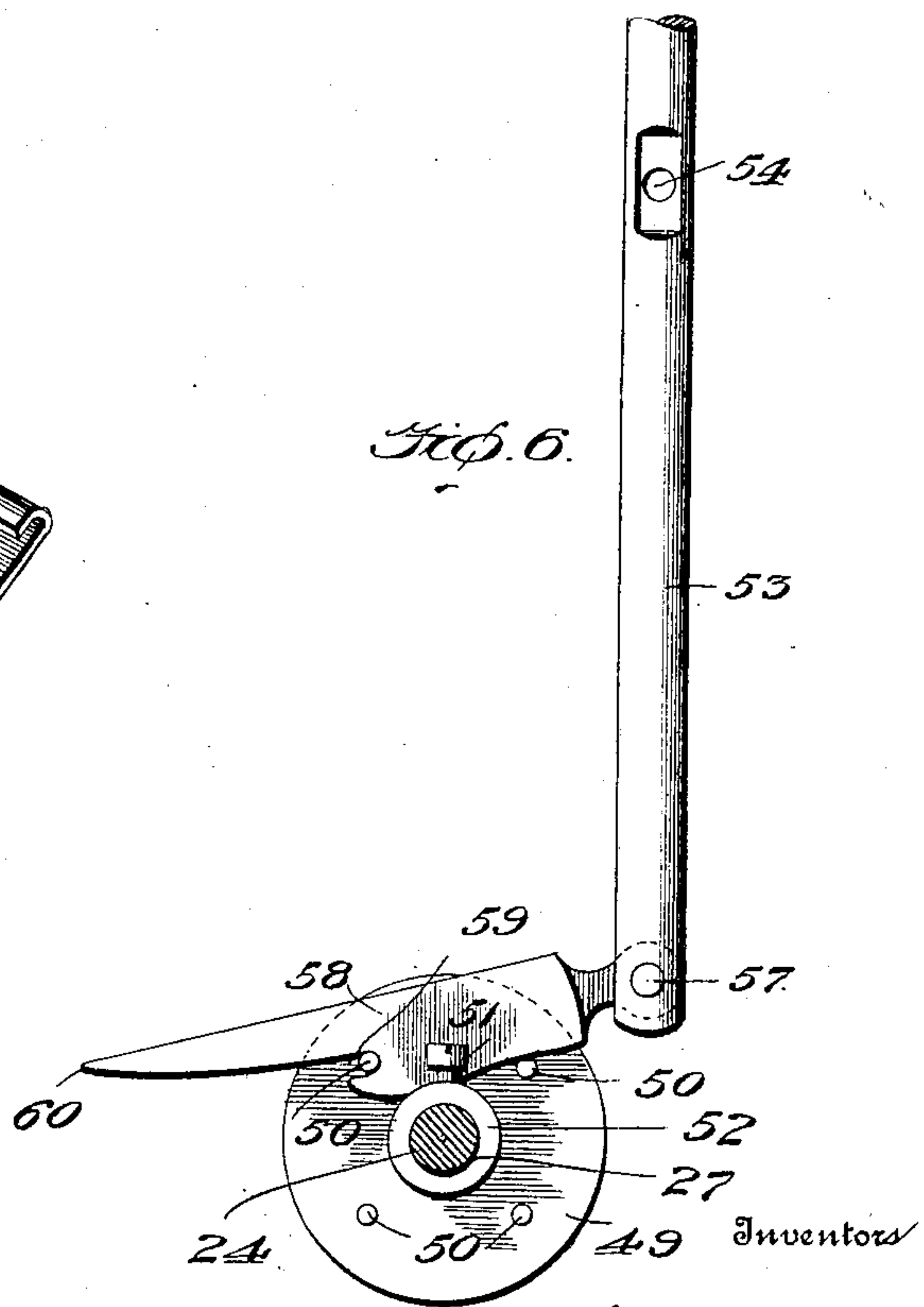
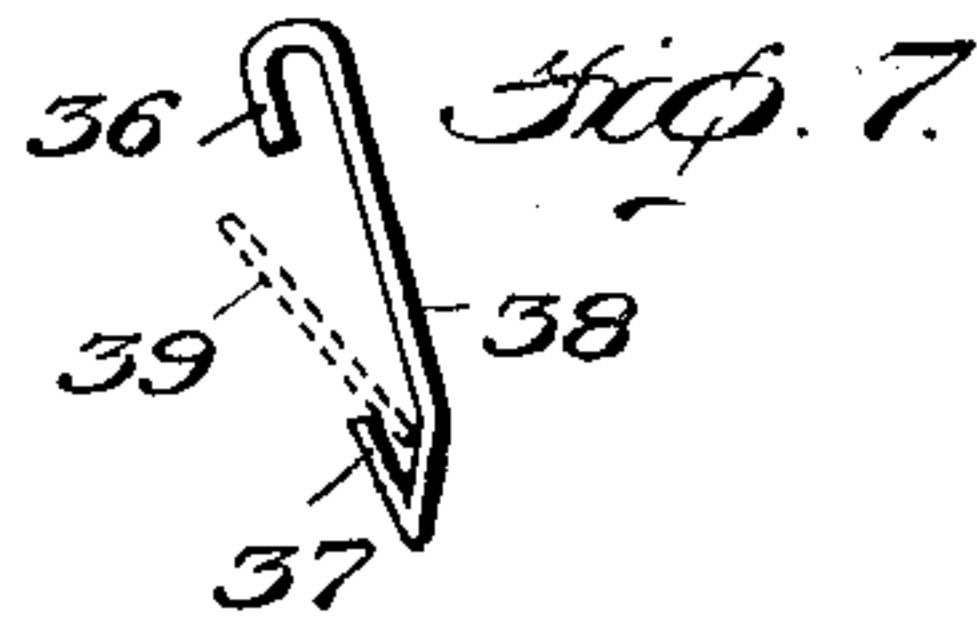
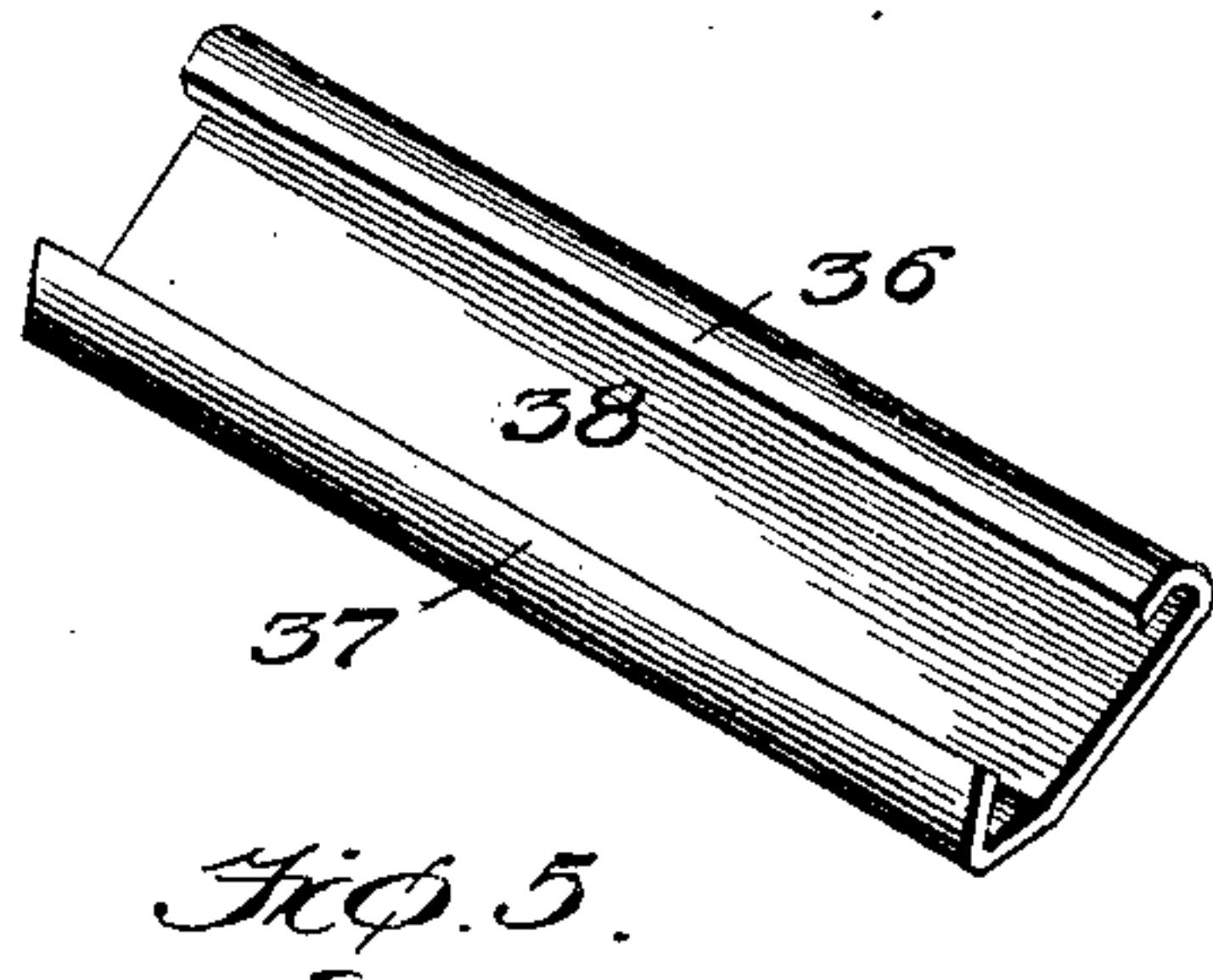
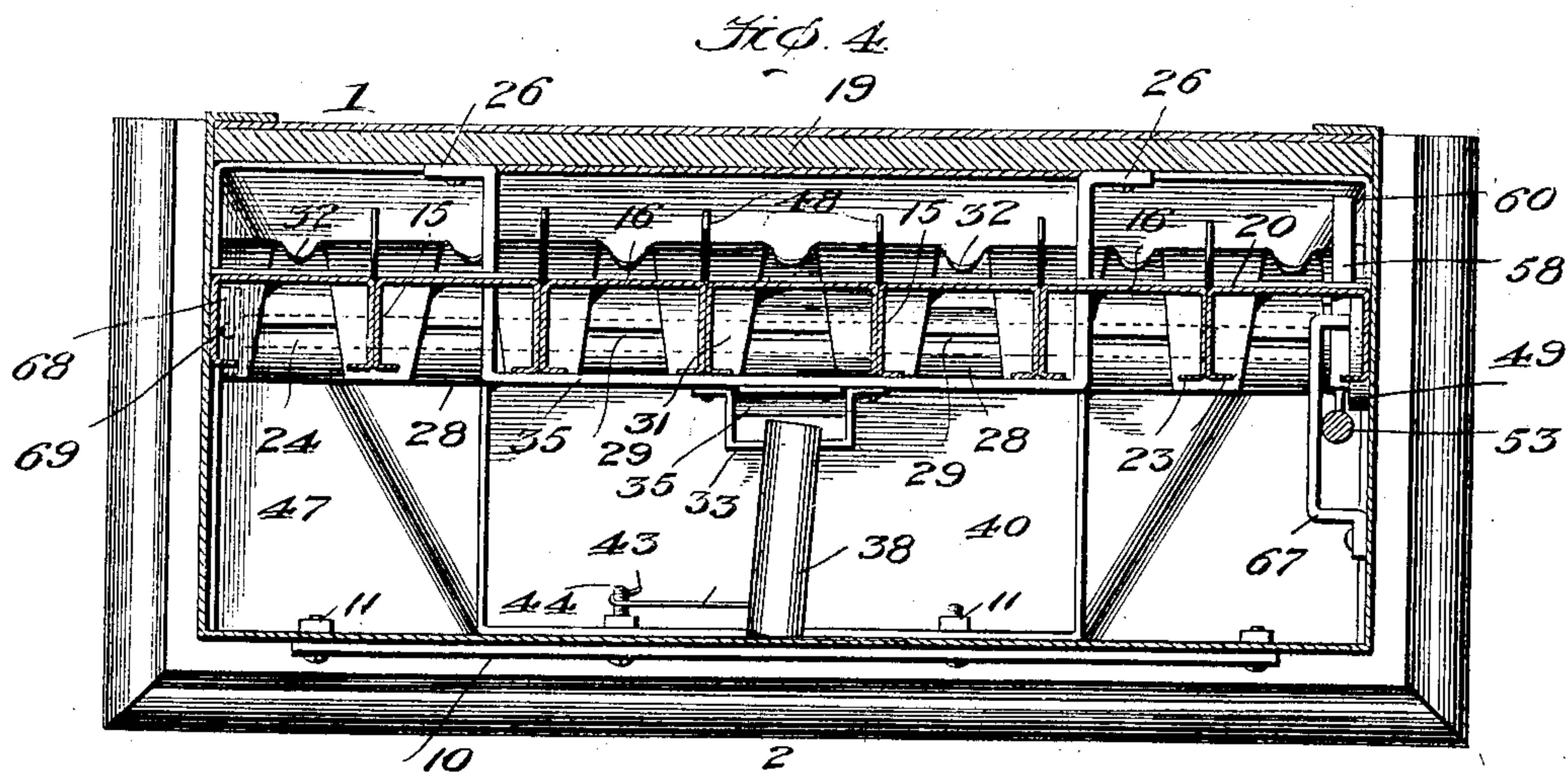
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3 SHEETS—SHEET 3.



Witnesses  
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# UNITED STATES PATENT OFFICE.

JOHN V. McCARTHY, OF WAVERLEY, AND ALEXANDER MacLEOD, OF WATERTOWN,  
MASSACHUSETTS.

## VENDING-MACHINE.

No. 897,989.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed February 8, 1907. Serial No. 356,464.

*To all whom it may concern:*

Be it known that we, JOHN V. McCARTHY, a citizen of the United States of America, and resident of Waverley, in the county of Middlesex and State of Massachusetts, and ALEXANDER MACLEOD, a subject of the King of Great Britain, residing at Watertown, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Vending-Machines, of which the following is a specification.

This invention relates to certain new and useful improvements in vending machines of that class known as coin-controlled, in which the coin or check serves as the medium by which the article to be delivered is pushed or forced from the receptacle or column in which it is held.

The present invention has for its objects among others to provide a simple yet durable and efficient device of this general character having the various novel features hereinafter described.

The machine may be of any desired capacity, ranging from one to say seven or more columns, and arranged to deliver from any one or more or all thereof by one motion of the operating lever, as occasion may require. For each column there is provided a separate independently adjustable carrier, mounted upon the actuating shaft and having a plurality of radial openings into which the coin is received. Over these carriers is arranged a shield having an opening through which passes and is disclosed a portion only of the coin, in this instance the machine being designed for dispensing advertising novelties, such as small cakes of soap or other articles, and designed to be actuated by a cent. The coin chute forms a tester or detector and insures that the machine shall be responsive to none other than such a coin. For this purpose the coin chute is set at an incline from the perpendicular and is made of peculiar shape, having a flange at the top and bottom with the space therebetween such that if a coin of less diameter be inserted it will not pass down the chute but, being unguided at its upper end, will tilt and drop over the lower flange into the cash drawer. A coin of less thickness would meet with the same result.

The receptacle for the coin as it leaves the chute is arranged over the coin carrier, and in this receptacle is arranged a plate for in-

surings that the coin shall fall properly on to the revoluble carrier; this plate serves an additional function in that it prevents more than one coin at a time from passing between the same and the front inclined wall of the receptacle.

The cash drawer is arranged above the bottom of the receptacle into which the soap or other articles fall after being acted upon by the coin, and beneath the revoluble carriers, and is hinged at its rear side, being held up by means of a hook or analogous device and capable of being lowered when desired to provide access to the same.

The shaft of the revoluble carriers is actuated by novel means, one end of the actuating lever being attached to the plate within the casing, which plate serves to, at all times, close the opening in the casing through which passes the handle by which the same is actuated.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the appended claims.

The invention, in its preferred form, is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which

Figure 1 is a perspective view of our improved vending machine. Fig. 2 is a substantially central vertical section from front to rear with a portion of the coin chute broken away. Fig. 3 is a substantially similar view looking toward the opposite end. Fig. 4 is a horizontal section on the line 3—3 of Fig. 3 looking in the direction of the arrow. Fig. 5 is a perspective view of the coin chute and tester removed. Fig. 6 is a side elevation of the operating lever and its pawl, and the cooperating disk on the shaft of the revoluble carriers, said shaft being shown in section. Fig. 7 is an end view of the coin chute and tester showing how a coin of less than a predetermined diameter is thrown out.

Referring to the drawings 1 designates a casing of suitable material and of any desired shape and capacity, 2 being the base portion and 3 the top thereof. Access is had to the interior by means of a suitable door 4, with a transparent portion 5 through which may be seen the articles in the various columns or compartments, as is evident from fig. 1. This door is designed to be locked, 6, in fig.



1, representing the keyhole thereof. This door or removable closure may be supported at its lower end in any suitable manner, as for instance upon the flange 7, suitable spring fingers or analogous means 8 being provided at the lower edge to engage over the upwardly extending flange 9, for an obvious purpose.

Upon the exterior of this casing at the front is a metallic plate 10 secured in place by suitable bolts and nuts 11, or analogous means, and provided with a plurality of coin-receiving slots 12, as many in number as there are columns or compartments in the machine. At the bottom of the front of the casing, beneath this plate is an opening 13 surrounded by a marginal plate 14, as seen in Figs. 1, 2 and 3. It is through this opening that the articles delivered from the columns or compartments of the machine are removed.

The articles to be delivered may be of any desired nature, such for instance as sample cakes of soap, dispensed primarily as an advertisement. They are placed in the machine within the columns 15 of a removable container 16, there being as many columns or compartments 15 as may be desired, in this instance seven, but as each column, and the coin-chute, rotary carrier, and other accessories necessary to the delivery of one of the articles from a column, is the same throughout the machine, whatever its capacity, an illustration and description of one set of such devices and a description of their operation will be found sufficient.

The container, of whatever capacity may be required, is movably supported in the machine in any suitable manner so as to permit of its being bodily removed. In this instance it is shown as secured by screws 17 to blocks or the like 18 near the top and bottom thereof, said blocks being secured to the wooden back 19 in any suitable manner. A suitable transverse brace 20 is provided midway between the blocks 18. 21 are spring fingers secured to the lower edge of the container 16, and engaging over a transverse strip 22 to hold the lower end in place. The various columns are each provided with flanges 23 seen best in Fig. 4 to keep the packages from displacement.

Extending transversely of the machine beneath the bottom open ends of the columns is a shaft 24 suitably supported, as in bearings in the standards or legs 25 of a frame secured in any suitable manner, in this instance being shown as having flanges 26 secured to the back wall 19, one end of said shaft being further supported in a suitable bearing 27 secured to the end wall of the casing. On this shaft are arranged the carriers, one for each column. One of these carriers 28 is shown clearly in Fig. 2. It is provided with four radial slots 29 and is detachably and adjustably secured to the shaft, in this instance, by

a set screw 30. By this means the carrier can be easily brought into its exact proper position beneath its column. Extending transversely of the machine over this shaft and the carriers is a shield 31 which, as shown best in Fig. 2, is curved and is provided with an opening 32 over each carrier, the opening being of such dimensions as to permit a portion only of the coin to extend therethrough, for a purpose which will hereinafter appear.

33 is a substantially V-shaped receiver for the coin as it leaves the coin-chute. This is secured to the front wall 34 of the frame in such position as to deliver a coin to one of the slots of the revoluble carrier. In order to deflect the coin so that it shall assume a position parallel with the shaft 24 there is arranged within this receiver a depending plate 35, the lower end of which is curved toward the front inclined wall of the receiver; and this plate extends toward such inclined wall to such an extent as to prevent more than one coin passing down between said plate and inclined wall, thus avoiding any possibility of clogging of the machine by reason of two coins getting therein and wedging.

Secured to the inner front wall of the casing are the coin-chutes, one for each carrier and column. Each coin-chute is of the form seen in Fig. 5, having a flange 36 at the top and a flange 37 (substantially V-shaped in cross section) at the bottom. This coin-chute 38 is secured in position in any suitable manner and is arranged at an inclination downwardly, as seen best in Fig. 2, and is also disposed inclinedly with relation to the perpendicular, as seen clearly in Figs. 4 and 7, and as will be readily understood from Fig. 1 wherein is seen the coin slot 12 which of course coincides with the chute as regards its inclination from a perpendicular. This latter inclination serves a double purpose; it serves, in connection with the plate 35 to deliver the coin in proper parallel relation to the inclined wall of the receiver 33, and also constitutes a coin tester, in that any coin of less thickness, or of less diameter than one for which the chute is constructed will not travel the entire length of the chute and be delivered into the receiver 33, but will, by reason of its failure to be supported at the upper edge and hence its being caused to tilt, as indicated in Fig. 7, to fall out of the chute and into the cash drawer. The coin of less diameter than one for which the chute is designed is indicated at 39 in Fig. 7.

40 is the cash drawer. It is hinged at its rear edge, as at 41, see Fig. 2, and is arranged to normally be disposed with its bottom wall horizontal and above the opening 13 in the front wall of the casing. It may be retained in this elevated position in any suitable manner, as for instance by a hooked rod 42, the hooked end 43 of which is detachably engaged over a pin or projection 44 extending



inward from the front wall of the casing, as seen in Figs. 2 and 4. When it is desired to get access to the cash drawer or receptacle, the hook is disengaged from the pin or projection when the cash drawer will drop into the position indicated by dotted lines in Fig. 2 and the contents removed through the opening 13. A deflector plate 45 is provided, as seen in Fig. 2, under which the upwardly extending flange 46 of the cash drawer extends.

Within the casing at the bottom is a plate 47 inclined from the rear and both ends so as to deflect the articles as they drop thereinto, toward the front of the machine where they are easily removed through the opening 13. In order to guide and conduct the articles toward the rear of the casing and over the shield 31 there are provided strips 48, as seen clearly in Fig. 4.

The shaft 24 is actuated and given a quarter revolution at each actuation of the operating means, as follows; on said shaft at one end of the machine is a disk 49 provided with four laterally projecting pins 50. This disk is adjustably and detachably secured to its shaft by suitable means as a set screw 51 passed through the hub 52 thereof, as seen clearly in Fig. 6.

53 is an operating lever arranged within the casing at one end, being pivotally mounted between its ends, as at 54, the pivot being carried by a plate or bracket 55 secured to the inner wall of the casing, as seen clearly in Fig. 3, and a removable pin or the like 56 being provided so as to allow of ready disconnection of the lever when desired. To the lower end of this lever is pivotally connected, as at 57, one end of a pawl 58, the said pawl being loosely hung upon its pivot and provided with a notch 59 to engage one of the pins 50 on the disk 49 at each actuation of the lever. This pawl is provided with an extension 60 of such length as to avoid any possibility of the end of the pawl engaging the forward pin when the lever is moved to cause the notch of the pawl to engage with the next succeeding pin. To the upper end of this lever is attached by any suitable means as the nut 61 a plate 62 which is designed at all times to cover the opening 63 in which moves the handle 64 which is secured to said plate by the nut 61, the plate moving with the lever, as will be readily understood from Figs. 1 and 3. A suitable plate 65 on the outer wall of the end of the casing has a slot 66 coincident with the opening 63, as will be readily understood from Fig. 1. The lever 53, near its lower end, is guided and limited in its movement by a yoke or the like 67, as seen clearly in Fig. 4.

On the shaft 24 is a collar or sleeve 68 adjustable by a screw 69 and which may be moved up to engage the last revoluble car-

rier so as to control the same and prevent undue movement thereof.

It is to be noted that the guide plate or bottom chute 47 is so disposed as to be entirely out of the way of the cash drawer so as not to interfere with or be interfered by the latter in either of its two positions.

The columns or compartments 15 of the container are designed to be filled in the usual way, with any desired articles, and a weight or follower 70, as seen in Fig. 1, placed upon the uppermost article in each column for a purpose well understood in this art. The container is bodily removable for repairs or any other desired purpose and is retained in such position relative to and over the shaft upon which are mounted the revoluble carriers, that the lowermost article in each column is directly over said carriers, the said articles being supported upon the shield in position to be engaged by the coin as the carrier is rotated.

With the parts constructed and arranged substantially as hereinbefore described the operation, which will be clearly understood from the foregoing, especially when taken in connection with the annexed drawings, is briefly stated as follows:—The columns having been filled or partly filled with the articles to be dispensed and the closure 4 placed in position and locked, if a coin of the predetermined character, in this instance a cent, is introduced into one of the coin slots 12 it will pass down the same and striking the plate 35 will be conducted flatwise into the coin receiver 33 and fall upon its inclined wall, as seen in Fig. 2, and when the revoluble carrier 28 is in proper position will drop into one of its slots 29. Now when the carrier is given the proper motion by means of the lever 53 and its accessories the carrier being moved in the direction of the arrow in Fig. 2 the coin 71 will engage the lowermost package 72 resting upon the shield 31, the coin projecting through the slot or opening 32 thereof, as indicated clearly in Fig. 2, and in the continued rotation of the carrier the article 72 is pushed from its support and falls to the back of the casing where it is guided by the forwardly inclined portion of the plate 47 from whence it may be removed through the opening 13. The coin is retained in the slot until the next operation of the carrier when the coin falls into the cash drawer, and the next succeeding coin, in the next succeeding slot engages the next lowermost package, and the operation is thus repeated. A plurality of articles may be simultaneously delivered, one from each column, by the dropping of as many coins as desired in as many coin chutes 12. The pawl and its notch and the pins 50 on the disk 49, and the throw of the lever 53 are all so relatively proportioned that the carrier is given only a



quarter revolution at each actuation of the lever so that the slots of the carriers are always brought into the same relative position, and by reason of the independent adjustment of the carriers they may all be set so that the slots throughout the width of the machine will be in perfect alinement.

When desired the closure 4 is removed, the means which hold the cash drawer in elevated position is disengaged, and the cash drawer dropped into the position indicated by dotted lines in Fig. 2 and the contents removed.

Fig. 2 illustrates clearly the manner in which the plate 35 prevents more than one coin at a time from passing down to the carrier; in case a second coin be dropped in before the shaft is rotated it is held up by the upper edge of the first coin, as will be readily understood from said Fig. 2.

In case a coin or a piece of metal or other substance of other than the predetermined diameter and thickness be introduced into the coin slot and chute it will be disposed of in a manner hereinbefore described and as clearly illustrated in Fig. 7, the coin or token falling directly into the cash drawer and not traversing the length of the coin chute 38.

From the above it will be seen that we have devised a simple and efficient form of vending machine well adapted for the purposes for which it is intended, and while the structural embodiment of the invention as herein disclosed is what we, at the present time, consider preferable, it is evident that the same is subject to changes, variations, and modifications without departing from the spirit of the invention or sacrificing any of its advantages. We therefore do not intend to restrict ourselves to the particular construction, arrangement or proportion of parts hereinbefore set forth, but reserve the right to make such changes, variations and modifications as come properly within the scope of the protection prayed.

What is claimed as new is:—

1. In a machine of the character described, a rotary shaft, a casing, a slotted coin carrier on said shaft, a removable container disposed over said carrier, and a curved slotted shield, disposed over said carrier, said shield being entirely independent of the container and interposed between the lower end thereof and the carrier and extended beneath the same and affixed to the casing, a coin chute, and a coin receiver interposed between said chute and coin carrier and provided with a deflector.

2. In a machine of the character described, a rotary shaft, a casing, a slotted coin carrier on said shaft, a plurality of independent removable containers disposed over said carrier, a curved slotted shield disposed over said carrier, said shield being entirely independent of the container and in-

terposed between the lower end thereof and the carrier and extended beneath the same and affixed to the casing, and guiding means for the articles to be delivered, said guiding means extending rearwardly over said shield and rearward beyond the same opposite the adjacent walls of the containers.

3. In a machine of the character described, a casing, a rotary shaft therein, a disk on said shaft having lateral pins, a pivotally mounted lever and a pawl loosely pivoted thereon and adapted to engage said pins in succession as the lever is actuated, a plurality of slotted coin carriers independently mounted on said shaft, and a curved shield attached to the casing, and having a plurality of slots coincident with said carriers for the reception of portions only of coins, said shield being independent of the article-containers.

4. In a machine of the character described, a rotary shaft, a casing, a slotted coin carrier on said shaft, a disk on said shaft having lateral pins, a pivotally mounted lever, and a pawl loosely pivoted thereon and adapted to engage said pins in succession as the lever is actuated, a removable container disposed over said carrier, a coin receiver fixedly secured in front of said container, a depending deflector plate within said receiver, a coin chute having its discharge end over said receiver, said chute being inclined from a perpendicular and having substantially V-shaped bottom walls, and a curved slotted shield, disposed over said carrier, said shield being entirely independent of the container and interposed between the lower end thereof and the carrier and affixed to the casing.

5. In a machine of the character described, a rotary shaft, a casing, a slotted coin carrier on said shaft, a disk on said shaft having lateral pins, a pivotally mounted lever, and a pawl loosely pivoted thereon and adapted to engage said pins in succession as the lever is actuated, said pawl having an extension beyond its pin-engaging portion, removable container disposed over said carrier, a coin receiver fixedly secured in front of said container and having front inclined wall, a depending deflector plate within said receiver with its lower end curved toward the front inclined wall of said receiver, and a curved slotted shield disposed over said carrier, said shield being entirely independent of the container and interposed between the lower end thereof and the carrier and affixed to the casing.

6. In a machine of the character described, a rotatable shaft, a rotary slotted coin carrier thereon, a disk on said shaft having lateral pins, a pivotally mounted lever, and a pawl loosely pivoted thereon and adapted to engage said pins in succession as the lever is actuated.



7. In a machine of the character described, a rotatable shaft, a rotary slotted coin carrier thereon, a disk on said shaft having lateral pins, a pivotally mounted lever, 5 and a pawl loosely pivoted thereon and adapted to engage said pins in succession as the lever is actuated, said pawl having an extension beyond its pin-engaging portion.

10 8. In a machine of the character described, the combination with the casing having a slot, of a revoluble slotted coin carrier, a shaft therefor, a pivoted lever having a handle extended through said slot, a pawl

pivoted on said lever, a disk fast on said shaft and having pins adapted to be engaged 15 by said pawl, and a plate within the casing secured to said handle and lever and adapted to at all times cover said slot.

Signed by us at Boston Massachusetts this 6th day of February 1907.

JOHN V. McCARTHY.  
ALEXANDER MacLEOD.

Witnesses:

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