

Feb. 3, 1931.

J. J. SCHERMACK

1,790,725

MERCHANDISE HANDLING APPARATUS

Filed Aug. 27, 1928

5 Sheets-Sheet 1

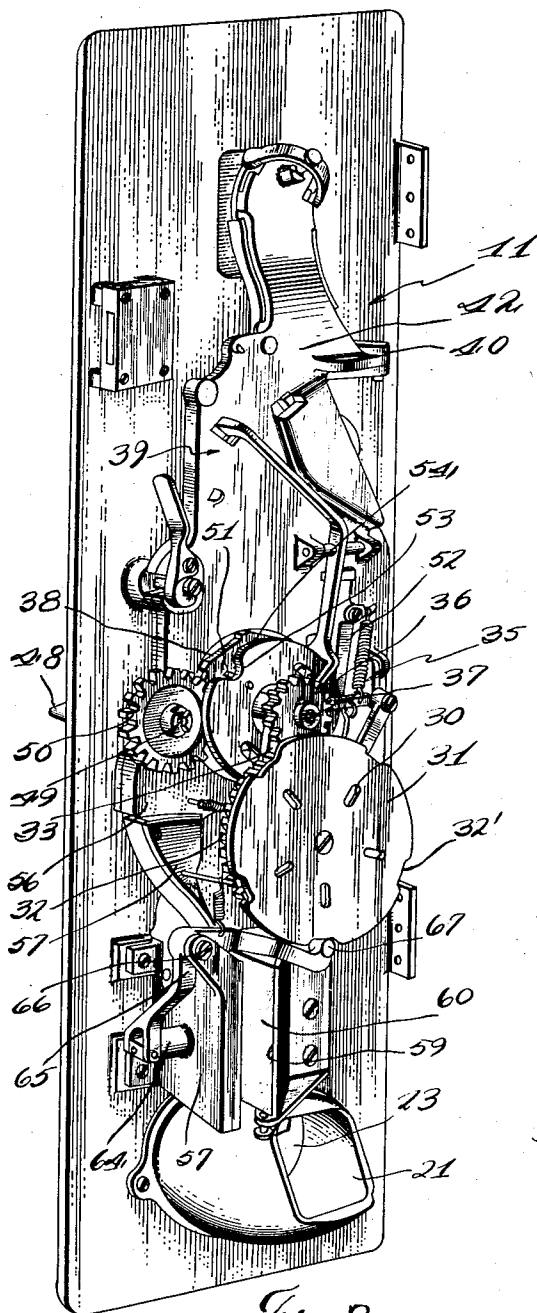


Fig. 2.

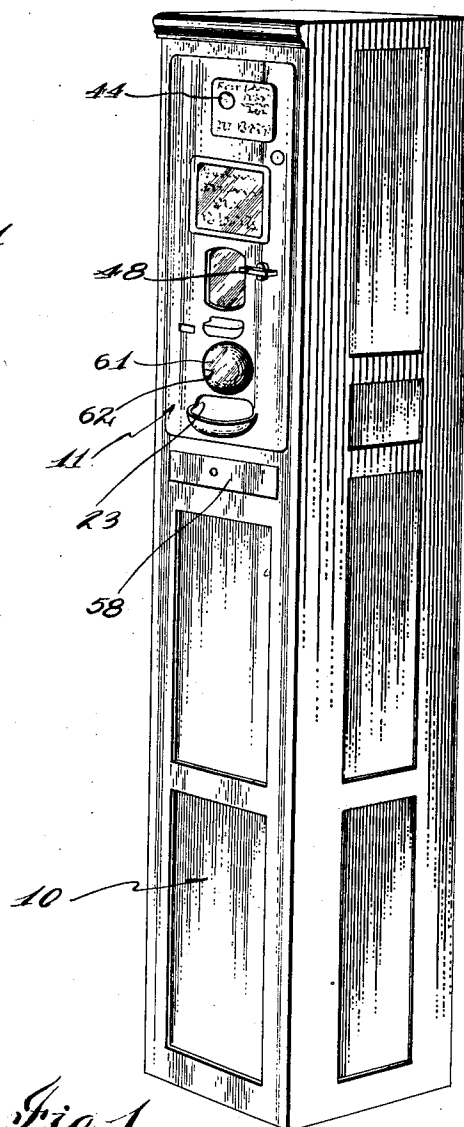


Fig. 1.

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5 Sheets-Sheet 2

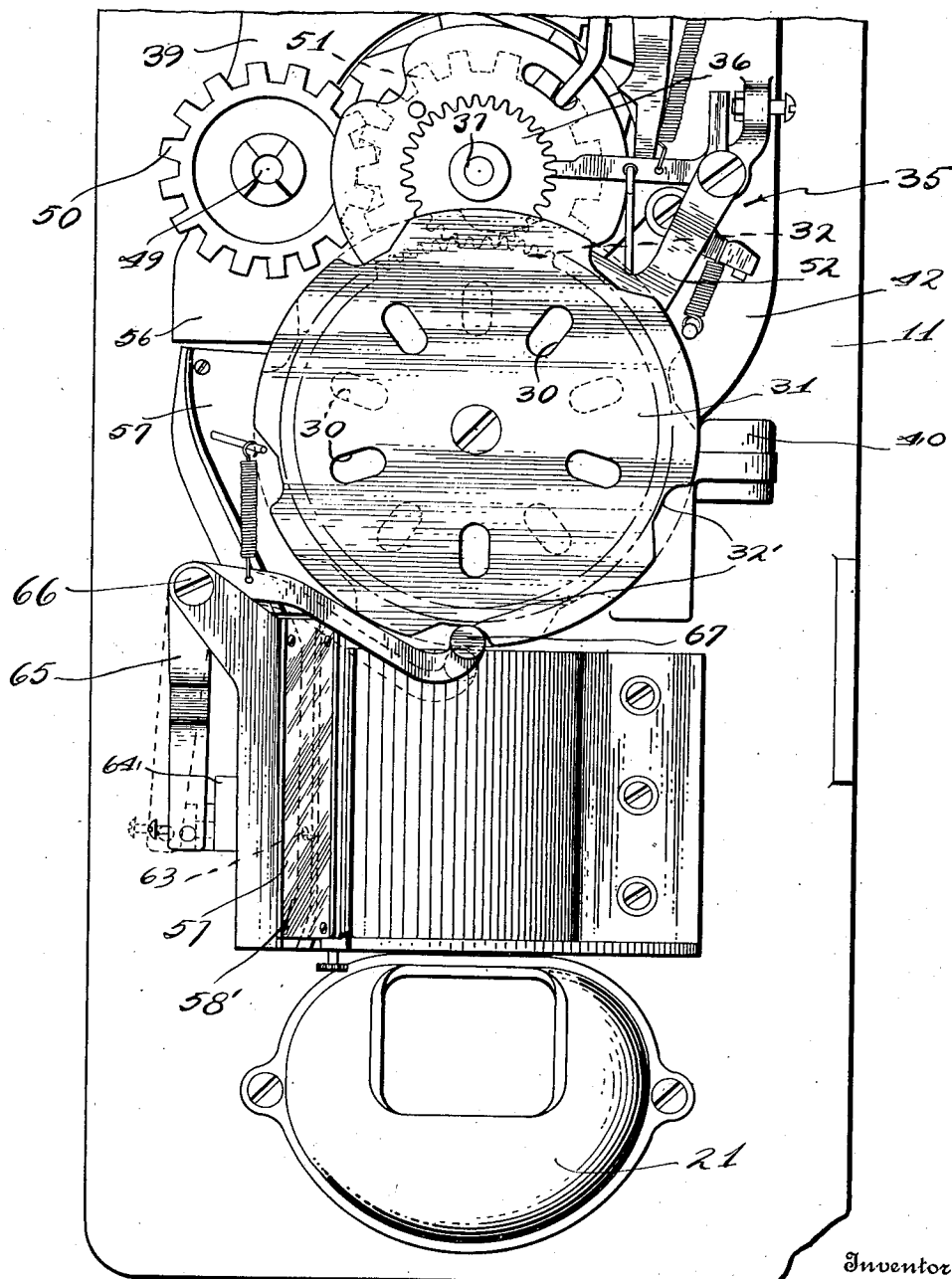


Fig. 3.

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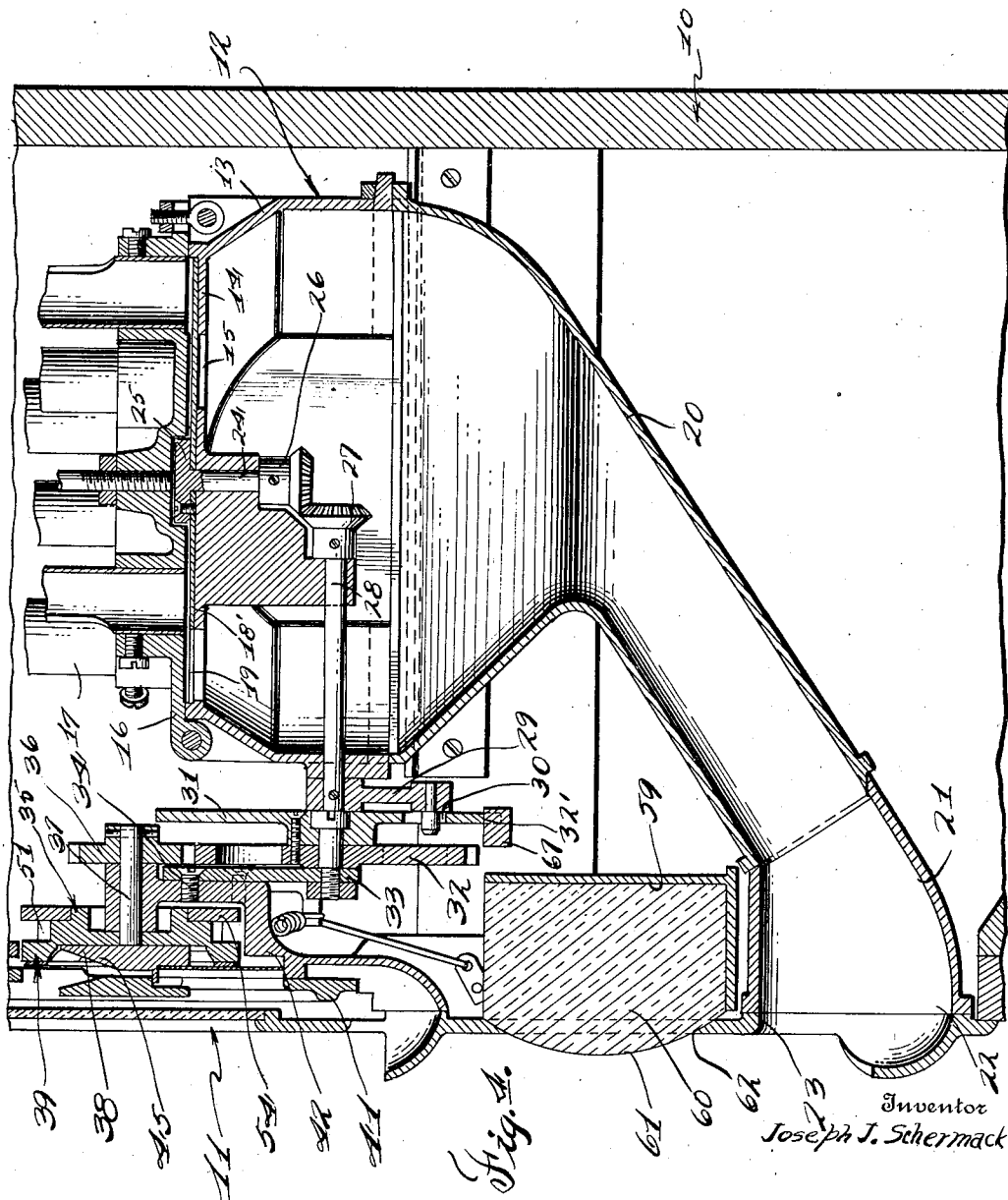
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5 Sheets-Sheet 4

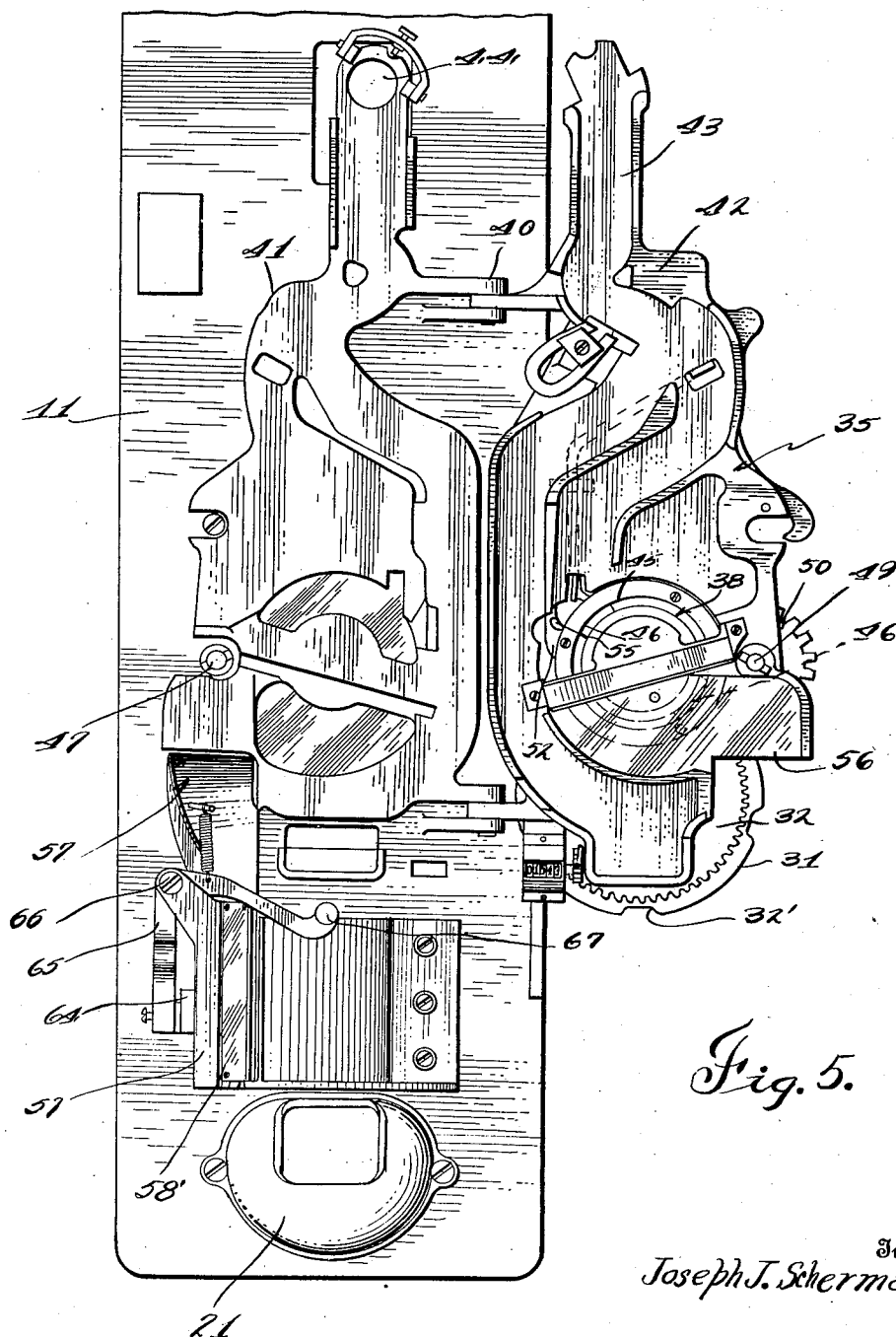


Fig. 5.

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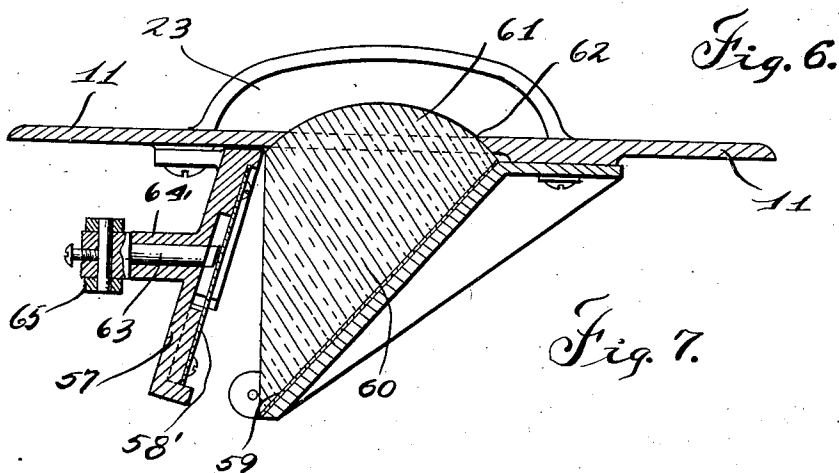
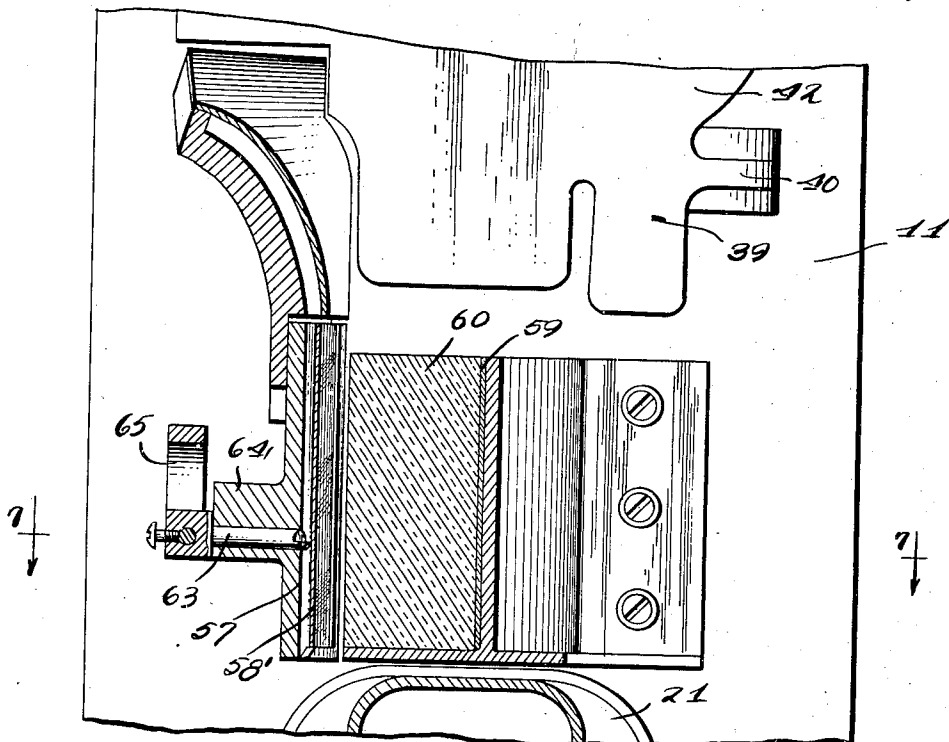
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MERCHANDISE HANDLING APPARATUS

Filed Aug. 27, 1928

5 Sheets-Sheet 5



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UNITED STATES PATENT OFFICE

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MERCHANDISE-HANDLING APPARATUS

Application filed August 27, 1928. Serial No. 302,401.

This invention relates to coin control actuating mechanism for dispensing apparatus and more particularly to actuating means for change making machines.

One of the primary objects of this invention is to provide a relatively simple and compact actuating mechanism which is efficient in operation and may be readily installed within the apparatus as a unit.

Another novel feature of construction of this invention which contributes materially to the commercial value and acceptability of the apparatus resides in the means for displaying the coins prior to depositing the same in the receiving receptacle.

Other objects, advantages and novel details of construction of this invention will be made more apparent as this description proceeds, especially when considered in connection with the accompanying drawings wherein:

Figure 1 is a perspective view showing my invention as applied to a suitable cabinet;

Figure 2 is a perspective view of the rear side of the casing door showing my improved coin controlled actuating mechanism applied thereto;

Figure 3 is an enlarged rear elevation of a portion of the mechanism shown in Figure 2;

Figure 4 is a transverse sectional view of a portion of the mechanism disclosed in Figure 3 showing the same coupled with a suitable dispensing apparatus;

Figure 5 is a rear elevational view showing the casing for the coin actuating mechanism swung to open position;

Figure 6 is a sectional view showing the discharge passage for the coins;

Figure 7 is a sectional view taken on the plane indicated by the line 7-7 of Figure 6.

While it will be apparent as this description proceeds, that the present invention is capable of numerous and diversified uses, nevertheless for the purpose of illustration, I have herein shown this invention as used in connection with a suitable change making apparatus. In this connection I have illustrated in Figure 1, a cabinet 10 of any suitable construction preferably having an opening adjacent the upper end thereof closed

by a suitable door 11 hingedly mounted upon the cabinet. Positioned within the cabinet opposite the door 11 is a suitable dispensing apparatus indicated generally by the reference character 12 and comprises a casing 13 having a top wall 14 provided with a series of apertures 15. Hingedly mounted upon the casing 13 is a suitable plate 16 having a series of apertures therein arranged out of registration with the apertures 15 and adapted to receive the article retaining tubes 17. Interposed between the plate 16 and top wall 14 of the casing and rotatably mounted with respect to the latter, is a suitable disk 18 having apertures therein, one of which being indicated at 19. The disk is so designed as to engage the lowermost article in certain of the tubes and slide the same along the top wall 14 to a position opposite the adjacent openings 15. The articles will then drop through the openings 15 into a suitable hopper 20 detachably secured to the casing 13 and adapted to communicate with a suitable receptacle 21 having an opening 22 registering with a corresponding opening 23 formed in the lower portion of the door 11.

For rotating the disk to effect the foregoing operation, I provide a shaft 24 journaled within the casing 13 and having an enlarged portion 25 upon one end thereof secured to the disk 18 substantially centrally thereof.

Keyed to the opposite end of the shaft 24 is a suitable gear 26 adapted to mesh with a corresponding gear 27 keyed to one end of the shaft 28. The opposite end of the shaft 28 preferably carries a suitable crank 29 having the free end thereof adapted to engage in one of the apertures 30 formed in a plate 31. As shown, the plate 31 is secured to a suitable gear 32 which in turn is journaled upon a bracket 33 secured as at 34 to the coin controlled apparatus indicated generally at 35. The gear 32 is adapted to mesh with a smaller gear 36 keyed to a shaft 37 which is driven by the coin actuated mechanism 38.

The coin actuated mechanism comprises a casing 39 hingedly mounted as at 40 upon the rear side of the door and comprises a pair of pivotally connected complementary sec-

tions 41 and 42 adapted to cooperate with each other to form a passage 43 adapted to communicate at one end with a suitable coin receiving opening 44 formed in the door 11 and at the opposite end with a rotatable ring 45 having diametrically opposed pockets 46 therein for receiving the coins. For actuating the mechanism 38 to effect a rotation of the shaft 37 and consequently the plate 31, I provide a shaft 47 journaled within the door 11 and having a handle 48 secured to the outer end thereof. As shown in Figure 5 the inner end of the shaft 47 is adapted to detachably engage a shaft 49 journaled within the section 42 of the casing and having a gear 50 keyed to one end thereof. The gear 50 is engageable with a suitable gear 51 mounted upon the mechanism 38. The mechanism 38 is normally held from rotation by means of a pivotal dog 52 having one end thereof selectively engageable with the diametrically opposed slots 53 formed in the ratchet plate 54. Projecting laterally from the dog 52 intermediate the ends thereof, is a projection 55 terminating adjacent the periphery of the ring 45 as clearly shown in Figure 5 of the drawing. The arrangement being such that when a coin is placed within the opening 44 the same will be deposited in one of the pockets 46 formed in the ring 45 in a position to engage the projection 55 of the dog 52 so that upon a slight rotative movement of the ring 38 the coin will engage the projection 55 and swing the dog out of latching engagement with the ratchet plate 54 and permit the ring to be rotated to a position wherein the coin is deposited in the discharge passage 56.

Communicating with the discharge passage 56 is a suitable coin receiving passage 57 communicating at the lower end thereof with a suitable receptacle 58. As shown the lower portion of the passage 57 is provided with a transparent wall 58' and is positioned in a plane substantially at right angles to the plane of the upper portion so that the coin will be turned throughout substantially 90° in travelling through the passage, the arrangement being such as to position one of the flat sides of the coin adjacent the transparent wall 58'. Positioned upon the rear side of the door 11 is a suitable reflector 59 extending inwardly from the door at an angle thereto and spaced from the transparent wall 58 of the passage 57. Positioned upon the reflector 59 is a suitable lens 60 having a spherical portion 61 projecting through a suitable opening 62 formed in the door 11. With this arrangement as shown in Figure 7, it will be apparent that the coin will be reflected by the reflector 59 through the opening 62 in the door 11 so that the coin may be viewed from a position exterior of the cabinet 10.

Moreover due to the fact that the lens 60

is formed with a convex surface 61 adapted to project through the aperture 62 in the door, the coins will be greatly magnified and as a consequence may be seen from a considerable distance. The door 11 is further provided with a transparent portion 45' directly opposite the ring 45 so as to render the coins in the pockets 46 visible. Thus it will be apparent that the coins are exposed both before and after releasing the coin actuating mechanism.

To provide an efficient construction, means is provided for arresting the coin in the passage 57 opposite the reflector 59. This means comprises a plunger 63 slidably mounted within a boss 64 formed upon one wall of the passage and having the outer end thereof connected to a suitable bell crank lever 65 pivotally mounted as at 66. The free end 67 of the bell crank lever preferably is yieldably held into engagement with the periphery of the plate 31 which is provided with a series of spaced notches 32'. The arrangement being such that when the free end 67 of the bell crank lever is in engagement with one of the notches 32' as shown in Figure 2, the plunger 63 will be in the position illustrated in Figure 7 to hold the coin adjacent the transparent wall 58'. However, upon actuating the coin controlled mechanism the member 67 will be moved out of engagement with one of the notches 32' and assume a position upon the periphery of the plate 31, thus rocking the bell crank lever about the pivotal connection 66 and moving the plunger 63 out of the passage 57 to permit the coin to be deposited within the receptacle 58. The arrangement of parts being such that the plunger 63, upon rotation of the plate 31 will be moved into engagement with the passage 57 before the coin is discharged from the coin retaining ring 45 and will be held in this position until another coin is placed within the retaining ring 45 and the plate 31 again rotated to move the free end 67 of the bell crank out of engagement with one of the notches 32' and thereby move the plunger 63 out of engagement with the passage 57 to permit the coin in the latter to fall within the receptacle 58.

Thus from the foregoing it will be apparent that the plate 31 in addition to actuating the change making apparatus also functions to hold the coins in a position where they may be viewed by the operator. Moreover it will be apparent that the device may be readily attached and detached from the casing and is so mounted within the latter that it may be inspected at frequent intervals without the necessity of disassembling any of the parts thereof. It will further be noted that the amount of rotation of the plate 18 upon one complete cycle of operation of the coin actuated mechanism 38 is governed by the particular position of the openings 30 in

the plate 31 and the throw of the crank 29. As a consequence the extent of rotation of the plate 31 may be varied by interchanging the latter and crank 29 for parts of the desired design and the mounting of these parts is such as to facilitate interchangeability.

While it is believed that from the foregoing description, the nature and advantages of the invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What I claim as my invention is:

1. In combination, a coin receiving passage having a wall provided with a transparent portion, coin controlled actuating mechanism for discharging coins from said passage, a disk having a series of notches in the periphery thereof and operatively connected to said actuating mechanism, a plunger projecting through one wall of said passage for arresting a coin therein opposite the transparent portion, and a bell crank lever having one end engageable with the periphery of the disk and the opposite end connected to said plunger for actuating the same.

2. In combination, a coin receiving passage having a transparent portion for displaying a coin, coin controlled actuating mechanism for discharging a coin from said passage, a plunger projecting into said passage for arresting the coin opposite said transparent portion, an article dispensing apparatus, and a disk operatively connected to said actuating mechanism for operating said plunger and the article dispensing apparatus simultaneously.

3. In an article dispensing mechanism the combination of a rotary member, a hand piece, a train of mechanical connections between said hand piece and said rotary member, a rotary article-controlling device, a train of mechanical connections between said rotary article-controlling device and said rotary member, a coin-receiving passage having a transparent wall portion, a detent for arresting the coin in said passage opposite said transparent wall portion, and a train of mechanical connections between said rotary member and said detent.

4. In an article dispensing mechanism the combination of a rotary member, a finger piece for operating the same, a rotary article-controlling device, a train of mechanical connections between said rotary article-controlling device and said rotary member, a coin-receiving passage having a window, a detent for arresting the coin in said passage opposite said window, and mechanical connections between said detent and said rotary member effective to withdraw said detent at predetermined intervals.

5. In an article dispensing mechanism the

combination of a rotary member, a hand piece, a train of mechanical connections between said hand piece and said rotary member, a rotary article controlling device, a train of mechanical connections between said rotary article-controlling device and said rotary member, a coin receiving passage having a transparent wall portion, a detent for arresting the coin in said passage between said detent and said rotary member comprising a bell crank engageable with regularly spaced actuating devices on said rotary member effective to withdraw said detent at predetermined intervals during a single rotation of said rotary member.

In testimony whereof I affix my signature.
JOSEPH J. SCHERMACK.

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