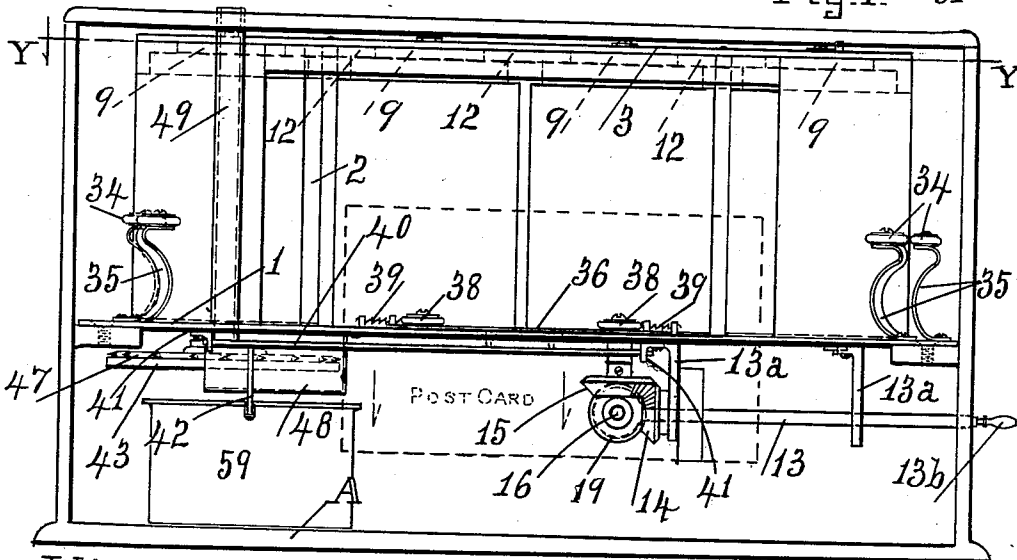
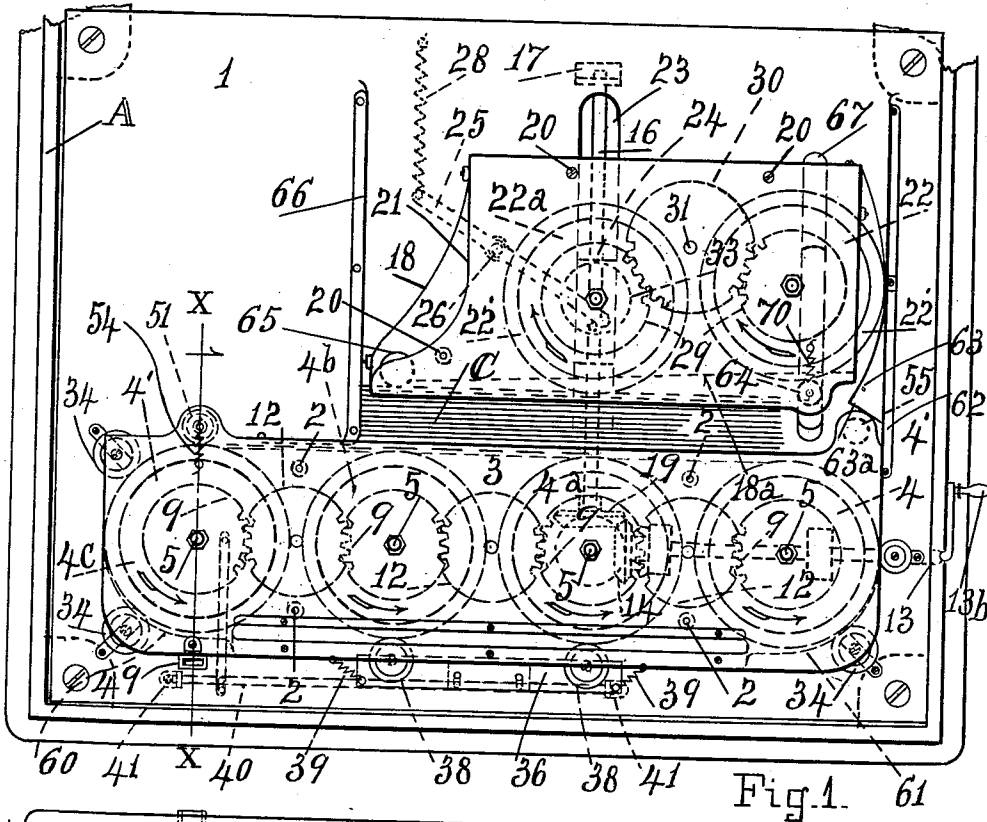


B. S. WALLICK.
CARD VENDING MACHINE.
APPLICATION FILED SEPT. 11, 1911.

1,017,830.

Patented Feb. 20, 1912.

4 SHEETS—SHEET 1.



Witnesses.
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J. A. Boyce

Fig. 2.

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4 SHEETS—SHEET 2.

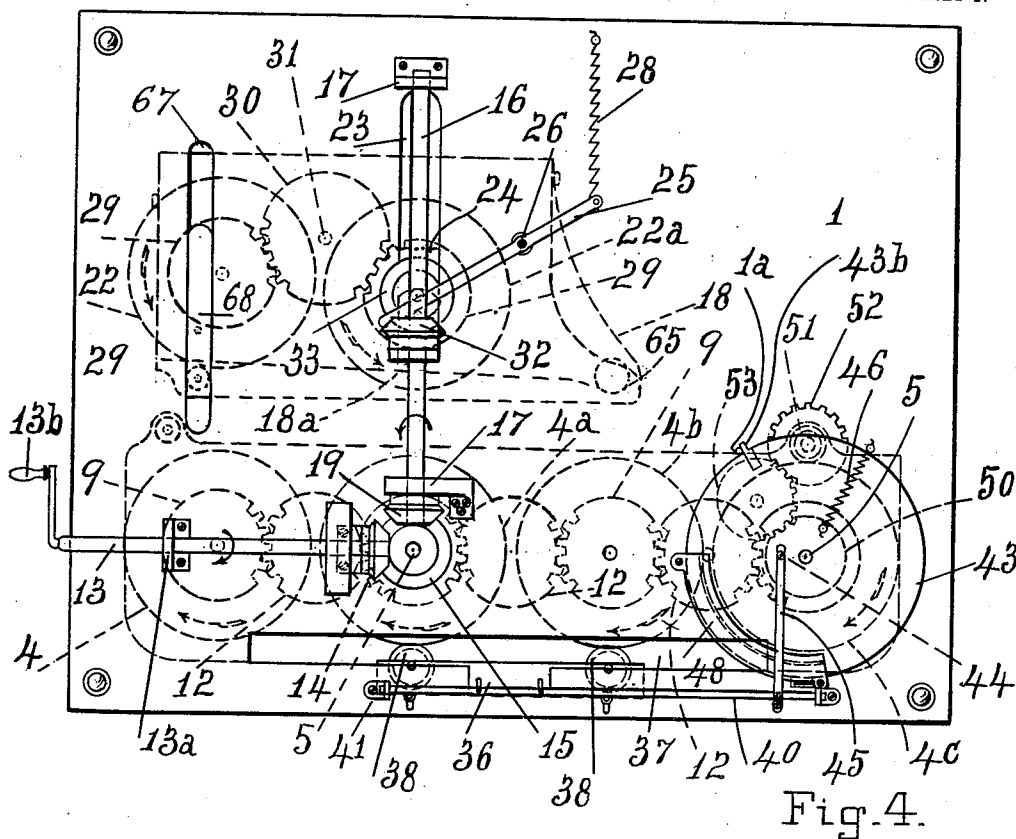


Fig. 4.

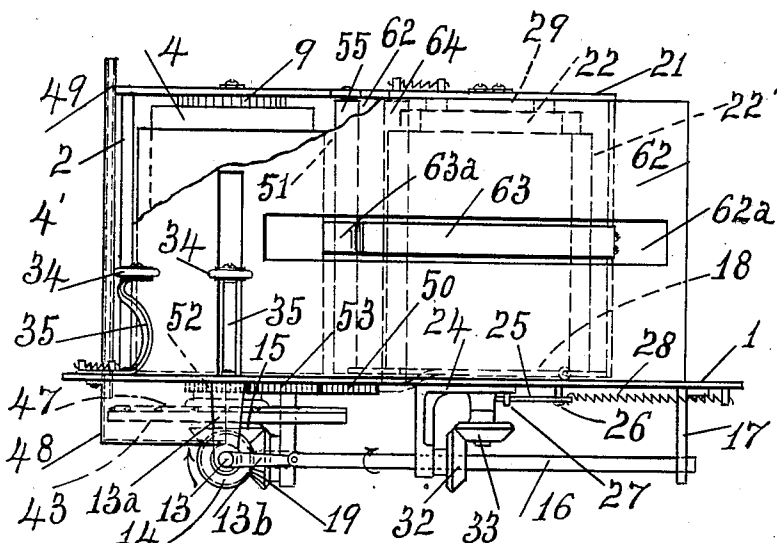


Fig. 3.

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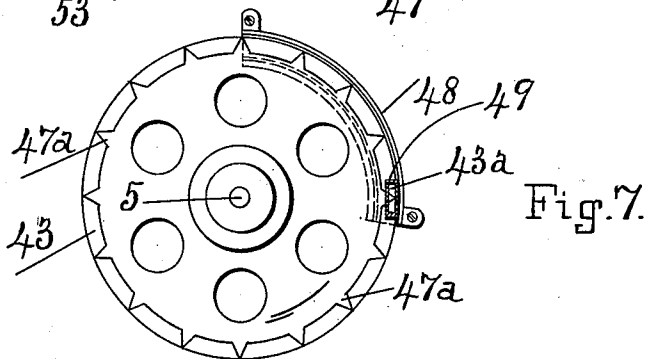
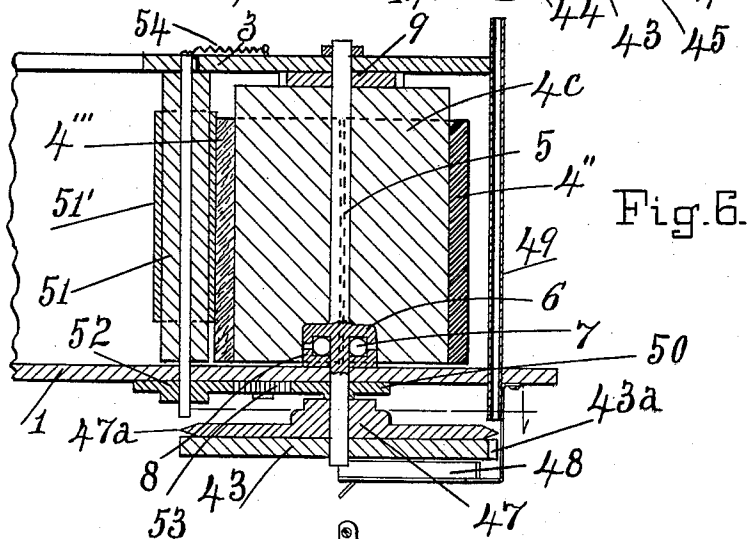
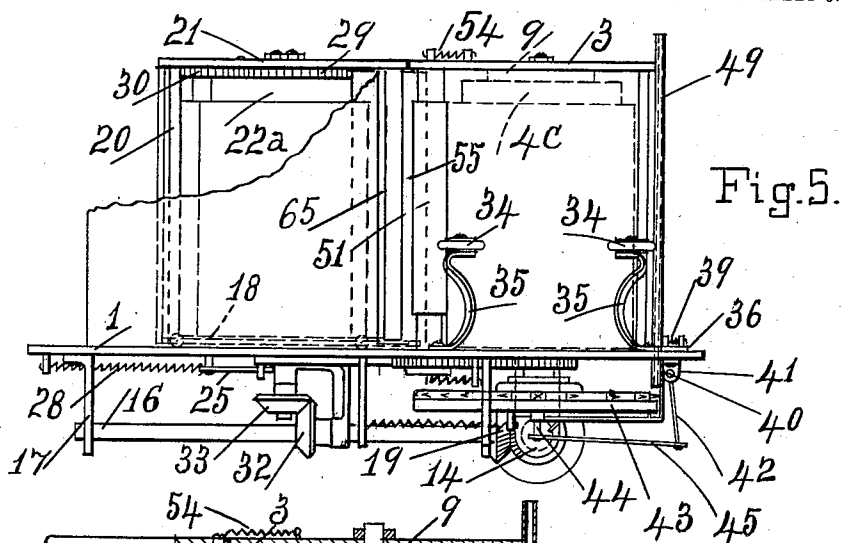
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4 SHEETS—SHEET 3.



Witnesses
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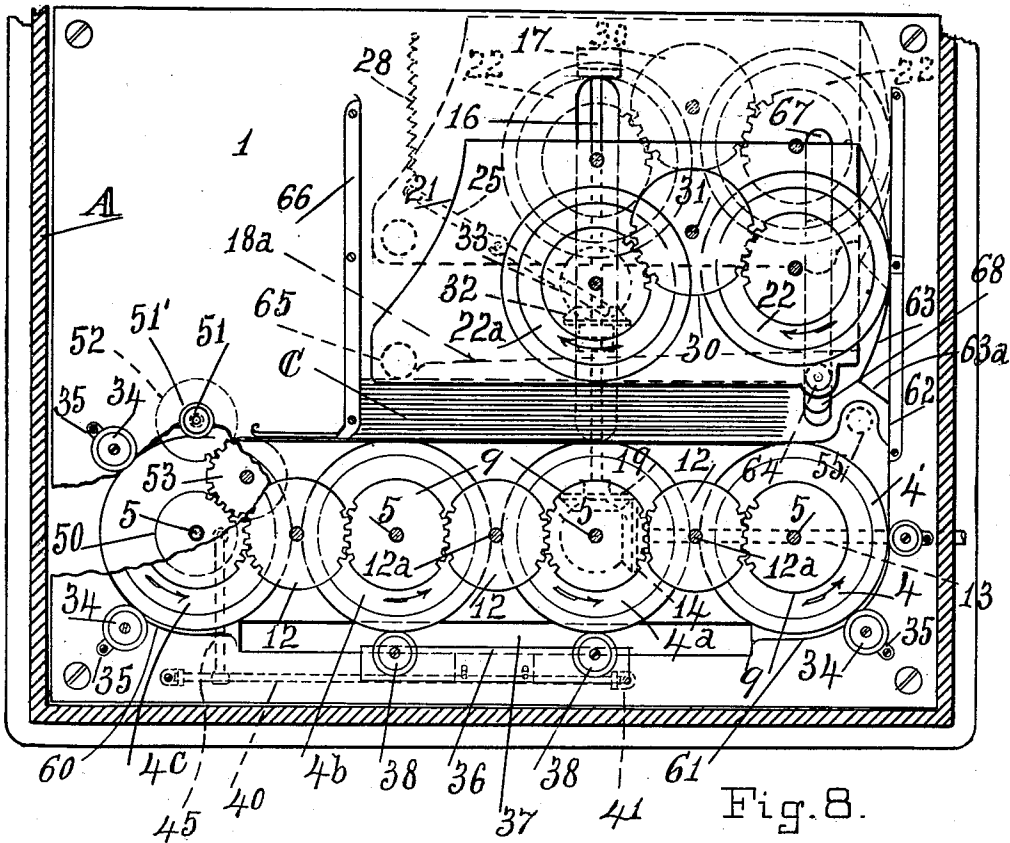
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4 SHEETS—SHEET 4.



Witnesses
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UNITED STATES PATENT OFFICE.

BEN S. WALLICK, OF SPRINGFIELD, ILLINOIS.

CARD-VENDING MACHINE.

1,017,830.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed September 11, 1911. Serial No. 648,815.

To all whom it may concern:

Be it known that I, BEN S. WALLICK, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a new and useful Card-Vending Machine, of which the following is a specification.

This invention relates to machines for displaying and vending postal cards and is a modification and improvement of the invention set forth in my application S. N. 593118, apparatus for displaying and vending postal cards, filed November 8, 1910.

The purposes of the present invention are: to provide improved means for propelling the cards; means for separating and spacing the cards so that one card can not over-lie another when passing the display opening; means for discharging the selected cards; and other improved features of construction.

The invention is illustrated in the annexed drawings to which reference is hereby made, and is hereinafter particularly described and the novel features recited in the claims.

Figure 1 is a top plan of the machine, the cover of the cabinet which houses the mechanism being removed to expose the mechanism within the cabinet; Fig. 2 is a front elevation of the machine, the front of the cabinet being removed to expose the mechanism within the cabinet; Figs. 3, 4, and 5 are respectively a right-hand end elevation, a bottom plan, and a left-hand end elevation, of the mechanisms detached from the cabinet. Fig. 6 is an enlarged vertical section on the line X. X. of Fig. 1. Fig. 7 is an enlarged detail of the coin-actuated mechanism; and Fig. 8 is a horizontal section on the line Y. Y. of Fig. 2.

Similar reference characters designate like parts in the several views.

The mechanism is housed in a cabinet A which may be of any suitable construction. The base 1 is a metal plate of suitable dimensions. Stationary vertical standards 2 support the top plate 3. A series of parallel vertical shafts 5 are mounted to rotate in bearings on the base 1 and the top plate 3. The main propelling cylinders, designated as a whole by the numerals 4, 4^a, 4^b, and 4^c are secured on the shafts 5 respectively. The cylinders 4, 4^a, and 4^b have circumferential coverings 4' of soft leather, felt or other soft and yielding material which will not mar the faces of the cards. The cylinder 4^c has

one half of its circumference covered with rubber 4'' and the other half of its circumference covered with hard and smooth paper 4'''. Circular cups 6 (Fig. 6) are integral with the shafts 5 respectively. Circular plates 8 are mounted on the base 1 in line with the shafts 5 respectively. The cups 6 bear on balls 7 supported in the boxes 8 and the cups, balls and boxes together constitute ball-bearings for the cylinders 4, 4^a, etc. Gear wheels 9 are secured on the shafts 5 at the upper ends of the cylinders 4, 4^a, and 4^b respectively. Intermediate gears 12 turn on downwardly extending studs 12^a on the under side of the top plate and mesh with the gears 9.

A horizontal main shaft 13 is mounted to rotate in hangers 13^a (Fig. 4) extending downwardly from the base plate 1 and is equipped with a crank 13^b for turning the shaft. A bevel gear 14 is secured on the shaft 13 and meshes with a bevel gear 15 secured on one of the shafts 5. A counter shaft 16 at right angles to the main shaft 13 is mounted to rotate in hangers 17 extending downwardly from the under side of the base plate. A bevel gear 19 secured at the outer end of the shaft 16 meshes with and is driven by the bevel gear 15.

Vertical standards 20 secured on the carriage 18 support the cover 21. Parallel vertical card-propelling cylinders designated as a whole by the numerals 22, and 22^a respectively have soft leather coverings 22' and are mounted to rotate between the carriage 18 and the cover 21. A block 24 stationary on the under side of the carriage 18 extends downwardly through a slot 23 in the base plate 1 and the block and the connected carriage slide on the shaft 16, guided by the slot 23. A lever 25 is mounted to oscillate on a pivot 26 Fig. 3, on the under side of the plate 1 and the lever engages a downwardly extending pin 27 on the block 24 to slide the carriage forwardly. A spring 28 has one end connected with the lever 25 and the other end connected with the base plate 1, and the spring pulls on the lever to cause the lever to push the carriage forwardly to cause each successive front card of the stock of cards to contact with the circumference of the cylinders 4^a and 4^b, so that the rotating cylinders will propel the cards in succession to the left. Gear wheels 29 at the upper ends of the cylinders 22 and 22^a mesh with an intermediate gear

30 which turns on a downwardly extending stud 31 on the under side of the cover 21. A bevel gear 32 is adapted to slide on and rotate with the shaft 16 and meshes with
 5 and drives a bevel pinion 33 at the lower end of the cylinder 22^a.

Clock-wise rotation of the shaft 13 causes the gears 14, 15, 9 and 12 to coöperate to rotate the cylinders 4, 4^a, 4^b, and 4^c, counter-
 10 clock-wise, and causes the gears 15, 19, 32, 33, 29, and 30 to coöperate to rotate the cylinders 22 and 22^a clock-wise, so that, as viewed from the front and looking downward, cards propelled on edge by the cyl-
 15 inders 4^c, 4^b, 4^a and 4 will travel from left to right, and cards propelled on edge by the cylinders 22 and 22^a will travel from right to left.

Revoluble rubber-faced wheels 34 mounted on springy standards 35 contact with
 20 the cards traveling on the cylinders 4 and 4^c and keep the cards from falling away from the cylinders. A horizontal flat plate 36 is adapted to slide on the upper surface
 25 of the base plate 1. A slot 37, (Fig. 4,) through the base plate 1 is adjacent and parallel to the inner edge of the plate 36. Revoluble rubber-faced wheels 38 mounted
 30 on the plate 36 contact with the faces of the cards running in succession on the cylinders 4^b and 4^a. Springs 39 have one end connected with the base plate 1 and the other end connected with the plate 36, and the springs pull on the plate 36 to normally
 35 keep the wheels 38 in contact with the faces of the cards propelled by the cylinders 4^b and 4^a and the wheels prevent premature dropping of the cards.

A rock shaft 40 is mounted on hangers
 40 41 on the under side of the base plate 1. A downwardly extending arm 42 (Figs. 2 and 5) is secured on the shaft 40.

A disk 43 (Figs. 5 and 6) is loose on the shaft 5 of the cylinder 4^c and when the card-propelling cylinder 4^c is rotating, the disk
 45 43 will normally be at rest and the shaft 5 will turn in the disk. On the under side of the disk 43 is a wrist pin 44, (Fig. 4). A rod 45 connects the arm 42 with the wrist
 50 pin 44. A spring 46 has one end connected with the base plate 1 and the other end connected with the disk, and the spring acts to keep the disk normally at rest while the cylinder 4^c is rotating, and also acts to return
 55 the disk to its normal position of rest after each partial rotation of the disk effected as hereinafter described. A radial finger 43^b on the disk 43 strikes against a stationary stop 1^a on the base plate to limit
 60 reverse rotation of the disk.

The partial rotation of the disk 43 causes the rod 45 to pull on the arm 42 to partially rotate the shaft 40 to cause the plate 36 to
 65 slide forwardly to withdraw the wheels 38 from the cylinders 4^a and 4^b, so that the

card previously held on said cylinders by the wheels 38 will be released and will drop through the discharge slot 37 into the hand of the operator.

A vertical coin chute 49 is stationary on
 70 the machine. The disk 43 has a notch 43^a which is in line with the lower end of the chute 49 when the disk is at rest and is adapted to accommodate a coin introduced
 75 through the chute and standing on edge on the bottom of the guard 48. The segmental guard 48 (Figs. 2, 4, 6, and 7) is below the disk 43 and is adapted to support on edge
 80 coins introduced through the chute 49 and propelled on the guard by the rotating finger wheel 47. The finger wheel 47 is secured on the shaft 5 and has a series of
 85 radial fingers 47^a adapted to engage the coin which occupies the notch 43^a and stands on edge on the guard 48, to slide the coin on the guard and cause the disk to rotate until
 the coin drops off the guard.

The spacer cylinder 4^c and the gear wheel 50 are secured on the revoluble shaft 5. One
 90 half-circumference of the cylinder 4^c is covered with rubber 4'', and the other half-circumference is covered with hard and smooth paper 4''', or equivalent smooth material. A roller 51 is mounted to rotate in
 95 bearings in the base plate 1 and the top plate 3, and has a covering 51' of soft leather. A gear wheel 52 is fixed on the axle of the roller 51. An intermediate gear 53 meshes with the gears 50 and 52. The cylinder 4^c
 100 rotates counter-clock-wise and the gears 50, 53, and 52 coöperate to rotate the roller 51 in the same direction. Springs 54 respectively connected with the upper and lower
 105 ends of the axle of the roller 51 act to normally keep the circumference of the roller in yielding contact with the circumference of the cylinder.

When the roller 51 is running in contact with the smooth surface 4''', the smooth
 110 surface of the cylinder will not take the card propelled by the cylinders 4^a and 4^b to the cylinder 4^c and the roller 51, on the contrary the rotating roller will tend to repel the card from the cylinder 4^c; but when
 115 the rubber-covered surface 4'' comes into action it will engage the card and drag it across the roller 51 notwithstanding the adverse rotation of the roller. The result of the described operation will be that the
 120 cards traveling around the cylinder 4^c will be spaced apart so that only one card at a time, propelled by the cylinders 4^a and 4^b, will be immediately above the discharged slot 37 and in position to drop through the
 125 slot upon retraction of the pinch wheels 38.

When the cylinder 4^c is rotating and there is no coin in the chute 49 the disk 43 will be at rest. If a coin be placed in the chute
 49 while the cylinder is rotating the coin will drop into the notch 43^a and will stand 130

on edge within the guard 48, and one of the fingers 47^a of the rotating wheel 47 will engage the coin and push it in a circular path along the guard, and the coin occupying the notch 43^a will cause the disk 43 to rotate until the coin runs off the end of the guard, and drops into a box 59 provided to receive it. The partial rotation of the disk 43 will cause retraction of the wheels 38, thereby effecting the release of the selected card which will drop through the discharge slot 37 into the hand of the operator; and thereupon the spring 46 will act to turn the disk backward to its initial position and to cause the wheels 38 to occupy their initial position in readiness for the next operation; and this will be repeated every time that a coin is dropped into the chute.

Stationary vertical sheet-metal guides 60 and 61 (Fig. 8) are adjacent to the cylinders 4^a and 4 respectively and serve to guide the cards traveling on edge around the cylinders. A vertical roller 65 is mounted to rotate in bearings in the carriage 18 and the cover 21 and serves to keep the stock of cards on edge in a vertical position with the front card of the stock in contact with the cylinder 4^b. A vertical guard 62 keeps in place the cards traveling on edge rearwardly from the cylinder 4 and has a horizontal slot 62^a.

The deflector 63 is a flat spring mounted on the guard 62 and having its front part 63^a curved as shown to deflect to the left the successive cards impinging on the member 63^a. During forward movement of the carriage the cylinder presses the deflector outward and causes the front part of the deflector to project through the slot 62^a so that the deflector will not prevent rotation of the cylinder.

A slot 67 in the base plate 1 is adapted to permit the lower part of the roller 64 to slide and rotate in the slot. A slide 68 is mounted to slide in the slot 67. A vertical roller 64 is mounted to turn in a bearing in the slide 68 and a slot in the cover 21. Springs 70 connect the lower and upper ends of the roller 64 with the plate 68 and the cover 21 respectively. The parts are so constructed and arranged that the circumferences of the cylinders 22 and 22^a extend forwardly above the front edge 18^a of the carriage 18 in order that the rear card of the stock contacting with the cylinders 22 and 22^a may slide on edge to the left on the base plate in front of the front edge of the carriage, and guided by the front edge of the carriage may slide in front of the roller 65 until the left-hand end of the card strikes the stop 66, thereby assuring uniform placing of the cards successively inserted at the back of the stock.

The stock of cards C is placed on edge on the base plate 1 with the front card in con-

tact with the cylinders 4^a and 4^b and the rear card in contact with the cylinders 22 and 22^a. The rotating cylinders 4^a and 4^b propel cards from the front of the stock in succession, to the left into position to be pinched by the cylinder 4^c running in contact with the roller 51. Guided by the shield 60 and kept in close contact with the cylinder by the pinch wheels 34 the cards travel in succession around the cylinder 4^c and thence to the right in a straight line onto the intermediate cylinders 4^b and 4^a, the cards being kept in contact with the cylinders by the wheels 38 except when said wheels are retracted for the purpose of dropping a selected card. From the intermediate cylinders 4^b and 4^a the cards travel to the right around the right-hand cylinder 4 guided by the shield 61 and kept in contact with the cylinder by the pinch wheels 34 cooperating therewith and the leading ends of the cards travel rearward along the guard 62 (Figs. 1 and 3) until they strike the member 63^a of the springy deflector 63 by which they are deflected and caused to travel to the left between the right-hand cylinder 22 and the roller 64 cooperating therewith and the cylinders 22 and 22^a cooperate to propel the inserted card to the left behind the stock of cards until the inserted card strikes the stop 66.

Operating as described the machine is effective to display every card of the stock once before any card is displayed twice.

Having fully described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a machine of the class described; the combination of a rotative cylinder having a half-circumference of hard and smooth surface and a half-circumference of yielding surface; a revoluble roller in yielding contact with and rotating in the same direction as the cylinder; and means for propelling cards in succession to the cylinder.

2. In a machine of the class described, the combination of a rotative cylinder having a half-circumference of hard and smooth surface and a half-circumference of yielding surface; a roller rotating in yielding contact with and in the same direction as the cylinder; means for propelling cards on edge in succession to the cylinder and means for propelling cards on edge away from the cylinder.

3. In a machine of the class described, the combination of a spacer substantially as described; means for propelling cards on edge to the spacer; means for propelling cards on edge away from the spacer; and controllable releasing means adapted to release any card running from the spacer.

4. In a machine of the class described; the combination of a base plate; a carriage mounted to slide on the base plate; card-

propelling cylinders mounted to rotate on the carriage and projecting forwardly over the front edge of the carriage; carrier cylinders, a spacer cylinder and a co-acting roller mounted to rotate on the base plate; a rotative main shaft; gears connecting the main shaft with the cylinders and the roller on the base plate to rotate them synchronously in one direction; a counter shaft driven from the main shaft; gears connecting the counter shaft with the cylinders on the carriage to rotate the cylinders on the carriage in a direction reverse to the direction of rotation of the cylinders on the base plate and a spring adapted to slide the carriage forwardly on the base plate.

5. In a machine of the class described; the combination of a base plate having a discharge slot; a carriage mounted to slide on the base plate; card-propelling cylinders mounted to rotate on the carriage; gears connecting said cylinders; card-propelling cylinders, a spacer cylinder and a co-acting roller mounted to rotate on the base plate; gears connecting said last-named cylinders and roller; a rotative main shaft; gears connecting the main shaft with the cylinders and roller on the base plate to rotate them synchronously in one direction; pinch wheels adapted to support cards above the discharge slot in the base plate; means for retracting said pinch wheels; a counter shaft driven from the main shaft; gears connecting the counter shaft with the cylinders on the carriage to rotate said cylinders synchronously in a direction reverse to the direction of rotation of the card-propelling cylinders on the base plate; and a spring adapted to slide the carriage forwardly.

6. The combination of a base plate having a discharge slot; a rotative spacer cylinder and rotative card-propelling cylinders adapted to propel cards in succession above the discharge slot in the base plate; a slide adjacent and parallel to the discharge slot in the base plate; pinch wheels mounted on the slide; a rock shaft connected with the slide; a disk adapted for partial rotation in conjunction with the spacer cylinder at the option of the user and a connecting device connecting the disk with the rock shaft.

7. The combination of a base plate having a slot adapted to accommodate a rotative roller; a carriage mounted to slide on top of the base plate; rotative cylinders mounted on the carriage and projecting forwardly beyond the front edge of the carriage; a slide below the slot in the base plate; a revoluble roller mounted on said slide and

having its lower end in the slot of the base plate; a deflector adjacent to said roller and means for propelling cards impinging on the deflector to guide the successive cards on edge on the base plate between said roller and one cylinder and in front of the front edge of the carriage.

8. The combination of a base plate; a carriage mounted to slide forwardly on the base plate; a stationary guard adjacent to the carriage and a deflector mounted on the guard and adapted to yield to permit forward movement of the carriage.

9. The combination of a base plate; a carriage mounted to slide forwardly on the base plate; a rotating cylinder mounted on the carriage; and a spring deflector in the path of the cylinder and adapted to yield when the rotating cylinder is in contact with the deflector.

10. In a machine of the class described; the combination of a base plate having a slot adapted to accommodate a block mounted to slide on a counter shaft and to slide in the slot in said base; a carriage mounted on the block; rotative cylinders mounted on the carriage; a bevel gear at the lower end of one of said cylinders; gear wheels at the upper ends of said cylinders respectively; an intermediate gear intermeshing with the gears at the upper ends of said cylinders; a series of revoluble cylinders mounted on the base plate; a bevel gear at the lower end of one of said last-named cylinders; a rotative main shaft mounted on the base plate; a bevel gear on the main shaft and meshing with said bevel gear at the lower end of one of said last named cylinders; a revoluble counter shaft mounted on the base plate and supporting said sliding block; a first bevel gear fixed on said counter shaft and meshing with the bevel gear at the lower end of one of the cylinders on the base plate; a second bevel gear adapted to slide on and rotate with the counter shaft and meshing with the bevel gear at the lower end of one cylinder on the carriage, a lever pivoted on the base plate and connected with said sliding block; and a spring acting on said lever to move the sliding block forwardly on the counter shaft.

In witness whereof, I have hereunto signed my name at Springfield, Illinois, this 4th day of September 1911.

BEN S. WALLICK.

Witnesses:

Mrs. BEN S. WALLICK,
JOSEPH S. THOMPSON.