J. B. GRIMES.

COIN RECEPTACLE.

APPLICATION FILED DEC. 29, 1913.

1,110,771.

Patented Sept. 15, 1914.

3 SHEETS—SHEET 1.

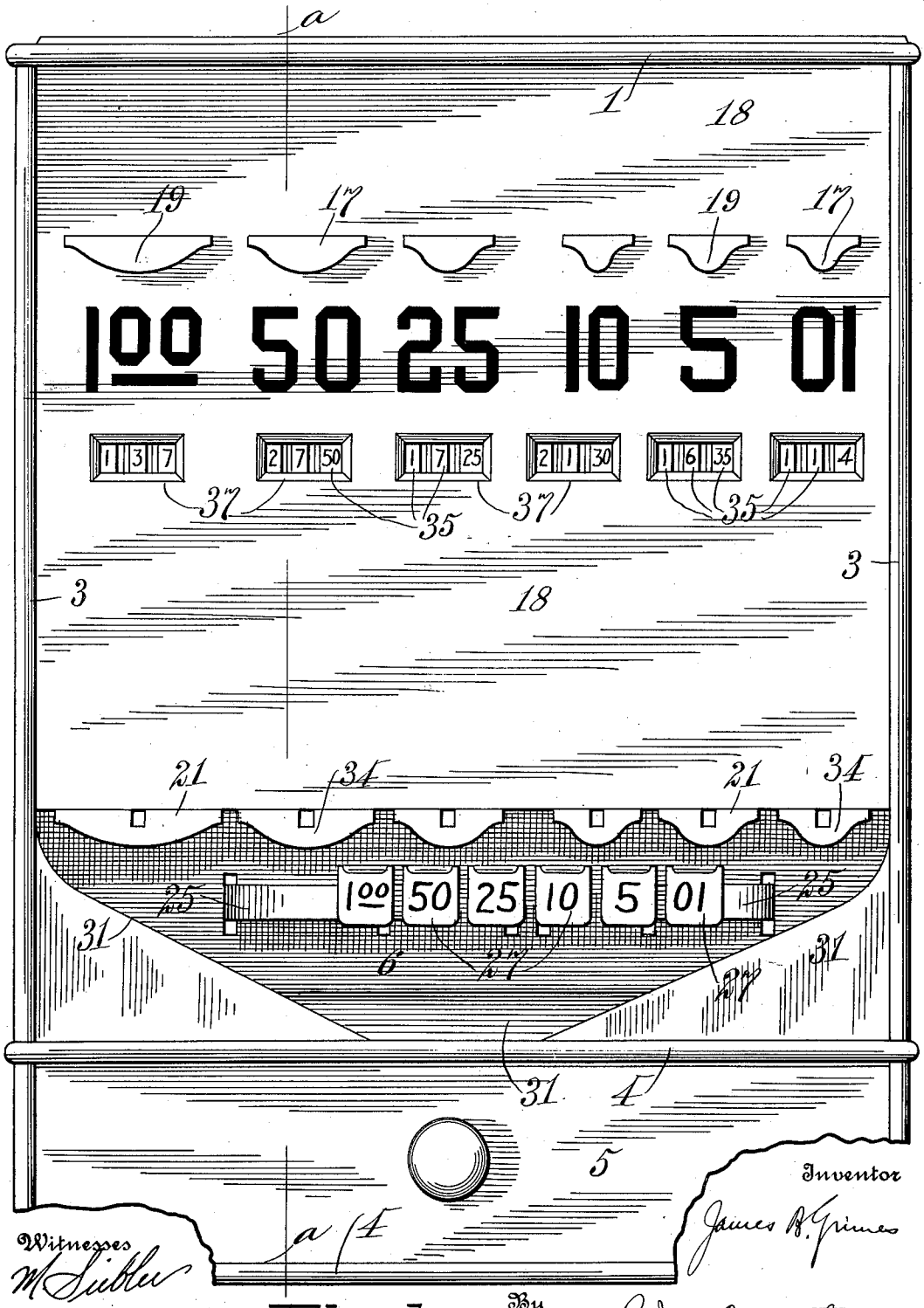


Fig. 1.

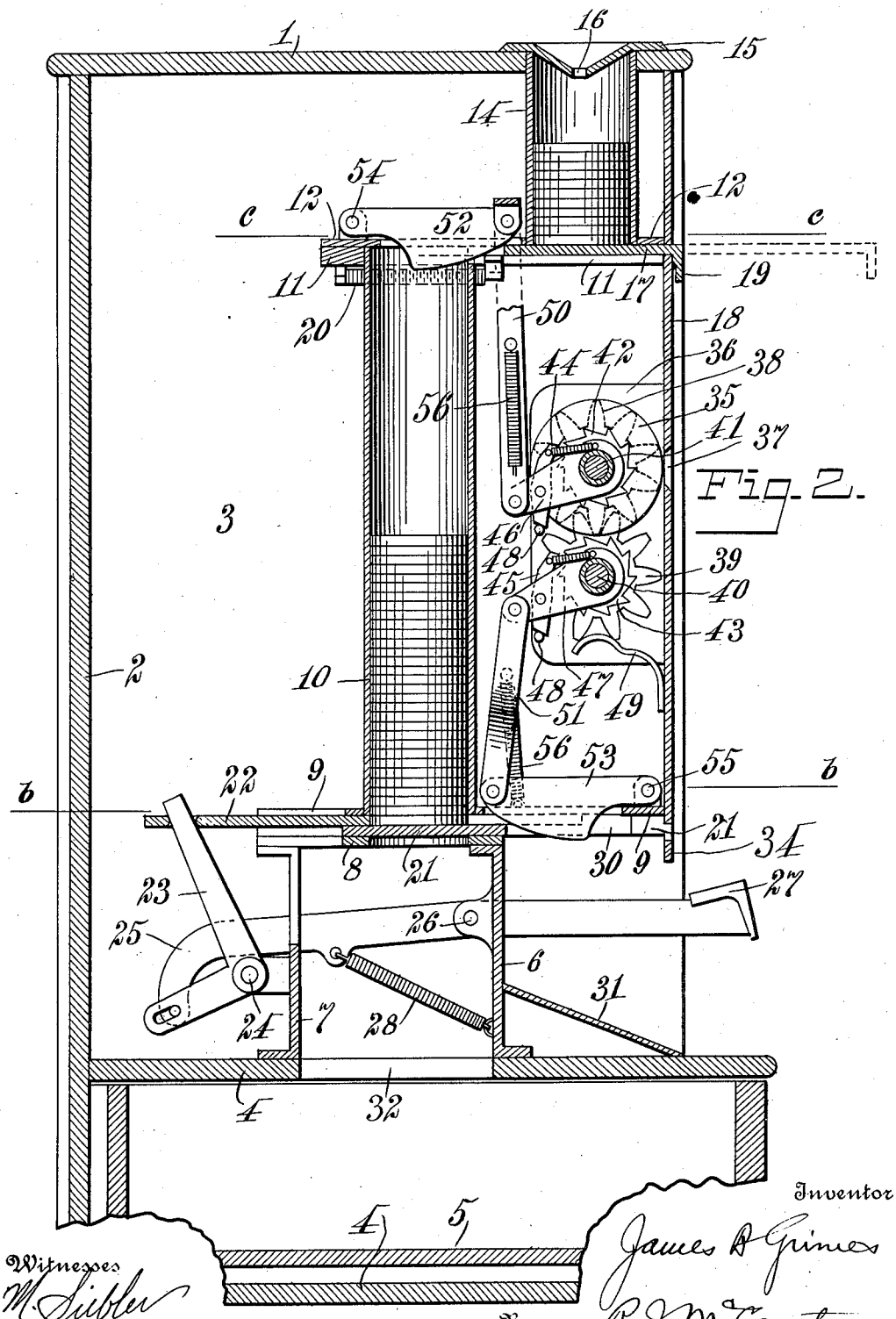
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3 SHEETS—SHEET 2.



Witnesses

M. Sibley

M. Galloway.

Inventor

James B. Grimes

By R. J. McCarty

his Attorney

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3 SHEETS—SHEET 3.

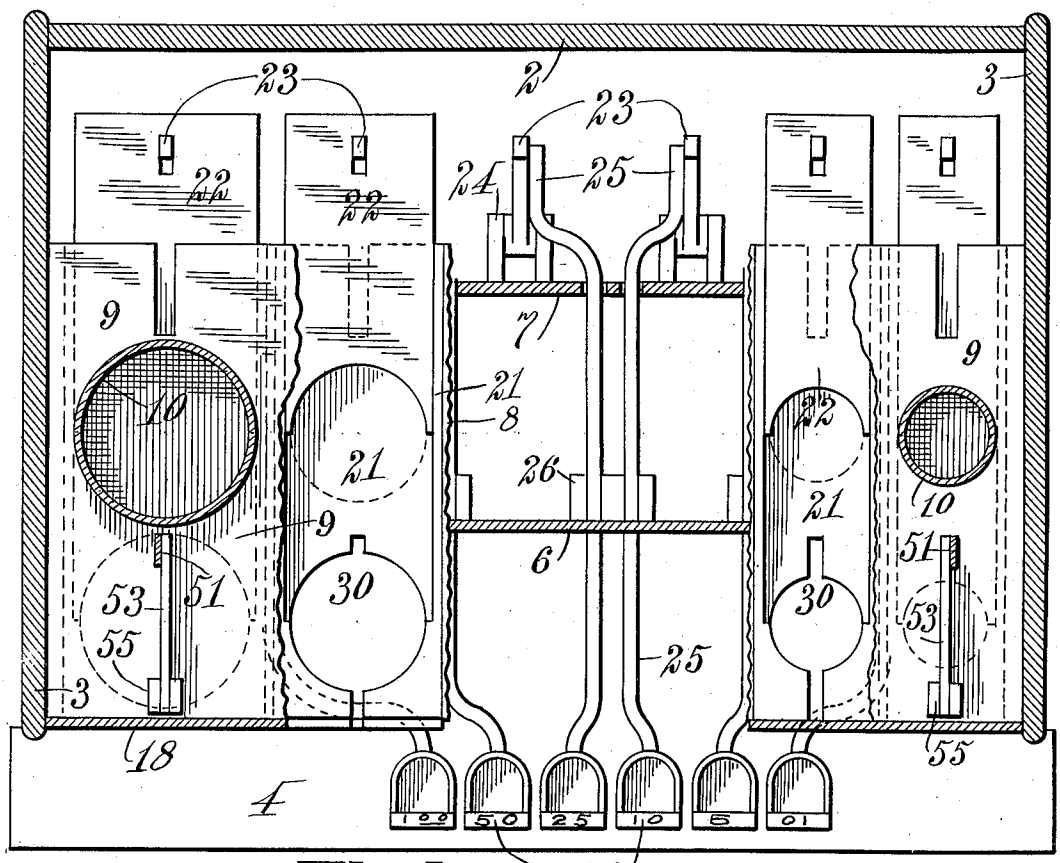


Fig. 3.

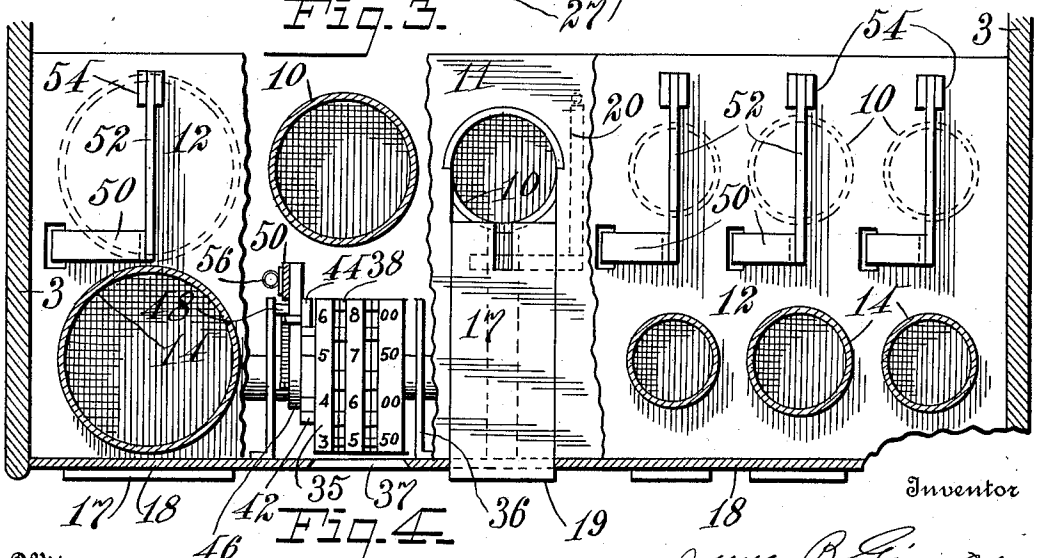


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

JAMES B. GRIMES, OF DAYTON, OHIO, ASSIGNOR TO THE INGLE SYSTEM COMPANY, OF DAYTON, OHIO.

COIN-RECEPTACLE.

1,110,771. Specification of Letters Patent. Patented Sept. 15, 1914.

Application filed December 29, 1913. Serial No. 809,195.

To all whom it may concern:

Be it known that I, JAMES B. GRIMES, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Coin-Receptacles; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in coin receptacles of the type adapted for use in making change.

The object of the invention is to provide a device of this type in which account may be kept of the coins inserted and withdrawn from the device.

Another object of the invention is to provide, in a device of this type, means whereby the accounting devices can only be actuated when a coin is inserted or removed from the receptacle.

I have used the term coin in the sense of money but it will be understood that chips or pieces may be used in the machine having values representing money or coin but which as a matter of fact are not coin in the sense of a circulating medium or money.

Referring to the accompanying drawings which illustrate my invention, Figure 1 is a front elevation of the device; Fig. 2 is a vertical section approximately on the line *a*—*a* of Fig. 1; Fig. 3 is a section approximately on the line *b*—*b* of Fig. 2 with parts broken away; and Fig. 4 is a section approximately on the line *c*—*c* of Fig. 2 with parts broken away.

In the specification and drawings, similar reference characters indicate corresponding parts.

Referring more particularly to the drawings, the casing of the device consists of a top 1, back 2, sides 3, and a base 4 in which is mounted a drawer 5. Mounted on the base 4 are front and rear plates 6 and 7 which support a guide-plate 8 on which a cap plate 9 is mounted. Mounted on and extending from suitable openings in the cap plate 9 is a plurality of coin tubes 10, one for each denomination of coin, the internal diameters of which are such that the coins may be stacked within them. The upper ends of said coin tubes 10 are mounted in a guide plate 11 upon which a cap plate 12 is mounted. Extending from suitable openings in the cap plate 12 is a plurality of hopper tubes 14 which extend through the top 1 of the casing. There is a hopper tube 14 for each coin tube, and each hopper tube is of the same diameter as its respective coin tube. Mounted on the top 1 is a guide plate 15 provided with suitable depressions which lie directly above the hopper tubes. The said guide plate 15 is provided with suitable openings 16 which permit the coins to be inserted in the hopper tubes. The lowermost coins in the hopper tubes are in engagement with individual injecting slides 17 mounted in the guide plate 11 and below the cap plate 12. The injecting slides 17 extend out of suitable openings in a front plate 18 and are provided with ears 19 by means of which said slides may be manipulated. The said slides 17 are under the control of springs 20 which maintain them in a normal position or that position shown by full lines in Fig. 2. When the said slides 17 are drawn out and then moved inwardly, the inner end of a slide so moved engages the lowermost coin in the hopper tube 14 and pushes said coin above its respective tube 10 into which said coin falls by gravity. The lowermost coins in the tubes 10 rest on discharge slides 21 mounted in the guide plate 8 and below the cap plate 9. The said lowermost coins are ejected from their respective tubes 10 by individual ejector slides 22 mounted on the discharge slides 21. The ejector slides 22 are actuated by bell-crank levers 23 pivoted at 24 to the supporting plate 7. One end of each of the levers 23 engages its respective slide 22 while the other end is connected to the inner end of a respective lever 25. The levers 25 are pivoted at 26 to the inner side of the supporting plate 6 and extend through the plate 7. On their outer ends they are provided with finger pieces 27 which provide for the easy depression of said levers by the fingers. The ends of the said levers are suitably curved to permit all of the finger pieces 27 to be engaged by the fingers of one hand. The outer ends of said levers are held in elevated positions and the ejector slides 22 are held in the position shown in Fig. 2 by springs 28 which are connected to the levers 25 and the plate 6.

When any one of the finger-pieces 27 of the levers 25 are depressed, its respective ejector slide 22 pushes the lowermost coin in its respective tube 10 out of said tube and over an opening 30 in its respective discharge slide 21. The coin after dropping through the opening 30 falls onto a chute 31 which guides it to the center of the machine where the coin may be easily picked up. When it is desired to discharge all of the coin in the tubes 10 in a body, the discharge slides 21 may be individually pushed inward until the openings 30 come in alinement with the coin tubes at which time the coin will fall through openings 32 in the base 4 and into the drawer 5 in said base. The discharge slides 21 are provided with ears 34 on their outer ends for this purpose.

To indicate the number of or the total value of the coin in the tubes 10 the said tubes are provided with individual counters. The counters consist each of indicating wheels 35 mounted on a shaft 41 journaled in frame plates 36 attached to the front plate 18. The front plate 18 is provided with sight openings 37 through which the counters are viewable. The wheels 35 are provided with transfer gears 38 in mesh with transfer gears 39 on a shaft 40 journaled in the frame plates 36. The transfer gears 38 and 39, therefore, rotate in opposite directions and when individually actuated in the same direction drive the wheels 35 in opposite direction. The wheels are rotated in a progressive or adding direction when the coins are delivered to or inserted in the tubes and are rotated in an opposite or a subtracting direction when the coins are discharged from the tubes.

The unit indicating wheel 35 of each counter is provided with a ratchet 42, while the transfer wheels 39 are provided with ratchets 43. The ratchets 42 and 43 point in the same direction. Each ratchet 42 is in operative relation with a spring-controlled pawl 44, while each ratchet 43 is provided with a spring-controlled pawl 45. The pawl 44 is mounted on a lever 46 and the pawl 45 is mounted on a lever 47. The levers 46 and 47 are mounted on the shafts 41 and 40, respectively. When the said levers 46 and 47 are in a normal position the pawls 44 and 45 are held out of engagement with their respective ratchets by pins 48 extending from the division plates 36, thereby permitting the counter to be actuated by one pawl without interference from another. When the levers 46 and 47 are initially moved, the pawls 44 and 45 are disengaged from the pins 48 thereby permitting said pawls to be placed in engagement with their ratchets. When the said pawls 44 and 45 are disengaged from their ratchets, the counting wheels 35 are held in position against any movement except the counting movement by springs 49 which engage the transfer wheels 39. The free ends of the levers 46 and 47 are pivotally connected to the ends of respective links 50 and 51, and said levers 46 and 47 are maintained in normal positions by springs 56 connected to the links 50 and 51. The links 50 are also connected to lever cams 52, while the links 51 are connected to lever cams 53. The lever cams 52 are pivotally mounted at 54 on the cap plate 12, while the lever cams 53 are pivotally mounted at 55 on the cap plate 9. The said lever cams 52 and 53 project through suitable openings in the cap plates 9 and 12 and when in a normal position lie in the paths of the coins being inserted or withdrawn from the tubes. When a coin is in a hopper tube 14 and its respective injector slide 17 is actuated, the coin injected thereby into the respective coin tube 10 will actuate the respective cam 52 which will in turn actuate the respective counter 35 to add the value of the coin on the counter. When a coin is in one of the tubes 10, and a respective ejector slide 22 is actuated, the coin thus ejected will actuate the respective cam 53 thereby moving the counter in the opposite direction and subtracting the value of the ejected coin from the total value of all the coins in said tube as indicated by the counter. It will be noted that the slides 17 and 22 are not in themselves adapted to actuate their respective cams 32 and 53, but are only adapted to actuate the cams through the agency of the coin, consequently, the slides may be actuated without influencing the counter when no coin is in the hopper or coin tubes.

While in the specification I have described the device as adapted for making change, I wish it to be understood that the device may be used for other purposes, such as issuing checks or pieces having a money value only between the storekeeper and customer, such as a check credit system.

Having described my invention, I claim—

1. In a device of the type specified, the combination of a tubular receptacle adapted to receive coin, an injector mounted adjacent to the mouth of said tubular member and adapted to deposit coin into said tubular member, a cam pivoted at the mouth of said tubular receptacle and actuated by each coin entering said tubular receptacle, an ejector mounted adjacent to the discharge end of said tubular receptacle and adapted to eject coin from the discharge end, a cam pivoted in the path of said ejected coin and actuated thereby, a counter movable in opposite direction simultaneously with the injection and ejection of coin to and from said tubular member, and connections between said cams and said counter whereby the coins are added to and subtracted from said counter.

2. In a device of the type specified, the combination of a tubular receptacle, an injector adapted to deposit coins into said receptacle, a cam pivoted in the path of said coins, a counter adapted to record the value of said coins, counter-actuating means connected to said cam, an ejector adapted to discharge the coins from said receptacle, a cam pivoted in the path of the coins moved by said ejector, and counter-actuating means connected to said last named cam and adapted to impart backward movement to said counter to subtract from the value of the coins previously recorded on said counter by the injected coin.

3. In a device of the type specified, a coin tube, an ejector adapted to deposit coins in said tube, a cam adapted to be actuated by each injected coin, counter-actuating means connected to said cam, an ejector adapted to discharge coins from said tube, a second cam adapted to be actuated by each ejected coin, a second-counter-actuating means connected to said last named cam, and a counter movable in opposite directions connected to both counter-actuating means.

4. In a device of the character specified, the combination of a series of tubular members adapted to receive and deliver coins, a series of lever cams mounted at the tops of said tubes, a series of slidable injectors adapted to deposit coins into said tubes and to cause said coins to actuate said cam levers, a series of cam levers adjacent to the bottom of said tubes, a series of slidable ejectors adapted to deliver coins from said tubes and to cause said delivered coins to actuate said last named cam levers, a counter adapted to record the value of the coins delivered to and discharged from said tubes, and connections between said counter and both series of cam levers.

In testimony whereof I affix my signature, in presence of two witnesses.

JAMES B. GRIMES.

Witnesses:
R. McCARTY,
MATTHEW SIEBLER.