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E. SCHULTZ

COIN BANK

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Fig. 1

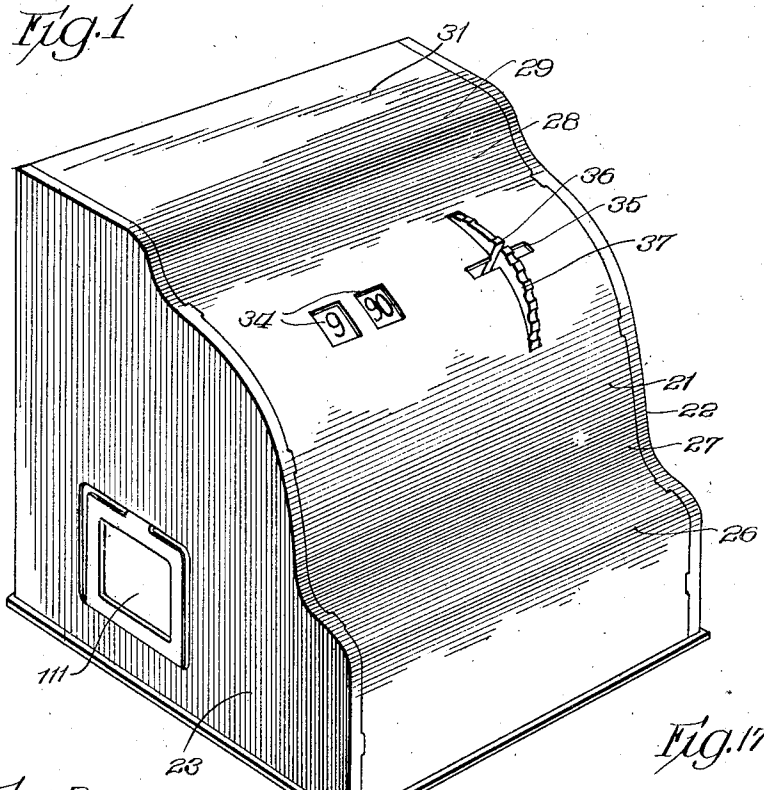


Fig. 17

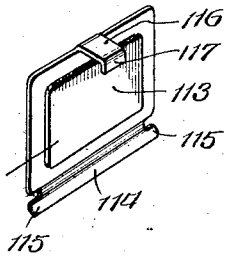
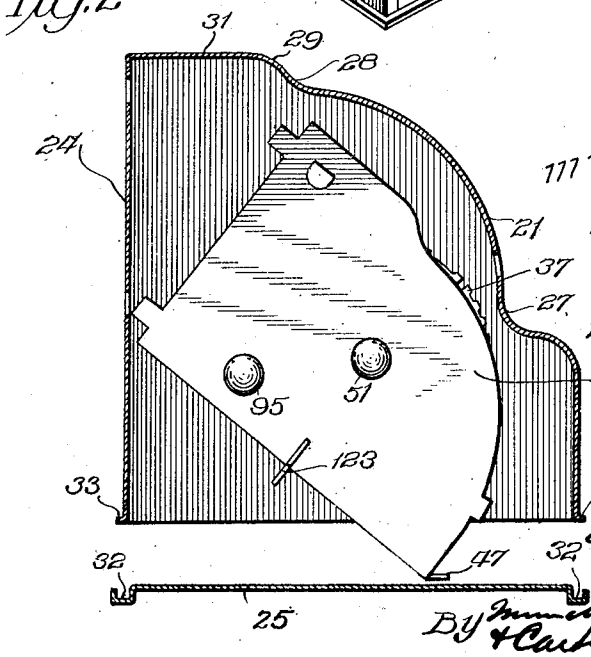


Fig. 2



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Fig. 3

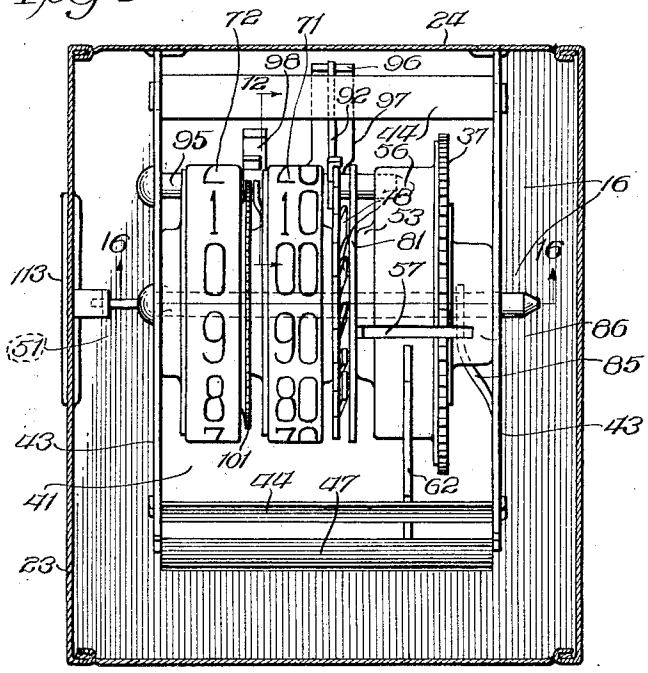
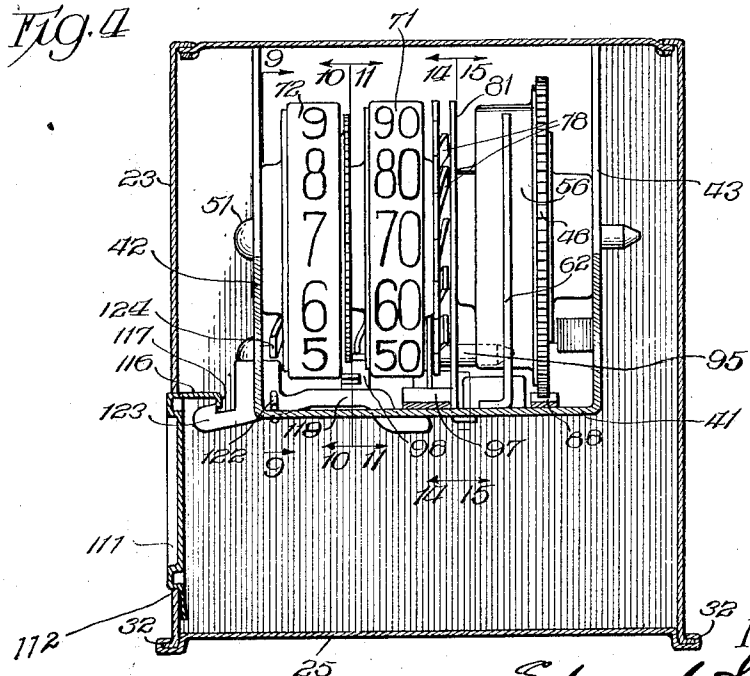


Fig. 4



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Fig.5

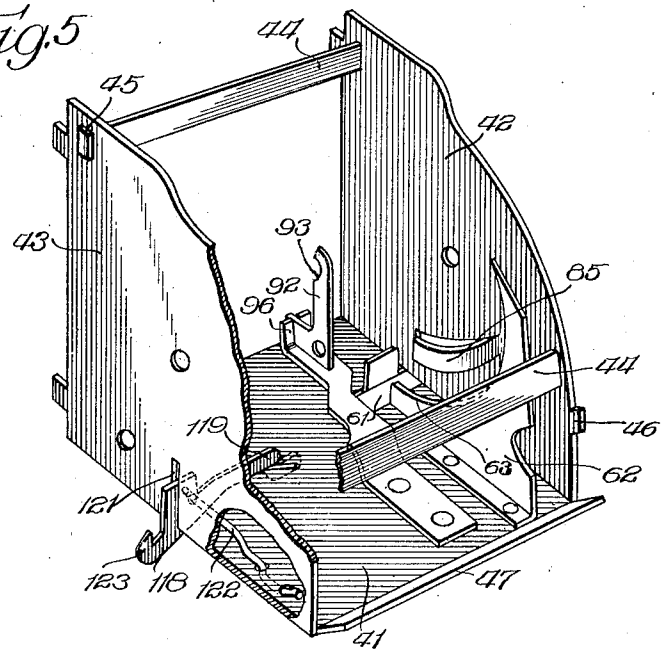


Fig.6

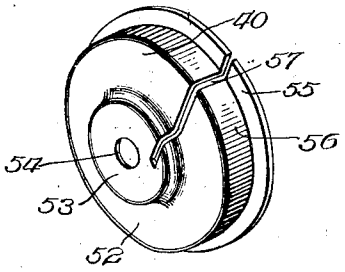


Fig.7

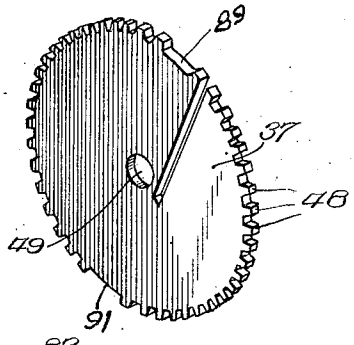
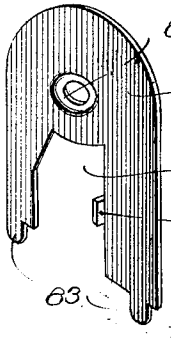


Fig.8



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Fig. 9

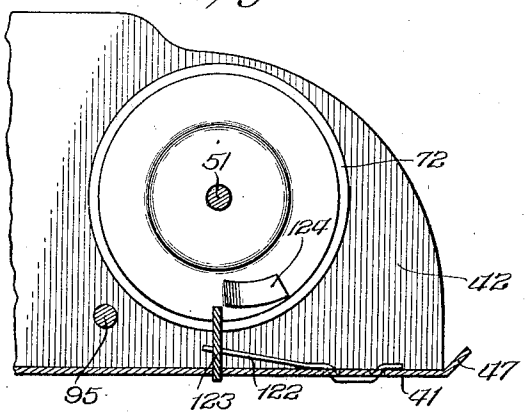


Fig. 10

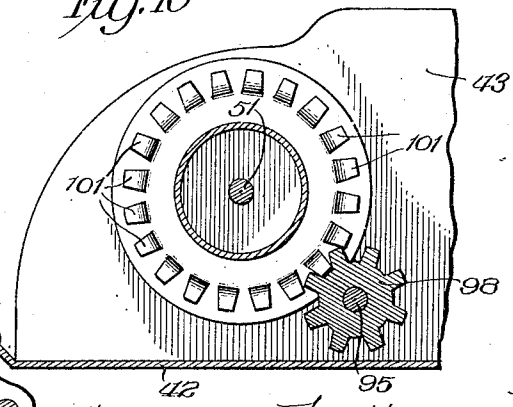


Fig. 12

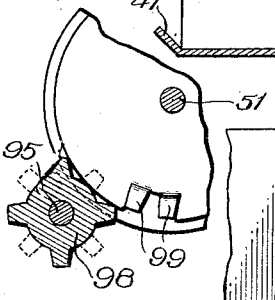


Fig. 11

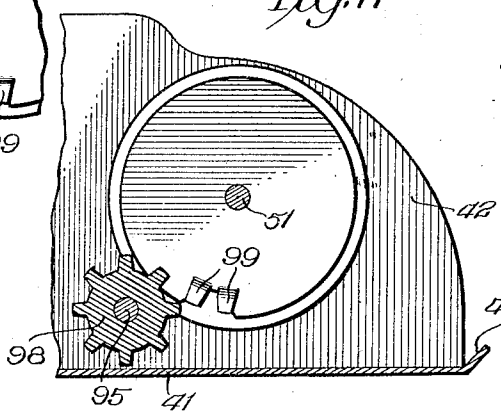
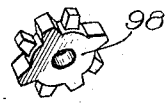


Fig. 13



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Fig. 14

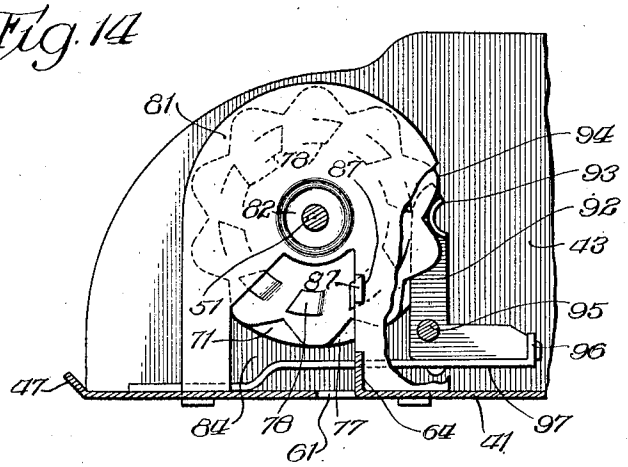


Fig. 15

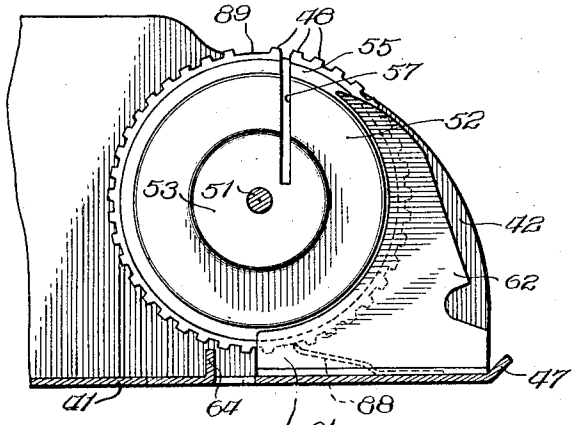
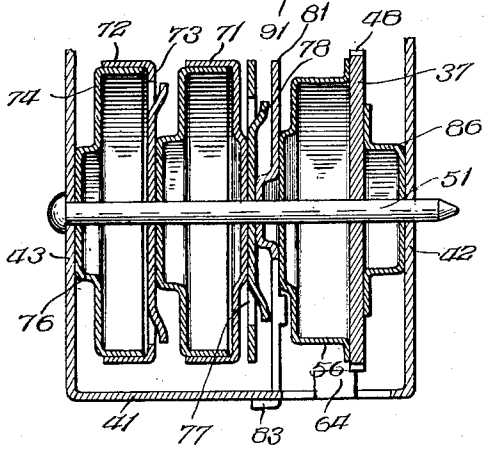


Fig. 16



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Patented Nov. 8, 1927. 1,648,425

UNITED STATES PATENT OFFICE.

EDWARD SCHULTZ, OF MAYWOOD, ILLINOIS, ASSIGNOR TO AMERICAN CAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

COIN BANK.

Application filed October 24, 1919. Serial No. 332,924.

This invention relates in general to coin banks and has more particular reference to coin banks adapted to automatically register and exhibit the total or summation value of the coins deposited therein.

This invention has for its principal object the provision of a coin registering bank of much simpler construction than has heretofore been usual and consequently of greatly cheapened cost of manufacture.

Another important object of the invention is the provision of an efficient, durable bank consisting of few parts, of sturdy construction, and unlikely to require frequent repair or replacement.

Another important object of the invention is the provision of a bank of this character having novel and improved means for delivering the coins to the money receptacle and accomplishing the adding in of the value of said coin.

Another object of the invention is the provision of a bank adapted to receive and register coins of predetermined denomination and which will be unaffected by attempted manipulation with coins of other denomination.

Another object of the invention is the provision of a bank of this character from which no manipulative or other parts will extend out in position to be easily damaged and to so construct and arrange said manipulative parts as to protect the bank from damage by reason of too violent or forceful manipulation.

Another important object of the invention is the provision of a bank of this character of pleasing appearance and obviously adapted to be manipulated in a novel and fascinating fashion. In this connection it might be mentioned that banks of the class to which this belongs are usually given to children to encourage and induce them to save and my invention contemplates in this connection a bank calculated to produce this result to an unusually high degree.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description which taken in connection with the accompanying drawings discloses a preferred embodiment thereof.

Referring to the drawings

Fig. 1, is a perspective view of a bank embodying my present invention.

Fig. 2, is a transverse section showing the method of assembling.

Fig. 3, is a horizontal section through the casing and showing the operating mechanisms in plan.

Fig. 4, is a similar section through the casing taken vertically and showing the operating mechanisms in elevation.

Fig. 5, is a perspective view of the inner frame for carrying said operating mechanisms.

Fig. 6, is a perspective view of one part of the coin chute or drum.

Fig. 7, is a similar view of the operating disc comprising the remaining portion of the chute or drum.

Fig. 8, is a similar view of the partition.

Fig. 9, is a section taken substantially on the line 9—9, Fig. 4.

Fig. 10, is a section taken substantially on the line 10—10 of Fig. 4.

Fig. 11, is a section taken substantially on the line 11—11 of Fig. 4.

Fig. 12, is a section taken substantially on the line 12—12 of Fig. 3.

Fig. 13, is a perspective view of the carrying wheel.

Figs. 14 and 15. are sections taken substantially on the lines 14—14 and 15—15 respectively of Fig. 4.

Fig. 16, is a section taken substantially on the line 16—16 of Fig. 3, and

Fig. 17, is a perspective view of the releasable door which permits removal of the accumulated bank contents when a predetermined sum has been collected in the bank.

The specific embodiment of the invention at present preferred and shown on the drawings for the purposes of illustrating the invention comprises a casing having a curved or undulating front wall 21, two side walls 22 and 23, a rear wall 24, and a bottom wall 25. The front wall 21 in the present instance extends up vertically from the bottom wall a short distance and is curved rearwardly at 26 and then up from a point 27 arcuately to a point 28 near the top and on a radius of curvature of appreciable length and thence back on an upward incline at 29 and is continued rearwardly at 31 to constitute the top. Viewing Fig. 2, it will be noted that the front and rear walls are formed of a single sheet appropriately bent. The side walls are formed of sheets secured along their edges to the edges of this sheet

to form the body of the casing and the bottom 25 is provided with channel edges 32 which may receive and interlock with flanges 33 of such body.

In the front curved portion of the front wall are provided two openings 34 which may be closed with celluloid or the like or may be left open and which serve to exhibit the amounts registered by the registering mechanism and which represent the total deposits in the bank. The coins are inserted into a transversely extending slot 35 in the front wall and also into a slot 36 extending into a manipulating member 37 for actuating the registering mechanism and delivering the coins into the money receptacle all as will be presently fully described.

All the operative parts within the casing are mounted in and carried by an internal frame which is shown in Fig. 5 and in which they can all be assembled as a single unit and positioned thus assembled in the casing. This frame comprises a sheet of metal bent to form a central bottom 41 and side walls 42 and 43, said side walls being connected by front and back ties 44 which may be of sheet material having the ends 45 disposed through the side walls and bent over against them, the ends being reduced in width and thrust through suitable apertures provided for the purpose. The shape of each side wall is such as to cause it to fit up into the top of the casing with the edges of the side walls in contact with the front, top and back of the casing. Lugs or ears 46 are provided for insertion through appropriately located apertures in the front and back wall and at the forward side the bottom wall 41 of the frame is provided with an upwardly bent yielding flange 47 adapted to be pressed back by the front wall when the lugs 46 at the back are bent down and thus yieldingly held in retracted position to firmly bind the parts together against rattling.

The coin chute or drum into which the coins are singly received and from which they are ejected into the money box consists in the present instance of the disk 37 and a companion member 40 (Figs. 6 and 7). The disk 37 consists of a plate having a serrated or knurled edge 48 and perforated at its center at 49 for pivotal mounting upon a main shaft 51. The companion member 40 comprises a portion 52 having a hub 53 perforated at 54 for like mounting on the shaft 51 and having a flange 55 offset from the portion 52 by a cylindrical part 56. The flange 55 is adapted to be soldered, welded or otherwise secured to the disk 37 and is of materially less diameter. The member 40 is slotted at 57 to provide a slot extending inwardly in the general direction of the center of the drum, which slot may, if desired, be offset from the center slightly as indicated in Figs. 6 and 7. This slot is adapted for registration with the slot 35 of the casing and after the coin has been placed in it the chute or drum may be rotated by manipulating the serrated or protruding edge of the disc 37. At each actuation it is intended that the drum be turned through 360 degrees and the coin is discharged, i. e. permitted to drop out, when the drum has been turned sufficiently to present the coin to a slot 61 in the bottom wall 41 of the frame. This occurs during the first half revolution. A guard 62 (Fig. 5) extends up from the bottom of the frame and has an arcuate wall 63 to prevent the coin dropping out prematurely and a lip 64 is bent up from the bottom to insure the coin passing through the slot 61.

During the transfer movement of the coin from the slot 35 to the slot 61, it is intended that it shall produce actuation of registering mechanism which will now be described. Two register wheels 71 and 72 are mounted upon the shaft 51. The registry wheel 71 is in the present instance the wheel which registers and displays the fractional parts of the dollar and the wheel 72 the wheel which registers and displays the number of dollars. These wheels are each of cylindrical form and they carry suitable indicia on their cylindrical faces. Each is or may be composed of two flanged disks 73 and 74 (Fig. 16), the flanges of one overlying the other and the two being secured together by friction and one of each of said pairs of disks is preferably offset at 76 to provide extended bearing on the shaft 51. The lower order wheel, i. e. the cents wheel, has preferably fastened to it a disk 77 from which has been stamped and pressed outwardly a number of actuating lugs 78, one such lug being provided for each desired advance step of this wheel.

The coins in the chute are adapted at a predetermined point in the operative part of the travel of the chute or drum to be thrust sidewise into engagement with a presented tooth or lug 78 to advance the lower order wheel one step. During the initial advancing movement the coins are prevented from engaging the lugs 78 and the movement is accurately controlled to within the desired predetermined limits. A perforated partition 81 (Fig. 8) having an aperture 82 to accommodate the shaft 51 is arranged between the chute and the registering wheels and this partition has lugs 83 for insertion through the bottom wall of the frame. It provides an opening or perforation 84 (Figs. 8 and 14) which exposes the lugs 78 successively for engagement by the coins. A portion 85 (Fig. 5) of the right hand wall 42 of the frame is slit around three sides and bent inwardly to a form calculated to move the coin positively and transversely of the slot in the drum and through the perfora-

tion 84 of the partition so that it engages the presented lug 78 with certainty. In order to insure space for this yielding coin shifting means 85 a hub 86 is provided upon the right hand side of the drum through the interposition of an appropriate drawn sheet metal member as may be seen in Fig. 16. After the coin has actuated the registering mechanism it arrives immediately over the slot 61 and a lip 87 extends out from the rear edge of the opening 84 to provide a widened stop and this is in line with the lip or lug 64 of the bottom, so that the two prevent further movement of the chute until the coin is deposited.

Reverse movement of the drum is prevented by a spring lock 88 (Fig. 15) fixed on the bottom wall near the front and extending rearwardly and up into ratchet engagement with the serrations in the disc edge. The serrations are interrupted at 89 and 91 at appropriate locations to permit slight rearward movement of the drum to bring the slot in it in accurate registration with the slots 35 and 61 respectively.

Overthrow of the lower order recording wheel is prevented by a spring pressed bell-crank 92 (Fig. 14) having a curved flange 93 engaging between rounded teeth 94 provided in the edge of the disc 77. This bell-crank is pivoted upon a cross shaft 95 and has its other arm embraced by the upturned bifurcated end 96 of a spring 97.

The carrying mechanism from the lower to the higher order wheels is shown on the drawing (Figs. 10 to 13) but need not be described in detail, since it consists merely of the Geneva wheel 98 engaging driving teeth 99 on the adjacent face of the lower order wheel once at each revolution and driven teeth 101 on the adjacent face of the higher order wheel.

A door 111 closes a suitable opening 112 in left hand wall 23 and this door is adapted to be opened when a predetermined sum, $10.00 in the present instance, has been collected in the bank. The door has a depressed center 113 (Fig. 17) fitting within the opening. At its bottom is provided a downwardly extending flange 114 forming outwardly extending lugs 115 for engagement behind the opening and at its top it is provided with an inwardly extending arm 116 having a downturned or hooked end 117. A latch lever 118 (Fig. 5) has a tail 119 pivotally positioned through the bottom of the frame 41 and extends out through a slot 121 in the side wall 43 adjacent to the door. A spring 122 normally presses up the lever 118 so that its latch or hook 123 engages the turned down or hooked end 117 of the door. An outwardly extending stamped lug 124 is provided on the left hand face of the higher order or dollars wheel (Fig. 9) in proper position to press down upon the lever and release the latch 123 from the hooked arm of the door when $10.00 have accumulated in the money box.

It will be manifest that the action of the coin on the registering mechanism is direct and the delicate parts are eliminated in marked degree, resulting in a simple, cheap and at the same time sturdy and efficient construction.

It will of course be manifest that the bank of the drawing is adapted to take coins of a single denomination, in the present instance, ten cent pieces. It may however, as will be easily apparent, be constructed to take coins of any particular denomination and when so constructed will not be affected by and will not register coins of other denominations. Coins larger than the bank is intended to receive may be prevented from insertion by restricting the size of the slot 35 and coins of smaller denomination inserted in the bank may be prevented from registering by so constructing the coin shifter 85 that it will not move the coins over a sufficient distance to accomplish actuation of the registering mechanism.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing without further description and it will be manifest that numerous changes may be made in the form, construction, and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. In a coin bank, the combination of registering wheels, a movable coin chute, into which the coins may be deposited, means for projecting the coins edgewise from the side of the chute, and means on a registering wheel arranged for engagement by the coin while moving with the chute to advance the registering wheels correspondingly.

2. In a coin bank, the combination of a registering wheel, a movable coin chute, means for moving said chute and means operable during the movement of the chute to project a coin edgewise from the side of the chute and engage the coin with the registering wheel to impart movement to the registering wheel with the chute and accomplish an advancing movement of the registering wheel to indicate the added value of the coin.

3. In a coin bank, the combination of a registering wheel and a coin chute pivoted upon a common axis, and means for projecting a coin edgewise from the side of the chute and establishing engagement of the registering wheel by a coin in said chute to produce advance of said registering wheel.

4. In a coin bank, the combination of a

registering wheel and a coin chute pivoted upon a common axis and means for projecting a coin edgewise from the side of the chute and establishing engagement of the registering wheel by a coin in said chute throughout an appropriate part of the pivotal movement of said chute to produce advance of the registering wheel.

5. In a coin bank, the combination of a registering wheel and a coin chute pivoted upon a common axis, means for preventing the establishment of engagement of the registering wheel by a coin in the chute during a predetermined part of the movement of said chute, and means for projecting a coin edgewise from the side of the chute and establishing engagement of the registering wheel by said coin in said chute throughout a different predetermined portion of the movement of said chute.

6. In a coin bank, the combination of a registering wheel, a pivotally mounted chute adapted to contain a coin in position to produce actuation of said registering wheel, and means for moving the coin edgewise across the plane of movement of the chute into position to produce said actuation of the registering wheel at a predetermined point in the movement of said chute.

7. In a coin bank, the combination of a registering wheel and a coin chute pivoted upon a common axis and means for thrusting a coin edgewise transversely of the plane of movement of said chute and into engagement with said registering wheel.

8. In a coin bank, the combination of a movable coin chute, means whereby it is controlled to have movement in one direction only, said chute having at its inner part a lateral opening through which the coin may move edgewise, a fixed partition at the side of said coin chute and having an opening through which the edge of the coin may project, registering mechanism at the other side of said partition adapted to be engaged by the coin when so projected through the opening.

9. In a coin bank, the combination of a rotatable coin chute, which is rotatable in one direction only, said chute having at its inner part a lateral opening through which the coin may move edgewise, a fixed partition at the side of said coin chute and having an opening through which the edge of the coin may project, and registering mechanism at the other side of said partition adapted to be engaged by the coin when so projected through the opening, said partition acting as a stop to arrest the movement of the coin and registering mechanism.

10. In a coin bank, the combination of a casing, registering mechanism within the casing, a coin chute for containing coins in position to produce actuation of the registering mechanism, and a circular knurled member having a coin slot and disposed partly without the casing for moving said chute, said casing having a coin slot with which said slot of the knurled member may coincide in its initial position.

11. In a coin bank, the combination of a registering mechanism, a coin chute, a perforated partition therebetween, and means for thrusting the coin edgewise through the perforation and into engagement with the registering mechanism to produce actuation of the latter.

12. In a coin bank, the combination of a registering mechanism, a coin chute, and a perforated partition therebetween, a coin in said chute being movable through the perforation into engagement with the registering mechanism to produce actuation of the latter, said partition controlling the coin from said movement until the proper time to effect accurate registration.

13. In a coin bank, the combination of registering mechanism, a rotatable coin chute adapted to contain coins in position to cause actuation of the registering mechanism and a knurled ratchet and pawl for insuring rotation of the coin chute in a single direction, said ratchet having a coin slot and extending out as a handle for rotating the chute for a complete rotation.

14. In a coin bank, the combination of a rotatable coin chute, which is rotatable in one direction only, said chute having at its inner part a lateral opening through which the coin may move edgewise, a fixed partition at the side of said coin chute and having an opening through which the edge of the coin may project, registering mechanism at the other side of said partition adapted to be engaged by the coin when so projected through the opening, and a cam element acting to force the coin into engagement with the registering mechanism, said partition acting as a stop to arrest the movement of the coin and registering mechanism.

15. In a coin bank, the combination of a coin chute, which is rotatable in one direction only, said chute having at its inner part a lateral opening through which the coin may move edgewise, a circular ratchet flange on the coin chute by which it may be manipulated, said flange having a coin slot, a pawl engaging said flange to control the movement of the coin chute, a fixed partition at the side of said coin chute and having an opening through which the edge of the coin may project, registering mechanism at the other side of said partition adapted to be engaged by the coin when so projected through the opening, said partition acting as a stop to arrest the movement of the coin and registering mechanism.

16. In a coin bank, the combination of a casing having a slot adapted to receive a coin, a registering mechanism within the

casing for registering the amount of the coin, and a manually operable circular member pivotally mounted within the casing, and having means for operating said registering mechanism, and continuously located in and extending through said slot.

17. In a coin bank, the combination of a casing, a coin carrier mounted within the casing for complete rotation about its own axis, said coin carrier having a disk part extending through the casing in position to permit the edge to be engaged by the operator to rotate the carrier, a registering mechanism engageable by a coin during rotation of the carrier, and means holding the coin in the carrier until it has passed said registering mechanism whereby to prevent premature release of the coin.

EDWARD SCHULTZ.