

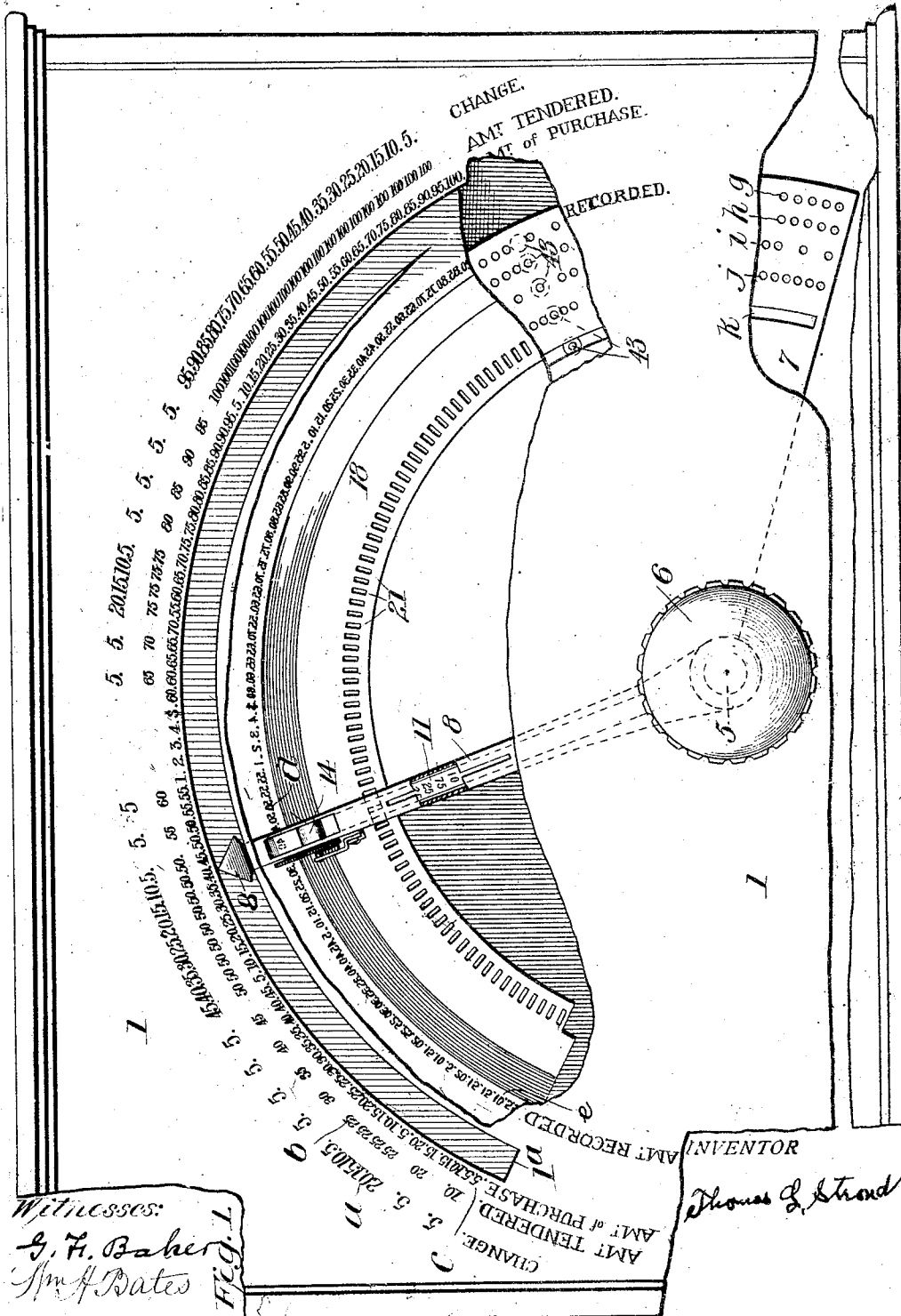
T. L. STROUD.
MECHANICAL CASHIER.

APPLICATION FILED SEPT. 24, 1909.

Patented Aug. 13, 1912.

4 SHEETS—SHEET 1.

1,035,652.



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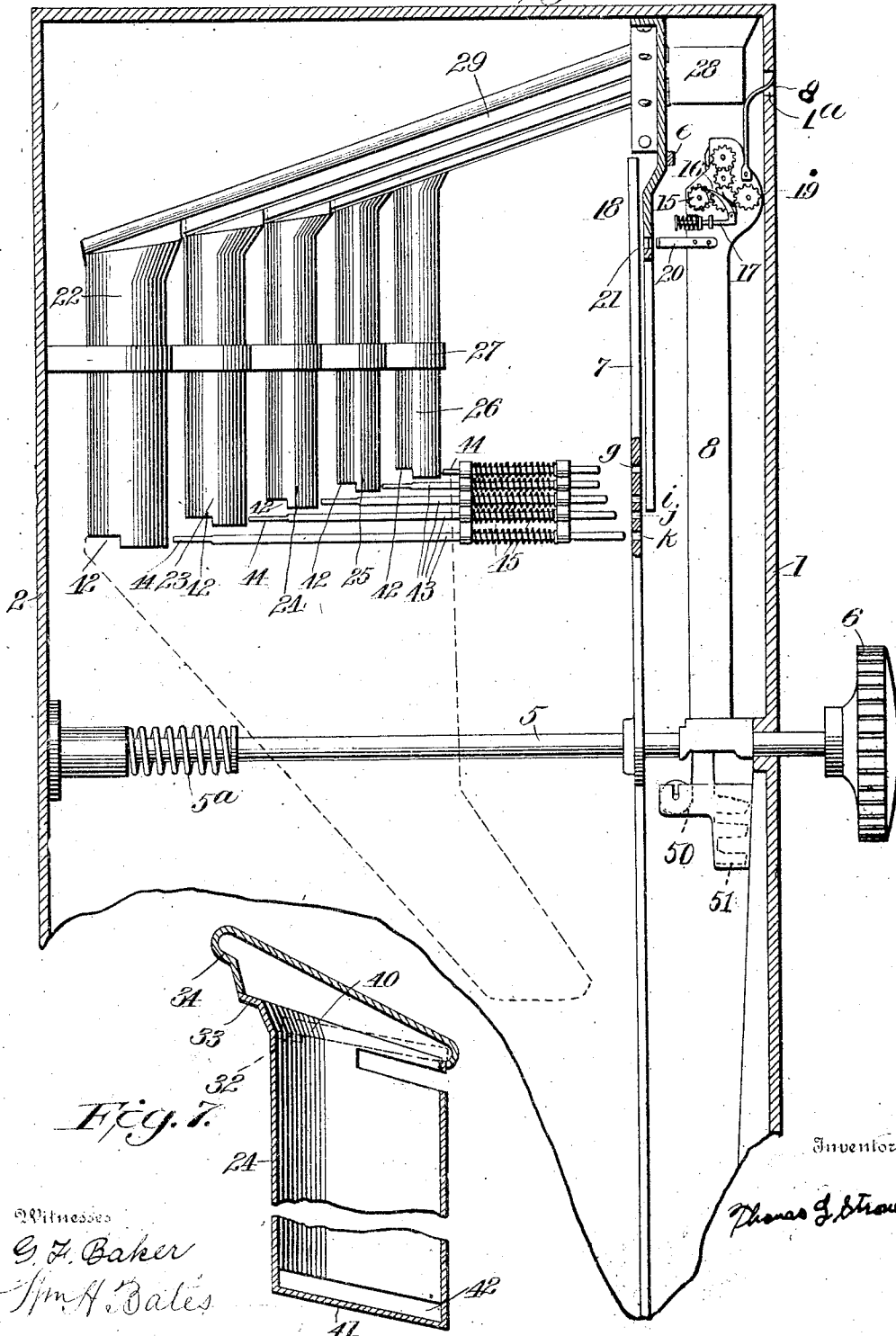
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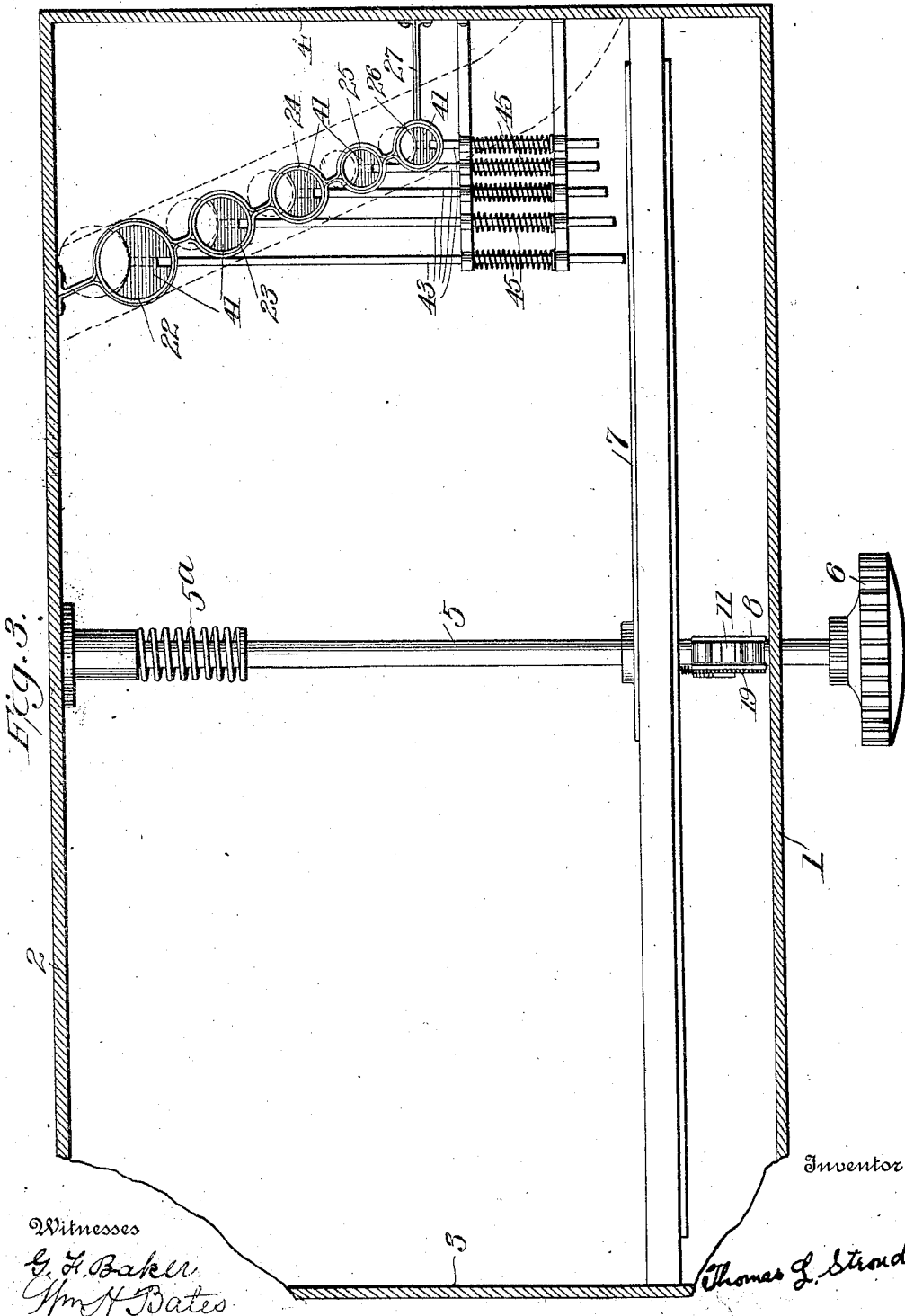
4 SHEETS—SHEET 2.

1,035,652.

Fig. 2.



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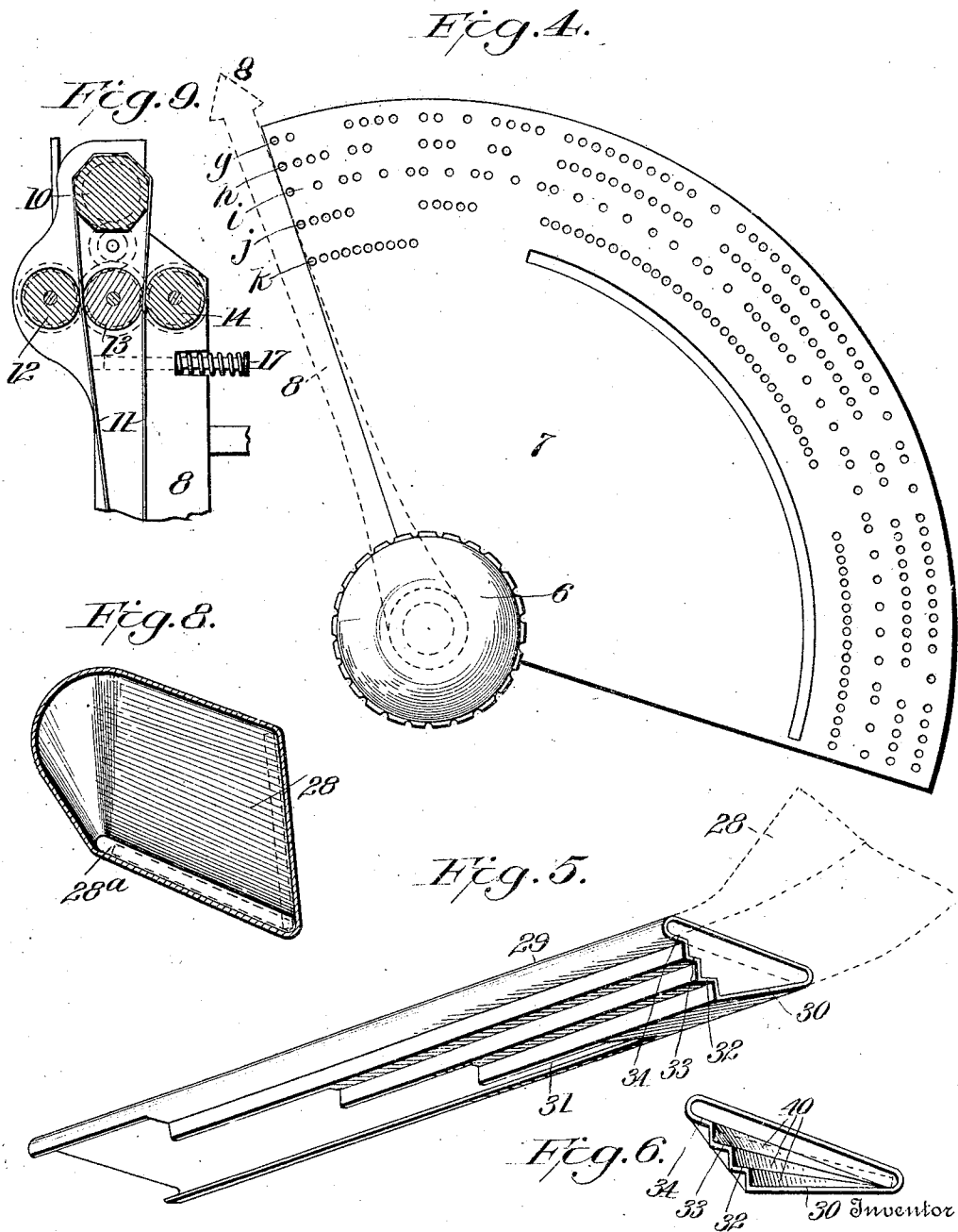


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4 SHEETS—SHEET 4.

1,035,652.



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MECHANICAL CASHIER.

1,035,652.

Specification of Letters Patent.

Patented Aug. 13, 1912.

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To all whom it may concern:

Be it known that I, THOMAS L. STROUD, citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Mechanical Cashiers, of which the following is a specification.

This invention relates to cash registers and change making machines known as mechanical cashiers.

The principal object of my invention is to provide a machine that will register and indicate the amount of purchase and automatically compute, indicate and make the right amount of change all at a single operation.

Another object is to provide a coin separator that will separate and carry the different coins to their respective receptacles.

Further objects are to generally improve the construction and operation of the various parts of such a machine.

With these objects in view the invention consists in the improved construction, arrangement and combination of parts hereinafter fully described and afterward specifically claimed.

In the accompanying drawings in which I have illustrated one embodiment of my invention, Figure 1 is a front view of the machine, with part of case broken away. Fig. 2 is a vertical section viewed from the left side and shows almost entire machine. Fig. 3 is a top plan view. Fig. 4 shows the segment of disk which controls the change making mechanism; also showing operating handle and pointer in dotted lines. Fig. 5 shows the coin separator with the hopper shown in dotted lines. Fig. 6 is an end view of coin separator. Fig. 7 is a section of a coin tube, and the coin separator adjacent thereto, the nickel tube being illustrated in this instance. Fig. 8 is a view of the hopper of the coin separator. Fig. 9 is a sectional view of the registering and tape carrying mechanism, carried by the pointer.

This machine comprises a rectangular case, the front of which is indicated by 1, the back by 2 and the sides by 3 and 4.

Centrally located in the front of the machine is a rotary and longitudinally movable shaft 5, with an operating handle 6 on its forward end. Said shaft carries a segment of disk 7, and a pointer 8, both rigidly fixed on the shaft. The pointer 8 carries mechanism for controlling a tape. Mounted

on pointer 8 is an octagon roller 10, which serves as a platen, over which passes a tape 11. The tape is controlled by suitable guide and feed rollers 12, 13 and 14. The guide roller 14 carries upon its shaft a ratchet 15 operated by a pawl 16, said pawl being operated by a spring pressed plunger 17. When shaft 5 moves longitudinally it brings the tape in contact with type *c* arranged on the plate 18, by which means a register of sales is made. The plunger 17 is depressed by striking plate 18, and operates gearing 19, moving the tape one step forward, as pointer 8 with the shaft comes back to its normal position. The tape passes from a reel 50 upward and after receiving the record passes down in through an elongated opening in the shaft 5, which minimizes the movement of the tape at that point, due to the longitudinal movement of the shaft. Pointer 8 also carries one or more guide members 20, which engage any of a series of openings 21 in the plate 18 for the purpose of guiding the pointer and disk when shaft 5 is pushed in.

In the machine are vertically disposed coin tubes, five being shown in this instance, of which 22 indicates a half dollar tube; 23, a quarter dollar tube; 24, a nickel tube and 25 and 26, two dime tubes. These tubes are held in position by straps 27 attached to the frame of the machine.

Upon the face of the machine (Fig. 1,) are three series of figures, and a fourth series, the type, before mentioned. These four series of figures are arranged in concentric arcs or circles around shaft 5, and are indicated by *a*, *b*, *c* and *e*, respectively. Series *a* indicates the amount of change, or the difference between series *b* and *c*. Series *b* indicates the amount tendered. Series *c* indicates the amount of purchase. The numbers on series *c*, where there are no numbers in the same radial lines in series *a* and *b*, indicate both the amount tendered and the amount of purchase, no change being required. When no account of odd pennies is taken the numbers 1, 2, 3 and 4 on scale may be used to indicate and register dollars, in place of cents, and the dollar mark if placed before or after any number may make that number read dollars in place of cents. Not counting the numbers 1, 2, 3 and 4, and the dollar mark, the series *b* and *c* represent a scale consecutively from

left to right of every possible purchase and change to be made from five cents to one dollar, in multiples of five. The series *e*, which contains the same figures as series *c*, indicates the type. In Fig. 1, the pointer 8 is shown pointing toward 40, 50 and 10, which indicates that 40 cents is the amount of purchase; 50 cents the amount tendered, and 10 cents the amount of change. By pushing the shaft 5 in with the pointer at this point, 40 cents will be registered, as shown, and 10 cents change will be given, as will be hereinafter explained. On the face of the machine is an arc 1^a which permits the pointer 8 normally to stand just under the scale of figures.

Raised in a plane radially from shaft 5 are five longitudinally movable coin plungers, indicated by 43, with reduced ends 44, and having return springs 45, said plungers being independent of each other and communicating directly with coin tubes.

The disk 7, Fig. 4, has a series of openings arranged both concentrically and radially from shaft 5, the concentric circles being indicated by *g*, *h*, *i*, *j* and *k*. The arc slot in circle *k* corresponds to a continuous row of perforations. When shaft 5 moves longitudinally it carries the disk with it and when the imperforate surface of disk strikes the ends of the coin plungers their opposite ends are forced along the bottom of coin tubes to eject the coins, but the plungers which register with the perforations in the disk will remain inoperative. In other words, the disk cannot move the plungers only where omissions occur in its perforated surface. The concentric circles of disk 7 are arranged with respect to the different coin plungers, as follows: Circles *g* and *h* control the dimes, and *i*, *j* and *k* control the nickels, quarters and half dollars, respectively. As before stated the disk and pointer are both fixed on the same shaft, and the disk is always in position to move the proper plungers to give the amount of change that the pointer indicates.

The coin separator, Figs. 5 and 6, consists of a suitable hopper 28 and a chute 29 having steps or ledges 32, 33 and 34 on one side, and a series of obstructions along its length. From a point near the upper end of the chute to the lower end, the bottom and ledges are cut away to permit the different sized coins to fall through. There is enough bottom left on one side to hold one edge of coins until the other edge is released. The opening 28^a in hopper is just the size to admit a half dollar, and, as shown in dotted lines 28, the opening in the hopper aligns with the position the half dollar takes in the chute, and all the smaller coins pass through same opening but fall at their respective ledges. The dimes slide flat on the bottom 30, and fall at a point

indicated by 31; the other coins slide with one edge on the bottom, and the other edge on their respective ledges, which are indicated by 32, 33 and 34, for nickels, quarters and half dollars, respectively. As shown in Figs. 6 and 8, by elevating one edge of the coins a triangular shaped obstruction 40 is made possible, which acts as a stop for each coin and without interfering with the progress of the coin above it and thus insures the falling of the coins into their proper receptacles. Fig. 7 shows the nickel in dotted lines striking its obstruction. The coin separator is directly attached to the coin tubes, and to avoid choking, Fig. 7, the tubes are provided with inclined bottoms, and an overflow opening near the top, by which the coins slide out. The inclined bottoms of coin tubes are of course at right angles to the coin plungers, whose points must pass in a straight line along the bottom of tubes to eject the coins. The bottoms of the coin tubes are indicated by 41, and as shown, enough of the bottom and side of each tube is cut away at 42 to allow the coins to fall when pushed beyond the center. The point of each coin plunger passes just above the bottom of its tube and pushes out the bottom coin.

Suitable means for inking the tape may be employed. An ink or carbon strip may be placed on the type or may be carried by the pointer, or the tape may be of such quality that it will receive a legible impression from the type. The machine may have attachments such as receptacles to receive overflow and ejected coins and a bell to insure a full stroke, none of which are shown as they form no part of this invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is—

1. In a machine of the character described, a fixed scale, a pointer to indicate various amounts thereon, stationary type, means carried by the pointer supporting a record strip, and means carried by the pointer for taking impressions of the type corresponding to the amount indicated by the pointer.

2. In a machine of the character described, a fixed scale, a movable pointer to indicate various amounts thereon, stationary type arranged in correspondence to the amounts on the scale, means carried by the pointer for supporting a record strip, feeding means for said strip also carried by the pointer, and impression means carried by the pointer for taking impressions from the type corresponding to the amount indicated by the pointer.

3. In a machine of the character described, a fixed scale having arranged thereon characters indicating for each transaction the amount of purchase, a rotary and

longitudinally movable shaft, and a pointer carried by the shaft adapted to indicate any one of said characters, and recording means carried by the pointer.

5 4. In a machine of the character described, a fixed scale having arranged thereon in radial lines, characters indicating for each transaction the amount of purchase, the amount tendered and the amount of change required, a rotary and longitudinally
10 movable shaft, a pointer rigidly secured to the shaft adapted to indicate any one of said radial lines, and recording means carried by the pointer.

15 5. In a machine of the character described, a fixed scale having arranged thereon in radial lines, characters indicating for each transaction the amount of purchase, the amount tendered and the amount of change
20 required, a fixed plate in the rear of the scale, a rotary and longitudinally movable shaft, a pointer rigidly secured to the shaft adapted to indicate any one of said radial lines, and recording means carried by the
25 pointer and comprising a plunger adapted to strike the fixed plate when the shaft is moved longitudinally and to operate the recording means.

6. In a machine of the character described, a fixed scale having arranged thereon in radial lines, characters indicating for each transaction the amount of purchase, the amount tendered and the amount of change
30 required, a fixed plate in the rear of the scale carrying type, a rotary and longitudinally movable shaft, a pointer rigidly secured upon the shaft and a recording strip carried by the pointer in position to strike the type when the shaft is moved longi-
40 tudinally.

7. In a machine of the character described, a fixed scale having arranged thereon in radial lines, characters indicating for each transaction the amount of purchase, the amount tendered and the amount of change
45 required, a fixed plate in the rear of the scale carrying type, a rotary and longitudinally movable shaft, a pointer rigidly secured upon the shaft, a recording strip carried by the pointer in position to strike the type when the shaft is moved longitudinally, and feeding means for the strip carried by the pointer comprising an operating plunger adapted to be actuated by the longitudinal
50 movement of the shaft.

8. In a machine of the character described, a fixed scale having arranged thereon in radial lines, characters indicating for each transaction the amount of purchase, the amount tendered and the amount of change
60 required, a fixed plate in the rear of the scale carrying type, a rotary and longitudi-

nally movable shaft, a pointer rigidly secured upon the shaft, a recording strip carried by the pointer in position to strike the type when the shaft is moved longitudinally, and feeding means for the strip carried by the pointer comprising a platen roller, gearing, a ratchet wheel, and a spring plunger adapted to strike the fixed plate when the shaft is moved longitudinally.

9. In a machine of the character described, a fixed scale having arranged thereon in radial lines, characters indicating for each transaction the amount of purchase, the amount tendered and the amount of change required, a fixed plate in the rear of the scale carrying type, a rotary and longitudinally movable shaft, a pointer rigidly secured upon the shaft, a recording strip carried by the pointer in position to strike the type when the shaft is moved longitudinally, and means for guiding the pointer during the printing movement.

10. In a machine of the character described, a fixed scale having arranged thereon in radial lines, characters indicating for each transaction the amount of purchase, the amount tendered, and the amount of change required, a fixed plate in the rear of the scale provided with a concentric row of type and a concentric series of slots, a rotary and longitudinally movable shaft, a pointer rigidly secured upon the shaft and adapted to indicate any one of said radial rows of characters; a platen roller carried by the pointer, a recording strip and feeding means for the strip carried by the pointer, and a pin projecting from the pointer adapted to engage in any one of said series of concentric slots to hold the pointer against rotary movement while permitting its movement with the longitudinal movement of the shaft.

11. In a machine of the character described, a fixed scale having numbers arranged thereon; a movable pointer to indicate various amounts on said scale, stationary type arranged in correspondence to the numbers on the scale, means carried by the pointer for taking impressions of the type corresponding to the amount indicated by the pointer, and means for locking the pointer in adjusted position during the impression taking movement of the pointer, said means comprising a pin carried by the pointer and a series of holes arranged in alinement with the numbers on the scale.

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

THOMAS L. STROUD.

Witnesses:

S. BRASHEARS,
A. COOPER.