

(No Model.)

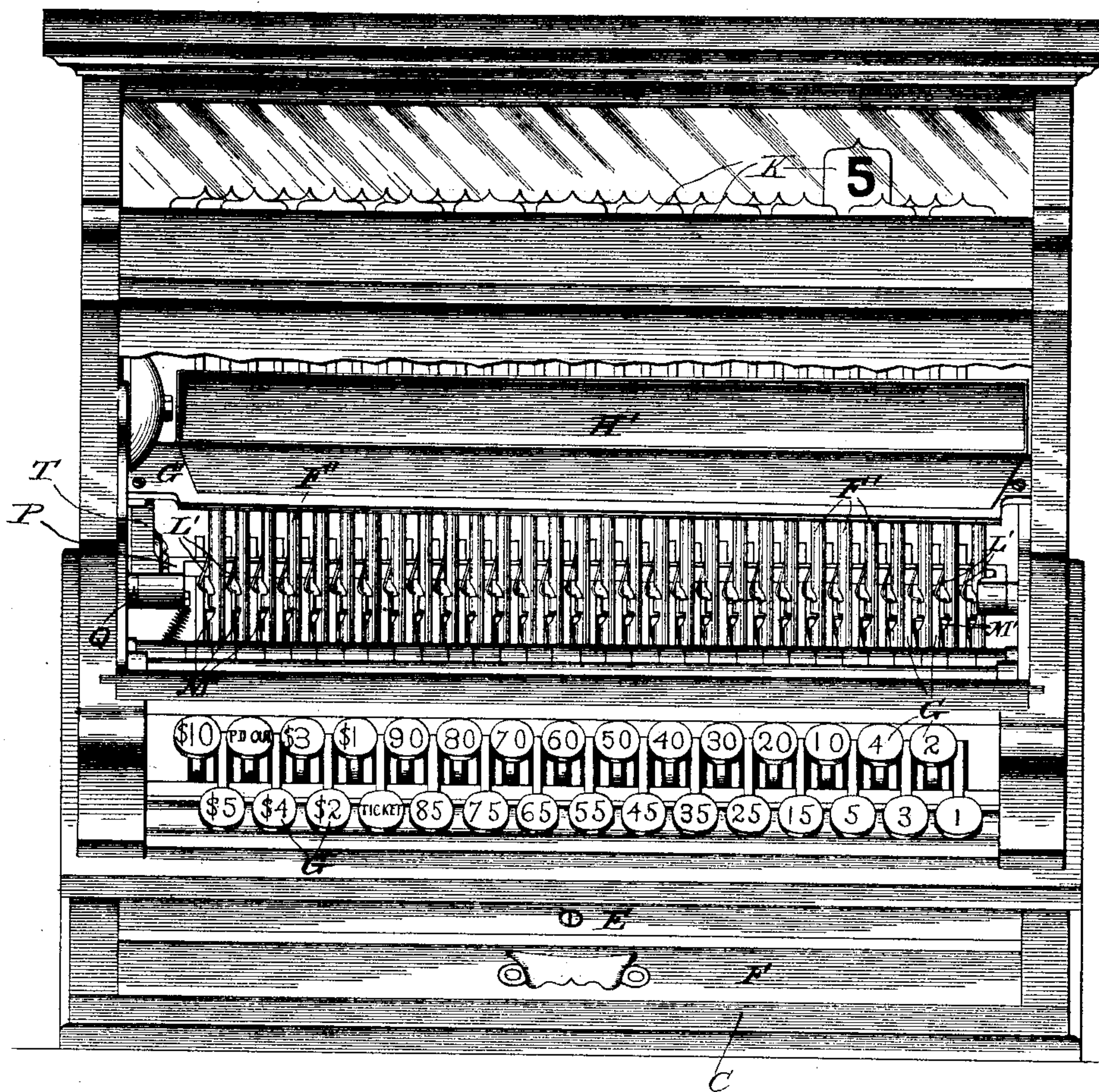
2 Sheets—Sheet 1.

H. COOK.  
CASH REGISTER.

No. 482,505.

Patented Sept. 13, 1892.

Fig 1.



Witnesses:  
Wm J. Hemming  
Lute S. Allen

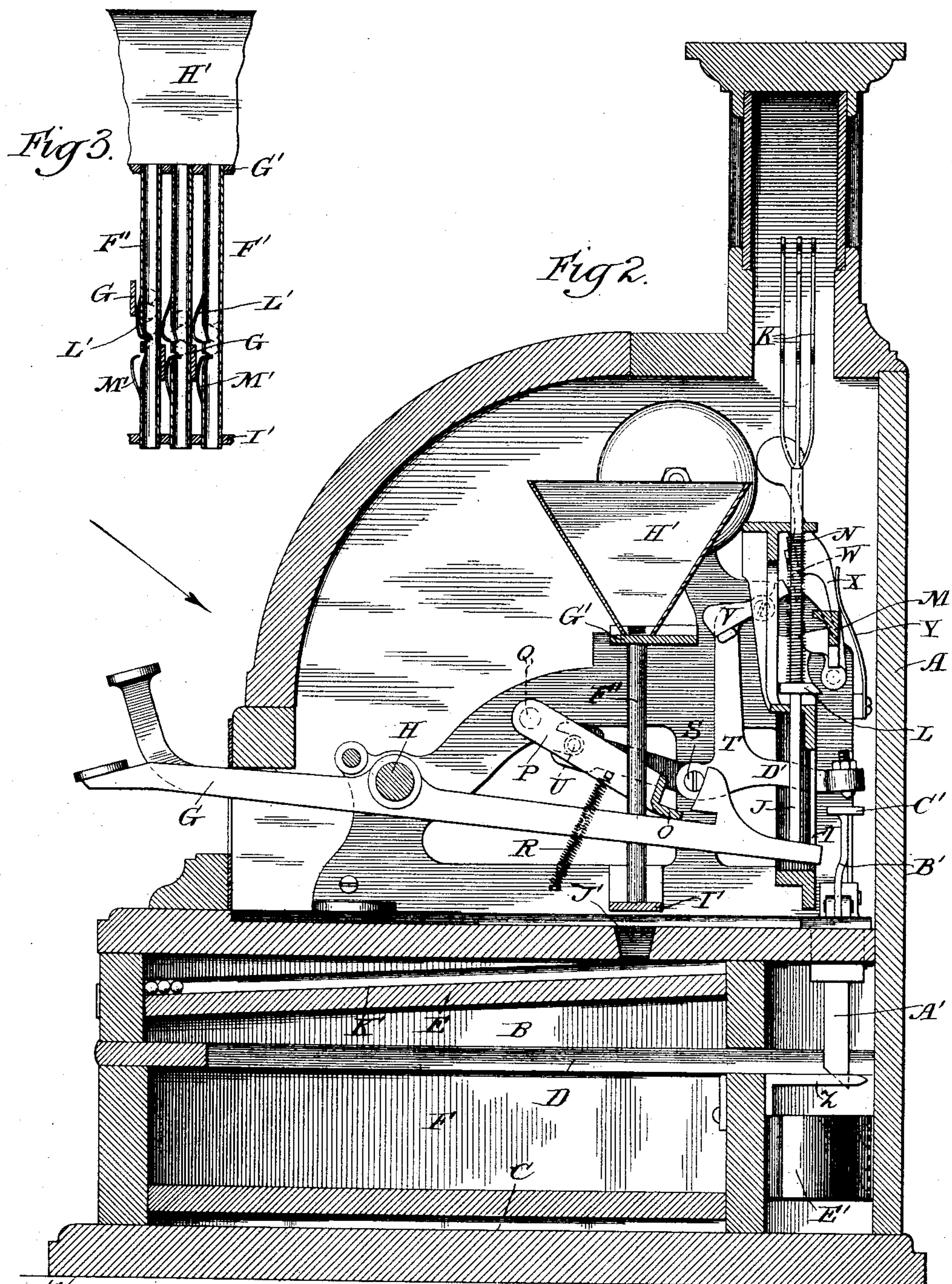
Inwented;  
 Hugo Cook  
 By Edward Rector,  
 his Atty.



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Witnesses:  
Wm. J. Fleming  
Lute S. Allen

Inventor;  
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# UNITED STATES PATENT OFFICE.

HUGO COOK, OF DAYTON, OHIO.

## CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 482,505, dated September 13, 1892.

Application filed May 23, 1892. Serial No. 434,000. (No model.)

*To all whom it may concern:*

Be it known that I, HUGO COOK, 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 Cash-Registers, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of machines which employs a series of operating-keys representing different values, whose operations cause their respective values to be indicated to the customer and bystanders and to be registered or recorded in some suitable manner within the machine.

My invention consists in the provision of novel means for registering the values of the operated keys and the combination of such means with the keys, all as will be hereinafter set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front view of the machine at approximately the angle indicated by the arrow in Fig. 2, with the lid of the casing broken away to expose the parts within; Fig. 2, a vertical section of the machine; and Fig. 3, a sectional detail of several of the tubes and associated parts.

The same letters of reference are used to indicate identical parts in all the figures.

The working parts of the machine are inclosed in a suitable casing A, provided in its upper portion with glass-covered reading openings or windows, through which the numbers upon the indicators may be seen when they are lifted by the operations of their respective keys.

In the base of the machine are two drawer-compartments B C, separated by a partition D. The upper compartment contains a drawer or suitable sliding receptacle E, which remains permanently closed and locked during the operations of the machine, and to which only the proprietor or other authorized agent has access. The lower compartment contains a money-drawer F, which is normally locked, but adapted to be released and thrown open at each operation of any one of the keys, as is usual in this class of machines.

The operating-keys consist of levers G, hung

on a horizontal shaft H in the lower forward part of the machine. Their front ends project through slots in the front of the casing and carry numbered finger-buttons representing their respective values. Their rear ends play up and down in a slotted guide-plate I, normally resting in the bottoms of the slots. Resting upon their rear ends are the usual vertically-guided rods J, carrying at their upper ends the indicator-plates K, bearing numbers corresponding to those on the finger-buttons of the respective keys. These rods are provided with beveled collars L, which co-operate with a supporting-bar M, hinged at its ends to the side frames of the machine, and surrounding the rods between the collars and the upper guide-plate through which the rods pass are coiled resetting-springs N.

Extending across and resting upon the upper sides of the key-levers, near their rear ends, is a cross-bar O, which is hung by side arms P at either end to the framework at Q, so that the bar can rise and fall with the operated keys, a spring R being employed, if desired, to assist in resetting the parts.

Mounted upon the side frame of the machine at S is a bell-crank lever T, the front end of whose lower forwardly-extending arm is slotted and embraces a pin U upon the side arm P of the vibrating frame, (the cross-bar O and side arms P,) so that when said frame is lifted by the operation of a key the upper end of the bell-crank T will be thrown rearward. The upper end of this lever carries a trip V, which co-operates with a plate W, (dotted lines, Fig. 2,) secured upon the forward side of an arm X, carried by the bar M at its left-hand end. When the vibrating frame is lifted by the operation of a key and the upper end of the bell-crank thereby thrown rearward, the nose of the trip will engage the plate W and press the arm X and bar M rearward against the resistance of a spring Y, bearing against the rear side of the arm X, carrying the bar M from under the collar L of any indicator-rod which is resting upon it and permitting the collar on the rod lifted by the operated key to pass above the bar. When the nose of the trip clears the lower end of the plate W, the spring Y will throw the bar M forward again into position to catch under the collar of the lifted indicator-rod



when the operated key is released. This much of the machine, constituting the indicating mechanism, is of familiar construction, as are also the locking and releasing devices for the money-drawer F. This drawer has upon its rear side a locking-plate Z, which is engaged by the lower end of a vertically-guided bolt A', which is connected at its upper end to a lever B', arranged transversely of the machine and having its end C' opposite the locking-bolt extending upward beneath the rear end of an arm D', projecting rearwardly from the bell-crank lever T. When said lever is locked by the operation of one of the key-levers in the manner before explained, the rear end of the arm D' (or an adjustable bolt carried thereby) will strike and depress the end C' of the lever B' and lift its opposite end, which is connected to the bolt A', thereby releasing the drawer F, which will then be thrown open by a curved spring E' bearing against its rear end. When the drawer is pushed in again, the locking-plate Z will ride under the beveled lower end of the bolt A' and the latter will drop into the hole or recess in the plate and again lock the drawer.

The devices for registering the values of the operated keys consist of counters carried in a series of tubes or other equivalent guideways, one of which counters is dropped into a suitable drawer or receptacle at each operation of the key corresponding to the tube or guide in which it is carried. The drawer or other receptacle is provided with a series of grooves or troughs which receive the counters from the respective tubes and preserve them in separate lots.

In the machine illustrated in the drawings the counters consist of spherical weights—such as marbles or leaden bullets—and they are carried in a series of vertical tubes F', supported in line transversely across the machine, one beside each key-lever G. The upper ends of the tubes are supported in the bottom plate G' of a hopper II', in which the supply of counters may be placed and from which they pass into the open upper ends of the tubes. The lower ends of the tubes are supported in a cross-plate I' of the framework immediately above a transverse opening J' in the base upon which the framework rests. The bottom of the drawer E is inclined forward, as shown, and provided with a series of troughs or grooves K', one in line with each of the tubes F'.

Secured upon the left-hand side of each of the tubes, Fig. 3, are two spring-detents L' M', whose free ends are adapted to pass through openings in the side of the tube. Each pair of these spring-detents co-operates with the adjacent key-lever G. When the levers are in their normal position of rest, they engage the lower detents M' and press them to the right into the tubes, and in this position the upper ends of said detents support the columns of counters above them in the tubes F',

as seen in the case of the two right-hand tubes in Fig. 3. When, however, any one of the key-levers is operated and its rear end lifted, the lower detent M' will be released and spring outward and the upper detent L' will be forced into the tube, as seen in the case of the left-hand one in Fig. 3, and this upper detent will then support the column of counters above it. When the lower detent is released by the upward movement of the key-lever, the lower counter in the column above it will be released and drop through the tube into the proper groove in the drawer E, and the upper detent as it is pressed into the tube will catch under the counter which was the second from the bottom of the column. When the key-lever is reset again, the upper detent L' will spring outward and the column of counters will drop upon and be supported by the lower detent M' again. In this manner at each operation of any one of the key-levers, one counter will be dropped from the corresponding tube into the proper trough in the locked drawer. These troughs or grooves are numbered to correspond to the respective keys, and, if desired, each may have a registry-scale upon its side by which the total amount represented by all of the counters in each trough may be seen at a glance without counting them and multiplying their number by the value of the key corresponding to the trough, as would otherwise be necessary.

From the foregoing description it will be seen that a supply of counters having first been poured into the hopper II', at each operation of any one of the key-levers an indicator representing its value will be lifted into view, the money-drawer F released, thrown open, and a counter dropped into that trough K' in the drawer E which corresponds to such operated key.

While I have shown and prefer to employ vertical tubes for the counters, it is evident that guideways of any other suitable form may be substituted for them. It will also be understood that it is not essential that such guides or the tubes should stand in exact vertical position. It is only necessary that the counters may travel freely through them and they may be arranged at any angle desired consistent with such operation.

Having thus fully described my invention, I claim—

1. The combination of a series of guideways for holding a supply of counters adapted to travel through them by gravity, a pair of detents for each guideway, co-operating with the counters therein to release them one by one, and a series of operating-keys representing different values projecting between the guideways and arranged to bear against and co-operate with the detents, substantially as described.

2. The combination of a series of guideways containing a supply of counters adapted to travel through them by gravity, a pair of spring-detents for each guideway, co-operating



with the counters therein to release them one by one, and a series of operating-keys representing different values projecting between the guideways and co-operating with the detents, substantially as described.

3. The combination of a series of guideways, a hopper for holding a supply of counters communicating with the guideways at their upper ends, a pair of detents for each guideway, co-operating with the counters therein to release them one by one, and a series of operating-keys representing different values projecting between the guideways and co-operating with the detents, substantially as described.

4. The combination of a series of guideways for holding a supply of counters adapted to travel through them by gravity, a pair of detents for each guideway, co-operating with the counters therein to release them one by one, a series of operating-keys projecting between the guideways and co-operating with the detents, and a receptacle communicating with the delivery ends of the guideways and having a series of divisions for receiving and keeping separate the counters delivered to it from the different guideways, substantially as described.

5. The combination of a series of guideways, a hopper for holding a supply of counters, communicating with the guideways at their upper ends, a receptacle communicating with the guideways at their lower ends and having a series of divisions for receiving and keeping separate the counters delivered to it from the different guideways, a pair of detents for each guideway, co-operating with the counters therein to release them one by one, and a series of operating-keys representing different values projecting between the guideways and co-operating with the detents, substantially as described.

6. The combination of a series of guideways, a hopper for holding a supply of counters, communicating with the guideways at their upper ends, a pair of detents for each guideway, co-operating with the counters therein to release them therefrom one by one, a series of operating-keys representing different values projecting between the guideways and co-operating with the detents, and a receptacle communicating with the lower ends of the guideways and having a series of divisions for receiving and keeping separate the counters delivered to it from the respective guideways, substantially as described.

7. The combination, in a cash register and indicator, of a series of guideways for holding a supply of counters adapted to travel through them by gravity, a series of operating-keys representing different values and projecting between the guideways, a series of indicators adapted to be brought into view

by the operations of said keys to indicate their respective values, means co-operating with the keys and with the counters in the guideways to release one counter in each guideway upon the operation of the key corresponding to such guideway, and a receptacle having a series of divisions for receiving and keeping separate the counters delivered to it from the different guideways, whereby upon the operation of any key an indicator representing its value is exposed to view and a counter deposited in the proper receptacle to preserve a record thereof.

8. The combination, in a cash register and indicator, of a series of guideways to hold a supply of counters adapted to travel through them by gravity, a pair of detents for each guideway, co-operating with the counters therein to release them one by one, a series of operating-keys representing different values and co-operating with the detents, a receptacle communicating with the guideways and provided with divisions for receiving and keeping separate the counters delivered to it from the different guideways, a money-drawer, and a lock therefor released by the operation of any key of the series, whereby upon operating any key of the series to open the money-drawer a registry of such operation is made by the deposition of a counter in the proper receptacle.

9. The combination of the tubes  $F'$ , the spring-detents  $L' M'$ , adapted to enter openings therein, and the keys  $G$ , projecting between the tubes and co-operating with the detents, substantially as described.

10. The combination of the hopper  $H'$ , the tubes  $F'$ , communicating therewith, the spring-detents  $L' M'$ , adapted to enter openings therein, and the keys  $G$ , projecting between the guideways and co-operating with the detents, substantially as described.

11. The combination of the tubes  $F'$ , the detents  $L' M'$ , adapted to enter openings therein, the keys  $G$ , projecting between the tubes and co-operating with the detents, and the receptacle  $E$ , communicating with the lower ends of the tubes and provided with the troughs  $K'$  for receiving and keeping separate the counters delivered to it from the different tubes  $F'$ , substantially as described.

12. The combination of the hopper  $H'$ , the tubes  $F'$ , communicating therewith at their upper ends, the receptacle  $E$ , communicating with the tubes at their lower ends and provided with the troughs  $K'$ , the detents  $L' M'$ , and the keys  $G'$ , projecting between the tubes  $F'$  and co-operating with the detents, substantially as described.

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Witnesses:

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