

(No Model.)

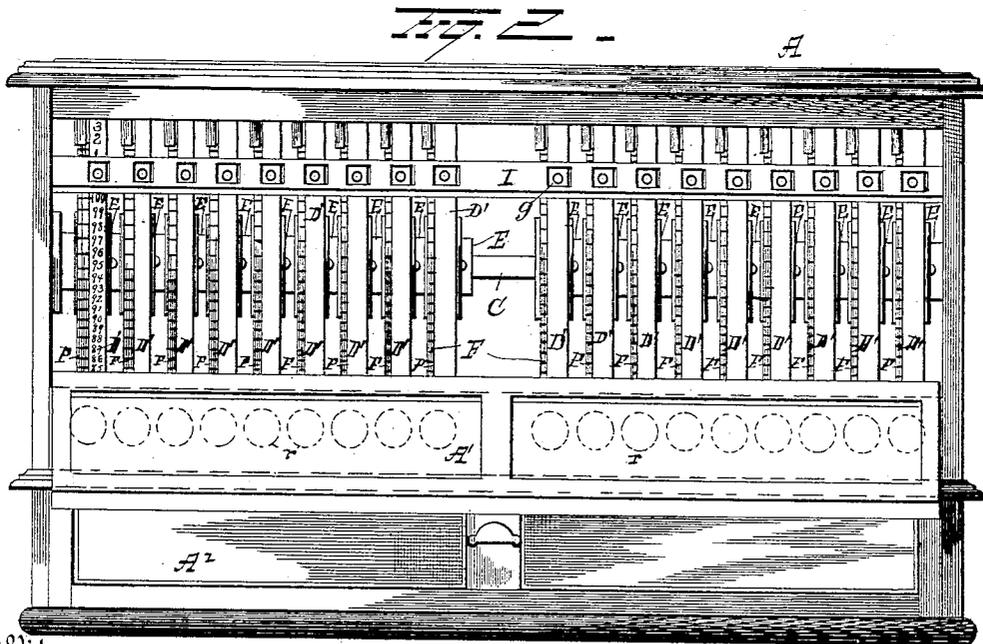
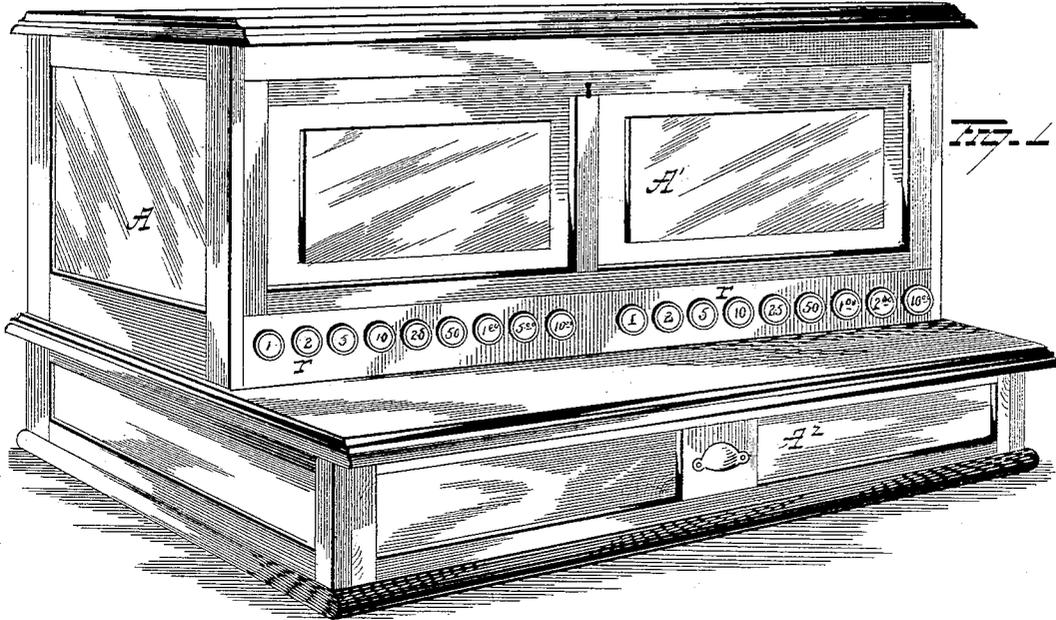
4 Sheets—Sheet 1.

O. C. RETSLOFF.

CASH REGISTERING DEVICE.

No. 399,080.

Patented Mar. 5, 1889.



Witnesses,

E. A. Hingham
G. F. Downing

Inventor,

Otto C. Retsloff.

By his Attorney
H. A. Seymour.

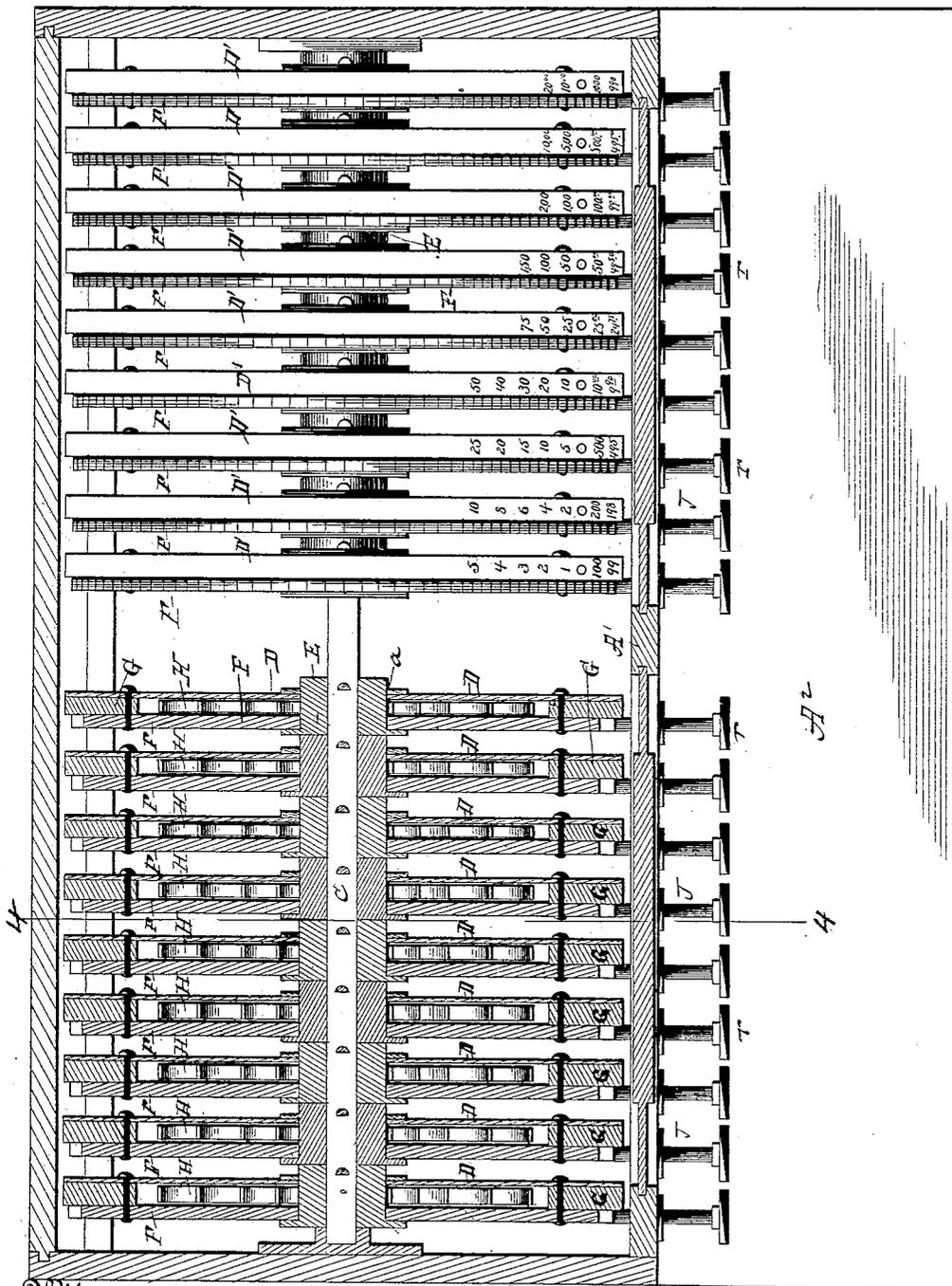
(No Model.)

4 Sheets—Sheet 2.

O. C. RETSLOFF.
CASH REGISTERING DEVICE.

No. 399,080.

Patented Mar. 5, 1889.



Witnesses
E. A. Mearns
G. S. Downing

Inventor
 Otto C. Retsloff.

By his Attorney
H. A. Simpson

(No Model.)

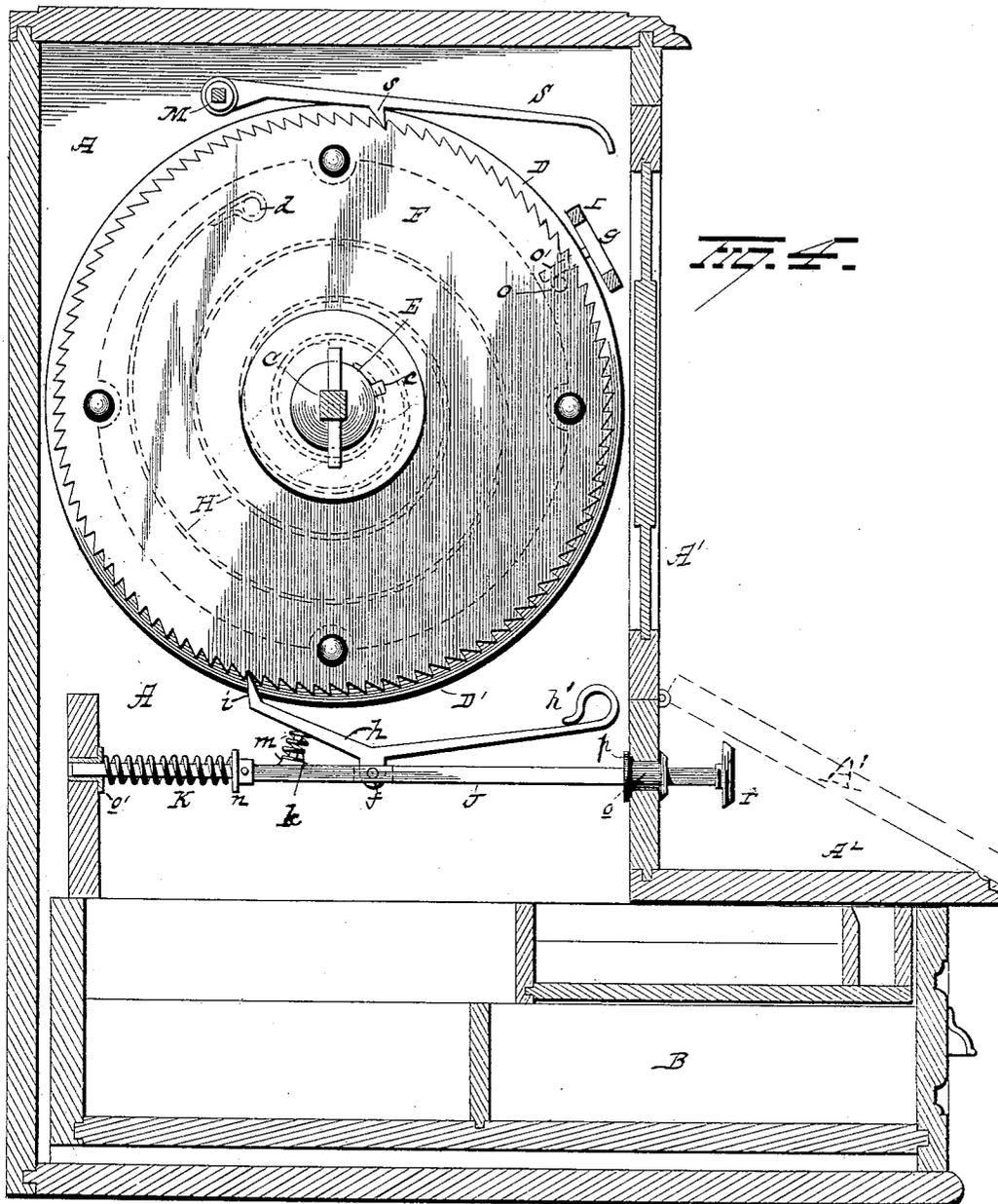
4 Sheets—Sheet 3.

O. C. RETSLOFF.

CASH REGISTERING DEVICE.

No. 399,080.

Patented Mar. 5, 1889.



Witnesses.

E. A. Atkinson
G. C. Downing

Inventor
Otto C. Retsloff.

By his Attorney
H. A. Symmes

(No Model.)

4 Sheets—Sheet 4.

O. C. RETSLOFF.
CASH REGISTERING DEVICE.

No. 399,080.

Patented Mar. 5, 1889.

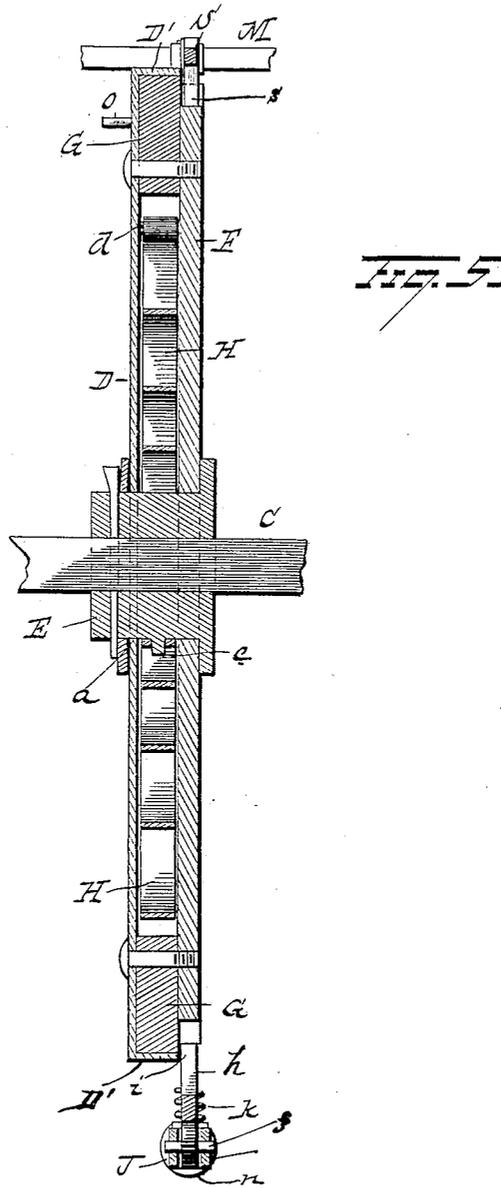


Fig. 5.

Witnesses
E. M. Kingham
L. F. Downing.

Inventor
Otto C. Retsloff.

By his Attorney
H. A. Symmons

UNITED STATES PATENT OFFICE.

OTTO C. RETSLOFF, OF WINNEBAGO CITY, MINNESOTA.

CASH-REGISTERING DEVICE.

SPECIFICATION forming part of Letters Patent No. 399,080, dated March 5, 1889.

Application filed June 6, 1888. Serial No. 276,199. (No model.)

To all whom it may concern:

Be it known that I, OTTO C. RETSLOFF, of Winnebago City, in the county of Faribault and State of Minnesota, have invented certain new and useful Improvements in Cash-Registering Devices; and I do hereby 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.

My invention relates to an improvement in cash-registers.

The particular object of this invention is to provide a simple and reliable device which, when properly operated, will enable a merchant to keep an accurate account mechanically of the aggregate amount of his sales for a definite period of time, and also with the same machine register the net cost of articles sold successively, so that the total amount of cost of goods sold may be deducted from the gross receipts registered at the same time, and thus afford an accurate means for arriving at the sum of profits arising from a day's sales.

With these objects in view my invention consists in certain features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

Referring to the drawings making a part of this specification, Figure 1 is a front elevation in perspective of the cash-register with the door closed. Fig. 2 is a front elevation with the door lowered to expose the interior. Fig. 3 is a top plan view of the machine with the top wall of the casing removed. Fig. 4 is a view in section of the device, taken on the line 4 4, Fig. 3. Fig. 5 is a detached view of one of the ratchet-wheels enlarged and in position on the shaft which supports the registering mechanism, the spring device which reverses the wheels to return them to zero being also shown.

A represents the case of the machine, which is preferably made of wood. It is rectangular with a projecting front portion, A^2 , near the base below the registering mechanism, which is adapted to receive a sliding drawer, B, in which cash is contained.

The front lid or door, A' , is made to hinge at its lower edge, and when lowered to rest on

the upper projecting part, A^2 , of the case it will be suitably inclined to furnish a surface for use as a desk on which to write, if desired, a lock being provided to secure the door closed when the device is ready for use as a register.

The shaft C is located horizontally within the case A, near the center of the latter, and has its ends attached to the sides of the case. The body of the shaft is preferably made square in cross-section and of such a diameter as to properly support other parts, which will now be described.

On the shaft C a series of circular registering-disks, D, of equal diameter, are placed, their peripheries being laterally flanged to provide true circumferential faces D' of proper breadth to be spaced into equal divisions, that are numbered to correspond with the different denominations of currency in use, as will be more fully described farther on.

As I prefer to construct the register, there are eighteen register-disks, D D, arranged in two series. These disks are provided with a device to move them and expose their graduations and numbers successively at a proper point, and as these actuating devices are duplicates of each other I will describe the actuator for one disk, which will answer for all.

On the shaft C eighteen hubs, E, are placed, of equal diameter and length. The disks are mounted on these hubs and the latter intervene between the disks D.

The ratchet-wheels F are equal in number to the disks D, and are preferably of the same diameter therewith. These disks and wheels are paired, and each pair is held together spaced apart by a metal ring, G, bolts or screws being inserted through the wheel F, ring G, and disk D.

Upon the hubs E the volute springs H are mounted, the inner ends of said springs being attached to the hubs by pins c or other means, and the outer ends to the pins d , which project from the inner side of the ratchet-wheel F. Each ratchet-wheel has one hundred teeth, which correspond to the spaced numerical series on the faces of the disks.

Within the casing and across its front a horizontal bar, I, (see Figs. 2 and 4,) is secured. This bar is preferably in close prox-

imity to the disks, and immediately over each disk it is provided with a sight-hole, *g*, through which the figures on their peripheries are exposed. Beneath each ratchet-wheel F a slide-bar, J, is supported in boxes *o o'*. Each slide-bar is provided with an upwardly-projecting arm, *h*, terminating in a pawl, *i*, adapted to engage the teeth of its adjacent ratchet-wheel, the arm *h* being pivoted at a point, *f*, to the slide-bar J, so that it may have a limited vibratory movement. The pawl *i* is of such a relative length that it may engage the teeth of the ratchet-wheel F, it being pushed upward by a spring, *k*, which seats between projecting studs *m*, that are affixed to the adjacent surfaces of the slide-bar J and the pivoted arm *h*. The arm *h* is upwardly and outwardly projected from the pivotal point *f*, to afford a handle, *h'*, by which to vibrate the arm and detach the pawl from the teeth of the wheel. By the employment of this rearwardly-projecting arm means are provided for the easy manipulation of the pawl *h i* when it is desired that the disk shall be allowed to rotate back to zero—to the starting-point—ready for a new day's transactions.

The slide-bars J are each provided with collars *n*, secured thereon at such proper points from the rear ends of the bars that the spiral springs K, mounted on them and situated between the rear box, *o'*, and the collar *n*, will by their expansive force normally hold the front ends of the slide-bars projected forwardly until the collars *p* abut against the inner faces of the front boxes, *o*. Each slide-bar has a push-button, *r*, formed on its front end, and it is evident that a pressure inwardly of any button will actuate the wheel F and disk D, to which it is connected, every reciprocal movement of the bar revolubly moving the adjacent wheel and disk one space to expose a number at the sight-hole in the bar I.

To insure a lock after each positive action of the wheels and disks each ratchet-wheel is engaged by a detent-pawl, *s*, all of these pawls being pivoted on a supporting-shaft, M, which extends from one side of the case A to the opposite side, with its ends secured thereto.

The levers S, upon which the pawls *s* are attached or made integral with, are extended forwardly to permit their free front ends to be operated by hand and be raised simultaneously with the disengagement of the lower pawls, *i*, so as to permit the wheels to be reversed and set back to zero by action of the springs H when said springs have been coiled or partially coiled by the registration of a day's sales. Projecting laterally from each disk is a pin, O, and projecting inwardly from bar I is a stop, O'. The pin O is preferably set opposite the zero-point, and is designed to limit the reverse action of the disk and ratchet-wheel when released by the disengagement therewith of the pawls *s* and *i*, and thus always stop the disk by its contact with the

stop O', so as to expose zero through the sight-hole.

As before stated, there are eighteen wheels and eighteen disks, each registering-disk and its actuating ratchet-wheel being held to move together. Nine of the disks constitute a series for registration of the cash sales or money received. These I preferably locate in series on the shaft to the right of the median line. The other nine pairs of connected wheels and disks are designed to register the net cost of goods sold. At the same time the gross amount of receipts on each sale is put upon the right-hand side of the machine.

To afford a means for the proper registration of any amount within the capacity of the machine, I employ the nine registers in each set. The first disk to the right and the left of the center line in each series is numbered from 0 to 100, inclusive. The second disk is numbered in alternating order from 0 to 200 by twos—as, for instance, 0, 2, 4, 6, 8, 10, &c., ending with \$2.00. The third disk is numbered by fives, thus: 0, 5, 10, 15, 20, and so on up to the last sum on the face of this disk-wheel, which is \$5.00. The fourth disk is numbered to represent tenths of dollars marked on its face, thus: 0, 10, 20, 30, 40, 50, &c., up to \$10.00. The next disk in order represents fourths of dollars, thus: 0, 25, 50, 75, 100, &c., up to \$25.00. The sixth disk is graduated in sums of half-dollars, thus: 0, 50, 100, 150, 200, &c., up to \$50.00. The seventh disk is divided to represent \$100, from one dollar up, thus: 0, 1, 2, 3, &c. The eighth disk represents sums of which \$5.00 is the unit, thus: 0, 5, 10, 15, &c., to \$500.00, and the last or ninth disk is numbered from \$10.00 to \$1,000, inclusive. By this registration of cash receipts a clerk can rapidly register any sale from one cent to thousands of dollars by operating the proper slide-bars or the buttons attached to their front free ends, it being understood that the series to the left of a center line is operated to put up the cost amount of each sale at the time the gross receipts for such a sale is registered on the right side of the machine.

It is evident that if it is desired to prevent customers from ascertaining the cost of goods after purchase by closely noticing the operation of the register, this may be done by using any arbitrary symbol to represent a numeral, or letters of the alphabet may be used in lieu of figures, and thus conceal the cost of the article sold.

In using the device to register the gross receipts of a day's sales in a store or other place where articles of merchandise are sold, and where it is desirable to keep an exact account of the several sales throughout a day or other specified period of time, the several disks are all returned to zero by the means already explained. They are then ready for use and the case is closed and locked. Now, each sale is registered by putting the dollars and cents upon their respective disks to most

readily give the aggregate amount, and at the same time the actual cost of the goods or bill sold is registered on the other series of registering-disks.

5 At any time an inspection is to be made the gross amount of sales can be read and the cost of the goods ascertained, so that it is a simple matter to determine the actual profit of a day's business.

10 Slight changes might be made in the details of construction of this device without departure from the spirit or exceeding the scope of my invention; hence I do not wish to restrict its construction to the exact forms herein shown; but,

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

20 1. In a cash-registering device, the combination, with the disk and ratchet-wheel, of a push-bar provided with a retractile spring, a pawl pivoted to the push-bar and provided with a rearwardly-projecting arm, and a spring, *k*, interposed between the push-bar
25 and pawl, substantially as set forth.

30 2. In a cash-register, the combination, with suitable frame-work and a shaft journaled therein, of two distinct sets of disks mounted on said shaft, each disk being adapted to rotate independently of the others, a ratchet-wheel secured to each disk, a spring to rotate

it in one direction, a dog to prevent said ratchet-wheel from rotating in one direction, a push-bar provided with a retractile spring, a pawl pivoted to the push-bar and provided with a projecting arm, and a spring interposed between the push-bar and pawl, substantially as set forth. 35

3. In a cash-registering device, the combination, with suitable frame-work and a shaft journaled therein, of two distinct sets of disks mounted on said shaft, each disk being adapted to rotate independently of the others, figures or characters denoting different denominations of money on the disks, a bar in front of the disks having sight-holes, pins on said bar to engage pins projecting from the disks, a ratchet-wheel on each disk, springs to rotate the disks in one direction, a push-bar for each disk having a retractile spring, spring-sustained pawls pivoted to said push-bars to rotate the disks positively, and dogs for locking the disks against return movement, substantially as set forth. 40 45 50

In testimony whereof I have signed this specification in the presence of two subscribing witnesses. 55

OTTO C. RETSLOFF.

Witnesses:

C. H. PATTEN,

G. D. EYGABROAD.