(No Model.) 2 Sheets—Sheet 1.

J. E. CLAUDIN & P. ROBERT.

CASH REGISTER AND ADDER.

No. 486,030. Patented Nov. 8, 1892.

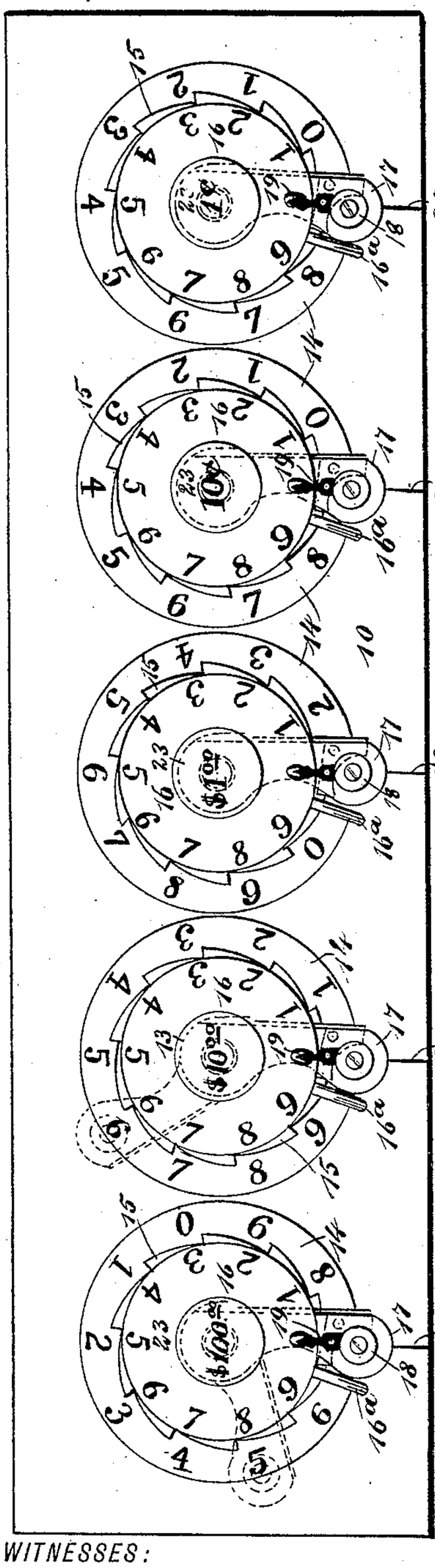

Fig. 1.

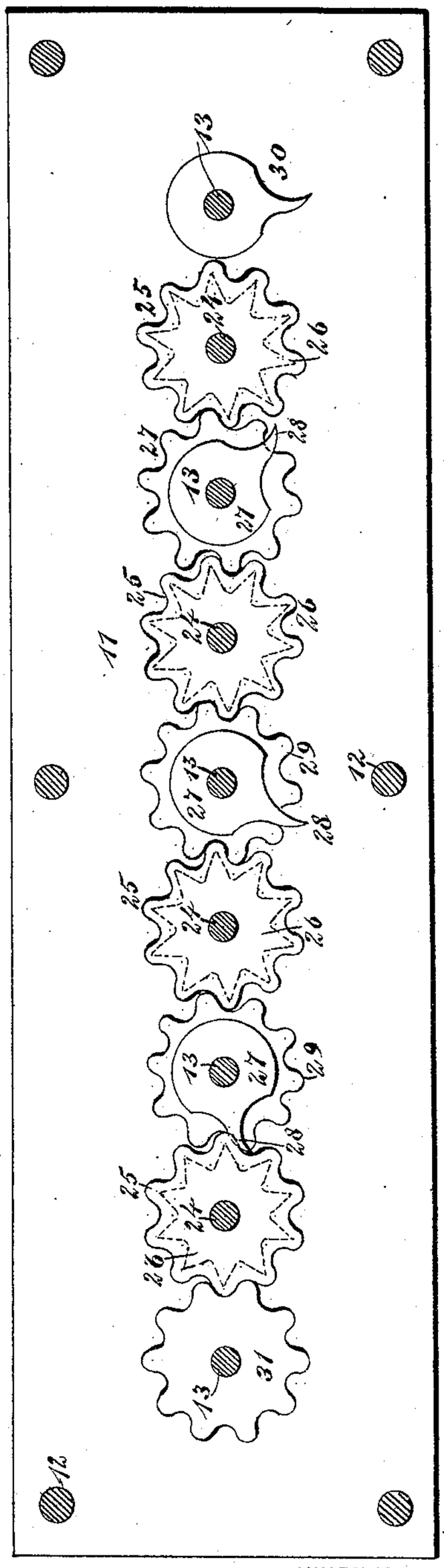

Fig. 2.

WITNESSES:

A. McArdle

C. Sedgwick

INVENTORS.

J. E. Claudin

BY P. Robert

Munn & Co

ATTORNEYS

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J. E. CLAUDIN & P. ROBERT.

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Fig. 3.

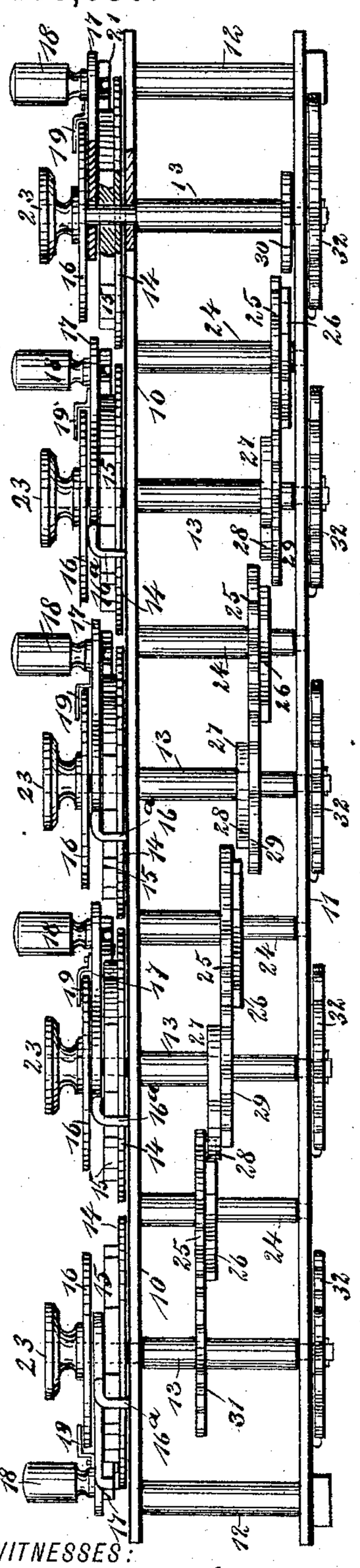


Fig. 4.

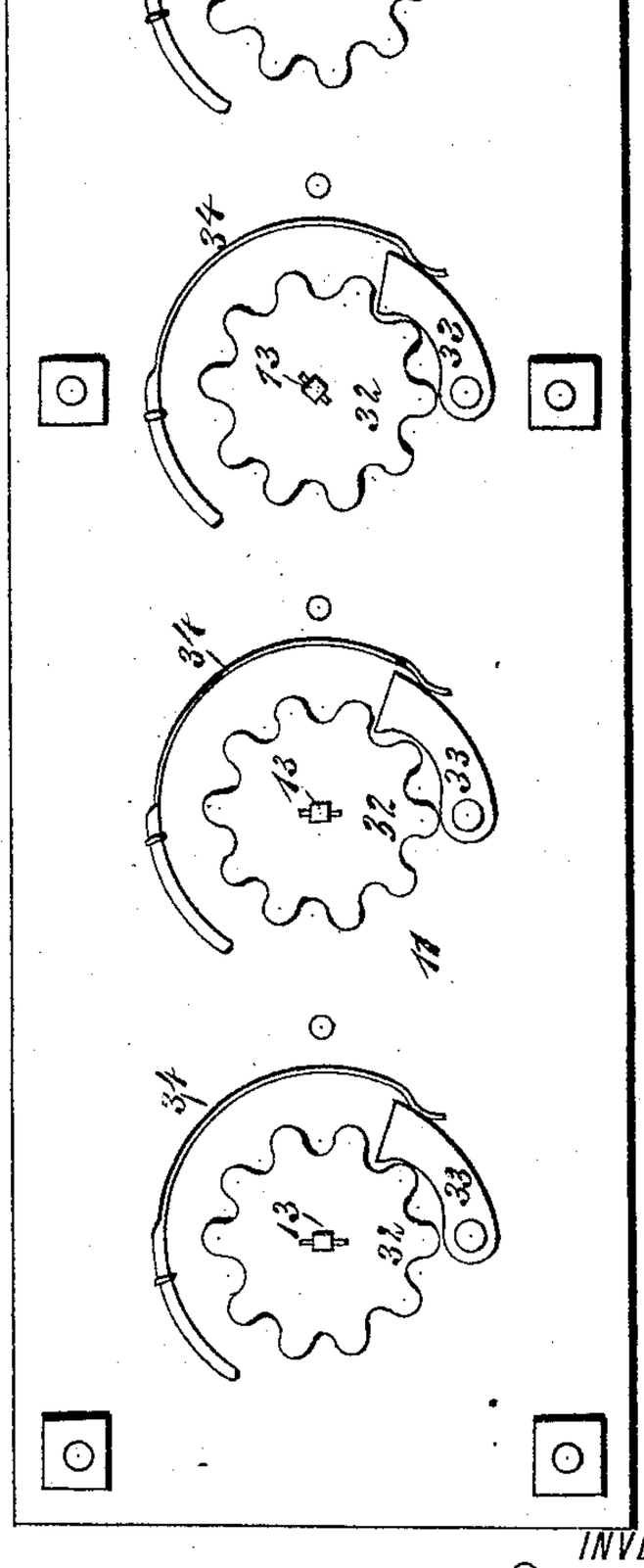
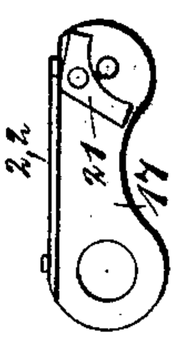


Fig. 5.



WITNESSES:

F. McArdle

C. Sedgwick

INVENTORS

J. E. Claudin

P. Robert

BY Munn & Co

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN E. CLAUDIN AND PAUL ROBERT, OF ROANOKE, ILLINOIS; SAID JOHN E. CLAUDIN ASSIGNOR TO JOSEPH R. CLAUDIN, OF SAME PLACE.

CASH REGISTER AND ADDER.

SPECIFICATION forming part of Letters Patent No. 486,030, dated November 8, 1892.

Application filed October 8, 1891. Serial No. 408,129. (No model.)

To all whom it may concern:

Be it known that we, JOHN E. CLAUDIN and PAUL ROBERT, of Roanoke, in the county of Woodford and State of Illinois, have invented a new and useful Improvement in Cash Registers and Adders, of which the following is a full, clear, and exact description.

Our invention relates to an improvement in cash-regesters, and has for its object to provide a machine of simple, durable, and economic construction, capable of accurately indicating at any time the amount of the contents of the drawer in connection with which it is used.

A further object of the invention is to provide a machine which in addition to being utilized as a cash-register may also be employed as an adding-machine.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the machine. Fig. 2 is a horizontal section taken below the top plate of the frame and above the gearing. Fig. 3 is a side elevation, and Fig. 4 is a bottom plan view. Fig. 5 is a bottom plan view of the shifting arm or lever.

Preferably the machine is not provided with a regular casing, although one may be employed, if desired, as the body of the machine usually consists of a frame, which frame may be box-like in general contour and comprises a top plate 10, a bottom plate 11, and a series of posts 12, spacing and connecting the plates. In the plates a number of vertical spindles 13 are journaled, extending through both plates, but a much greater distance beyond the upper one, and above the upper plate each spindle has secured thereon a dial 14, preferably of disk form. The dials 14 turn with the spindles just above the outer face of the upper plate, and upon the upper face of each dial, preferably near the margin, a series of numbers is produced at regular intervals apart, commencing with "0," the next "1," and the other numbers up to "9" following in their regular order, "9" being the last. A ratchet-wheel 15 is firmly secured to the upper face of each dial, the teeth whereof correspond in number to the number of numerals, a tooth being opposite each numeral, as shown in Fig. 1. Above each ratchet-wheel 15 a plate 16, preferably circular in shape, is held in a fixed position in any approved manner, ordinarily by a bracket 16^a, or the plates may be supported by any equivalent of the brackets, the medium employed being so located as not to interfere with the movement of the ratchet-wheels and of the dials.

The dials are moved by shifting arms or levers 17, one of which is loosely mounted upon each disk-spindle and extends outward between the ratchet-wheel and plate over the disk. The shifting arms or levers are provided at their outer ends with handles 18 and pointers 19, both being located on the outer faces of the levers, the pointers being so shaped as to extend over the plates 16 and numerals produced on the upper faces of the plates.

The numerals on the plates correspond to those on the disks, the "0" being located at the central marginal portions of the plates facing the front of the machine and in alignment with marks 20, preferably a transverse line extending from the front edge of the upper surface of the frame to the margins of the disks, one line in front of each disk, and at these lines the figures upon the disk are read.

The brackets 16^a, which prevent the plates 16 from turning, are located slightly to the left of the reading lines or points 20, as shown in Fig. 1, and the brackets perform another function—namely, stops for the shifting arms or levers, as in the operation of each dial its shifting arm or lever must be carried to the bracket located over the dial. The shifting arms or levers operate upon the ratchet-wheels of the dials through the medium of dogs 21, pivoted upon the bottom of the arms or levers near their outer ends, which dogs are normally held in contact with the teeth of the ratchet-wheels by springs 22. This construction is clearly shown in Fig. 5.

The dial-spindles extend upward loosely through the plates 16 and are provided above

said plates with heads 23, or their upper ends are enlarged. As the dials are arranged in the drawings the numerals set up on the dials at the lines 21 are read from left to right, and their spindles have produced upon their heads the currency denomination under which they are to be read—as, for instance, the right-hand dial-spindle is marked "1c," the next "10c," the next "$1," the fourth "$10," and the fifth dial-spindle "$100."

Between each two dial-spindles a short spindle 24 is journaled in the frame, and each short spindle is provided with two attached gears—an upper one 25, having rounded teeth, and a lower gear 26, provided with sharp teeth. Each intermediate dial-spindle has fast thereon a disk 27, provided with a cam-finger 28 and a gear 29 below the disk, whose teeth are rounded. The cent-dial spindle, however, is provided with a cam-finger 30 only, and the dial-spindle representing an accounting of $100 is provided with a single gear 31.

The lower end of each dial-spindle has secured thereto a ratchet-wheel 32, engaged by a pawl or detent 33, acted upon by a spring 34.

The arrangement of the actuating cams and gearing of the spindles is somewhat stepped, and the cam-finger of the first dial-spindle engages at each revolution of its dial with the lower gear 26 of the next short spindle, and motion is communicated from this spindle to the next dial-spindle by the gear 29 of the latter meshing with the gear 25 of the former, and when the dial read in tens of cents makes one revolution the cam-finger of its spindle will engage with the lower gear 26 of the short spindle to the left, turning it the distance of one tooth, and as the short spindle is in mesh with the next dial-spindle this spindle will be turned, also, the same distance. This system of gearing is carried throughout the machine.

The pawls or detents force and permit the dials to turn in one direction only—that is, in a direction to count.

The machine should be placed in front of the operator with the one-cent dial at the right. To set the machine at zero, commence with the first dial on the right and move the shifting-lever over the figure "9" of the dial until the dog engages with the tooth opposite the figure. When this movement has been effected, carry the lever to a contact with the bracket. The figure "9" of the dial will then be opposite the reading-line. This operation is repeated with all the dials, whereupon by taking the shifting-lever of the first dial back one tooth and carrying it again to the bracket or stop each dial will turn and register "0" at the reading-line. The machine is now in condition to commence an accounting, as the figures on the dials will correspond to those on the plates. If nine cents is to be registered, the lever of the cent-dial is turned until its pointer covers the number "9" on the plate. The lever is then carried to the stop, whereupon "9" will be presented at the reading-line. If the next amount to be registered should be "9" also, when the lever has been properly manipulated the second dial reading in tens will have turned a sufficient distance to present "1" at its reading-line and the figure "8" will be opposite the reading-line of the first dial, and the two dials will be read "18c." As each dial makes a revolution the next to the left is turned a distance representing the space between its numbers.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. In a cash-register, the combination, with a series of consecutive-registering dials, each bearing a mark designating the character of their reading and provided with a series of numerals, each dial having a reading-line in front of it, gearing, substantially as described, connected with the dials, and gearing arranged intermediate of the dial-gearing and engaging therewith, of ratchet-wheels secured to the dials, plates containing numbers corresponding to those on the dials and held stationary over the latter, shifting-arms pivoted between the plates and the dials, having movement independent of the dials, dogs carried by the levers and engaging with the ratchet-wheels, and a stop limiting the movement of the levers in one direction to the reading-line above referred to, substantially as and for the purpose specified.

2. In a cash-register, the combination, with a series of consecutive-numbering dials, each bearing a mark designating the character of their reading and provided with a series of numerals, spindles secured to the dials, spindles arranged intermediate of the dial-spindles, and gears and cam-disks carried by the dial-spindles, the gears of the two spindles interlocking and the cam-disks acting at intervals only upon the intermediate spindles, of ratchet-wheels secured to the dials, plates containing numbers corresponding to those on the dials and held stationary above the latter, shifting-arms pivoted on the dial-spindles between the plates and dials and having movement independent of the dials, dogs carried by the levers and engaging with the ratchet-wheels, and a stop limiting the movement of the levers in one direction, substantially as and for the purpose specified.

JOHN E. CLAUDIN.
PAUL ROBERT.

Witnesses:
W. P. MOORE,
ELI SUDEMAN.