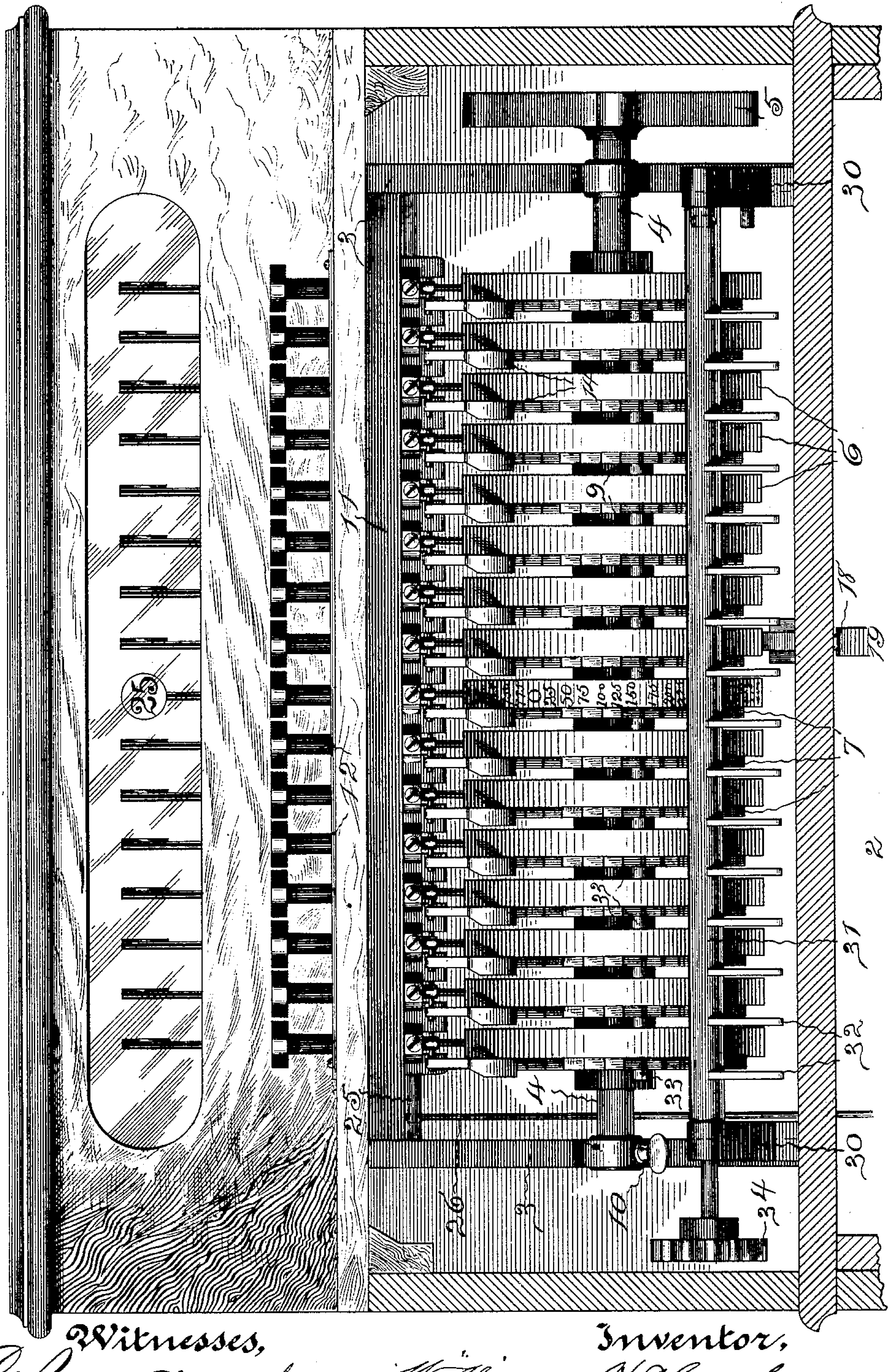
(No Model.) 2 Sheets—Sheet 1.

W. H. CLEASBY.

CASH REGISTER AND INDICATOR.

No. 571,720. Patented Nov. 17, 1896.

Fig. 1



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3

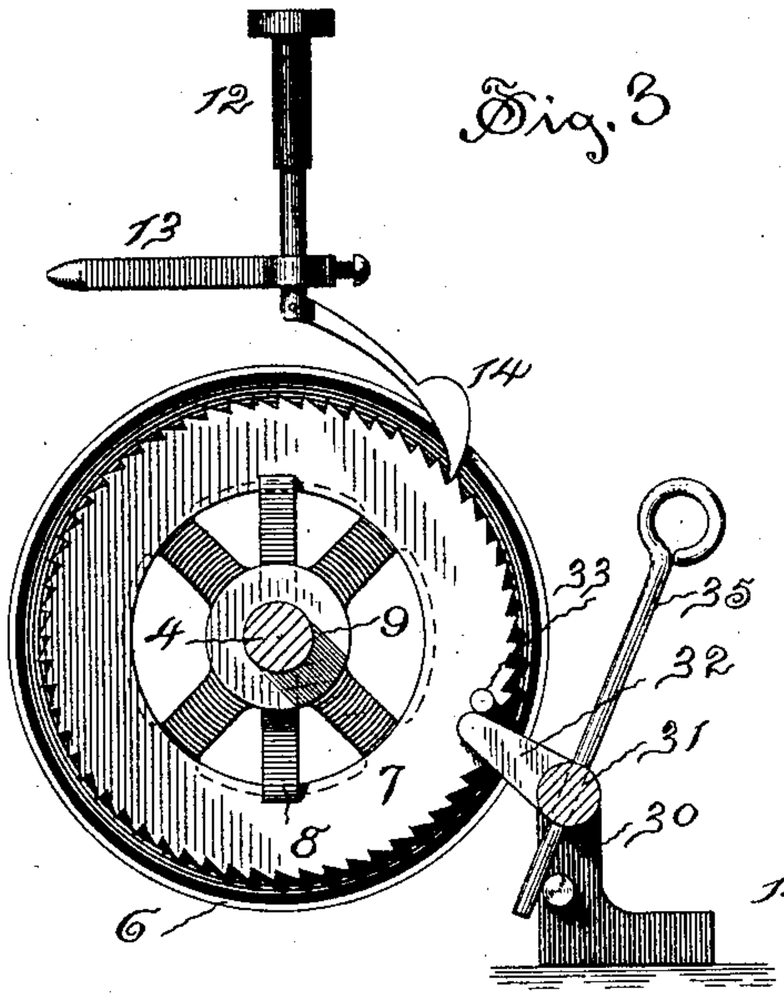
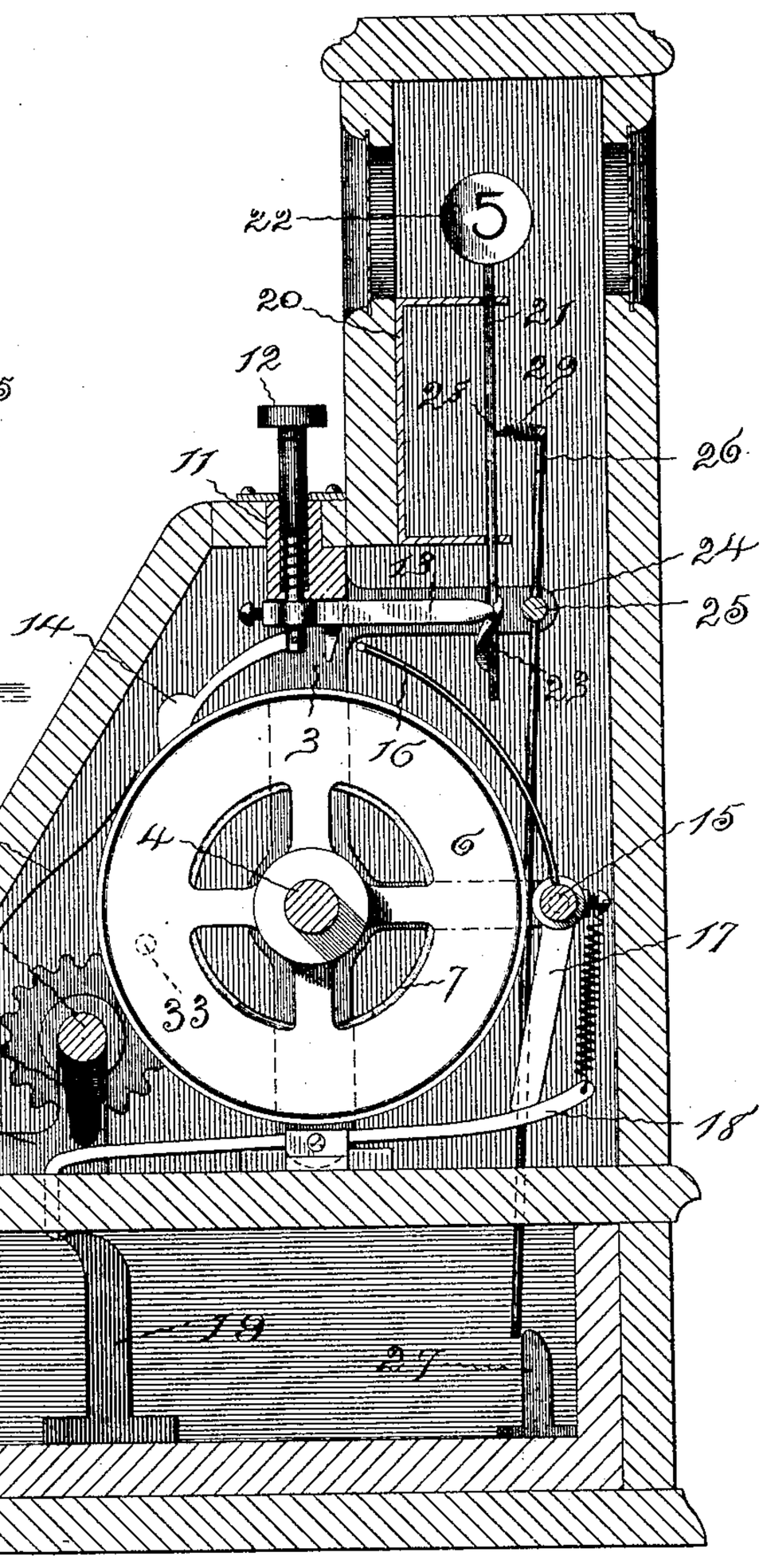


Fig. 4



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UNITED STATES PATENT OFFICE.

WILLIAM H. CLEASBY, OF HARTFORD, CONNECTICUT, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ALICE F. CLEASBY, OF SAME PLACE, AND J. B. CHAPMAN & CO., OF SPRINGFIELD, MASSACHUSETTS.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 571,720, dated November 17, 1896.

Application filed June 13, 1895. Serial No. 552,742. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. CLEASBY, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Cash-Registers, of which the following is a specification.

The invention relates to the class of apparatus having movable finger-keys, numbered to indicate different sums of money, that when depressed advance independent wheels bearing numbers on their peripheries to register the total amount of cash deposited in the till or cash-drawer, and which also have telltale disks that show the amount deposited at the time.

The object of the invention is to simplify and cheapen the construction of such a machine and make the action of the mechanisms positive, so that the reading of the amounts will be certain, and also to provide a simple means whereby the numbered wheels can be quickly returned to zero to commence a new series of registry at the end of the desired period.

Referring to the accompanying drawings, Figure 1 is a front elevation of the cash-register with a portion of the front of the casing cut away to show the construction in the interior. Fig. 2 is a vertical section of the machine, and Fig. 3 is a detail view of the wheel advancing and setting mechanisms.

In the views, 1 indicates the case, which is made of wood or metal, as desired, with a till or drawer 2 in the bottom for receiving the money. Near each end of this case, supported by the base, is an upright standard 3, temporarily fastened in bearings in which is a shaft 4. This shaft has a handle 5 at one end and bears a number of wheels 6, on the peripheries of which are placed the numbers that show the amounts of the sums deposited in the till. At the side of each of these numbered wheels and connected therewith is a ratchet-wheel 7, and each ratchet-wheel with its registry-wheel is frictionally held so as to rotate with the shaft by means of the ends of a leaf-spring 8, that is secured to a collar 9, set upon the shaft between each set of registry-wheels and ratchet-wheels. These springs hold the ratchet-wheels and the registry-wheels so that under ordinary usage they rotate free on the shaft as one part, but this construction allows the registry-wheels to be accurately adjusted with relation to the ratchet-wheels and the pawls in such manner that the numbers will appear in the proper position when the device is set and operated, and this also so holds the wheels that they will rotate with the shaft when it is turned to set the wheels, although rotating independently when the register is being used. When the set-screw 10 is loosened, the shaft with the registry and ratchet wheels can be readily rotated by means of the handle on the shaft, but when the shaft is secured against rotation each registry and ratchet wheel may be moved independently on the shaft. A perforated bar 11, supported by the standards, loosely holds above the wheels the shanks of the finger-keys 12, whose heads are numbered to indicate the various amounts of money, as is common with this class of machines. The shanks of these keys, which have rigid arms 13 and loose pawls 14, are provided with springs that normally hold them raised. These pawls engage the ratchet-wheels on the shaft below, and each time a finger-key is depressed the registry-wheel beneath that key is advanced by the pawl and ratchet-wheel a distance equal to one figure on the wheel, which figures are so placed on the wheel that each one shows the sum of the amounts deposited under that key.

Held by arms projecting from the standards is a rod 15, secured to which are the ends of a bail 16, that extends across the machine below the arms 13, while projecting downward from the rod 15 is an arm 17, that engages a spring-retracted lever 18, the opposite end of which lever passes through the casing and is adapted to make contact with a locking-stud 19, secured to the drawer or till. When a key is depressed, the arm 13, secured to the shank of that key, rocks the bail and the connected arm so as to oscillate the lever and unlock the drawer, allowing it to be pulled open. Of course when the lever is in its normal position and the back end is held up by means of the spring the forward

end projects in front of the locking-stud, so that the drawer cannot be opened.

Supported by the arms of a bracket 20, secured to the inside of the case, are rods 21, that bear at their upper ends behind the glass windows in the case and the disks 22, that are numbered to correspond with the numbering of the keys, while the lower ends of these rods which form the stems of the disks are provided with spiral cams 23, in contact with which are the ends of the arms that project from the shank of the keys. These disks normally stand edgewise to the windows, and when a key is depressed its arm running down the spiral cam tends to rotate the disk opposite that key and leave it facing toward the windows in the case, so as to show which key was depressed. The arms 13 are held to the shanks of the keys by set-screws, so they can be readily adjusted to properly ride down the spiral cams and correctly turn the disks, so that they will show through the windows when the keys are depressed.

Held by arms 24, projecting from near the top of the standard, is an arbor 25, on which is mounted a bail 26, that extends across the machine just back of the disk-stems, and has an end projecting down into the drawer adjacent to a tripping-stud 27. A pin 28 projects out from each of the disk-stems, and connected between these pins and the bail 26 are springs 29. When the disks are rotated so as to show the numbers, the pins stand at right angles to the springs, and when the drawer is opened the tripping-stud, by contact with the end, oscillates the bail in such manner as to exert a pull through the medium of the springs upon these pins, which are at right angles, and so turn the disks that they again stand edgewise. Thus each time the drawer is opened all the disks are turned edgewise except that disk which is being turned toward the front by the key that is being depressed.

Secured to the case in front of the wheels are two small brackets 30, that support a rod 31, with projecting lugs 32. Projecting from the side of each wheel is a stud 33, and when this rod is turned by means of its handle 34, as shown in Fig. 3, and is held in that position by means of a pin 35 passing through a perforation in the rod, the studs on the ratchet-wheels when they come around make contact with the lugs projecting from the rod, so that the ratchet-wheels cannot be further rotated. By means of this arrangement at the end of a day, week, or any other period when it is desired to commence a new series of registry the rod 31 is turned by its handle so that the lugs are in the path of the studs on the ratchet-wheels, and then the rod is prevented from further turning by means of the pin 35, as shown. After the set-screw 10 has been loosened the shaft 4, bearing the numbered wheels, may be rotated by means of the handle 5 until the studs on the ratchet-wheels engage the lugs on the rod and can move no farther. These studs on the ratchet-wheels are so located with reference to the lugs on the rod that when they are all in contact all the zeros on the registry-wheels are in a row at the top of the shield 36 and ready to commence a new series of registry of amounts deposited in the till. The set-screw 10 is then tightened, so that the shaft will not rotate, and the rod 31 is turned so that its lugs are out of the path of the studs on the ratchet-wheels. Then the wheels are free to be advanced as before, through the medium of the direct action of the gravity-pawls on the ratchet-wheels by the depression of the keys. In front of the numbered wheels a shield 36 is usually secured so as to cover up all of the numbers except those that it is desired shall be read.

I claim as my invention—

1. In combination in a cash-register, a case, a shaft loosely supporting a number of figured wheels and an equal number of ratchet-wheels connected therewith, an equal number of collars secured on the shaft between the adjacent sets of figured and ratchet wheels with spring-arms projecting from the collars and holding against the ratchet-wheels with a frictional grasp, vertically-reciprocating numbered keys supported above the wheels, the shank of each of said keys being provided with a loosely-held gravity-pawl and an adjustable horizontal arm, numbered rotatable disks supported within the case with wings projecting from the stems of the disks and normally making contact with the ends of the adjustable arms that project horizontally from the shanks of the keys, substantially as specified.

2. In combination in a cash-register, a case having a cash-drawer, a shaft loosely supporting a number of figured wheels and an equal number of ratchet-wheels connected therewith, vertically-reciprocating numbered keys supported above the wheels, the shank of each of said keys being provided with a loosely-held gravity-pawl and an adjustable horizontal arm, numbered rotatable disks supported within the casing with wings projecting from the stems of the disks and normally making contact with the ends of the adjustable arms projecting from the shanks of the keys, pins projecting from the stems of the disks, a bail pivoted to the supporting-frame, springs connecting the bail with the pins projecting from the stems of the disks, and a trip connected with the cash-drawer and making contact with a portion of the bail for oscillating the bail and rotating the stems of the disks when the drawer is moved, substantially as specified.

3. In a cash-register in combination, a case having a cash-drawer and surrounding a supporting-frame, a shaft loosely bearing a number of figured wheels, an equal number of ratchet-wheels, and an equal number of collars with spring-fingers frictionally connecting the ratchet-wheels and the figured

wheels with the shaft, vertically-reciprocating numbered keys supported above the wheels, the shank of each of said keys being provided with a loosely-held gravity-pawl and an adjustable horizontal arm, a rocker-shaft held by the frame, a bail connected with the rocker-shaft and extending across the frame below and in the path of the adjustable arms on the shanks of the keys, an arm depending from the rocker-shaft, and a lever with one end engaging the rocker-shaft arm and the other end engaging a projection connected with the cash-drawer, substantially as specified.

4. In a cash-register in combination, a case having a cash-drawer and surrounding a supporting-frame, a shaft bearing a number of figured wheels, an equal number of ratchet-wheels and an equal number of collars with spring-fingers that frictionally connect the ratchet-wheels and the figured wheels with the shaft, vertically-reciprocating numbered keys above the wheels, the shank of each of said keys being provided with a loosely-held gravity-pawl and an adjustable horizontal arm, numbered rotatable disks supported within the case with wings projecting from the stems of the disks and normally making contact with the ends of the adjustable arms that project from the shanks of the keys, pins projecting from the stems of the disks, a bail pivoted to the frame, springs connecting the bail with the pins projecting from the stems of the disks, a rod projecting downward from the disk-bail, a trip connected with the cash-drawer and making contact with the rod, a rocker-shaft held by the frame, a bail connected with the rocker-shaft and extending across the frame below and in the path of the adjustable arms on the shanks of the keys, an arm depending from the rocker-shaft, a lever with one end engaging the rocker-shaft arm, and a catch connected with the cash-drawer for engaging the other end of the lever, substantially as specified.

5. In combination in a cash-register, a case having a cash-drawer and surrounding a supporting-frame, a shaft provided with a handle at one end and supporting a number of figured wheels and an equal number of ratchet-wheels frictionally connected with the shaft, vertically-reciprocating keys supported above the wheels, the shank of each of said keys being provided with a loosely-held gravity-pawl, a rotatable rod supported by the case and extending across the frame adjacent to the ratchet-wheels, pins projecting from the side faces of the ratchet-wheels, an equal number of lugs projecting from the rod, a handle for rotating the rod so that the lugs may be moved into or out of the path of the pins projecting from the side faces of the ratchet-wheels, and a pin for locking the rod with the lugs in the path of the pins, substantially as specified.

6. In combination in a cash-register, a case having a cash-drawer and surrounding a supporting-frame, a shaft removably held by the frame and provided at one end with a handle, a number of figured wheels loosely held by said shaft, a number of ratchet-wheels supported by said shaft adjacent to each figured wheel, and a number of collars secured to the shaft and bearing spring-fingers that hold the figured wheels and the ratchet-wheels by frictional contact, numbered keys having a vertical reciprocation through perforations in a portion of the frame above the wheels, the shanks of which keys bear vertically-adjustable horizontal arms and loosely-held gravity-pawls, rotatable disks supported by the frame, wings projecting from the stems of the disks and adapted to make contact with the arms projecting horizontally from the stems of the keys, a bail rotarily supported by the frame and connected with the stems of the disks by springs, a rod projecting from the bail through the case into the cash-drawer, a rocker-shaft supported by the frame, a bail connected with this rocker-shaft and extending across the frame in the path of movement of the horizontally-adjustable arms of the key-shanks, an arm projecting from the rocker-shaft, a lever with one end engaging the rocker-shaft arm, a trip device connected with the cash-drawer and making contact with the rod projecting from the disk-bail, a catch connected with the cash-drawer and engaging the free end of the lever, a rod extending across the frame in front of the wheels, said rod being provided with a handle and a number of projecting lugs, pins projecting from the faces of the ratchet-wheels, a key for holding the rod so that the lugs are in the path of the pins projecting from the ratchet-wheels, and a shield extending in front of and covering a portion of the peripheries of the figured wheels, substantially as specified.

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