

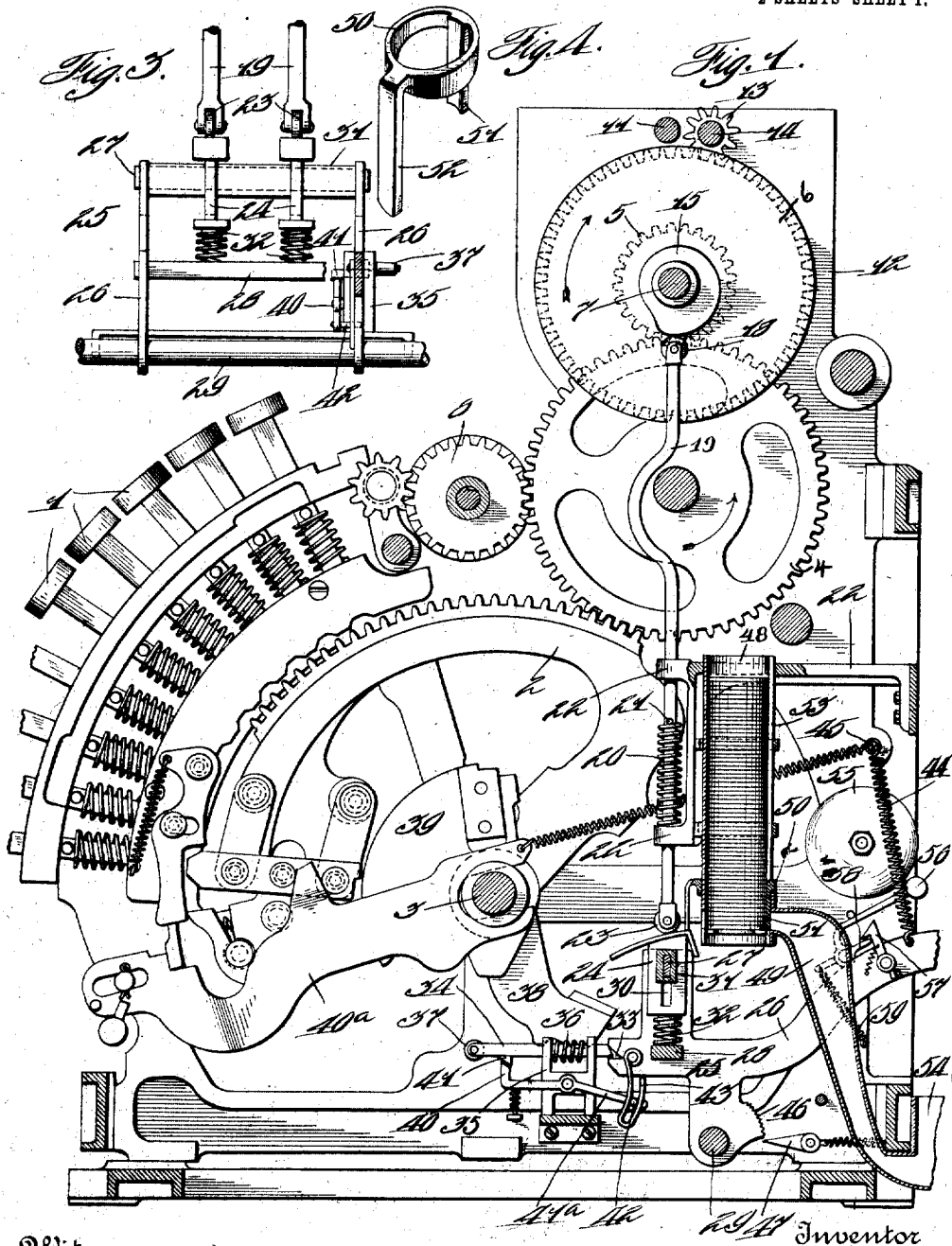
W. H. MUZZY.
CASH REGISTER.

APPLICATION FILED JULY 18, 1907.

994,772.

Patented June 13, 1911.

2 SHEETS—SHEET 1.



Witnesses
C. Klostermann
W. M. McChantley

Inventor
W. H. Muzzy

UNITED STATES PATENT OFFICE.

WILLIAM H. MUZZY, OF DAYTON, OHIO, ASSIGNOR TO THE NATIONAL CASH REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO, (INCORPORATED IN 1906.)

CASH-REGISTER.

994,772.

Specification of Letters Patent. Patented June 13, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM H. MUZZY, 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 I declare the following to be a full, clear, and exact description.

This invention relates to improvements in cash registers and has more particular relation to improvements in discount devices for the same.

The prime object of the invention is to provide a mechanism for compelling the presence of the customer at the machine.

Another object is to provide devices whereby the usual discounts or rebates may be secured from the register by the customer following the regular operation of the register.

A further object is to provide a mechanism for discharging a check or any other article of value from the cash register and unlocking this mechanism by each successive registering operation.

With these and incidental objects in view, the invention consists in certain novel features of construction and combinations of parts, the essential elements of which are set forth in appended claims and a preferred form of embodiment of which is hereinafter specifically described with reference to the drawings which accompany and form part of this specification.

Of said drawings: Figure 1, represents a transverse vertical section through a machine of the type patented to J. P. Cleal and F. A. Reinhard, No. 580,378, April 13, 1897. Fig. 2, represents a rear elevation of the same. Fig. 3, represents a detail front elevation of the ejector devices and connections; and Fig. 4, represents a detail perspective view of one of the coin tube guards.

As the type of machine to which I have applied my present improvements is old and well known on the market and is fully described in the aforesaid patent, I will refer to this patent for such detail description as is not hereinafter given. Described in general terms, however, the machine is of the key set crank operated type, provided with rotary indicators having numerals upon their peripheries showing from zero to nine. These indicators are arranged

upon a horizontal shaft and respectively carry cams for positioning the ejecting devices of money tubes contained within the machine. These ejectors are operated by a special customer's key projecting from the rear of the machine. Suitable locking devices are provided whereby the ejectors remain locked until the regular registering operation has been completed. They can then only be operated once when they again become locked. The details of these devices are as follows:

Each bank of keys 1 controls the differential movement of the segment 2 which is mounted upon a transverse rock shaft 3. Each segment 2 meshes with a gear 4 which in turn engages a pinion 5 that drives a rotary indicator 6 mounted upon a transverse shaft 7. The gear 4 also meshes with a pinion 8 which drives the registering mechanism in a manner well known in the art.

Referring to Fig. 2, the indicators will be described in detail: The three indicators to the right in said figure are arranged to indicate to the back of the machine, or to the customer, while the three to the left indicate to the front, or to the operator. The units indicators, which are located at opposite ends of the machine, are connected by means of gears 9 secured to said indicators, which mesh with pinions 10, pinned to a shaft 11, which is supported in the side-frames 12 of the machine. The tens indicators are fastened to the shaft 7 as is also the pinion 5 for driving said indicators. The hundreds indicators are loosely mounted upon the shaft 7 and are provided with gears 12^a, which mesh with pinions 13 secured to a short transverse shaft 14 mounted in the frame of the machine. Fastened to the shaft 7, to which is also fastened the tens indicator, is a cam 15, and a similar cam 16 is loosely mounted upon the shaft and is connected by a short sleeve 17 to one of the hundreds indicators.

Rollers 18 mounted in the upper ends of rods 19 are forced into engagement with the cams 15 and 16 by coil springs 20, see Fig. 1, which surround said rods and have their ends abutting against pins 21 and against a guide frame 22 for said rods. Mounted in the lower ends of the rods 19 are rollers 23 which rest upon enlarged heads of coin ejectors 24 slidably mounted in a frame 25.

This frame comprises two side arms 26, one of which extends through a slot formed in the back of the cabinet (not shown) and is provided at its outer end with a key check 5 which may bear any suitable inscription. The side arms 26 are held together by transverse rods 27 and 28 and the complete frame is pivoted upon a short shaft 29. The ejectors 24 are provided with elongated vertical slots 30 which straddle the rod 27. Collars 31 surround the rod 27 and prevent any side-wise movement of the ejectors 24. These ejectors are forced into engagement with the rollers 23 by springs 32, the ends of which 15 abut against the ejectors 24 and the rod 28. One of the side arms 26 is provided with a notch 33 at its inner end, in which projects one end of a plunger 34. This plunger is slidably mounted in a frame 35, and is normally forced in said notch by a coil spring 20 36, which surrounds said plunger. At its opposite end the plunger is provided with a roller 37, which is arranged to be struck and moved toward the front of the machine by 25 the tail 38 of one of the cam segments 39, as the latter is rocked to move the retaining bar 40^a forward to release the depressed key, as is well understood in the art. The plunger 34 when moved toward the front of the 30 machine is latched in its forward position by a spring pressed pawl 40 which engages behind a shoulder 41 formed on said plunger. This pawl 40 is pivoted to the frame 35 and has a tail 41^a which is equipped with a 35 laterally extending pin 42, that projects into a link 43, pivoted to one of the side arms 26. Now when the frame 25 is rocked by the customer operating the extended side arm 26 the bottom of the link 43 will contact with the pin 40 42 and rock the pawl 40 about its pivot, thereby releasing the plunger 34, so that when the frame is returned by a spring 44 which is connected at one end to a rod 45, and at its other end to the extended arm 26, the plun- 45 ger will engage the notch 33 and relatch the frame. It will be noticed that the plunger 34 is cammed slightly forward by the return of the frame 25, but not sufficient to be latched by the pawl 40. A portion of one 50 of the arms 26 is provided with ratchet teeth 46 with which a pivoted pawl 47 engages to insure a full stroke of the frame 25 in both directions.

The guide frame 22 for the rods 19 is suit- 55 ably secured to the back frame of the machine and supports two coin tubes 48. These tubes are supported at such a height, that when the frame 25 is rocked, with the indicators in the position shown in Fig. 1, the 60 ejectors will pass under the bottom coins in said tubes. As the indicators move in the direction of the arrow, the radii of the cams 15 and 16 connected thereto will gradually diminish so that the rollers 18 will be forced 65 upwardly by the springs 20 surrounding the

rods 19. The ejectors being normally under spring tension will also follow the rods 19 in their upward movement. The cams 15 and 16 are so shaped that they limit the upward movement of the ejectors, so that when 70 the frame 25 is rocked not more than four coins will be ejected at one time into the chute 49 from each tube. To prevent the accidental discharge of more coins than is intended, each tube 48 has a ring 50 sur- 75 rounding it, which is provided with two downwardly extending projections 51 and 52. Each projection 51 is arranged to move up and down in front of the coins through a slot 53 formed in each tube 48 while the 80 projection 52 rests upon the enlarged head of the ejector 24. It will be seen from this that when the ejectors 24 are permitted by the cams 15 and 16 to move upward, they 85 will also carry the rings 50 so as to allow the proper number of coins to be ejected into the chute 48 when the frame 25 is rocked. The enlarged heads of the ejectors 24 are formed in an arc of a circle struck from the 90 axis of the frame 25, so that when the frame is rocked the rings 50 will not be moved. The chute 49 terminates in a cup 54 from which the ejected coins may be removed.

In order to call attention to the operation 95 of the frame 25, a bell 55 is suitably secured to the frame of the machine, which is arranged to be struck by a clapper 56 pivoted to one of the frames 12. This clapper is rocked away from the bell by a spring 100 drawn pawl 57 pivoted to one of the side arms 26 of the frame 25 as the latter is rocked forward. Near the end of the forward movement of the frame, the hook end of the pawl 57 passes out of engagement 105 with a projection 58 forming a part of the clapper 56 and allows a spring 59 to return the clapper to ring the bell.

It will be seen from the above description 110 that the ejecting devices in the present instance have been applied only to the tens of cents and dollars indicators. It will, of course, be understood that they may be applied to any number of indicators.

After a clerk has operated the register 115 to record the amount of the sale, the ejector key and connections is unlocked, but the clerk is not permitted to operate this key at any time. The customer is informed that a discount or rebate may be had by stepping 120 up to the register and operating the discount key. This he does and the coins for the proper amount, according to the amount registered, pass down into the receiving 125 cup to be removed by the customer. After the discount key is released, it returns to its normal position and automatically becomes locked so that the machine must be again operated in order to permit of another discount being extracted from the coin 130 tubes. It will, of course, be understood that

as long as the indicators stand at zero, the ejectors will be so positioned as to play idly under the lower ends of the coin tubes, should the discount key be operated. It will be readily seen by reference to the drawings, that the storage tube may be employed not only for coins, but for checks, small boxes containing confections, or in fact anything that might be given in varying quantities with each purchase in the same manner that a discount be given or a rebate allowed.

In every instance the depression of the discount key will sound the alarm or bell and all of the clerks and the proprietor will know that the discount is being taken. This prevents a clerk from taking the discount after a customer has left; and should the customer fail to take such discount. The ringing of the bell at a time when the customer was not present at the machine would indicate an unauthorized operation of the discount key by the clerk. As there would be some slight discount even though it might be only a few pennies to every sale that exceeded a certain amount, the customer would be either compelled to leave the discount or to operate the discount key himself at the machine and thus be brought directly in front of the indication.

While the form of mechanism herein shown and described is admirably adapted to fulfil the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein disclosed, for it is susceptible of embodiment in various forms all coming within the scope of the claims which follow.

What is claimed is as follows:

1. In a machine of the class described, the combination with an accounting mechanism and means for differentially positioning said mechanism, of discount discharging devices, connections from said accounting mechanism for adjusting said discharging devices in approximate proportion to the movement of said accounting mechanism, means normally locking said discharging devices, and connections from said accounting mechanism for releasing said locking means.

2. In a machine of the class described, the combination with an accounting mechanism and an operating means for differentially adjusting said accounting mechanism, of discount discharging devices, connections from said accounting mechanism for controlling said discharging devices and constructed to position said discharging devices in an approximately constant ratio to the adjustment of said accounting mechanism, a manipulative device for operating said discharging devices, means normally locking said manipulative device against

operation, and a connection from said operating means for releasing said locking means.

3. In a machine of the class described, the combination with a cash accounting mechanism and an operating means for differentially adjusting said accounting mechanism, of check or coin discharging devices comprising ejectors, connections from said accounting mechanism constructed to move said ejectors to extents having an approximately constant ratio to the adjusted positions of said accounting mechanism, a manipulative device for operating said ejectors, a locking device normally preventing actuation of said manipulative device, and connections from said operating means for withdrawing said locking device from locking position.

4. In a machine of the class described, the combination with an accounting mechanism and an operating means for differentially adjusting said accounting mechanism, of coin or check discharging mechanism comprising ejectors, connections from said accounting mechanism constructed to position said ejectors differentially, means for operating said ejectors, a locking device normally preventing operation of said ejector operating means, connections from said accounting mechanism operating means for releasing said locking device, a latch for holding said locking device in releasing position, and connections from said ejector operating means for tripping said latch.

5. In a machine of the class described, the combination with an accounting mechanism and an operating mechanism therefor, of check or coin discharging devices comprising ejectors, connections from said accounting mechanism for adjusting said ejectors to extents having an approximately constant ratio to amounts entered on the accounting mechanism, and a manipulative device for operating said ejectors when the same have been adjusted.

6. In a machine of the class described, the combination with an accounting mechanism and an operating means therefor, of check or coin discharging devices comprising ejectors, connections from said accounting mechanism for adjusting said ejectors to extents having an approximately constant ratio to amounts entered on the accounting mechanism, a manipulative device for operating said ejectors when the same have been positioned, a locking device normally preventing movement of said manipulative device, and connections from said operating means for releasing said locking device.

7. The combination with an indicating mechanism, of coin discharging devices, means controlling the amount discharged according to the amount indicated, and interlocking devices for compelling the op-

eration of the indicating mechanism for each operation of the coin ejecting devices.

8. In a machine of the class described, the combination with an accounting mechanism with operating means therefor, of
5 check discharging devices; means actuated by said accounting mechanism for controlling the operation of said check discharging devices, and preventing a repetition of
10 operation of said check discharging devices without an intervening operation of said operating means.

9. In a machine of the class described, the combination with an indicating mechanism, of check ejecting devices; means for
15 actuating said check ejecting devices, an operating mechanism for said indicating mechanism, and means for normally preventing operation of the check ejecting device actuating means, said last named
20 means being released by actuation of said operating mechanism.

10. In a machine of the class described,

the combination with an indicating mechanism, of operating means therefor, check
25 discharging devices and manipulative means for actuating said devices, connections whereby the indicating mechanism determines the operation of said discharging devices, and means controlled by said operating means for normally preventing actua-
30 tion of said manipulative means.

11. In a machine of the class described, the combination with an indicating mechanism and operating means therefor, of
35 check discharging devices including an adjustable ejector; connections whereby said indicating mechanism positions said ejector, and means for actuating said discharging
40 devices.

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

WILLIAM H. MUZZY.

Witnesses:

W. M. MCCARTHY

C. KLOSTERMANN.