

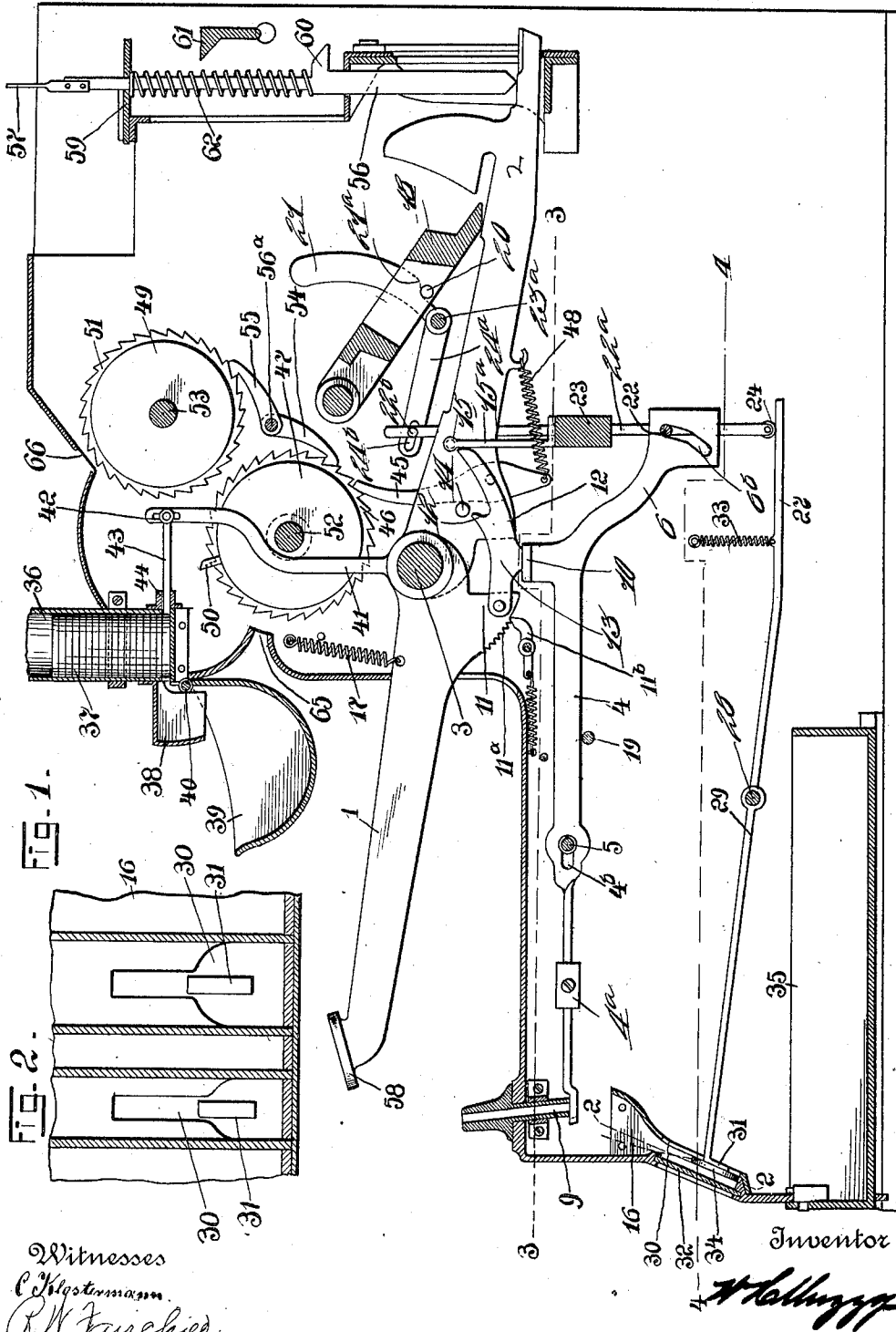
W. H. MUZZY.
CASH REGISTER.

APPLICATION FILED OCT. 18, 1907.

1,036,686.

Patented Aug. 27, 1912.

3 SHEETS—SHEET 1.

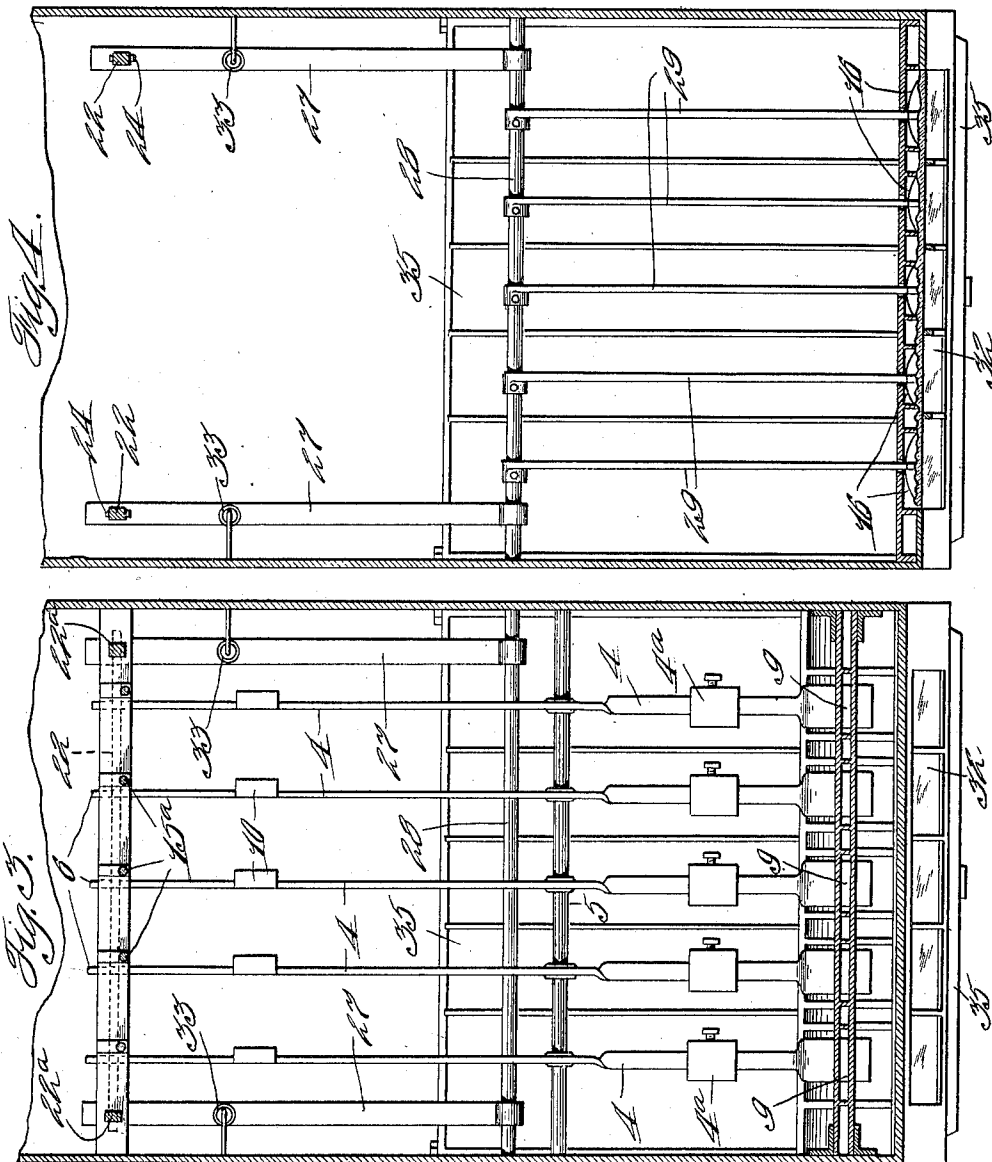


W. H. MUZZY.
CASH REGISTER.

APPLICATION FILED OCT. 18, 1907.

Patented Aug. 27, 1912.
2 SHEETS—SHEET 2.

1,036,686.



Witnesses
C. H. Kostermann.
R. H. Fairchild

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.

1,036,686.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed October 18, 1907. Serial No. 398,048.

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 cash registers and has more particular relation to improvements in machines of the coin controlled type for automatically ejecting tickets or other value tokens.

The object of the invention is to provide an improved coin controlled mechanism for the ejection of value tokens, with a registering mechanism whereby the amounts of the tokens ejected will be recorded within the machine.

A further object is to provide a machine in which the mechanisms for registering and ejecting the tokens will become operative only upon the insertion of a specified coin.

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 the appended claim 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 central transverse section of the machine embodying my invention. Fig. 2 represents a detail vertical section of a part of the coin displayer taken on line 2—2 of Fig. 1. Fig. 3 represents a broken horizontal section of the machine taken on line 3—3 of Fig. 1; and Fig. 4 represents a view similar to Fig. 3, taken on line 4—4 of Fig. 1.

Described in general terms the machine comprises a series of two-part key levers of different denominations, the parts of each lever being normally disconnected and arranged to be connected by a counter balanced frame, which is adapted to be operated by the weight of a coin. After the parts of a key lever have been coupled its operation will register and indicate the value of the key, deposit the coin in a displayer and eject a check.

Operating mechanism.—This mechanism comprises primarily a series of two-part key levers 1 and 2, which are fulcrumed upon

the main transverse shaft 3. Journaled upon a transverse shaft 5 within the casing of the machine is a series of counter balanced levers 4, one for each of the key levers. Each of these levers is provided with a counter balance 4^a, an elongated slot 4^b through which the shaft 5 extends, a rearwardly and upwardly extending arm 10, and a downwardly and rearwardly extending arm 6, the latter having an angular slot 6^b, through which a rod 22 supported by vertically movable rods 22^a, projects; said rods 22^a being guided by a transverse bar 23 of the frame. The forward end of each of the levers 4 projects under a coin chute 9, whereby a coin placed therein will rest upon the lever and throw it off of its normal balance, thus causing its rear end to rise. This upward movement of the arm 10 elevates a pivoted pawl 13, which is pivotally mounted upon the part 1 of its respective key and is formed with a shoulder 12 arranged to contact with a pin 14 mounted upon the part 2. The rear end of each pawl 13 is beveled and is arranged to cooperate with a lug 15 projecting laterally from a standard 15^a rising from the cross bar 23. The movement of the pawl 13 is such that it will pass either above or below the lug 15, according to the position of its counter balanced lever 4. When the rear end of the lever 4 is elevated by a coin resting upon its forward end, the pawl 13, which rests upon the arm 10, will be also elevated, bringing the pin 14 into the path of movement of the shoulder 12. As the key 1 is operated, the rear end of the pawl 13 first passes above the lug 15, the shoulder 12 subsequently contacting with the pin 14 and causing the part 2 of the key to move with the part 1. The pawl is held to its engagement with the pin 14 by the lug 15 during the entire movement of the key, and it is only after the key has been returned to its normal position that the pawl is retracted to a position in which it will drop and again rest upon the arm 10. A full stroke pawl 11^b is suitably mounted upon the frame and engages rack teeth 11^a formed upon each key 1, to compel a full stroke of the key. A key coupler frame 18, which is of ordinary construction well known on the market and arranged to be operated on each operation of any key, is provided upon each side with a pin 20. These pins rest against cam arms 21 fast

to a shaft 23^a. As the coupler 18 is raised the pins 20 contact with the shoulders 21^a of the arms 21 and rock shaft 23^a which carries arms 24^a, secured to the opposite end of shaft 23^a, downward. Each arm 24^a is formed with an elongated slot 24^b into which projects a pin 22^b extending from the upper end of each rod 22^a. By this means when the machine is operated, the rods 22^a are depressed and thus move all of the arms 6 rearwardly drawing the levers 4 along with them until the forward ends of the levers pass free of the chute 9 and permits the inserted coin or coins to drop into the coin displayer chute 16 immediately under it. A transverse rod 19 supports the rear ends of all the levers 4. It will be seen from the foregoing that unless a coin is placed in one of the chutes 9, the key levers are all practically inoperative and a depression of their forward ends would result in no operation of the internal sections 2 to which the check ejecting and registering devices are connected, as hereinafter described.

Coin displayer.—This displayer is divided into a plurality of chutes into which are deposited coins of different denominations. A glass covered opening extends the entire width of the displayer and through which may be seen the various coins. The lower ends of the rods 22^a carry rollers 24, which contact with the upper sides of arms 27 that are secured to and project rearward from a transverse shaft 28. Extending forward from the shaft 28 are a plurality of arms 29, see Fig. 4, one for each of the chutes of the coin displayer and which extend into openings 30 in the chute. Each arm 29 is provided with a downward extension 31, which, as shown in Fig. 1, is in horizontal alinement with its opening 30 in the back of the chute 16 so as to hold a coin in view through the glass covered opening 32 formed in the front of the casing. The openings 30 are enlarged at their lower ends, see Fig. 2, so as to permit the coins to drop out of the different compartments as hereinafter described. As the arms 27 are rocked downward against the tension of springs 33, the forward end of each arm 29 will move upward in the direction of the dotted line until the end of the downward projection 31 passes above the coin 34 it is supporting, which will then drop into the drawer 35 mounted in the bottom of the casing and normally locked. After the coin last displayed has dropped into the drawer, the levers 4 will move rearward so as to allow the coins to escape from the chutes 9 into the chutes 16 where they will be intercepted by the arms 29. As the parts return to normal position, the coin or coins will pass in front of the projections 31 and be held in exposed positions until the succeeding operation of the machine.

Check ejecting devices.—A plurality of tubes 36, only one of which is shown, contain checks 37 of the same denomination as the key levers. An angular hood 38 is attached to the front of the tubes so as to prevent the withdrawal of checks without operating the machine. A cup 39 into which the checks 37 are ejected is hinged as at 40, so it can be raised to inspect the registering mechanism as hereinafter described. Projecting upward from the part 2 of each key lever is an arm 41 to which is attached a slide 43 by a slot and pin connection 42, the forward end of the slide extending through guides 44 attached to the back of the check tubes 36 and is arranged to contact with the bottom check in its companion receptacle. It will be seen from this construction, that when a coin is deposited into one of the chutes 9 the lever 4 will be operated and thereby couple the parts 1 and 2 of the key lever, so that when the part 1 is depressed the vertical arm 41 of the part 2 will rock forward and through the slide 43 eject into the receptacle 39 a check corresponding to the denomination of the key operated.

Registering mechanism.—Part 2 of each key lever is provided with a pawl 45 which is drawn into engagement with a ratchet 46, secured to a registering wheel 47, by a spring 48. As the said part is elevated its pawl 45 will engage the ratchet 47 and turn it and the registering wheel to which it is attached one space. Every complete revolution of the registering wheel 47 will advance a wheel 49 one space by means of a pin 50 carried by the wheel 47 engaging a tooth of a ratchet 51 secured to the wheel 49. The wheels 47 and 49 are loosely mounted upon shafts 52 and 53 respectively and are held in position by spring pressed pawls 54 and 55 which are mounted upon a transverse shaft 56^a. The amounts on the lower wheels 47 may be read by lifting the receptacle 39 and looking through an opening 65 in the casing of the machine while the amounts on the upper wheels may be seen through an opening 66 in the casing. While the form of mechanism herein shown is of the ordinary detail adder type, it is to be understood that any other form of mechanism may be employed.

Indicating mechanism.—Resting upon the rear end of part 2 of each lever is a vertical rod 56 which has attached to its upper end an indicator 57 bearing the same numeral as the key check 58 of part 1. Each rod 56 passes through suitable guides 59 secured to the casing of the machine and is provided with a shoulder 60 which is adapted to rest upon a backrod 61 when said rod is elevated so as to hold the indicator 57 in an exposed position. A coil spring 62 surrounds each rod 56 with its ends abutting against the shoulder 60 and one of the guide plates 59

so as to return the indicator to normal position when the backrod 61 is rocked out of engagement with the shoulder 60 by means not shown but well known in the art.

5 While the tablet form of indicators has been employed to illustrate the invention, it is to be understood that any of the other well known type may be used without departing from the scope of the invention.

10 In a great many establishments during different seasons of the year extra help is employed to take care of certain lines of business, such as soda fountains in drug stores; and as these positions are only temporary, the proprietor finds it difficult to hire honest, capable and efficient employees. With a type of machine as herein described this difficulty is removed to a great extent, as the employee does not handle the money and has only to attend to the delivering of the goods.

15 With the type of machine as above described it will be seen that if an attempt is made by a customer to manipulate it by placing a coin of a certain denomination in a compartment of a higher denomination, it will be discovered the moment the machine is operated, by the coin dropping into the coin displayer in full view of the attendant, who is always on the alert because of the fact that he is held accountable for any dis-

crepancy between the amount in the cash drawer and the amount on the adding mechanism.

While the form of device here shown and 35 described is admirably adapted to fulfil the objects primarily stated, it is to be understood that it is not desired to confine the invention to one form of embodiment here disclosed, for it is susceptible of embodiment 40 in various forms, all coming within the scope of the claim which follows. It will also be understood that the present devices may be employed for compelling the insertion of a coin before amounts can be registered on 45 the machine.

What I claim is:

In a machine of the class described, the combination with a key comprising two separated parts, of a latch carried by one part 50 for connecting the two parts of the key together, a coin controlled lever for actuating said latch, and devices controlled by said key for sliding said lever longitudinally to withdraw it from the coin. 55

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

WILLIAM H. MUZZY.

Witnesses:

R. W. FAIRCHILD,
J. PLESSINGER.

It is hereby certified that in Letters Patent No. 1,036,686, granted August 27, 1912, upon the application of William H. Muzzy, of Dayton, Ohio, for an improvement in "Cash-Registers," errors appear in the printed specification requiring correction as follows: Page 1, line 17, before the word "mechanism", insert the words *or otherwise accounting*; and same page, line 18, after the word "recorded", insert the words *or otherwise accounted*; page 2, line 92, before the word "mechanism", insert the words *or accounting*; same page, line 114, after the word "is", insert the words *a register*; and line 116, before the word "mechanism", insert the words *registering or accounting*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 22d day of October, A. D., 1912.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.