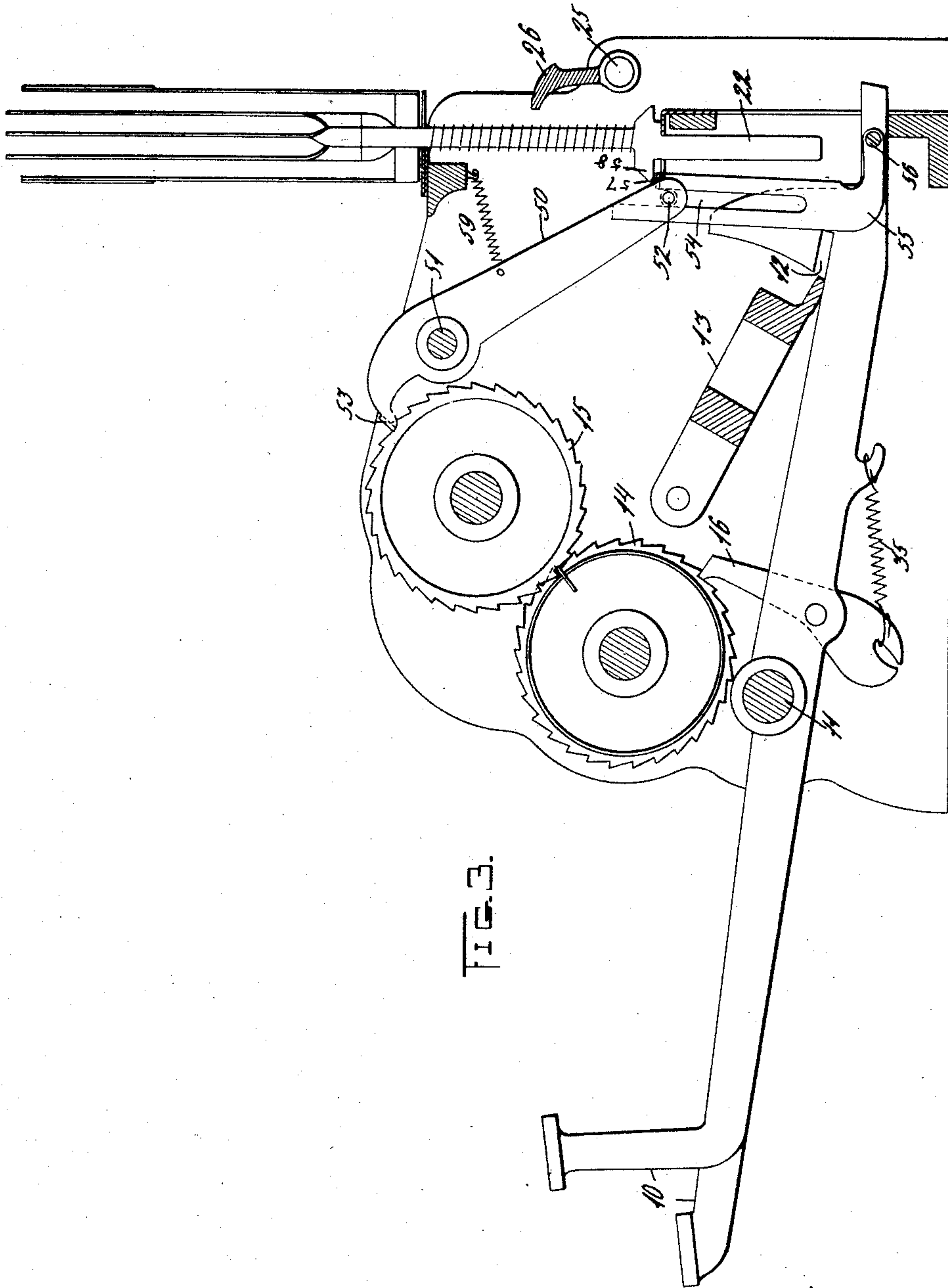


987,196.

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REFUNDING CASH REGISTER.
APPLICATION FILED JUNE 11, 1906.

Patented Mar. 21, 1911.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

EDWARD J. VON PEIN, OF DAYTON, OHIO, ASSIGNOR TO THE NATIONAL CASH REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO, (INCORPORATED IN 1906.)

REFUNDING CASH-REGISTER.

987,196.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed June 11, 1906. Serial No. 321,240.

To all whom it may concern:

Be it known that I, EDWARD J. VON PEIN, 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 Refunding Cash-Registers, of which I declare the following to be a full, clear, and exact description.

This invention relates to cash registers and particularly to that type of mechanism known in the art as the rebate or refunding machine.

It has hitherto been common to provide cash registers of all types with some form of indicating mechanism so called, the purpose of this mechanism being to compel the clerk or salesman to operate the machine correctly. The underlying idea of the use of the indicating mechanism is of course that the customer will in all probability see the indicator when it has been exposed, and this probability will deter the clerk from making an incorrect operation of the machine. It however has frequently been found in practice that customers have become accustomed to seeing the machines and pay little or no attention to the indication thereof.

In view of the above difficulty it has been proposed hitherto to render it advantageous to the customer to closely inspect the indicating mechanism of the register. This has been attempted by providing a mechanism which after a pre-determined number of operations or at irregular intervals would serve to announce in some way that the customer was entitled to some favorable discrimination on the part of the store. This discrimination has frequently taken the form of a rebate on the purchase price of the article, and this rebate has been announced by the disclosure of a special indicator having the words "Rebate" or "Free" or some equivalent thereof.

The mechanism above referred to has been improved and simplified by providing means which after a pre-determined number of operations will prevent the exposure of the usual amount indicator and may at the same time destroy the operative relation between the operating mechanism for the

usual computing device and the computing device itself. The result of this is that after a pre-determined number of operations of the machine the succeeding operation will not cause an exposure of the usual indicator nor will it serve to increase the amount registered on the computing mechanism.

With these and incidental objects in view, the invention consists in certain novel features of construction and combination 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 sectional view through the machine. Fig. 2 represents a detail view of one of the keys and connecting mechanism. Fig. 2^a is a detailed rear view of one of the keys. Fig. 3 represents a view similar to Fig. 1 showing the invention in a modified form.

The machine to which these improvements are applied is of that class of machines known in the art as detail adders and will only be described briefly, a more detailed description being obtainable by referring to Letters Patent of the United States No. 384,158 granted June 5, 1888, to John F. Heady and John H. Patterson and many other patents. This machine has a series of amount keys 10 which are pivoted on a main shaft 11 and have slots 12 at their rear ends adapted to be engaged by a key coupler 13. As all the keys 10 are alike in general construction, the invention will be shown and described as applied to merely one of the same and it will be apparent that it is capable of application to all of the keys.

The counter consists of a primary and secondary adding wheel 14 and 15 for each key, which operates as explained in the above mentioned United States Letters Patent to Heady and Patterson. The wheel 14 is revolved one space at each operation of the corresponding key by the operating pawl 16 pivoted on the key 10.

Secured to a sleeve 17 is a circular plate 18. This plate has projections 19 on its

periphery which engage a sliding plate 20 movably secured to the key by pin and slot connections 20^a. The projections 19 are arranged so as to operate the plate 20 at every 5 tenth operation of the key 10 but can be so arranged as to cause the plate 20 to be operated after any desired number of operations, this depending entirely upon the position, number and shape of the projections 19. 10 The rear end of the plate 20 is bent to form a lateral projection 21 which extends over the top of the key 10 and is in its normal position directly under the indicator 22. From this construction it will be seen that 15 whenever any key 10 is operated the corresponding counter will be operated and the indicator 22 will be raised except when the plate 20 is operated which operation will move the projection 21 out from under the 20 indicator 22 and allow the key to move up alongside of it without carrying said indicator up with it.

Pivoted at 25 is a bar 26 which serves to hold the operated indicators in their elevated position. The mechanism for operating this bar is not shown here but is fully described in many patents and is well known in the art.

It will be readily understood that at the 30 beginning of the operation of the machine said bar is rocked rearward to release any indicators used in the previous operation and is rocked forward again after the indicators used in the present operation have 35 reached their highest position thereby locking them in such position. A lateral projection 30 of the plate 20 surrounds the pawl 16 and will (when forced rearward by one of the projections 19 of the disk 18) carry 40 the said pawl 16 out of engagement with the wheel 14.

The means for rotating the disk 18 will now be described. Secured to the opposite side of the sleeve 17 is a ratchet wheel 31 45 (see Fig. 2) which is engaged by a spring pawl 32 pivoted on the key 10. A spring pawl 33 pivoted on a shaft 34 engages the ratchet wheel 31 on the opposite side and prevents backward movement of said wheel.

Thus it will be seen that each time the key 50 10 is operated the pawl 32 thereon will revolve the ratchet wheel and the disk 18. A spring 35 normally tends to force the pawl 16 into engagement with the adding wheel 14. 55 From the above described mechanism the following will result. At each operation of the key 10 the pawl 16 will rotate the counter to add the proper amount thereon. The projection 21 will elevate the indicator 60 22 which will be held in its elevated position by the bar 26. The pawl 32 will rotate the ratchet wheel 31 and the disk 18 one notch. When the disk 18 is rotated to

the position shown in Fig. 1 the next operation of the machine will cause the slide 20 65 to be cammed rearward. This will cause the pawl 16 to be carried out of engagement with the adding wheel 14 thereby preventing the counter from being operated. It will also cause the projection 21 to be moved 70 rearward so that the indicator 22 will not be operated. The fact that there is no indication for this operation shows that the customer is entitled to a rebate.

In Fig. 3 a modified form of mechanism 75 is shown which prevents the indicator only from being operated and consists of an arm 50 pivoted on a rod 51 and carrying in its lower end a laterally projecting pin 52. A lateral projecting lug extends from said arm 80 50 and engages the teeth of the secondary adding wheel 15. The pin 52 engages in a slot 54 of an arm 55 pivoted at 56 to the key 10. A lateral projection 57 extends from the arm 55 and is directly under a 85 projection 58 of the indicator. A spring 59 holds the arm 50 in engagement with the wheel 15.

From the above it will be seen that in this modification whenever the key 10 is 90 pressed the indicator 22 will be raised by the projection 57 engaging with the projection 58 of said indicator but that whenever the secondary adding wheel 15 is moved the 95 arm 50 will be rocked thereby carrying the projection 57 out of the path of engagement with the projection 58 of the indicator 22.

It will be clearly evident from the above description that the forms shown in both 100 Figs. 1 and 3 provide for disengaging the indicator from its normal relation of operativeness to the key, and that the form in Fig. 1 also provides for preventing the operation of the counter, when the rebate or refund is due. The indicator may be said 105 therefore to show the amount due in all cases. In the majority of cases the indicator will be elevated and will of course exhibit an amount which is due. Occasionally the rebating mechanism will operate and 110 release the indicator from the key but in this case also, the indicator will show the amount, *i. e.*, zero, which is due.

It will be easily seen that the percentage of refund will depend on the frequency with 115 which the lugs 19 of Fig. 1 or 53 of Fig. 3 operate the indicator controllers 20 and 50. These lugs can be placed at any desired distance apart or may be placed irregularly if desired so that the machine may be made 120 by only slight changes to refund or rebate any amount desired.

While the form of mechanism here shown and described is admirably adapted to fulfil the objects primarily stated, it is to be un- 125 derstood 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.

5 What is claimed is as follows:

1. In a cash register, the combination with a registering wheel and indicator, of a key for operating same, and means operating periodically for preventing the operation of
10 said registering wheel and indicator.

2. In a cash register, the combination with an adding member and an indicating member, of a manipulative device controlling same, with means made effective periodically
15 for preventing control by said device over the adding and indicating members.

3. In a cash register, the combination with computing and indicating mechanism, of a key for controlling same, and means brought
20 into operation periodically for preventing a subsequent actuation of same from effecting an operation of said computing and indicating mechanism.

4. In a cash register, the combination
25 with a computing mechanism and indicators therefor, of a key for causing the operation of said mechanism and the exposure of said indicator, with means brought into action periodically for preventing the operation of
30 said computing mechanism, and the exposure of said indicator by a subsequent operation of said key.

5. In a cash register, the combination with computing and indicating mechanism, of a
35 key and normally operative connections for operating said mechanisms, and means for periodically preventing operation of said mechanisms by said connections.

6. In a cash register, the combination with
40 registering mechanism, of an indicating mechanism adapted to be moved to exposed position, a key for controlling the operation of the registering and indicating mechanisms, and means operating after a prede-
45 termined number of operations of said key to prevent the operation of the registering mechanism and the movement of the indicating mechanism upon a subsequent operation of the key.

7. In a cash register, the combination with
50 an accounting mechanism, of an indicating mechanism adapted to be moved to exposed position, a manipulative device for controlling both of said mechanisms with means
55 made effective by a determined number of operations of said manipulative device for destroying the control of the particular manipulative device over the accounting and indicating mechanisms for a single subse-
60 quent operation of the said manipulative device.

8. In a cash register, the combination with an indicating mechanism, of means normally

positioned for supporting same, and means
for periodically withdrawing the supporting
65 means during a single subsequent operation of the said supporting means.

9. In a cash register, the combination with an indicating mechanism, of a plate nor-
mally positioned for supporting same and
70 rotating means for periodically withdrawing the supporting plate during a single subsequent operation of the said plate.

10. In a cash register, the combination with an indicating mechanism and means
75 normally positioned for supporting same, of a disk having graduations and movable at each operation of the machine for periodically withdrawing the supporting means.

11. In a cash register, the combination
80 with an indicator, of a key for operating same and means actuated after a predetermined number of operations of said key for preventing the operations of said indicator by a subsequent operation of said key.
85

12. In a cash register, the combination with an indicating member, of a manipu-
lative device controlling same with means made effective by a predetermined number of
90 operations of the manipulative device, for preventing the control by a subsequent action of said device of the indicating member.

13. In a cash register, the combination with an indicating mechanism, of a key for
controlling same and means brought into
95 operation after a predetermined number of actuations of said key for preventing a subsequent actuation of same from effecting the operation of said indicating mechanism.

14. In a cash register, the combination
100 with an indicating mechanism, of a key for causing the exposure of said mechanism, with means brought into action by a predetermined number of operations of said key for preventing a subsequent operation of
105 said key from exposing the indicating mechanism.

15. In a cash register, the combination with an indicating mechanism, and means
normally positioned for supporting same, of
110 means for withdrawing the supporting means after a predetermined number of operations of the machine.

16. In a cash register, the combination with an indicating mechanism, of a plate
115 normally positioned for supporting same and rotating means for withdrawing the supporting plate after a predetermined number of operations of the register.

17. In a cash register, the combination
120 with an indicating mechanism and means normally positioned for supporting same, of a disk having graduations and movable at each operation, for withdrawing the sup-
125 porting means after a predetermined number of operations of the machine.

18. In a cash register, the combination with an indicating mechanism, of a plate normally positioned for supporting the same, and a disk having graduations and
5 movable at each operation for withdrawing the plate after a predetermined number of operations of the machine.

19. In a cash register, the combination with registering and indicating mechanism,
10 and a key for actuating same, of a plate and a pawl carried by said key, said plate sup-

porting the indicating mechanism, and means for moving said plate to withdraw the pawl from the registering mechanism and to withdraw also the supporting plate from 15 the indicating mechanism.

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

EDWARD J. VON PEIN.

Witnesses:

ROY C. GLASS,

CARL W. BEUST.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
