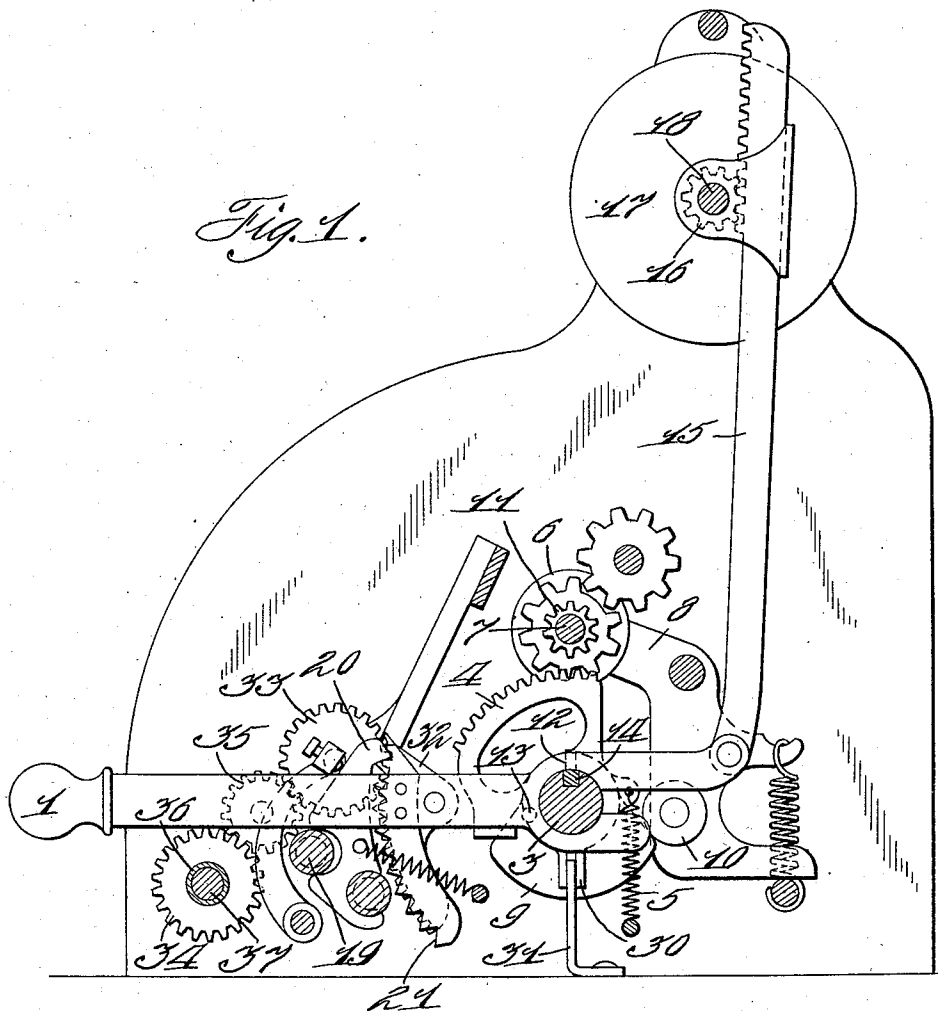


W. H. MUZZY.
CASH REGISTER.
APPLICATION FILED MAY 20, 1906.

1,047,686.

Patented Dec. 17, 1912.

4 SHEETS—SHEET 1.



Witnesses

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L. S. Kilian

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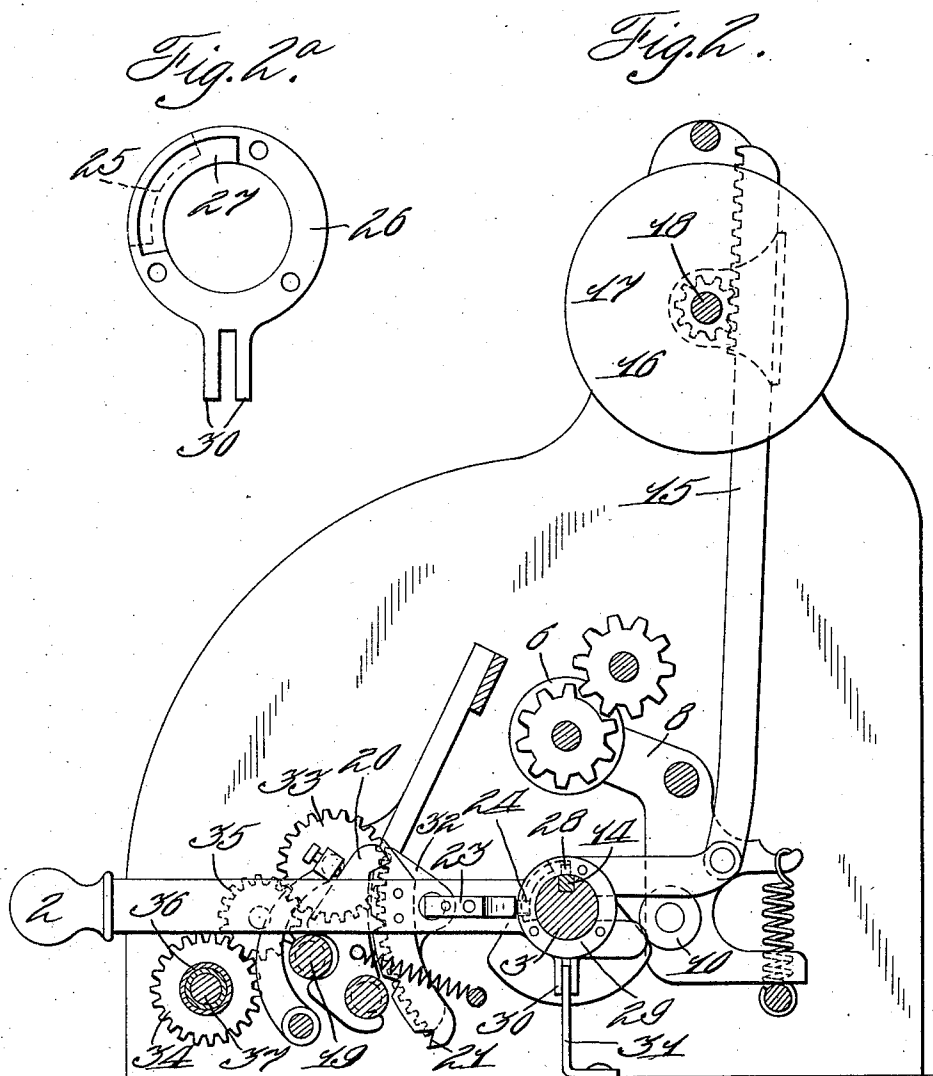
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4 SHEETS—SHEET 2.

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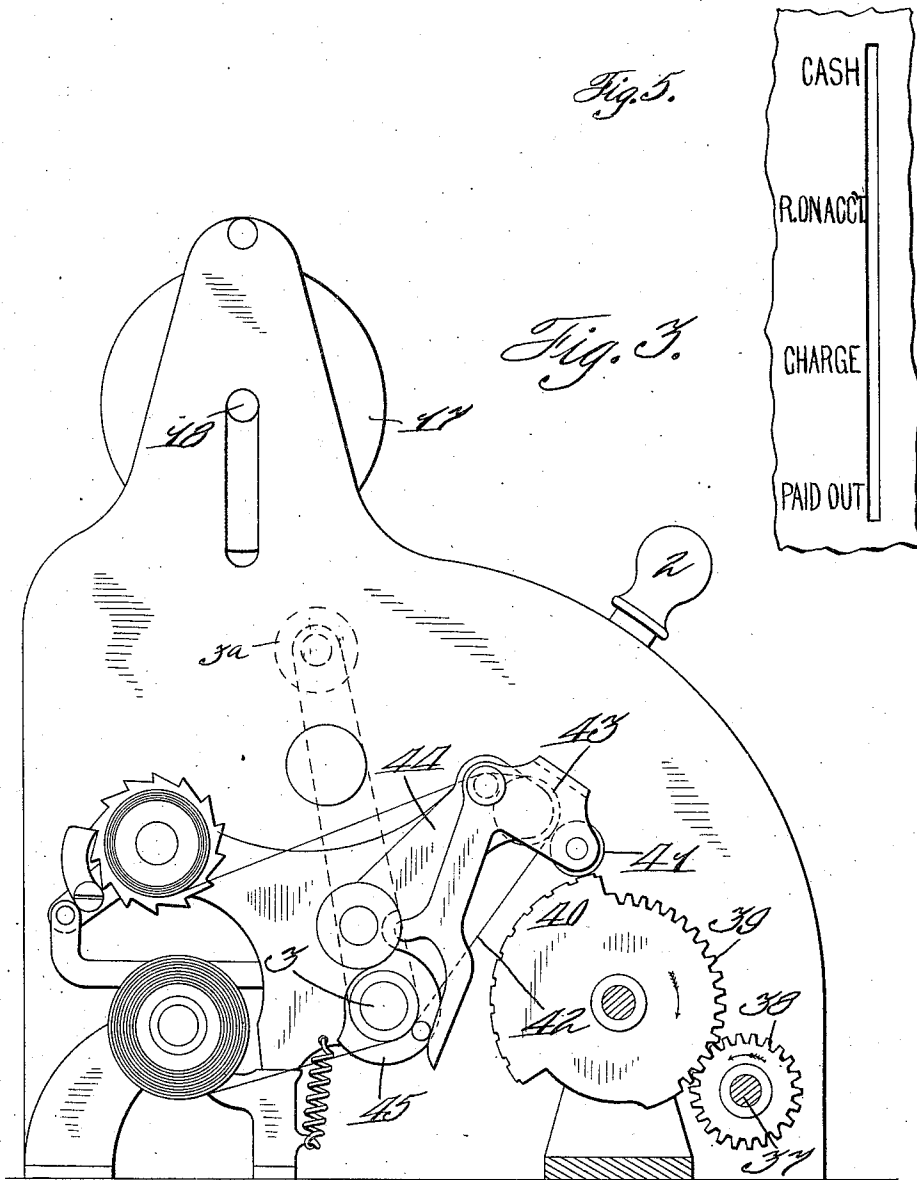
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4 SHEETS—SHEET 3.



Witnesses
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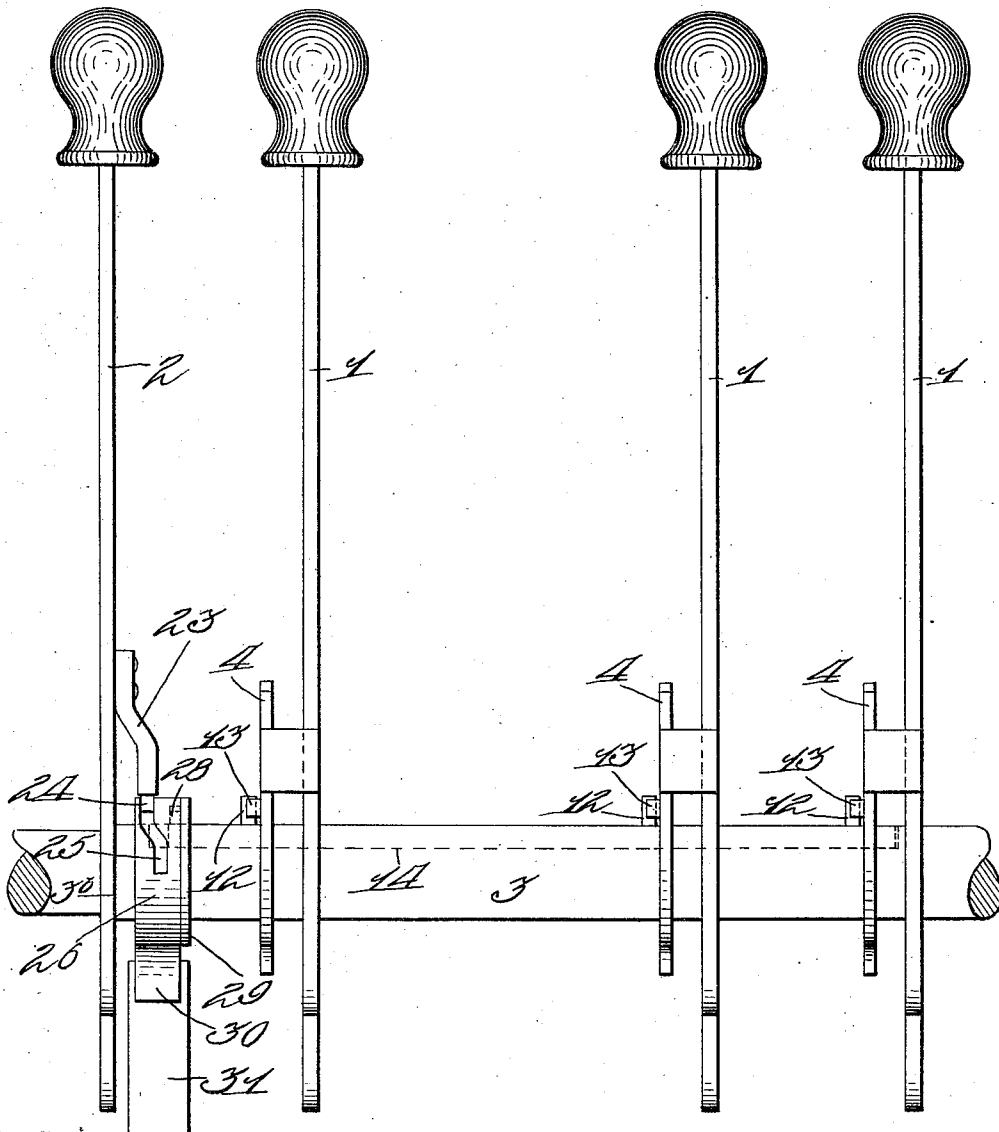
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4 SHEETS—SHEET 4.

Fig 4



Witnesses

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UNITED STATES PATENT OFFICE.

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

CASH-REGISTER.

1,047,686.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed May 20, 1905. Serial No. 261,295.

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 registers of the type patented to; Smith & Giles, #677,896, July 9, 1901, Smith & Susstrong, 705,619, July 29, 1902 and Albert Pfaff, 721,916, March 3, 1903.

The principal object of the present invention is to provide improved devices for throwing out the counting mechanism when it is desired to indicate or print certain transactions without registering the same.

With this 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 mentioned taken along-side of one of the amount levers. Fig. 2 represents a similar view taken along the line of the special transaction lever. Fig. 2^a represents a side elevation of the cam ring for throwing out the counter actuating mechanism. Fig. 3 represents an end elevation of the printing mechanism. Fig. 4 represents a detail front elevation of the setting levers and their connections, and Fig 5 represents a detail front elevation of the index plate for the special lever.

As many of the parts of the present machine are fully described and illustrated in the aforesaid patents the same will be referred to for any detail description of the parts that is not hereinafter given.

Described in general terms, however, the machine may be said to comprise a series of setting levers, which when operated, positively set the indicator and type carriers and control the register actuating devices. After these levers have been set as desired a

crank handle is operated, which results in the indicators being exposed to view, the amount printed and the registration effected by the return of the registering segments to their normal positions.

In the present invention such a machine as described above is provided with an additional setting lever or element which may be moved to different positions for different character of transactions, and by such movements control the operation of the register operating segments.

By referring to Fig. 4 it will be seen that the present machine is equipped with three amount levers 1, and a special setting lever 2, all of which are mounted loosely upon a rock shaft 3, the latter receiving an oscillatory movement upon each operation of the machine by means of a crank or lever 3^a as shown in the above mentioned patent.

It will be seen by reference to Fig. 1 that any upward movement of the amount levers will allow segmental racks 4 loosely mounted on shaft 3 to be oscillated rearward by springs 5. The adding wheels 6 of the totalizer are journaled upon a shaft 7 mounted in a rock frame 8. Upon the beginning of the oscillatory movement of the shaft 3, a cam 9 fast thereto will engage a roller 10 mounted upon the rock frame 8 and thereby rock the frame and bring pinions 11 mounted on the wheels 6 into engagement with the segmental racks 4. The further movement of shaft 3 will carry pins 12 mounted upon a slide 14 into engagement with lugs 13 on the segmental racks 4 and thereby move the segments back to normal position. This movement of the segments will effect the registration as is clearly shown and described in the aforesaid patents.

The pins 12 extend radially from the laterally movable slide 14 which is mounted in the oscillating shaft 3. In Fig. 4 the special setting lever 2 is shown in position for a cash sale and in this position the amounts indicated and recorded will also be registered, as the pins 12 and lugs 13 are in alinement with each other. This will also be true when the lever is moved to the second highest position which represents "Received on account." The movement of the lever 2, however, into either of the two lower-most positions which represent

"Charge" and "Paid out" will move the pins 12 mounted upon the laterally movable slide 14 out of the path of lugs 13 of the segments 4. This movement occurs before the rock shaft 3 is operated and any movement of the shaft will be entirely independent of the segments 4, and no registration will take place. It will thus be seen that the throwing out of the counter is entirely independent of an operation of the machine.

After the shaft 3 has started to oscillate a laterally movable shaft 19 is shifted to the left thereby rocking the alining pawls 20 into engagement with the V-shaped notches 21 formed on arms 22 carried by the levers 1 and 2, thus preventing any manipulation of the levers. This construction is described and shown in the aforesaid patents.

The shifting of the slide 14 above described is accomplished in the following manner: Fast to lever 2 is an arm 23 the end of which is provided with an anti-friction roller 24 which projects into a cam slot 25 formed in a ring or collar 26 mounted loosely upon the shaft 3. This collar is provided with a recess 27 (see Fig. 2^a) into which projects a pin 28 mounted upon the slide 14. A cap plate 29 is secured to the collar, thus holding the pin 28 in the slot 27. It will thus be seen that the slide 14 will rock with the shaft 3, but at the same time will have an independent lateral movement if the lever 2 is moved into one or the other of the lower-most positions. Lever 2 is prevented from moving sidewise by a shoulder 3^b on the shaft 3. The collar 26 is provided with two projecting ears 30 which overlap a guide arm 31 mounted on the base of the machine. This construction allows of the lateral movement of the ring 26 caused by the movement of the lever 2 but prevents any rocking movement of the ring. Levers 1 and 2 are connected by rack bars 15 and pinions 16 to the indicators 17 which are mounted upon a supporting shaft 18. The levers 1 and 2 are also provided with segmental racks 32 which engage pinions 33, these pinions in turn rotating pinions 34 by intermediate pinions 35. The pinions 34 are fast upon the inner ends of a series of nested sleeves 36 and a shaft 37, the other ends of said sleeves and shaft being equipped with pinions 38 which mesh with segmental racks 39 formed upon the printing disks 40. It will thus be seen that whenever an amount is set up by the setting elements the corresponding amount will also be set up on the type carriers. These type carriers are inked by a roller 41 and the impression is taken upon the detail strip 42 by a platen 43 which is carried by a rocking frame 44. This frame receives its rocking movement from a cam 45 fast to one end of the oscillatory shaft 3. The details

of construction of this printing mechanism are fully set forth in the patent to Albert Pfaff above mentioned.

I do not care to limit the present invention to the type of machine illustrated in the accompanying drawings as the invention is of such scope that the mechanism can be applied to any machine in which the operating segments or racks are movable to effect the registration after being set by the controlling elements, whether this setting movement takes place by the operation of individual keys, a single lever or a mechanism controlled by setting elements or keys.

While the form of mechanism here shown and 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 the form of embodiment here disclosed, for it is susceptible of embodiment in various forms all coming within the scope of the claims which follow.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a cash register, the combination with a counting mechanism, of operating elements for the same, springs for moving said elements, means for limiting the movements of said elements, means for returning the elements to normal positions to effect the registration, and mechanism for preventing the return of such elements and thereby preventing registration upon the counter.

2. In a cash register, the combination with a counting mechanism, of operating elements for the same, setting levers controlling said elements, printing devices connected to said levers, means for actuating the elements after they are set to effect the registration, and mechanism for preventing such subsequent actuation of the elements.

3. In a cash register, the combination with a counting mechanism, of operating elements for the same, means for setting said elements while free of the counting mechanism, means for returning the elements to their normal positions and bringing said elements into connection with the counting mechanism, and mechanism for preventing the return of the elements to normal position after being set.

4. In a cash register, the combination with a series of setting devices representing amounts, of a setting device representing special transactions, a counting device, operating elements for setting the counting device controlled by the amount setting devices, a printing mechanism controlled by both the amount and the special setting devices, means for actuating the operating elements after they are set to effect the registration, and means controlled by the special setting device for preventing this subsequent operation of the operating elements.

5. In a cash register, the combination with a counting mechanism, of a series of operating rack segments for the same, means for setting said segments, means for returning the segments to their normal positions to effect the registration, and mechanism for preventing the return of the segments to their normal positions upon the operation of the machine.

6. In a cash register, the combination with a counting mechanism, a printing mechanism, and an indicating mechanism, of setting devices for the indicating and printing mechanisms, operating elements for the counting mechanism controlled by the setting devices, means for actuating the operating elements after they are set to effect the registration and throwout mechanism for preventing this subsequent actuation of the operating elements.

7. In a cash register, the combination with a series of setting levers, of counting devices, a series of counter operating racks which automatically follow the movements of the setting levers, devices for returning the racks to their normal positions and thereby effecting the registration, and means adjustable at will for preventing the return of the racks to their normal positions.

8. In a cash register, the combination with a series of setting levers, of rack segments which automatically follow the movements of the same, a rock shaft for returning all of the rack segments to their normal positions, a counter actuated by such return movement of the segments, and a special setting device for throwing the rock shaft and rack segments out of connection so that the movement of the shaft will not effect the segments.

9. In a cash register, the combination of a series of setting elements, a printing mechanism connected thereto, a counting device, counter operating racks which automatically follow the movements of the setting elements, a rock shaft for returning all of the segments to their normal positions and thereby effecting the registration, and a special setting device for preventing the return of the rack segments by the rock shaft.

10. In a cash register, the combination with a series of setting levers, of counter operating racks which automatically follow the movements of the levers, a counter mounted in a movable frame and free of the racks during their setting movements, means for throwing the counter into connection with the racks, mechanism for returning the racks to their normal positions after the counter is thrown in, and a special setting device for preventing this return of the racks to normal position.

11. In a cash register, the combination with an operating mechanism, of counting

devices, operating elements for said devices, mechanism for setting the operating elements, means for actuating the operating elements after they are set and thus effecting the registration, and throwout devices for preventing the movement of said elements after being set.

12. In a cash register, the combination with a counting mechanism, of operating elements for the same, means for setting the operating elements without affecting the counting mechanism, means for thereafter actuating the operating elements to effect the registration, and means for preventing the movement of said elements after being set.

13. In a cash register, the combination with a counting mechanism, of operating elements therefor, setting levers controlling said elements, printing and indicating devices connected to said levers for movement thereby, means for moving the elements after they are set to effect the registration, and means for preventing the registering movement of said elements.

14. In a cash register, the combination with a series of setting devices representing amounts, of a setting device representing transaction characteristics, a counting device, operating elements therefor controlled as to movement by said amount setting devices, a printing mechanism controlled by both the amount and transaction setting devices, means for actuating the operating elements after they have been set, and means for preventing the actuation of said elements controlled by the transaction setting device.

15. In a cash register, the combination with a counting mechanism, a printing mechanism, and an indicating mechanism, of a plurality of setting devices for the indicating and printing mechanism, operating devices for the counting mechanism controlled by the setting devices, means for actuating the operating devices to effect the registration desired, and throwout devices for preventing the said actuating movement.

16. In a cash register, the combination with a series of setting levers, of counter operating devices which automatically follow the movement of the said levers, a counter mounted in a movable frame, means for moving the frame to engage the counter and operating devices, and means for preventing when desired the actuating movement of the operating devices.

17. In a cash register, the combination with a counter of operating devices for the same, means for giving said devices setting movements, means for determining the extent of the setting movements of said devices, means for giving said devices their registering movements, and means for pre-

venting said registering movements when desired.

18. In a cash register, the combination with a counter, of racks for operating the same, means for giving said racks setting and registering movements, means for determining the extent of the setting movements of said racks, and means for preventing the registering movements at will.

19. In a cash register, the combination with a register of devices for operating the same, means for giving said devices registering movements, levers for determining the extent of the setting movements of said devices, and a special device for preventing the registering movements when the transaction is not to be entered on the register.

20. In a cash register, the combination with registering and indicating mechanisms, of racks for operating said registering mechanism, means for giving said racks their registering movements, means for determining the extent of the setting movements of said racks and for operating said indicating mechanism, and means for preventing the registering movements of said racks.

21. In a cash register, the combination with a register and a printing mechanism, of devices for operating said register, means for limiting the extent of operation of said

devices and for adjusting said printing mechanism, means for operating said register operating devices, and means for preventing such operation at will.

22. In a cash register, the combination with a register, of differentially movable driving devices for same, levers for determining the movement of said driving devices, a main operating mechanism, means for connecting said driving devices to said operating mechanism and means for preventing the establishment of said connection.

23. In a cash register, the combination with a totalizer, of operating devices therefor normally disconnected therefrom, means for determining the extent of movement of said operating devices, means for connecting said totalizer and operating devices and giving the latter its determined extent of movement to effect a registration and means for preventing the movement of the operating devices when connected with the totalizer.

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

WILLIAM H. MUZZY.

Witnesses:

W. M. McCARTHY,
C. L. WILLISS.