

W. H. MUZZY.

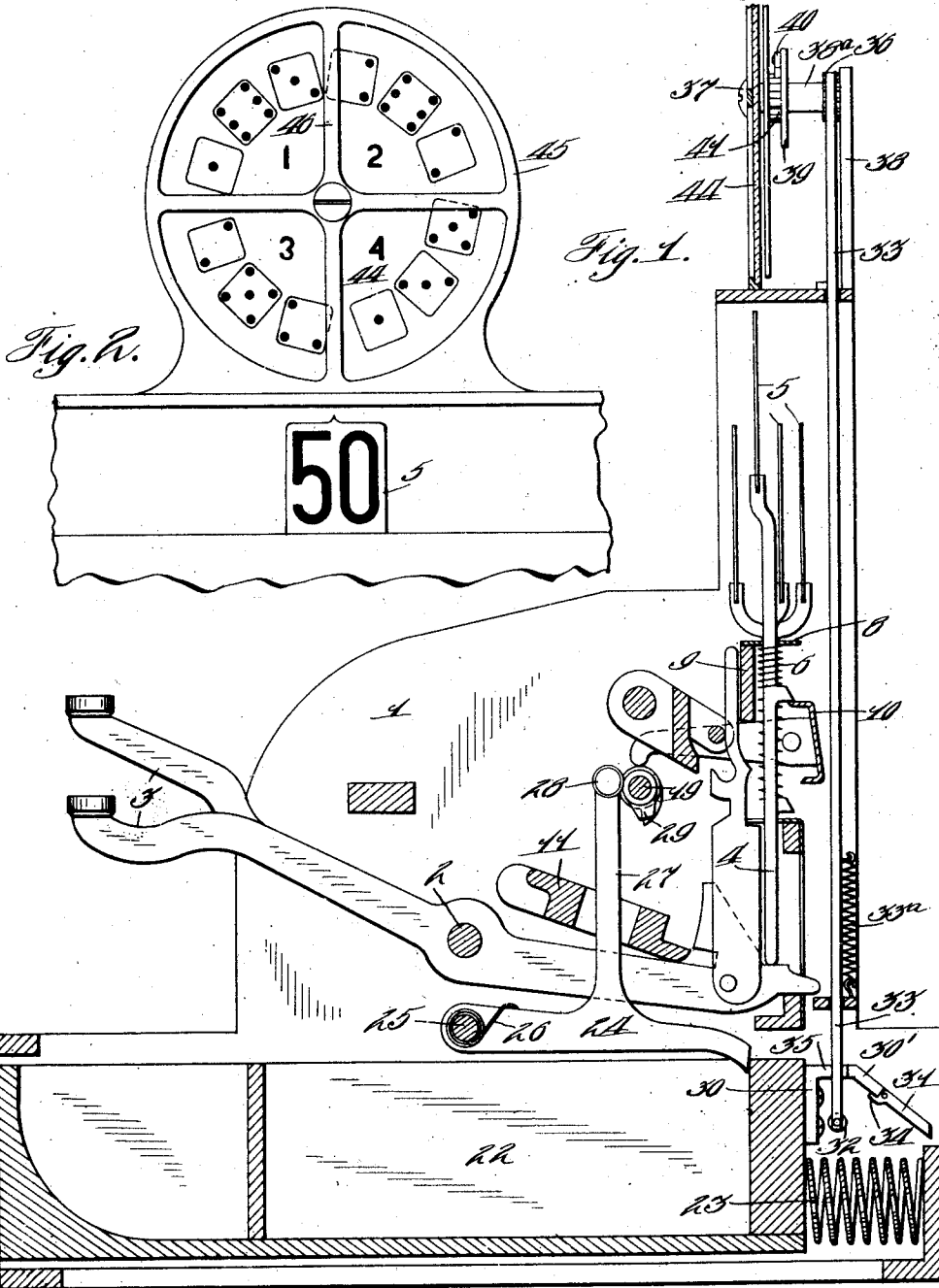
CASH REGISTER.

APPLICATION FILED JUNE 29, 1907.

988,371.

Patented Apr. 4, 1911.

2 SHEETS-SHEET 1.



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Fig. 3.

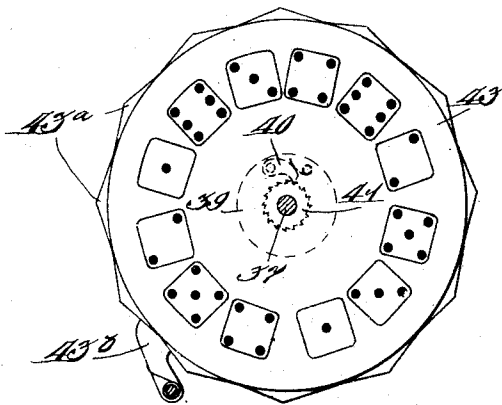


Fig. 4.

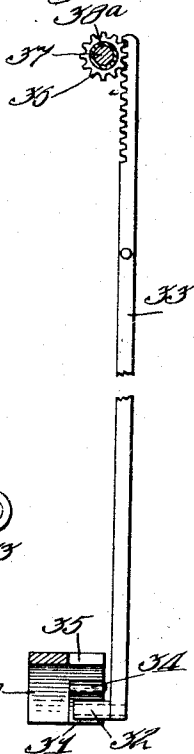
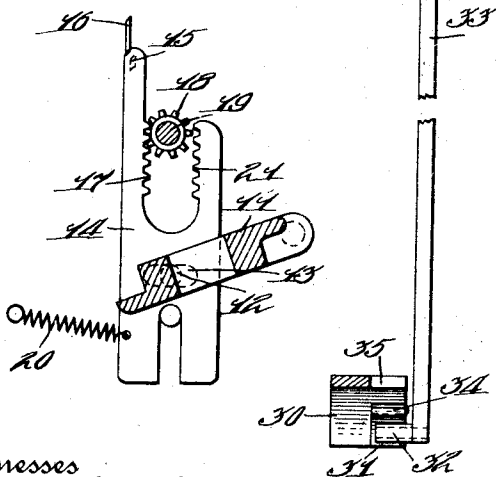


Fig. 5.



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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.

988,371.

Specification of Letters Patent.

Patented Apr. 4, 1911.

Application filed June 29, 1907. Serial No. 381,412.

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 devices for drawing the attention of the customer to the indication.

The object of the invention is to provide a mechanism which, upon each operation of the machine, will be given an uncertain movement in such a way that the customers may amuse themselves by guessing as to what positions the mechanism will assume when it finally comes to rest.

A further object of the invention is to compel the completion of the registration and the closing of the cash drawer or receptacle, before the amusement device is brought into 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 vertical section through a cash register of the type shown in the patent to Thos. Carney No. 497,860, with my improvements applied thereto. Fig. 2 represents a broken front elevation of the upper part of the register, showing one form of my amusement device applied thereto. Fig. 3 represents a detail front elevation of the rotary disk with its ratchet and pawl connections. Fig. 4 represents a detail front elevation, partly in section, of the indicating devices between the cash drawer and the rotary disk; and Fig. 5 represents a detail side elevation, partly in section, of the devices connecting the key coupler and the rotation shaft of the machine.

In the present drawings I have shown my invention as applied to a machine of the key operated type, but it will of course be

understood that the invention could, with equal facility, be applied to any machine employing a cash drawer, whether it be key operated, or key set and crank operated, or, in fact, any known type of machine.

As the machine to which I have applied my improvements is old and well known on the market, and is clearly shown and described in the aforesaid patent, I will refer to this patent for such detail description as is not hereinafter given. Describing generally, however, the parts which have particular reference to the application of my invention to this type of machine: 1 represents the frame of the cash register, and 2 the main horizontal shaft supported in this frame and in turn supporting the key levers 3. Supported upon the rear ends of the key levers 3 is a series of indicator standards 4, provided at their upper ends with tablets 5. The said standards are surrounded by springs 6, the lower ends of which abut against projections 7 formed upon the standards 4, and the upper ends against a guide plate 8 for the indicator standards 4. The plate 8 is mounted on a cross bar 9, which forms a part of the frame for the machine. The springs 6 tend to return the indicators to normal position when they are released by the backrod 10. This backrod 10 is tripped, or rocked to drop the indicators during the initial movement of the key, substantially in the same manner as described in the aforesaid patent.

Extending above the key levers 3 and adapted to be operated by any one of the same, is a key coupler or bar 11. This bar carries a pin 12, see Fig. 5, which plays in an elongated slot 13 formed in an operating rack 14. The upper end of said rack carries a stud 15 which engages one side or the other of a projection 16 which is mounted on the frame 1. As the rack frame is raised, teeth 17 formed on one side thereof, engage a pinion 18 made fast to a revoluble shaft 19. As the rack reaches the limit of its upward movement the stud 15 is drawn to the opposite side of the projection 16 by means of a spring 20, thereby bringing teeth 21 formed upon the rack frame 14 into engagement with the pinion 18, to continue the movement of the shaft 19 as the rack frame descends.

The lower part of the frame 1 is provided

with a sliding cash drawer 22, which is adapted to be held in its closed position against the tension of a spring 23 by a latch 24 that is mounted upon a transverse shaft 25, which is surrounded by a coil spring 26, one end of which is fast to said shaft and the other end bearing on the upper side of said latch to hold it in the position to lock the cash drawer when closed. The latch 24 is provided with a vertical arm 27, the upper end of which is equipped with a friction roller 28. A cam 29 which is fast on the revolution shaft 19 is arranged to engage the roller 28 and thereby raise the latch to allow the drawer 22 to be propelled outwardly by the spring 23. A bracket 30 is secured to the rear wall of the cash drawer, and is provided with an inclined portion 30' and a slotted portion 35, best shown in Fig. 4. The bracket is also provided with a pivoted pawl 31 formed with a shoulder 34, which prevents its movement except in one direction. A vertical rack bar 33 is suitably mounted in the casing and is normally drawn downward by a spring 33^a, which connects it to the frame of the machine. The lower end of this bar carries an anti-friction roller 32. During the opening movement of the drawer the roller 32 merely presses the pawl 31 upward as the drawer passes outward. When the drawer is closed, however, the roller 32 rides up the upper surface of the pawl 31 and the incline portion 30', and as the drawer is forced into its locking position, descends rapidly into the aperture 35 under the impulse of a spring 33^a. This sudden impulse given to the rack 33 will rotate a pinion 36 which is fast on a sleeve 38^a loosely mounted upon a screw bolt 37 extending rearwardly to a standard 38 mounted upon the frame 1. The sleeve 38^a carries a disk 39. This disk is provided with a spring pressed pawl 40 adapted to ride idly over a ratchet wheel 41 as the rack 33 is elevated. The sudden downward movement of said rack reverses the movement of the disk 39 and causes the pawl 40 to rotate the ratchet wheel 41, which is made fast to a rotary disk 43 and thereby rotates the disk irregularly about the bolt 37. The face of this disk is provided with indicia, that resemble dice, and which can be seen through a transparent plate 44 mounted within a circular casing 45, the latter being divided into quadrants or other divisions by arms 46. The dice representations are so spaced upon the disk 43 that only three of them will appear in any quadrant at one time.

The rotary disk 43 is provided with a series of beveled teeth 43^a, which are engaged by a light spring pawl 43^b secured to the frame of the machine. The spring pawl 43^b is so light as not to interfere with the free rotation of the disk 43, but is heavy enough so that, when the disk is about to stop, it

will be arrested in such a position that the faces of the dice will be displayed in equal numbers within the four quarter sections.

The operation of the machine is as follows: Upon pressing one of the keys 3 the bar 11 will be raised, which in turn will raise the rack frame 14 to rotate the shaft 19, the rotation of which will raise the drawer latch 24 by means of the cam 29 coming into contact with the roller 28. As the drawer 22 is propelled forwardly by its spring 23 the foot 31 formed on the bracket 30 will ride over the roller 32. Now upon the closing of the drawer, the foot 31 will contact with the roller 32, causing the rack 33 to be elevated thereby. Just as the drawer is relatched the roller 32 will be drawn through the opening 35 by means of the spring 33^a. The momentum gained by the rotary disk 43 in a sudden downward movement of the rack 33, will cause the former to continue its movement after the latter has come to rest. It will be seen that the disk 43 is entirely beyond the control of the operator, for the moment the disk 43 is rotated by the quick descent of the rack 33, the drawer is latched in its closed position.

The complaint is sometimes made regarding cash registers, that persons become so accustomed to seeing them that they do not particularly notice the indication. This is also applicable to children who come into a store to make purchases and are not particularly interested in the indication. With a device such as my present invention however, an interest is created at a point on the machine which will direct the attention of the customer to the indication which has just been made.

I preferably provide the quadrants, or quarter sections of this amusement device, with numbers as shown in Fig. 2, so that several persons standing about the register may select different sections as their choice; they will then await the operation of the machine with some little interest, as it is only after the machine has been operated and the cash drawer closed that the disk is set in motion. After the disk has come to rest, the person picking the section in which the highest number of dice points are displayed may be considered to have been the winner of the guess. I have illustrated representations of dice upon the disk, but it will be understood that I might, with equal facility, place upon the disk representations of card hands or any other devices having different values and so arranged that one set might dominate another when the sets were determined by the movement of the disk.

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

1. In a machine of the class described, the

combination with a display disk mounted to rotate freely, of a cash receptacle, a spring and connections for driving said disk, and connections whereby the cash receptacle tensions said spring and then releases it as the receptacle reaches its concealing position.

2. In a cash register indicating mechanism, the combination with a freely rotatable display element, and a cash receptacle, of means including a potential energy device for actuating said display element, and connections whereby said cash receptacle stores potential energy in said device and then releases the same as said receptacle reaches its concealing position.

3. In a machine of the class described, the combination with a freely movable amusement element, of a cash receptacle, a spring constructed to be tensioned by said receptacle and having connections for actuating said amusement element, and a lock for said receptacle positioned to be engaged by said receptacle as an accompaniment to the release by said receptacle of said spring.

4. In a machine of the class described, the combination with a display device, of a cash drawer, a lock for said drawer and operating means for said display device set by the closing movement of the drawer with provisions for releasing said operating means after the drawer becomes locked.

5. In a machine of the class described, the combination with a display device, of a cash drawer, spring means for operating the display device, a lock for the cash drawer and devices carried by the cash drawer for putting the spring under tension by the closing of the drawer, and releasing said means after the drawer becomes locked.

6. The combination with a momentum disk, a cash drawer and connections for op-

erating the disk upon the closing of the drawer, of means for separating the symbols on the face of the disk into groups, said means being immovably mounted independent of the disk.

7. In a machine of the class described, the combination with a momentum display device, of a cash drawer, a spring actuated rack for operating the momentum device, and attachments on the cash drawer for elevating the rack upon the closing movement of the drawer and releasing it as the drawer is fully closed.

8. In a machine of the class described, the combination with a cash receptacle and means for latching the same, of a freely rotatable amusement device, a potential energy device connected to actuate said amusement device, and connections from said receptacle for storing energy in said potential device and releasing the same as the receptacle reaches latching position.

9. In a machine of the class described, the combination with a cash drawer, and means for latching the same in concealing position, of a freely rotatable display disk having indications thereon, a rack bar connected to rotate said disk, a spring for actuating said rack bar, a camming device carried by said cash drawer positioned to coact with said rack bar and thereby tension said spring, the camming device being shaped to permit release of said spring and rotation of said disk as the cash drawer reaches its latching position.

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

WILLIAM H. MUZZY.

Witnesses:

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