

996,176.

Patented June 27, 1911.

2 SHEETS-SHEET 1.

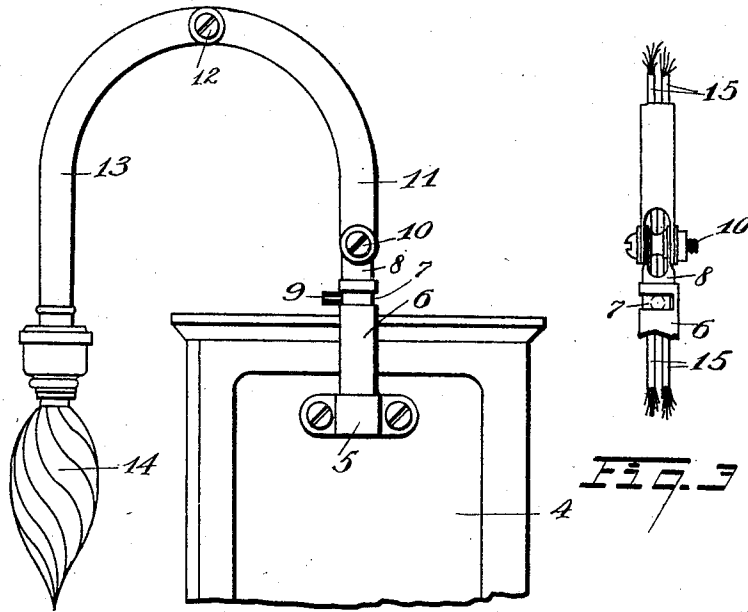


FIG. 1

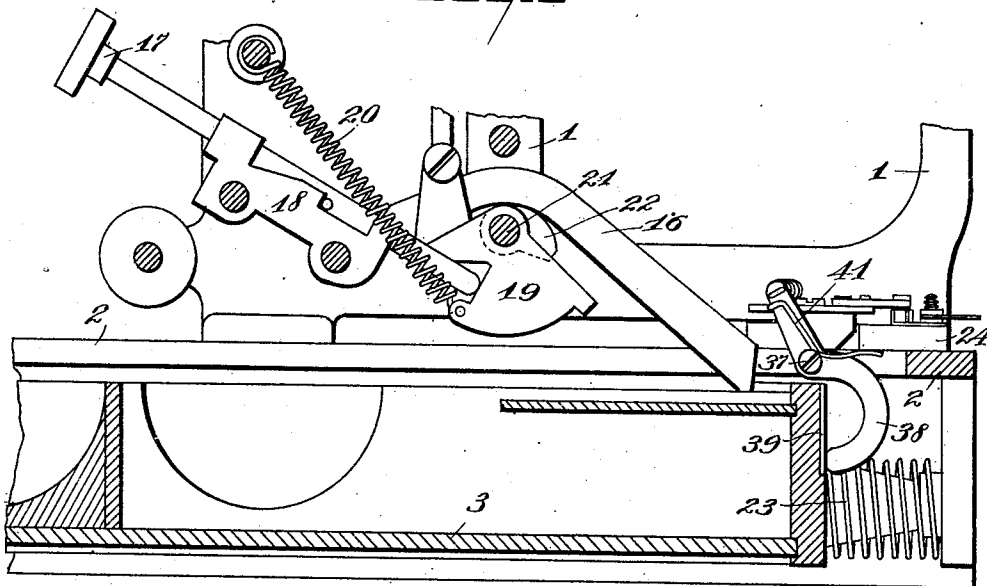


FIG. 2

WITNESSES:

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B. B. WELLS.
CASH REGISTER.
APPLICATION FILED AUG. 28, 1909.

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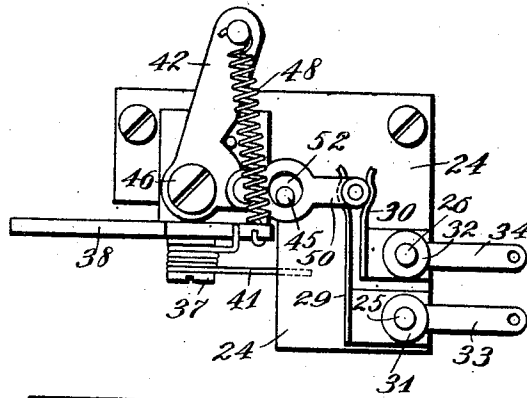


FIG. 4

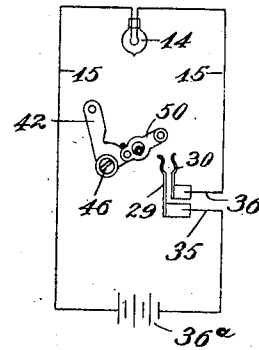


FIG. 6

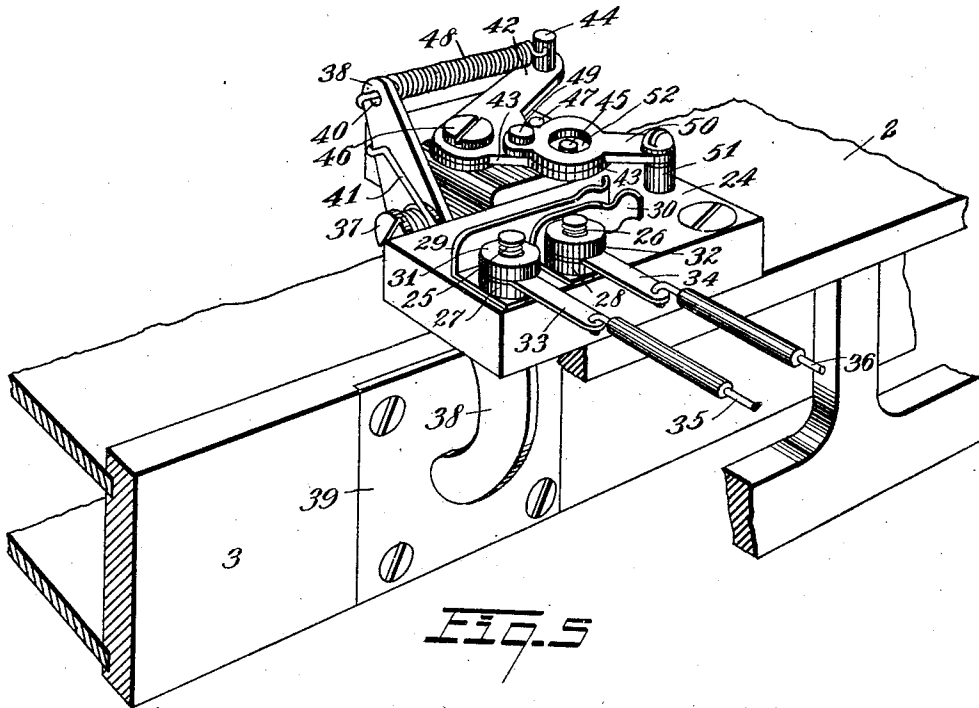


FIG. 5

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UNITED STATES PATENT OFFICE.

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CASH-REGISTER.

996,176.

Specification of Letters Patent. Patented June 27, 1911.

Application filed August 26, 1909. Serial No. 514,832.

To all whom it may concern:

Be it known that I, BYRON B. WELLS, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Cash-Registers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

10 This invention relates in general to cash registers, and it has more particular reference to an attachment for throwing light upon the indicating or registering wheels of such machines.

15 In the drawings forming part of this application, Figure 1 shows an end elevation of a portion of a cash register, the same having an electric light attached thereto; Fig. 2 is a sectional view taken through the lower part of the cash register and showing the cash drawer in section, the drawer releasing mechanism and the switch for controlling the light; Fig. 3 is a fragmentary view of the lamp support showing a joint therein; Fig. 4 is a plan view of the switch; Fig. 5 is a perspective view of the rear end of the drawer and of the switch, the latter being shown on a somewhat larger scale than in Fig. 4, and Fig. 6 is a diagrammatic view showing a system of electrical wiring for use in my invention.

The invention resides particularly in the switch for controlling the light, and in combination therewith of the cash drawer, the drawings showing the invention applied to a drawer operated machine such as is known commercially as the Hallwood cash register and shown, for example, in the patent to Henry S. Hallwood, No. 909,786. In these machines, there is provided a series of indicating wheels and a series of adding wheels for computing the totals of the cash transactions. The indicating wheels should be clearly visible, and, when the casing is opened for that purpose, it should be possible to clearly see the characters on the registering wheels through the comparatively narrow slot in the casing provided for that purpose. Sometimes these cash registers are placed in portions of a building which do not receive a bright light and, consequently, it becomes difficult to read the indications on both the indicating and the registering wheels.

55 My invention consists of a lighting at-

tachment which is adapted, when the cash drawer is opened, to throw a bright light upon the indicators, so as to disclose the transaction made. In the Hallwood cash register it is also necessary to open the cash drawer before the register wheels can be inspected or turned to zero. The said lighting attachment is, therefore, thrown into operation when the cash drawer comes open, so that the additional light will be thrown upon the registering wheels.

Taking up a fuller description of the invention by reference to the drawings, 1 represents a portion of the frame work of the cash register, and 2 represents the base plate or casting of the register upon which the frame work 1 is supported. Below the base plate 2, the register is provided with a space for the reception of the cash drawer 3, said drawer sliding in and out in said space. As indicated in Fig. 1, the frame work and the interior mechanism of the cash register is inclosed within a casing, that part of the casing shown being designated 4. The indicating wheels, not shown, are placed in the upper part of the casing, this being the part shown in Fig. 1. Attached to the casing 4 at one or both ends of the machine is a bracket 5 having an upwardly projecting tubular extension 6. As shown in Fig. 3, the said extension 6 is provided with a circumferential slot 7 extending part way around the same, and into said extension projects the lower end of a tubular member 8, said member having an outwardly projecting pin 9 that extends through the said slot 7. The member 8 is thus journaled in the member 6, and the extent of its rotative movement is limited by the pin and slot. The upper end of the member 8 terminates in a pair of ears through which I place a pivot pin or bolt 10. Above the member 8 is another tubular member 11, said member having a pair of downwardly extending ears through which the bolt or pin 10 also passes, said bolt forming a pivot pin for the member 11 and permitting the latter to be swung in vertical planes. The latter member is preferably curved forwardly, as shown in Fig. 1, and, to its upper and forward end, I pivot at 12 a third tubular member 13, said latter member being also curved forwardly and downwardly, and carrying at its lower end an electric lamp bulb, the same being indicated at 14. Suitable electric conductors 15 are

passed upwardly through the said tubular members and are suitably connected with the said lamp bulb. Normally, the lamp bulb will occupy the position shown in Fig. 1, substantially on the plane of the indicator wheels. But it may be drawn downwardly and forwardly when the indications on the registering wheels are to be inspected, there being sufficient friction in the joints between the tubular members to hold the bulb in the positions to which it may be moved.

The drawer 3 is held in its closed position by a latch 16 which is pivoted within the frame work of the machine, said latch engaging at its rear end with the drawer. The latch is lifted to release the drawer by means of a release key 17, said key being suitably guided in a member 18 that is stationarily mounted in the frame work. The rear end of the key 17 bears against a member 19 to which is connected one end of a spring 20, said spring tending to rotate the member 19 to the right, and normally holding the release key in its outer position, as shown in Fig. 2. The member 19 is secured to a rock shaft 21, said shaft carrying a cam 22 which is positioned directly below the latch 16 whereby, upon the depression of the key 17 and the consequent oscillation of the shaft 21, the cam 22 lifts the latch away from the cash drawer and permits the latter to open under the impulse of a coiled spring 23 at the rear of the drawer. The mechanism for releasing the drawer may be variously constructed, that just described being merely illustrative of a construction which is well adapted for the purpose stated.

Secured to the base plate 2 above and to the rear of the cash drawer is a block 24 of suitable insulating material, said block carrying binding posts 25 and 26. Between the said block 24 and nuts 27 and 28 on the respective binding posts, I clamp spring terminals 29 and 30, said terminals extending for part of their lengths substantially parallel, and then curving outwardly and thence inwardly again toward each other so as to form a more or less rounded space between the terminals. At their extreme ends these terminals are again bent outwardly so as to form a widened entrance or throat to the said space. Clamped between the nuts 27 and 28 and other nuts 31 and 32 on the binding posts are conducting plates or members 33 and 34, the main conductors 35 and 36 being connected to said plates or members. The conductors 15, shown in Fig. 3 are connected with the conductors 35 and 36 through a suitable source of electric power, as indicated at 36^a in Fig. 6, in which a battery is shown, although an ordinary incandescent lamp fitting may be used if convenient. With this description it will be understood that when connection is established between the terminals 29 and 30, a

circuit will be established and the electric lamp will be lighted. The means for closing this circuit is under control of the cash drawer, and said means will now be described.

Pivoted on a pin or screw 37 projecting from the block 24 in front of the binding posts is a lever 38, said lever being preferably curved rearwardly and then forwardly below the pivot and having its lower end in position for engagement with the cash drawer when the latter is in its closed position, as shown in Fig. 2. Preferably the drawer is provided with a plate 39 with which the said lever 38 engages. Above the pivot pin 37 the lever extends upwardly and is provided with a hole 40 near its upper end, for a purpose hereinafter stated. The said lever is intended to rock in a right hand direction when the cash drawer is opened, the lower end of the lever tending to follow the movement of the drawer, being impelled in that direction by a spring 41 that is coiled about the pivot pin 37 and is hooked about the upwardly extending arm of the lever. Pivoted to a stationary member adjacent the lever 38 is a bell crank lever having the arms 42 and 43, each of said arms being provided with an upwardly projecting pin 44 and 45 respectively. This bell crank lever is pivoted at its angle to a screw or pin 46, and its movement about said screw is limited by a stationary pin or projection 47 extending upwardly between the arms of the bell crank, said arms being adapted to alternately engage with the said projection. Connecting the upper end of the lever 38 and the pin 44 of the bell crank is a spring 48, one end of the spring being passed through the hole 40 in the lever and the other end being passed through the pin 44. Any suitable means for attaching this spring may be employed instead of that shown. When the cash drawer is in its closed position, the upper end of the lever 38 is swung forwardly of the pivot screw 46 so that the spring 48 tends to turn the bell crank toward the left until the arm 43 thereon engages with the pin 47. When the cash drawer is opened and the spring 41 rocks the lever 38 to the right, the upper end of said lever swings rearwardly of the pivot screw 46 for the bell crank, and the spring 48 then turns the bell crank toward the right until the arm 42 engages with the pin 47. The oscillation of the lever 48, therefore, results in an oscillation of the bell crank; and this latter oscillation is utilized for the purpose of making and breaking contact between the plates 29 and 30.

Pivoted on a pin or screw 49 that projects from the arm 43 of the bell crank, is a member 50, the same carrying an insulated metallic roller 51 below its rear end in position to move through the throat or

entrance to the widened space between the plates 29 and 30, as shown in Fig. 4. This member is provided with an opening 52 into which the pin 45 of the bell crank extends, said opening being much larger than the pin so as to provide lost motion between the bell crank and member. If preferred, a curved slot may be substituted for the circular opening 52.

10 In Fig. 4 the parts of the switch are shown in the position which they assume when the cash drawer is open, the switch being closed. When the drawer is pushed inwardly and the lever 38 is rocked, the spring 48 moves over the pivot screw 46 until it exerts its pull forwardly of said screw and throws the bell crank to the left. This movement has no effect upon the member 50 until the pin 45 has traversed the width of the opening 52 and has engaged with the opposite side of said opening. In moving this distance, the pin has acquired considerable velocity and it strikes the member 50 a blow which drives the contact roller 51 out of the widened space between the plates 29 and 30 and thus makes a sudden break of the circuit. Conversely, as the drawer is opened and the spring 48 moves rearwardly of the pivot for the bell crank, the latter is swung by the spring 48 in a right hand direction, and the pin 45 strikes a sudden blow upon the member 50, thus driving the contact roller 51 between the plates 29 and 30.

35 While I have shown what at present I regard as the preferred embodiment of my invention, I realize that the same or similar results may be secured by somewhat modified means, and I desire it to be understood that the following claims are not intended to be limited to the details shown and described any further than is rendered necessary by the specific terms employed therein.

Having thus described my invention, what I claim is:

1. In a cash register, the combination with a cash drawer, of an electric circuit including an incandescent lamp, a source of electric power and a pair of normally separated contacts, a bell-crank lever pivoted at its angle, a member projecting into position for engagement by the cash drawer, means connecting the member with the bell-crank lever, and means on the bell-crank lever for connecting the said contacts, the construction being such that when the cash drawer is in its closed position the contacts are separated and when the cash drawer is moved from its closed position the contacts are connected and the circuit is thus closed through the lamp.

2. In a cash register, the combination with a cash drawer, of an electric circuit including an incandescent lamp, a source of electric power and a pair of normally sep-

arated contacts, a bell-crank lever pivoted at its angle, a lever projecting into position for engagement by the cash drawer, means connecting the lever with the bell-crank lever, and means on the bell-crank lever for connecting the said contacts, the construction being such that when the cash drawer is in its closed position the contacts are separated and when the cash drawer is moved from its closed position the contacts are connected and the circuit is thus closed through the lamp.

3. In a cash register, the combination with a cash drawer, of an electric circuit including an incandescent lamp, a source of electric power and a pair of normally separated contacts, a bell-crank lever pivoted at its angle, a lever projecting into position for engagement by the cash drawer, a spring connecting the lever with the bell-crank lever, and means on the bell-crank lever for connecting the said contacts, the construction being such that when the cash drawer is in its closed position the contacts are separated and when the cash drawer is moved from its closed position the contacts are connected and the circuit is thus closed through the lamp.

4. In a cash register, the combination with a cash drawer, of an electric circuit including an incandescent lamp, a source of electric power and a pair of normally separated contacts, a bell-crank lever pivoted at its angle, a lever stationarily pivoted in the register and projecting into position for engagement by the cash drawer, a spring for turning the latter lever in one direction, the said lever being turned in the opposite direction by the cash drawer against the tension of said spring, connections between the said lever and the bell-crank, a member carried by the bell-crank and means on said member for connecting the said contacts when the bell-crank is moved in one direction, whereby the said circuit is closed through the lamp.

5. In a cash register, the combination with a cash drawer, of an electric circuit including an incandescent electric lamp, a source of electric power and a pair of normally separated contacts, a bell-crank lever pivoted at its angle, a lever stationarily pivoted in the register and projecting into position for engagement by the cash drawer, a spring for turning the latter lever in one direction, the said lever being turned in the opposite direction by the cash drawer against the tension of said spring, a flexible connection between the said lever and the bell-crank, a member carried by the bell-crank and means on said member for connecting the said contacts when the bell-crank is moved in one direction, whereby the said circuit is closed through the lamp.

6. In a cash register, the combination

with a cash drawer, of an electric circuit including an incandescent lamp, a source of electric power and a pair of normally separated contacts, a bell-crank lever pivoted at its angle, a lever stationarily pivoted in the register and projecting into position for engagement by the cash drawer, a spring for turning the latter lever in one direction, the said lever being turned in the opposite direction by the cash drawer against the tension of said spring, a flexible spring connecting the said lever and the bell-crank, a member carried by the bell-crank and means on said member for connecting the said contacts when the bell-crank is moved by the first mentioned spring as the drawer opens, whereby the said circuit is closed through the lamp.

7. In a cash register, the combination with a cash drawer, of an electric circuit including an electric lamp, a source of electric power and a pair of spaced spring contacts, a bell-crank pivoted at its angle, a projection on one of the arms of the bell-crank, a member pivoted to the latter arm and having an opening into which said projection loosely extends, said opening being larger than the projection so that the member may have pivotal movement upon the bell-crank, means carried by the said member for entering the space between the said spring contacts for closing the electric circuit, a rocking lever having one end extending into position for engagement with the cash drawer, and means connecting the opposite end of said lever with the bell-crank, the construction being such that when the cash drawer is in closed position the said connecting means extend on one side of the bell-crank pivot, and when the cash drawer is moved from its closed position and the lever is rocked, the said connecting means passes to the opposite side of the bell-crank pivot and swings the bell-crank so as to close the circuit.

8. In a cash register, the combination with a cash drawer, of an electric circuit including an electric lamp, a source of electric power and a pair of spaced spring contacts, a bell-crank pivoted at its angle, a projection on one of the arms of the bell-crank, a member pivoted to the latter arm and having an opening into which said projection loosely extends, said opening being larger than the projection so that the member may have pivotal movement upon the bell-crank, means carried by the said member for entering the space between the said spring contacts for closing the electric circuit, a rocking lever having one end extending into position for engagement with the cash drawer, and a spring connecting the opposite end of said lever with the bell-crank, the construction being such that when the cash drawer is in closed position the said spring

extends on one side of the bell-crank pivot, and when the cash drawer is moved from its closed position and the lever is rocked, said spring passes to the opposite side of the bell-crank pivot and swings the bell-crank so as to close the circuit.

9. In a cash register, the combination with a cash drawer, of an electric circuit including an electric lamp, a source of electric power and a pair of normally separated spring contact plates, said contact plates being stationarily secured at one of their ends and having their free ends spread apart to form a throat, a bell-crank having a pair of diverging arms, said bell-crank being pivoted at the angle of said arms, a member pivoted to one of said arms, a spring connected with the other arm of the bell-crank, a pin projecting from the first mentioned arm of the bell-crank, said member having an opening therein into which the said pin extends, an insulated metallic roller carried on the free end of said member, a pivoted lever having one of its ends extending into position for engagement by the cash drawer, the said spring being connected to the other end of said lever, and a second spring for moving said lever in one direction, the construction being such that when the cash drawer is closed the lever is rocked on its pivot so as to carry the first mentioned spring in front of the bell-crank pivot, whereby the bell-crank is rocked and the pin thereon, moving across the opening in the said member, strikes the latter a blow to suddenly drive the said roller from between the contacts and, when the cash drawer is opened, the said first mentioned spring moves across to the opposite side of the pivot for the bell-crank, thus rocking the latter and causing the pin to move across the opening in the said member and to drive the said roller into the throat between the said spring contacts, to thus close the said circuit.

10. In a cash register having indicating and registering devices, the combination with a cash drawer, of an electric circuit including an electric lamp, a source of electric power and a pair of normally separated spring contact plates, said contact plates being stationarily secured at one of their ends and having their free ends spread apart to form a throat, jointed or rigid tubular supports for the said lamp, a bell-crank having a pair of diverging arms, said bell-crank being pivoted at the angle of said arms, a stationary projection extending between the arms of the bell-crank for limiting the movements of the latter, a member pivoted to one of said arms, a spring connected with the other arm of the bell-crank, a pin projecting from the first mentioned arm of the bell-crank, said member having an opening therein into which said pin extends, the opening being larger than the pin so as to permit

pivotal movement of the member on the bell-crank arm, an insulated metallic roller carried on the free end of said member, a pivoted lever having one of its ends extending
5 into position for engagement by the cash drawer, the said spring being connected to the other end of said lever, and a second spring for moving said lever as the cash drawer is opened, the construction being
10 such that when the cash drawer is closed the lever is rocked on its pivot so as to carry the first mentioned spring in front of the bell-crank pivot, whereby the bell-crank is rocked and the pin thereon, moving across
15 the opening in said member, strikes the latter a blow to suddenly drive the said roller from between the contacts and, when the

cash drawer is opened, the said first mentioned spring moves across to the opposite side of the pivot for the bell-crank, thus
20 rocking the latter and causing the pin to move across the opening in the said member and to drive the said roller into the throat between the said spring contacts, to thus
25 close the said circuit and light the lamp to illuminate the indicating and registering devices.

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

B. B. WELLS.

Witnesses:

WILLIAM GREENE,
E. C. RHONEMIS.

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