(No Model.) 2 Sheets—Sheet 1.

W. F. Z. DESANT.

ELECTRIC CASH INDICATOR AND RECORDER.

No. 449,108. Patented Mar. 31, 1891.

Fig. 2.

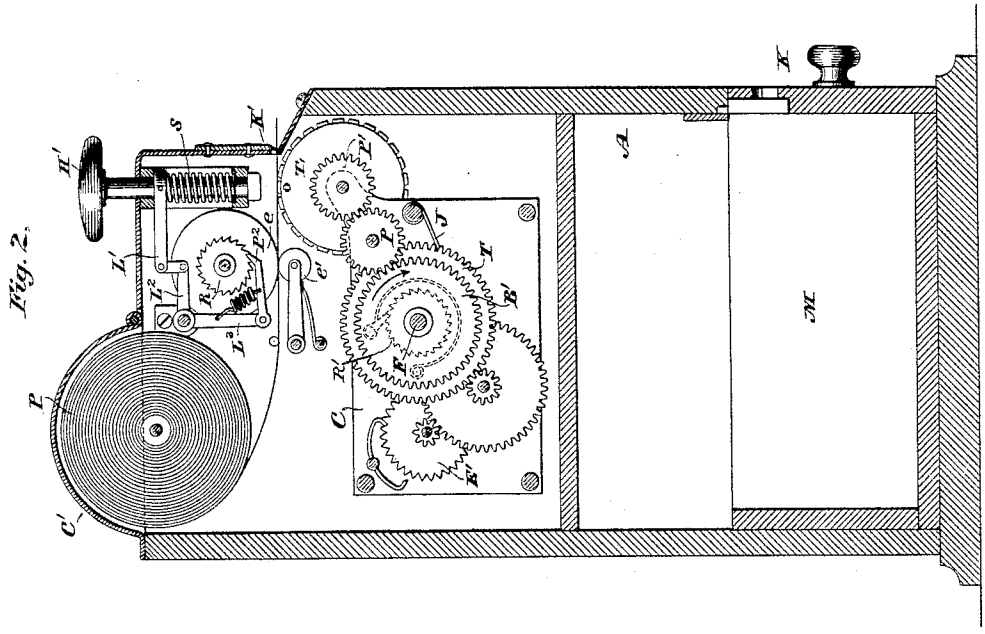
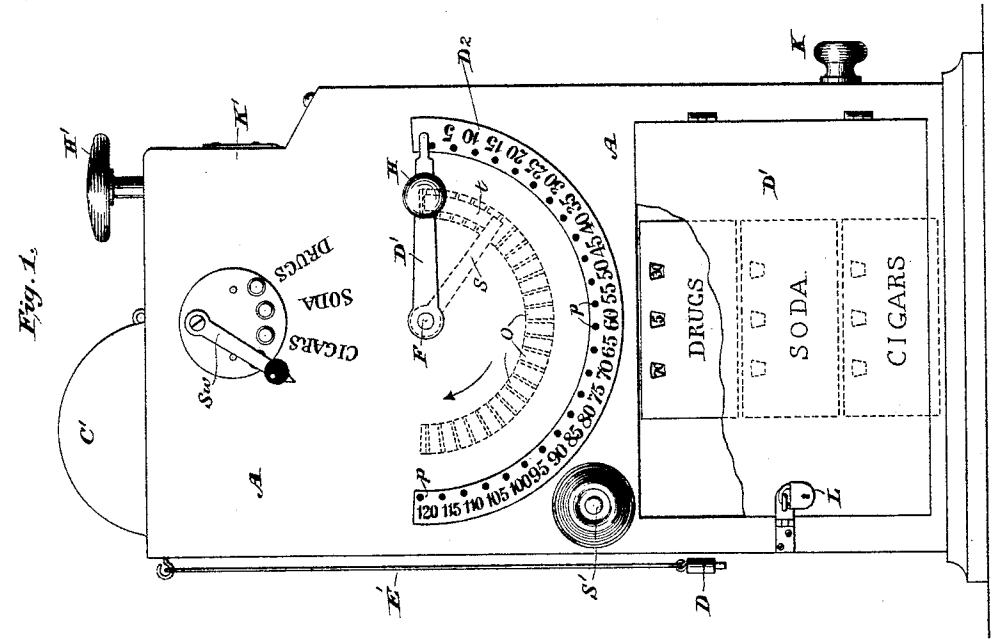


Fig. 1.



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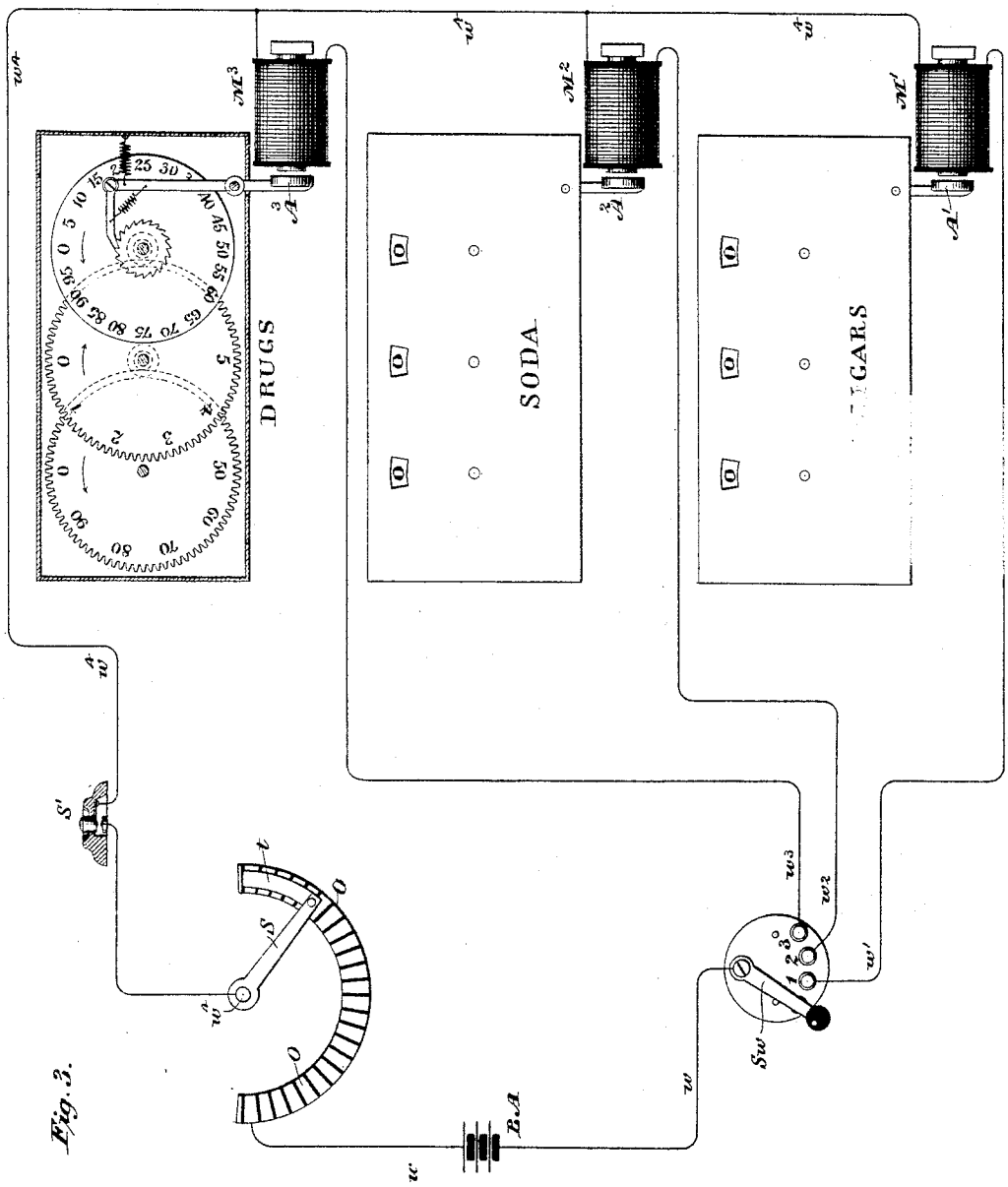


Fig. 2.

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UNITED STATES PATENT OFFICE.

WILLIAM F. Z. DESANT, OF NEW YORK, N. Y.

ELECTRIC CASH INDICATOR AND RECORDER.

SPECIFICATION forming part of Letters Patent No. 449,108, dated March 31, 1891.

Application filed May 9, 1890. Serial No. 351,114. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. Z. DESANT, a citizen of the United States, residing at New York, county of New York, and State of New York, have made a new and useful Invention in Cash Registers or Indicators, of which the following is a specification.

My invention relates particularly to cash registers or indicators of that type in which a double record is made of the article purchased, one of which records is made where the article is purchased, and is inaccessible to the person making it, while the second record is in the nature of a check to be given by the purchaser to a second person or cashier authorized to receive the money for the purchase.

My invention has for its objects, first, the simplification and cheapening of devices of this nature; second, the adaptation of such devices to the keeping of any number of independent records by the arrangement of an apparatus which shall admit of the preparation of a check at a given point and the indication of a corresponding record at some one or more local or distant point or points, as may be desired; third, the accomplishment of the several features hereinafter referred to. I accomplish these several features by the use of the apparatus which I shall now proceed to describe, and which is fully illustrated in the accompanying drawings, in which—

Figure 1 is a side elevational view of a cash-register, shown partly in broken section in order to better illustrate the interior arrangement. Fig. 2 is a sectional view showing the check-preparing portion of the apparatus, together with the propelling mechanism and money or cash drawer. Fig. 3 is a diagrammatical view showing the electrical portion of the apparatus, together with three individual recording devices, which are adapted to be electrically controlled.

Referring now to the drawings in detail, in which like letters of reference represent like parts wherever used, A represents the body or frame of a machine designed for store-service. It is of wood, or metal, as is preferred, and is provided with a cash-drawer M, having a knob K, and the usual lock mechanism. (Not shown.)

D′ represents a hinged door in the side of the frame for concealing the recording portion of the apparatus. This door is provided with a padlock L, which, like the money-drawer lock, is accessible only to the proprietor.

D′ is a manipulating and index arm located on the outside of the frame A and rigidly secured to a shaft F, which extends through and is journaled in the opposite sides of the frame A. On this shaft F (see Fig. 2) is a ratchet R′ of the usual pattern, provided with a spring-pressed pawl connected to a gear-wheel, which in turn is geared through successive pinions and gear-wheels to an escapement-wheel E′, adapted to regulate the speed of the gear under the stress of a propelling-spring J.

Meshing with one of the wheels of the gear-train C is the pinion P, which in turn is geared with a second pinion P′, carried on the same shaft with a type or impression wheel T′, journaled in the frame-work and having on its surface various raised numbers from 5 to 120 or more, corresponding to the numbers on the dial D^2, located on the outside of the frame A, as shown in Fig. 1. The location of this type or impression wheel under normal conditions is such that when the train of gear C is run down, or is stopped under stress of spring J, and the arm D′ stands in the position shown in Fig. 1 the type or character at the uppermost position will be zero. The relation between the several succeeding characters and that of the characters on the dial D^2 is such that as the arm D′ and shaft F are turned in the direction of the arrow (see Figs. 1 and 2) the gear-wheel B′, being rigidly fixed to said shaft, will impart through the pinions P and P′, and ultimately to the type or impression wheel T′, a fractional revolution corresponding to the character to which the pointer on the arm D points as it is successively advanced.

H′ is a sliding hand or impression stamp having vertical sliding movement in the upper part of the frame-work, and normally held in its upper position by a spring *s*. This stamp has a hard-rubber pad on its lower end adapted, when forcibly depressed, to indent a number in a paper strip P over the type or

impression wheel T′. This paper is reeled off a roll situated in a box C′ in the upper part of the frame-work.

L′ L^2 L^3 is a series of pivoted arms adapted to force the pawl P^2 to the left, when the stamp H′ is forced downward, and through the agency of spring *s* to rotate the paper-feeding wheels *e e′* as the handle H rises under the stress of spring *s* after it is released, thereby feeding the check-strip forward such a distance as will force the entire check through an aperture in the side of the machine beneath a severing-knife K′.

To the shaft F inside the frame is secured a metallic conducting-arm S, having on its free end a conducting-spring *t*, adapted to contact with a series of insulated electric contact-segments O, arranged in circular form on a fixed base, and all having metallic connection with a wire *w*, connected with the battery BA, preferably located wholly within the machine. To the shaft F is secured wire w^4, running to a push-button S′, located on the outer surface of the box.

Referring now to Fig. 3, I will describe the interior circuit-connections, together with the registering or indicating apparatus which is controlled thereby. All of the circuit-connections save the switch *Sw* and its corresponding contact-points 1 2 3 are preferably located wholly inside the frame or box A of the machine, the battery BA being situated at any desired point therein. From the switch *Sw* and points 1 2 3 are arranged three independent circuits w' w^2 w^3, running to independent electro-magnets M′ M^2 M^3, said magnets having a common return-circuit w^4 running to the push-button S′ and contact-arm S, the latter located inside the box. Each of the magnets M′ M^2 M^3 has an independent armature A′ A^2 A^3, and is operatively connected by ratchet-and-pawl mechanism, as shown in the upper part of the drawings, with an independent train of indicating or recording gear of well-known form, the gearing of which is so proportioned that each time any one of the armatures makes a complete vibration, the recording-disk located in the rear of its aperture presents a new number through such aperture and in such a manner that when this disk has made one complete revolution a second disk on a second shaft will present a new number at a second aperture, and so through a series of such disks, such indicating mechanism being well understood. I disclose three independent sets of such indicating apparatus, one of which I have denominated as for cigars, a second for soda, and a third for drugs, the indication of the purchase to be made being dependent upon the position of the switch-handle *Sw*, as shown on the exterior of the box in Fig. 1.

D is a pin or plug secured to the side of the frame by a cord E and adapted to be inserted in any one of the plug-holes *p p* in the path of the arm D for limiting its motion, as it is rotated in the direction of the arrow.

The operation of the apparatus is as follows: Suppose, for instance, the several indicator-dials of the three indicators to be standing at zero, as shown in Fig. 3, and a sale has been made of a ten-cent cigar. The salesman places the switch *Sw* on contact 1. He then places the plug D in the first hole to the left of the figure "10" on the dial D^2, (see Fig. 1,) and taking hold of the handle H rotates the arm D in the direction of the arrow until the point of said arm rests against the plug D. This act of rotating the arm D causes the train of gear T to be wound up, thereby storing the energy of spring J, and at the same time imparts to the type-wheel T′, through the agency of gear-wheel B′ and pinions P P′, a rotation to a sufficient degree to bring the type-character 10 directly under the pad of the hand-stamp H′. The salesman then strikes the hand-stamp a blow with his liberated hand and indents the character "10" in the paper check-strip P, at the same time causing the pawl P^2 to assume a position at the extreme left. When his hand is removed, the spring S causes the levers L′ L^2 L^3 and pawl P^2 to force the feed-wheels *e e′* forward; and hence the check-strip P is fed forward a sufficient distance to display the embossed check-placing the rear edge of the indented check-under the knife K′, whence it is torn off and given to the purchaser to hand it to the cashier and pays his bill. The salesman now places the thumb of his liberated hand upon the push-button S′ and holds it closed, and at the same time releases his hold of the handle H and allows the arm D′ to return to its normal position under the influence of the train of gear T. In doing this the circuit is broken twice by the movement of the contact-spring *t* over two of the segments O. It will thus be seen that two impulses from the battery BA are imparted to the magnet M′ through the circuit *w*, switch *Sw*, wire *w′*, wire w^4, push-button S′, rotating arm S, contact-spring *t*, and wire *w*, and that the number-disk, controlled by its armature A′, ratchet, and pawl advances two steps, thereby displaying number "10" through the aperture for cigars.

If it is desired to make a record for soda, the switch *Sw* is placed so that it is on point 2, when a like record may be made through the agency of magnet M^2, and similarly a sale of drugs may be indicated by placing the switch on point 3, when magnet M^3 will make a like record, if similarly actuated.

I do not limit myself to the specific apparatus herein shown and described for accomplishing the results sought, as I believe it is broadly new with me to combine a check-preparing device with an electrically-controlled indicator, and my claims are directed broadly to the combination of mechanism of this nature. Nor do I limit myself to the location of the recording devices wholly within the indicator-box, as it is obvious, in view of the diagram shown in Fig. 3, that said appa-

ratus might be used for preparing check-indicators at some one point where sales are made and goods delivered while the check indicating or recording apparatus might be located at one or more outlying distant stations, and I wish it understood that my claims are of such scope as to include such an arrangement of parts. It is also obvious that instead of the battery BA, I may use a magneto-electrical generator propelled by hand or by mechanical power, as desired.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A cash-register having check-preparing mechanism, in combination with electrical recording and indicating mechanism, and electrical and mechanical connections, whereby the act of setting the indicating mechanism so as to indicate the purchase simultaneously causes the recording mechanism to make a permanent record thereof, and the check-preparing mechanism to assume a position preparatory to making the check, substantially as described.

2. A cash-register having a check-stamping device for preparing a check, in combination with an electrical recording or indicating device and mechanical connections between the two mechanisms whereby the setting of the recording or indicating mechanism places the check-preparing mechanism in position to be actuated, substantially as described.

3. An electrical recording or indicating mechanism having mechanical connections with a check-preparing device provided with type or characters, in combination with an indicator-scale and indicator or pointer therefor, the characters on the indicator-scale being equal in number to those of the check-preparing device, substantially as described.

4. In a cash-register, a mechanically-impelled gear-train geared to a dial-arm shaft and to a type-wheel shaft carrying a type or impression-wheel having devices for preparing a check, in combination with an electrical indicator and electrical connections, whereby a correct record of a sale may be kept and a check prepared which corresponds to the record, substantially as described.

5. A cash-register having check-preparing devices, in combination with an indicator having an electro-magnetic recording or indicating mechanism and mechanical and electrical connections between the indicator and the check-preparing devices, whereby a record or indication is made on the indicator, which agrees with the check prepared, substantially as described.

6. A cash-register having two or more indicators and a single check-preparing mechanism and mechanical and electrical connections, whereby a record may be made on either indicator for a check made on the single check-preparing device, substantially as described.

7. A cash-register having an indicating dial-arm, and a dial with numerals or equivalent characters, in combination with two or more independent electro-magnetic recording or indicating devices having electrical connections with the dial-shaft, whereby a record or indication may be made on either recorder or indicator as desired, substantially as described.

8. A cash-register having an indicating dial-arm and a dial with numerals or equivalent characters, in combination with two or more independent electro-magnetic recording or indicating devices having electrical connection with the dial mechanism and a single check-preparing mechanism geared to the shaft which carries the dial-arm, whereby a record or indication may be made on either indicator, and a check prepared to correspond thereto by the single check-preparing mechanism, substantially as described.

9. A cash-register having two or more recording or indicating mechanisms controlled each by an individual electro-magnet, a dial having numerals or equivalent characters, a dial-arm and shaft geared to a train of gear and carrying a contact-arm adapted to bear on a series of contact-plates, and a type-wheel having characters equal in number to and corresponding with those of the dial and geared to the same train of gearing, in combination with an electrical generator and circuit and switch connections, as described, whereby a record may be made on either indicator and a check prepared on the single check-preparing mechanism, substantially as described.

10. An electrical cash-register having a dial provided with numbers or characters, a dial-pointer, a contact maker and breaker, an electrically-controlled recorder or indicator, a switch, a check-preparing mechanism, and mechanical and electrical connections, substantially as described.

11. A cash-register having circuit making and breaking segments, a contact-arm mechanically connected to a dial-arm, a dial having numerals or characters, one for each circuit making and breaking segment, one or more electro-magnetic indicators, a battery, a switch, a push-button, and circuit-connections, as described, whereby the indicator is actuated only after it is set and the push-button closed, substantially as described.

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