June 4, 1940. E. WAGNER 2,203,116

CASH REGISTER

Original Filed Sept. 5, 1935

FIG. 1

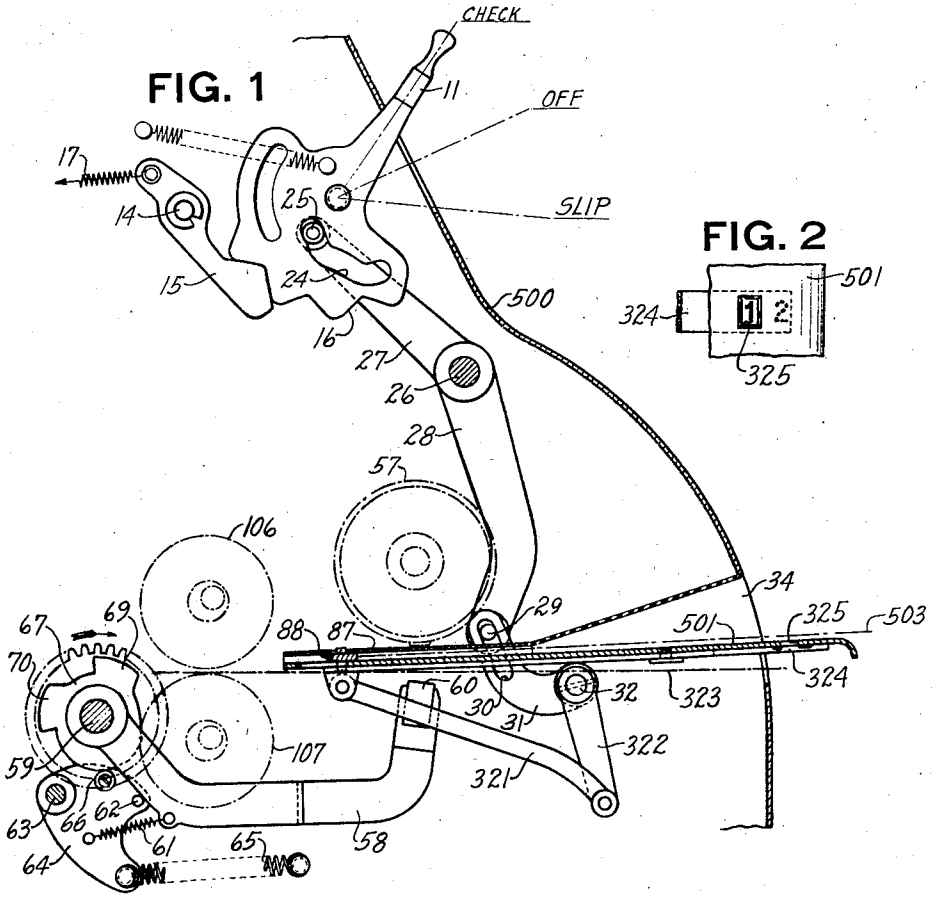
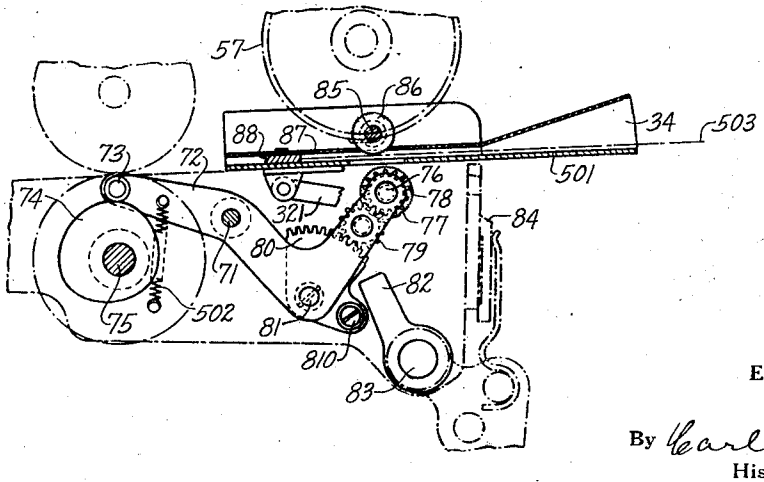


FIG. 2

FIG. 3



Erich Wagner
Inventor

By Carl Benst
His Attorney

Patented June 4, 1940 2,203,116

UNITED STATES PATENT OFFICE

2,203,116

CASH REGISTER

Erich Wagner, Eichwalde, near Berlin, Germany, assignor to The National Cash Register Company, Dayton, Ohio, a corporation of Maryland

Original application September 5, 1935, Serial No. 39,211. Divided and this application November 11, 1937, Serial No. 174,032. In Germany November 22, 1934

4 Claims. (Cl. 101—66)

This invention relates to improvements in the impression controlling mechanism of cash registers and accounting machines of the type disclosed in Letters Patent of the United States No. 751,611 issued February 9, 1904, to Thomas Carroll, U. S. Patent No. 1,594,167 issued July 27, 1926, to Frederick L. Fuller, and the more recent U. S. Patent No. 2,080,519 issued May 18, 1937, to Kurt Vogelgesang and Erich Wagner, and is a division of the United States application of Friedrich W. F. Berger and Erich Wagner, Serial No. 39,211 filed Sept. 5, 1935.

The present machine is provided with a single line of type wheels and a single impression hammer for making two identical imprints, one upon the main portion and the other upon the stub of an insertable slip, or for making one impression upon an insertable slip and the other impression upon an issuing check, during a continuous operation of the machine.

Obviously, with this type of printing mechanism it is impossible to print upon the check and the receipt at the same time and it is therefore necessary to control the printing mechanism in some way to obtain the desired results. Inasmuch as the impression hammer makes two impression strokes each machine operation, it is necessary to provide an adjustable stop for determining the position of the insertable slip in relation to the impression mechanism so that the desired number of impressions, one or two, will be made upon said insertable slip.

Accordingly, one of the objects of this invention is the provision of means whereby a single impression mechanism will make one imprint upon an insertable slip and another imprint upon an issuing check during a single operation of the machine.

Another object of this invention is to provide means whereby a single impression mechanism will make two imprints upon an insertable slip or one imprint upon an insertable slip and one imprint upon an issuing check during a single machine operation.

Still another object is to provide means to visibly indicate whether one or two imprints will be made upon the insertable slip.

With these and incidental objects in view, the invention includes certain novel features of construction and combinations of parts, the essential elements of which are set forth in appended claims, and a preferred form or embodiment of which is hereinafter described with reference to the drawing which accompanies and forms a part of this specification.

In the drawing:

Fig. 1 is a side elevation, as observed from the left of the machine, showing the impression mechanism and the mechanism that controls the number of imprints made upon the insertable slip.

Fig. 2 is a fragmentary detail view of the indicator that shows the number of imprints to be made upon the insertable slip.

Fig. 3 is a detail view of the slip feeding mechanism.

General description

The machine embodying the instant invention is equipped with a single impression hammer performing two printing strokes each machine operation, which in cooperation with a single line of type wheels makes two identical imprints upon an insertable slip or one imprint upon an insertable slip and another imprint upon an issuing check during a single operation of the machine. A manipulative control member, having three positions, namely, "check," "off" and "slip" is provided for positioning a stop, for locating the slip in relation to the printing mechanism, so that one or two imprints may be made upon said slip. When the control member is in "check" position, the adjustable stop locates the slip, in relation to the printing mechanism, so that the first impression stroke of the hammer records the data, relating to the transaction, upon the slip, after which, the slip feeding mechanism moves said slip out of the path of the printing mechanism so that the second impression stroke of the hammer will print the identical data upon the issuing check.

When the manipulative member is in "slip" position the adjustable stop locates the slip, in relation to the printing mechanism, so that the first impression stroke of the hammer prints the data relating to the transaction upon, for example, the main portion of said slip, after which the slip feeding mechanism feeds said slip forwardly so that the second impression stroke of the hammer will print the same data upon the stub portion of said slip.

When the manipulative member is in "off" position the printing hammer is blocked against printing movement at all times.

The impression control mechanism will now be described in detail.

Detailed description

The machine embodying the instant invention has a single line of type wheels **57** (Fig. 1) which in cooperation with a printing block **60** of a print-

ing hammer 58, free on a shaft 59, and an inking ribbon (not shown) makes imprints upon either an insertable slip or an issuing check. A comparatively weak spring 61 urges the hammer 58 clockwise into contact with a stud 62 in a hammer operating plate 64 free on a stationary stud 63. A comparatively strong spring 65 urges the plate 64 counter-clockwise to maintain a roller 66, carried by said plate, in contact with the periphery of a plate cam 67 free on the shaft 59, and integral with a gear, by which it is driven one clockwise revolution each operation of the machine. The cam 67 has two camming nodes 69 and 70, which impart two printing strokes to the hammer 58 each machine operation.

The functioning of the impression mechanism is controlled by a settable lever 11 (Fig. 1), a fingerpiece of which extends through a slot in a cabinet 500, which encloses the mechanism of the machine. The lever 11 has three positions, namely "check," "off" and "slip." V-shaped notches 16 in a segmental portion of the lever 11, corresponding to the positions of said lever, in cooperation with the angular nose of an alining and retaining pawl 15, free on a fixed stud 14, and urged into communication with said notches by a spring 17, retains said lever 11 in any of its positions.

The segmental portion of the lever 11 (Fig. 1) has therein an irregular camming slot 24, which cooperates with a roller 25 on the upper end of an arm 27 free on a shaft 26 and integral with a corresponding arm 28 carrying a stud 29, which engages an inclined slot 30 in a crank 31 fast on a shaft 32 journaled in the printer framework. Also fast on the shaft 32 is an arm 322 connected by a link 321 to a slip stop bar 88 slidably mounted in a slip chute 34, between a top plate 87 and a bottom plate or table 501 of said slip chute 34.

When the lever 11 is in "check" position, as here shown, the stop bar 88 is moved to its forward or right-hand position to position an insertable slip 503 in relation to the printing mechanism so that after the first impression has been made thereon the slip feeding mechanism moves said slip out of the path of the printing mechanism so that he second impression will be made upon the web of the check material 323, which is guided beneath the slip chute 34 and through an opening in the front of the cabinet 500. After the impression has been made upon the check material, feed rollers 106 and 107 (Fig. 1) function to feed said check material forwardly, after which a knife 84 (Fig. 3) functions to sever the finished check from the web 323.

Moving the lever 11 (Fig. 1) to "slip" position moves the bar 88 rearwardly, to its left-hand position, to locate the insertable slip 503 in relation to the printing mechanism so that after the first impression is made on the main portion thereof the slip feeding mechanism, which functions between the first and second impressions, feeds said slip forwardly or toward the right, so that the second impression will be made upon the stub portion thereof. The mechanism for feeding the slip between the impression strokes of the hammer 58 is illustrated in Fig. 3 and will now be described.

Rotation of a shaft 75 (Fig. 3), journaled in the framework of the machine, and a plate cam 74, integral therewith, in cooperation with a roller 73, on one arm of a bell crank 72, causes a spring 502 to rock said bell crank counter-clockwise on its pivot 71. Counter-clockwise movement of the bell crank 72 causes a slip-feeding roller 77, mounted on another arm of said bell crank, to grip the inserted slip 503 between a pressure roller 86, free on a stationary pivot 85. Integral with the feed roller 77 is a pinion 78, which meshes with an intermediate pinion 79, free on a stud in the bell crank 72, and said intermediate pinion 79 in turn meshes with a toothed portion of a segment 80, pivoted on a stud 81 in the bell crank 72. After the first imprint has been made upon the inserted slip 503 counter-clockwise movement of a shaft 83 (Fig. 3) and an arm 82, integral therewith, causes said arm, in cooperation with a roller 810 mounted on an arm of the segment 80, to rock said segment clockwise to rotate the feed roller 77, also clockwise, to feed said slip forwardly.

As stated previously, when the control lever 11 is in "slip" position the bar 88 (Fig. 3) locates the slip 503 so that after the first imprint is made upon the main portion thereof the slip feeding mechanism, just described, feeds the slip toward the right to move the stub portion of said slip into alinement with the printing mechanism, so that the second imprint will be made thereon. When the control lever 11 is in "check" position, as shown in Fig. 1, the bar 88 locates the slip, in relation to the printing mechanism, so that after the first imprint is made upon said slip, the slip feeding mechanism moves said slip forwardly or to the right, beyond the printing mechanism so that the second imprint will be made upon the issuing check.

After the second impression stroke of the hammer is completed, continued rotation of the cam 74 (Fig. 3) rocks the bell crank 72 clockwise against the action of the spring 502 to move the feed roller 77 to ineffective position, as here shown, so that the finished slip may be removed from the slip chute 34 and a new slip inserted therein.

The slip locating bar 88 (Fig. 1) is connected to one end of a slide 324, slidably mounted on the lower surface of the slip table 501. The slide 324 has numerals 1 and 2 (Fig. 2) engraved in the top surface thereof, which are visible, at different times, through an aperture 325 in the table 501. When the control lever 11 is in "check' position, as here shown, the bar 88 positions the slide 324 so that the numeral 1 is visible through the aperture 325, thus indicating that one imprint will be made upon the insertable slip. When the control lever 11 is in "slip" position the bar 88 positions the slide 324 so that the numeral 2 is visible through the aperture 325, thus indicating that two imprints will be made upon the insertable slip.

A statement of operation will not be included herein as it is believed that a thorough knowledge of the functioning of the mechanism of this invention will have been obtained from a perusal of the foregoing specification.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form or embodiment herein disclosed, for it is susceptible of embodiment in various forms, all coming within the scope of the claims which follow.

What is claimed is:

1. In a machine of the class described, the combination of printing mechanism, operable to print on checks and inserted slips; a slip chute to receive inserted slips; slip feeding means in said chute; manipulative means; means in said

chute connected to and operable by the manipulative means to govern the initial position of an inserted slip relative to the printing and feeding means; and means to operate the slip feeding means, after the printing mechanism is operated to print on the slip, to feed the slip from one initial position into a position wherein the slip is printed upon a second time by the printing mechanism, or to feed the slip from another initial position into a position wherein the slip cannot be printed upon when the printing mechanism is operated the second time.

2. In a machine of the class described, the combination of printing mechanism, operable to make a varying number of imprints on an inserted slip; a slip chute to guide the inserted slip to the printing mechanism; slip feeding means in said slip chute; controlling means; and an adjustable stop in said chute, connected to and operable by the controlling means to govern the initial position of the inserted slip in relation to the printing and feeding means, said slip feeding means operable to feed the slip from whichever initial position the slip assumes as governed by the stop, after an operation of the printing mechanism, to control the number of imprints made on said inserted slip.

3. In a machine of the character described, having printing mechanism adapted to function twice each machine operation to print on an inserted slip and on an issuing check, the combination of a slip chute to present the slip to the printing mechanism; slip feeding means in said chute; an adjustable stop in said chute; a manipulative control member; and connections between the manipulative control member and the stop to position the stop to govern the initial position of the inserted slip in relation to the printing and feeding means, said slip feeding means being operable to feed the slip after the printing mechanism is operated to make an imprint on the inserted slip to thereby position the slip to receive a second imprint or to feed the slip after the printing mechanism is operated to feed the slip out of range of the printing mechanism to effect one imprint on the inserted slip and one imprint on the issuing check in one machine operation, the number of imprints made on the slip being governed by the position of the stop.

4. In a machine of the class described, the combination of printing means including a printing hammer; means to impart two printing strokes to the hammer each machine operation, to print on an inserted slip and an issuing check; a slip chute to present the slip to the printing means; slip feeding means in the chute; an adjustable stop in the chute; a manipulative control member; connections between the manipulative control member and the adjustable stop, whereby said manipulative member positions said stop to govern the initial position of the inserted slip in relation to the printing and feeding means, so that the functioning of the printing means will make two imprints on the slip, or one imprint on the slip and one imprint on the issuing check in one machine operation; and means connected to the adjustable stop and positioned thereby, to indicate the number of imprints to be made on the inserted slip.

ERICH WAGNER.