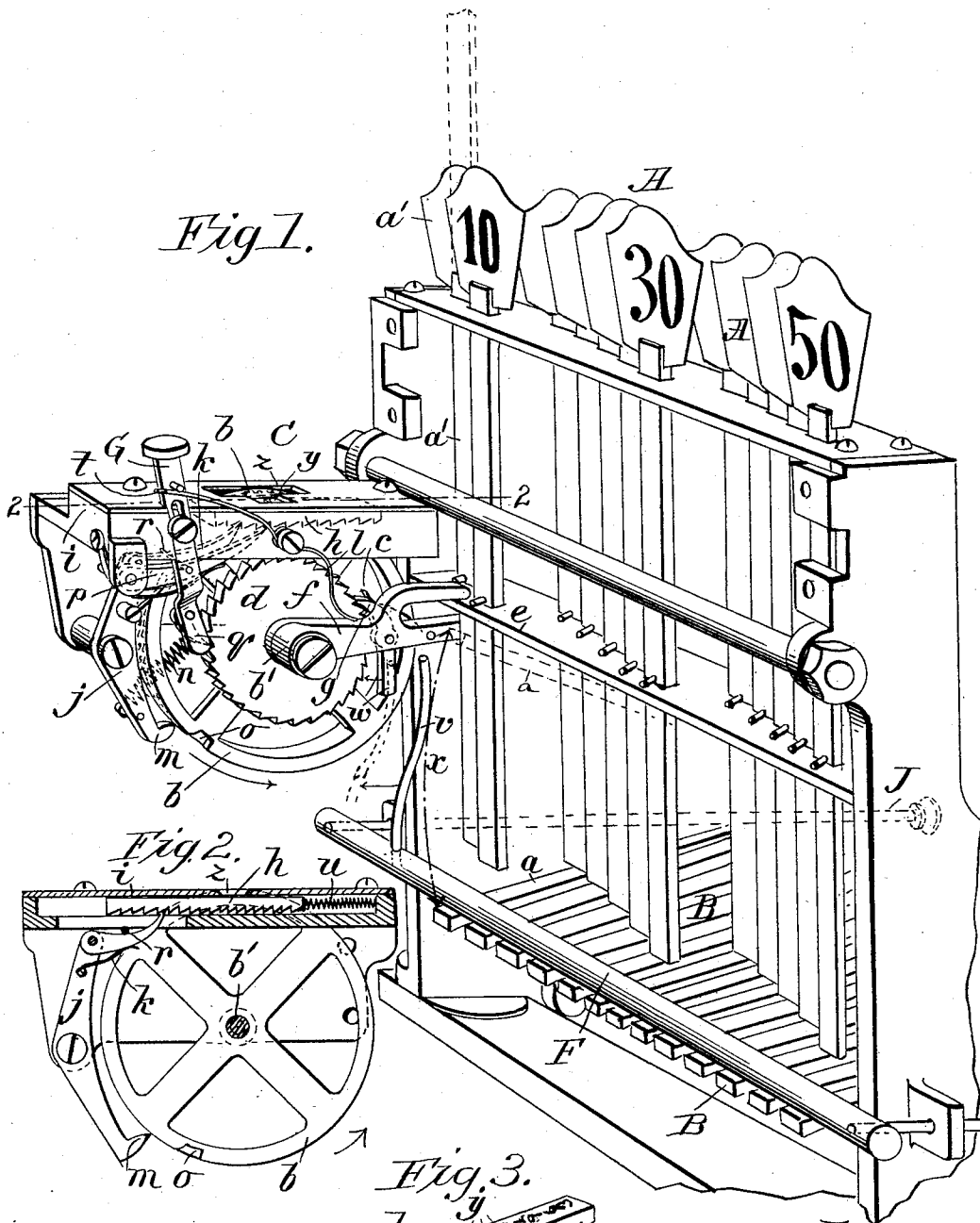


(No Model.)

E. N. FOOTE.
CASH REGISTER.

No. 469,012.

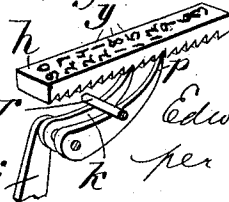
Patented Feb. 16, 1892.



Witnesses:

John Garfield
T. F. Deussen.

Fig. 3.



Inventor,

Edward N. Foote,
per Chapin & Co.
Atty.

UNITED STATES PATENT OFFICE.

EDWARD N. FOOTE, OF NORTHAMPTON, MASSACHUSETTS.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 469,012, dated February 16, 1892.

Application filed July 20, 1891. Serial No. 400,014. (No model.)

To all whom it may concern:

Be it known that I, EDWARD N. FOOTE, a citizen of the United States, residing at Northampton, in the county of Hampshire and State of Massachusetts, have invented new and useful Improvements in Cash-Registers, of which the following is specification.

This invention for improvements in cash-registers consists in the construction and combination of parts, all substantially as will hereinafter more fully appear, and beset forth in the claims.

Referring to the accompanying drawings, in which the present improvements are illustrated, Figure 1 is a perspective view taken at the rear of the register, the same being removed from its case, and showing the mechanism forming the subject-matter of the present specification applied thereon. Fig. 2 is a sectional elevation of parts of the improved devices, taken on the line 2 2, Fig. 1. Fig. 3 is a perspective view in details to be hereinafter referred to.

In the drawings, A A represent the indicators, and B B the portions of key-levers for respectively elevating same, said key-levers also operating the register, which latter is not shown, forming no part of the present invention; but the same is of any suitable or approved construction and is to be actuated to register a greater or smaller sum of cash, according as the one or other of the key-levers is operated.

C represents the special register to act in conjunction with the individual key-lever *a*, which is provided, say, for five-cent sales, and the particular temporary indicator *a'* momentarily shows or signals the five-cent sales, as usual.

The register comprises a wheel or disk *b*, mounted on a horizontal supporting-bearing *b'*, which is suitably affixed to or sustained from the frame of the machine, and said wheel has affixed on its side the ratchet-wheel *d*.

f represents a pawl-carrier on which the intermediately-pivoted pawl *g* is mounted, said pawl having the spring *c* for swinging it so that its point will normally remain in engagement with the teeth of the ratchet-wheel *d*. The extremity of the pawl-carrier is for-

wardly extended from its place of pivotal support, so that the end of the key-lever *a* as it finishes its upward movement (the course of the lever *a* is indicated by the dotted line *x* in Fig. 1) will upwardly swing the pawl-carrier and thereby impart a corresponding rotational movement to the ratchet-wheel *d* and wheel *b*. The extremity of the pawl-carrier is formed bifurcated, between the upper and lower members of which part *e* of the frame enters and forms a stop for the lower member of the pawl-carrier, whereby the carrier may not by momentum be unduly upwardly forced, and also a stop for the upper member, whereby the same may be prevented from dropping down from its position relative to the limit of movement of the key-lever, as already mentioned. To insure the pawl-carrier dropping as the key-lever resumes its normal position, even where its weight is not sufficient therefore, the spring *l* is provided.

The upper edge of the wheel or disk *b* has indications thereon at intervals corresponding to each impulse thereof as imparted by the pawl-and-ratchet motion described, which may be consecutive figures to show the number of times the key-lever may have been operated, or figures in steps of five may be placed on the rim of the wheel to show the aggregate of the five-cent sales during any portion of the rotation of the disk.

In order to register the special sales when the same extend beyond the capacity of the wheel *b*, devices coacting therewith are provided and are as follows:

h represents a bar ratcheted on the under side, which is supported and guided for an endwise movement by and within the casing *i*, the edge of the ratchet-bar being alongside of the rim of the wheel *b*.

j is an intermediately-pivoted lever carrying at its upper portion the pawl *k*, which pawl is upwardly spring-pressed and engages the teeth of the ratchet-bar for actuating the latter. The lower end of the pawl-carrying lever *j* has the nose *m*, which is adapted to bear upon the periphery of the wheel *b*, due to the reaction of the spring *n*, and there is a recess *o* in the rim of the wheel *b*, into which the lever-nose *m* may enter at the completion of each rotation of the said wheel, and the pawl-

carrying end of the lever then swinging rearwardly the pawl clicks over the ratchet-teeth to engage a new tooth, when on the continued rotational movement of the ratchet the nose
 5 end of the pawl-carrying lever is outwardly forced to the circumferential line and the pawl forces the ratchet-bar forward to bring a new mark or character of indication, which is provided, as at *y*, on the upper face of the
 10 bar to the opening *z*, which is provided in the top of the casing *i* to expose the indications on the wheel, as well as those on the bar.

p represents a spring-pressed detent suitably pivotally hung on the casing *i* or other
 15 support, which also engages the teeth of the said ratchet-bar, the function of which, as plain, being to prevent a backwardly-sliding motion of the ratchet-bar at the time the working pawl or pallet *k* is retracing to take
 20 a new ratchet-bar tooth.

The indications on the surface of the ratchet-bar may be consecutively-rising figures to indicate the number of rotations of the wheel
 25 *b*, whereby on the multiplication of said figures by the number of impulses for one rotation of the wheel *b* the number of special sales may be known, which are in addition to those further indicated on the wheel *b*, which may have made but a partial rotation of the
 30 latter, or indications corresponding to the computations in dollars may be given on the ratchet-bar. For instance, it being assumed that it requires sixty impulses to effect a rotation of the ratchet-wheel and wheel *b*, one
 35 forward step of the ratchet-bar will indicate three dollars in five-cent sales, and, as particularly shown in Fig. 3, the consecutive indications are understood to be of threes of dollars.

40 It being desirable at the end of the day or other period, after having noted the aggregate of special sales on the individual key-lever register, to have the wheel and ratchet-bar returned to their starting positions, so as to
 45 register 0, means for this purpose are provided as follows: *G* represents a bar guided for a reciprocatory movement in a more or less nearly vertical line, the same carrying at
 50 its lower end a pawl *q* to engage the ratchet-wheel *d* at its edge opposite that engaged by the key-lever-actuated pawl *g*. The said bar *G* carries the stud *r*, which lies across the upper edges of the pawls *k p*. The bar *G* is normally held in its uppermost position by the
 55 spring *t*, so that the stud *r* normally merely lies on or adjacent the upper edge of said pawl; but immediately the bar is depressed the pawls *k p* are forced out of engagement with the ratchet-bar, when the latter,
 60 under the reaction of the spring *u*, which is shown as applied at its forward end, is quickly slid backward to its limit or starting-point, the operation of restoring the ratchet-bar also forcing the wheel *b* one step, and in order to
 65 bring the wheel around to its starting-point the bar *G* is reciprocated continuously until the wheel has made the portion of a rotation

necessary, the working pawl or pallet *g* at this time being inactive and merely working as a click.

Of course the wheel *b* might be brought to its place of starting by operating the key-lever; but in practice this would not do, for the key-lever would unwarrantably indicate on the common register with which the machine
 75 is understood to be provided.

Should it be desirable to suspend the operation of the register *C* while the respective key-lever therefor is being operated—as, for instance, when a five-cent sale is being made
 80 which is not a soda-water sale or which should not properly be recorded on the special register—the special register may be rendered inactive by forcing in the push-rod *J*, which correspondingly moves the bar *F*, on which is
 85 the dog or abutment extension *v*, which impinges against the extension *w* of the pawl *g* and thereby serves to swing its working end out of engagement with the ratchet-wheel *d*. Thus, of course, any working of the five-cent
 90 key-lever will not impart any motion to the ratchet-wheel *g* and register-wheel *d*.

It will be understood that the special-key-lever-register mechanism may be reduplicated for various of the key-levers in the series, as may be deemed expedient or convenient.

I claim—

1. In a cash-registering machine, the combination, with the registering-wheel having indicating characters on its periphery, of key-operated means for imparting a rotational movement to the wheel, a ratcheted bar supported and guided for movement alongside the periphery of the register-wheel and having indicating characters on its face, a pawl-carrier pivoted adjacent the register-wheel and having a pawl for engaging the ratcheted bar, and the register-wheel and pawl-carrier constructed and arranged whereby each rotation
 10 of the wheel will effect the swinging of the pawl-carrier and a progressive movement of the register-bar, substantially as described.

2. In a cash-registering machine, the combination, with the registering-wheel *e*, having the depression *o* and the ratchet-wheel *d*, of the pawl-carrier and pawl, and a key-lever for imparting the working motion to the pawl-carrier, a ratchet-bar supported and guided for movement with its surface adjacent the periphery of the register-wheel, the pawl-carrier *j*, pivoted adjacent the register-wheel and having one arm provided with the nose *m* and the other arm carrying the pawl which engages the ratcheted register-bar, a spring applied for the rearward pressure on the bar, and the stop-pawl *p*, all substantially as described.

3. In a cash-register, the combination, with a register-wheel *b*, having the ratchet-wheel, and key-operated means for securing a rotational movement of the ratchet-wheel and register-wheel, of an indicating ratchet-bar and the spring-stop and stop-pawl therefor, a

lever working in conjunction with the register-wheel for receiving from the latter periodically a swinging movement, and a pawl on said lever for engaging and forcing the ratchet-bar, and a reciprocating part carrying the stud, adapted to engage both of the ratchet-bar pawls and having a pawl for engaging the

said ratchet-wheel, substantially as and for the purposes set forth.

EDWARD N. FOOTE.

Witnesses:

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J. D. GARFIELD.