

No. 687,811.

Patented Dec. 3, 1901.

D. K. ALLISON.

CASH INDICATOR.

(Application filed Feb. 25, 1901.)

(No Model.)

2 Sheets—Sheet 1.

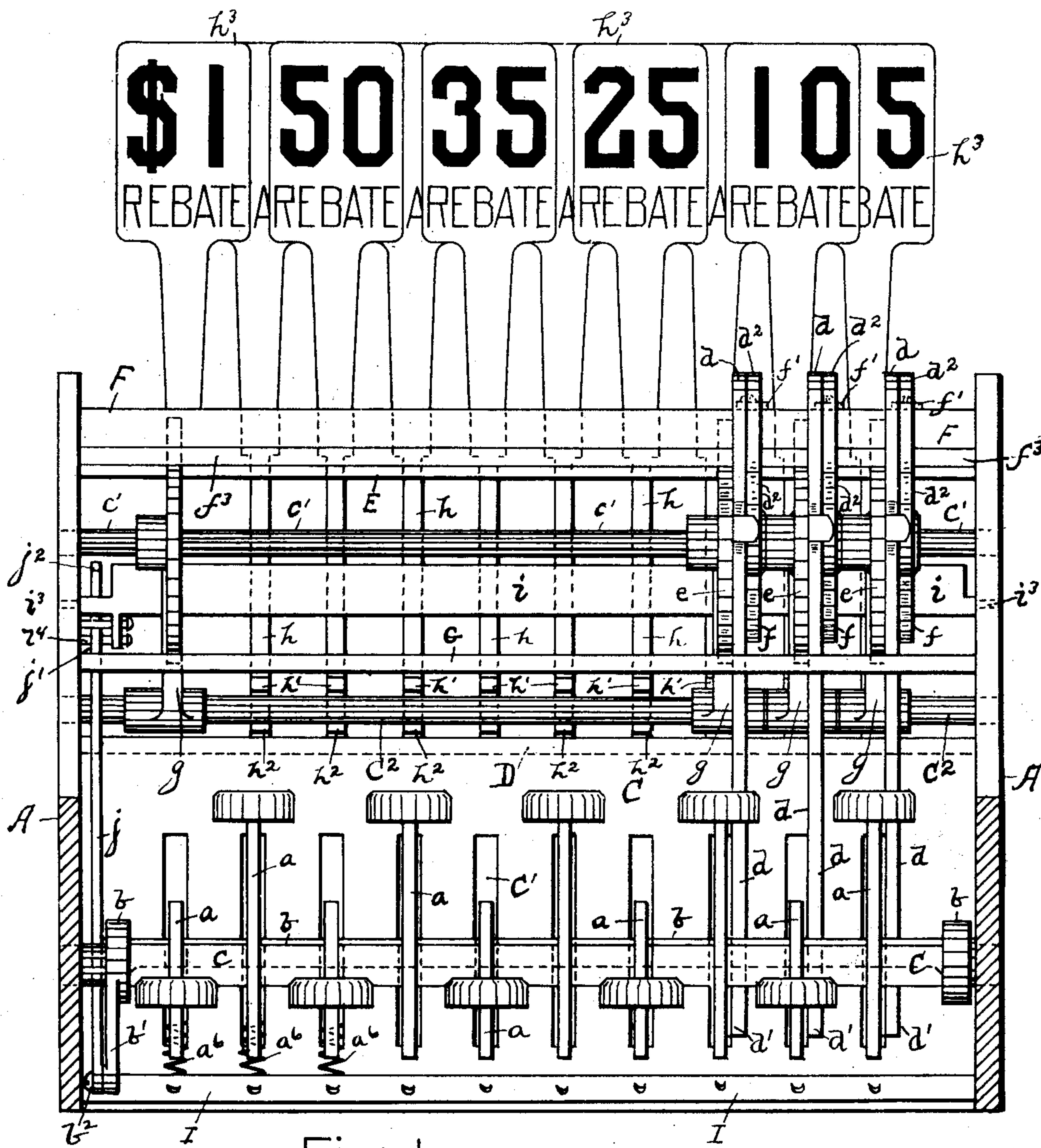


Fig. 1.

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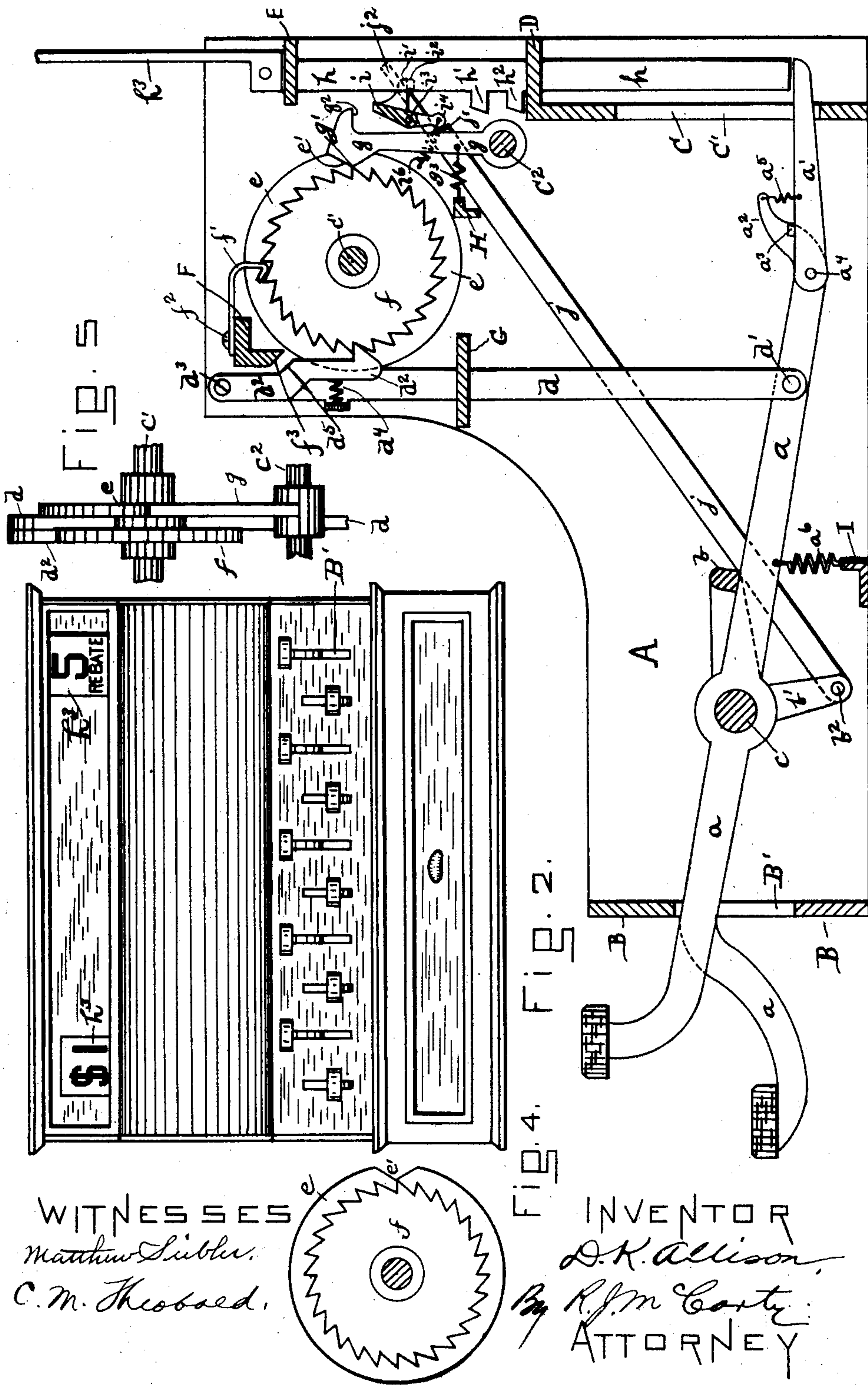
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

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CASH-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 687,811, dated December 3, 1901.

Application filed February 25, 1901. Serial No. 48,677. (No model.)

To all whom it may concern:

Be it known that I, DANIEL K. ALLISON, a citizen of the United States, residing at Troy, in the county of Miami and State of Ohio, have invented certain new and useful Improvements in Cash-Indicators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention relates to improvements in cash-indicators.

The object of the invention is to provide a machine that has a capacity for showing to a purchaser the amount or price of his purchase by means of elevating numbered indicators and at certain intervals to elevate these indicators to a higher position to expose thereon an additional indication—such, for example, as a prize, rebate, or premium of some kind. The indicators in their ordinary operation of exposing the price-figures are only elevated a sufficient height to exhibit such price-figures; but at certain periods or intervals in the operation of the machine any one of said indicators is lifted to a still higher position to exhibit the other indication thereon, which, as before stated, consists of some word denoting that that particular purchaser is entitled to some prize, rebate, or other premium in addition to his purchase. It will be understood that this word indicating a prize, &c., will not appear in the usual elevation of the indicators to exhibit the price, but only at certain intervals. For example, when an operating-key is operated a certain number of times the next operation of such operating-key will throw its respective indicating-tablet to a position above its usual height. When these periodical operations take place, the purchaser is informed by the appearance of the indication that he is entitled to some prize, rebate, or other premium with his purchase.

50 In a detail description of my invention reference is made to the accompanying drawings, in which—

Figure 1 is a front elevation of my improved cash-indicator, a portion of the frame appearing in section and a portion of the wheels and adjunctive mechanism removed; 55 Fig. 2, a front elevation of my improved cash-indicator as it will appear when incased in the cabinet. Fig. 3 is a sectional side elevation. Figs. 4 and 5 are detail views of the combination-wheels. 60

Similar reference-letters indicate corresponding parts in the several views of the drawings.

A A designate suitable side frames, B a front plate having vertical guide-slots B' therein, and C is a rearward plate having vertical guide-slots C' therein. 65

Fulcrumed on shaft *c* are a series of operating-keys *a*, which project through the guide-slots B' in the front plate B and are thereby kept a proper distance apart and suitably limited in their downward movement. The operating-keys extend upwardly at their rear ends, as at *a*², and pivoted thereto at *a*⁴ are a series of supplemental levers *a*¹, which project through the guide-slots C' in the rear plate C far enough to engage with the indicator-rods *h*, of which further mention will be made. These supplemental levers *a*¹ are held up against lugs *a*³ on the ends *a*² by means of springs *a*⁵. The operating-keys *a* are drawn to their normal position after each operation by means of springs *a*⁶, which are fastened to the operating-keys and to the transverse cross-frame I. The indicator-rods *h* are guided in their movements by cross-frames E and D, through which they pass, and said rods support indicator cards or tablets *h*³, which for the purposes of my invention bear in addition to the usual figures denoting and indicating the price of a purchase an inscription or words denoting and indicating a prize, rebate, or other premium. At suitable points the said indicator-rods *h* are provided with lugs *h*¹ and *h*², which serve to hold the indicating tablets or cards *h*³ in two different elevated positions where they will be exposed to view. When any one of the indicator-rods is lifted by its corresponding operating-key, one of these lugs *h*¹ or *h*² will rest on top of the oscillating retaining-bar *i*. This bar *i* lies between the side frames, 100

is pivoted at i^3 , and has a downward extension i^4 , which terminates at a right angle and lies in the path of a shoulder j' of an inclined bar j . Extending from the bar i at one end
 5 is a projection i' , which when such bar i is in its normal position rests upon a lug i^2 , projecting from a side frame A. Such lug i^2 and projection i' allow the bar i to approach the indicator-rods very closely, but also prevent
 10 the same from resting against the indicator-rods. The inclined bar j has a pivotal connection at b^2 with a downwardly-projecting arm b' . The latter arm is a part of a transverse oscillating frame b , which is fulcrumed
 15 on the shaft c and lies across the top of the operating-keys. Upon the actuation of an operating-key the bar j is moved upwardly and rearwardly. The shoulder j' thereon coming against the extension i^4 moves the retaining-
 20 bar i away from the indicator-rods h , and thereby permits an exposed tablet to drop by gravity to its original unexposed position. When the indicators are moved upwardly in the normal operation of the machine, the pro-
 25 jection h' rises above the retaining-bar i , the nose g^2 of the pawl g limits the movement of such projection h' , and the indicator is held in supported position by the retaining-bar i , or if the pawl g is in the position shown in
 30 Fig. 3 the indicator will be permitted to rise to a higher position, thus bringing the projection h^2 in a position to rest on the retaining-bar i . When one indicator is elevated and another is about to be elevated, the frame
 35 b , being actuated with each operating-key, operates the downwardly-projected arm b' and moves the bar j rearwardly. In this operation the shoulder j' on said bar j presses against the extension i^4 of the retaining-bar i , and
 40 thereby moves the retaining-bar i away from the indicators a sufficient extent to allow the previously-elevated indicator to fall by gravity. The retaining-bar i is normally held in the direction of the indicator-rods by a spring i^6 .
 45 On shaft c' there is loosely mounted a series of wheels, each of which is composed of two parts—to wit, a disk e and a ratchet-wheel f . These two wheels rotate together by being made in one piece or in two parts united.
 50 There are as many of these compound wheels as there are operating-keys, and one coöperates with each of such operating-keys. At one point in the periphery of each of said disks there is a notch e' , of which further
 55 mention will be made. Pivoted to each of the operating-keys at d' and standing upright is an arm or rod d , which is held in place and guided in its movements by a transverse frame G, through which it passes. The up-
 60 perends of each of the arms d support a pendant pawl d^2 , pivoted at d^3 . Each of the pawls d^2 is pressed in by a spring d^4 and engages with its respective ratchet-wheel f and causes such ratchet-wheel to move the extent of one
 65 tooth each time an operating-key is operated. Each of such ratchet-wheels is provided with a spring-detent f' , which is fastened to the

transverse cross-bar F by screws f^2 . There is arranged on shaft C^2 a series of check-pawls
 70 g , which are held against the peripheries of the disk-wheels e by pressure of springs g^3 , which are fastened to said pawls and to the cross-piece H. The engaging end of each of these pawls g is provided with a nose g' , which
 75 fits the notch e' of its respective disk-wheel e , and opposite thereto with a projection g^2 , designed to approach the indicator-rods h closely without touching such rods whenever the nose or projection g' is riding on the pe-
 80 riphery of its corresponding disk-wheel. Whenever any check-pawl g has its nose g' riding on the periphery of its corresponding disk-wheel e , then the corresponding indicat-
 85 ing-tablet will be limited in its upward movement by its lug h' striking against the projection g^2 of its check-pawl g , and as long as the check-pawl g is in this relative position the indicating-tablet will thus continue to be
 90 arrested each time it is elevated, in which partial elevation it will only expose to view the numbers on the upper part thereof—to wit, the numbers indicating the amount of the sale; but when the disk-wheel e has been
 95 moved until its notch e' is adjacent to the nose g' and the nose g' has been pressed therein by the spring g^3 then in that particular operation the projection g^2 will have moved
 100 out of the path of the lug h' and will thereby allow the indicating-tablet to be elevated its full height, and thereby expose both indications—to wit, the amount of the sale and also the words "Prize," "Rebate," &c. Thus it will be seen that when the check-pawl g of
 105 any key in the operation thereof will move either in or out of the notch e' it is essential that it should make its full movement and be at rest before its corresponding indicating-
 110 tablet will have been elevated far enough for its lug h' to come in contact with the projection g^2 . In order to accomplish this, I have provided means for operating the ratchet-
 115 wheels f and disk-wheels e quickly—to wit, in the first part of the stroke of the operating-key—and for keeping them at rest the remainder of the stroke of the operating-key, and in furtherance of the same object I have pro-
 120 vided the pawl d^2 , which is held in engagement with the ratchet-wheel f by a spring d^4 . Now as the pawl d^2 will have a great deal more movement than is necessary to turn the
 125 ratchet-wheel one tooth I have provided means for limiting the engagement of such pawl with its ratchet-wheel. These means consist in providing the inner side of such pawl with a surface d^5 and a matching or cor-
 130 responding surface f^3 on the cross-frame F. The contact of these two surfaces will throw such pawl out of engagement with its ratchet-wheel as soon as it has moved far enough to carry the ratchet-wheel one tooth, and in the continued upward movement of such pawl it will be held away from the ratchet-wheel. Thus by this operation I obtain a quick movement of the ratchet-wheels above mentioned.

The operation of my invention is as follows: When a sale is made, the amount of such sale is indicated by pressing down upon an operating-key in the usual way. The corresponding indicator-card affected thereby will be elevated by means of the supplemental key a' , that coöperates with the operating-key depressed. If the corresponding disk-wheel e is in a position that brings its notch e' adjacent to the nose g' of its corresponding check-pawl g , that particular indicator-rod h will be elevated to its full or highest position, and the lug h^2 on such rod will rest upon the retaining-bar i and will be thereby held in a position to exhibit the amount of the sale and also the word or words denoting a prize, rebate, or other premium or whatever may appear thereon in addition to the figures indicating the amount of the sale. (See Fig. 2.) Whenever a disk-wheel e corresponding to any operating-key is so turned or positioned that its corresponding check-pawl g has its nose g' in contact with the periphery of such wheel, then if its corresponding indicating card or tablet be elevated its upward movement will be arrested by the lug h' striking against the rearward extension g^2 of the pawl g . At the same time the retaining-bar i will move under the lug h' and retain such indicating-tablet in its partially-elevated position. Also the supplemental levers a' will allow the operating-key to complete its full stroke without giving additional upward movement to the indicating-tablet. In this case the tablet is only partially exposed or is only elevated to a height sufficient to show the amount of the purchase.

While I have described my invention in detail in order that it may be properly understood, I do not desire to limit myself to the details of construction so described. On the contrary, I desire to claim, broadly, means for moving the indicating-tablets in a cash-indicating machine at predetermined periods out of their normal positions or the positions in which they exhibit the amount of a sale to positions in which they exhibit in addition to the amount of such sale other matter—to wit, indications denoting that the purchaser is entitled to a prize, rebate, or premium.

Having described my invention, I claim—

1. In a cash-indicator, a series of operating-keys, a corresponding series of indicators actuated by such operating-keys, such indicators bearing two kinds of indications and being movable to two distinct and separate positions to exhibit such indications, in one of such positions only one of said indications being visible, and in the other of such positions, both of said indications being visible, and means for controlling such indicators in said two positions.

2. In a cash-indicator, a series of operating-keys, a corresponding series of indicators actuated by such operating-keys, said indicators denoting the amount of a sale, and a

prize, rebate or premium, and being movable to two positions, in one of which said indicators exhibit the amount of a sale alone, and in the other of which said indicators exhibit both the amount of a sale, and a prize, rebate or premium, means for controlling said indicators in their movements, and means whereby they are supported in such positions.

3. In a cash-indicator, a series of operating-keys, and a corresponding series of indicators, each of which bears indications denoting the amount of a purchase, and a prize, rebate, or other premium; said indicators being movable to one position to exhibit the amount of a purchase alone, and to another position, at predetermined periods, to exhibit both the amount of a purchase, and a prize, rebate, or other premium, means whereby such indicators are controlled in their movements, and means whereby such indicators are supported in their respective exposed positions.

4. In a cash-indicator, a series of operating-keys, a corresponding series of indicators, each of such indicators having inscribed thereon the amount of a purchase, and words denoting a prize, rebate or other premium, means for limiting the movements of such indicators in their normal operation to exhibit alone, the amount of a purchase, and means controlling such indicators, at predetermined periods, whereby they are moved to a different position, to exhibit both the amount of a purchase, and a prize, rebate, or other premium.

5. In a cash-indicator, a series of operating-keys, a corresponding series of indicators actuated thereby, said indicators being movable to two positions under the movement of such operating-keys, one of such positions being the normal position in which such indicators exhibit the amount of a purchase, and the other of such positions being limited to predetermined periods and in which both the amount of a purchase, and a prize, rebate, or other premium are exhibited, and means for controlling the movements imparted to such indicators, and for supporting them in their different indicating positions.

6. In a cash-indicator, a series of operating-keys, a series of supplemental levers connected thereto and actuated thereby, a corresponding series of sales-indicators actuated by such supplemental levers, means for limiting the movement of such indicators to their normal exposed position, and means enabling such indicators, at predetermined periods, to move to a different position from that in which they normally expose the sales indications, and in which position said indicators expose in addition to such sales indication, a prize, rebate, or other premium.

7. In a cash-indicator, a series of operating-keys, a series of indicators arranged to be actuated thereby to positions to indicate the amount of a purchase only, and intervening mechanism arranged to cause such indicators

to move to a different position to expose an additional indication thereon at predetermined periods.

8. In a cash-indicator, a series of operating-
 5 keys, a series of indicators actuated thereby,
 said indicators bearing distinct and separate
 indications, one of such indications only being
 visible during the normal operations of such
 10 indicators, and both of such indications being
 simultaneously visible at intervals or at pre-
 determined periods, means whereby such in-
 dicators are limited to and are supported in
 their normal exposed positions, and whereby
 such indicators are enabled to move to and
 15 are supported in positions to exhibit both said
 indications simultaneously.

9. In a cash-indicator, a series of operating-
 keys, a series of indicators operated thereby,
 such indicators bearing separate and distinct
 20 indications, a series of wheels actuated by
 said operating-keys simultaneously with the
 operation of the indicators, and means inter-
 posed between such wheels and such indica-
 tors whereby such indicators are limited in
 25 their movements, to a position to expose a
 single indication thereon, and whereby such
 indicators are permitted, at predetermined
 periods, to assume a different position to ex-
 pose an additional indication.

30 10. In a cash-indicator, a series of operating-
 keys, a series of indicators operated thereby,
 such indicators bearing separate and distinct
 indications, a series of wheels actuated by said
 operating-keys simultaneously with the oper-
 35 ation of the indicators, and means interposed
 between such wheels and such indicators
 whereby such indicators are limited in their
 movements, to a position to expose a single
 indication thereon, and whereby such indica-
 40 tors are permitted, at predetermined periods,
 to assume a different position to expose an ad-
 ditional indication, and means for supporting
 and releasing said indicators.

11. In a cash-indicator, a series of operating-
 45 keys, a series of indicators actuated thereby,
 such indicators bearing separate indications,
 one of which denotes the amount of a sale, and
 the other of which denotes a prize, or rebate;
 a series of wheels actuated by said operating-
 50 keys, means interposed between such wheels
 and such indicators whereby such indicators
 are limited and controlled in their normal
 movements to expose the amount of a sale,
 and means whereby such indicators are con-
 55 trolled in their movements and enabled to as-

sume a different position to expose the amount
 of a sale, and in addition thereto, a prize, re-
 bate, or an indication of similar import.

12. In a cash-indicator, a series of operating-
 keys, a series of supplemental levers actuated 60
 thereby, a series of indicators actuated by
 such supplemental levers, a series of wheels
 actuated by said operating-keys, and means
 interposed between said wheels and said in- 65
 dicators whereby said indicators are permit-
 ted to assume different positions, one of such
 positions taking place in the normal operation
 of said indicators, and the other position tak-
 ing place at intervals or at predetermined
 periods. 70

13. In a cash-indicator, a series of operating-
 keys, a series of wheels actuated thereby, a
 series of indicators, said indicators being mov-
 able to different exhibiting positions, means 75
 under the control of such wheels whereby the
 movements of such indicators are controlled,
 and means for supporting and releasing such
 indicators upon each operation of an operat-
 ing-key.

14. In a cash-indicator, a series of operating- 80
 keys, a series of supplemental levers pivoted
 thereto, a series of indicators actuated by said
 supplemental levers, means for limiting the
 movement of such supplemental levers to a
 less movement than that of its respective op- 85
 erating-key in the normal operation of elevat-
 ing an indicator, and for allowing said sup-
 plemental levers to move the full stroke of an
 operating-key at predetermined times, sub-
 stantially as specified. 90

15. In a cash-indicator, a series of operating-
 keys, a series of supplemental levers connect-
 ed thereto and movable therewith, a series of
 indicators movable by said supplemental le- 95
 vers, a series of wheels movable by said oper-
 ating-keys, the movements imparted to such
 wheels being completed before the actuating-
 key has completed its downward stroke, and
 means interposed between such wheels and
 the indicators whereby an indicator is per- 100
 mitted, at predetermined periods, to rise to a
 higher position than its normal exposed po-
 sition.

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

DANIEL K. ALLISON.

Witnesses:

F. A. FOSTER,
 R. J. McCARTY.