

No. 615,409.

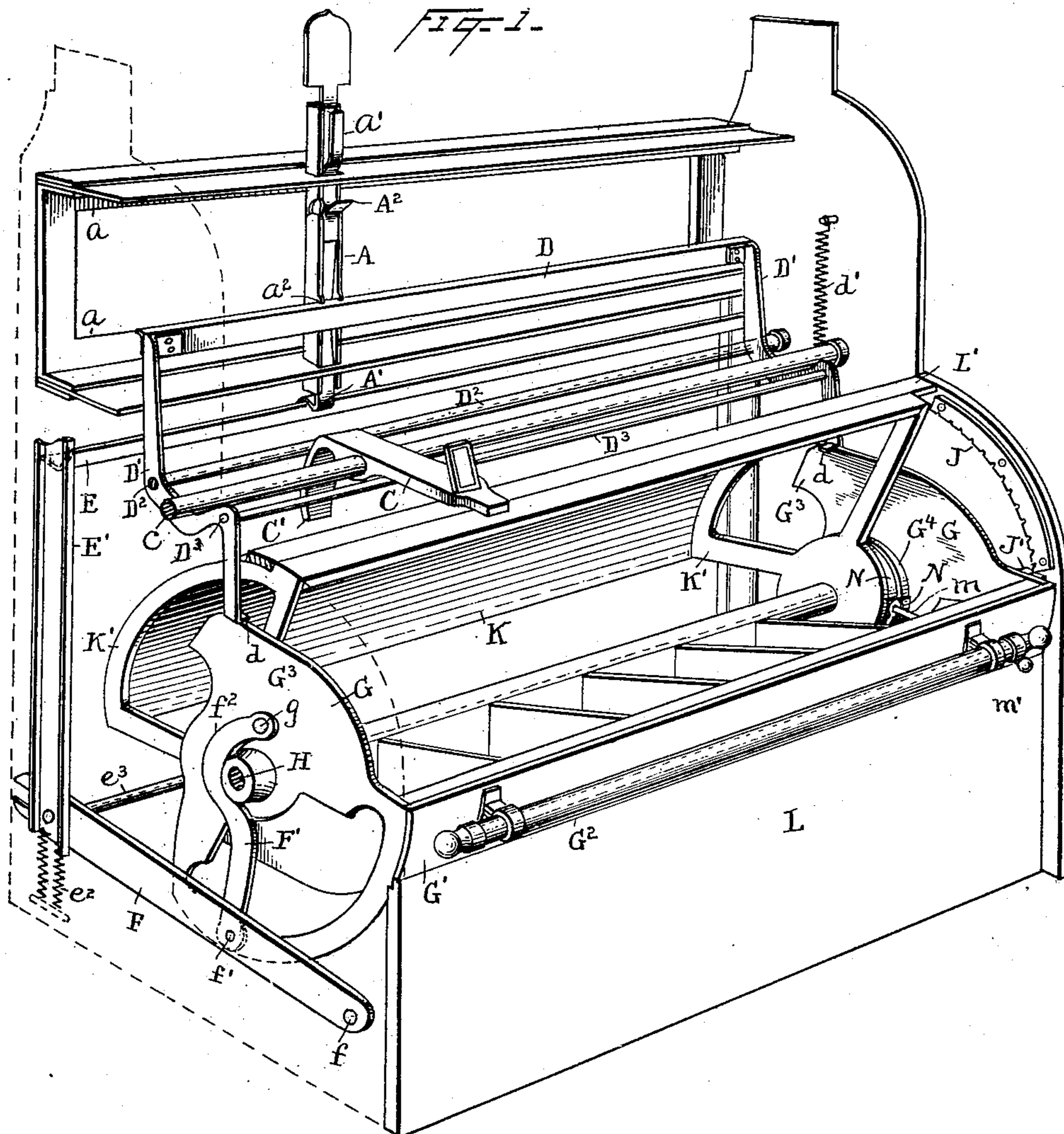
Patented Dec. 6, 1898.

F. C. OSBORN.
CASH REGISTER.

(Application filed Aug. 13, 1897.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

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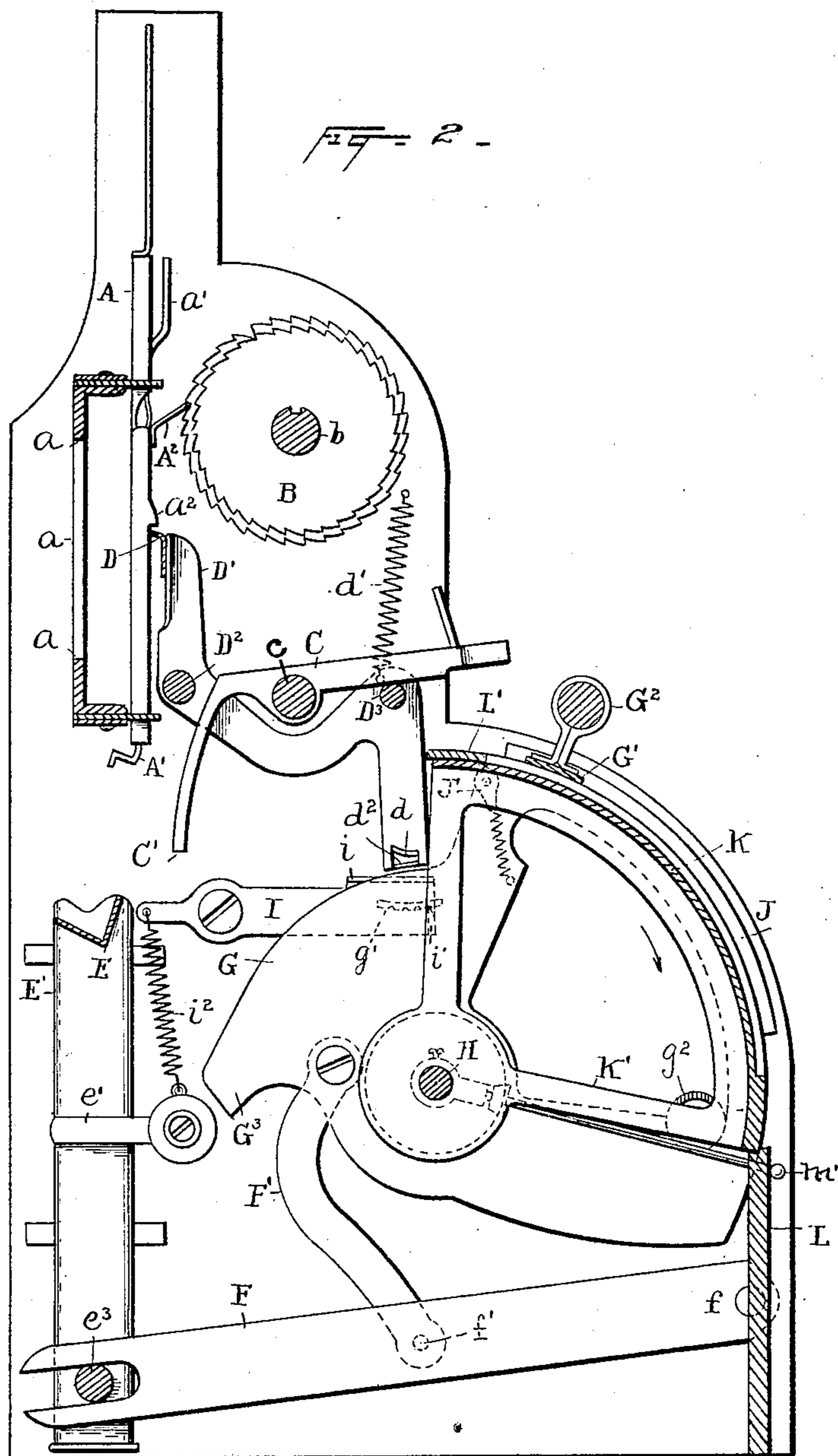
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3 Sheets—Sheet 2.



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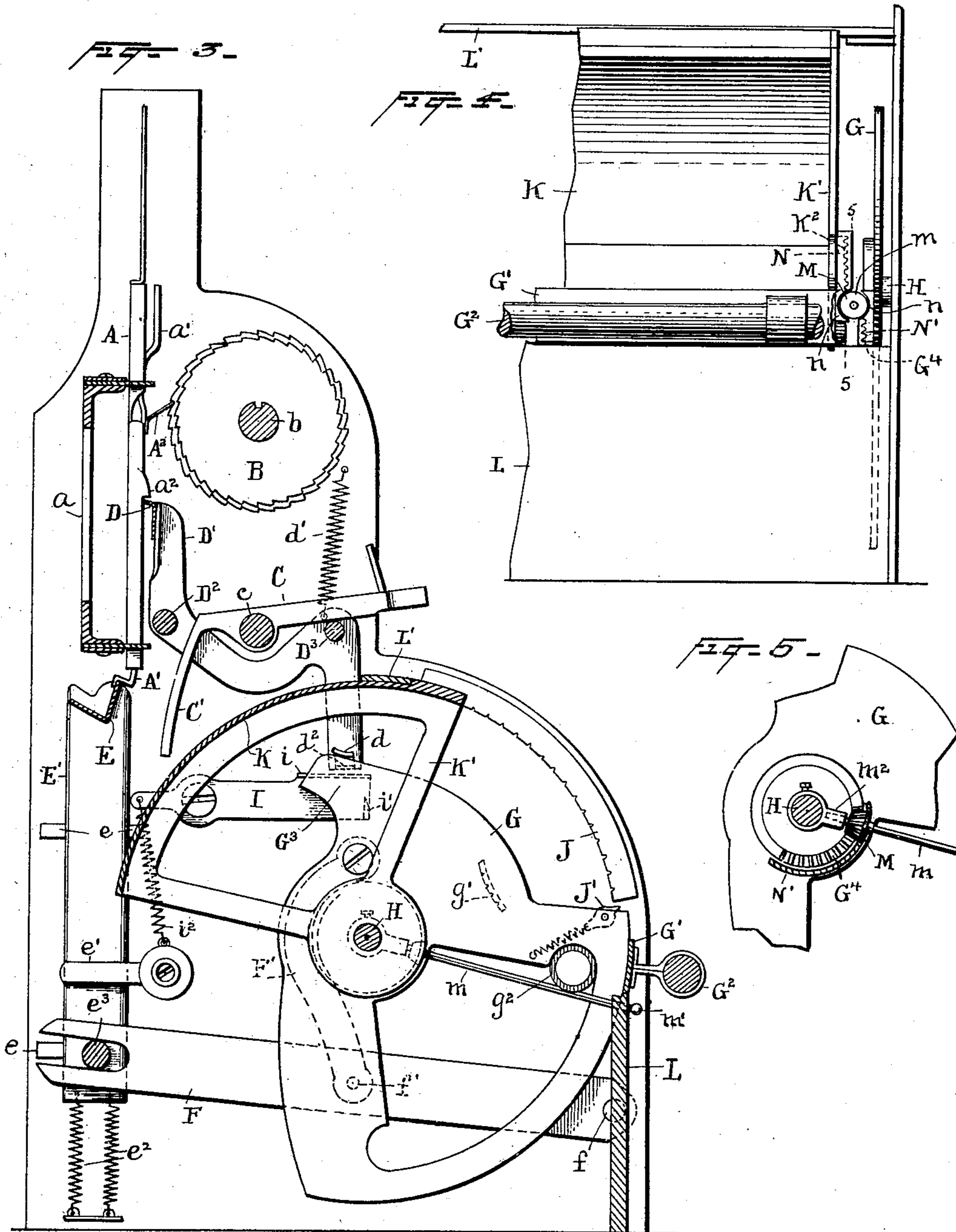
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

FRANCIS C. OSBORN, OF DETROIT, MICHIGAN, ASSIGNOR TO THE OSBORN CASH REGISTER COMPANY, LIMITED, OF SAME PLACE.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 615,409, dated December 6, 1898.

Application filed August 13, 1897. Serial No. 648,146. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS C. OSBORN, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented a certain new and useful Improvement in Cash-Registers, of which the following is a specification.

My invention relates to cash-registers of the character described in Letters Patent No. 491,022, granted January 31, 1893, and in applications for Letters Patent filed by me November 23, 1891, Serial No. 412,791, January 23, 1895, Serial No. 535,986, and August 24, 1895, Serial No. 560,326; and my invention consists in the novel arrangement of devices and combinations of devices hereinafter more fully described, and pointed out in the claims.

In the accompanying drawings, which illustrate my invention, Figure 1 is a perspective view of the main parts of the machine, a part of the casing, the register, and all but one of the operating-keys and tablet-rods being omitted in order that features of my invention may be clearly shown; Fig. 2, a vertical cross-section of the machine, the money tray or box being omitted, and the parts shown illustrating the normal position—i. e., after the machine has been operated and the till closed; Fig. 3, a similar view showing the position of the parts after the initial stroke of the actuator and before the actuator, co-operating parts, and till-cover are returned to the normal position; Fig. 4, a partial front view of the machine, showing the operating connection between the till-cover and actuator; and Fig. 5 is a vertical section on the line 5 5 of Fig. 4.

Referring to the drawings, A indicates the tablet-rod, movable vertically in guides *a* and provided with a movable foot *A'*, through which the tablet-rod is elevated, and a register-pawl *A*², carried by a pivoted plate *a'*, which engages with the upper horizontal plate of guide *a* to move the pawl into and out of engagement with the register.

B is the register or one of a set of register-wheels rotating on shaft *b*.

C is one of a series of operating-keys for controlling the movement of the tablets to indicating position or for selecting, setting,

or preparing the tablets for movement to indicating position. In the form shown the tablet-rod is prepared for movement to indicating position by the backward movement of the foot *A'*. For this purpose each key C is provided with a cam or finger *C'*, which engages the foot *A'* of its respective tablet-rod, the action being to move the foot backward into the path of a lifting-bar when the front end of the key is depressed. The series of keys are pivoted on rod *c*.

D is a locking-bar adapted to engage with the lugs *a*² on the tablet-rods to hold them in the elevated position, this bar being carried by a frame composed of the two levers *D'* and rods *D*² and *D*³, the former being the pivot on which the frame rocks.

The lifting-bar for engaging feet *A'* to elevate the tablet-rods is a plate *E*, rigidly carried by two vertical slides *E'*, moving between guides *e* and held within the guides by a removable arm *e'*. Slides *E'* are provided with coiled springs *e*², which return the lifting-bar to normal position. The slides near the bottom are connected by a rod *e*³, with which two forked levers *F* engage. These levers are pivoted to the side frames of the machine at *f*. Levers *F* are connected with the actuator by links *F'*.

The actuator comprises two plates *G*, connected by a strip *G'*, upon which is mounted the operating-handle *G*². Plates *G* are loosely mounted upon a rod *H*, carried between the end plates of the frame. Links *F'* are pivoted to levers *F* at *f'* and to the plates *G* at *g*, the links being curved at *f*², as shown, to clear the hubs of the plates. The rotation of plates *G* in the direction of the arrow, Fig. 2, lifts levers *F* through links *F'*, which in turn elevate the lifting-bar *E* through slides *E'*.

The plates *G* of the actuator are provided with extensions *G*³, which engage lugs *d* on the downwardly-projecting ends of levers *D'* when near the end of its initial stroke—i. e., the stroke during which the tablet-rod is elevated—the effect of which is to throw the locking-bar under the lug *a*² of the elevated tablet-rod. One or two springs *d'* are attached to the levers *D'* for holding the levers in the normal position, (the position shown in

the drawings.) The downwardly-projecting end of one of the levers D' is provided with a foot d^2 , Figs. 2 and 3, which, when levers D' are tilted on pivot-bar D^2 by a key-lever C, engaging rod D^3 , strikes the flange i of the pivoted latch I, which is provided with a lug i' , adapted to engage the notched plate g' on plate G to lock the actuator in the normal position. The latch I is returned to locking position by a spring i^2 .

The rotation of the actuator is limited in both directions by two cushioned stops g^2 , one projecting into the opening in each plate G. The device for compelling a complete stroke of the actuator in either direction is the curved notched plate J and the pivoted pawl J' .

The parts above described are practically like the corresponding parts of the machines described in my patent and applications above referred to, except for details in construction, which are designed to simplify and cheapen the construction of the machine and to generally improve the machine.

The till-cover K is carried by two open or solid plates K' , loosely mounted on shaft H inside the plates G of the actuator. In the closed position the cover rests on the front plate L of the casing, (see Fig. 2,) and in the open position, Fig. 3, the shoulder on the forward edge of the cover strikes the plate L' of the casing. The cover is operated by the actuator through bevel-gears. The hubs of plates K' are provided with beveled gear-wheels K^2 , and the plates G are provided with similar gear-wheels G^4 , said gear-wheels K^2 and G^4 being either continuous or mutilated, as shown in Figs. 4 and 5. With these gear-wheels meshes a pinion M, secured upon a rod m . This rod projects through the front plate L and is provided with a knob m' . The inner end of the rod is journaled in a bearing m^2 , formed on a collar keyed to rod H between the beveled gears K^2 and G^4 . The object in supporting pinion M, as shown, is to permit its movement into and out of mesh with the gears K^2 and G^4 , so that when desired the cover may be disconnected from the actuator to permit its independent operation instead of opening and closing it with each operation of the indicator or register. This is useful where the machines are used in places where the money received is not deposited in the machine or when for obvious reasons it is desirable to obtain access to the till without operating the indicator or register. It is desirable to provide means for permitting the gears being thrown out of and into mesh only when the cover is fully opened, mainly to insure the proper engagement of the gears to obtain the full throw of the cover in either direction. For that purpose I provide the shields N and N' for the gears K^2 and G^4 , respectively, the shields being cut away at n , Fig. 4, to clear the pinion M when the cover is fully opened. The shields are carried either by the gear-wheels or by the plates K' and G.

The arrangement of the gears might be modified, so that the cover will swing downward with the actuator, or instead of operating a till-cover the actuator may be arranged, through suitable gearing, to open and close a cash-drawer without departing from the spirit of my invention, the main feature of which is the means for simultaneously operating the indicator or register and opening the till, combined with means for disconnecting the actuator from the till, so as to allow it to remain open or permit it to be opened and closed independently of the indicator or register actuator.

The form of actuator for the tablet-rods and till-cover above described is applicable to either of the machines shown and described in the prior patent and applications above referred to, and it will be understood that I do not limit myself to its application to the arrangement of register, tablet-rods, lifting-bar, and locking-bar herein shown.

What I claim is—

1. In a cash-register, the combination with sales-indicating tablets and a cash-receptacle, of an actuator for effecting the movement of the tablets to indicating position, a rotary cover for the cash-receptacle, and gearing between the cover and said actuator through which the cover is opened and closed, substantially as set forth.
2. In a cash-register, the combination with sales-indicating tablets and a cash-receptacle, of an actuator comprising two pivoted plates and an operating-handle, means actuated by said actuator for moving the tablets to indicating position, a rotary cover for the cash-receptacle carried by two pivoted plates, and gearing between the end plates of the cover and the pivoted plates of the actuator, substantially as set forth.
3. In a cash-register, the combination with sales-indicating tablets and a cash-receptacle, of an actuator for effecting the movement of the tablets to indicating position, means operated by said actuator for affording access to the cash-receptacle, and a device for operatively disconnecting said means from said indicator, substantially as and for the purpose set forth.
4. In a cash-register, the combination with sales-indicating tablets and a cash-receptacle, of an actuator for effecting the movement of the tablets to indicating position, a cover for the cash-receptacle operated by said actuator, and means for operatively disengaging said cover and actuator, substantially as set forth.
5. In a cash-register, the combination with sales-indicating tablets and a cash-receptacle, of an actuator for effecting the movement of the tablets to indicating position, a rotary cover for the cash-receptacle, gearing between the cover and actuator, and means for throwing said gearing out of mesh, substantially as set forth.
6. In a cash-register, the combination with sales-indicating tablets, a register, and a cash-

receptacle, of an actuator for effecting the movement of the tablets to indicating position and for driving the register, means operated by said actuator for affording access to the cash-receptacle, and a device for operatively disconnecting said means from said actuator, substantially as set forth.

7. In a cash-register, the combination with sales-indicating tablets, a register and a cash-receptacle, of a rotary actuator for effecting the movement of the tablets to indicating position and for driving the register, a rotary cover operated by said actuator for affording access to the cash-receptacle, and a device for operatively disconnecting said means from said actuator, substantially as set forth.

8. In a cash-register, the combination with a series of tablet-rods, a register, and a cash-receptacle, of a series of keys for controlling the movement of the tablets to indicating position, a rotary actuator adapted to impart a vertical movement to said tablet-rods to move the tablets to indicating position, and to operate the register, and a rotary cover operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

9. In a cash-register, the combination with sales-indicating tablets and a cash-receptacle, of a series of keys for controlling the movement of the tablets to indicating position, a rotary actuator for effecting the movement of the tablets to indicating position, a locking device for holding the tablets in the indicating position and operated by the keys to release an exposed tablet, and a rotary cover operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

10. In a cash-register, the combination with sales-indicating tablets and a cash-receptacle, of a series of keys for controlling the movement of the tablets to indicating position, a rotary actuator for effecting the movement of the tablets to indicating position, a locking device for holding the tablets in the indicating position, and operated by the keys to release an exposed tablet, a rotary cover operated by said actuator for affording access to the cash-receptacle, and a device for operatively disengaging said cover and actuator, substantially as set forth.

11. In a cash-register, the combination with sales-indicating tablets, a series of keys, and a cash-receptacle, of an actuator for effecting the movement of the tablets to indicating position, a latch for locking the actuator in its normal position and adapted to be released through the key movement, and means operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

12. In a cash-register, the combination with sales-indicating tablets, a series of keys, and a cash-receptacle, of a rotary actuator for effecting the movement of the tablets to indicating position, a latch for locking the actuator in its normal position and adapted to be released through the key movement, and a rotary cover operated by said actuator for af-

fording access to the cash-receptacle, substantially as set forth.

13. In a cash-register, the combination with sales-indicating tablets, a series of keys, and a cash-receptacle, of an actuator for effecting the movement of the tablets to indicating position, a rocking frame carrying a locking-bar for holding the tablets in indicating position, the frame being actuated by the actuator to move the locking-bar into engagement with the tablets and by the keys to release the tablets, a latch for locking the actuator in normal position, an extension on the rocking frame for engaging said latch to release the actuator when the frame is actuated by the key movement, and means operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

14. In a cash-register, the combination with sales-indicating tablets, a series of keys, and a cash-receptacle, of a rotary actuator for effecting the movement of the tablets to indicating position, a rocking frame carrying a locking-bar for holding the tablets in indicating position, the frame being actuated by the actuator to move the locking-bar into engagement with the tablets and by the keys to release the tablets, a latch for locking the actuator in normal position, an extension on the rocking frame for engaging said latch to release the actuator when the frame is actuated by the key movement, and a rotary cover operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

15. In a cash-register, the combination with sales-indicating tablets, a series of keys, and a cash-receptacle, of an actuator for effecting the movement of the tablets to indicating position, a rocking frame carrying a locking-bar for holding the tablets in indicating position, the frame being actuated by the actuator to move the locking-bar into engagement with the tablets and by the keys to release the tablets, a latch for locking the actuator in normal position, an extension on the rocking frame for engaging said latch to release the actuator when the frame is actuated by the key movement, means operated by said actuator for affording access to the cash-receptacle, and a device for operatively disengaging said cover and actuator, substantially as set forth.

16. In a cash-register, the combination with a series of vertically-movable tablet-rods and a cash-receptacle, of a lifting-bar adapted to engage said tablet-rods and elevate the tablets to indicating position, an actuator for operating said lifting-bar, and a rotary cover operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

17. In a cash-register, the combination with a series of vertically-movable tablet-rods and a cash-receptacle, of a lifting-bar adapted to engage said tablet-rods and elevate the tablets to indicating position, a rotary actuator

for operating said lifting-bar, and a rotary cover operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

5 18. In a cash-register, the combination with a series of vertically-movable tablet-rods and a cash-receptacle, of a reciprocating lifting-bar adapted to engage the tablet-rods and move the tablets to indicating position, piv-
10 oted levers for reciprocating the lifting-bar, an actuator for operating said levers, and means operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

15 19. In a cash-register, the combination with a series of vertically-movable tablet-rods and a cash-receptacle, of a reciprocating lifting-bar adapted to engage the tablet-rods and move the tablets to indicating position, piv-
20 oted levers for reciprocating the lifting-bar, a rotary actuator for operating said levers, and means operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

25 20. In a cash-register, the combination with a series of vertically-movable tablet-rods and a cash-receptacle, of a reciprocating lifting-bar adapted to engage the tablet-rods and move the tablets to indicating position, piv-
30 oted levers for reciprocating the lifting-bar, a rotary actuator for operating said levers, and a rotary cover operated by said actuator for affording access to the cash-receptacle, substantially as set forth.

35 21. In a cash-register, the combination with a series of vertically-movable tablet-rods and

a cash-receptacle, of a reciprocating lifting-bar adapted to engage the tablet-rods and move the tablets to indicating position, piv-
40 oted levers for reciprocating the lifting-bar, a rotary actuator for operating said levers, a rotary cover operated by said actuator for affording access to the cash-receptacle, and a device for operatively disengaging said cover and actuator, substantially as set forth. 45

22. In a cash-register, the combination with sales-indicating tablets and a cash-receptacle, of an actuator for effecting the movement of the tablets to indicating position, means op-
50 erated by said actuator for affording access to the cash-receptacle, a device for operatively disengaging said means from said actuator, and means for permitting such disengagement and a reengagement at a certain point only, substantially as set forth. 55

23. In a cash-register, the combination with sales-indicating tablets and a cash-receptacle, of a rotary actuator for effecting the move-
60 ment of the tablets to indicating position, a rotary cover for the cash-receptacle geared to said actuator, a device for placing said gearing into and out of mesh, and means for permitting the operation of said device only when the cover and actuator are in a certain rela-
65 tive position, substantially as set forth.

This specification signed and witnessed this 9th day of August, 1897.

FRANCIS C. OSBORN.

Witnesses:

D. O'LEARY,
A. C. REEKIE.

It is hereby certified that in Letters Patent No. 615,409, granted December 6, 1898, upon the application of Francis C. Osborn, of Detroit, Michigan, for an improvement in "Cash-Registers," an error appears in the printed specification requiring corrections, as follows: In line 116, page 2, the word "indicator" should read *actuator*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 10th day of January, A. D., 1899.

[SEAL.]

WEBSTER DAVIS,
Assistant Secretary of the Interior.

Countersigned:

C. H. DUELL,
Commissioner of Patents.