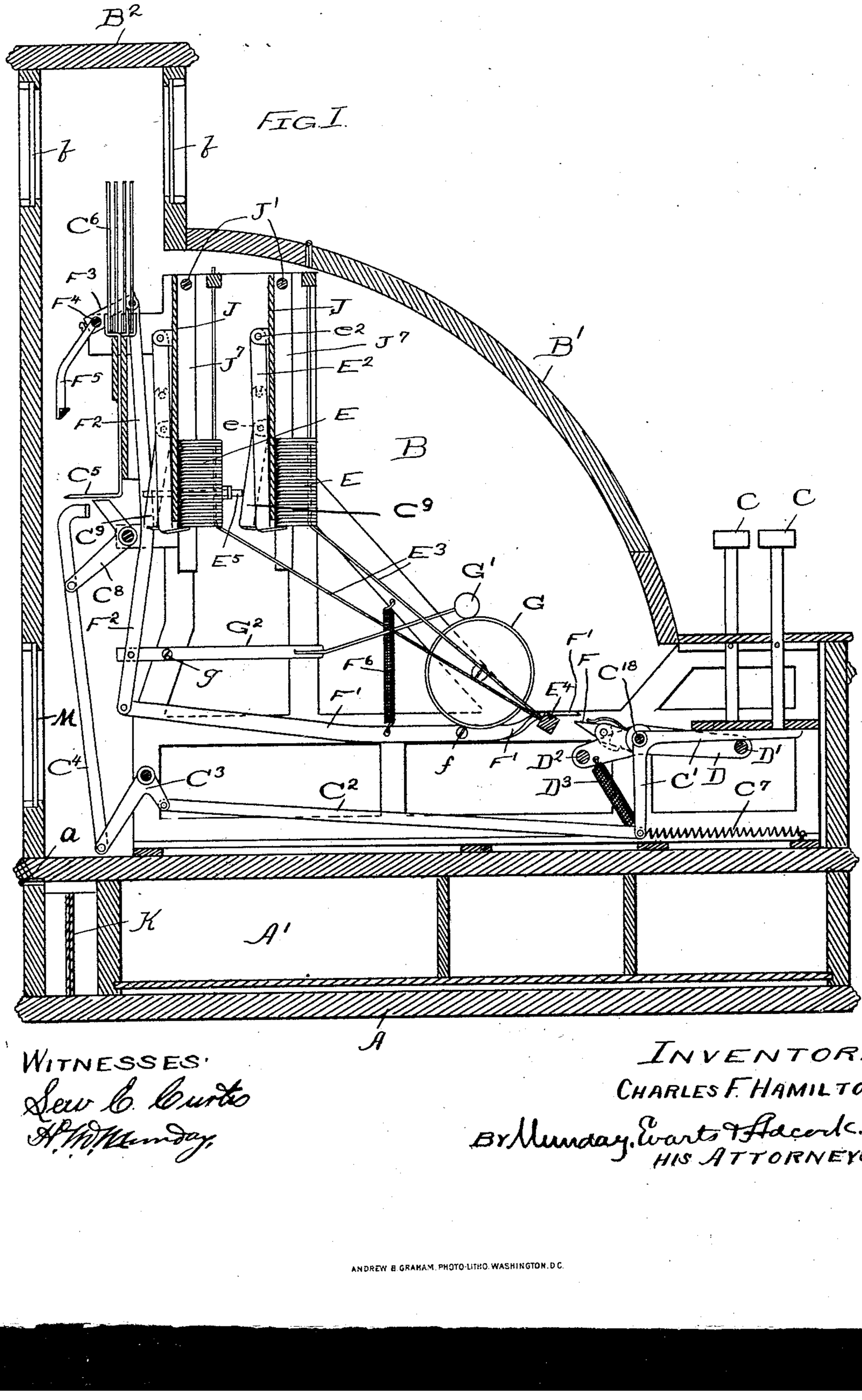
(No Model.) 3 Sheets—Sheet 1.

C. F. HAMILTON.

CASH REGISTER.

No. 557,124. Patented Mar. 31, 1896.

FIG. I.



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(No Model.) 3 Sheets—Sheet 2.

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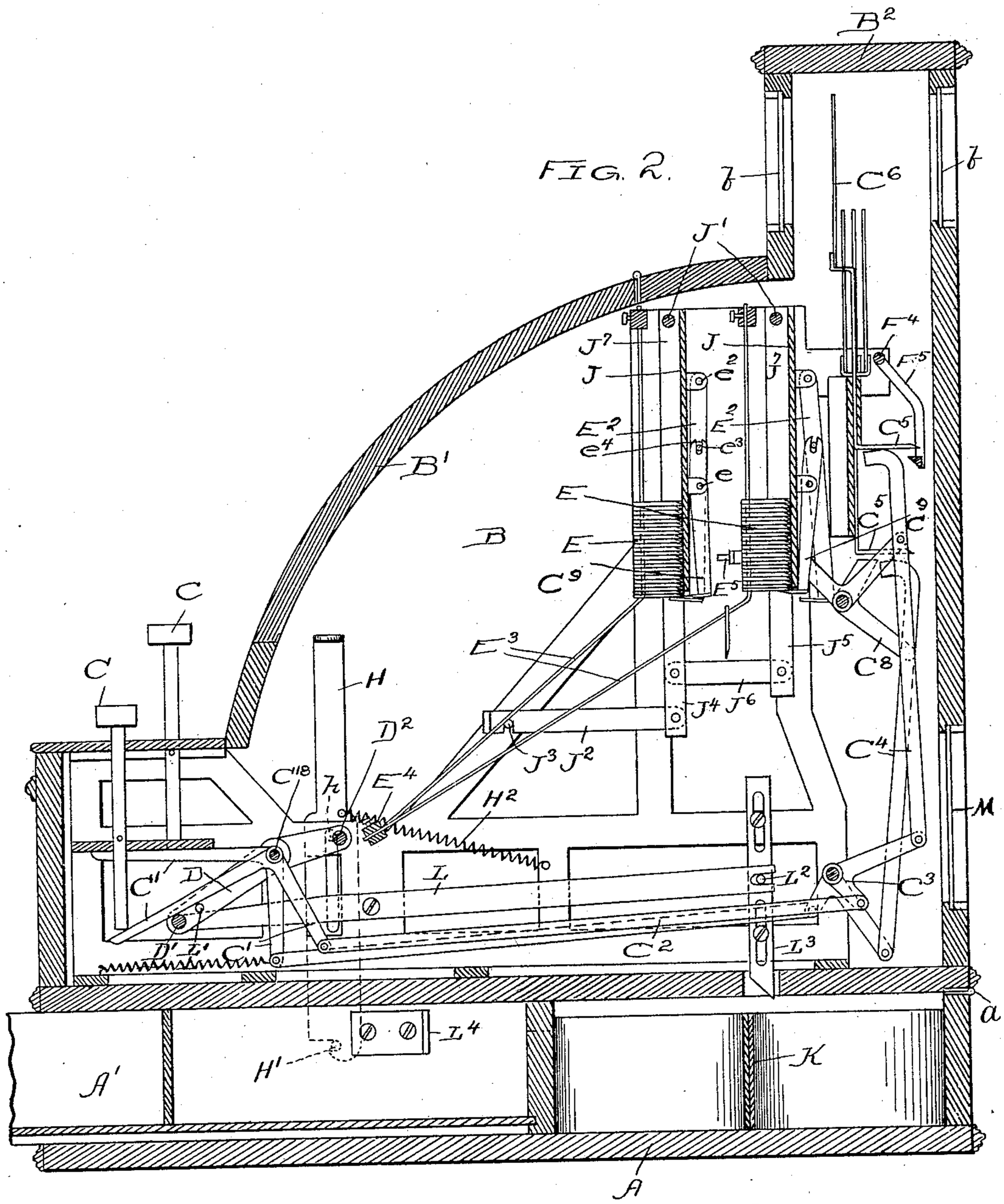
CASH REGISTER.

No. 557,124. Patented Mar. 31, 1896.

FIG. 2.



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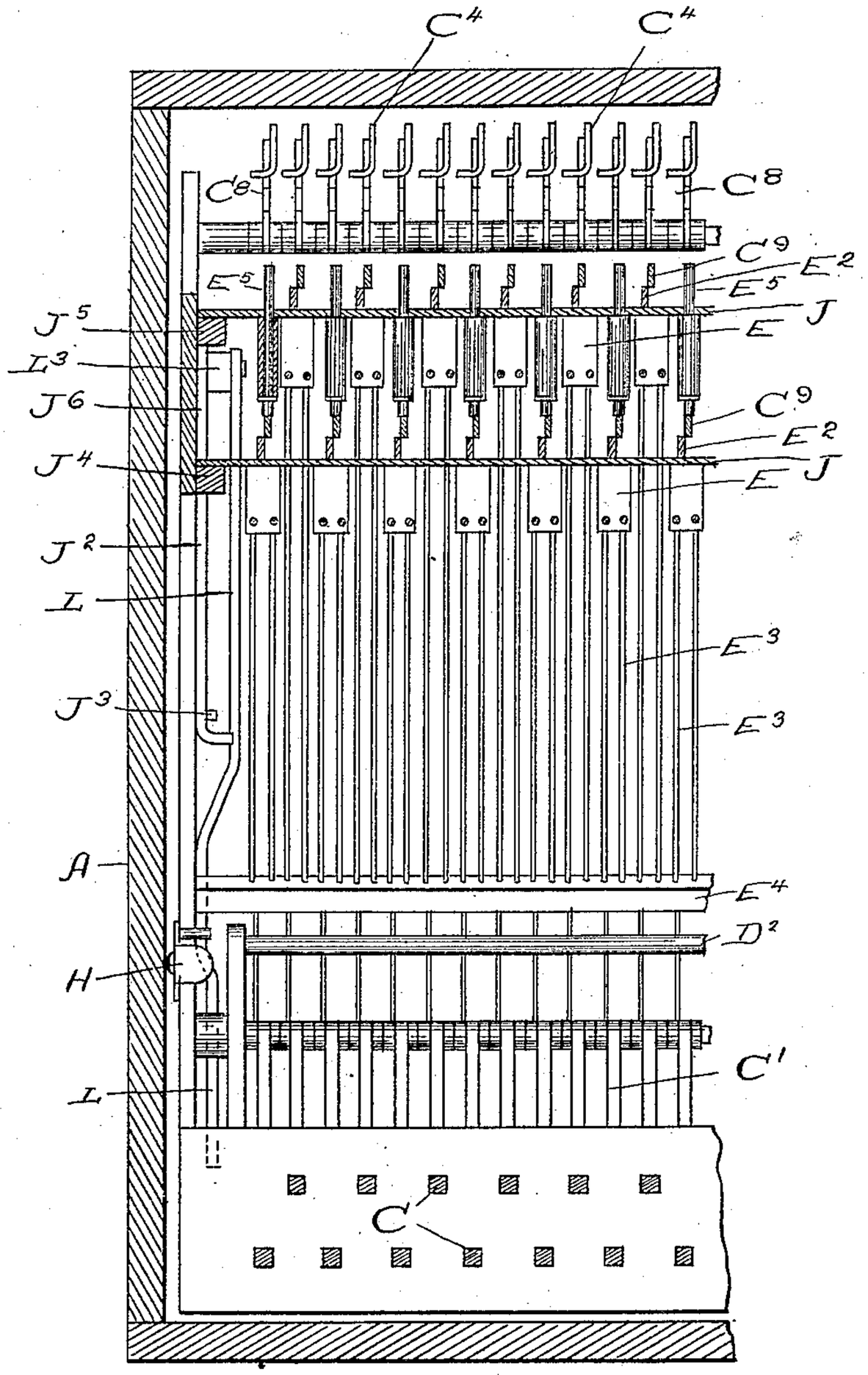
(No Model.) 3 Sheets—Sheet 3.

C. F. HAMILTON.

CASH REGISTER.

No. 557,124. Patented Mar. 31, 1896.

FIG. 3.



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UNITED STATES PATENT OFFICE.

CHARLES F. HAMILTON, OF CHAMPAIGN, ILLINOIS.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 557,124, dated March 31, 1896.

Application filed January 16, 1895. Serial No. 535,062. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. HAMILTON, a citizen of the United States, residing in Champaign, in the county of Champaign and State of Illinois, have invented a new and useful Improvement in Cash-Registers, of which the following is a specification.

In the Letters Patent granted to me October 24, 1893, No. 507,120, there is shown a cash-register embodying several series of checks, one series for each denomination, and each series threaded upon guide-wires and adapted to be thrown down, one at a time, into position where they may be viewed by the purchaser, this operation being performed by appropriate mechanism operated by the keys. The checks being marked with the figures of the denomination which they represent, and being thus brought within the line of vision of the purchaser, served as indicators, and as they were also marked or painted with the amount in dollars and cents of the sum of all the checks of the denomination to which they belong which had been rung down they also acted to add the used checks. Thus the first check of any series noted its own amount, the second the sum of the first and second checks, the third the sum of the first, second, and third checks, and so on, and in this manner the checks were made to form records of the sales made, the last check rung down in each series giving the sum of all sales in that series and rendering the register self-adding.

Unless the checks in my patented register were made quite large, so that when they were brought into view they would be prominent, the purpose for which this function as indicators was given them was imperfectly served, and they could not well be made large enough to render them prominent and easily read without increasing the size of the register unduly, and to obviate this difficulty has been my principal object in the present invention, wherein I have combined, with the checks, the wires upon which they are strung and the supporting and releasing mechanism of my said patented machine, a series of rising and falling indicators, similar to those in common use, and operating mechanism therefor.

The invention further consists in the novel devices and novel combinations of parts and devices herein shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figures 1 and 2 show vertical sections, looking in opposite directions, of my present invention. Fig. 3 is a partial horizontal section.

My newly-devised register is appropriately inclosed in a case very much like prevailing styles of cash-registers now in use. This case embodies a case A containing the drawer A′ in its lower portion and an upper portion B in which the checks and the operating mechanism are located. The upper part B is hinged to the part A at *a*, so that the former may be tipped back when the checks which have been rung down during the day are to be moved back into position ready for the next day's business, as hereinafter more fully set forth. A door B′ is placed in the front of the part B, as shown, to give access to the mechanism, and the cupola portion B^2 of the case is provided with windows *b* at front and rear.

C C are the keys, of which there is one for each denomination, and as all have similar mechanism connecting them to the checks and indicators the description of one mechanism will suffice for all. The keys when depressed operate elbow-levers C′ and through the connecting-rod C^2 and bell-crank lever C^3 actuate a lifting-lever C^4, which acts upon the foot C^5 of the indicator C^6, the latter corresponding to the key which has been depressed, and raises such indicator into view between the windows *b*.

A spring C^7 attached to the lower limb of the elbow-lever C′ retracts all this mechanism except the indicator and lifts the key to its normal position. The lifting-lever C^4 is also joined to a rocking elbow-lever C^8 pivoted to a stationary point and the upper member of which when the lifting-lever is raised moves over toward the front of the machine, where it comes in contact with the pivoted separator C^9 and forces that device from the position given at Fig. 1 to that given at Fig. 2, thereby causing its foot to enter between the two lowermost checks of one of the series of checks E. The separator being pivoted at *e* and extending some distance above the pivot is enabled to throw out from its normal and acting position the supporter E^2, which is piv-

oted at e^2 and is connected to the separator by a pin e^3 entering the slot e^4 in the upper end of the separator. This supporter has a foot extending at right angles under the pile of checks, as shown. When the separator is thus forced into the pile of checks, the supporter is withdrawn, so that the bottom check falls from the pile and slides down the guide-wire E^3, upon which the series of checks are strung. This guide-wire has a bend in it corresponding to the offset of the wires in my said patent, and such bend serves the same purpose as said offset in that it acts with the supporter and with the separator to sustain the pile of checks. The separator and supporter are substantially similar in construction to the corresponding devices shown in my said patent. The checks when released slide down the wires and are collected at the cross-bar E^4 to which the wires are all joined.

In order to economize room, the several series of checks are arranged in two rows, as shown, each series being provided with its own separator and supporter; and in the case of each of the series in the front row I provide a sliding driver E^5, which extends from a position where it will be actuated by the lever C^8 forward into contact with the separator C^9 of the check series to which it belongs in the front row, so that the separator is operated upon the striking of the corresponding key.

Embodied in the register is a swinging frame composed of the end pieces D D and connecting-rods D′ D^2. This frame extends entirely across the machine, and the rod D′ lies close under the horizontal member of the series of bell-crank levers C′. The end pieces of the frame are pivoted upon the same shaft or axis C^{18} which supports the levers C′. A spring D^3 is attached to the inner end of one of the frame end pieces D and tends to keep the frame in its normal position, and also assists in returning the key to its position of rest. Attached to this frame is a projecting arm F, which when any key is struck is lifted by the consequent operation of the swinging frame and strikes the end of a lever F′ pivoted at f and pivotally joined at its rear end to a vertical rod F^2, the upper end of which is attached to an arm F^3 rigid upon a rocking shaft F^4 carrying the supporting-frame F^5, the horizontal member whereof extends across the machine and is adapted to engage the feet C^5 of the indicators and retain said indicators in their raised position. The spring F^6 returns the lever F′ to its normal position immediately after each operation. The horizontal member of the swinging frame F^5 is beveled upon the under side, as shown, so that the frame may be forced outward by the feet C^5 as they rise, and the indicators are released from the frame by the momentary outward swing of the frame caused by the rocking of shaft F^4 at the instant of the striking of another key and the lifting of another indicator. The actuation of the connecting-rod F^2 also acts to ring the bell G, the hammer G′ whereof is secured in the end of a lever G^2 pivoted at g and secured to said rod. Through the mechanism just described the indicator-supporting frame and the bell are operated with each actuation imparted to the keys.

As already mentioned, the upper portion of the case is hinged so it may be tipped backward. This is in order that the checks which have been released from the piles above the bends of the guide-wires may be returned into position above the bends by gravity. The upper portion of the case is normally locked to the base by the locking-lever H pivoted at h and the pin H′ in the base engaged by the hooked lower end of the lever. The spring H^2 retains this lever in engagement with the pin. To release the lock thus effected, the door B′ is opened and the lever H may then be moved on its pivot by hand and released from its coacting pin. The top may now be turned back through a quarter-turn, or thereabout, and the checks E will thereby be caused to slide back to their position above the bends of their supporting-wires. The supporters E^2 should, however, be first moved out of position in order that they may not interfere with this return of the checks, and hence both the front and the back rows of said supporters, and also their companion separators, are mounted upon movable plates J extending across the machine back of the two rows of checks and movably supported upon rods J′, the ends of the plates being flanged or provided with end pieces J^7 to receive the rods. A slight swinging movement is thus permitted to the plates J sufficient to carry the feet of the supporters away from under the checks, and this movement is imparted to the plates by a lever J^2 adapted to be locked upon the pin J^3 and pivotally joined to the downward extension J^4 attached to the forward plate J, the rear plate J being provided with a downward extension J^5 connected to the extension J^4 by a link J^6. This mechanism will, as is obvious, give a simultaneous movement to the supporters of both rows of checks. As soon as the checks have been slid back on the wires all the supporters are at once returned to their acting positions through the medium of lever J^2.

The depressing of the keys likewise releases the drawer, so that it may be thrown open by a suitable spring, such as that shown at K. This operation is accomplished by the contact with the pivoted lever L of the pin L′ upon one of the end pieces D, said lever L being slotted at its rear end so as to receive the pin L^2 upon the sliding bolt L^3. This bolt coacts with the key L^4 in the drawer to effect the locking and is thrown up by the action of the lever L to release the lock.

The checks, like those in my said patent, serve to add up the day's transactions by being provided with figures showing the sum of all which have been rung down—that is to say, upon each check is noted the sum of all

previous checks in the same series therewith, plus its own amount. These figures I now place upon the back faces of the checks—that is to say, the faces which stand toward the back of the machine after the checks have been rung down. The last checks of those released will thus show the total sales which have taken place in their respective denominations, and in order that they may be read and the amounts drawn off for record I provide the case with a window at M, through which all the last-used checks may be viewed at the close of the day's business and the results readily obtained therefrom.

The point of the lever F is made of a separate piece and hinged to the body portion thereof, so that it may yield to the lever F′ in returning to its normal position. A spring forces the point down, as shown.

I claim—

1. The cash-register, wherein are combined a series of gravitating record-making checks, the wires upon which they are strung, separate supports for each series of said checks in their upper or normal position on said wires, and the hinged part B of the register-case, said supports being movable so they may not interfere with the return of the checks to said position and said part B containing the checks, wires and support, substantially as specified.

2. The cash-register having its case made in two parts with the upper part hinged to the lower part, and also having several series of gravitating checks strung upon wires, movable supports for said checks while in their normal positions, and keys and connecting mechanism for releasing the checks from said supports, all located and supported in said upper or hinged part of the case, substantially as specified.

3. The cash-register, wherein are combined several series of gravitating record-making checks, wires upon which they are strung, a support for each series of checks in their upper or normal position, and a swinging device upon which all said supports are mounted, said swinging device being adapted to carry all the supports away from the checks and thus avoid interfering with the return of the discharged checks to said position, substantially as specified.

4. The cash-register, wherein are combined several series of gravitating record-making checks, wires upon which they are strung, a support for each series of checks in their upper or normal position, and means for moving all said supports simultaneously away from under the several series when the discharged checks are to be returned to said position, substantially as specified.

5. The cash-register, wherein are combined several series of gravitating record-making checks, wires upon which they are strung, a support for each series of checks in their upper or normal position, means for moving all said supports simultaneously away from under the several series when the discharged checks are to be returned to said position, and the hinged part B of the register-case, substantially as specified.

6. The combination with the keys, the checks and their controlling mechanism, and the indicators, of the lifting-lever C^4 acting to actuate the lever C^8 of said controlling mechanism and to lift the indicators, and means for carrying motion from the keys to said lever C^4, substantially as specified.

7. The combination with the indicators, the checks, the check-supports and the keys, of the levers C^4 operated by the keys and serving both to raise the indicators and to release the checks, substantially as specified.

8. The combination with the checks and the check-supports, of the keys, the levers C^4 operated by the keys, and the elbow-levers C^8, adapted to operate said supports, substantially as specified.

9. The combination with the checks, the check-supporters E^2 and the separators C^9, of the levers C^4, the rocking levers C^8, and the keys, substantially as specified.

CHARLES F. HAMILTON.

Witnesses:
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HARRY MCNEVIN.