

(No Model.)

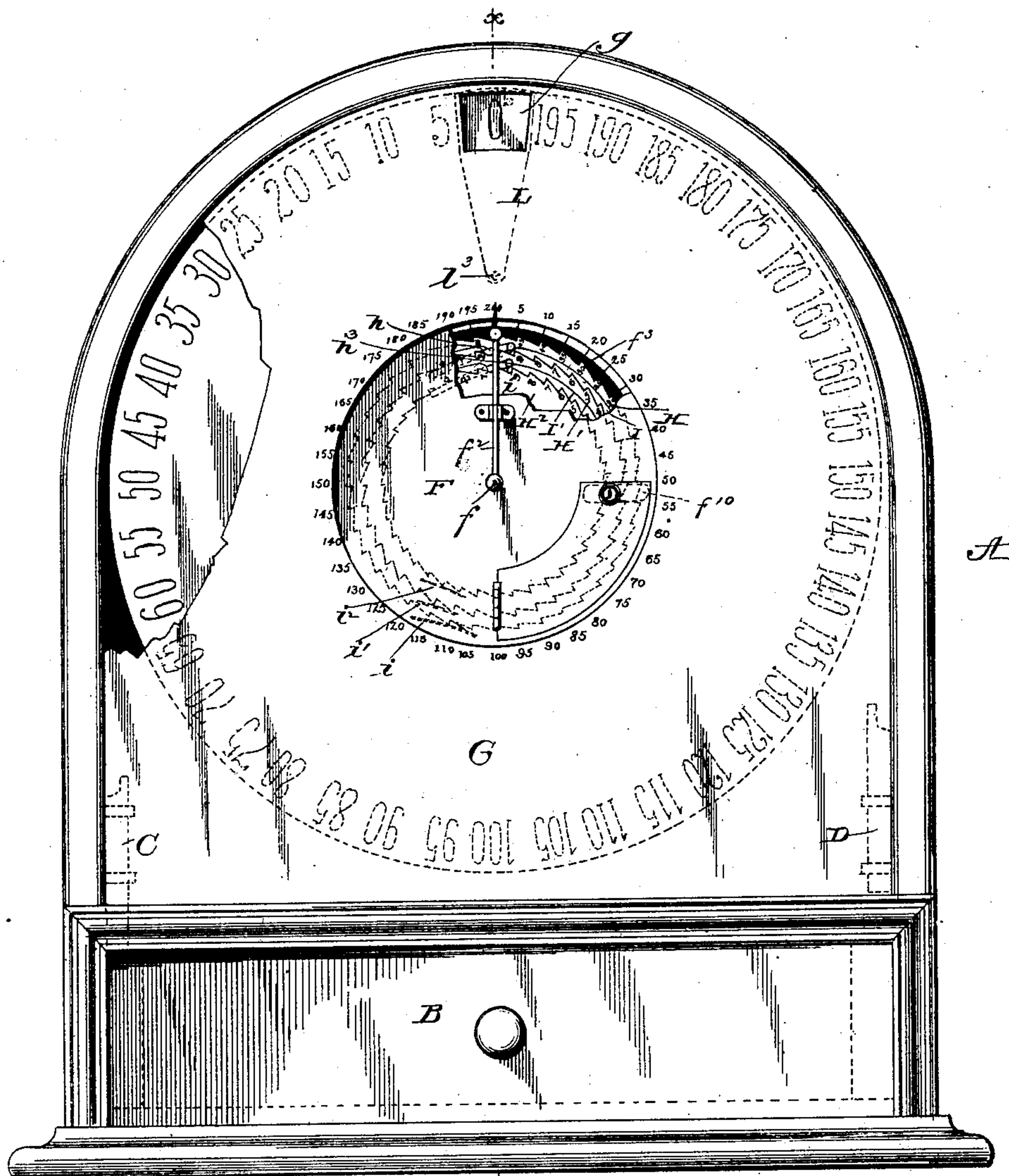
3 Sheets—Sheet 1.

A. B. HAYDEN.
CASH REGISTER AND INDICATOR.

No. 435,303.

Patented Aug. 26, 1890.

Fig. 1.



Attest:

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(No Model.)

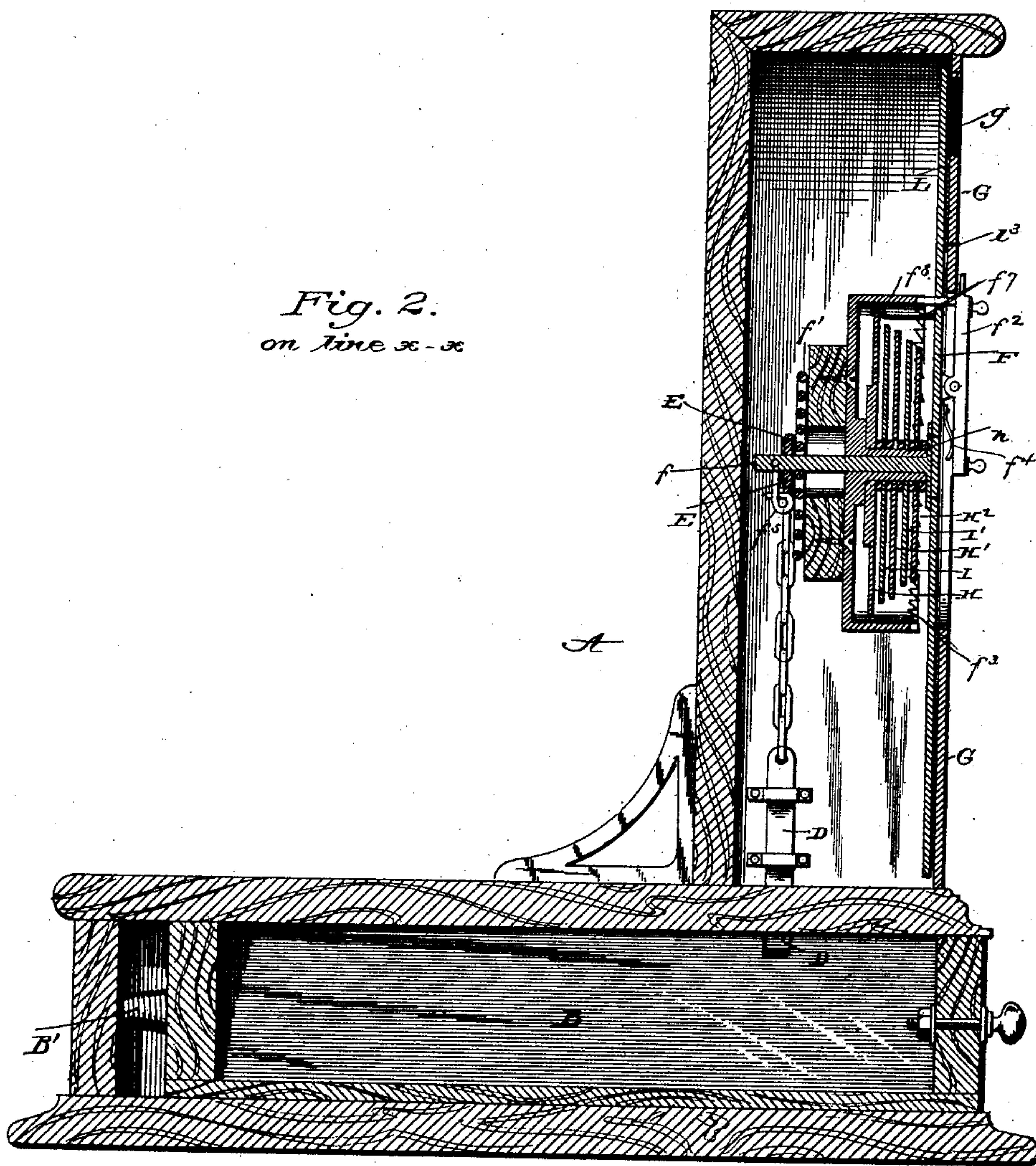
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Fig. 2.
on line x-x



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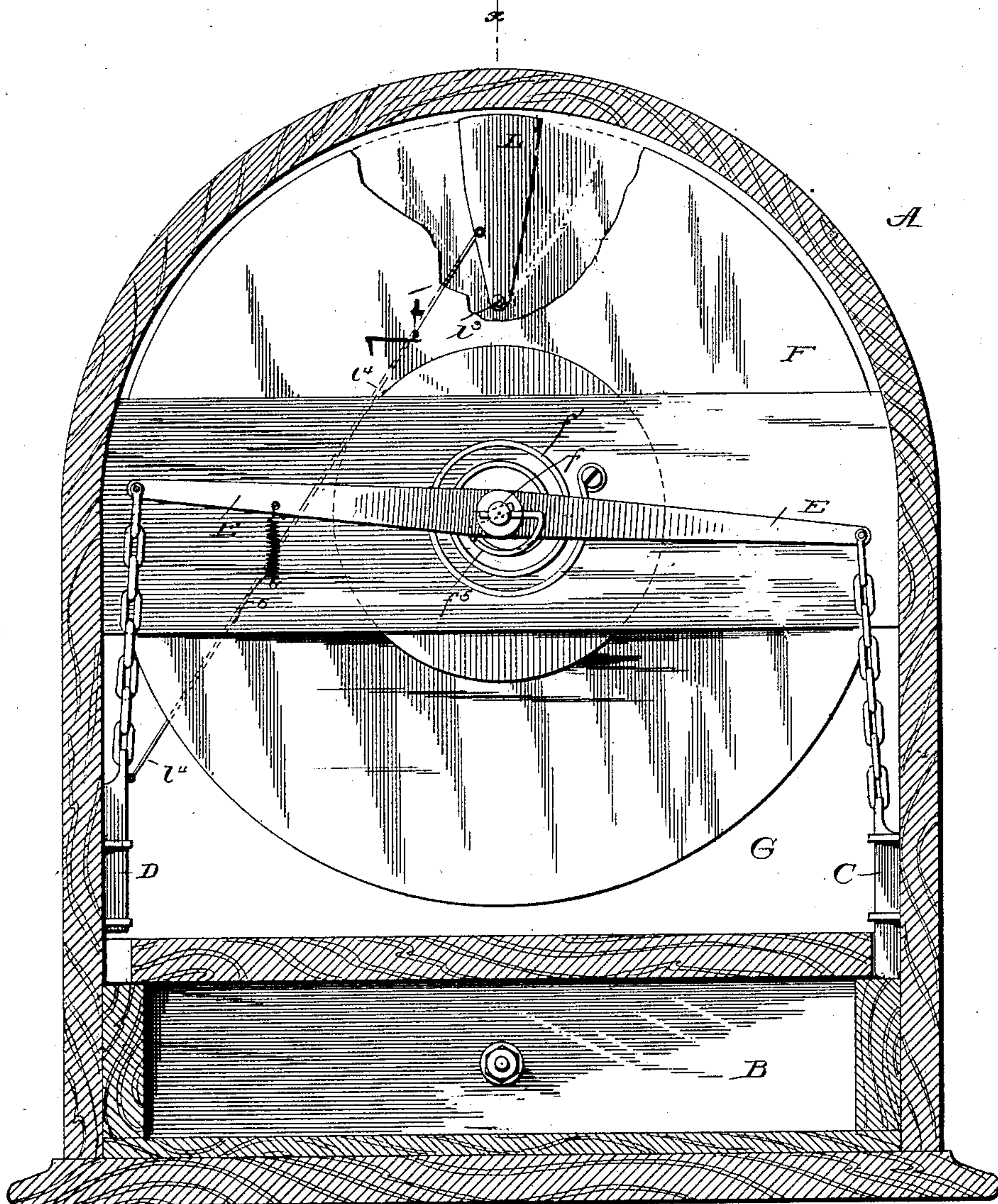
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CASH REGISTER AND INDICATOR.

No. 435,303.

Patented Aug. 26, 1890.

Fig. 3.



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UNITED STATES PATENT OFFICE.

AUSTIN B. HAYDEN, OF AUBURN, NEW YORK, ASSIGNOR TO THE HAYDEN
ARTICULATING CASH REGISTER COMPANY, OF SAME PLACE.

CASH REGISTER AND INDICATOR.

SPECIFICATION forming part of Letters Patent No. 435,303, dated August 26, 1890.

Application filed August 2, 1889. Serial No. 319,515. (No model.)

To all whom it may concern:

Be it known that I, AUSTIN B. HAYDEN, of Auburn, in the county of Cayuga and State of New York, have invented certain Improvements in Cash-Registers, of which the following is a specification.

The aim of this invention is to provide a simple register and indicator for store use which will show the amounts of individual purchases or registrations, and also the total or aggregate amount, and to combine with a register a cash drawer or tray and intermediate locking devices controlling the drawer in such manner that it is impossible to open and close the latter unless the register is operated.

In the accompanying drawings, Figure 1 is a front elevation of a register and money-drawer on my plan, portions being broken away to show the internal construction. Fig. 2 is a vertical section through the same from front to rear on the line xx . Fig. 3 is a rear face view showing the details.

Referring to the drawings, A represents a stationary case, which may be of any form, adapted to contain the registering mechanism, and B is a cash drawer or tray mounted in its base and connected to a closing-spring B'.

C and D are two gravitating bolts mounted in guides in the case and engaging opposite sides of the drawer, the former to hold the drawer open and the latter to hold it shut. The bolts are suspended by chains or otherwise from opposite ends of a cross-lever E, mounted in the case and operating to raise and lower the bolts alternately. When bolt D rises, the drawer is free to slide open. When open, it is automatically caught and held by bolt C. In like manner the rising of bolt C releases the open drawer, so that it may be closed by the spring, whereupon it is automatically locked shut by bolt D. The manner in which the operating-lever is connected with the registering devices will presently appear.

The registering mechanism consists, primarily, of a dial or disk F, mounted on the end of the horizontal spindle f , and provided near its outer edge with graduations numbered to indicate the amounts to be registered.

There may be any suitable number of graduations, and they may be numbered as fancy may dictate. In the drawings I have represented numbers indicating, consecutively, amounts from five cents to one dollar and ninety-five cents. The graduated edge of the dial is covered and the numbers concealed by a stationary shield-plate G, which has, however, an opening g , to expose a single number or amount at a time, the one last registered.

A spring f' , connected to the rear end of the dial-spindle and to the frame, tends to turn the dial backward to its normal position whenever it is released.

In order to turn the dial forward so as to expose the amount to be registered through the opening g , and to lock the dial when advanced, that the number may remain exposed until the next registration, I pivot on the face of the dial a hand-lever f^2 , serving both as a crank by which to turn the dial and as a latch to engage the fixed ratchet-ring f^3 , and thereby hold the dial. A spring f^4 under one end of the latch causes it to automatically engage the ratchet-teeth, which latter may be formed on a part of the metal frame, as shown, or in any other suitable manner.

In order to actuate the bolts of the drawer before mentioned, their operating-lever E is mounted loosely on the rear end of the dial-spindle f , and the latter provided with a spring-arm f^5 , acting beneath the lever to raise the end from which the bolt D is suspended. A spring f^6 is connected to the lever E to insure its return to the normal position when the action of the lifting-arm f^5 ceases. When the dial indicates 0, the drawer is unlocked. When an amount is to be registered, the dial is turned forward by the latch or arm f^2 until the required amount is brought opposite the opening g , the dial being automatically locked in place by the latch. The forward rotation of the dial causes its spindle to move the free end of the arm f^5 away from the lever E and permit the spring f^6 to actuate lever E and lift the bolt C, unlocking the open drawer, so that it may close automatically, while at the same time the bolt D is lowered to hold the drawer shut until

the dial is returned to its first position. When the latch is disengaged, the spring f' restores the dial to its normal position, and at the same time the free end of the arm f^5 is moved upward, thereby lifting the end of the lever carrying the bolt D, so that the bolt D is disengaged to permit the opening of the drawer, and the bolt C lowered into position to automatically lock it open, provided it is open before the dial is again turned forward.

The foregoing parts constitute a complete and operative mechanism for indicating amounts within two dollars and for unlocking and locking the drawer.

In order to add together the small amounts thus indicated and register the sum total, I provide a series of register-wheels H H' H², mounted to revolve independently on a central sleeve or hub h , through which the dial-spindle passes. These wheels are each provided at the periphery with a series of ratchet-teeth and on the front face with numbers or graduations to correspond. The dial is provided with a backwardly-reaching arm f^7 , carrying at its end a bolt or dog f^8 , which engages the teeth of the wheel H, so that whenever the dial is turned forward the wheel is advanced a corresponding distance. The wheel H is provided with a dog h^2 to engage the teeth of and impart motion to the wheel H', and in like manner the wheel H' is provided with a dog h^3 to engage and move the inner or center wheel H². These dogs, which are of spring-metal, bear upon the peripheries of stationary plates I and I', located between the wheels, which plates are provided at suitable points with depressions i , which permit the dogs to drop momentarily into engagement with and to move the corresponding wheels one tooth at a time. In this particular the parts are similar to those of ordinary counting or registering mechanisms familiar to every skilled mechanic, and need not therefore be further described.

It will be observed that as the dial is moved forward and back it imparts an intermitting rotation to the outer wheel, from which motion is communicated in succession to the other wheels.

The dial-plate is provided in its face with a slot or opening f^{10} , through which a single figure or number on each of the register-wheels may be seen. When the dial is in its normal position—that is, at zero—the numbers exposed through its slot will represent the total amount which has been registered on the apparatus.

In order to keep the operator in ignorance of the amount thus registered, the better to prevent the commission of frauds, I propose to cover the slots by a hinged plate or door locked or otherwise secured in a closed position.

In order to prevent the registering-wheels from being turned backward clandestinely, I provide stationary pawls or dogs $l' l^2$ to engage their teeth.

It is considered desirable to conceal the amount registered by the advance of the dial until the cash-drawer has been closed and locked. I therefore provide a shutter L, pivoted at l^3 , to swing over the opening g , and connect the same by the link l^4 , or equivalent device, with the locking-bolt C, or other suitable part of the apparatus, so that when the bolt is elevated, as shown in Fig. 3, and the drawer held in an open position by bolt C, the shutter will cover the opening. When the registering-handle is advanced to register the amount of the purchase, the spindle will move the end of the arm f^5 away from the lever E, and the spring f^6 will pull the lever, elevating the end which carries bolt C, thereby releasing the open drawer, which automatically closes. During the closing movement of the drawer, the chain carrying bolt D being slack, the latter rests upon the upper edge of the drawer until the notch arrives beneath the bolt, when the latter will drop therein, locking the drawer closed and at the same time moving the shutter from in front of the opening and exposing the registered number to view. It will thus be seen that the shutter remains in front of the opening until the drawer is actually locked, when it is moved and exposes to view the registered number.

Having thus described my invention, what I claim is—

1. In a cash register and indicator, the rotary dial-plate, its operating-handle, the axial spindle connected to said dial-plate, and the arm or lever carried by the spindle and movable with relation thereto, in combination with the receiving-drawer, a bolt connected to the arm to engage the drawer, and connections, substantially as shown, between the spindle and the lever for operating the bolt when the dial is moved on its axis.

2. A registering mechanism, the operating-handle of which has a to-and-fro motion, in combination with a receiving-drawer, a bolt to lock the drawer closed, and suitable connections between the bolt and the registering mechanism, arranged as described, to unlock the closed drawer when the handle is returned to its normal position and to lock the drawer closed when the handle is advanced from its normal position.

3. In a cash-indicating device, the combination of the fixed shield-plate provided with an opening for viewing the registered numbers, a plate bearing numbers arranged to be brought opposite the opening, a movable shutter to cover the opening, a notched drawer, a bolt to hold the drawer open, a bolt to hold the drawer closed, a lever carrying said bolts, a registering-handle, suitable connections between the lever and the registering-handle for operating the bolts, and connections between the shutter and the last-named bolt, said connections constructed and arranged to cause the shutter to uncover the opening in the shield-plate when the bolt enters the

notch in the drawer to hold it closed, substantially as described.

4. In combination with a registering mechanism, a drawer, locking devices to hold the drawer open and to hold it shut, and connections, essentially such as described and shown, from the locking to the registering mechanism.

5. The rotary dial-plate with the figures thereon, and the shield-plate provided with an opening through which the figures may be viewed, in combination with the latch on the dial-plate, the teeth in position to be engaged by the latch to hold the dial forward, and the spring to return the dial when released.

6. The rotary dial, the shield-plate with an opening therein, the latch and the co-operating teeth to hold the dial forward, the spring to restore the dial, the lever E and its operating-arm connected to the dial-spindle, the two bolts connected to said lever, and the drawer with which said bolts alternately engage, said elements combined substantially as shown.

7. The rotary dial having the figures thereon, the spring for restoring the same to its normal position, and the latch and teeth to hold the dial forward, in combination with the fixed shield-plate provided with an opening through which the said figures may be viewed, the series of tooth-registering wheels, the dial-

arm and pawl for operating the first wheel, and the intermediate dogs and cams for communicating motion to the successive wheels, said elements combined substantially as described and shown.

8. In combination with a cash-register and cash-drawer, a shutter to conceal the registered number, a locking device to hold the drawer shut, and connections between the shutter and locking device, substantially such as shown, for opening the shutter when the drawer is locked, and vice versa.

9. The rotary dial, the locking device for holding the same forward, and its returning-spring, in combination with the series of registering-wheels arranged one behind another and of gradually-increasing diameter toward the rear, the dial being provided with an opening for viewing the exposed edge of the wheels, suitable connections between the dial and one of the wheels for moving the latter, and connections between the wheels for transmitting motion from one to another.

In testimony whereof I hereunto set my hand, this 20th day of May, 1889, in the presence of two attesting witnesses.

AUSTIN B. HAYDEN.

Witnesses:

WM. H. MOFFITT,
H. VAN DOREN.