

(No Model.)

6 Sheets—Sheet 1.

J. P. CLEAL.

MANUAL SALES RECORDER AND CHECK PRINTER.

No. 515,517.

Patented Feb. 27, 1894.

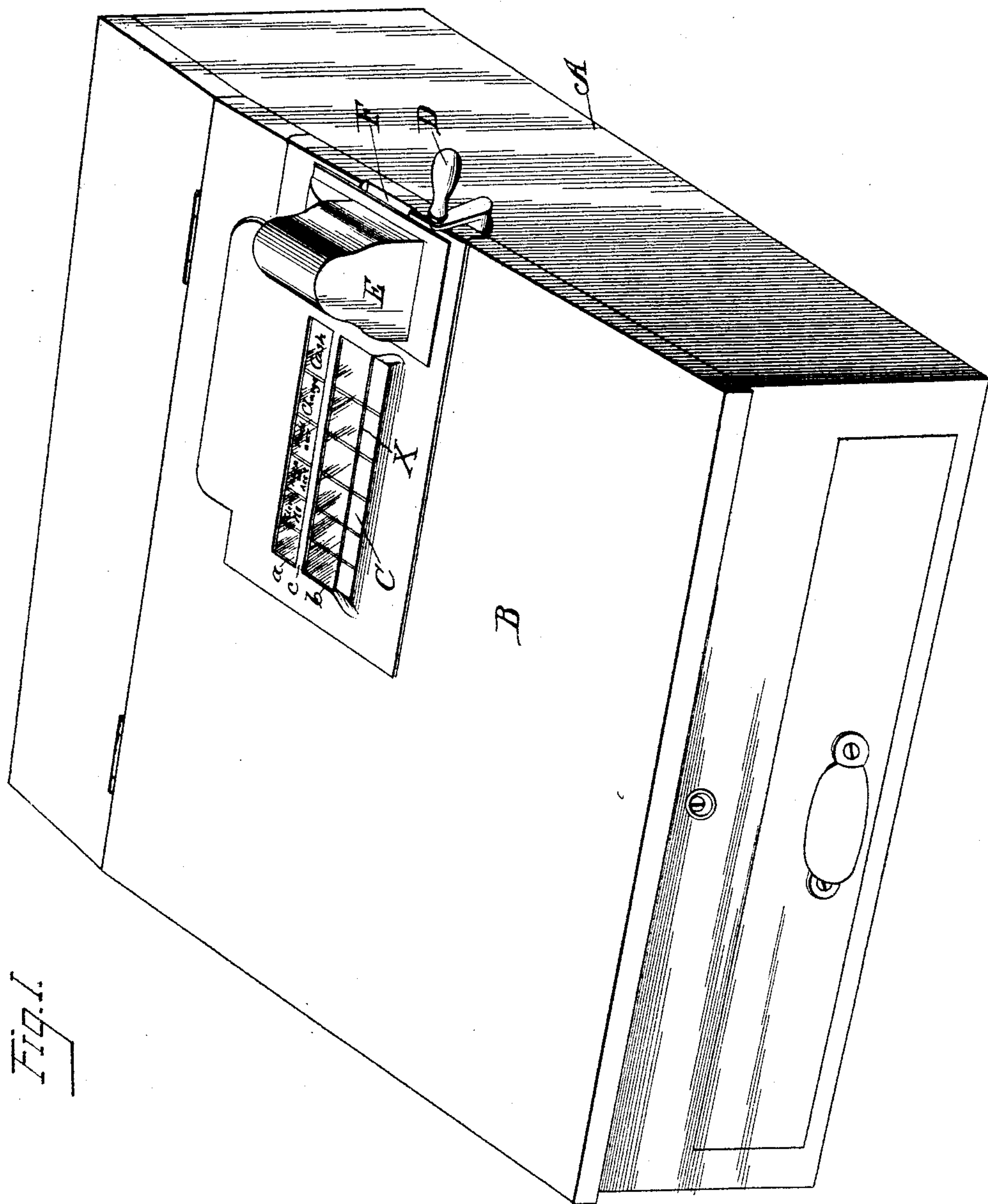


Fig. 1.

Witnesses
Martin A. Olsen.
S. W. Brainerd.

Inventor
Joseph P. Cleal
by Edward Recker
his atty.

(No Model.)

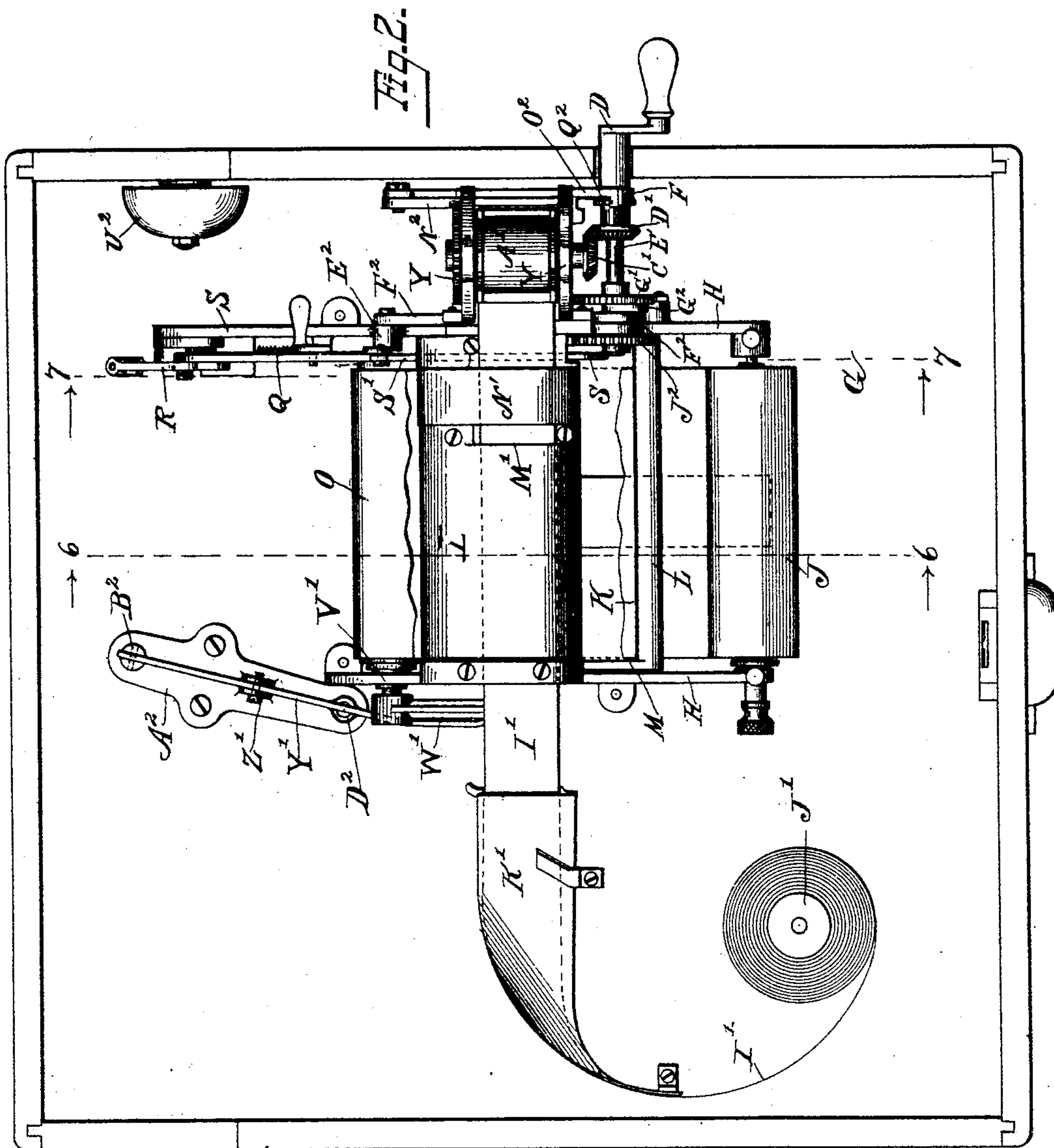
6 Sheets—Sheet 2.

J. P. CLEAL.

MANUAL SALES RECORDER AND CHECK PRINTER.

No. 515,517.

Patented Feb. 27, 1894.



Witnesses
Martin H. Olsen.
S. W. Brainerd.

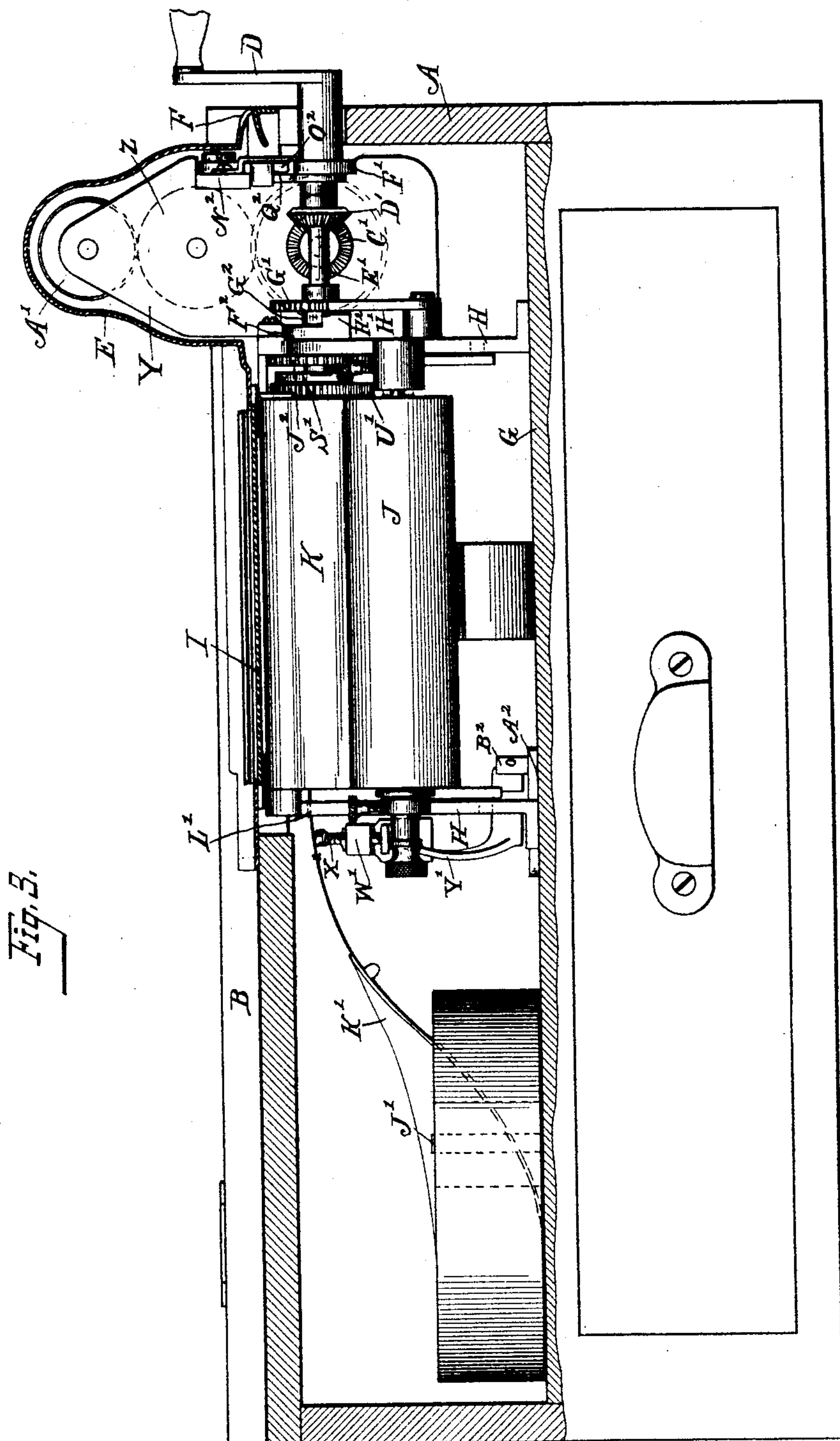
Inventor
Joseph P. Cleal
by Edward Rector
his atty

J. P. CLEAL.

MANUAL SALES RECORDER AND CHECK PRINTER.

No. 515,517.

Patented Feb. 27, 1894.



Witnesses
Martin H. Olsen.
S. H. Brainerd.

Inventor
Joseph P. Cleal
by Edward Rector
his atty

(No Model.)

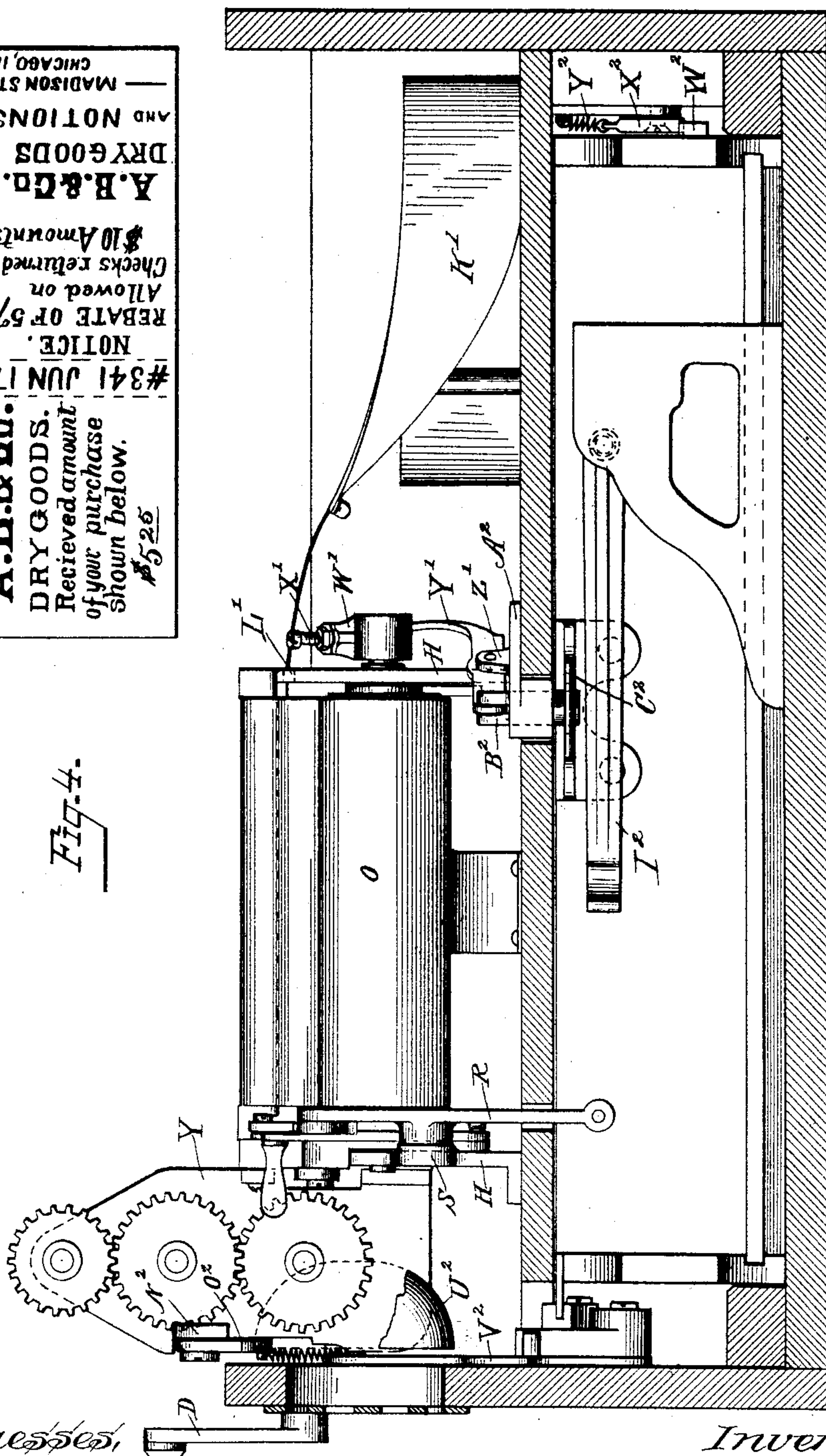
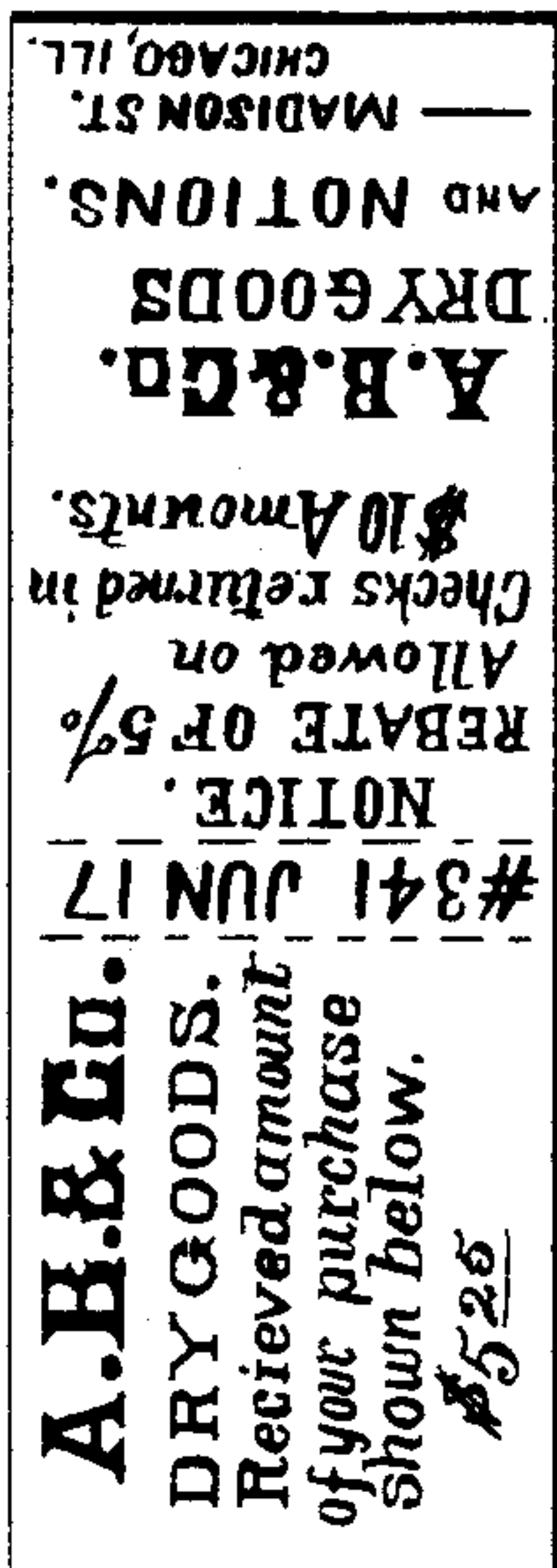
6 Sheets—Sheet 4.


J. P. CLEAL.

MANUAL SALES RECORDER AND CHECK PRINTER.

No. 515,517.

Patented Feb. 27, 1894.



Witnesses, 
Martin H. Olsen.
S. W. Brainard.

Inventor,
Joseph P. Chas
by Edward Rector
his atty

(No Model.)

6 Sheets—Sheet 5.

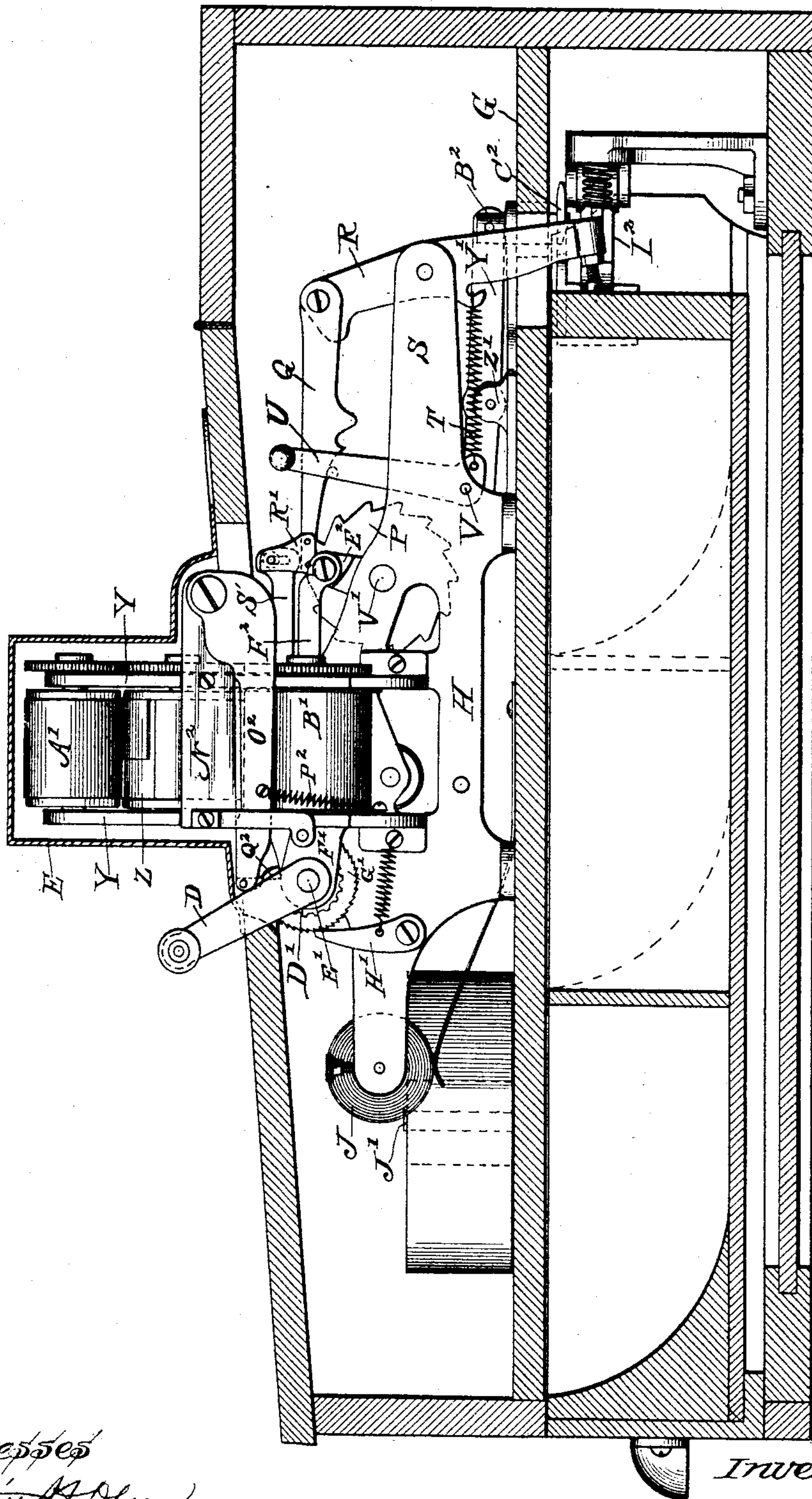
J. P. CLEAL.

MANUAL SALES RECORDER AND CHECK PRINTER.

No. 515,517.

Patented Feb. 27, 1894.

Fig. 5.



Witnesses
Martin H. Olsen.
W. H. Brainerd.

Inventor,
Joseph P. Cleal
by Edward Reiter
his atty.

(No Model.)

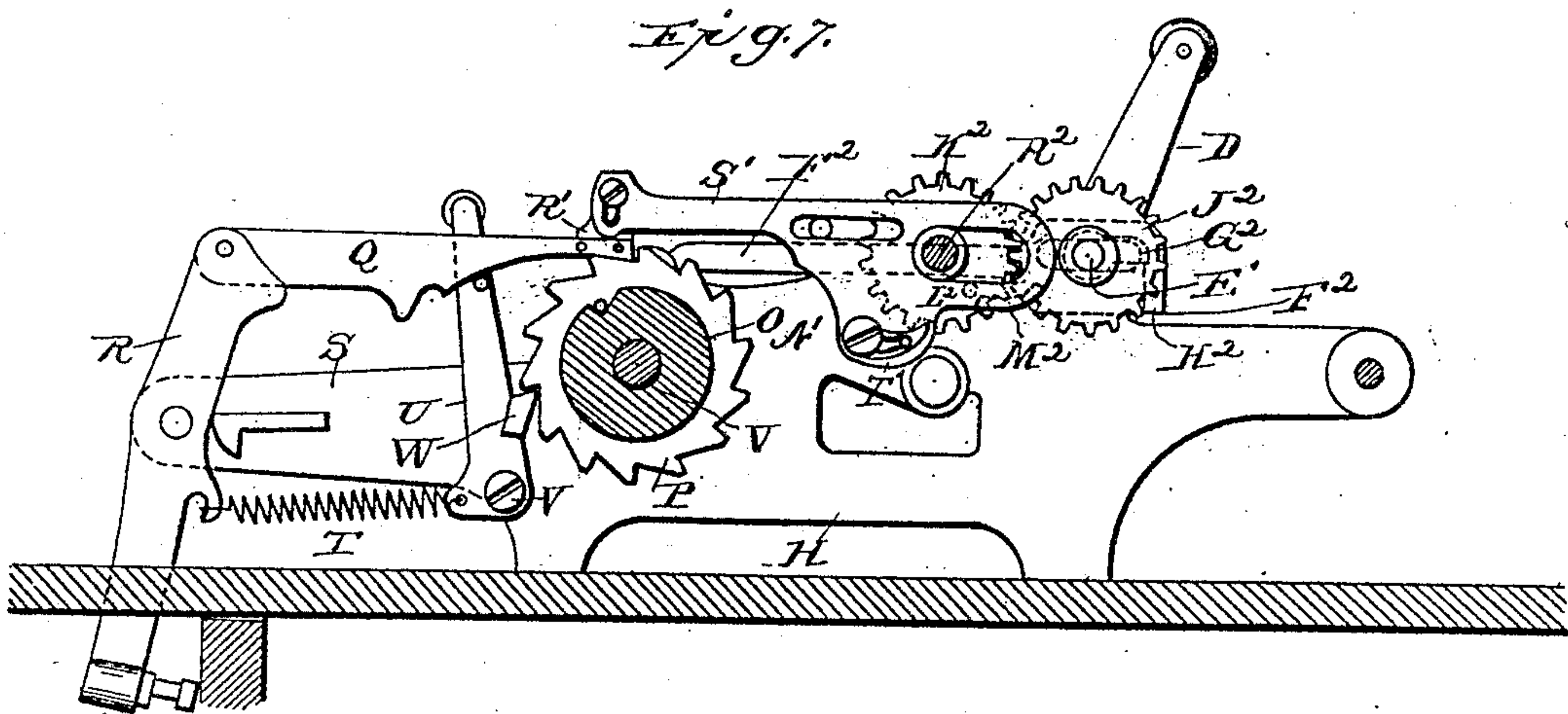
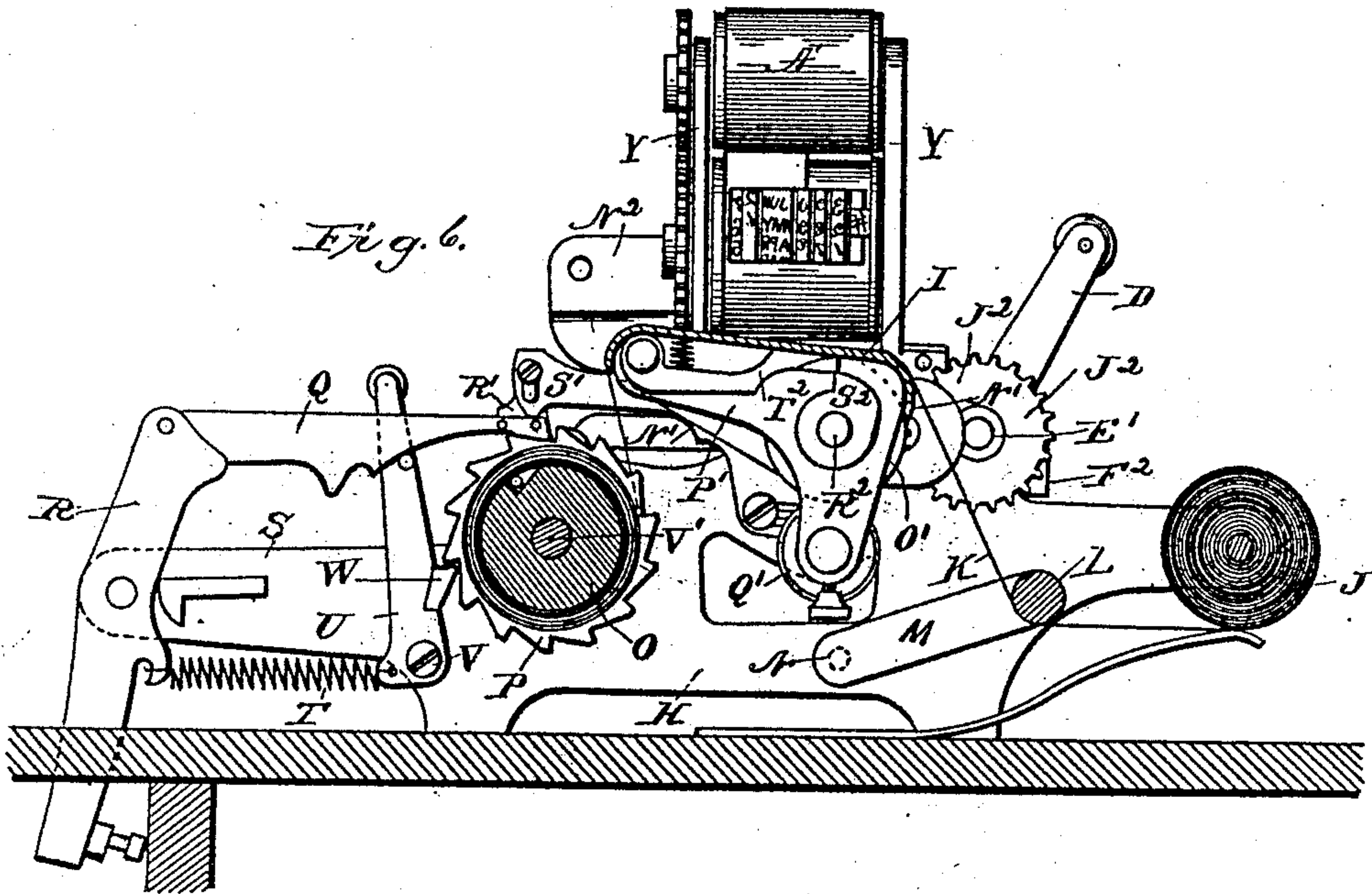
6 Sheets—Sheet 6.

J. P. CLEAL.

MANUAL SALES RECORDER AND CHECK PRINTER.

No. 515,517.

Patented Feb. 27, 1894.



witnesses
J. M. Fowler Jr.
A. M. Brainerd.

Inventor
Joseph P. Cleal
By Edward Rector
his Attorney

UNITED STATES PATENT OFFICE.

JOSEPH P. CLEAL, OF DAYTON, OHIO, ASSIGNOR TO THE NATIONAL CASH REGISTER COMPANY, OF SAME PLACE.

MANUAL SALES-RECORDER AND CHECK-PRINTER.

SPECIFICATION forming part of Letters Patent No. 515,517, dated February 27, 1894.

Application filed June 28, 1893. Serial No. 479,089. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH P. CLEAL, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented a certain new and useful Improvement in Manual Recorders and Check-Printers, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of machines in which a record of sales is preserved by entries made by the clerk with a pencil upon a paper strip carried in suitable form within the machine and led over an exposed writing tablet, where the entries are made upon it. Such machines are usually provided with a money drawer having a lock and means for releasing it and opening the drawer, and the drawer is or may be so connected with one of the rollers upon which the paper record-strip is wound as to turn said roller and advance the strip a short distance each time the drawer is opened and closed.

My present invention consists in combining, with a machine of this character, a check-strip led across the record-strip and upon which the entries upon the record-strip are duplicated, and a feeding and printing mechanism, and also preferably a cutting mechanism, for the check-strip, whereby when an amount is entered upon the record-strip it will be duplicated upon the check-strip, and upon then actuating the feeding, printing and cutting mechanisms for the check-strip the latter will be drawn across the record-strip and a suitably printed check, bearing such amount, also delivered from the machine and severed from the check-strip. The operating handle for the feeding, printing and cutting mechanisms of the check-strip is also connected with the lock of the money drawer, so that when said handle is operated to produce a check the money drawer will be released, and automatically thrown open by a spring applied to it for that purpose. The operating handle also has co-operating with it a locking device controlled by the position of the money drawer, whereby operation of such handle is prevented so long as the money drawer remains open, and requires the drawer to be

closed at the end of each operation of the machine. The money drawer is also connected with the storage reel of the record-strip, and actuates said reel to advance the strip each time the drawer is opened and closed.

Such being the general nature of my machine, the novelty of my invention consists in the new combinations, modes of operation, and constructions and arrangements of parts, which will be hereinafter more fully described and particularly pointed out in the claims.

In the accompanying drawings Figure 1 represents a perspective view of the machine, with the lid and money drawer closed and the operating handle in its normal position of rest; Fig. 2 a top plan view of the machine with the lid and top of the casing in rear thereof removed; Fig. 3 a front elevation of the machine, with the upper part of the casing in section to expose the interior mechanism; Fig. 4 a rear elevation with the lid and top of the casing removed and the remainder of the casing in section; Fig. 5 a vertical section within the right hand side of the casing, looking toward the left of the machine and showing the interior mechanism in elevation; Fig. 6 an enlarged sectional detail approximately on the line 6—6 of Fig. 2; Fig. 7 an enlarged sectional detail approximately on the line 7—7 of Fig. 2; and Fig. 8 a face view of the printed check.

The same letters of reference are used to indicate identical parts in all the figures.

The working parts of the machine are inclosed in a casing or cabinet A, of suitable shape, preferably having the forward portion of its top inclined toward the front and having a hinged lid B provided with an opening at C through which the entries upon the record-strip are to be made. The operating handle D of the check-strip mechanism is secured upon the end of a rotary shaft projecting through the side of the casing. The lid has projecting upward from it a housing E to accommodate the feed-rollers of the check-strip mechanism, and at the right hand side of the base thereof is a slot F, Figs. 1 and 3, through which the printed checks are projected. The lower portion of the casing is provided with a drawer compartment containing the usual forwardly and backwardly

sliding money drawer. The top board or plate G of this drawer compartment forms the base upon which is mounted the frame which supports the principal operating mechanisms of the machine, said board dividing the interior of the casing into two compartments, the lower one containing the money drawer and the upper containing the working mechanisms.

Secured upon the base G in the upper compartment of the casing is a metal frame composed chiefly of two side plates H H, Figs. 2, 3, 4 and 5, whose upper sides are connected by a transverse plate I, Fig. 2, which constitutes the writing tablet. Suitably journaled in the outer ends of forwardly projecting arms of the side plates H H is the supply roll J of the record-strip K. This strip is led from such roll beneath a tension rod L which is supported between the outer ends of two arms M M loosely pivoted at their inner ends to the side plates H H at N, Fig. 6, and permitting the rod L to rest upon the paper strip. From this rod the strip is led upward and rearward over the writing tablet, and thence downward around a storage-reel O which is loosely mounted upon a shaft supported at its opposite ends in the side plates H H. The storage-reel O has fast upon its right hand end, Figs. 5 and 6, a ratchet P with which co-operates a pawl Q which is pivoted at its rear end to the upper end of a lever R pivoted near its middle to a rearwardly extending arm S of the right hand side-plate H and projecting downward into the drawer compartment, in rear of the money drawer. A spring T connected at its rear end to the arm S below its pivotal point pulls the lower end of the arm forward whenever the money drawer is released and opened, and throws its upper end rearward and draws the pawl Q back over one tooth of the ratchet P, and when the drawer is closed again the pawl is thrown forward and the ratchet and storage-reel turned to wind up a portion of the record-strip. The forward end of the spring T is connected to the lower end of a lever arm U pivoted at V to the right hand side-plate H and provided with a tooth W which engages the ratchet P and prevents the latter turning in reverse direction. The record-strip is in this instance of considerable width and is ruled longitudinally to form a number of different columns, adapted to receive entries of transactions of different characters.

The opening C in the lid B, above referred to, extends transversely across the record-strip and is divided into two parts, *a b*, by a cross bar *c*, Fig. 1. The entire opening, with the exception of a narrow transverse space at its forward edge, is covered, beneath the metal plate which surrounds the opening, by a glass plate X. Printed upon a transverse paper strip, upon the under side of the glass plate immediately beneath the opening *a*, is a series of names indicating the different classes of transactions which are to be entered in the

different columns upon the record-strip, the several names being arranged in line with the respective columns upon said strip. In the present instance the right hand column is intended for the entry of cash sales, and the word "Cash" is arranged in line with such column; the second column is intended for the entry of credit sales, and the word "Charge" is arranged in line with such column; the third is intended for the entry of amounts paid out, and the words "Paid out" are arranged in line with such column; the fourth is intended for the entry of amounts received on account and the words "Rec'd on acc't" are arranged in line with such column; while the last column is intended for the entry of the number or letter designating the clerk who makes the sale, or receives or pays out the money, and the words "Clerk's No." are arranged in line with this column. When a sale is made, or money received or paid out on account, the clerk enters the amount in the proper column and then releases and opens the money drawer. When the drawer is closed the storage reel will be turned by the means heretofore described and the record-strip drawn rearward over the writing tablet. This will carry the entry which has just been made to a point beneath the glass plate, where it will remain exposed to view but cannot be altered, and in this manner the amount and character of the last transaction, and the number of the clerk who had charge of it, are always left exposed to view.

The construction so far described is substantially the same as that in machines now in use, and, so far as my present invention is concerned, may be departed from in various ways. The entries in the cash column upon the record-strip are the only ones which are duplicated upon the check-strip, so that, so far as my present invention is concerned, the record-strip may be a narrow one, provided with but one double column, for the entry of cash sales.

The check-strip feeding, printing and cutting mechanisms may next be described, as follows: Secured to the right hand side of the right hand plate H and projecting at right angles therefrom are two vertical plates Y Y in which are journaled the type-cylinder Z and above and below it the inking roller A' and impression roller B', the three being geared together by gears fast upon the rear ends of their shafts, Fig. 4. The impression roller has fast upon the forward end of its spindle a beveled gear C', Figs. 2 and 3, with which meshes a second beveled gear D' fast upon the rotary driving shaft E' which has the operating handle D secured to its outer end, said shaft being journaled near its inner end in the right hand side plate H and near its outer end in a bracket F' fast to the forward frame plate Y, Fig. 5. A ratchet G' fast upon the shaft E' at the left of the beveled gears, Figs. 2, 3 and 5, is engaged by a spring-pressed pawl H' which prevents movement of the

parts in the reverse direction. The type-cylinder and impression roller operate as feed-rollers for the check-strip I', which is carried in a roll placed in horizontal position around a vertical spindle upon the base board at J', Fig. 2, and led thence rearward around a curved and twisted guide plate K', thence through a horizontal slot at L' in the left hand side-plate H, Figs. 3 and 4, thence to the right and under the greater portion of the width of the writing tablet, thence upward through a slot in said tablet at M', Fig. 2, and thence on to the right between the type-cylinder and impression roller. At the right of the slot M' in the writing tablet the check-strip passes beneath a narrow inking ribbon N' which is led across the writing tablet parallel with and immediately beneath the cash column on the record-strip, before described. Said inking ribbon in this instance is an endless band passed around the writing tablet and around a large roller O', Fig. 6, journaled beneath the tablet, at its right hand end in the side plate H and at its left in a bracket plate P' secured to and depending from the writing tablet. Journaled in the same supports, immediately beneath the roller O', is an inking roller Q' which bears against the roller O' and serves both to ink the ribbon and to co-operate with the roller O' to intermittently advance the ribbon when the roller O' is turned in the manner hereinafter described. The pawl Q which is actuated by the opening and closing of the drawer to turn the storage-reel, as before described, has secured to it a vertically extending plate R', Figs. 5, 6 and 7, to which is pivoted the rear end of a forwardly extending arm or plate S' which is slotted to embrace the spindle of the roller O', Fig. 7, and carries a pawl T' which co-operates with a ratchet U' secured to the right hand side of said roller, Fig. 3.

When the money drawer is opened and the pawl Q retracted by the spring T the plate S' is retracted with it and the pawl T' drawn backward over one or more teeth of the ratchet U', and when the drawer is closed again and the pawl Q thrown forward the plate S' moves forward with it and its pawl T' turns the roller O' and advances the inking ribbon to present a fresh inking surface at the writing point.

Journaled at its opposite ends in the side plates H II is a rock-shaft V', Figs. 2, 5, 6 and 7, in this instance constituting the supporting spindle of the storage-reel O. This shaft has secured upon its left hand end a forwardly projecting arm W' provided with a set screw X', Figs. 2, 3 and 4, whose lower end is adapted to engage and depress the forward end of a lever Y' pivoted near its middle between ears Z' projecting upward from a plate A² secured upon the base board, and carrying at its rear end the drawer bolt B² which extends downward into the drawer compartment and co-operates with the usual locking plate C² secured upon the rear wall of the

drawer, Figs. 4 and 5. A coiled spring D² interposed between the front end of the lever Y' and the plate A² yieldingly presses the forward end of said lever upward and holds its rear end and the drawer bolt down in locking position. At its extreme right hand end, Fig. 5, the rock-shaft V' has fast upon it an upwardly extending arm E² which has pivoted to it the rear end of a forwardly extending plate F² whose front end is provided with a slot embracing the driving shaft E', Figs. 2 and 7. Fast upon the shaft E' between the ratchet G' and the plate F² is a cam G², Figs. 2, 3 and 7, which co-operates with a laterally projecting lug H² upon the side of said plate F² beneath the shaft E'. When the shaft is given a complete revolution the cam G², as the shaft approaches the end of its revolution, will bear against the lug H² and force the plate F² forward, thereby rocking the shaft V' and throwing down the front end of the arm W' secured thereto and causing the set screw X' to depress the front end of the lever Y' and lift the drawer bolt out of engagement with the drawer, thereby releasing the latter, whereupon a spring-pressed arm I² suitably mounted in the rear end of the drawer compartment and bearing against the rear wall of the drawer, Figs. 4 and 5, will throw the latter open.

For the purpose of automatically locking the operating handle and driving shaft when the money drawer is open the following means is provided: Secured upon the extreme left hand end of the driving shaft E' is a gear J², Figs. 2, 3, 6 and 7, which meshes with a second gear K², Fig. 7, fast upon the right hand end of a shaft or spindle R² journaled at its right hand end in the side plate H and at its left hand end in the bracket plate P' before described and constituting in this instance the support upon which the roller O' is loosely mounted, Fig. 6. The gear K² is provided with a stud L², Fig. 7, projecting from its left hand side, and the plate S' is provided upon its lower edge near its forward end with a laterally projecting lug M², which, when the plate S' is in its rearmost position, stands in the path of travel of the stud L² upon the gear K². Inasmuch as the plate S' is thrown rearward each time the drawer is released and opened, in the manner heretofore described, the lug M² will be carried into the path of travel of the stud L², and the engagement of the stud with the lug will arrest the movement of the parts, so that when the operating handle and driving shaft have been turned until the stud reaches such position the machine becomes automatically locked. The stud reaches this locking position just after the cam G² has forced forward the sliding plate F² and released the drawer. In this manner at each operation of the machine the drawer is released and automatically opened just before the end of the operation, and the machine then becomes locked and cannot be operated in any manner until the

drawer is closed, it being understood that while the engagement of the stud L^2 with the lug M^2 prevents forward movement of the parts the ratchet and pawl $G' H'$, and also the engagement of the cam G^2 with the lug H^2 on the plate F^2 , Figs. 2 and 7, prevent any movement of the parts in the reverse direction.

Secured to the right hand edges of the two upright frame plates $Y Y$ is a plate N^2 , Fig. 5. The portion of the lower edge of this plate which lies between the two plates $Y Y$ is suitably shaped and sharpened to constitute a fixed knife bar, to co-operate with a shearing blade or bar O^2 pivoted at its upper rear end to the rear end of the plate N^2 . A coiled spring P^2 connected at its upper end to the shear bar O^2 tends to pull the latter downward and permit the passage of the check-strip between said bar and the lower edge of the bar N^2 as it is delivered from the type cylinder and impression roller. The rotary driving shaft E' has fast upon it in line with the shear bar O^2 , or in line with the lateral projection upon its front end, a cam Q^2 , Figs. 2 and 5, which is adapted to engage the front end of said bar just at the completion of the movement of the operating handle and driving shaft, and lift the bar to shear off the projected check against the lower edge of the bar N^2 . The cam Q^2 is placed in such position upon the driving shaft that when the latter comes to rest at the end of the operation the cam will maintain the shear bar O^2 in its upper position, as shown in Fig. 5, and thus prevent the insertion of anything between said bar and the fixed bar N^2 . At the first forward movement of the operating handle and shaft from normal position the cam Q^2 is carried from under the laterally projecting end of the shear bar O^2 , and the spring P^2 pulls the bar downward, to permit the next check to be advanced by the rollers.

The rotary shaft R^2 , Fig. 6, which has the gear K^2 secured to its right hand end as heretofore described, has fast upon its extreme left hand end a cam S^2 adapted when turned to a given position to engage the under side of a spring-pressed arm T^2 and force the latter against the under side of the writing tablet I . The check-strip passes between this arm T^2 and the under side of the writing tablet at this point, and when the arm T^2 is forced upward by the cam S^2 the strip is held between the arm and under side of the writing tablet and its forward movement arrested. The position of the cam upon the shaft R^2 is such that the arm T^2 is moved to thus arrest the check-strip when the latter is released by the feed-rollers (the type-cylinder and impression roller) and hold it while the printed check is being sheared off. The cam clears the arm T^2 and releases the check-strip before the feed-rollers begin to advance the strip again.

The type-cylinder Z may bear upon its surface any desired type matter, and also pref-

erably contains a series of dating and consecutive-numbering wheels, the latter being automatically actuated by the revolutions of the cylinder in any of the usual ways. In this instance the type-cylinder is provided with type matter adapted to print a numbered and dated check such as that shown in Fig. 8, but this may be varied as desired.

The machine is also provided with an alarm gong U^2 , Fig. 4, in this instance located in the right hand rear corner of the upper compartment, and arranged to be sounded by a striker v^2 each time the money drawer is released and thrown open, in the usual or any suitable manner.

For the purpose of preventing the drawer being repeatedly partially closed and reopened and the pawl Q thereby actuated to wind up the record-strip and carry the last entry out of view, without fully operating the machine in other respects, there is applied to the drawer an arresting device which when the drawer is partially opened compels the opening of it to a definite degree before it can be moved toward closed position, and then when moved toward its closed position compels the complete closing of it before it can be again moved outward. In this instance such arresting device consists of a rack-plate W^2 , Fig. 4, secured upon the outer side of the drawer near the rear end of its left hand side and arranged to co-operate with the lower end of a pivoted pawl X^2 , which is yieldingly pressed toward normal position by a spring Y^2 . When the drawer is released and started toward open position the engagement of this pawl with the rack plate prevents return movement of the drawer until it has been opened far enough to cause the rack plate to clear the pawl, and then when the drawer is moved toward closed position the rack plate will engage the lower end of the pawl and swing it rearward and the pawl will then lock the drawer from outward movement until it has first been completely closed and the rack plate carried to the rear of the pawl; as is usual in machines of this character and as will be readily understood.

From the foregoing description it will be understood that when a cash sale is made the clerk enters the amount of it upon the record-strip in the column marked "Cash" and such entry is duplicated by the inking ribbon upon the check-strip beneath. Upon then giving the operating handle a complete forward revolution the check-strip will be drawn between the impression roller and type cylinder and numbered and dated and otherwise printed, and projected through the opening F in the side of the casing, and just at the end of the operation will be severed from the strip, while the money drawer will be released and thrown open, the alarm sounded, and the machine become locked.

The purpose of the checks produced by this machine is two-fold: first, to furnish a

receipt to the customer for the money he pays, and second, to provide means for detecting a dishonest clerk in any fraudulent manipulations of the machine and to thereby prevent such manipulations. As to the first purpose, it is the practice in many classes of retail business for the storekeeper to give his customers tickets representing the amounts of their purchases, and to offer premiums or rebates upon such tickets when returned in given amounts, the object being to induce trade by offering a slight discount from the regular prices of the goods sold. Heretofore the supply of such tickets has been kept in loose form, and when a cash sale was made the clerk would go to the place where the tickets were kept and pick out one corresponding to the amount of the sale and either hand it to the customer or place it in or upon the package of goods purchased. There was no ready means for keeping a record of such tickets, nor was there anything, excepting care upon the part of the clerk and vigilance upon the part of the customer, to prevent mistakes in giving customers tickets differing from the actual amounts of their purchases. In my new machine a check or ticket is automatically produced by the ordinary operation of the machine in entering the sale upon the record-strip and opening and closing the cash drawer, and the amount of the sale which appears on the check must correspond to the actual amount entered upon the record-strip, since it is necessarily a duplicate of it made by the inking ribbon at the time the entry is made upon the record-strip. The type-cylinder may, and in this instance does, bear type matter which prints upon the check a notice that a rebate of a certain per cent. will be allowed upon checks returned in given amounts, as seen in Fig. 8. The main object of the checks, however, is to prevent fraudulent entries upon the record-strip by dishonest clerks, and this is accomplished by causing the customer to have an interest in the entry of correct amounts. Thus, if the clerk enters upon the record-strip a less amount than the actual sale, a corresponding amount will appear upon the customer's check, and as he is to have a rebate on the amount he has paid he will object to receiving a check showing anything less than such an amount. It is not possible for the clerk to enter one amount upon the record-strip and a different one upon the check-strip, for each entry upon the record-strip is necessarily duplicated upon the check-strip beneath, and this duplication is preferably effected by an indelible inking ribbon, to render it more difficult for the clerk to alter the amount upon the check after the latter has been issued. Even if it were possible for the clerk to alter the check, however, it would always be outstanding against him, and as it bears a consecutive number its corresponding entry upon the record-strip can be readily identified by the proprietor when the check is returned by the customer for his

rebate, and the fraudulent act of the clerk be discovered at that time, if not before. The clerk cannot issue a check before he makes the entry upon the record-strip, and then enter a different amount upon the check, for whenever he enters any amount on the record-strip it will be duplicated upon the check-strip beneath, so that the succeeding check would bear the amount entered upon the record-strip at the previous transaction, and if the succeeding transaction were not of the same amount as the preceding one the clerk will be detected at once; and even if it were of the same amount the clerk would have outstanding against him an extra check, for which there would be no entry upon the record-strip. Moreover, inasmuch as the machine becomes locked at the end of each operation of the check-strip mechanism and opening of the money-drawer, thereby necessitating the closing of the drawer after each check is issued, before another can be issued, and inasmuch as at each closing of the drawer the record-strip is moved a given distance to carry the new entry beneath the glass plate, if the clerk should attempt to issue two checks and make only one entry upon the record-strip there would necessarily be left an extra blank space upon the record-strip between adjacent entries, which would attract the proprietor's attention as soon as he examined the record-strip, as at the end of the day's business, and thus lead to the clerk's detection. Again, if after entering the proper amount upon the record-strip and issuing a check bearing such amount the clerk should attempt to erase the amount entered upon the record-strip and substitute a less amount the rubbing of the strip, in the act of erasing the entry, will cause the inking ribbon to make a blur upon the check-strip beneath, and when he makes the substitute entry upon the record-strip such second entry will be duplicated upon the check-strip beneath in this blurred space. The next check issued will therefore not be fit to give to a customer, nor would it bear the proper amount unless the succeeding sale should happen to correspond to this false entry which the clerk has made; and even should it so correspond the clerk would have outstanding against him the two checks, both numbered, one bearing the amount corresponding to the entry on the record-strip, and the other indicating a larger amount. So, too, if in cases where the sale amounts to dollars and cents, the clerk should enter simply the cents upon the record-strip, and then operate the check-strip mechanism to issue a check bearing a duplicate entry of cents, and should then add the dollar amount to the check, he would have produced a check bearing the proper amount and have left an entry of a less amount upon the record-strip; but in this case it would be necessary for him to be provided with a pencil which would make a mark so closely resembling the color and character of that made by the inking ribbon as to escape

detection in that way, and even then he would not escape detection, because of the outstanding consecutively numbered check which would bear an amount differing from the corresponding entry upon the record-strip. Again, the proprietor can always ascertain by examining the consecutive-numbering wheels of the type-cylinder the exact number of checks which have been issued, so that if the clerk should issue a number of checks and make only one entry upon the record-strip (by holding the money-drawer from opening when released at each operation excepting one) the proprietor could discover such fact by comparing the number of entries upon the record-strip with the number of checks issued as shown by the consecutive-numbering wheels, and would not have to await or depend upon the return of checks by the customers in order to ascertain whether more checks had been issued than the entries upon the record-strip would indicate.

In machines of this character, which have not heretofore been provided with such check-strip mechanism, it has been possible for a dishonest clerk to fraudulently manipulate the machine in many of the ways above indicated; as by simply entering upon the record-strip a less amount than the sale, or by entering the proper amount while the customer is present and erasing it after the customer leaves and substituting a less amount, and so on; and even in machines of this character which have been provided with a record-strip and a check-strip it has been possible to fraudulently manipulate them in many of the ways above suggested by reason of the absence in such machines of any means for automatically numbering or dating the checks issued, and in the absence of the money drawer and its connections for moving the record-strip and the locking devices for preventing operation of the machine while the drawer is open. It will be seen from the foregoing description that in my improved machine the safeguards provided serve to effectually prevent manipulation of the machine in these various ways, and to insure the preservation of an accurate record of all the cash sales made.

It will be understood, from the statement of the new modes of operation and results accomplished by my machine, that the novelty of my invention, except in its more limited scope, does not consist in the details of construction or arrangement of the parts, but in the broad combinations and modes of operation which have been described and which will be set forth in the claims.

Having thus fully described my invention, I claim—

1. In a cash recorder, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifold material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed

checks, and means for actuating said knife and the type-cylinder and impression roller, to advance, print and sever the check-strip substantially as described.

2. In a cash recorder, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifold material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, and a single operating handle for actuating said knife and the type-cylinder and impression roller to advance, print and sever the check-strip, substantially as described.

3. In a cash recorder, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifold material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a rotary shaft geared to said cylinder and roller, a knife for severing the printed checks, and a cam upon the shaft for actuating the knife, substantially as described.

4. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifold material interposed between them, a type cylinder and impression roller operating to draw the check-strip over the writing tablet and by which the checks are printed, a latch for holding the money drawer closed, a spring for throwing it open when released, and means for rotating the type-cylinder and impression roller, to advance and print the check-strip and releasing the drawer, substantially as described.

5. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifold material interposed between them, a type-cylinder and impression roller, between which the check-strip is led and by which the checks are printed, a latch for holding the money drawer closed, and a single operating handle for releasing the money drawer and rotating the type-cylinder and impression roller, substantially as described.

6. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifold material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the checks from the strip, a latch for holding the drawer closed, and means for actuating the knife and the type-cylinder and impression roller and for releasing the drawer, substantially as described.

7. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifold material interposed be-

tween them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the checks from the strip, a latch for holding the drawer closed, and a single operating handle for actuating the knife and the type-cylinder and impression roller and for releasing the drawer, substantially as described.

8. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the checks from the strip, a latch for holding the drawer closed, and a rotary shaft geared to the type-cylinder and impression roller and provided with cams for actuating the drawer latch and knife, substantially as described.

9. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, means for actuating said cylinder and roller, and a locking device co-operating with such means and with the money-drawer to prevent operation of the cylinder and roller when the drawer is open, substantially as described.

10. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a rotary shaft geared to said type-cylinder and roller, and a locking device co-operating with said shaft and with the money drawer to prevent rotation of the shaft while the drawer is open, substantially as described.

11. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a latch for holding the money drawer closed, a spring for throwing it open when released, a single operating handle for actuating the type-cylinder and impression roller and releasing the drawer, and a locking device co-operating with said handle and with the drawer to lock the handle from operation when the drawer is open, substantially as described.

12. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impres-

sion roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, means for actuating said knife and the type-cylinder and impression roller, and a locking device co-operating with such means and with the money drawer to prevent operation of the knife and the type-cylinder and roller when the drawer is opened, substantially as described.

13. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, a single operating handle for actuating the knife and the type-cylinder and impression roller, and a locking device co-operating with such handle and with the money drawer to lock the handle after the drawer has been opened, substantially as described.

14. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, a latch for holding the money drawer closed, a spring for throwing it open when released, means co-operating with the knife and latch and type-cylinder to rotate the latter and actuate the former, and a locking device co-operating with such means and with the money drawer to prevent operation of the machine after the money drawer has been opened, substantially as described.

15. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, a latch for holding the money drawer closed, a spring for throwing it open when released, a single operating handle for rotating the type-cylinder and impression roller and actuating the knife and drawer latch, and a locking device co-operating with said handle and with the drawer to lock the handle after the drawer has been opened, substantially as described.

16. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, a latch for holding the money drawer closed, a spring for throwing it open when released, a rotary shaft

geared to the type-cylinder and impression roller and provided with cams for actuating the knife and drawer latch, and a locking device co-operating with said shaft and with the money drawer to lock the shaft after the money drawer has been opened, substantially as described.

17. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material between them, means actuated by the money drawer for advancing the record-strip, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, and means for rotating said type-cylinder and roller, to draw the check-strip over the writing tablet and print it substantially as described.

18. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, means actuated by the money drawer for advancing the record-strip, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a latch for holding the money drawer closed, a spring for throwing it open when released, and a single operating handle for rotating the type-cylinder and impression roller and actuating the drawer latch to release the drawer, substantially as described.

19. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material between them, means actuated by the money drawer for advancing the record-strip, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, and means for actuating said knife and rotating the type-cylinder and impression roller, substantially as described.

20. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material between them, means actuated by the money drawer for advancing the record-strip, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, and a rotary shaft geared to the type-cylinder and impression roller and provided with a cam for actuating the knife, substantially as described.

21. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material between them, means actuated by the money drawer for advancing the record-strip, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, a

latch for holding the money drawer closed, a spring for throwing it open when released, and means for rotating the type-cylinder and impression roller and actuating the drawer latch and knife, substantially as described.

22. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material between them, means actuated by the money drawer for advancing the record-strip, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, a latch for holding the money drawer closed, a spring for throwing it open when released, and a single operating handle for rotating the type-cylinder and feed-roller and actuating the drawer latch and knife, substantially as described.

23. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material between them, means actuated by the money drawer for advancing the record-strip, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, a knife for severing the printed checks, a latch for holding the money drawer closed, a spring for throwing it open when released, and a rotary shaft geared to the type-cylinder and impression roller and provided with cams for actuating the drawer latch and knife, substantially as described.

24. In a cash recorder, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, said type-cylinder containing a set of automatically actuated consecutive-numbering wheels, and means for actuating the type-cylinder and impression roller, to draw the check-strip over the writing tablet and print it substantially as described.

25. In a cash recorder, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, said type-cylinder containing a set of automatically actuated consecutive-numbering wheels and a set of dating wheels, and means for actuating the type cylinder and impression roller, to draw the check-strip over the writing tablet and print it substantially as described.

26. In a cash recorder, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, said type-cylinder containing a set

of automatically actuated consecutive-numbering wheels, a knife for cutting the check-strip into checks, and means for actuating said knife and rotating the type-cylinder and impression roller to draw the check-strip over the writing tablet and print and sever it, substantially as described.

27. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, said type-cylinder containing a set of automatically actuated consecutive-numbering wheels, a latch for holding the money drawer closed, a spring for throwing it open when released, and common means for actuating the latch to release the drawer and for rotating the type-cylinder and impression roller to advance the check-strip and print the check, substantially as described.

28. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, said type-cylinder containing a set of automatically actuated consecutive-numbering wheels, a knife for cutting the check-strip into checks, a latch for holding the money drawer closed, a spring for throwing it open when released, and common means for actuating said knife and latch and for rotating the type-cylinder and impression roller, substantially as described.

29. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, said type-cylinder containing a set of automatically actuated consecutive-numbering wheels, a knife for cutting the check-strip into checks, a latch for holding the money drawer closed, a spring for throwing it open when released, and a single operating handle for actuating the knife and drawer latch and rotating the type-cylinder and impression roller, substantially as described.

30. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material interposed between them, a type-cylinder and an impression roller, between which the check-strip is led and by which the checks are printed, said type-cylinder containing a set of automatically actuated consecutive-numbering wheels and a set of dating wheels, a knife for severing the check-strip into checks, a latch for

holding the money drawer closed, a spring for throwing it open when released, and a rotary shaft geared to the type-cylinder and impression roller and provided with cams for actuating the knife and drawer latch, substantially as described.

31. In a cash recorder, the combination of a writing tablet having a record-strip and a check-strip led over it, with manifolding material between them, a pair of rollers for advancing the check-strip, a knife for cutting the strip into checks, a rotary cam co-operating with the check-strip to hold the latter from movement while the check is being severed, and a rotary driving shaft geared to said cam and also to the rollers, and provided with a cam for actuating the knife, substantially as described.

32. In a cash recorder having a money drawer, the combination of a rotary member actuated by the driving shaft or operating handle and provided with a projection, and a stop device normally held out of the path of such projection by the money drawer when the latter is closed and movable into the path of such projection when the drawer is opened, to prevent movement of such rotary member and operation of the driving shaft or handle while the drawer stands open, substantially as described.

33. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, an inking ribbon passed between the check-strip and record-strip, and means actuated by the money drawer for advancing the record-strip and inking ribbon, substantially as described.

34. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, an inking ribbon passed between the record-strip and check-strip, a pair of feed-rollers for advancing the inking ribbon, a storage-reel for winding up the record-strip, and a pawl actuated by the money-drawer for turning said storage-reel and feed-rollers, substantially as described.

35. In a cash recorder having a money drawer, the combination of a writing tablet having a record-strip and a check-strip led over it, an inking ribbon passed between them, a pair of feed-rollers for advancing the inking ribbon, a storage-reel for winding up the record-strip, a pivoted lever held in normal position by the money drawer when the latter is closed, a spring for moving said lever when the drawer is opened, and a pawl actuated by said lever for turning the feed-rollers and storage-reel to advance the inking ribbon and wind up the record-strip, substantially as described.

36. In a cash recorder having a money drawer, the combination of a rotary driving shaft, a ratchet and pawl for preventing reverse movement of said shaft, and a locking device co-operating with said shaft and with the

money drawer for locking the shaft from forward movement after the drawer has been opened, substantially as described.

37. In a cash recorder having a money drawer, the combination, with the feeding—cutting and printing mechanisms for the check-strip, the latch for holding the drawer closed and the spring for throwing it open, of the rotary driving shaft geared to the feeding and printing mechanisms and provided with cams for actuating the cutting mechanism and drawer

latch, the ratchet and pawl for preventing reverse movement of said shaft, and a locking device co-operating with the shaft and with the money drawer to lock the shaft from forward movement after the drawer has been opened, substantially as described. 15

JOSEPH P. CLEAL.

Witnesses:

PEARL N. SIGLER,
JOHN M. BUCKLES.