

T. O'BRIEN.

MANUAL SALES RECORDER AND CASH TILL.

No. 532,899.

Patented Jan. 22, 1895.

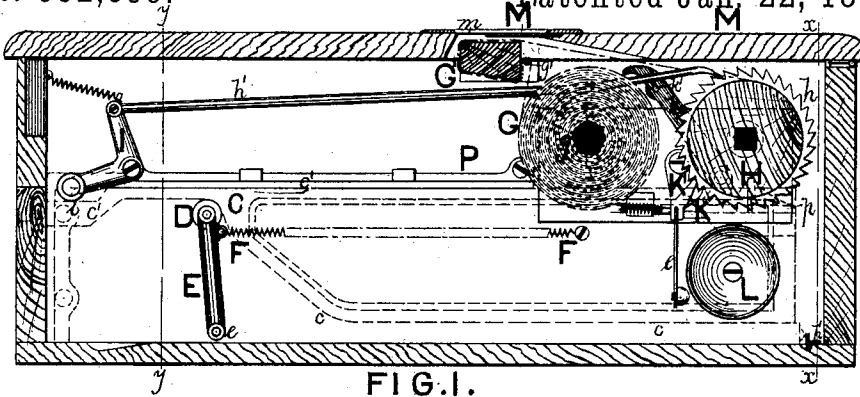


FIG. 1.

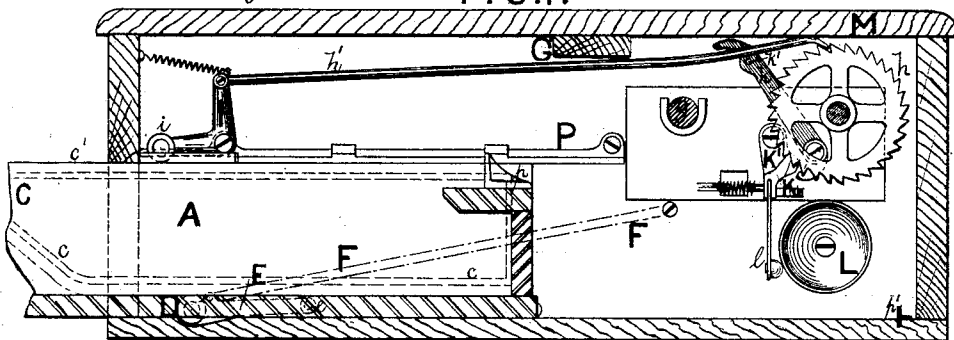


FIG. 2.

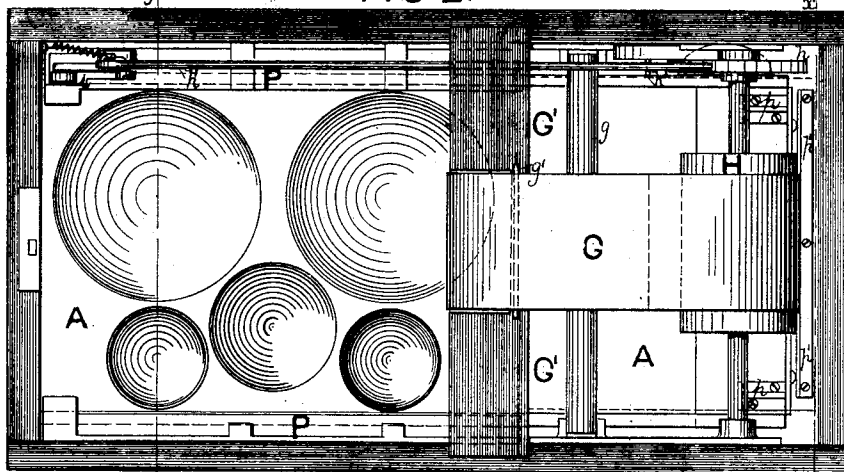


FIG. 3.

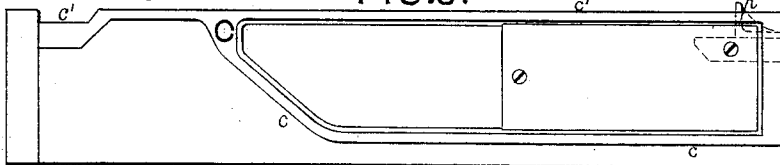


FIG. 4.

WITNESSES

Chas. Owendale.
Joseph Bates

INVENTOR

Thos. O'Brien
by Wm. P. Thompson & Co.
attys.

(No Model.)

3 Sheets—Sheet 2.

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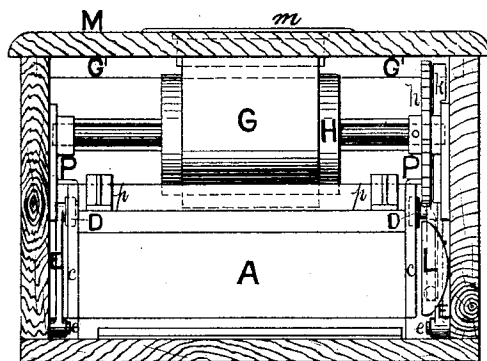


FIG. 5.

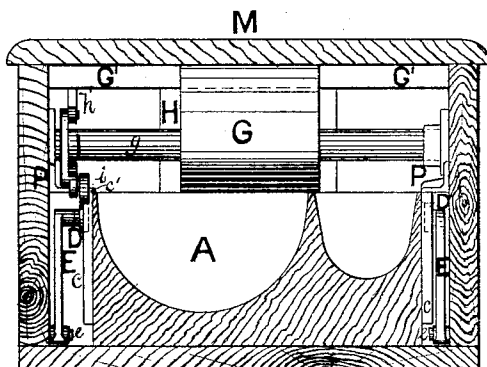


FIG. 6.

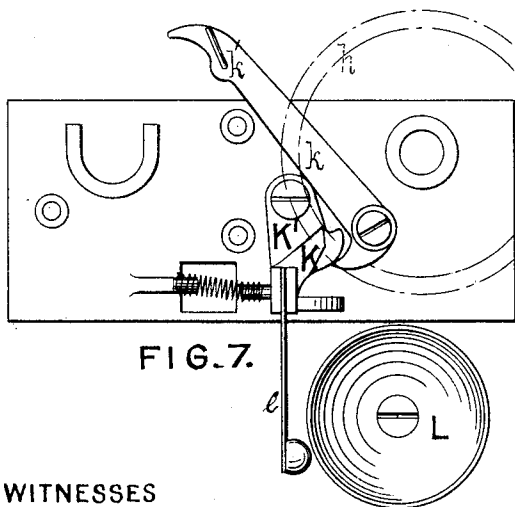


FIG. 7.

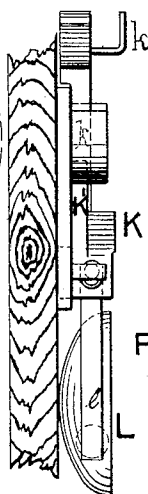


FIG. 8.

WITNESSES

Chas. Wendell.
Joseph Bates.

INVENTOR

The 20th Friend
by Wm. J. Thompson Esq
attys.

(No Model.)

3 Sheets—Sheet 3.

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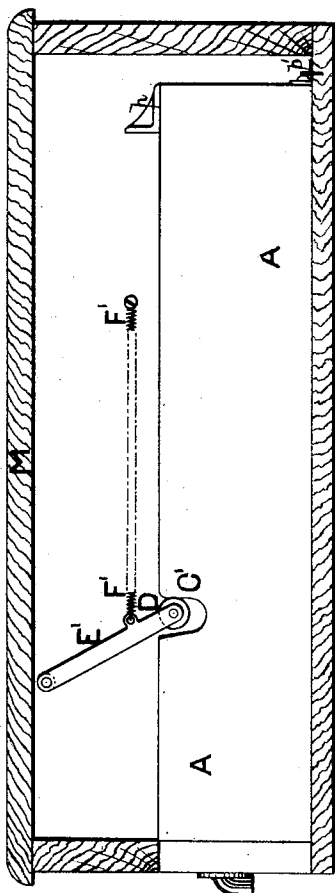


FIG. 9.

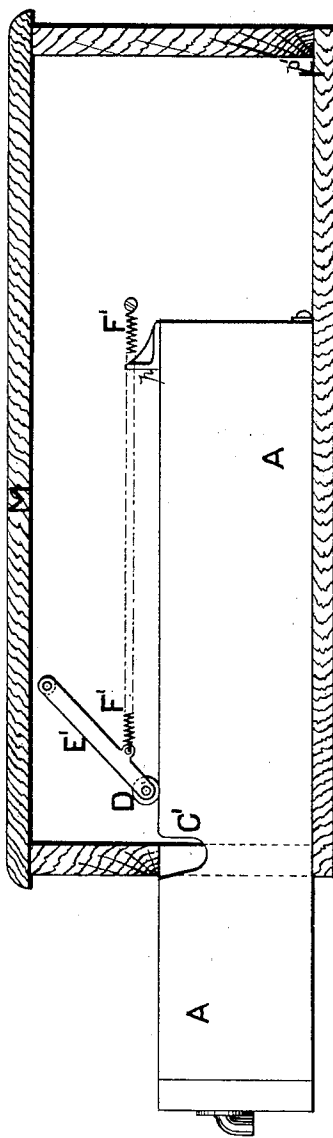


FIG. 10.

WITNESSES.

Chas. Ovensale
Joseph Bates

INVENTOR

Thos. O'Brien
by Wm. P. Thompson
attys.

UNITED STATES PATENT OFFICE.

THOMAS O'BRIEN, OF LIVERPOOL, ENGLAND.

MANUAL SALES-RECORDER AND CASH-TILL.

SPECIFICATION forming part of Letters Patent No. 532,899, dated January 22, 1895.

Application filed November 27, 1893. Serial No. 492,157. (No model.) Patented in England September 30, 1890, No. 15,462.

To all whom it may concern:

Be it known that I, THOMAS O'BRIEN, a subject of the Queen of Great Britain, residing at Liverpool, in the county of Lancaster, England, have invented certain new and useful Improvements in Manual Sales or Cash Recorders, (for which I have obtained Letters Patent in Great Britain, No. 15,462, dated September 30, 1890,) of which the following is a specification.

This invention relates to that class of check cash tills in which the amount of money received and paid into the till is entered on a traveling band or ribbon of paper which is caused to move forward a given distance each time the drawer is opened. It is designed primarily with the object of making the drawer self closing for a portion of its inward travel so that when full open it will remain so but when only partially open the tendency will be to close, and of providing suitable mechanism for actuating or moving forward the roll of paper.

The invention consists in the application to the drawer of one or more springs or weights acting through levers upon two surfaces one at an angle to the other the one being in a plane parallel to the direction of movement of the drawer and the other at an angle thereto for the purpose of closing it when partially open and also of a similar lever with a connecting rod whereby the roll on which the paper is lapped is rotated the desired distance each time the drawer is opened. It will be fully described with reference to the accompanying drawings.

Figure 1, is a longitudinal sectional elevation with the drawer removed the position of the drawer being indicated by dotted lines. Fig. 2, is a longitudinal sectional elevation showing position when the drawer is drawn out. Fig. 3, is a plan with lid removed. Fig. 4, is a side elevation of the money drawer. Fig. 5, is a transverse sectional elevation on line $x-x$ of Fig. 1. Fig. 6, is a transverse sectional elevation on line $y-y$ of Fig. 1 looking in the opposite direction. Fig. 7, is an enlarged side elevation of lever k plate K' and spring catch K . Fig. 8, is a front elevation of same parts. Fig. 9, is a longitudinal section of modified arrangement. Fig. 10, is

a longitudinal section of same showing drawer partly withdrawn.

On the drawer A by attaching a bracket or by cutting a notch or otherwise I form a cam surface against which a lever acts to close the drawer when partially open.

I prefer to attach to the side of the drawer A a cam bracket or cam plate C with the edges c which form the cam surface prepared for a friction roller D to run upon. The edges c of the cam plate C are placed one inclined to the other so that while the bottom edge is parallel with the bottom of the drawer the other is inclined thereto. The friction roller D is carried by a lever E pivoted at or near the bottom of the till on a stud e .

To the lever E near its outer end is connected a spiral spring F which forces it inward, or toward the back of the drawer. A similar plate and lever are attached to both sides of the drawer to balance it, though if desired it may be applied to one side only.

It is obvious that the position of the plate C may be reversed and the lever E placed above it but I prefer the arrangement shown as the roller D acts or lifts against the weight of the drawer instead of as would otherwise be the case pressing down and adding to the friction. The plate C might also be placed horizontally upon the bottom of the drawer with either one or two faces and the levers E act thereon but the arrangement shown I now consider the best.

The band or ribbon of paper G upon which the amounts of money placed in the drawer A are recorded is drawn off a roller or bobbin g onto a roller or bobbin H . On the end of roller or bobbin H upon which the paper is wound as it is used is fixed a ratchet wheel h which is moved forward one or more teeth at a time by a lever or pawl h' . The lever or pawl h' is caused to oscillate or move backward and forward by a lever I similar to the levers E hereinbefore described. The lever I carries at its other end a friction roller i which runs on a second cam surface c' on one of the cam plates C at one side of the drawer. As the drawer is drawn out the end of the lever is raised and the pawl h' moved to move forward the ratchet wheel h the required distance. A spring catch K carried on a plate

K' fits between the teeth of the ratchet wheel *h* and to the plate is fixed the bell hammer *l* which at each movement of the plate as the catch springs back from one tooth to the next strikes the bell *L*. A lever *k* is pivoted to the side of the case to move the catch *K* out of contact with the wheel *h* when it is desired to turn it backward. The pin *k'* on the lever *k* at the same time lifts the pawl *h'* clear of the teeth of the ratchet wheel *h*. The paper *G* is attached to the roller or bobbin *H* by a wedge or other similar device.

Instead of the bobbin *H* it is obvious that the paper may be drawn between rollers one of which will be actuated by the mechanism described, and instead of the second lever *I* the lever or pawl *h'* may be connected to or actuated from one of the levers *E* but I at present prefer the arrangement shown.

The paper *G* passes from the roller or bobbin *g* over a tightening or friction wire *g'* and a board or plate *G'* where it is brought under a slit *m* in the lid *M*. Behind the slit *m* is placed a glass plate *M'* through which the entries upon the paper can be read. From the board *G'* the paper passes to the roller or bobbin *H* upon which it is rolled up by the mechanism described. On the sides of the case between which the drawer travels are fixed two castings or slides *P* which extend out over the top edge of the drawer and hold it in position, and to prevent the drawer being pulled out of the case stops *p* are affixed to the back of it. A small tray is placed above the drawer resting on top of the slides *P* but is not shown in the drawings. *p'* is a stop to prevent the drawer knocking against the back of the case when the drawer is closed.

Referring to Figs. 9 and 10 the drawer is shown with a cam surface on the upper edge formed by cutting a notch *C'* therein and the operating lever *E'* is pivoted above the drawer and when the drawer is opened presses down upon it and runs along the upper edge the spring *F'* acting upon the lever *E'* to draw it toward the back of the drawer.

In operation the friction rollers *D* carried by the levers *E* press against the cam surfaces *c* of the plates *C* the levers *E* being pulled or drawn inward by the springs *F*. When the rollers *D* are against the inclined surfaces they tend to hold the drawer closed or to push it in, but when the drawer is drawn out the rollers *D* come in contact with the horizontal surfaces of the cam plates *C* and exercise no effect upon the drawer other than to assist in supporting its weight. When the drawer is pushed in until the rollers *D* leave the horizontal surfaces and engage with the inclined surfaces of the cam plate *C* the action of the springs *F* then comes into play and the levers *E* force the drawer in the remainder of the distance so that if released at that point it is self closing and the necessity for the operator fully closing the drawer before releasing it is obviated, while at the same time he is prevented leaving it partly open which

would interfere with the working of the other part of the mechanism. The opening of the drawer causes the roller *i* on the lever *I* to mount up onto the top of the surface *c'* of the plate *C* and thus moves the lever *I*. This movement of the lever *I* moves forward the pawl *h'* and the ratchet wheel *h* and the roller *H* which receives the paper *G*. At each opening movement of the drawer the paper *G* upon which the amounts are recorded is thus moved forward the required distance to provide a fresh space for the next entry to be made upon it. The entries upon the paper are made through the slit *m* in the lid in front of the glass plate *M'*.

What I claim, and desire to secure by Letters Patent, is—

1. A cash recorder having a cam surface provided on the money drawer in combination with a pivoted lever to actuate the drawer the free end of which is pressed against the drawer and a spring which actuates the lever the relative positions of the inclined face of the cam and of the operating lever being such that the force of the spring causes the closing of the drawer when the lever presses upon the inclined surface of the cam substantially as described.

2. In a cash recorder the combination with the case in which the drawer slides and a money drawer sliding therein of a cam surface with one face inclined to the other, of a pivoted lever to actuate the drawer the free end of which engages with the cam surfaces and a spring one end of which is attached to the lever and the other end fixed by which the lever is actuated to move the drawer inward and close it substantially as and for the purpose described.

3. A cash recorder provided with a cam surface having one surface at an angle to the other on the money drawer in combination with a propelling lever actuated by a spring whereby the drawer is forced inward substantially as and for the purposes described.

4. In a cash recorder the combination with the money drawer and an inclined surface thereon of a spring propelled actuating lever and its spring acting upon the drawer to impel it inwards and close it substantially as and for the purposes described.

5. In a cash recorder the combination with the money drawer *A* of a cam plate *C* attached thereto provided with two operative surfaces one inclined to the other, an actuating or propelling lever *E* pivoted to a fixed part of the appliance and a spring *F* which operates the lever by which the drawer is impelled inward and closed substantially as described.

6. In a cash recorder the combination with the case which incloses the drawer and mechanism, the money drawer *A*, the cam plate *C* attached to the drawer and provided with two surfaces *c* one inclined to the other, the propelling lever *E* (provided with a friction roller *D*) which engages with the cam plate *C* and the spring *F* which actuates the lever ar-

ranged to act upon and impel the money drawer inward to close it substantially as described.

7. In a cash recorder the combination with
5 the money drawer A capable of sliding to and
fro of the cam plates C provided with cam
surfaces *c* one at an angle to the other the piv-
oted levers E actuated by springs F whereby
the action of the springs is utilized to close
10 the drawer when partially open, the pivoted
lever actuated by the second cam surface *c'*
the connecting rod and pawl *h'*, the ratchet
wheel *h* the paper roller H on to which the

paper is rolled, the roll of paper G, the bridge
piece G' over which it travels, the spring 15
catch K to prevent the rotation of the roller
carried on the plate K' and the lever *h* for
lifting the catch out of contact with the
ratchet wheel *h* to allow it to be rotated.

In testimony whereof I have signed my 20
name to this specification in the presence of
two subscribing witnesses.

THOS. O'BRIEN.

Witnesses:

EDWARD V. COOK,
GEO. BROWN.