

(Model.)

3 Sheets—Sheet 1.

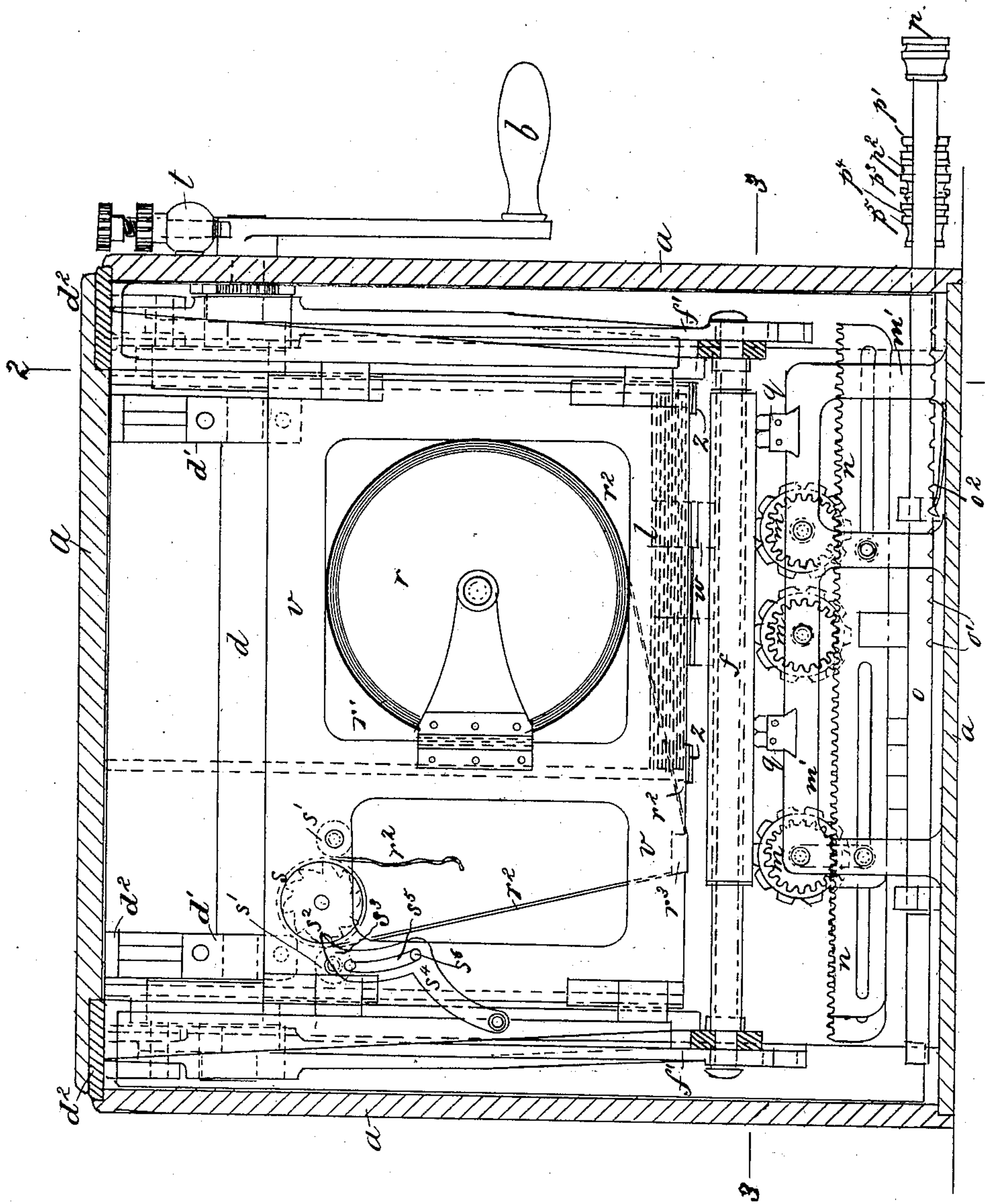
S. FIRTH.

APPARATUS FOR CHECKING AND RECORDING CASH RECEIVED.

No. 366,389.

Patented July 12, 1887.

FIG. 1



Witnesses,  
*J. A. Rutherford*  
*Robert Everett*

Inventor,  
*Sidney Firth.*  
By *James L. Norris.*  
Atty.

(Model.)

3 Sheets—Sheet 2.

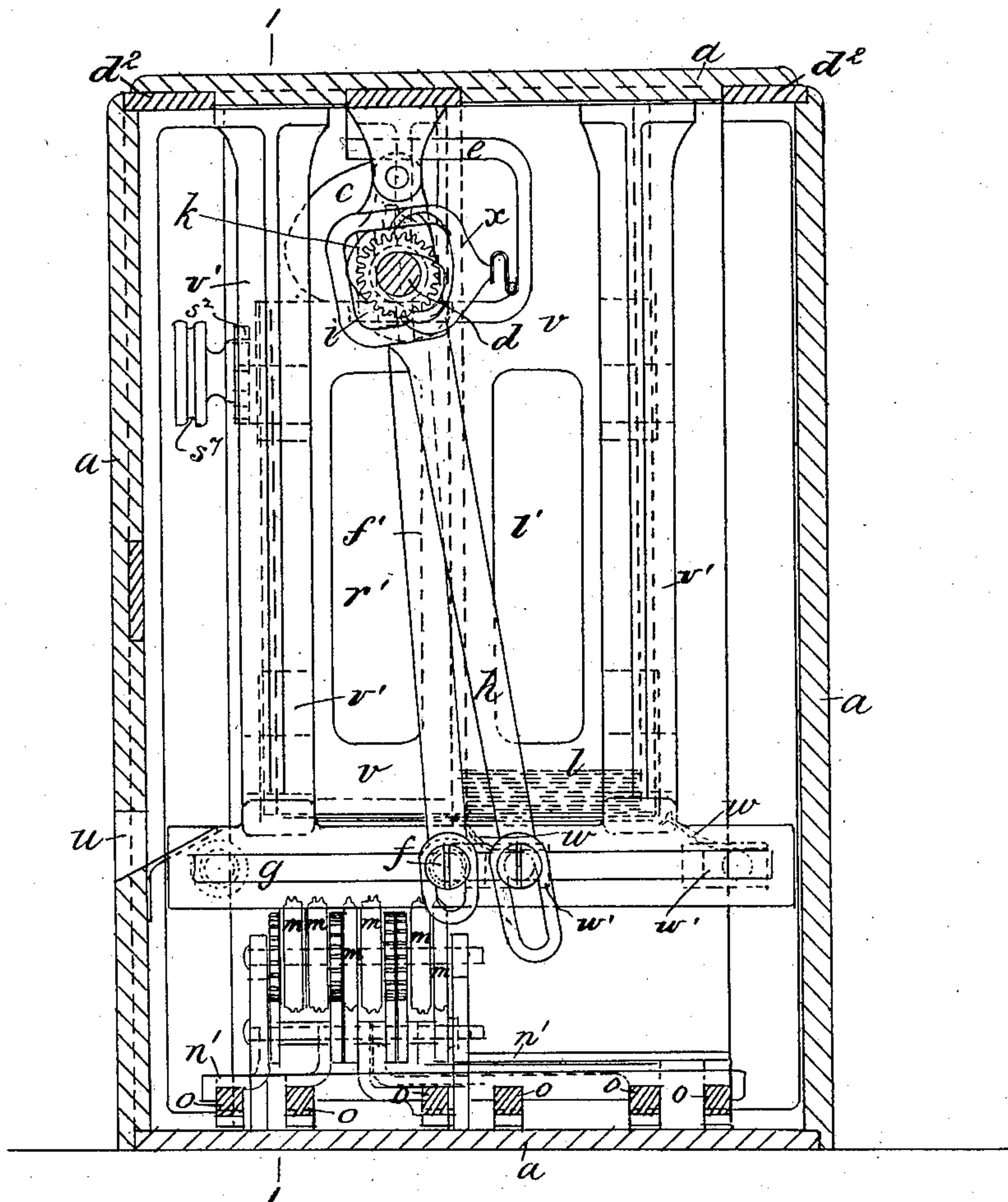
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F I G . 2 .



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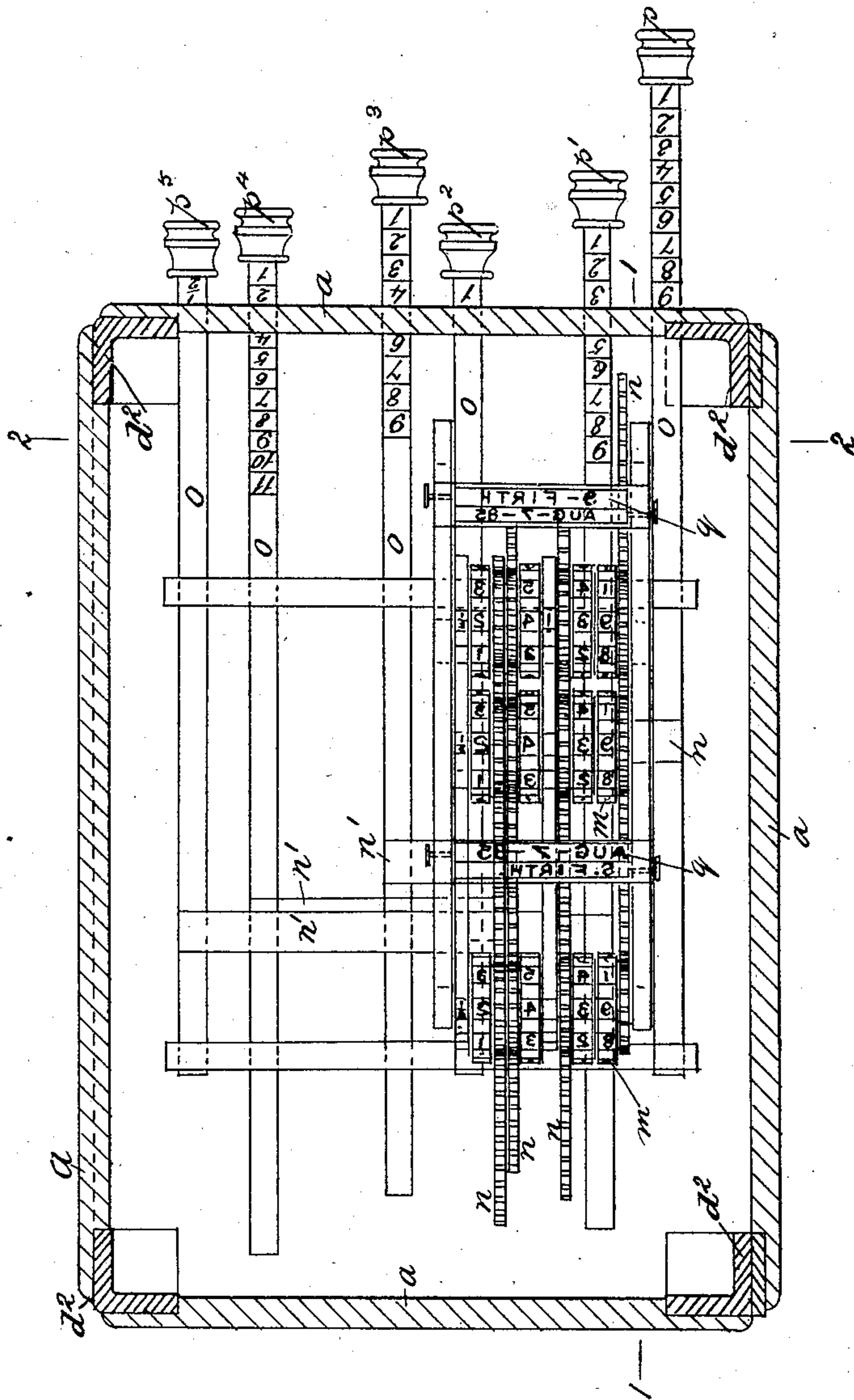
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# UNITED STATES PATENT OFFICE.

SIDNEY FIRTH, OF LEEDS, COUNTY OF YORK, ENGLAND.

APPARATUS FOR CHECKING AND RECORDING CASH RECEIVED.

SPECIFICATION forming part of Letters Patent No. 366,389, dated July 12, 1887.

Application filed September 28, 1885. Serial No. 178,439. (Model.) Patented in England November 7, 1884, No. 14,718.

*To all whom it may concern:*

Be it known that I, SIDNEY FIRTH, a subject of the Queen of Great Britain, residing at 22 Royal Exchange, Leeds, in the county of York, England, inventor, patentee, and proprietor, have invented a certain new and useful Improved Apparatus for Checking and Recording the Amount of Cash Received or Taken, (for which I have received Letters Patent in England No. 14,718, bearing date the 7th of November, 1884;) and I do hereby declare that the following is a full, clear, and exact description of the invention.

The object of my invention is to provide an improved apparatus for checking and recording the amount of cash received in sales-rooms or other business places.

My invention comprises a box securely put together and capable of being locked, and a printing and check-delivery mechanism inclosed in said box, operated by exterior handles, as hereinafter described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a sectional elevation of my improved machine for checking and recording purposes, taken on the line 1 1 of Figs. 2 and 3. Fig. 2 is a sectional elevation on the line 2 2 of Figs. 1 and 3. Fig. 3 is a horizontal section on the line 3 3 of Fig. 1.

*a a* are the walls of the box or outer case which incloses the checking, recording, and delivery mechanism. *b* is a cranked handle arranged on the outside of the box near the top and connected to one end of a shaft, *d*, mounted therein in suitable bearings, *d' d'*, depending from a skeleton frame, *d<sup>2</sup>*, to which the walls *a* are secured.

On the shaft *d*, at each end, is a large cam, *c*, which works in an opening, *e*, formed in the adjacent end of a vertically-reciprocating box, *v*, which moves in guides *v'*, supported by the inner skeleton frame, *d<sup>2</sup>*, as shown, the cams *c c* being thus arranged to raise and lower said inner box, *v*, alternately, as hereinafter explained.

One corner of the box *v* is partitioned off and has a slotted bottom forming a receptacle, *v'*, for the checks or tickets *l*, which after being successively printed from the under side with numerals or other characters indicating certain amounts of cash received, or other desired information, are ejected and delivered

through an opening, *u*, in one side of the outer case.

In front of the ticket-receptacle *v'* is a compartment, *r'*, of the box *v*, in which compartment is journaled a drum or roller, *r*, carrying a roll of record-paper, *r<sup>2</sup>*. The free end of this record-paper is carried down beneath a pressure-bar or impression-plate, *r<sup>3</sup>*, formed in the bottom of the box *v*, and after passing under this bar or plate said paper is carried upward between feeding-rolls *s s' s'*, mounted in the upper part of the box *v*, as shown.

On the shaft of the main or central feed-roll, *s*, is a ratchet-gear, *s<sup>2</sup>*, which is actuated by a pawl, *s<sup>3</sup>*, on an arm, *s<sup>4</sup>*, that is pivoted to the reciprocating box *v*, as shown. This pivoted arm *s<sup>4</sup>* has a cam-slot, *s<sup>5</sup>*, which engages a fixed pin, *s<sup>6</sup>*, supported by the inner skeleton frame, *d<sup>2</sup>*, so that in the upward movement of the box *v* the pawl *s<sup>3</sup>* is disengaged from the ratchet-gear *s<sup>2</sup>*; but on the descent of said box *v* the cam-slotted arm *s<sup>4</sup>* is thrown forward to bring the pawl *s<sup>3</sup>* into actuating engagement with the ratchet-gear *s<sup>2</sup>*, thereby rotating the roller *s* and feeding the record-paper *r<sup>2</sup>* forward. In this operation the rollers *s'* merely serve to hold the paper *r<sup>2</sup>* in frictional contact with the roller *s*, and may or may not be provided with springs, as preferred.

If desired, the ratchet-gear *s<sup>2</sup>* may be formed with a thumb-hold *s<sup>7</sup>*, Fig. 2, by which the roller *s* can be turned in adjusting the record-paper *r<sup>2</sup>* between the rollers.

In the bottom of the outer case beneath the vertically-reciprocating box *v* is a frame, *m'*, in which is journaled a series of type-wheels or printing-cylinders, *m*, each of which has a gear that meshes with a sliding rack, *n*, as shown. The several racks *n* are each connected to a sliding indicator-bar, *o*, either directly or through the intervention of connecting-bars *n'*, which are required for the bars *o*, that are farthest removed from their connected racks.

The sliding indicator-bars *o* have appropriate numerals or other characters engraved on their upper faces to correspond with the numerals or characters carried by the type wheels or cylinders, so that by withdrawing either indicator-bar to expose certain numerals or characters the corresponding numerals or characters on the connected type-wheel or



printing-cylinder will be brought into operative position. Each sliding indicator-bar *o* is also provided with a handle, as *p*, *p'*, *p''*, *p'''*, *p''''*, or *p'''''*. The handles *p* *p'* are marked to indicate pounds, *p''* and *p'''* shillings, and *p''''* pence, half-pence, or farthings. These handles and indicator-bars may, however, be otherwise fitted to indicate other amounts or quantities, as may be required. The under side of each bar *o* may be provided with a series of notches, *o'*, to engage a spring-catch, *o''*, and thus hold the racks *n* and type-wheels *m* in the position to which they may have been adjusted.

At suitable points in the frame *m'* are supported removable dating-stamps *q* *q*, which are provided with type that are interchangeable for different dates.

Ink is applied to the various type by means of a roller, *f*, that is loosely journaled in the lower ends of a pair of oscillatory arms, *f' f'*, which are pivotally suspended from the upper part of the outer box or case and actuated by cams *i i* on the shaft *d*, as shown, a slotted guide-bar, *g*, being provided at each end of the box to cause the roller *f* to travel in a horizontal path. The slotted guide-bars *g g* also afford a path for a horizontal sliding bar *w'*, which carries a pusher *w*, that is arranged to disengage the bottom ticket in the receptacle *l'* and eject it after it has been printed with the required characters. This pusher *w* is actuated through the bar *w'* and connected pivoted oscillatory arms *h h* by means of cams *k k* mounted on the shaft *d*, and adapted to move said arms *h h* back and forth.

By throwing the crank-handle *b* in one direction the pusher *w* is caused to disengage the bottom card and force it forward onto supporting-flanges *z z*, that are formed beneath the front of the box *v* above the type. On throwing the crank *b* in the reverse direction the inking-roller *f* moves forward over the type, and the box *v* is caused to descend behind said roller and bring the ticket supported by the flanges *z z* in contact with the type to print the desired characters. The next movement of the crank *b* raises the box *v*, moves the roller *f* backward over the type, and causes the pusher *w* to move forward and push out another ticket, which forces forward the printed ticket on the flanges *z z* and takes its place for the next operation.

The handle *b* is oscillated to the extent of about one hundred and eighty degrees, an adjustable regulating-stop, *t*, being fitted on the outer case to regulate the travel of the handle and the consequent downward pressure of the ticket on the type.

At each reciprocation of the inner box, *v*, the paper slip *r''* is removed from the roller *r* by the feeding-rollers *s s' s'*, and a record is printed thereon corresponding to that printed on the tickets. This record is printed at a point between the impression-plate *r'''* and the type wheels or cylinder located immediately beneath said plate. The unwound paper slip with the record printed thereon after passing the feed-rollers coils itself in the space within the box *v*, where it remains until the outer case is unlocked to ascertain the total amount received by adding these several amounts indicated on the said paper slip.

If desired, an escapement, *x*, can be connected with the shaft *d*, as shown in Fig. 2, to insure a complete rotation of the shaft in case the handle *b* should be only partly turned. A locking-bar may also be provided, whereby all the bars *o* can be locked from movement by means of a suitable key.

Having thus described my invention, what I claim as new is—

1. The combination, with an outer box or case and an inner vertically-reciprocating box, *v*, having a ticket-receptacle, *l'*, paper-roller *r*, and impression-plate *r'''*, of the type-wheels *m*, provided with actuating-gears, the racks *n*, meshing with said type gears, and the sliding indicator-bars *o*, connected with said racks and provided with handles, substantially as described.

2. The combination of an outer box or case having a delivery-opening, *u*, an inner vertically-reciprocating box, *v*, having a ticket-receptacle, *l'*, and provided with ticket-supports *z z*, paper-roller *r*, and a paper-feeding mechanism, an adjustable type-bed located beneath said inner box, an inking-roller, *f*, having oscillatory actuating-levers *f' f'*, a pusher, *w w'*, having oscillatory actuating-levers *h h*, slotted guides *g g*, for said inking-roller and pusher, a shaft, *d*, having cams to engage and actuate the said reciprocating box and oscillatory levers, and a crank-handle, *b*, for imparting a semi-rotation to said shaft, substantially as described.

In testimony whereof I have hereunto set my hand the 15th day of August, 1885.

SIDNEY FIRTH.

Witnesses:

JOHN TERMANT,  
*Solicitor, Leeds.*  
HERBERT B. MAUDE,  
*His clerk.*