

(No Model.)

2 Sheets—Sheet 1.

A. K. SUDDOTH.
ATTACHMENT FOR CASH DRAWERS.

No. 584,426.

Patented June 15, 1897.

FIG. 1.

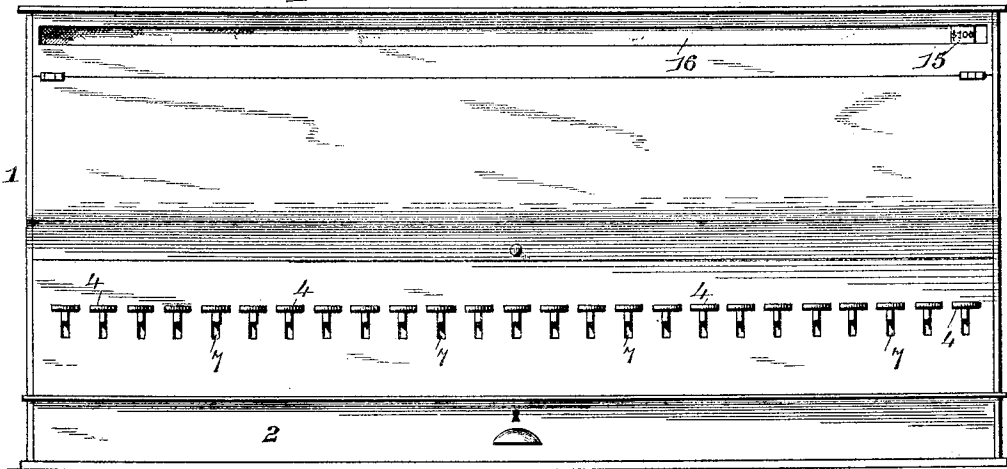


FIG. 2.

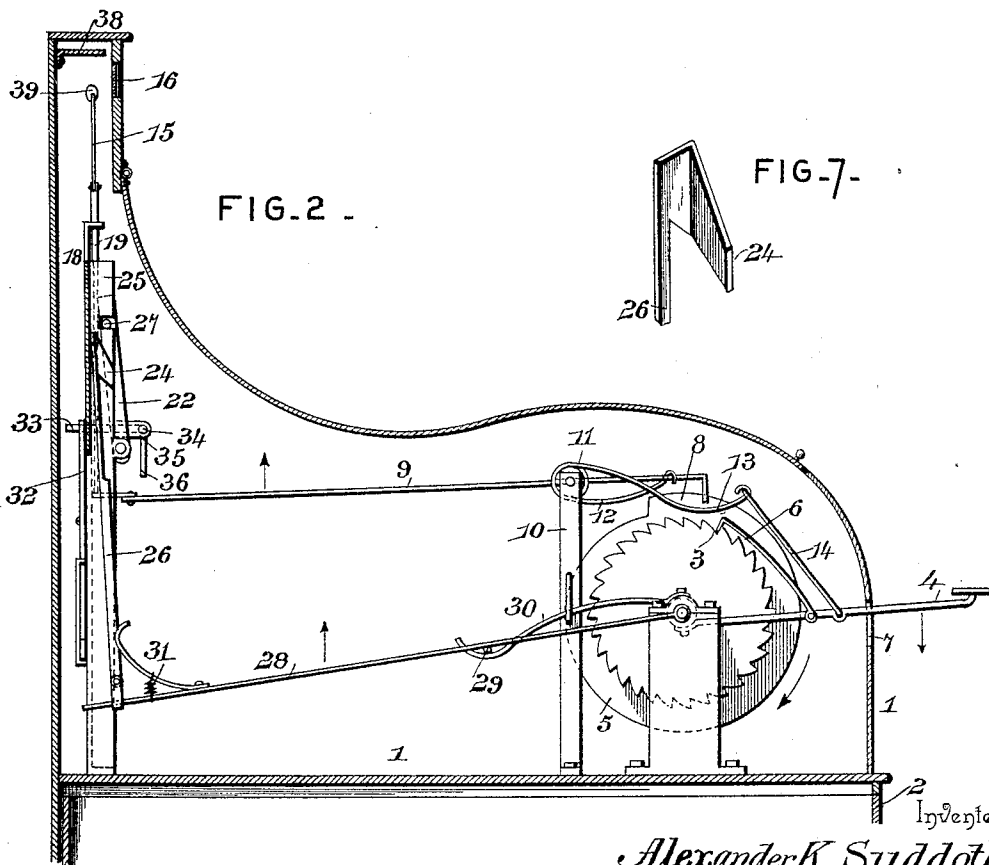
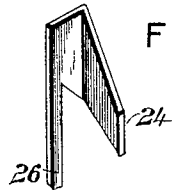


FIG. 7.



Witnesses

Jas. K. McLaughlin
J. F. Wiley

By his Attorneys,

C. A. Snow & Co.

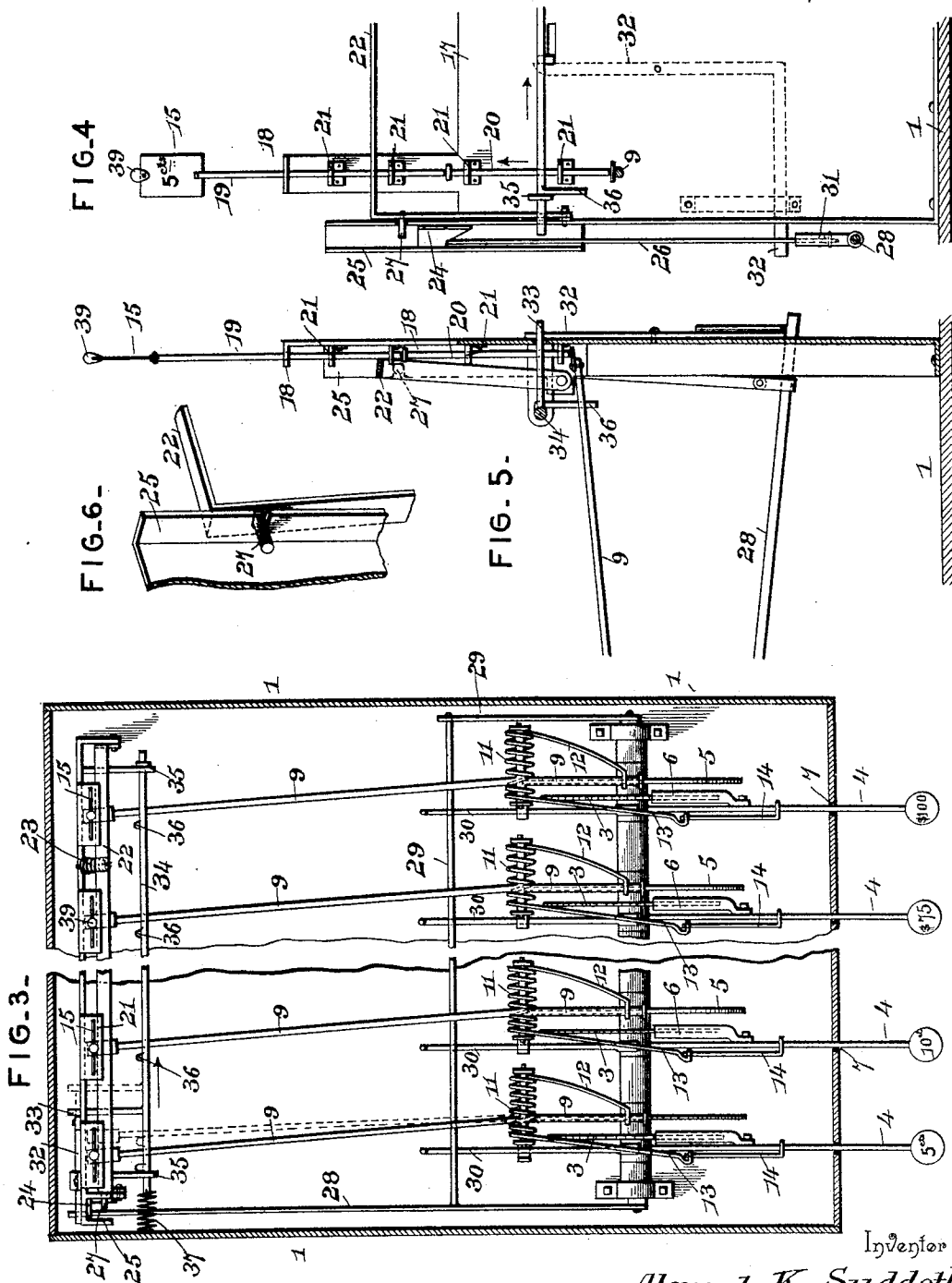
Alexander K. Suddoth

Inventor

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UNITED STATES PATENT OFFICE.

ALEXANDER K. SUDDOTH, OF MEMPHIS, TENNESSEE, ASSIGNOR OF ONE-HALF TO JOHN A. MOORE, OF SAME PLACE.

ATTACHMENT FOR CASH-DRAWERS.

SPECIFICATION forming part of Letters Patent No. 584,426, dated June 15, 1897.

Application filed February 14, 1896. Serial No. 579,293. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER K. SUDDOTH, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Attachment for Cash-Drawers, of which the following is a specification.

The invention relates to improvements in attachments for cash drawers or tills.

10 The object of the present invention is to provide an attachment for cash drawers or tills adapted to enable a certain per cent. of the money taken in from sales to be returned to the purchasers and capable of periodically indicating when such percentage of the sales is due, so that the person purchasing at that time may receive his purchase free.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

20 In the drawings, Figure 1 is a front elevation of an apparatus constructed in accordance with this invention. Fig. 2 is a vertical sectional view. Fig. 3 is a horizontal sectional view. Figs. 4 and 5 are detail sectional views illustrating the construction of the mechanism for supporting and releasing the indicators. Fig. 6 is a detail view of the catch for retaining the indicators in their elevated position. Fig. 7 is a detail perspective view of the releasing device for throwing the catch out of engagement with the indicators.

25 30 35 Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a casing, constructed somewhat similar to the casing of a cash-register and provided at its bottom with a cash-drawer 2 and having a door or lid at its front to afford access to its interior. At the front of the casing on a horizontal shaft is mounted a series of ratchet-wheels 3, each associated with and adapted to be actuated by a key 4 and carrying a cam-disk 5, rigidly connected with the ratchet-wheel in any suitable manner. Any number of keys may be employed to adapt the device to the particular business in which it is to be used. The ratchet-wheel 3 may be

provided with any desired number of teeth, according to the percentage of sales designed to be returned to the purchasers, and when the ratchet-wheel is provided with thirty teeth three and one-third per cent. of the sales will be returned. This percentage may be varied, as desired or found necessary, by varying the number of teeth of the ratchet-wheel.

Each key is provided with an actuating-pawl 6, inclining upward and having its engaging tooth resting upon the teeth of the ratchet-wheel, as clearly shown in Fig. 2 of the accompanying drawings. The stem of the key extends through a slot or opening 7 in the front of the casing and the movement of the key is limited by the length of the slot or opening, the ratchet-wheel being advanced the distance of one tooth each time the key is depressed.

35 40 45 50 55 60 65 70 75 80 85 The cam-wheel which is carried by the ratchet-wheel is provided at its periphery with a cam 8, adapted to engage the front end of a lever 9. The latter is fulcrumed intermediate of its ends on a support 10, and its front end is bent downward and rests upon the periphery of the cam-disk and is retained in engagement with the same by a spring 11. The spring 11 is provided with two arms 12 and 13, and has a spring-coil at the inner terminals of the arms disposed on the pivot of the lever 9. The arm 12 has its outer end bent in the shape of a hook and engages the front portion of the lever 9, and the other arm 13 of the spring is connected by a link-rod 14 or other suitable connection with the key 4 and is adapted to support the same in an elevated position preparatory to actuating the ratchet-wheel.

As the cam-wheel is rotated in the direction of the arrow the front end of the lever 9 is gradually raised, depressing the rear end correspondingly until the downwardly bent or depending portion of the said front end reaches the terminus of the cam 8, when the arm 12 of the spring 11 forces the front portion of the lever downward suddenly, throwing the rear portion upward and lifting an indicator 15, which is exposed through a transparent portion 16 of the casing. The indicator is mounted on a suitable support 17 at

the back of the casing and is provided with a stem 18, composed of upper and lower sections 19 and 20, mounted in suitable guides 21 of the support 17. The rear end of the lever 9 engages the bottom section 20 of the stem of the indicator 15, thereby raising the indicator, and the latter is retained in its elevated position by a spring-actuated catch 22.

The spring-actuated catch 22 consists of a substantially rectangular frame hinged at the lower terminals of its sides to the support 17 and extending substantially the entire length of the same and located in advance of the indicators in position to engage frictionally the upper sections of the stems thereof. The upper horizontal portion of the catch 22 is connected with a coiled spring 23, secured to the support 17 and extending rearward from the catch and adapted to hold the same in engagement with the upper sections of the stems of the indicators.

The raising of an indicator denotes that the ratchet-wheel corresponding with the same has made a complete revolution and that the purchaser is entitled to the amount marked on the key and the indicator. Some of the keys of course will be operated more frequently than others, and as each ratchet-wheel makes a complete revolution its indicator will be exposed, and these operations will occur at different times and with absolute accuracy.

After an indicator has been exposed it is returned to its initial position the next time a key is depressed, and it will accomplish this result when a reciprocating releasing device 24 is employed. The reciprocating releasing device is mounted in a vertical way 25 at one end of the support 17. It is substantially wedge-shaped, consisting of an inclined arm having inclined upper and lower edges, and it is mounted on a pivoted spring-actuated bar 26. The vertical way 25 is rectangular in cross-section, and the releasing device is substantially L-shaped in plan view and fits snugly within the way 25, the inclined arm being laterally offset from the upper portion of the bar 26.

When the releasing device 24 is moved upward by means hereinafter described, its upper inclined edge engages a stud 27 of the spring-actuated clamp and swings the latter forward sufficiently to release an indicator. The stud 27 is arranged in a recess or opening of the adjacent side of the way 25, and when the releasing device moves downward the lower inclined edge of the arm 24 engages the stud 27 and rides over the same without operating the clamp.

The lower end of the bar 26 is pivotally mounted on a lever-frame 28, comprising a rectangular front portion 29 and a rearwardly-extending arm arranged at the end of the casing adjacent to the way 25. The sides of the rectangular front portion are pivotally mounted at their front terminals on the shaft which carries the ratchet-wheels and cam-

disks, and the transverse portion of the frame is located in rear of the supports 10 and is adapted to be engaged by arms 30, extending rearward from the keys and connected therewith. Each key is provided at its inner end with a hub which is mounted on the horizontal shaft adjacent to the companion ratchet-wheel, and the arm 30 extends rearward from the hub and is connected by the same, whereby when the key is depressed the lever-frame is swung upward, carrying with it the releasing device 24. The releasing device 24 is retained in the vertical way 25 by a spring 31, mounted on the lever-frame and engaging the front edge of the bar 26.

The first portion of the upward movement of the rearwardly-extending arm 28 of the lever-frame carries the releasing device past the stud 27, and after this operation is completed the rearwardly-extending arm of the lever-frame engages a bell-crank lever 32, which is fulcrumed on the rear face of the support 17. The horizontal arm of the bell-crank lever is engaged by the lever-frame 28, and the upper terminal of the vertical arm engages an arm 33 of a reciprocating spring-actuated shifting device 34, which is adapted to move the rear end of the lever 9 laterally to one side of the lower section 20 of the stem of the indicator to cause the latter to fall to leave the upper section of the stem of the indicator free to fall as soon as the catch 22 is swung forward by the next operation or depression of a key.

The shifting device 34 consists of a horizontal rod mounted in guides 35 of the support 17 and provided with depending arms 36, arranged to engage the levers 9. The rod of the shifting device is connected with a coiled spring 37, which returns the shifter to its initial position as soon as the lever-frame 28 has reached the limit of its downward movement.

The casing may be provided at its top with a resonant bar 38, located above the indicators in position to be struck by bell-hammer heads 39, located at the upper edges of the plates or tablets of the indicators. This will call attention to the fact that an indicator is exposed and the purchaser is entitled to the amount exhibited by the same.

It will be seen that the cash-box attachment is simple and comparatively inexpensive in construction, that it is positive and reliable in operation, and that it is capable of periodically indicating a certain percentage of the sales.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What I claim is—

1. In a device of the class described, the combination of an indicator, a ratchet-wheel, a key adapted to engage and actuate the ratchet-wheel, a cam-disk carried by the ratchet-wheel, and a lever adapted to actuate

and expose the indicator and connected with and operated by a cam-disk, substantially as described.

2. In a device of the class described, the combination of an indicator, a lever fulcrumed intermediate of its ends and having one end arranged to engage the indicator, a cam-disk receiving the other end of the lever and adapted to actuate the lever to expose the indicator, and means for operating a cam-disk, substantially as described.

3. In a device of the class described, the combination of a casing, an indicator-operating lever, a cam-disk engaging the lever, a ratchet-wheel connected with the cam-disk, a key adapted to actuate the ratchet-wheel, and a spring connected with the lever and adapted to actuate the same when released by the cam of the disk, substantially as described.

4. In a device of the class described, the combination of an indicator-operating lever, a cam-disk engaging the same, a ratchet-wheel connected with the cam-disk, a key carrying an actuating-pawl engaging the ratchet-wheel, and a spring having one arm engaging the lever and another arm for supporting the key, substantially as described.

5. In a device of the class described, the combination of a vertically-movable indicator, a spring-actuated lever arranged to engage the indicator and move the same upward, a clamp arranged to engage the indicator to hold the same elevated, a cam-disk engaging and controlling the spring-actuated lever, a ratchet-wheel carrying the cam-disk, a key for actuating the ratchet-wheel, and a releasing device operated by the key and adapted to throw the catch out of engagement with the indicator to permit the latter to fall, substantially as and for the purpose described.

6. In a device of the class described, the combination of a support provided with guides, an indicator having a stem mounted in the guides and composed of independently-movable upper and lower sections, a lever arranged to engage the lower section to raise the indicator, a catch arranged to engage the upper section of the stem of the indicator to hold the latter elevated, and a shifting device arranged to engage the lever to swing the same laterally of the lower section to cause the latter to fall, whereby the indicator will be free to fall when released from the catch, substantially as and for the purpose described.

7. In a device of the class described, the combination of a support, a series of vertically-movable indicators mounted thereon, a horizontally-disposed spring-actuated catch extending across the series of indicators and arranged to engage the same to hold them elevated and provided at one end with a horizontal stud, a vertically-reciprocating releasing device provided with an inclined arm arranged to engage the stud to throw the catch outward from the indicators when mov-

ing upward, and adapted to ride over the stud in its downward movement, and means for operating the indicators and releasing device, substantially as described.

8. In a device of the class described, the combination of a support, a vertically-movable indicator having a stem mounted in suitable guides and provided with independently-movable upper and lower sections, a spring-actuated catch arranged to engage the upper section of the stem, a releasing device adapted to throw the catch outward, a lever arranged to engage the lower section of said stem to raise the indicator, a shifter arranged to engage the lever to swing the same out of engagement with the lower section of the stem, and means for operating the lever, the releasing device and the shifter, substantially as described.

9. In a device of the class described, the combination of a support, a vertically-movable indicator, a catch arranged to engage the indicator to hold the same elevated, a reciprocating releasing device arranged to engage the catch, a lever for operating the indicator, a cam-disk engaging the lever, a ratchet-wheel connected with the cam-disk, a lever-frame connected with and adapted to reciprocate the releasing device, and a key adapted to actuate the ratchet-wheel and provided with an arm engaging the lever-frame, substantially as and for the purpose described.

10. In a device of the class described, the combination of a support, a series of vertically-movable indicators mounted thereon, each provided with a stem composed of independently-movable upper and lower sections, a series of levers arranged to engage the lower sections of the stems to actuate the indicators, a catch arranged to engage the upper sections of the indicators, a reciprocating shifting device provided with a series of arms arranged to engage said levers and adapted to move the same away from the lower sections of the stems, a vertically-movable releasing device arranged to engage the catch, and a bell-crank lever fulcrumed on the support and having one arm connected with the releasing device and its other arm connected with the shifting device, substantially as and for the purpose described.

11. In a device of the class described, the combination of a support, a series of vertically-movable indicators mounted on the support, a substantially rectangular spring-actuated catch hinged to the support and engaging the indicators and provided with a stud, a vertical way mounted on the support and receiving the stud, and a reciprocating releasing device consisting of an inclined arm having inclined upper and lower edges, the upper edge being capable of throwing the stud outward and the lower edge being adapted to ride over the same, substantially as and for the purpose described.

12. In a device of the class described, the

combination of a frame or support, a series
of ratchet-wheels, cam-disks actuated with
the ratchet-wheels and carried by the same,
a series of spring-actuated levers engaging
5 the cam-disks at their front ends and ful-
crumed intermediate of their ends, a series
of indicators arranged to be engaged by the
rear ends of the levers, a shifting device ar-
ranged to move the levers away from the in-
10 dicators, a catch for holding the indicators
elevated, a releasing device for throwing the
catch out of engagement with the indicators,

a lever-frame carrying the releasing device
and connected with the shifting device, and
keys arranged to actuate the ratchet-wheels 15
and provided with arms for operating the le-
ver-frame, substantially as described.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

ALEXANDER K. SUDDOTH.

Witnesses:

D. P. FERGUSON,
O. L. WEBBER.