3 Sheets—Sheet 1.

E. BEECHER.

Till-Alarm.

No. 219,796. Patented Sept. 23, 1879.

Fig. 1.

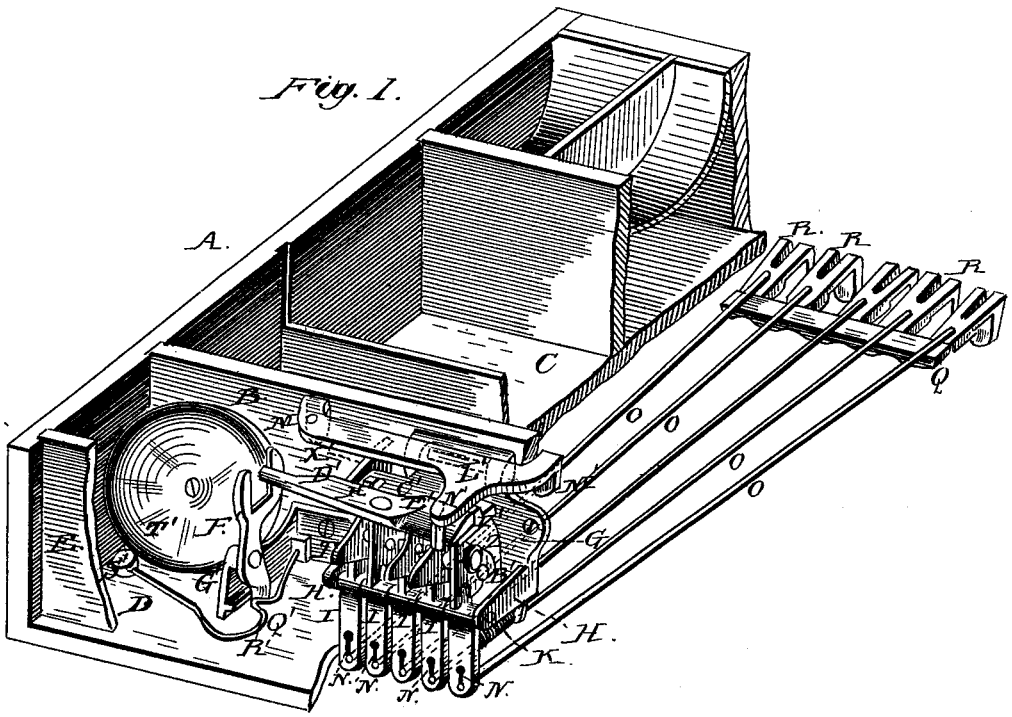
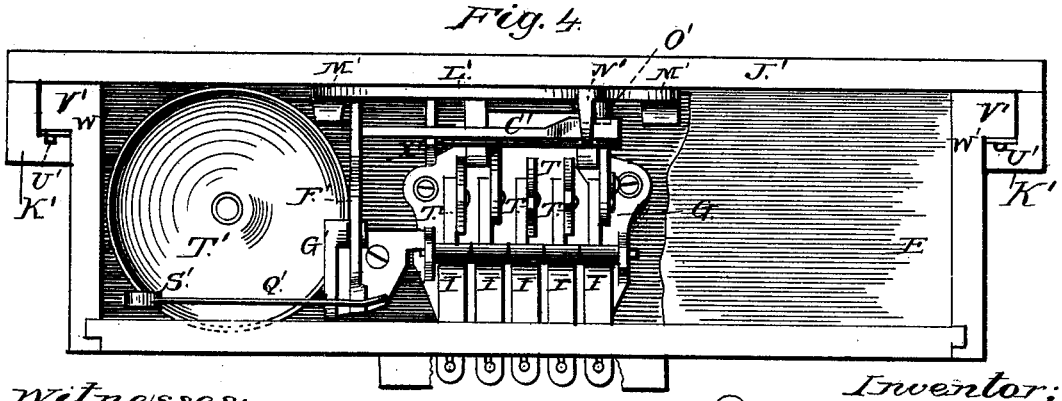


Fig. 4.



Witnesses;
Fred. G. Dieterich
J. R. Littell,

Inventor;
Evelyn Beecher,
By C. A. Snow & Co.
Attys.

E. BEECHER.
Till-Alarm.

No. 219,796. Patented Sept. 23, 1879.

Fig. 2.

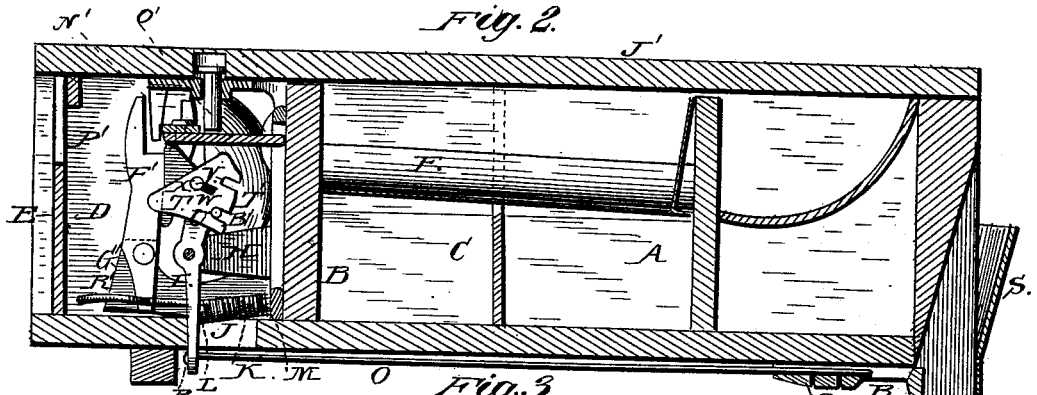


Fig. 3.

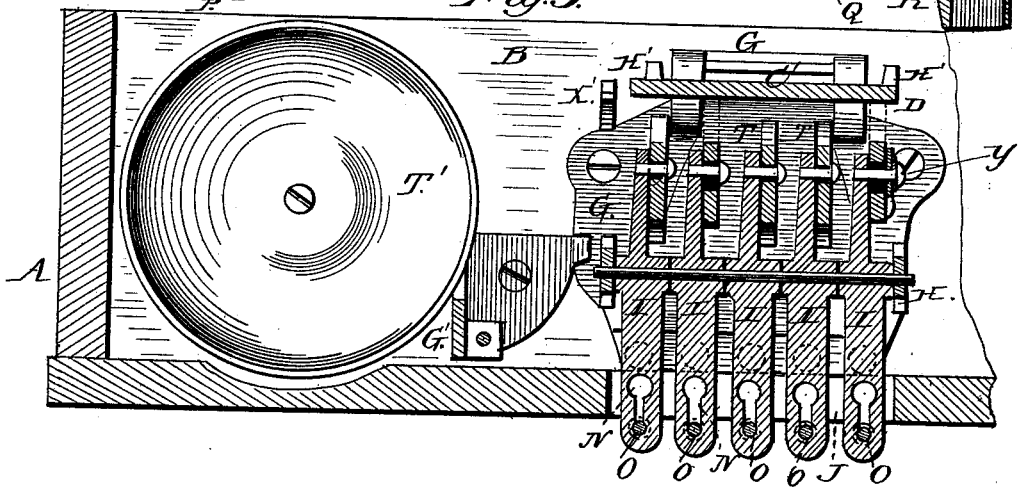


Fig. 5.

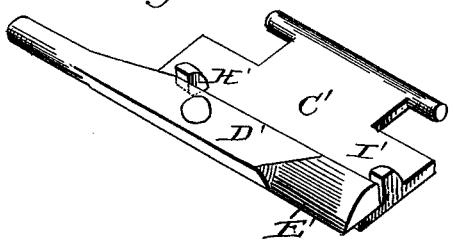
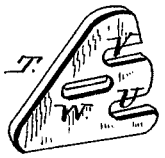


Fig. 6.



Witnesses;
Fred. G. Dieterich
J. R. Littell,

Inventor;
Evelyn Beecher,
By C. A. Snow & Co.
attys.

3 Sheets—Sheet 3.

E. BEECHER.

Till-Alarm.

No. 219,796. Patented Sept. 23, 1879.

Fig. 7.

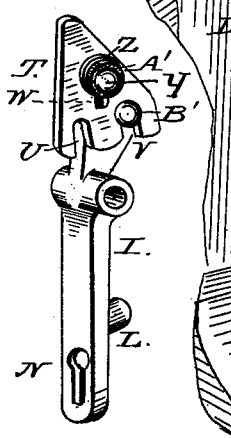


Fig. 8.

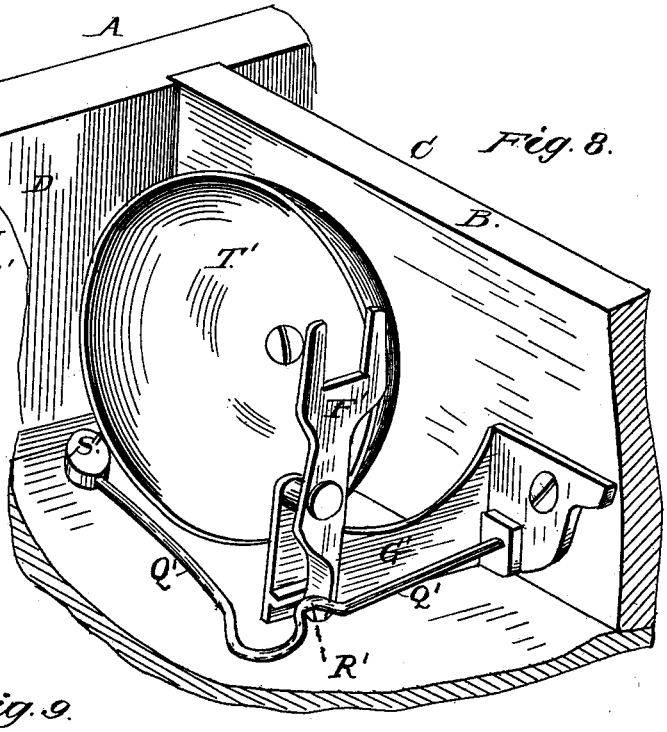
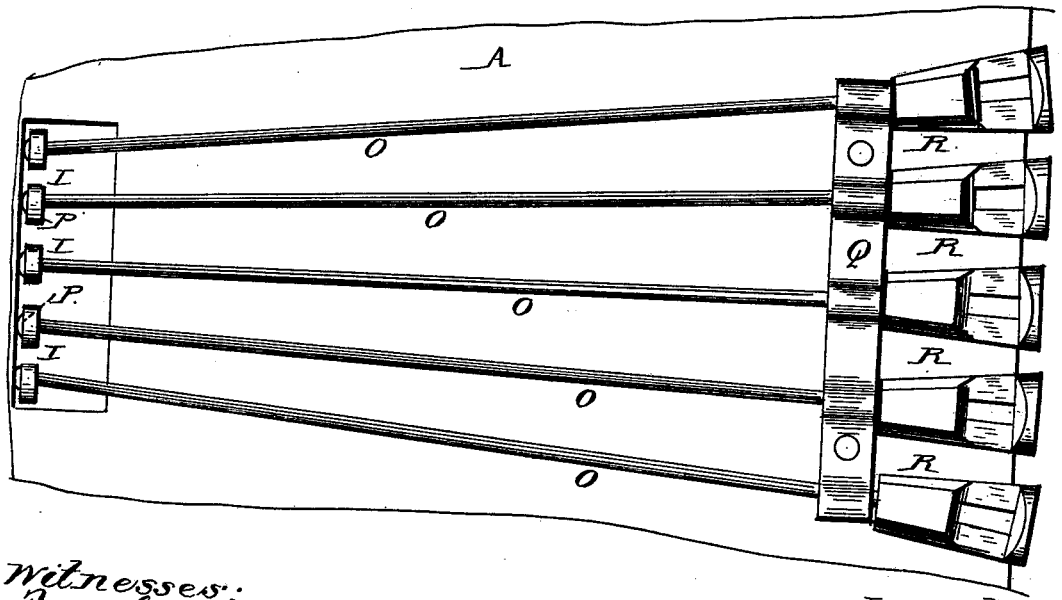


Fig. 9.



Witnesses:
Fred. G. Dietrich
J. R. Littell.

Inventor:
Evelyn Beecher,
by A. Brown & Co.
Attys

UNITED STATES PATENT OFFICE

EVELYN BEECHER, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN TILL-ALARMS.

Specification forming part of Letters Patent No. **219,796**, dated September 23, 1879; application filed June 19, 1879.

To all whom it may concern:

Be it known that I, EVELYN BEECHER, of New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Money-Drawers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a view, in perspective, of the locking and alarm mechanism detached from the drawer. Fig. 2 is a longitudinal sectional view of the drawer with the mechanism in position. Fig. 3 is a cross-section. Fig. 4 is a rear view. Fig. 5 is a detail view of the lock-plate and lever. Fig. 6 is a detail view of one of the cam-plates. Fig. 7 is a detail view of one of the cam-plates in position upon the lever. Fig. 8 is a detail view of the alarm mechanism, and Fig. 9 is a bottom plan of the drawer with the mechanism in position.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to an improved alarm and locking mechanism for tills or money-drawers; and consists in the improved construction of the same, which will be hereinafter more fully described, and particularly pointed out in the claims.

In the drawings, A represents the drawer, a transverse partition, B, in which separates the cash-compartment C from the space D, reserved for the lock and alarm mechanism. The back E of the drawer is removable, in order to afford access to the lock, for the purpose of setting the combination of the latter, as will be hereinafter described. The cash-compartment of the drawer is divided by sundry partitions into boxes or spaces for coins and bills of various denominations, and a tray, F, centrally located, is provided to hold trade-dollars, the weight of which is thus evenly distributed. The upper edges of said tray are bent inward, for the purpose of holding the coins securely when sprung in.

To the rear side of the partition B is secured a frame, G, having brackets H H, between which are pivoted a series of levers, I I, the lower ends of which project through a slot, J. A short distance below the bottom of the drawer springs K K are interposed between the levers I, below their fulcrums, and the bracket-frame G, studs L M being provided upon the levers and the frame, respectively, in order to hold said springs. The lower ends of the levers are provided with contracted slots N, to receive the ends of rods O, which are provided with heads P, so as to be readily adjustable in said slots. The rods O slide longitudinally in suitable grooves in a bracket, Q, secured under the drawer, and extend to the front end of the latter, where they are provided with convenient handles or thumb-pieces R. The handle S, with which the drawer is provided, is open at the top, thereby enabling the operator to see the thumb-pieces of the operating-rods when manipulating the device.

Upon the sides of the levers I, at their upper ends, are pivoted cam-plates T, of the construction shown in Fig. 6 of the drawings. Said cam-plates are triangular in shape. One of the short sides of each plate is provided with two parallel slots, U V, extending into the body of the plate, and in the body of the plate, between slots U V and parallel thereto, is formed a third slot, W. The latter slot receives the pivoting pin or stud X, between the head Y of which and the plate is interposed a rubber and a metallic washer, Z A′, the latter being nearest the body of the plate. The object of the rubber washer is to hold by friction the cam-plate in any position in which it may be placed.

Upon the side of each lever I, below and in front of the pivoting-pin X, is secured a pin or stud, B′, adapted to receive either one of the slots V U, the slot W in plate T enabling the latter to be adjusted in either position; and it will be observed that when the slot V, which is nearest the acute-angled corner, is adjusted upon the pin B′, the opposite accute-angled corner of the plate is elevated some distance above the top of the lever, while when the slot U, which is nearest the right-angled corner of the plate, is adjusted upon the pin B′, the longest side of the triangle is presented at the top, thus leaving the highest point of the cam-plate at a lower level.

In suitable bearings in frame G, above levers

I, is hinged a horizontal plate, C′, extending forward and resting upon the edges of one or more of the series of cam-plates.

Pivoted on top of plate C′ is a lever, D′, one end of which has a beveled edge, E′, while its other end is adjusted in the upper forked end of a vertical lever, F′, pivoted to a suitably-arranged bracket, G′.

Two studs, H′ I′, arranged upon plate C′ behind the lever D′, confine the motion of the latter, which, however, must be sufficient to give the end of lever D′ operating the lever F′ sufficient play to operate the alarm mechanism, which will be hereinafter described.

J′ represents the table or counter, under which the drawer slides upon cleats K′ K′. Between the cleats is secured a plate, L′, having two studs, M′ M′, forming stops for the drawer, against the partition B of which they abut, and a third stud, N′, so arranged as to strike the side of lever D′ at the beveled end of the latter. In front of stud N′ is arranged another stud, O′, sliding vertically in plate L′, and arranged to strike the opposite unbeveled side of the beveled end of lever D′.

The removable back E of the drawer is provided with a recess, P′, in order not to interfere with the stop-studs when the drawer is opened.

To the bracket G′, carrying the vertical lever F′, is secured a spring, Q′, having a loop or lug, R′, engaging the lower end of lever F′, which is triangular in cross-section. The end of the spring is provided with a knob or hammer, S′, adapted to strike a bell, T′, arranged beside bracket G′.

It will be seen that when the lever F′ is operated by lever D′ the spring-hammer is thereby caused to strike the alarm.

In the cleats K′ K′, upon which the drawer slides, are sunk longitudinal strips U′ of round wire, which project slightly above the level of the strips, so as to form a bearing-surface for the drawer-cleats V′ V′, which are shod with strips, W′ W′, of iron, steel, or other metal. By this construction a smooth and easy bearing-surface with but little friction is formed.

The operation of the drawer-lock will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed.

Certain of the cam-plates are set upon the slots V and the balance upon slots U, the plate C′ being thus supported in a horizontal position upon those of the cam-plates set upon the slots V. When it is attempted to open the drawer the sliding stud O′ will strike the unbeveled side of lever D′, thus operating it to its full extent, and through it the alarm.

The stud H′ prevents the lever from swinging too far to become disengaged from the stud, which thus prevents the drawer from being opened. A movement of less than one inch is sufficient to effect this result. When in this position the end of lever D′ is supported upon an arm, X′, of frame G, which makes it necessary to close the drawer before the combination can be operated.

In closing the drawer, the stud N′ strikes the beveled side of lever D′, (below which it projects,) thus returning the lever D′ to its original position, and in doing so re-sounding the alarm.

To open the drawer, it is only necessary to pull those operating-rods attached to such of the levers as carry cam-plates set upon slots V. By doing so the said levers are vibrated, the cam-plates thrown out in a rearward direction, and the hinged plate allowed to drop down upon those cam-plates set upon slots U. The lever D′ is thus brought out of reach of the stud O′, and the drawer is opened without sounding the alarm.

When the operating-rods are released the springs K return the levers I to their original position, and the cam-plates at the same time raise the plate C′ to its original horizontal position.

When the drawer is closed the sliding stud strikes the beveled side of lever D′, by which it is lifted and caused to pass over the lever without being thrown into action.

It will be observed that in order to open the drawer it is absolutely necessary that all of the levers I whose cam-plates are set in the combination, and only those, should be operated at the same time. If one or more of them are not operated, the hinged plate C′ will still remain horizontal, and the drawer cannot be opened, and if any of those not in the combination are operated the cam-plates of such will be thrown back to such a position as to support plate C′.

Only when the exact operating-rods of the combination are pulled can the drawer be opened, and then without sounding the alarm.

The simplicity of my invention, and the facility with which the combination can be set or changed, will be readily appreciated. The lock can be easily operated by those acquainted with the combination, and is absolutely safe.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a combination-lock constructed substantially as described, the triangular cam-plates T, having slots U V W, as set forth.

2. The combination, with the levers I, having studs B′ and pivoting-pins X, of the cam-plates T, provided with slots U V W, metal washer A′, and rubber washer Z, as set forth.

3. The combination, with the hinged plate C′, having lever D′, of the vertical forked lever F′, spring Q′, having loop or lug R′ and hammer S′, and the alarm-bell T′, all constructed, arranged, and operating substantially as set forth.

4. The combination of the levers I, having adjustable cam-plates T, the hinged plate C′, having lever D′, beveled at one end, the alarm mechanism herein described, and the plate L′,

arranged above the drawer, and having stud N′ and vertically-sliding stud O′, as set forth.

5. The combination, with the lever D′, pivoted upon the hinged plate C′, of the stop-studs H′ I′, as set forth.

6. The combination, with the lever D′, pivoted upon the hinged plate C′, as herein described, of the arm or bracket X′, adapted to support the said lever when thrown out of its normal position, as set forth.

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

EVELYN BEECHER.

Witnesses:
CHARLES A. BEVANS,
JOHN SIDNEY PARMELEE.