S. C. FRINK.

TILL-LOCK ALARM.

No. 169,632. Patented Nov. 9, 1875.

Fig. 1

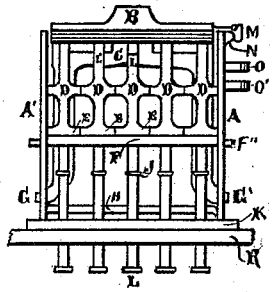


Fig. 2

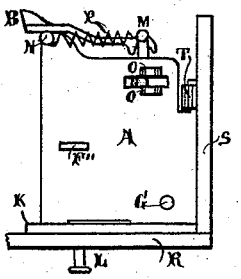
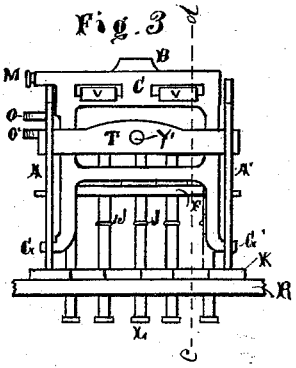


Fig. 3



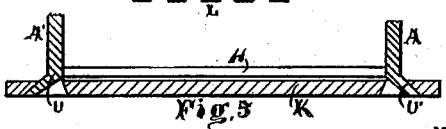
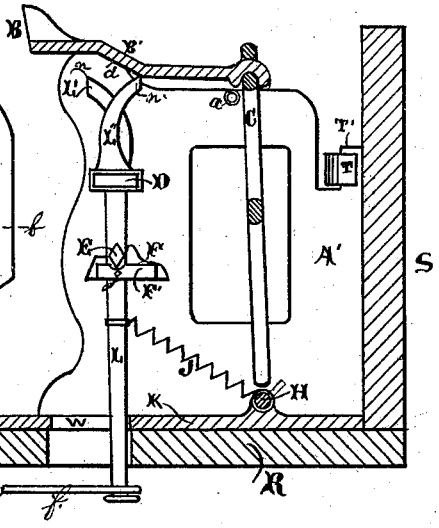


Fig. 5

Fig. 4



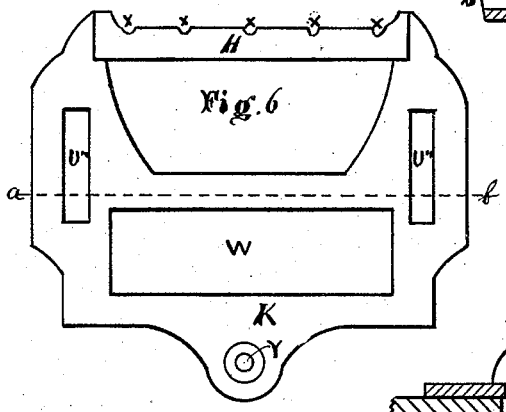
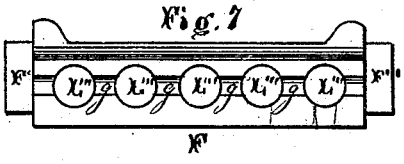


Fig. 6

Fig. 7



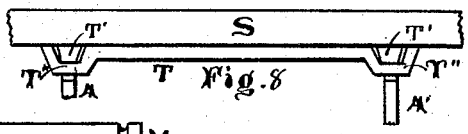


Fig. 8

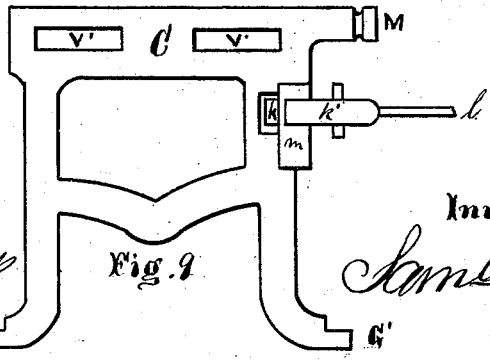


Fig. 9

Witnesses:

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UNITED STATES PATENT OFFICE.

SAMUEL C. FRINK, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO HIMSELF AND ERASTUS O. FRINK, OF SAME PLACE.

IMPROVEMENT IN TILL-LOCK ALARMS.

Specification forming part of Letters Patent No. **169,632**, dated November 9, 1875; application filed March 11, 1875.

To all whom it may concern:

Be it known that I, SAMUEL C. FRINK, of Indianapolis, Marion county, State of Indiana, have invented an Improved Alarm-Lock for Cash-Drawers, of which the following is a specification:

Alarm-locks for cash-drawers, up to the present time, have been actuated by tumblers separate from the levers, in order to get a reverse motion, by turning the tumblers one-half around either on inclined-plane levers, three-armed levers, or by having dogs that could be reversed by screws, and many other ways of accomplishing a right and left or a right and wrong key, all of which have been very complicated, and require a great amount of skill and labor to perfect them. To overcome these difficulties, and reduce the number of pieces required, and work of fitting up, and to have the cap of the lock worked by single tumblers, which form their own levers, and thus do away with tilting dogs and three-armed levers, and their connection with straight or bent tumblers, and to have a lock perfect and solid, with no pieces to beome disarranged and to get out of order, and to save drilling holes and riveting, or screwing, or bolting the different parts together, I have invented a new lock, of which the following is a description.

The object of my invention is to construct an alarm-lock for cash-drawers in such a manner as to have all of the pieces composing the frame and braces of the lock to interlock together, so that the frame will be held firmly together without the use of bolts, screws, or rivets; also, to construct the center-brace or tumbler-support so that it fits in holes made in the side frames, and perforate it with a series of holes, and has a groove the whole length across the partitions between the holes, for the purpose of receiving the lever-tumblers, which are inserted in the holes, and has pivots cast on each side to rest in the grooves between the holes. The lever-tumblers are operated at the lower end by the finger-keys and wires under the drawer, and the other end operates on a flat part of the swinging cap. This cap is formed with an inclined plane, which connects the upper front part, which is parallel, with the lower back part. The inclined plane performs no office, and is merely used to connect the two parallel parts of the cap in such a manner that, as the right tumbler is moved back on the lower parallel part of the cap, the wrong tumbler will not interfere with the dropping of the cap, unless the wrong tumbler is moved back, when it will engage with the lower parallel part, and hold the cap from dropping; also, to construct the swing with a projecting arm, on which is secured one end of the spring that holds the swing forward, the other end of the spring being secured to a lug cast on the upper front edge of the side frame; also, in the manner of constructing the lever-tumbler, so that it can be reversed and form a right and wrong tumbler, as may be required; also, the manner in which the lever-tumblers are secured in the tumbler-support, and to the bottom casting of the lock by the springs.

Figure 1 represents a front elevation, Fig. 2 is a side elevation, and Fig. 3 is a rear elevation, of the alarm-lock embodying my improvement. Fig. 4 is an enlarged section, through the line *c d* of Fig. 3. Fig. 5 is a section of the bottom of the lock, showing the manner in which the sides are hooked into the bottom casting. This section is taken through the line *a b* of Fig. 6. Fig. 6 is a plan of the bottom casting of the lock. Fig. 7 is a plan of the lever-tumbler support. Fig. 8 represents the manner of locking the back part of the side frames together, and securing the same to the back of the drawer. Fig. 9 represents the swing with its connections with the bell-hammer.

A A′ represent the side frames of the lock. At the bottom of each piece is cast a projection, U, which extends downward and at an angle from the side, and when inserted in the holes U″ U″, as shown in Fig. 5, clamps themselves to the bottom K. C, Fig. 9, represents the swing, which has two openings, V′ V′, at the top, in which are inserted the curved bearings at the rear side of the cap B. At the lower extremity of each side of the swing C are the pivots G G′, which fit into holes cast in the side frames A A′, near the bottom and rear of the sides, as at G in Fig. 2. At the upper

right-hand corner of the swing C is a projecting arm, M, which extends over the top of the side frame A, and has a groove cast therein to receive one end of the spring P, as shown in Fig. 2. The raised part *m* of the swing comes in contact with the bell-hammer *k'*, and, as the swing C is forced back, it causes the bell-hammer to slip off and sound the alarm. The lever-tumbler-supporting bar F, Fig. 7, is used as a brace between the sides A A' by having its ends F' F'' inserted in holes cast in the sides, as shown in Figs. 1, 2, 3. This tumbler-support has as many holes L''' in it as there are lever-tumblers to the lock, and has a groove, *g g*, extending the whole length between the holes L'''. This groove *g g* is to receive the pivots E, that project from the body of the lever-tumblers L, as shown in Figs. 1 and 4. The lever-tumblers L are formed substantially as shown in Figs. 1 and 4, and are formed in one piece—that is, the lever and tumbler are one piece of casting, the shaft L of which extends from below the drawer, where the finger-wires connect therewith, to the bottom of the swinging cap B, and has pivots or lugs cast on each side to rest in the grooves *g g* of the tumbler-support F. Above these pivots, cast on the shaft, are the guides D. These guides, as well as the ends of the pivots, prevent the lever-tumblers from any side motion that would occur without them or some other proper guide. Above these guides D the shaft L is curved or has an angular position, and extends upward and comes in contact, if a right key, with the lower parallel part of the cap B, at the extreme lower part of the inclined plane B', as at L'', Fig. 4. The extreme point, as at *n'*, being sufficiently far from the center line of the shaft L as to rest against the cap B, as above described, this will form a right tumbler to open the lock. By drawing the lower part of the shaft L forward the pivots E would partially rotate in the groove *g*, and the extreme upper point *n'* would be carried back on the lower parallel portion of the cap B, and the cap would be lowered, so as to pass the dropping-catch that is secured to the top of the drawer. To make a wrong tumbler the lever-tumbler L must be raised up and turned one-half around, as shown at L', Fig. 4. This tumbler, if drawn forward at the bottom, brings the upper extreme point *n* in contact with the cap B at the point where the right tumbler should be at rest, and the cap will not be lowered.

Just below the lever-tumbler support F, and on the shaft of the lever-tumbler L, is a groove cast in the shaft, to which one end of the spring J is secured in such a manner that the lever-tumbler can be raised and turned around without interfering with the spring. The other end of the spring J is secured to the cross-bar H, that is cast on the bottom casting K. These springs not only hold the lower end of the lever-tumblers L back against the rear of the opening W in the bottom casting K, but hold the lever-tumbler down in the groove *g* of the tumbler-supporting bar F, and there are no loose tumblers to work out or get out of order. At the upper left-hand corner of the side A is a lug, N, Figs. 1, 2. On this lug one end of the spring P is hooked, and the other end is fastened to the projecting arm M on the upper right-hand corner of the swing C. This spring always holds the cap B and swing C forward, unless the drawer is pulled forward without lowering the cap B, when the catch that is on the cover, and not shown in the drawing, engages with the front end of the cap B, and pushes it back until the bell-hammer *k'* slips off and gives the alarm. The two sides A A' are clamped together at the back by the clamp T, as shown in Figs. 2, 3, 4, and more fully in Fig. 8.

Having thus described the different pieces composing the lock, I will now proceed to show how the different pieces are placed together and secured in the drawer. First take the lever-tumblers and insert them in the holes in the tumbler-supporting bar F, and lay it down; then place the cap B in the swing C, as before described, after which take the bottom casting K in the left hand, and insert the projection U' of the side A into the hole U''; pick up the swing C, with the cap in its place, and insert the pivot G' into its bearing in the side A; pick up the tumbler-supporting bar F, with the lever-tumblers in their places, and insert them in the hole W of the bottom casting; then insert the end F'' into its hole in the frame A, after which take the side A' and hook the projection U at the bottom into the hole U'' of the bottom K, and guide the other bearings of the swing C and tumbler-supporting bar F into their proper places, after which place the clamp T over the hooks T' of the sides, and the frame is securely fastened together. Next place the springs J on the lever-tumblers L at the groove cast in the lever-tumbler below the pivots E, and secure the other end of the spring to the cross-bar H, which is cast on the rear part of the bottom casting K for that purpose. Next hook one end of the spring P over the projecting arm M of the swing, and hook the other end over the lug N at the front upper corner of the side A, and the lock is complete except the bell-hammer and catch-bolt above. The lock is now placed in the drawer, and secured in its proper place by two screws, one of which screws into the bottom of the drawer through the hole Y in the bottom casting K, and the other screws into the back of the drawer through the hole Y', that is in the clamping-bar T. When this is accomplished place the bell-hammer in its position between the lugs O O', and secure the spring to the bell-hammer and to the back of the drawer, set the bell, and the lock mechanism is complete.

The arrangement of bell-hammer and its connection with the frame A and back of the drawer, together with the bell and the catch that is secured to the cover, are not shown in the drawings, as they are old.

To operate my improved lock and change the combinations, all that is necessary is to raise the lever-tumblers and turn them one-half around—as, for instance, all lever-tumblers set as at L″, Fig. 4, are the right ones to open the drawer, which is readily seen. By drawing the lower end of the lever-tumbler toward the front of the drawer the upper end travels back under the swinging cap B and allows it to drop. To form a wrong tumbler, raise them up and turn one-half around, as at L′, Fig. 4, and it is readily seen that when the extreme upper end *m* is moved back, by drawing the lower end forward the upper end *n* will engage with the swinging cap B at the point that is supported by the right tumbler; consequently the cap will not drop, and the drawer cannot be opened unless an alarm is given.

I do not broadly claim the swing C, cap B, bell-hammer K′, or drop-catch, (not shown,) as they are old.

What I claim as new, and wish to secure by Letters Patent, is—

1. The combination of the side frames A A′, the bottom K, clamp T, swing C, tumbler-supporting bar F, and cap B, constructed, operated, and held together substantially as specified.

2. The combination of the lever-tumblers L with the tumbler-supporting bar F, cap B, swing C, springs J, and bar H, substantially as specified.

3. The tumbler-supporting bar F, constructed with openings L‴, as described, and groove *g*, for receiving the tumblers L, in combination with the tumblers L, constructed with lateral lugs or bearings E, by which the tumblers may be turned around without removing them from the tumbler-supporting bar F, substantially as specified.

4. The combination of the projecting arm M of the swing C with the spring P and lug N on the side of the frame A, substantially as specified.

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

SAML. C. FRINK.

Witnesses:

E. O. FRINK,

F. J. STALEY.