

G. KIMBALL.

ALARM LOCK FOR MONEY DRAWERS.

No. 108,363.

Patented Oct. 11, 1870.

Fig. 1.

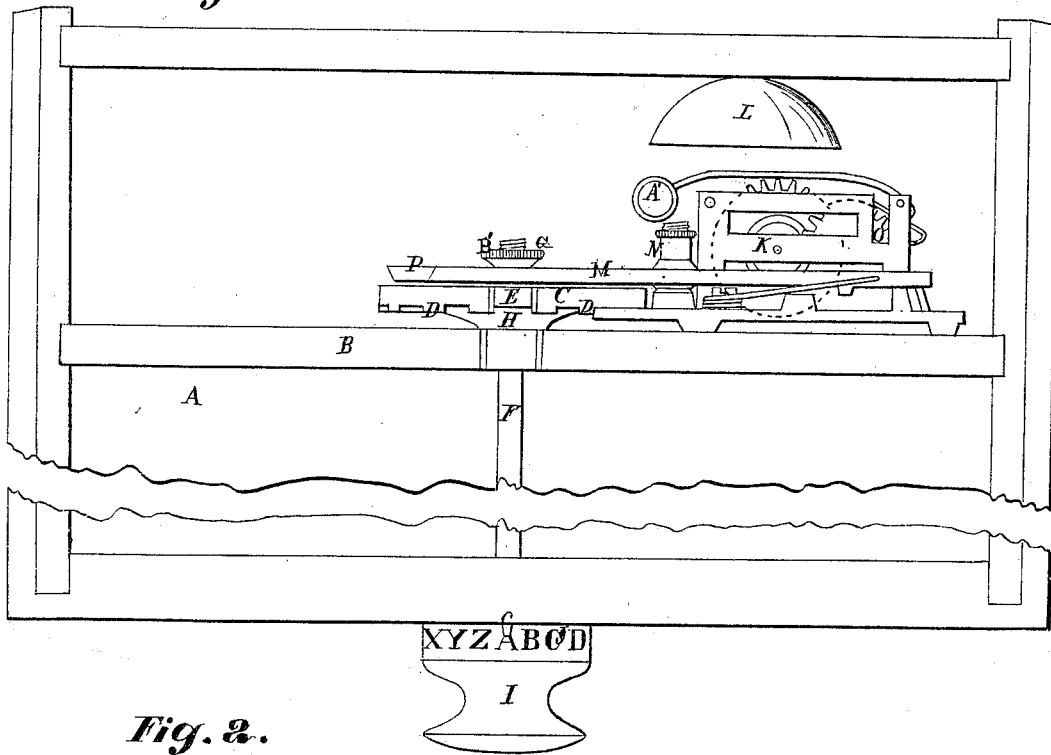


Fig. 2.

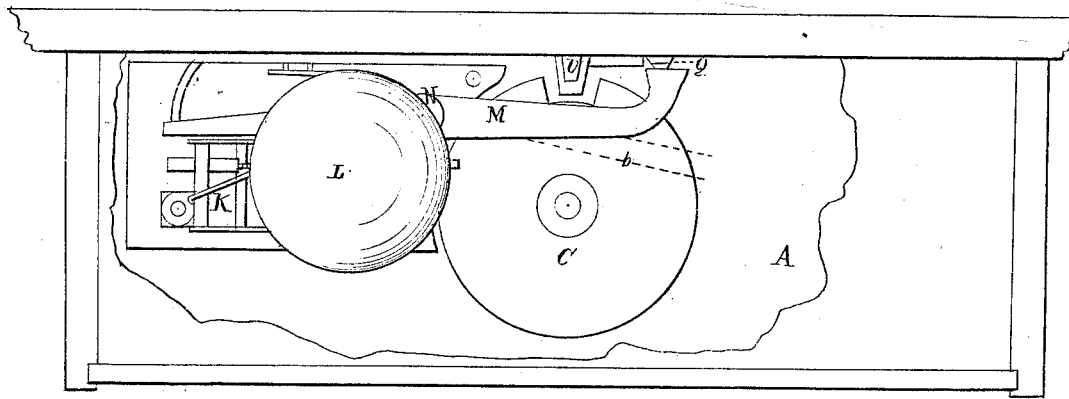


Fig. 3.

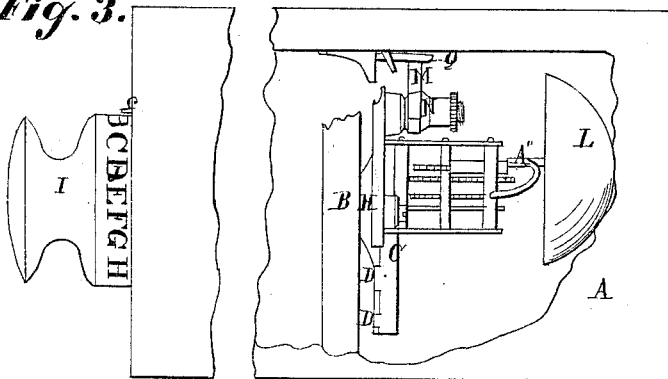
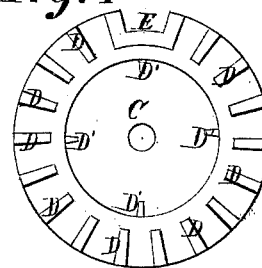


Fig. 4.



Inventor.

George Kimball

Witnesses.

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Fig. 5.

Fig. 9.

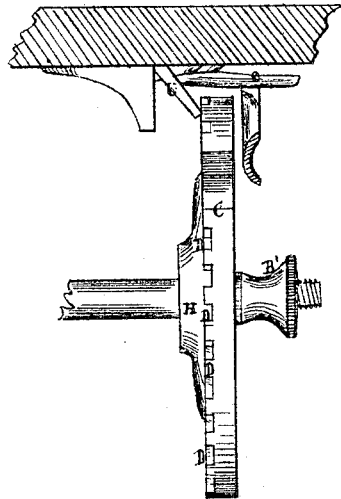


Fig. 6.

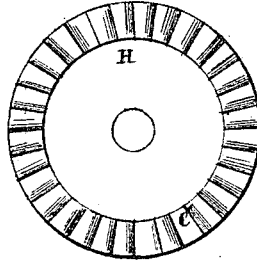


Fig. 7.

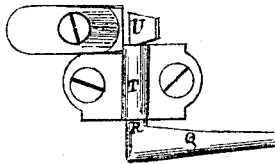
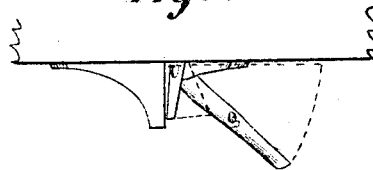


Fig. 8.



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United States Patent Office.

GEORGE KIMBALL, OF CLEVELAND, OHIO.

Letters Patent No. 108,363, dated October 18, 1870.

IMPROVEMENT IN ALARM-LOCKS FOR MONEY-DRAWERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE KIMBALL, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and improved Alarm Money-drawer Lock; and I do hereby declare that the following is a full, clear, and complete description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a top view of the drawer and lock.

Figure 2 is a view of the rear side.

Figure 3 is an end view.

Figure 4 is a detached section.

Figures 5, 6, 7, 8, and 9 are detached sections.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to an alarm-lock, attached to a drawer, the object of which is to sound an alarm, on an attempt being made to open the drawer when the combinations of said lock are not properly adjusted for the withdrawal of the drawer, as hereinafter more fully described.

In the drawing—

Fig. 1, A represents the drawer, of which B is a partition. To the inner side of said partition is attached the lock and alarm-mechanism.

Said lock consists of an arrangement of the following devices, viz., a disk, C, fig. 2, a detached view of which is shown in fig. 4, representing the opposite side of that shown in fig. 2.

In said figure it will be observed that, on the side of the disk, is a series of radial bars, D, and that in the margin of the disk is cut a deep, wide notch, E, the purpose of which will presently be shown.

The disk above described is secured to the end of the shaft F, by means of the set-screw G, which, on being screwed up, forces the disk against a supplementary disk or shoulder, H, fig. 1, secured in a fixed manner to the shaft, a detached view of which is shown in fig. 5. Said shaft proceeds across the drawer, and projects through the front thereof.

To the protruding end is attached a knob, I, whereby the drawer is pulled out.

Around the base of the knob are arranged the letters of the alphabet, J, in regular order, as shown in fig. 1.

K is an arrangement of clock-work, consisting of a spring, wheel, and hammer for sounding the bell L.

Said clock-work is caused to operate by means of a lever, M, pivoted at the point N.

One end of said lever extends back to the wheel O, fig. 1, with which it engages by means of a pin, depending from the lower side of the lever to a pin projecting upward from the wheel. The contact of the two pins causes the movement of the works to stop, and their disengagement allows the works to run.

The lever is generally in contact with the wheel, but is disengaged therefrom to allow the active operation of the mechanical movement for sounding the bell, by depressing the end P of the lever, which disengages the contact of the pins.

The end of the lever is depressed by means of a trip, consisting of an arm, Q, figs. 7 and 8.

Said arm projects from a short shaft, R, fig. 7, journaled in a stay, T.

Proceeding from the opposite end of the shaft is a lug, U, standing nearly at right angles to the arm.

This arm and lug are attached to the under side of the top of the table, desk, &c., under which the drawer slides by means of the stay, as shown in fig. 9.

The relative position of this trip to the disk C, above described, is such that, on drawing out the drawer, the lug U will strike the vertical diameter of the disk, so that, should the notch E in the periphery of the disk be at the upper side, as shown in fig. 3, the lug U will pass through it without touching the disk; whereas, should the notch be at any point either side of the vertical diameter of the disk, as shown in fig. 9, and prevent the drawer from being pulled out, at the same time it will force the lug down to the position shown in fig. 8, the result of which will be to bring down the arm Q upon the end of the lever M, depressing it as indicated by the dotted lines b, fig. 2, thereby elevating its opposite end, disengaging it from the wheel O, by this means setting the mechanical movement in operation, and thus sound an alarm by the hammer A' and bell.

Said alarm will be continued so long as the lug remains pressed against the side of the disk.

By this device it will be obvious that the drawer cannot be drawn out unless the notch in the edge of the disk is in the exact position to allow the lug to pass through it, whereas, should it not be in such proper position, it will strike the side of the disk, thereby depressing the lug and the arm, and by this means actuate the movement for sounding an alarm, as above said, so that persons within hearing of the bell will know that an attempt is made to open the drawer without a knowledge of the key or letter to admit the passage of the lug through the notch in the disk, but which must be known in order to open the drawer without starting the alarm.

The adjustment of the letters to the notch is as follows:

For illustration, let A be the key letter. This is brought to the upper side of the knob, as shown in fig. 1, directly opposite the pointer c. This position of the letter will bring it in range with the notch E in the disk, on the opposite end of the shaft. Now, on pulling the drawer, it will draw out, as the lug U referred to will pass through the notch.

As only one letter at a time can be in range with the notch, it will be obvious that, should any other letter than A be brought to the pin or pointer *c*, by simply turning the knob, the drawer cannot be drawn out, as the lug will strike against the side of the disk and hold it from being withdrawn, as the disk turned with the turning of the knob, thereby changing the position of the notch. At the same time the lug will be forced down, thereby depressing the end of the lever under the arm, and sound an alarm; nor, while the alarm is being sounded, can the knob be turned in either direction, for the purpose of bringing the notch in range with the lug, for the end of the lug will be held between the ribs *D*, seen on the side of the disk, thereby locking it from being turned.

By again pushing the drawer back the distance it was drawn forward to engage the lug with the disk, a distance of about one-fourth of an inch, the knob and disk can be turned in either direction, in order to bring the key-letter in range with the notch, which, if not known, will involve the necessity of trying more or less of the twenty-six letters, until the right one happens to come in range.

Each letter tried, if not the proper one, will sound an alarm, and thus call attention to the attempt to open the drawer.

When the key-letter is known, the knob is turned until the letter, which may be any one of the number, comes to the pin or pointer *c*. As the letter A was taken as the key, when it arrives at the point *c*, the notch in range therewith will be in position to allow the passage of the lug.

Should any other letter be taken as the key-letter, for instance U, the notch is made to range therewith.

This is done by unscrewing the nut *B'*, fig. 9, whereby the disk is held in contact with the shoulder or wheel H.

Said wheel is fixed to the shaft, as before said, whereas the disk is loose upon it, and secured to the shoulder by the nut referred to, and by means of the teeth *C'* on the under side of the shoulder, which,

when brought close to the side of the disk, engage certain lugs, *D'*, fig. 4, on the inner side of the disk, within the circle of the ribs *D*.

By the engagement of the teeth of the shoulder or wheel H with the lugs *D'* of the disk, the two are prevented from turning in either direction, and which are kept thus engaged by the nut *B'* referred to.

The two sections thus engaged are shown in fig. 9, a transverse section of which is shown in fig. 6.

The teeth and lugs above mentioned are so arranged that they will engage with each other only whenever any one of the letters may be in range with the notch in the disk; hence, when once thus in range, they cannot be changed without first unscrewing the nut—hence there is no liability by the range of the assumed letter and the notch becoming disturbed by the ordinary working of the lock.

The adjustment of any one letter, so that it may range with the notch as the key-letter, may be accomplished by having the knob turn upon the shaft instead of the disk.

In this event the knob should be fitted loosely to the shaft, and secured thereto by a set-screw or other suitable means, or the band of the letters may be made so as to turn upon the base of the knob.

Claims.

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

1. The disk-wheel *C*, having radial bars *D'* permanently attached to it, which disk is secured to the same shaft holding the knob, and arranged in relation to the letters *J*, substantially as and for the purpose set forth.

2. The arm *Q* and lug *U*, in combination with the disk *C* and lever *N*, as and for the purpose substantially as set forth.

GEORGE KIMBALL.

Witnesses:

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J. H. BURRIDGE.