

E. BROWN.

2 Sheets—Sheet 1.

Till Alarm.

No. 13,157.

Patented July 3, 1855.

Fig. 1.

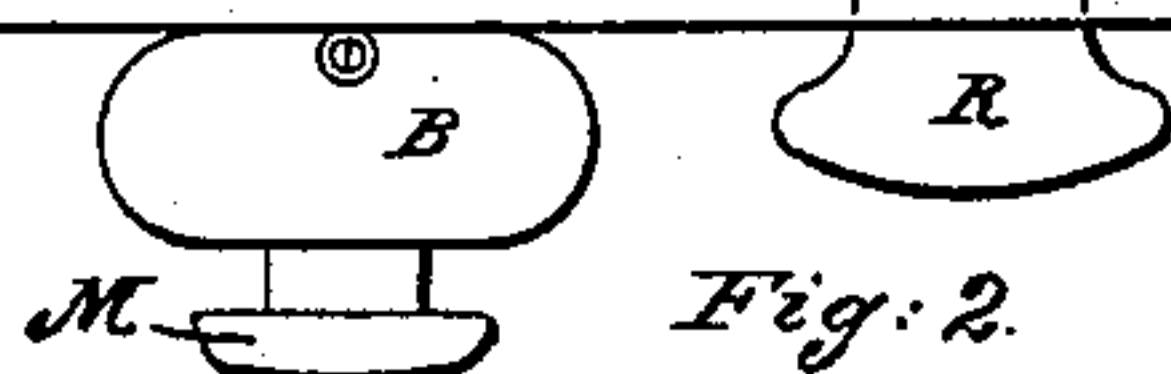
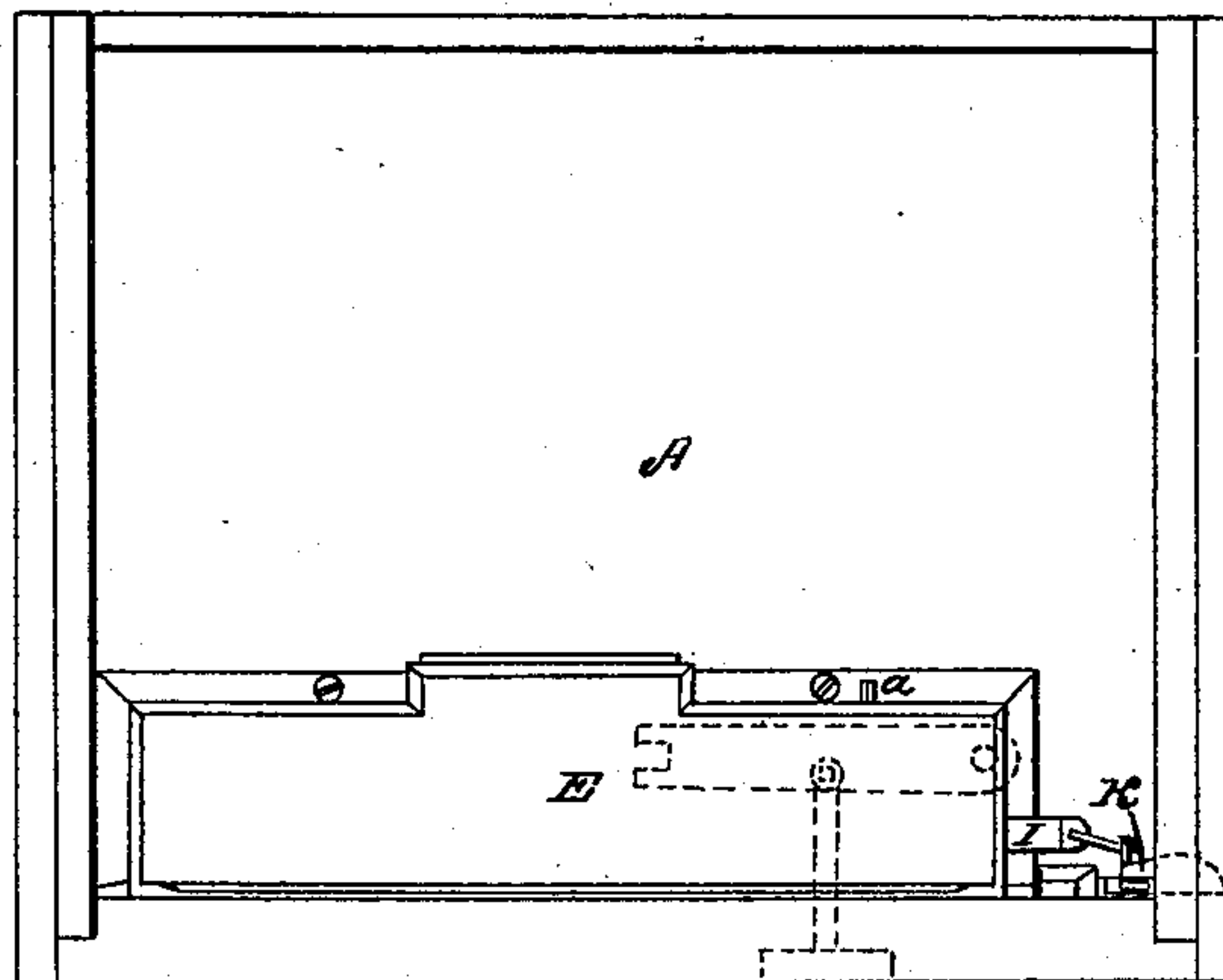


Fig. 2.

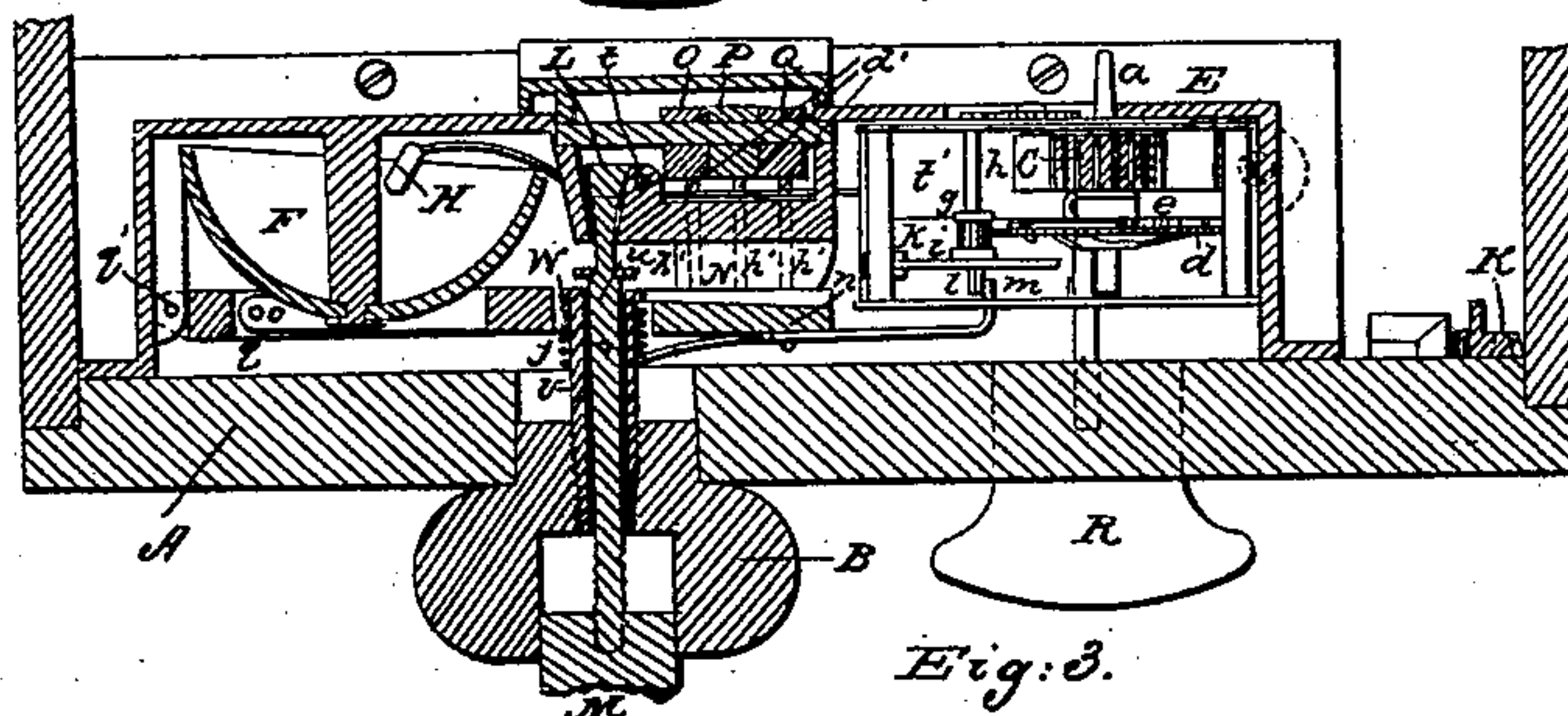
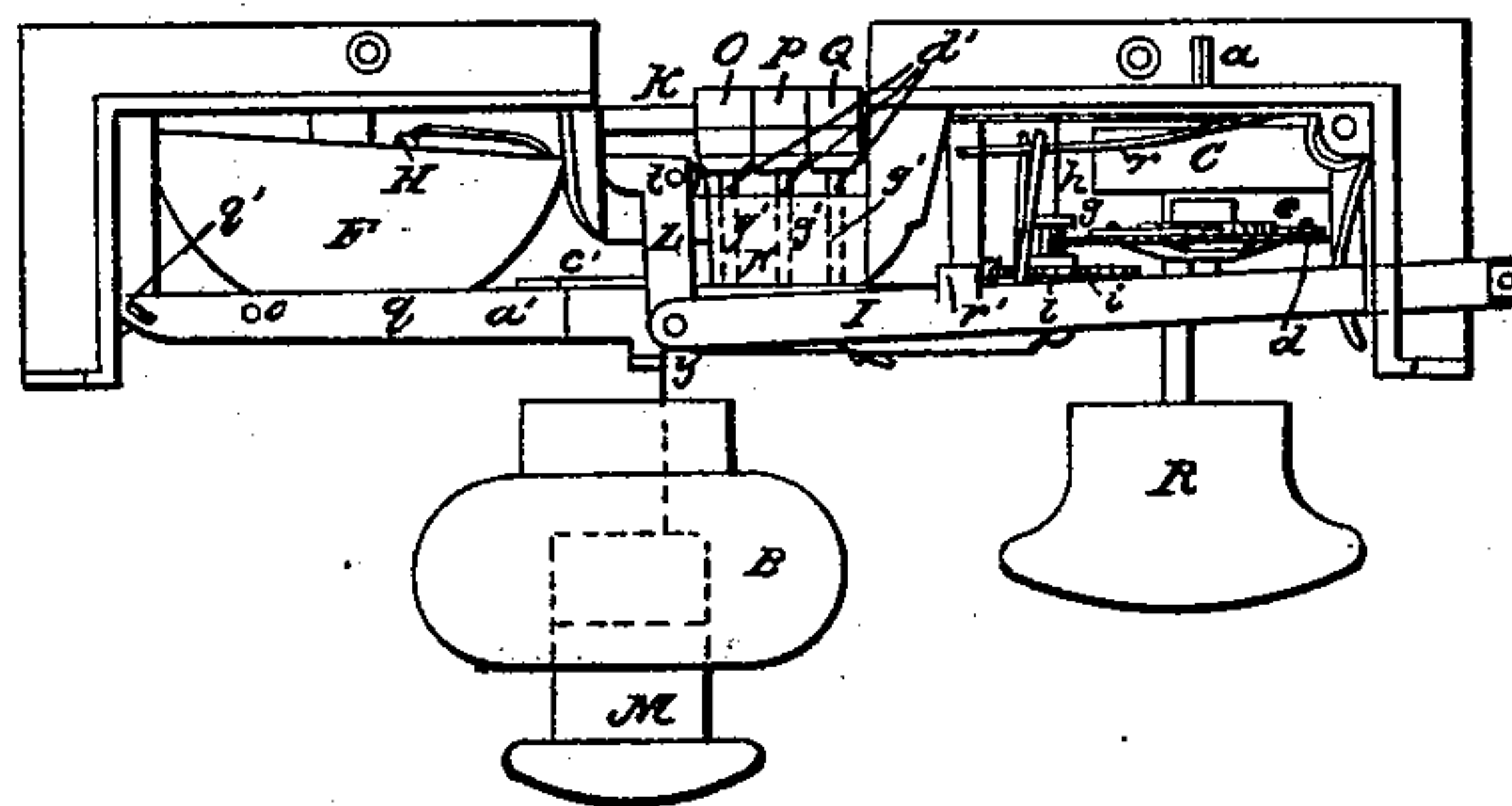


Fig. 3.

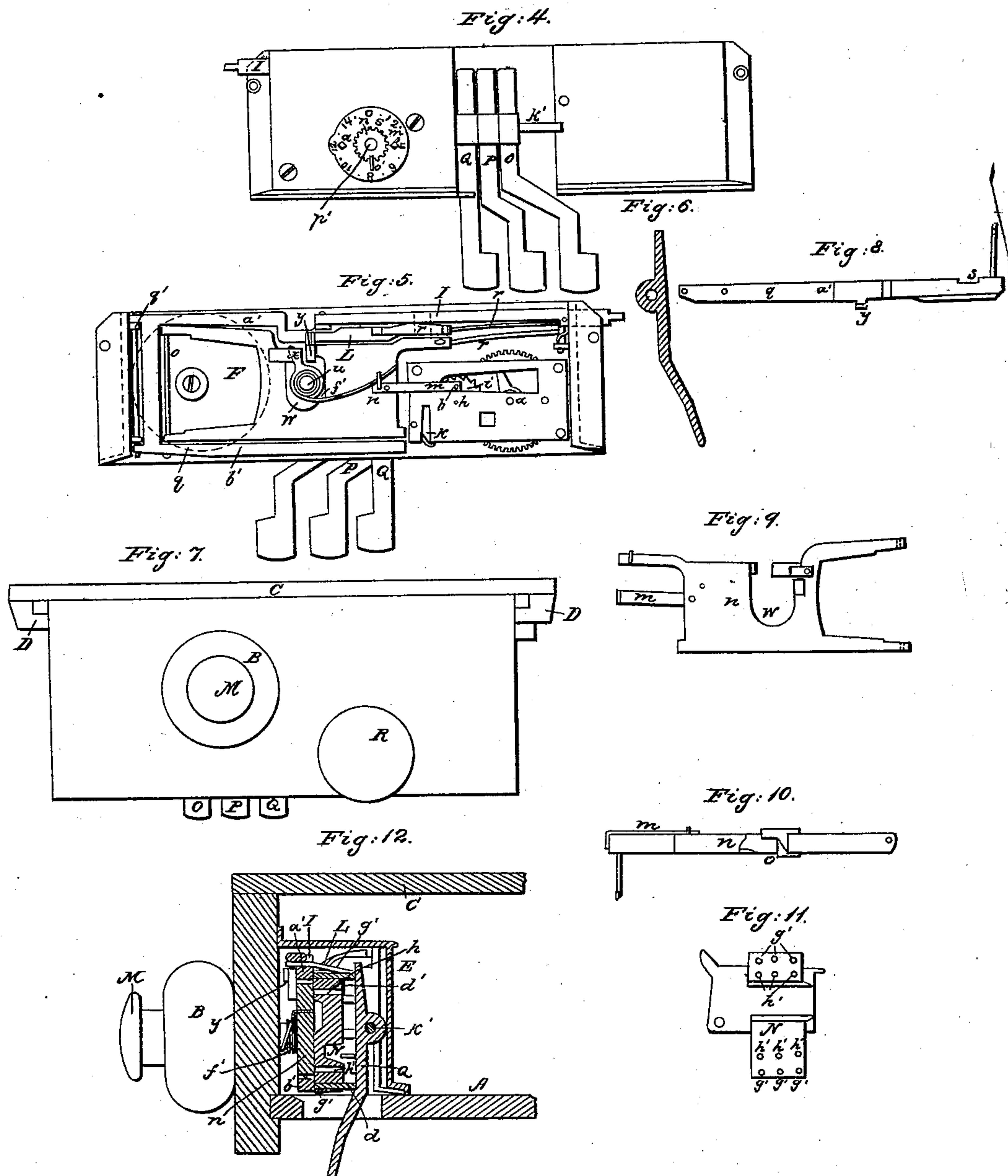


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2 Sheets—Sheet 2.

No. 13,157.

Patented July 3, 1855.



UNITED STATES PATENT OFFICE.

EPHRAIM BROWN, OF LOWELL, MASSACHUSETTS.

BURGLAR-ALARM.

Specification of Letters Patent No. 13,157, dated July 3, 1855.

To all whom it may concern:

Be it known that I, EPHRAIM BROWN, of Lowell, in the county of Middlesex and State of Massachusetts, have invented an improved thief-detector or alarm apparatus to be applied to money-drawers, doors, &c., in order to give notice when any improper attempt is being or has been made to open the same; and I do hereby declare that such invention is fully described and represented in the following specification and the accompanying drawings, letters, figures, and references thereof.

On the thirty first day of October of the year 1854, Letters Patent of the United States were granted to me on apparatus of like character. My present invention is a change or improvement on said invention by which it may be applied to better advantage to a drawer or door.

Of the drawings above mentioned Figure 1, exhibits a top view of a drawer having my said invention applied to it. Fig. 2, is a horizontal section of the front end of the drawer and of the alarm apparatus, said section being taken through the axis of the main and secondary knobs. Fig. 3, is a top view of the alarm apparatus with its top plate removed. Fig. 4, is a rear elevation of it. Fig. 5, is a front elevation. Fig. 6, is a vertical and transverse section of one of the key levers to be hereinafter described. Fig. 7, is a front view of the drawer and its case.

In such drawings, A denotes the drawer; B, the main knob; C, the counter or board under which the drawer is placed and made to slide on rails D, D.

Against the inner side of the front end of the drawer I arrange the case of the alarm apparatus or detector as seen at E, placing near to one end of it and within this case the alarm bell F, as represented in Fig. 2. The hammer of the alarm is seen at H, as extended underneath the bell and operated by the remaining part of the alarm apparatus which is arranged in the opposite part of the case, to that in which the bell is disposed as seen in Fig. 2. The alarm apparatus used is that well known to clock makers. Its key shaft is shown at *a*; its coiled spring at *c*; its key wheel at *d*; its ratchet at *e*; its lantern pinion at *g*; the shaft of said pinion at *h*, said shaft being made to carry an escapement wheel *i*, which operates the bell by means of an escapement *k*.

When the main spring is wound up and set free, it will so set in action the mechanism as to cause a constant succession of blows to be given to the bell E, by which an alarm may be sounded. There projects from the inner side of the escapement wheel, a pin or stop *l*, which operates in connection with a pin or stud *m* extending from a discharging lever *n*, which turns or plays, horizontally on a pin or fulcrum *o*, extending through another lever *q*, which I term the locking lever, it being extended from a fulcrum *q'*, at one end of the case E as seen in Figs. 3 and 5. The said locking lever *q*, is formed with two arms *a'*, *b'*, as seen in Figs. 3 and 5. When the discharging lever is drawn forward it will cause the alarm stud *m*, to be drawn away from the pin or stud *l*, of the escapement wheel so as to permit the said wheel to revolve. The return movement of the lever will carry the alarm stud into the path of rotation with the pin or stud of the escapement wheel, and when the latter strikes against the former its further rotations will be arrested. There is a spring *r'*, applied to each of the levers *n*, *q*, to draw it in a direction toward the alarm apparatus. Just above the locking lever there is arranged a bolt rod I, which is jointed to a spring bolt K, which works through the side of the drawer and into and out of the ledge or rail of the drawer case. From the said bolt rod I, a projection *r'* extends downward below the bolt rod, see Figs. 3 and 5, in the latter of which the said projection is exhibited by dotted lines. This projection enters a recess or notch *s*, formed in the upper arm *a'*, of the locking lever as seen in Fig. 8, which is a top view of said arm. The rear end of the bolt rod is jointed to a horizontal bent lever L, which turns upon a vertical pin or fulcrum *t*, and has its shorter arm resting in contact with the rod *u*, of the secondary knob M, such rod *u*, passing and sliding freely through the tubular rod *v*, of the main knob B, the knob rods being arranged with respect to the discharging and locking levers as seen in the drawings.

The external rod, *v*, extends through a passage or opening *w*, formed through the lever *n*, as seen in Fig. 5, and particularly in Fig. 9, which is a rear view of said lever, and shows said passage as provided with an opening leading out of its upper part. Into this opening a stud, *y*, from the arm, *a'*.

of the locking lever extends. Below said lever and in rear of said stud, the rod of the main knob is provided with a projection, z , as exhibited by dotted lines in Fig. 5. When in an inclined position as seen in Fig. 5 it rests against a shoulder, c' , formed on the discharging lever as seen in Fig. 10, which is a top view of said lever. The stud is kept up to the shoulder by means of a spring, f' , applied to the knob rod, v , and the lever, n , and in such manner as to enable the rod, v , to be turned upon the rod w , so as to move the projection z , directly in rear of the stud, y . When the said projection, z , is thus brought in such relation to the stud, y , and the main knob is pulled, the locking lever, q , will be moved so as to unlatch the bolt rod and enable it to be moved so as to retract the bolt, such movement being effected by forcing the secondary knob, M, inward against the shorter arm of the lever I. The two levers, n , and, q , are drawn by their springs against the stationary partition or block, N, which extends in rear of them, and from the upper to the lower side of the lever, q . This block is provided with two series of holes as seen at g' g' , and h' , h' , see Figs. 11, and, 12, the former being an inside or front view of the block, and the latter a vertical section of the whole apparatus and taken through the block. The two external rows of these holes are arranged against the arms a' b' of the locking lever, while the internal rows thereof, are disposed against the discharging lever. Each of these holes is adapted to receive a slide or pin d' , which rests against one of the key levers O, P, R, whose common fulcrum is arranged between two inner rows of pins as seen at h' in Fig. 12.

In carrying out my invention, I can use either one or two of the said pins d' , to each of the keyed levers making either arm of either of the key levers to operate either the discharging or locking lever as I may chose. When the key lever is moved on its fulcrum it forces the slide pin against that lever, n , or, q , with which it may be in connection. By means of holes, pins and key levers, above mentioned, either of the levers n , or, q may be operated, the spring bolt being always retracted by forcing in the secondary knob M. For the purpose of moving the lever Q, there may be applied to it by means of a movable lever fork, t' , a third knob R, the position of such lever fork and knob rod, being shown in Fig. 1, by dotted lines and also in Fig. 2, the knob, R, being seen in Fig. 7. Affixed upon the shaft h , of the lantern pinion, g , where said shaft projects through a counterplate, s' , see Fig. 4, is a small tooth, m' , which operates in a gear, n' , that carries an index pointer, o' , and turns on an arbor, p' , projecting from the counter plate. The object of the coun-

terplate and wheel is to register what number of improper attempts may have been made to open the drawer, as the index of the counter will be moved whenever such an improper attempt is made and an alarm is sounded.

There are three ways in which the drawer can be opened without the alarm being sounded. By the first mode of accomplishing this result, the main knob is to be seized in the right hand of a person and rotated until its projection, z , is moved directly in rear of the stud, y . This done, the knob should be pulled from the drawer, the secondary knob, M, being pressed inward by the palm of the hand, the drawer being seized and pulled forward at the same time. By the second method of opening the drawer we pull the right hand key lever and at the same time press inward the knob M, pulling the drawer outward with the third and fourth fingers. By the third mode of opening the drawer, the knob R, is to be pulled, the wrist of the right arm being borne against the secondary knob, M, and the drawer pulled forward. The other two key levers may at the same time be arranged as decoys, or with respect to the discharging lever, n , so that when one is moved in one direction it may move the discharging lever, and also that when the other is moved in the opposite direction it shall produce such a movement of the discharging lever, every such movement of the levers liberating the alarm apparatus so as to enable it to sound an alarm. The apparatus above referred to as patented by me had to be arranged longitudinally through the middle part of a drawer, such an application of it often proving awkward and undesirable. My present improved apparatus is applied to the front end of the drawer, and transversely across the drawer, it taking up but a little room as it is very compact in construction. The advantage it possesses over the first apparatus is therefore apparent.

What I claim is—

1. Arranging the locking and discharging levers, the main and secondary knob rods, the unbolting lever and bolt rod substantially as specified and as represented in the drawings.

2. I also claim arranging the key levers with respect to the locking and discharging levers as described and combining such key levers with the locking and discharging levers by one or two series of sliding pins or their equivalents made to operate through holes in a block arranged with respect to the locking and discharging levers essentially as set forth.

3. I also claim arranging the alarm apparatus with respect to the locking and discharging levers as specified; also arranging the counter wheel or apparatus and

combining it with the alarm apparatus in manner as described not intending to claim the use of a counting apparatus or register or connection with the alarm apparatus such
5 having been claimed by me in my former patent.

4. I also claim combining with the lever, Q, the third knob, R, by which said lever may be operated under certain circum-
10 stances as above specified.

5. I also claim arranging the main and

secondary knob rods, so that the latter may slide through the former, or the former be made to slide on the latter under circumstances as specified.

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In testimony whereof, I have hereunto set my signature this fifth day of May A. D. 1855.

EPHRAIM BROWN.

Witnesses:

JAS. DINSMOOR,

JOHN B. MARSHALL.