

(No Model.)

E. H. VOLLRATH & J. C. MCCREADY.

ALARM LOCK FOR TILLS.

No. 310,627.

Patented Jan. 13, 1885.

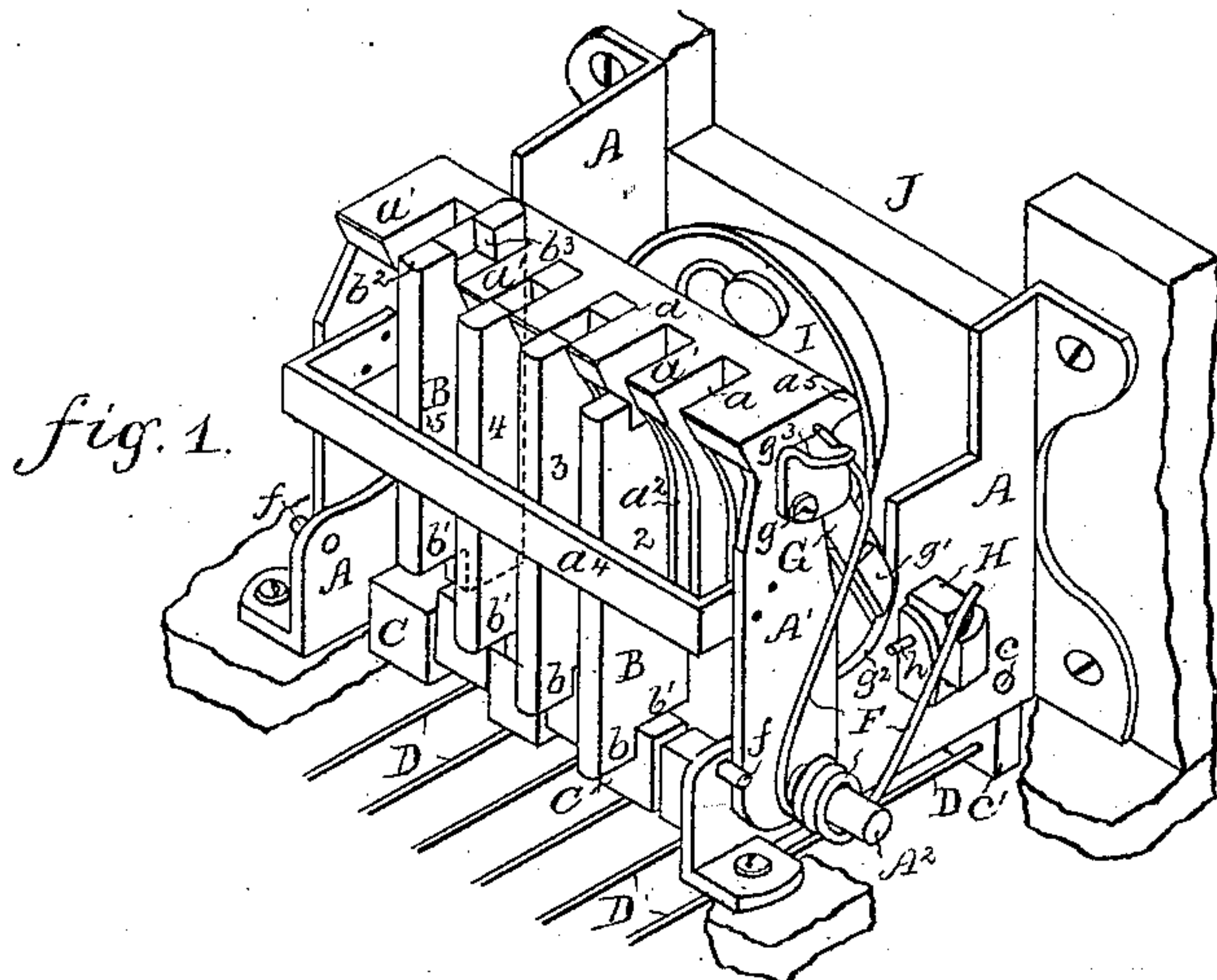


fig. 2.

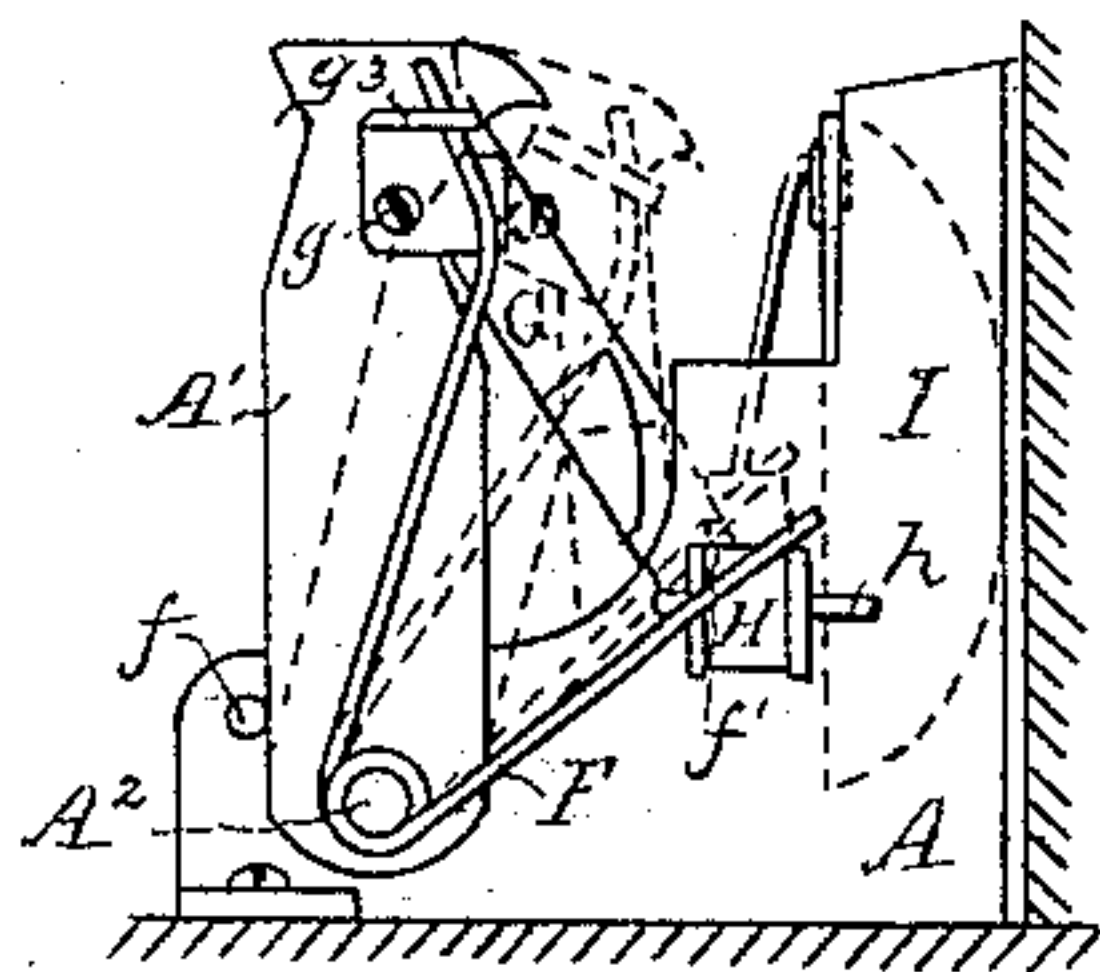
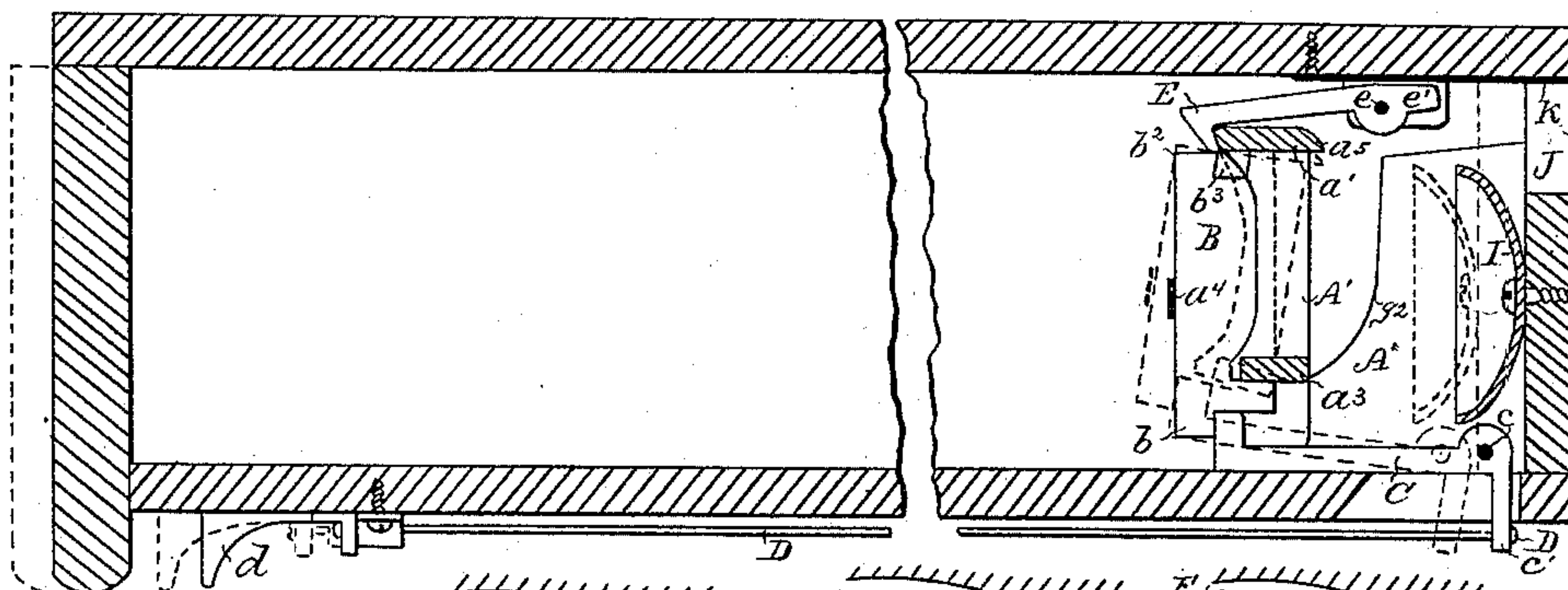


fig. 3.

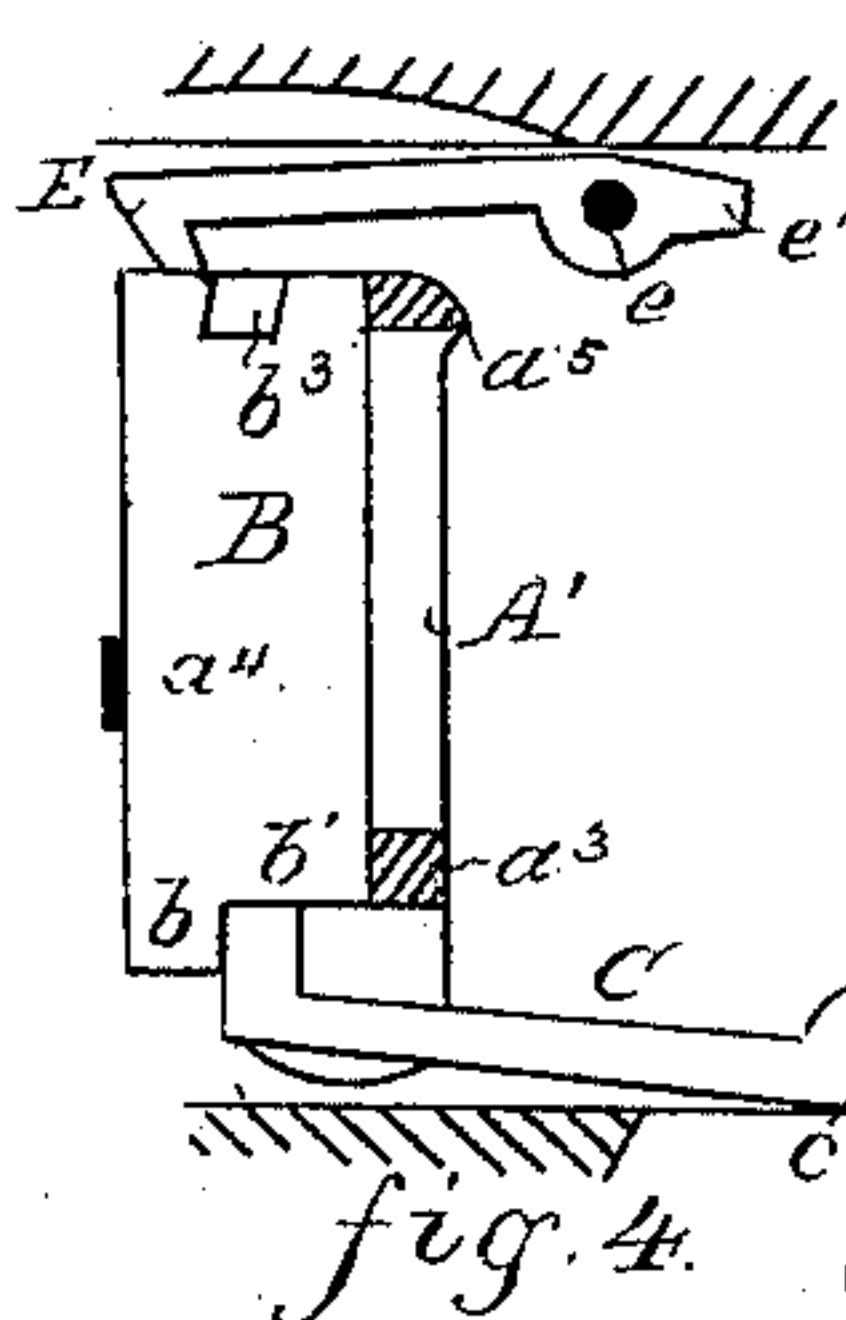


fig. 4.

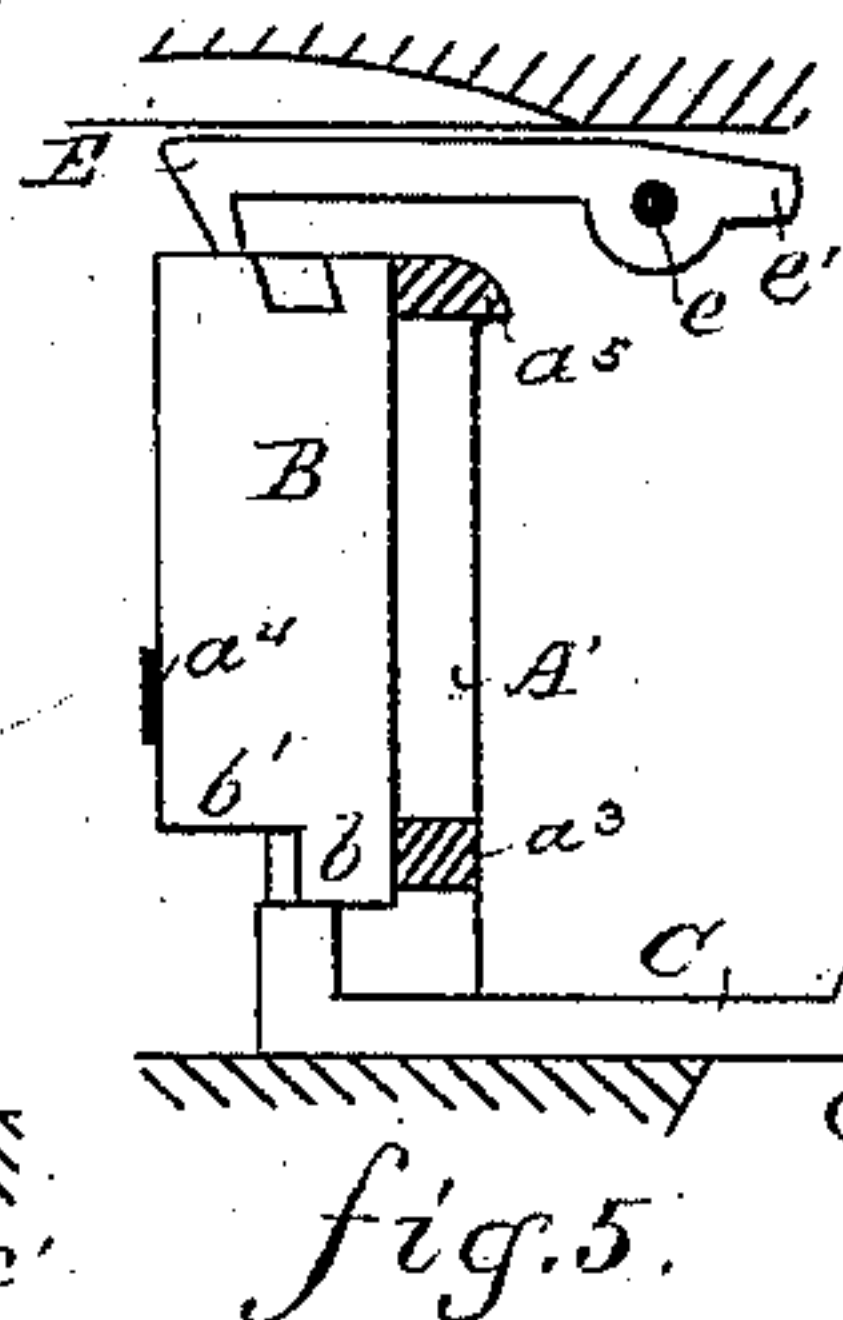


fig. 5.

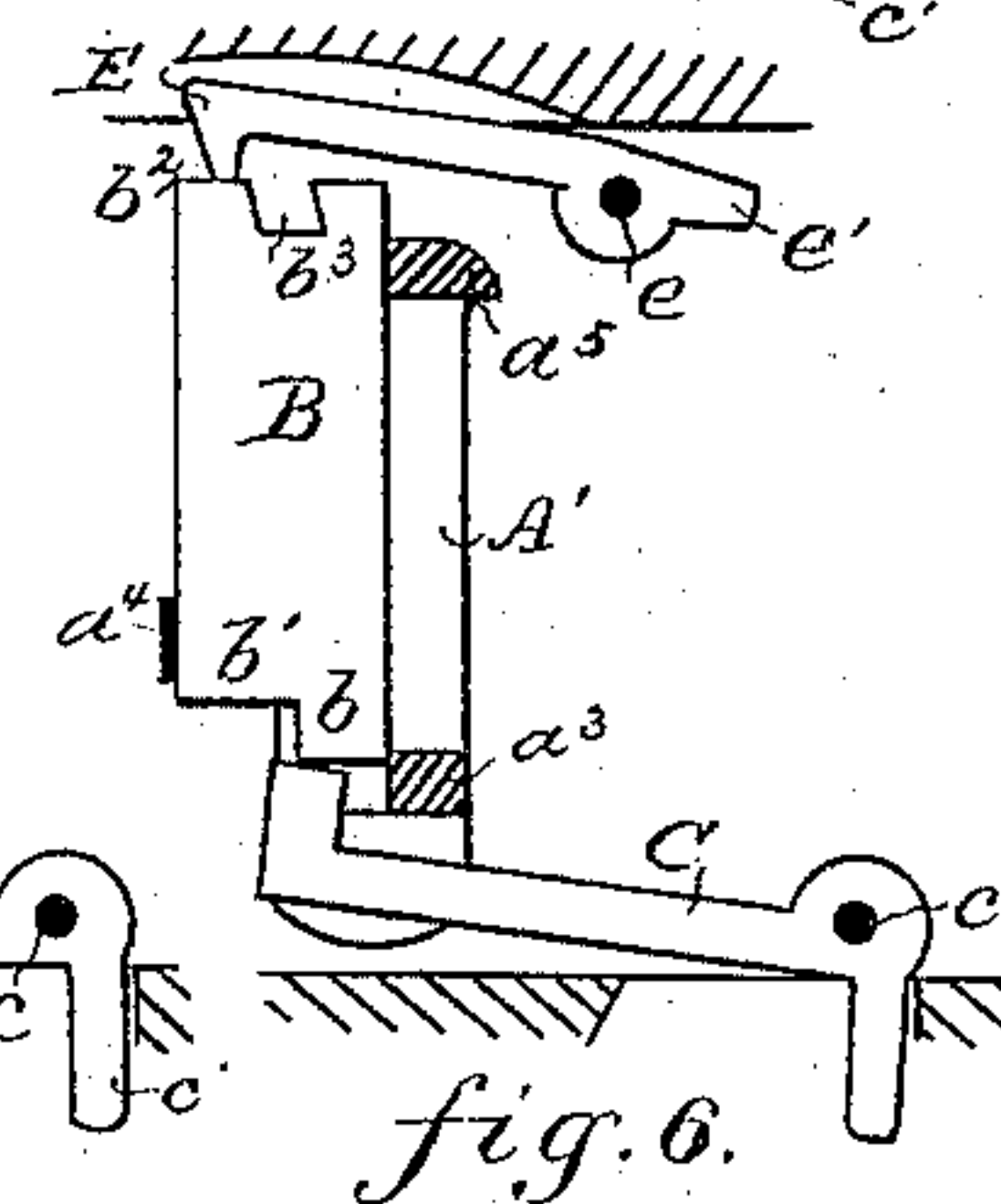
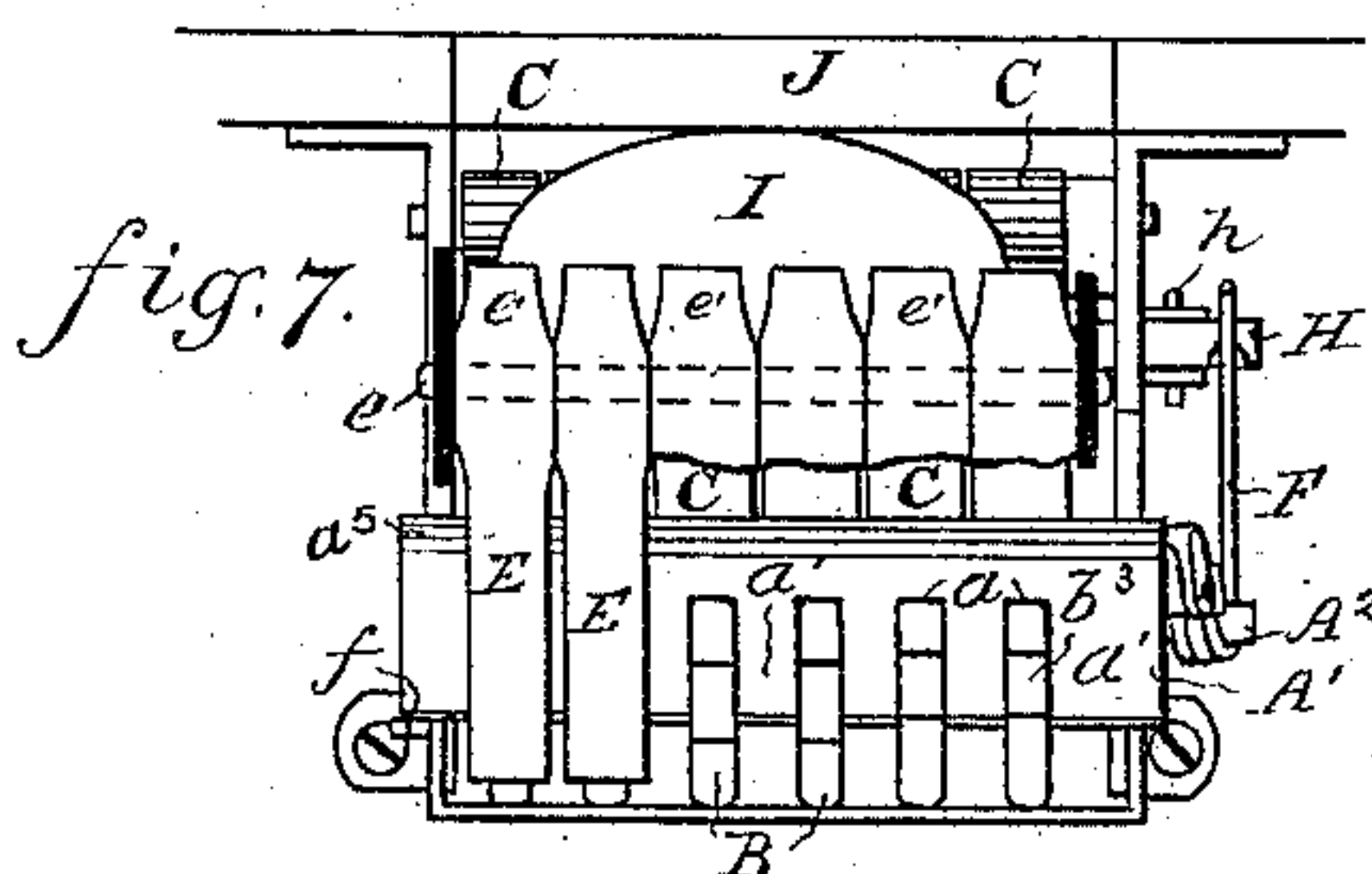


fig. 6.



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UNITED STATES PATENT OFFICE.

ERNST H. VOLLRATH AND JOHN C. MCCREADY, OF ST. LOUIS, MISSOURI.

ALARM-LOCK FOR TILLS.

SPECIFICATION forming part of Letters Patent No. 310,627, dated January 13, 1885.

Application filed May 12, 1884. (No model.)

To all whom it may concern:

Be it known that we, ERNST H. VOLLRATH and JOHN C. MCCREADY, both of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Alarm-Locks for Tills, of which the following is a specification.

Our invention relates to improvements in the construction and operation of the mechanisms intended to operate as an alarm (when an attempt is made to open the drawer) and a lock, (which may be set to require different combinations or manipulations at different times to open it.)

To achieve these objects, our improvements consist, first, in the construction of dogs or levers, in combination with the tumblers and key mechanisms for raising the said tumblers, each of which is so constructed that it may be raised to different heights, thus throwing in or out of engagement one of a series of hooks or catches directly above it, as will be hereinafter fully described; secondly, in the use of a swinging frame, (hinged within the frame of the lock,) and containing the tumblers, and is in communication with a bell, and so constructed that if in direct or indirect connection with the hooks or catches, as will be hereinafter described, it will swing back when an attempt is made to open the drawer, and give the alarm by ringing the bell; thirdly, in the peculiar combination of the bell with the swinging frame by means of a pawl and spring, which latter keeps the pawl in engagement with the bell-hammer and causes the latter to strike the bell after the pawl presses it down, and also returns the swinging frame forward in place after same has moved back.

Of the drawings, Figure 1 is a perspective view of that part of the lock contained or placed in the drawer, showing four tumblers in different positions, while two are entirely removed for showing other parts more clearly; also, the hooks or catches, which are placed above the lock and secured to the bottom of the counter, being left off. Fig. 2 is a longitudinal section of the drawer and lock. Fig. 3 is a side view of the lock without the hooks or catches. Figs. 4, 5, and 6 are sectional views of the swinging frame, showing a tum-

bler in different positions. Fig. 7 is a top plan of the lock and catches, four of the latter being broken off.

A is the frame of the lock, usually made of cast-iron, and which is secured to the drawer, as shown. This frame is provided with a hinged swinging frame, A', containing the series of tumblers B, which rise and fall in the slots *a* between the prongs *a'* and guides *a*², *a*³, and *a*⁴.

C are dogs or levers corresponding in number with the number of tumblers, each lever supporting and operating one tumbler. The dogs or levers C are hinged on the pivot *c* in the frame A.

c' is a short arm extending down at right angles from each dog and through the bottom of the drawer. (See Fig. 2.) To these arms *c'* are attached the wires or rods D, the forward ends of which are provided with finger-pieces *d*, as ordinary, and are operated upon by the person opening the drawer. The dogs C, just described, are made to drop back into place of their own weight after being raised, and thereby returning the various other parts with which they are in connection into place also. The proportional length of the short arm to that of the dog itself requires but a slight movement of the finger pieces and rods to lift the tumblers the desired height. The swinging frame has its prongs *a* beveled at the front for the purpose of their engagement with the hooks or catches E. (See Figs. 1, 2, and 4.) The hooks E are hinged to the bottom of the counter by the rods *e*, so that their forward or hooked ends will hang down over the swinging frame through gravity.

e' is a tail end opposite to the hooked end of the catch, and serves to limit the fall or drop movement of the hook when the drawer is open. The back of the swinging frame at the top, at *a*⁵, is beveled off, for the purpose of allowing the hooks to be raised up and the swinging frame to pass under as the drawer is being closed. The tumblers B are provided with long and short sides or offsets *b* and *b'* at the bottom, thereby enabling it to rest with either the short or long side upon the dog, as shown in Figs. 1, 2, 4, 5, and 6, thereby bringing the upper end or edge, *b*², higher or lower in the slots of the swinging frame.

The upper end of the tumbler has a notch, b^3 , cast or cut into it, into which the hook E engages. The swinging frame is hinged on the pins A^2 to the frame A of the lock. (See Figs. 1, 3, and 7.)

f is a stud or pin in the frame A, which acts as a stop for the swinging frame, to limit its forward movement.

G is a pawl hinged to one side of the swinging frame, near its top, by the pivot g . This pawl has a lug, g' , which engages with the frame A and travels in a curve, g^2 , of the frame, the curve being made and placed so that by its engagement with the lug it will cause the pawl to slip out of engagement with the bell-hammer at a point far enough to release said hammer and cause it to strike the bell by means of the spring F as the swinging frame moves backward. The lower end of the pawl has a notch, f' , which engages the bell-hammer, as shown in Fig. 3. The upper end of the pawl has an arm, g^3 , which engages one end of the spring F. The other end of said spring engages with and acts on the outer end of the bell-hammer H, and causes same to strike the bell after the pawl has pressed same down and released same, as before described. This hammer H is pivoted in the frame at h . (See Figs. 1, 3, and 7.)

I is the bell, which is placed within the lock and fastened to the back of the drawer by a screw.

k is a plate attached to the bottom of the counter, and acts as a stop for the drawer when being closed and to close the opening J in the back of the drawer, which opening allows the hooks or catches E to pass through when the drawer is being opened or closed. The hooks or catches E are made of sufficient width to cover over a slot and to engage with both prongs of each slot, as shown in Fig. 7.

From Figs. 1 and 3 it will be seen that but one spring is required to bring the swinging frame forward and the pawl up while the frame moves forward, and to cause the hammer to strike the bell after being released by the pawl, the remaining parts returning to position through gravity caused by their own weight—viz., the tumbler by its own weight resting on the dog, which also may be weighted, which two combined exert on the short arm c' sufficient force to draw the rod D and finger-piece d to their place when released by the operator.

Having thus fully described the construction of our invention, the operation is therefore as follows: Taking one tumbler and resting it with its offset on its shortest length b' , as shown in Fig. 2, the drawer then being closed, the swinging frame raises the hook E corresponding with this tumbler and passes under same, which finally drops over the front of the frame and engages with two beveled prongs, a' , on each side of the corresponding slot, a , as clearly shown in Figs. 2 and 7. If, now, the finger-piece d corresponding with this tumbler is pulled forward, its

wire rod D, raising the dog C, which in turn now lifts the tumbler, bringing it flush with the top of the swinging frame, it will be seen that the hook E is raised with it, thus leaving the said frame free to pass forward from under same as the drawer is opened, the said hook E now resting on the two prongs on opposite sides of the slot, and bridging over said slot, the two positions of the tumbler also being clearly shown in Fig. 1 by tumblers numbered 2 and 3. Further, by now taking the tumbler and turning it with the back to the front and placing it in the swinging frame so that its longest length b will rest on the dog, the hook will appear, as shown in Fig. 5, resting on the top forward corner of the tumbler, which is now flush with the swinging frame, which latter is free from engagement with the hook E. By now raising the dog C, as before, the tumbler will be raised with its top or upper end above the top of the swinging frame, and carrying the hook up with it, as shown in Fig. 6, which latter will drop into the notch b^3 as soon as the drawer is pulled forward, thereby pulling the swinging frame back and giving the alarm. These two last-described positions are also clearly shown in Fig. 1 by tumblers numbered 4 and 5. Now, whichever tumblers are placed as first described, with the shortest side resting on the dogs, are the ones which should be raised by the operator by their corresponding finger-pieces in order to disengage the hooks E to which they belong, and should one of them so set be not raised the drawer could not be opened and the alarm would be given; and, further, whichever tumblers are placed as last described should not be raised by the finger-piece to which it belongs; otherwise the hook would engage the notch in the tumbler and the result would be the same as before. Now, in case the wrong finger-piece is pulled, thereby raising the wrong tumbler, or in case the right finger-piece is not pulled and the right tumbler not raised, as just described, on attempting to open the drawer the frame A' is pulled back, as shown in dotted lines, Figs. 2 and 3, causing the pawl to press the hammer down until the curve g' of the frame, which engages the dog or pawl, causes the pawl to slip off from and disengage with the hammer, when the spring F, having a tension, raises the hammer suddenly and with sufficient force to strike the bell, and upon releasing the drawer the spring F returns the frame A' forward and raises the pawl and brings it into engagement with the hammer, the tumblers and dogs dropping, returning the rods and finger-pieces to original position.

What we claim is—

1. In an alarm-lock for tills, the tumblers B, having long and short sides b and b' , combined with a weighted lever or dog, C, having short arm c' , rods, and finger-pieces for operating the same, as and for the purposes set forth.

2. In an alarm-lock for tills, the combination of a series of tumblers, B, having long and short sides b and b' and notch b^3 , swinging frame A', dogs C, rods D, and finger-pieces d ,
5 as herein shown and described, and for the purpose set forth.

3. In an alarm-lock for tills, the swinging frame A', constructed as herein shown and described, having slots a , prongs a' , guides a^2 ,
10 a^3 , and a^4 , the tumblers B, levers or dogs C, and latches or hooks E, all combined as herein shown and described, and for the purpose set forth.

4. In an alarm-lock for tills, the combination of the frame A, swinging frame A', spring
15 F, pawl G, bell-hammer H, and bell I, as

herein shown and described, and for the purpose set forth.

5. The combination of the finger-pieces d , rods D, dogs or levers C, tumblers B, swinging frame A', hooks or catches E, pawl G,
20 bell-hammer H, spring F, bell I, and frame A, as herein shown and described, to form an improved alarm-lock for tills.

In testimony of said invention we have
25 hereunto set our hands.

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JOHN C. MCCREADY.

Witnesses:

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CHAS. F. MEISNER.