

(Model.)

2 Sheets—Sheet 1.

O. G. ROMBOTIS.

ALARM LOCK.

No. 251,138.

Patented Dec. 20, 1881.

Fig. 5.

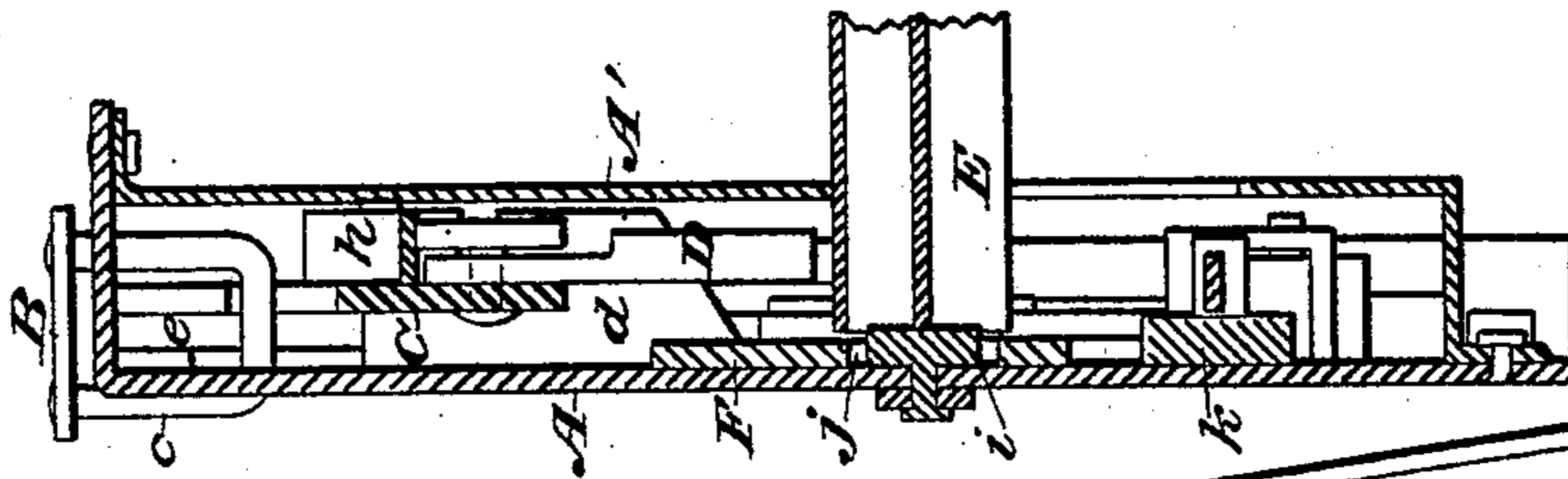


Fig. 1.

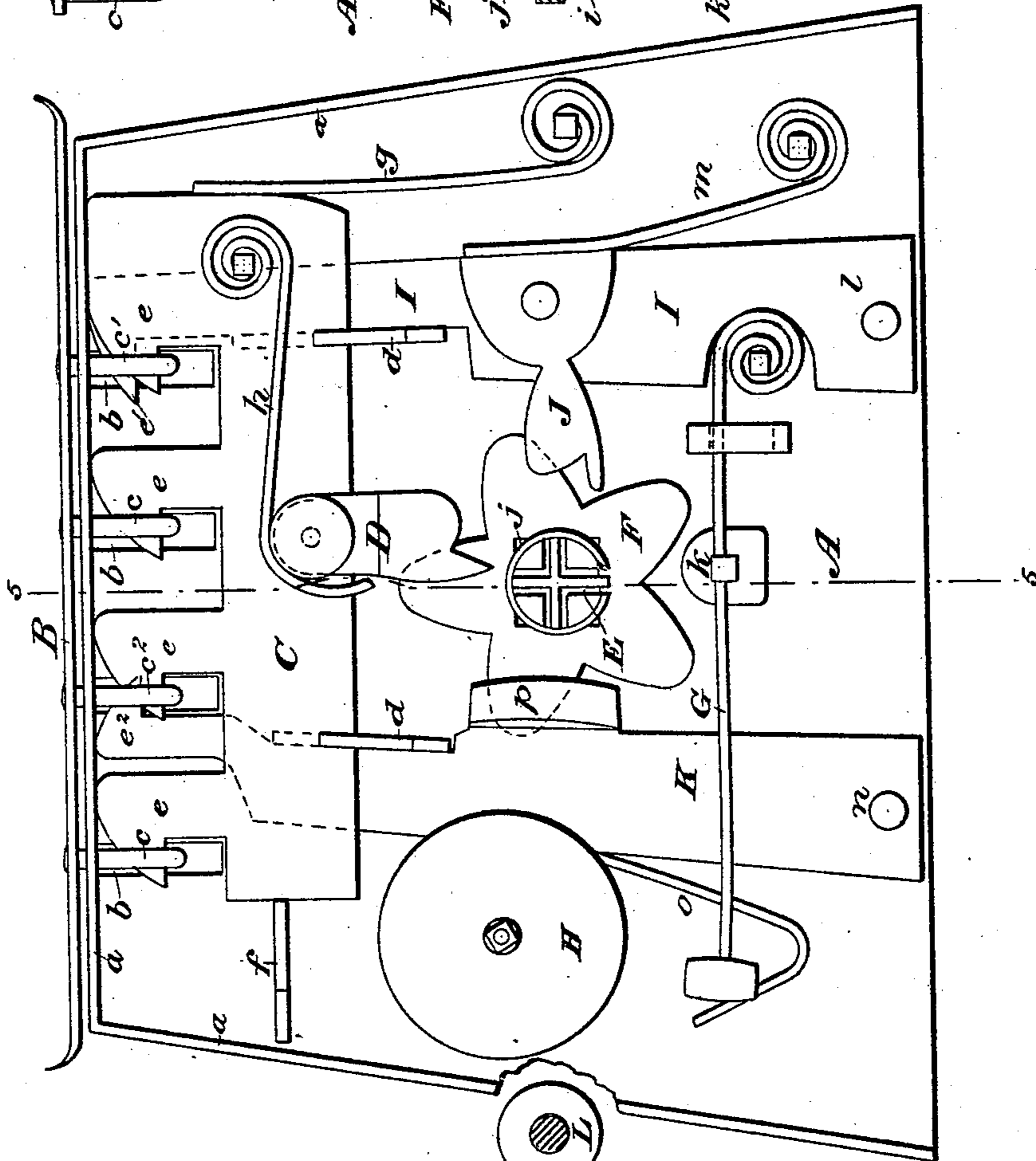
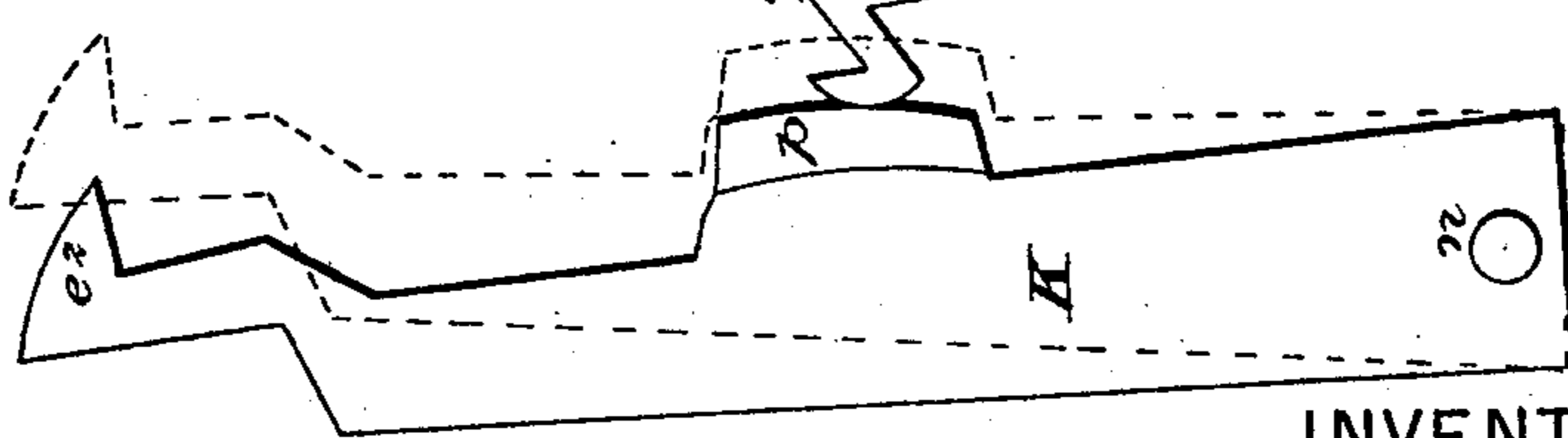


Fig. 4.



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By his Attorneys,  
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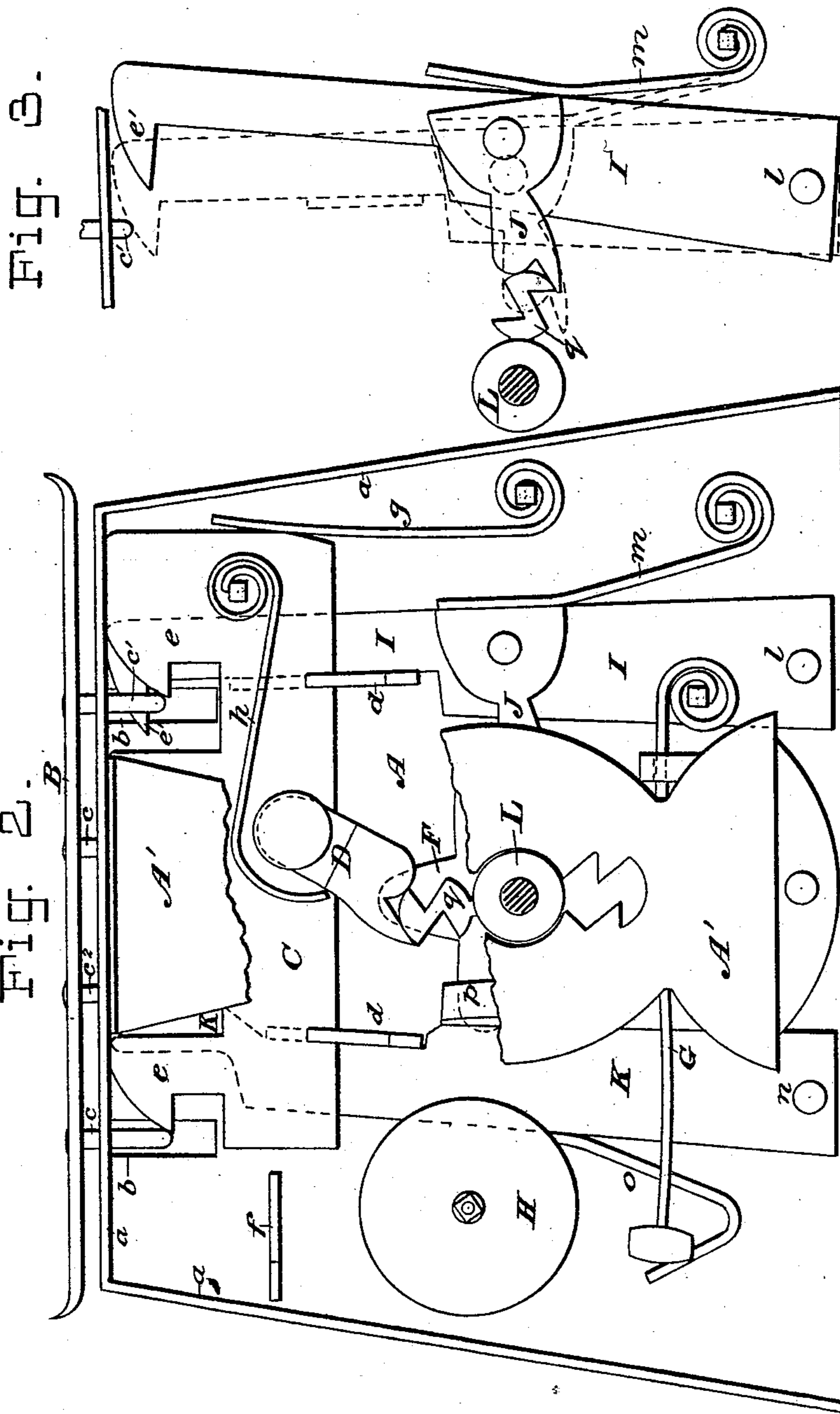


Fig. 2.

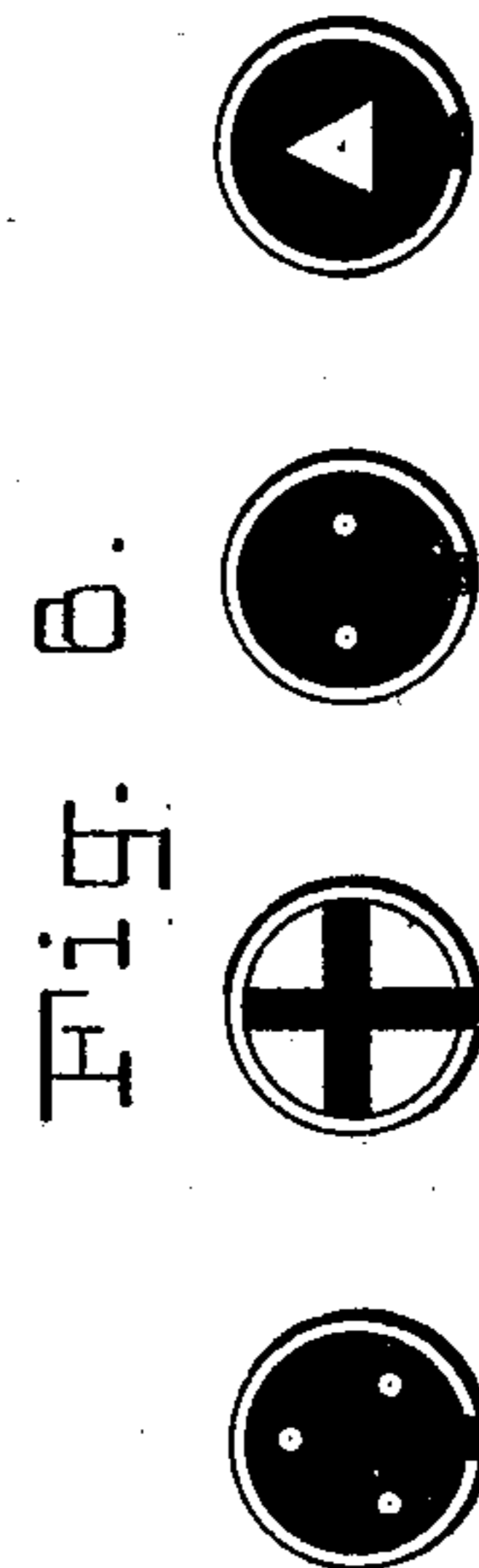


Fig. 3.

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# UNITED STATES PATENT OFFICE.

OTHON G. ROMBOTIS, OF NEW YORK, N. Y.

## ALARM-LOCK.

SPECIFICATION forming part of Letters Patent No. 251,138, dated December 20, 1881.

Application filed July 7, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, OTHON G. ROMBOTIS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain Improvements in Locks, of which the following is a specification.

My lock may be employed for any purpose where a lock is needed—as, for example, securing trunk and chest lids, doors, &c.

The invention has several leading or conspicuous features, one of which is the employment of a gong, bell, or other alarm arranged to be sounded by the turning of a key, partly for the purpose of giving warning should any unauthorized person tamper with the lock, and partly to direct the person who is turning the key, so that he may properly disengage the latches thereby. Another feature relates to the peculiar construction of the bolts or latches, tumblers, and key, whereby the former are properly actuated by the latter.

In the drawings, which serve to illustrate my invention, Figure 1 is a front view of the lock with the front plate entirely removed, so as to clearly exhibit the mechanism. Fig. 2 is a front view similar to Fig. 1, but showing the key in position just after the catches on the main latch have been disengaged. Fig. 3 is a detached view, illustrating the position of the key in disengaging the second latch; and Fig. 4 is a similar view, showing the position of the key in disengaging the third latch and releasing the shackle. Fig. 5 is a transverse vertical section taken on the line 5 5 in Fig. 1, looking to the right. Fig. 6 illustrates several forms of key-sockets, illustrating also how each lock may have a key peculiar to itself.

I have shown my improved lock as adapted to securing the lid or cover of a trunk or chest, but it may as well be adapted to doors. The drawings show the parts of the lock rather larger than the usual size, so as to better illustrate the invention, but the lock may be of any size.

A is the lock-case, provided, when preferred, with a raised rim or flange, *a*; and A' is the front plate, designed mainly to steady the key-post. Through the plate and flange of the case are cut slits or apertures *b*, to receive the bails

*c c' c<sup>2</sup>* of the shackle B, which is secured to the lid or cover of the trunk or chest.

C is the main latch, mounted to play lengthwise in suitable bearings, *d d*, and provided with beveled catches *e e*, arranged to take into or engage the bails of the shackle or their equivalents. This latch is normally pressed forward against a stop, *f*, by means of a spring, *g*.

D is a gravity-tumbler suspended loosely from the latch C, and *h* is a spring arranged to act upon said tumbler as an elastic resistance when the latter is pressed back by the key.

E is the key-post, which is mounted rotatively in the plate of the casing A (see Fig. 5) and has a socket to receive the key. It has also a squared or polygonal base, *i*, arranged to engage a larger square or polygonal aperture, *j*, in a star-shaped cam or escapement, F. The rounded points of this escapement take, when the key is turned successively against a rounded projection, *k*, on the elastic arm of a spring-hammer, G. When the trip-escapement F is rotated its points successively press back said hammer and permit it to strike smart blows on a gong or bell, H. This construction of the rotary escapement, elastic or spring hammer, and gong is of the ordinary kind as employed for other purposes, and will require no further description.

I is the second latch, which is pivoted at *l* and provided with a beveled catch, *e'*, arranged to engage the bail *c'*, but having its lower horizontal edge arranged a little above the plane of the lower edge of the catch *e* on the main latch C. This latch I is normally pressed forward against a stop, *d*, by means of a spring, *m*, which also presses against the flattened back edge of a tumbler, J, pivoted on or to the latch I. The spring acts to hold the tumbler normally and elastically in the position shown in Fig. 1, and will return it to this position when the tumbler is pressed up or down by the key.

K is a third latch, which is pivoted at *n*, and is normally pressed up to a stop, *d*, by a spring, *o*. This latch is provided with a beveled catch, *e<sup>2</sup>*, arranged to engage the bail *c<sup>2</sup>* of the shackle. This catch is also arranged above the plane of the catches on the main latch C. On the latch

K is a rigid projection, *p*, for the key to take against in unlocking. There may be but two bails and two catches on the main latch, or, indeed, any desired number.

5 Thus it will be seen that the lock, as above described, has three distinct spring-latches, each of which forms an independent holdfast, which holdfasts must be independently disengaged, and also an alarm, which is sounded by  
10 the turning of the key in the lock.

The operation of unlocking or of disengaging the catches is as follows: The key L, which has a barrel arranged to fit into the socket in the key-post E, is inserted, with its key-bit *q*  
15 turned down by preference, in the usual way. The key is now turned to the left, or opposite to the direction of movement of the hands of a watch, bearing with it, of course, the key-post and escapement F. The escapement, as  
20 it revolves, causes the hammer G to strike the gong, and when the operator hears three strokes of the gong he turns on slowly a little farther until he hears a click. This noise is caused by the key pressing back the tumbler D and its  
25 bit *q* slipping into the notch or fork in its pendent end. The operator now presses the lid of the trunk up gently with his left hand, as if to raise it, and turns the key to the right, or in the direction of movement of the hands  
30 of a watch. The bit of the key having engaged the tumbler D, this last turn of the key presses back the latch C and permits the shackle to lift a little, by reason of the disengagement of the catches *e e*. The shackle is still held, how-  
35 ever, by the catches *e'* and *e''*. This is the position of the parts illustrated in Fig. 2. Still supporting the lid with his left hand, the operator now permits the key to turn back, which it will do of itself, being acted upon indirectly  
40 by the latch-spring *g*, and then turns it a little farther back until it clears and is free from the tumbler D, which may be known by a click. Still lifting gently on the lid of the trunk, he now turns the key briskly to the right until  
45 the gong sounds twice, and then slowly a little farther until he hears a click, which assures him that the bit of the key has engaged the notch or fork in the end of the tumbler J. He then turns the key a little to the left, when the  
50 key will act, through the tumbler J, to push back the latch I and disengage the catch *e'* from the bail *c'*, whereby that end of the shackle is freed, and may be lifted far enough to prevent the catch from springing back again into  
55 the bail. To disengage the third and last catch, *e''*, from the bail *c''*, the key is now turned to the right until the gong sounds twice, when the bit on the key will engage the projection *p* on the latch K and press the latter far enough  
60 back to free the shackle entirely.

Being a spring-lock, to engage the catches it is only necessary to press the bails down firmly into the lock upon the beveled faces of the catches, when they will yield and engage  
65 in a well-known way.

The key may be turned round and round in the lock by the uninitiated without producing

any effective disengagement of the catches, but the key will sound the gong repeatedly in its revolutions.

The gong is not indispensable to the unlocking operation if the operator be an expert, but it greatly assists him, as will be readily understood.

In lieu of five arms or branches on the escapement F, I may provide it with any number of arms; but in that case the number of taps of the bell involved in each step of the unlocking operation would differ from that described.

In lieu also of employing a number of bails  
80 on the shackle one bail might be employed and three catches, one on each of the three latches, be arranged to engage it, one above another, so that each could be disengaged independently, as will be readily understood.

For a simple lock I may employ only latches C and I, or even one of these alone.

In Fig. 6 I have shown various forms of sockets for the key-posts, to illustrate how each lock may have a key peculiar to itself. These may  
90 be varied almost infinitely, but they all embody a socket of peculiar form and construction to receive a key of corresponding form.

In locks for doors or similar purposes, where-  
95 in the bails on the shackle enter the lock in a plane at right angles to that shown, the bevels on the catches will be arranged on the side instead of the top of the catch, as will be well understood.

Having thus described my invention, I  
100 claim—

1. A lock comprising an alarm arranged to be sounded by an escapement actuated by turning the key a part of a revolution, a spring-latch having a catch arranged to engage a  
105 bail on the shackle, a notched gravity-tumbler suspended from said latch and backed by a spring, whereby said spring will resist the movement of the tumbler in one direction, and a key having a bit arranged to snap into and  
110 engage a notch in said pendent tumbler when the key has been turned far enough to sound the alarm a prearranged number of times, all arranged to operate substantially as and for the purposes set forth.

2. The combination, in a spring-lock, of two or more latches arranged to take into or engage a bail on the shackle in different planes, tumblers on the said latches arranged to be engaged by the bit of the key at different points  
120 in its circle of travel, and an actuating key to engage the tumblers and disengage the catches from the bail, whereby, when the lower or inner catch is withdrawn, the bail may be lifted far enough to prevent the re-engagement of said  
125 catch and permit the bail to be released by the withdrawal of the other catch or catches, substantially as set forth.

3. The combination, in a spring-lock, of the shackle provided with suitable bails, the main  
130 spring-latch provided with beveled catches to engage said bails, the gravity-tumbler D and its spring, the secondary latch I, provided with a catch arranged to engage the shackle.

bail above the catch on the main latch, the tumbler J and its spring, and the key arranged and adapted to actuate said latches through engagement with their said tumblers, substantially as set forth.

4. The combination, in a spring-lock, of the shackle provided with suitable bails and the lock-case, of the main latch provided with catches to engage the shackle-bails, the notched gravity-tumbler D and its spring, the latch I, provided with a catch to engage a bail at a point above the catches on the main latch, the notched tumbler J and its spring, the latch K, provided with a catch arranged to engage a bail at a point above the catches on the main latch, and a key having a bit arranged and adapted to act upon the several latches at different points in its circle of travel and release their catches from the bails, all arranged substantially as and for the purposes set forth.

5. The combination, in a spring-lock, of the rotatively mounted key-post provided with a square or polygonal base to engage a larger square or polygonal aperture in the escapement, the star-shaped escapement, the elastic armed bell-hammer arranged to engage the escapement, the gong, or bell, the key made to fit the socket in the key-post, the spring-latches, and the tumblers attached thereto, all arranged to operate substantially as set forth.

In witness whereof I have hereunto signed my same in the presence of two subscribing witnesses.

OTHON G. ROMBOTIS.

Witnesses:

HENRY CONNETT,  
E. B. BOLTON.