

C. E. HENNIES.
LOCK.

Patented May 13, 1890.

Fig. 2.

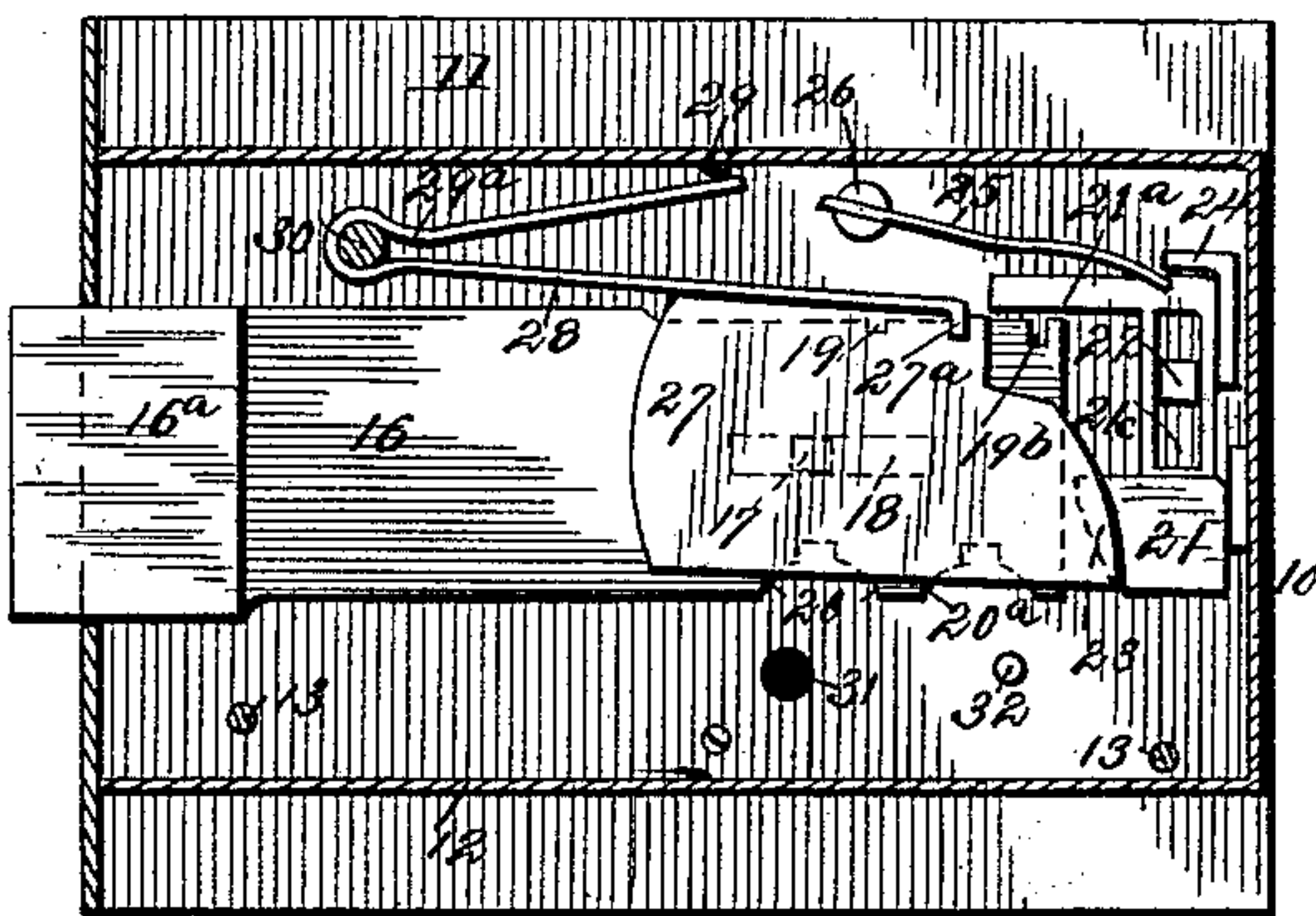


Fig. 3.

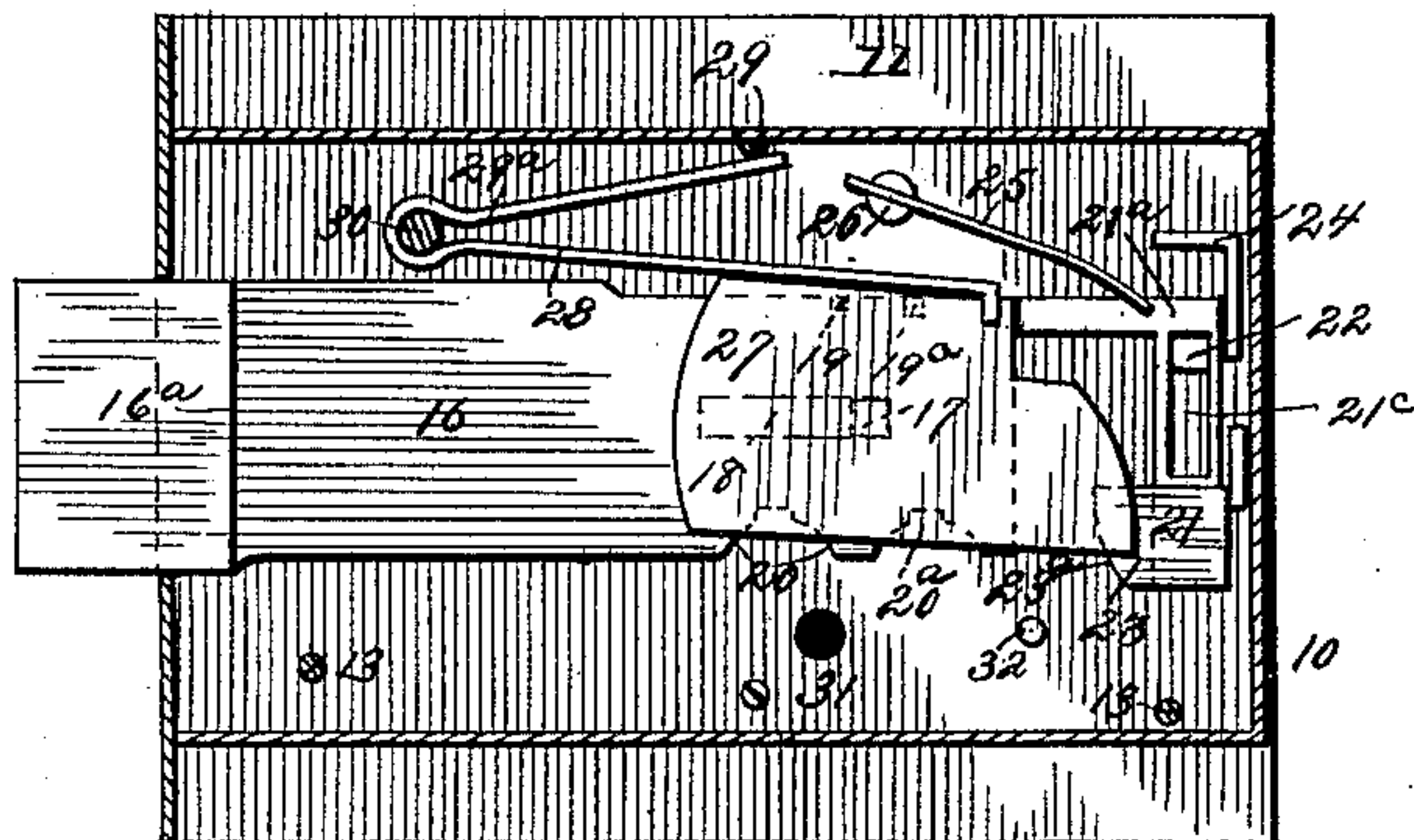


Fig. 4.

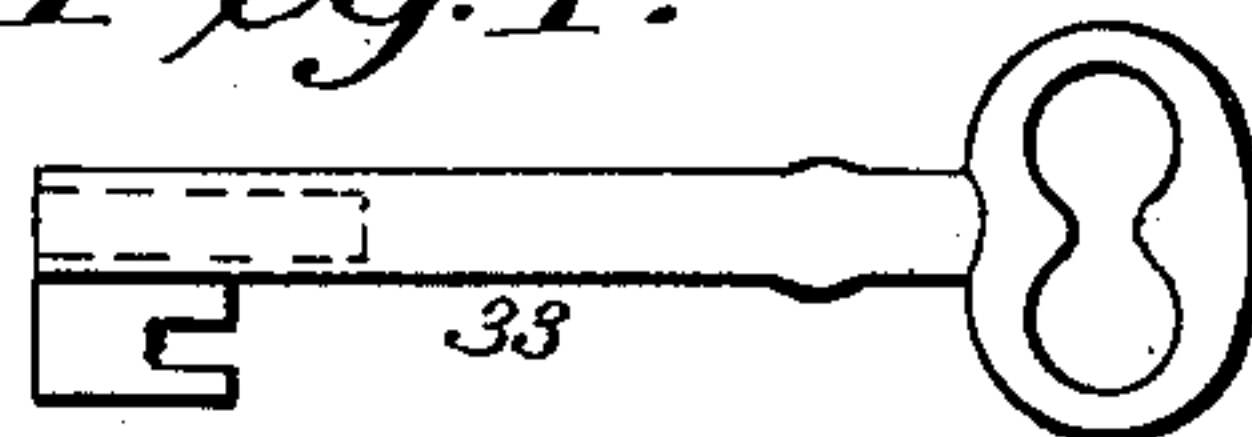


Fig. 5.

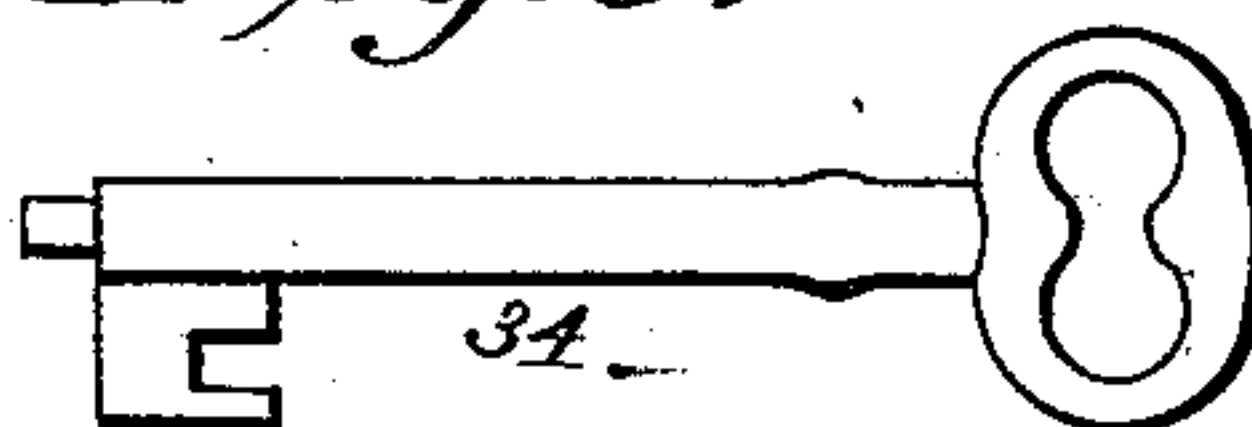
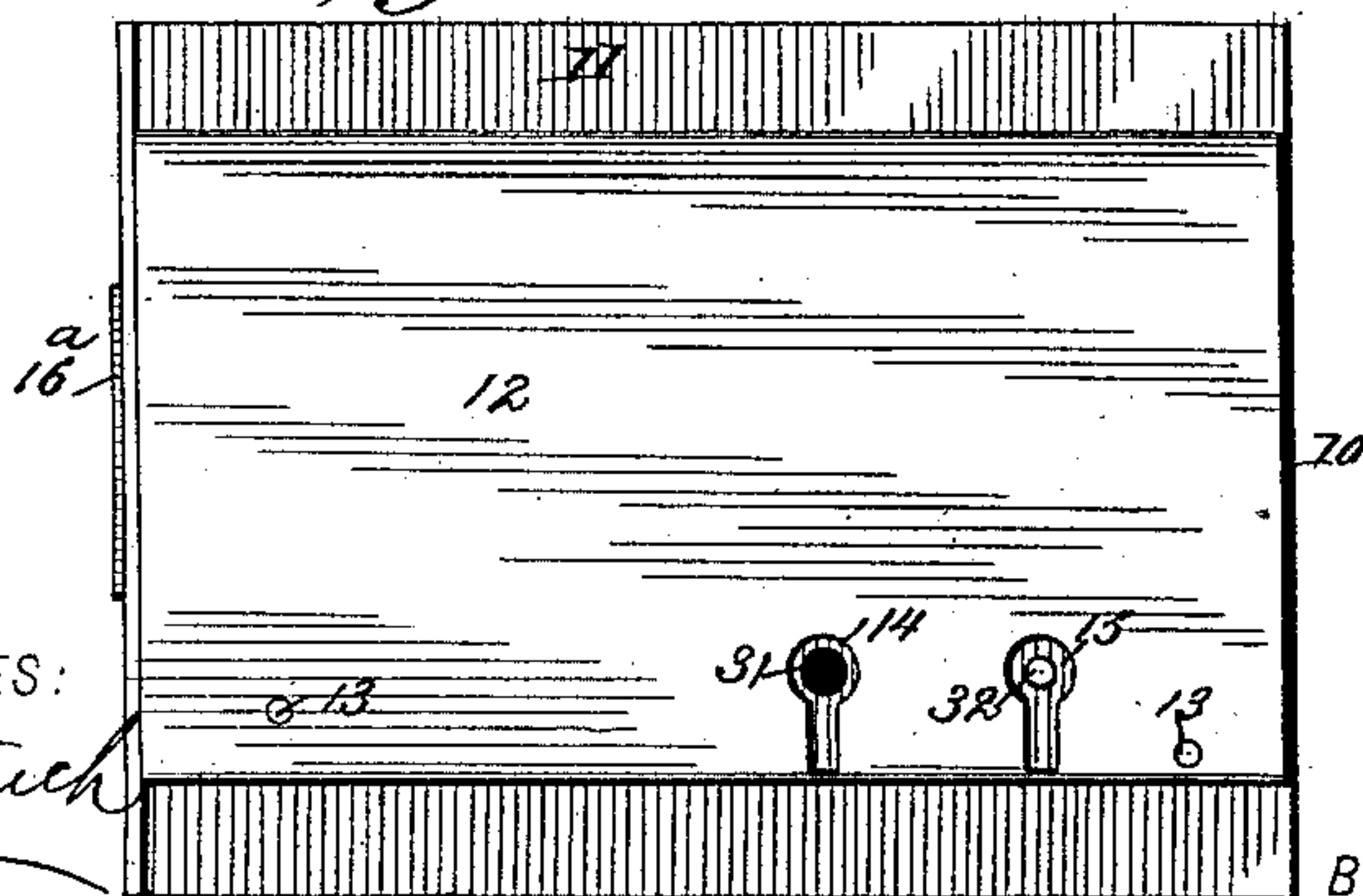


Fig. 6.



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CHARLES E. HENNIES, OF ATLANTA, GEORGIA.

LOCK.

SPECIFICATION forming part of Letters Patent No. 427,865, dated May 13, 1890.

Application filed March 4, 1890. Serial No. 342,663. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. HENNIES, of Atlanta, in the county of Fulton and State of Georgia, have invented a new and useful
5 Improvement in Locks, of which the following is a specification.

My invention relates to a lock in which it is necessary to use two keys in locking and unlocking the same, and has for its object to
10 provide a lock which cannot be easily picked, and also one which cannot be opened with the proper keys unless manipulated in a definite manner; and with these objects in view it consists of a case having a bolt sliding
15 therein, provided with notches in its upper and lower edges, a spring-actuated tumbler adapted to hold the said bolt in an unlocked and partially locked position, a spring-actuated stop adapted to hold the bolt in a locked
20 position, said tumbler, stop, and bolt being so constructed that two keys are necessary to lock and unlock the same.

The invention consists, further, in the novel construction of the various parts whereby the
25 various objects are accomplished, such as will be more fully hereinafter explained and claimed.

In the drawings forming a part of this specification, and in which the same reference-
30 numerals indicate the same or corresponding parts, Figure 1 is a vertical longitudinal section of my improved lock, showing the position of the parts when the same is unlocked. Fig. 2 is a similar view showing the position
35 of the parts when the first key has been manipulated and the bolt partially locked. Fig. 3 is a similar view showing the position of the parts after the second key has been manipulated, the bolt being thrown out its full
40 extent and locked in such position. Fig. 4 is a perspective view of the first or right-hand key, and Fig. 5 is a perspective view of the second or left-hand key; and Fig. 6 is a plan view of the lock, all the parts, including the
45 case, being in position.

In the embodiment of my invention I employ a case 10, which consists of the base-plate 11 and inclosing-box 12, said box being
50 secured to the base-plate by the screws or bolts 13, and in the face of said box are made two key-holes 14 and 15. Within the casing

is placed the bolt 16, said bolt being held in proper position and guided and limited in its movements by means of a short stud 17, rigidly secured to the base-plate 11 and work-
55 ing in a longitudinal slot 18, made in the bolt. In the upper edge of the bolt are cut a series of notches 19, 19^a, and 19^b for engagement with the tumbler, the notch 19^a being deeper than 19 and 19^b deeper than 19^a, the purpose
60 of which will appear further on. In the lower edge of said bolt are cut the notches 20 20^a, adapted to be engaged by the bits of the keys. To the rear or right of the bolt is arranged a locking stop or tumbler 21, said
65 stop consisting of a horizontal locking member 21^a and the vertical guiding and operating member 21^b, said vertical member being slotted longitudinally at 21^c, through which passes a short stud 22, adapted to guide the
70 movements of the stop or tumbler 21 and limit the downward movement of the same. Upon the lower end of the vertical member is formed the extension 23, the inner lower end of which is rounded, as shown at 23^a.
75 The upward movement of the stop 21 is limited by means of an angled flange or boss 24, rigidly secured to the base-plate, the angle of said flange or boss corresponding to the angle of the members of the stop, whereby it
80 serves also as a guide for the said stop or tumbler.

The bolt 16 is constructed, as usual, with a thick end portion 16^a, but the inner portion of the same is of a thickness not greater than
85 the stop 21. When the bolt is thrown back or unlocked, the rear upper end of the same fits in the angle of the stop 21, and the lower end passes under the extension 23, the rear lower portion of the side of the notch 20^a co-
90 inciding with the rounded end of the same, as shown in Fig. 1. When the bolt is thrown out or locked, the stop or tumbler 21 drops, the horizontal arm of the same bearing
95 against the end of the bolt and the vertical portion of the angled flange or boss 24 prevents said stop being turned or moved. To make the stop operate positively, I employ a spring 25, said spring being fixed in a split
100 post or stud 26, rigidly secured to the base-plate 11 at a point above the stop 21. To hold the bolt in its unlocked and also a partially and wholly

locked position, I employ a tumbler 27, said tumbler having a spur or pin 27^a, adapted for engagement with the notches in the upper edge of the bolt. The tumbler 27 is operated in
 5 said engagement by the bow-spring 28, the longer and lower member of said bow being rigidly secured to the tumbler, the upper end of said spring being bound against a post or stud 26, secured to the base-plate 11, and the
 10 central or loop portion 29 of said spring is placed around the post 30. The tumbler 27 is of a width nearly equal to that of the bolt, and the lower left hand or rear end rests over the rounded end of the extension 23. At a
 15 point opposite the head of the key-hole 14 the base-plate 11 is perforated, as shown at 31, and opposite the head of the key-hole 15 an arbor 32 is rigidly secured to the said plate and adapted to engage the barrel of the key
 20 33, the perforation 32 being adapted for engagement with the pintle of the key 34.

The construction of my improved lock having been described, its operation is as follows: I will suppose the bolt unlocked and it is
 25 desired to throw the same out and lock it. The right-hand key, which is the barrel-key, is inserted in the hole 15, turned to the left and then taken out or left in as desired. The left-hand key or pintle-key is then inserted
 30 in the hole 14, and also turned to the left, and the bolt is locked. The notch 19 being quite shallow, the tumbler 27 is held at a sufficient height to prevent the key 34 engaging and releasing the same, but when the tumbler has
 35 dropped into the notch 19^a by means of the key 33 it is lowered so as to be engaged by the said key 34. The pin of the tumbler 27 normally rests in the notch 19, and when the key 33 is inserted and turned to the left it
 40 first lifts the tumbler out of engagement with said notch, and as the bit of the key engages the notch 20 in the lower edge of the bolt, said bolt is moved to the left, and as the tumbler descends it engages with the second
 45 notch 19^a, thus holding the bolt in a partially-locked position. The second key 34 being inserted, the tumbler is raised out of engagement with the notch 19^a, and by this time the notch 20^a has also been engaged by the bit
 50 of the key and the bolt moved to the left. The bolt having passed beyond the end of the horizontal arm of the stop 21, said stop immediately descends to the rear or right of the bolt and holds the same locked, the angled boss 24 preventing any turning or move-
 55 ment of the stop 21, and the tumbler 27 is also in engagement with the notch 19^b, so that the bolt is doubly secured.

To unlock my improved lock, the key 33 is
 60 first inserted and given the first half of a turn to the left. The bit now engages the extension 23 on the end of the stop 21 and raises the same, so that the horizontal member is above the upper edge of the bolt. The key
 65 has now reached the lower end of the tumbler 27 and is then stopped. While the key 33 is

held in this position, the key 34 is inserted in the hole 14 and turned to the right, first lifting the tumbler out of the notch 19^b and then moving the bolt back, so that the end of the
 70 same passes under the horizontal member of the stop, the tumbler by this time has engaged the notch 19^a, and the bolt is carried back until its rear or right-hand end rests against the vertical member of the stop, the
 75 lower end passing beneath the extension 23, and the tumbler by this time has fallen into engagement with the notch 19, when the bolt is unlocked and held so.

From the above description it will be seen
 80 that I provide a lock which cannot be picked, one in which it is necessary to employ two keys, both in locking and unlocking, and one in which, when the proper keys are to be had, it is necessary to manipulate them in definite
 85 manner, in order to operate the parts of the lock.

Having thus described the construction, operation, and advantages of my improved device, what I claim as new, and desire to secure
 90 by Letters Patent, is—

1. In a lock of the character described, the combination, with a case provided with two key-holes upon the same side, of a bolt sliding therein, provided with notches on its un-
 95 der side, and a spring-actuated stop arranged to the rear of the bolt, adapted to lock the same in a locked position, substantially as shown and described.

2. In a lock, the combination, with a case
 100 provided with two key-holes upon the same side, of a bolt sliding in said case, said bolt being notched on its upper and lower edges, a spring-actuated tumbler adapted for engagement with the upper notches, and a
 105 spring-actuated stop arranged at the rear of the bolt, adapted to drop behind the same and hold it locked, substantially as shown and described.

3. In a lock, the combination, with a case
 110 provided with two key-holes, of a bolt sliding therein, said bolt being notched on its upper and lower edges, a spring-actuated tumbler adapted for engagement with the notches on the upper edge, each notch to the rear be-
 115 ing deeper than the adjacent forward one, and a spring-actuated stop arranged at the rear of the bolt and carrying an extension on its lower end adapted to be engaged by the key, substantially as and for the purposes set forth. 120

4. In a lock, the combination, with a case constructed as described, of a bolt sliding therein, said bolt being notched on the upper and lower edges, a spring-actuated tumbler adapted to engage the notches in the upper
 125 edge, each notch to the rear being deeper than the adjacent forward one, for the purpose described, a spring-actuated stop arranged at the rear of the bolt, said stop consisting of a horizontal arm adapted to drop
 130 behind the bolt and hold it locked, and a vertical slotted arm adapted for engagement

with the key to lift said stop above the end of the bolt, substantially as shown and described.

5 In a lock, the combination, with a case constructed as described, of a bolt sliding therein, said bolt having the notches 19, 19^a, and 19^b in its upper edge and the notches 20 and 20^a in its lower edge, a spring-actuated tumbler adapted for engagement with the
10 notches in the upper edge, and a spring-actuated stop arranged at the rear of the bolt, and consisting of a horizontal member and vertical slotted member carrying an extension at its lower end adapted for engagement with the
15 key, the lower rear end of the tumbler resting over the lower forward end of said extension, as and for the purpose set forth.

6. In a lock, the combination, with the case constructed as described, of a bolt sliding

therein, said bolt having the notches 19, 19^a, 20 and 19^b in its upper edge and the notches 20 and 20^a in its lower edge, adapted to be engaged by the keys, a spring-actuated tumbler adapted for engagement with the notches
25 in the upper edge, a stop arranged at the rear of the bolt, said stop consisting of a horizontal member adapted to be sprung behind the bolt, and a vertical slotted member having an extension on its lower end adapted for engagement with the key, and the angled flange
30 or boss 24, arranged above the stop to guide and hold the same and limit its upward movement, substantially as shown and described.

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Witnesses:

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