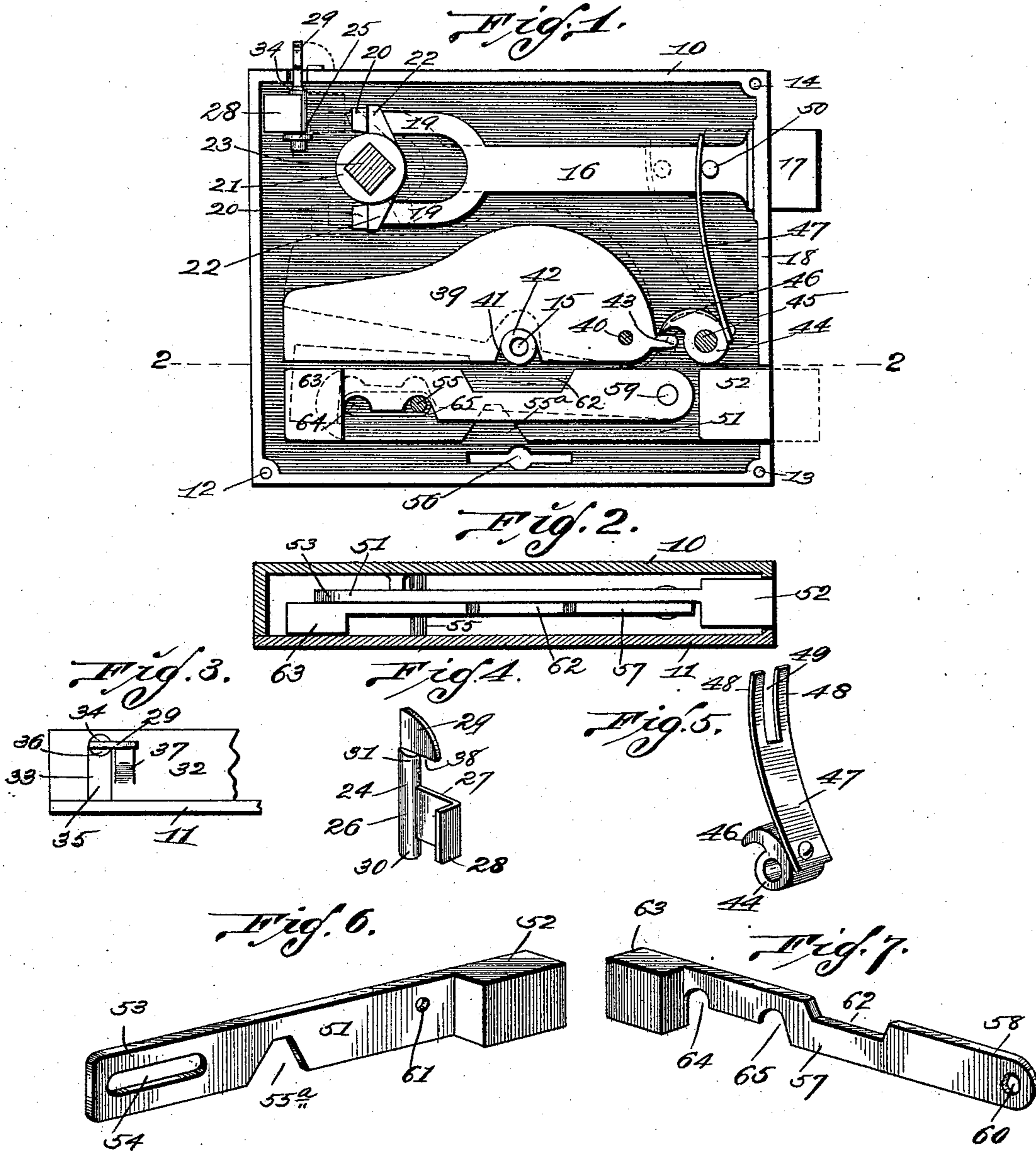


(No Model.)

H. W. TEAL.
LOCK.

No. 575,556.

Patented Jan. 19, 1897.



Attest
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UNITED STATES PATENT OFFICE.

HENRY W. TEAL, OF GIRARD, ILLINOIS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 575,556, dated January 19, 1897.

Application filed June 29, 1896. Serial No. 597,380. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. TEAL, of the city of Girard, Macoupin county, State of Illinois, have invented certain new and useful Improvements in Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to door-locks; and it consists in the novel construction, combination, and arrangement of parts hereinafter shown, described, and claimed.

Figure 1 is a view in elevation of my improved door-lock with the front plate removed. Fig. 2 is a horizontal view on the line 2 2 of Fig. 1. Fig. 3 is a front view of one corner of the lock, showing the night-lock in its locked position. Fig. 4 is a view in perspective of the night-lock. Fig. 5 is a view in perspective of a dog and leaf-spring of which I make use. Fig. 6 is a view in perspective of the bolt of the lock. Fig. 7 is a view in perspective of a weight and lever of which I make use.

In the construction of my improved door-lock I make use of a rectangular case 10 and a front plate 11, designed to close said case, and said plate 11 is held in position by means of screws or rivets inserted in the apertures 12, 13, 14, and 15.

The latch-bolt 16 is positioned in the upper part of the case 10, with its end 17 operating through the side wall 18 of the case 10, and the bifurcated end of said bolt is provided with the arms 19, having the forwardly-projecting lugs 20 upon their free ends.

The knob-operating tumbler 21 is positioned between the arms 19, and the ends 22 of said tumbler engage the lugs 20. The shaft 23 of the knobs passes through the front and rear walls of the case and holds the tumbler 21 in position and operates the same.

The night-lock 24 is mounted in the upper left-hand corner of the case 10 and is designed to hold the bolt 16 in its latched position when so desired. A lug 25 is attached to the rear wall of the case 10 and projects forwardly therefrom and forms a bearing for the lower end of the night-lock. The night-lock 24 consists of the shaft 26, from one side of which projects the arm 27, the free end 28 of which is bent at right angles to the body of said

arm. Attached to the upper end of the shaft 26 is a handle 29 for operating said night-lock. The lower end 30 of the shaft 26 is designed to operate in the bearing 25, and the upper end 31 of said shaft is designed to operate in the bearing formed in the upper wall 32 of the case 10. A slot 33 is cut in the front edge of the wall 32 to near the rear edge of said wall, and the rear end 34 of said slot is semi-circular. The night-lock 26 is placed in position with the lower end 30 of the shaft in the bearing 25 by inserting said night-lock through the slot 33. An arm 35, attached to the front plate 11, extends into the slot 33, and the rear end 36 of said arm is concaved to a semicircle and matches with the end 34 of said slot, thus forming a bearing for the end 31 of the night-lock. A lug 37 is formed upon the upper face of the wall 32 beside the slot 33. When the night-lock is in its locked position, the handle 29 is turned until its lower edge 38 engages against the rear side of the lug 37. When it is desired to unlock the night-lock, the handle 29 is raised upwardly until the lower edge 38 will pass over the top of the lug 37, and said handle is then turned until the edge 38 is directly above the arm 35. When the night-lock is in its locked position, the end 28 of the arm 27 rests against the lug 20 upon the upper one of the arms 19, thus holding the bolt 16 from being withdrawn from its latched position.

The gravity-tumbler 39 occupies a central position in the case and is pivotally mounted upon the pin 40, which passes through the front and rear walls of the case. In the lower edge and near the center of said tumbler 39 is a notch 41, designed to engage the lug 42, in which the opening 15 is formed, thus allowing said tumbler to assume a horizontal position. Upon the end of the tumbler 39 through which the pin 40 passes is a lug 43.

A dog 44 is pivotally mounted in the case upon the pin 45, and the free end 46 of said dog engages the lug 43 upon the tumbler 39. A leaf-spring 47 is attached to the head of the dog 44 and projects upwardly therefrom. The free end of the spring 47 is bifurcated, forming the arms 48, and the bolt 16 operates in the slot 49 between said arms. A pin 50 passes through the bolt 16 and engages the arms 48. The spring 47 is designed to form a yielding

connection between the latch-bolt 16 and the gravity-tumbler 39, in order that the parts may not be damaged by sudden and violent operations upon the same.

5 The lock-bolt 51 is mounted in the lower part of the case 10 below the gravity-tumbler 39 and parallel with the normal position of said tumbler. The head 52 of said bolt operates through the wall 18, and in the rear end 53
10 is formed an elongated opening 54, through which passes the pin 55, which pin is fixed in position between the front and rear walls of the case, thus forming a support and sliding connection for the lock-bolt.

15 In the lower edge of the bolt 51 and near the longitudinal center thereof is an A-shaped notch 55^a, designed to be engaged by the key, which is inserted into the lock through the key-hole 56, formed in the front and rear walls
20 of the case.

A locking-lever 57 has its end 58 pivotally attached to the side of the lock-bolt 51 and just back of the head 52 by means of the pin 59, passing through the opening 60 in said
25 lever and through the opening 61 in said lock-bolt. In the upper edge of the lever 57 and near the longitudinal center thereof is formed a notch 62, designed to receive the lug 42 when said lever is in its elevated position.
30 Upon the rear end of the lever 57 is a weight 63, and formed in the lower edge of said lever and just in front of said weight 63 is a notch 64, designed to be engaged by the pin 55 when the bolt is in its locked position, and
35 some distance in front of said notch 64 is a similar notch 65, designed to be engaged by the pin 55 when the bolt is in its unlocked position. The lever 57 lies in the case beside the lock-bolt 51, and its weighted end nor-
40 mally rests upon the pin 55. When the proper key is inserted through the opening 56 into the lock and is turned in the proper direction, said key will engage the lower edge of the lever 57, adjacent the A-shaped slot 55^a,
45 and will raise the weighted end of said lever upwardly out of engagement with the pin 55, and further turning of the key will operate the lock-bolt 51, as desired, to either lock or unlock the door.

50 The gravity-tumbler 39 normally rests upon the lever 57, and consequently the weight of said tumbler is added to the weight 63 in holding said lever down in its normal position. The turning of the knob to operate the latch-
55 bolt 16 will operate the spring 47 and press downwardly upon the free end 46 of the dog, thus pressing the lug 43 of the gravity-tum-

bler downwardly and raising the opposite end of said tumbler. Thus the weight of said tumbler 39 will be at all times exerted to hold
60 said latch-bolt 16 in its normal or latched position.

I claim—

1. In a lock, a suitable case, a latch-bolt mounted for reciprocation within said case, 65 a dog pivotally mounted within said case, a leaf-spring attached to said dog and engaging said latch-bolt, a gravity-tumbler pivotally mounted within said case, and a lug attached to said gravity-tumbler and engaging the free
70 end of said dog, substantially as specified.

2. In a lock, a suitable case, a latch-bolt mounted for reciprocation within said case, a dog pivotally mounted within said case, a leaf-spring attached to said dog and engaging 75 said latch-bolt, a gravity-tumbler pivotally mounted within said case, a lug attached to said gravity-tumbler and engaging the free end of said dog, and means for locking said latch-bolt in its latched position, which means 80 consists of a shaft mounted adjacent to the rear end of said latch-bolt, a handle upon said shaft for manually operating the same, and an arm projecting from said shaft and de-
85 signed to engage the rear end of said latch-bolt and hold the same securely in position when desired and to be turned out of engagement with said latch-bolt when it is desired to have said bolt operate freely, substantially
90 as specified.

3. In a device of the class described, a suitable case, a lock-bolt mounted for reciproca-
95 tion within said case, a lever pivotally connected to said lock-bolt, a weight upon the free end of said lever, a pin transversely positioned under said lever, said lever having
100 notches designed to engage said pin as required to hold said lock-bolt in its locked or unlocked position, as desired, a gravity-tumbler pivotally mounted within said case and
105 above said lock-bolt and resting upon said lever, a latch-bolt slidably mounted within said case, a dog pivotally mounted within said case, a leaf-spring attached to said dog and engaging said latch-bolt, and a lug upon said
gravity-tumbler and designed to be engaged by the free end of said dog, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY W. TEAL.

Witnesses:

GEORGE CRANE,
JOHN EVANS.