(No Model.)

C. W. BROWN.

LOCK.

No. 523,654. Patented July 31, 1894.

Fig. 1.

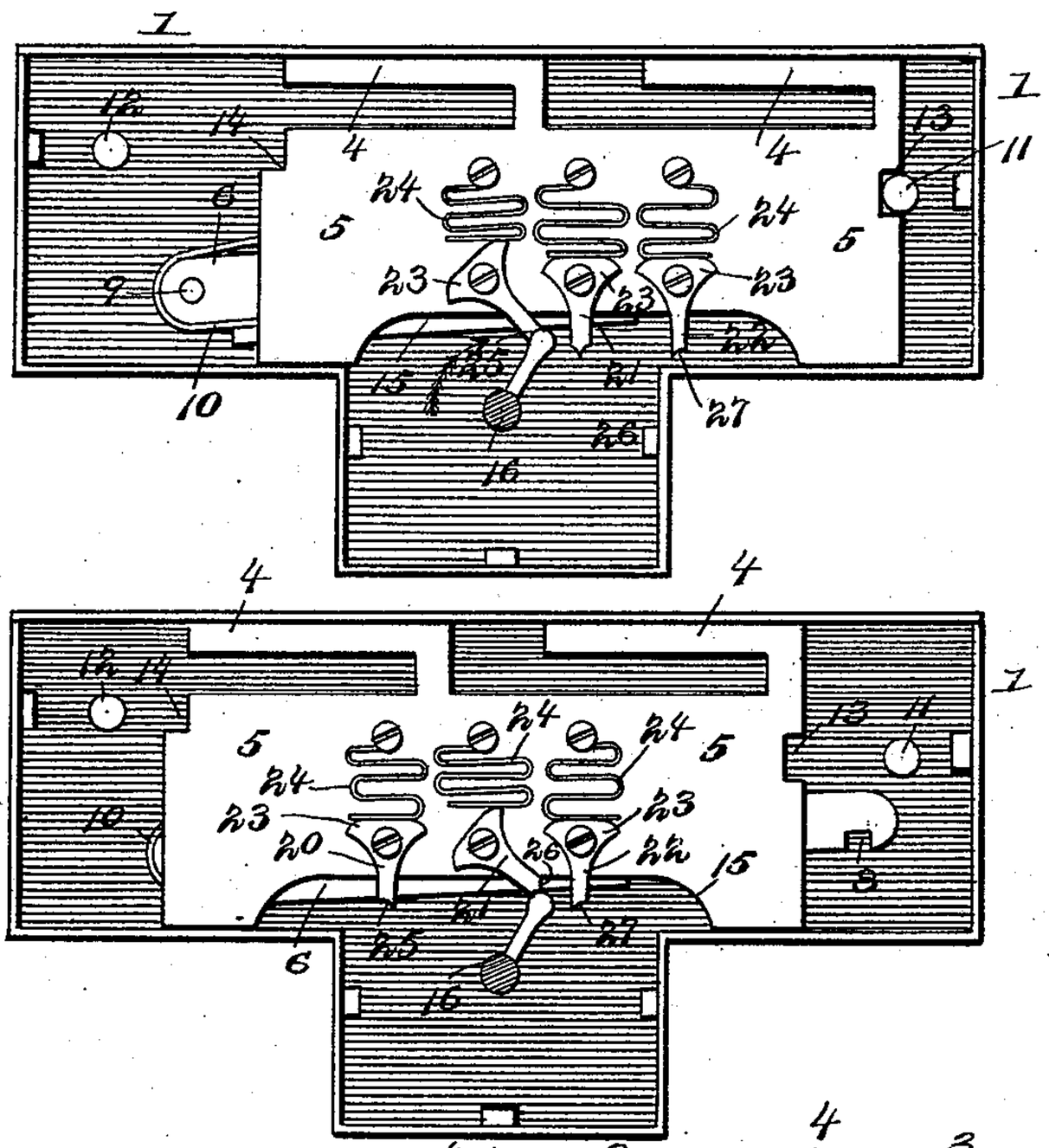

Fig. 2.

Fig. 3.

Fig. 4.

Inventor

Charles W. Brown,

Witnesses

E. K. Stewart.

N. W. Tilley

By his Attorneys.

Cashow & Co.

UNITED STATES PATENT OFFICE.

CHARLES W. BROWN, OF MAZON, ILLINOIS.

LOCK.

SPECIFICATION forming part of Letters Patent No. 523,654, dated July 31, 1894.

Application filed July 19, 1893. Serial No. 480,910. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. BROWN, a citizen of the United States, residing at Mazon, in the county of Grundy and State of Illinois, have invented a new and useful Burglar-Proof Lock, of which the following is a specification.

The invention relates to improvements in locks.

The object of the present invention is to provide a simple and inexpensive burglar-proof lock, which can be doubly locked, and which cannot be unlocked without a knowledge of the character of the lock and the method of manipulating the key.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a plan view with the plate removed, showing the lock unlocked and the key in engagement with the front pawl for moving the bolt. Fig. 2 is a similar view showing the key in engagement with the intermediate pawl preparatory to finishing the operation of locking. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a horizontal sectional view.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a lock casing having a removable plate 2 and provided at its top with openings 3 to receive loops or keepers (not shown) adapted to be engaged by locking arms 4 of a bolt 5, the body portion of which consists of a plate slidingly mounted in the casing and adapted to be engaged by a spring actuated dog 6 arranged back of the bolt 5 and adapted to hold the same against longitudinal movement when any one of its notches 7 is engaged by a lug 8 of the bolt. The locking arms 4 of the bolt are arranged adjacent to the openings 3 and are adapted to extend across the opening, as will be readily understood to engage suitable keepers or loops. The dog is pivoted at one end at 9, and is depressed to engage the lug 8 of the bolt by a curved spring 10.

The bolt slides longitudinally between stops 11 and 12 which limit the movement of the bolt; and the latter is provided at its ends with recesses or notches 13 and 14 to receive the said stop. The lower edge of the body of the bolt is cut away or recessed at 15 to expose the lower edge of the spring actuated dog to enable the latter to be lifted by a key 16 out of engagement with the lug 8 of the bolt.

The key 16, which is inserted through a key hole 17, and which fits on a post 19 is adapted to actuate the bolt by engaging spring actuated pawls 20, 21 and 22, which are pivotally mounted on the body of the bolt and extend from and project beyond the cut away or recessed portion 15 of the lower edge of the bolt. The pawls have segmental pivoted heads 23 which are engaged by sigmoidally bent springs 24. The springs are secured at their upper ends to the bolt by screws, and their lower ends engage upper edges of the heads of the pawls, which are centrally flattened at their upper edges, whereby the springs hold them perpendicular to the bolt. The engaging ends of the pawls are provided with notches to be engaged by the key. The notch 25 of the front pawl 20 is disposed toward the front; the intermediate pawl 21 is provided with oppositely disposed notches 26; and the rear pawl 22 is provided with a rearwardly disposed notch 27. When the center pawl 21 is arranged directly above the key hole, the other two pawls are located at opposite sides of the same, and at all times one of the pawls is within the path of the key.

The operation of the lock is as follows: When the lock is unlocked the key is turned in the direction of the arrow in Fig. 1 and in a direction opposite to that in which the bolt is designed to be moved until it lifts the dog out of engagement with the bolt and swings the front pawl 20 rearward until its notch 25 engages the edge of the lug of the key, which will be indicated by a click of the lock due to a movement of the pawl 20; the key is then reversed, before the pawl 20 disengages itself from the key; and the reverse movement of the key moves the bolt one-half the distance for locking. The operation of the key is then repeated, and it engages the intermediate pawl 21, as illustrated in Fig. 2 of the accompanying drawings; and a reverse movement of the key at this time will complete the operation of locking.

The operation of unlocking is the reverse of that just described; the key is moved in a direction opposite that in which the bolt is designed to be moved until it engages the rear pawl 22 in the same manner that it engaged the front pawl; and the key is then reversed to move the bolt the first half of the unlocking movement. The key is then engaged with the intermediate pawl and the operation of unlocking is completed.

A flat bowed spring 28 is secured to the plate 2 and engages frictionally the bolt to prevent any liability of it being accidentally moved by the key engaging the sides of the pawls, as the sigmoidally bent springs hold the pawls perpendicular to the bolt with some force.

It will be apparent that the bolt is simple and comparatively inexpensive in construction, that it is burglar-proof and cannot be opened without a knowledge of its construction and the manner of manipulating the key.

Changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

The flat spring 28 may be supported by a centrally arranged supplemental spring 29, which is bowed, and is adapted to strengthen the large spring 28.

What I claim is—

1. In a lock, the combination of a casing having a key hole, a bolt slidingly mounted in the casing, and three pawls projecting from and pivotally mounted on the bolt, the intermediate pawl being arranged directly above the key hole at the end of the first movement of the bolt and the other pawls being located at opposite sides of the key hole, one of the pawls at all times being within the path of the key, substantially as described.

2. In a lock, the combination of a casing, a sliding bolt mounted therein, and a three spring actuated pawl pivotally mounted on the bolt and projecting therefrom and provided at their outer ends with notches, the notch of the front pawl being disposed forwardly, and that of the rear pawl being disposed rearwardly, and the intermediate pawl being provided with oppositely disposed notches, said pawls being arranged adjacent to a key hole, whereby the bolt is moved both forwardly and rearwardly by a key, substantially as described.

3. In a lock, the combination of a casing, a bolt mounted therein, a spring actuated dog engaging the bolt and projecting therefrom to be engaged by a key, and the three spring actuated pawls projecting from and independently pivotally mounted on the bolt and arranged to be engaged by a key and provided at their engaging ends with notches, the intermediate pawl having oppositely disposed notches, substantially as and for the purpose described.

4. In a lock, the combination of a bolt having its lower portion cut away and provided with a lug, a casing receiving the bolt, a spring actuated dog mounted in the casing and provided with three notches to be engaged by said lug and projecting from the cut away portion of the bolt, the three pawls pivotally mounted on the bolt and having segmental heads and projecting from the cut away portion and provided at their engaging ends with notches, and springs mounted on the bolt and engaging the heads of the pawls, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHAS. W. BROWN.

Witnesses:
F. W. JEWETT,
R. D. FULLER.