W. T. BLOUNT, Jr.

COMBINATION LOCK AND LATCH.

APPLICATION FILED JUNE 26, 1908.

924,421.

Patented June 8, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

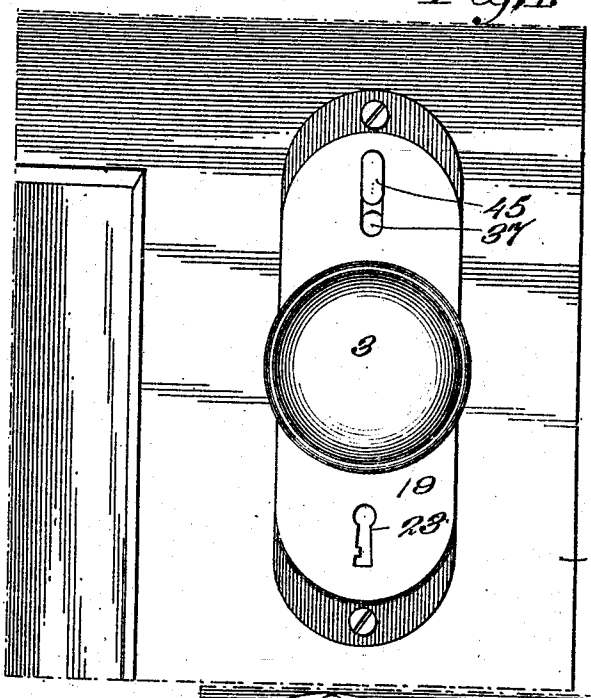
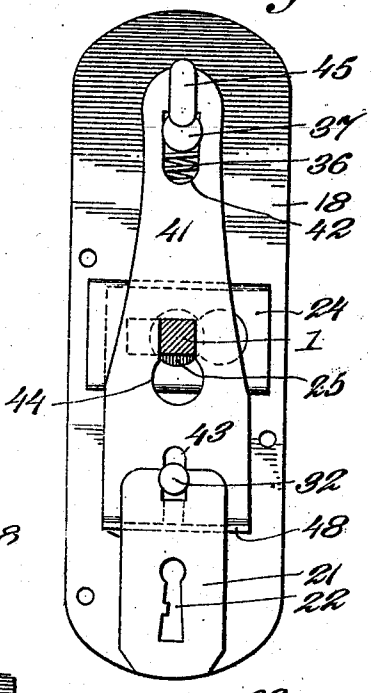


Fig. 3.



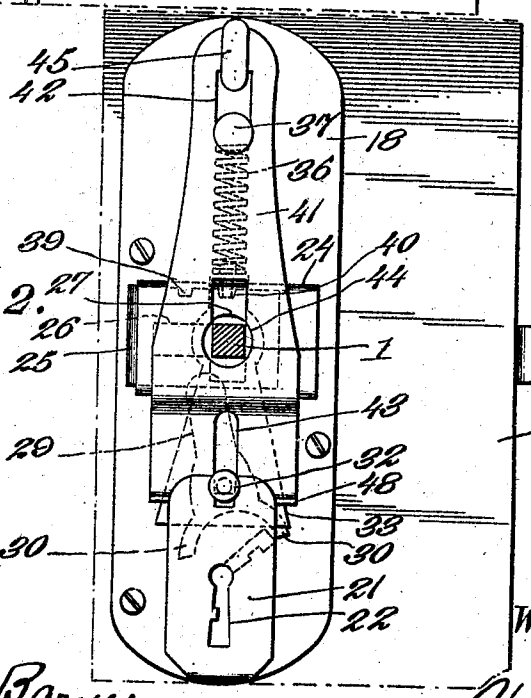


Fig. 2.

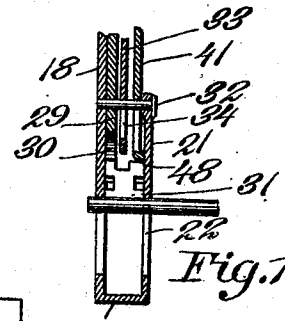


Fig. 10.

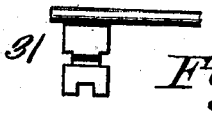


Fig. 11.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 4

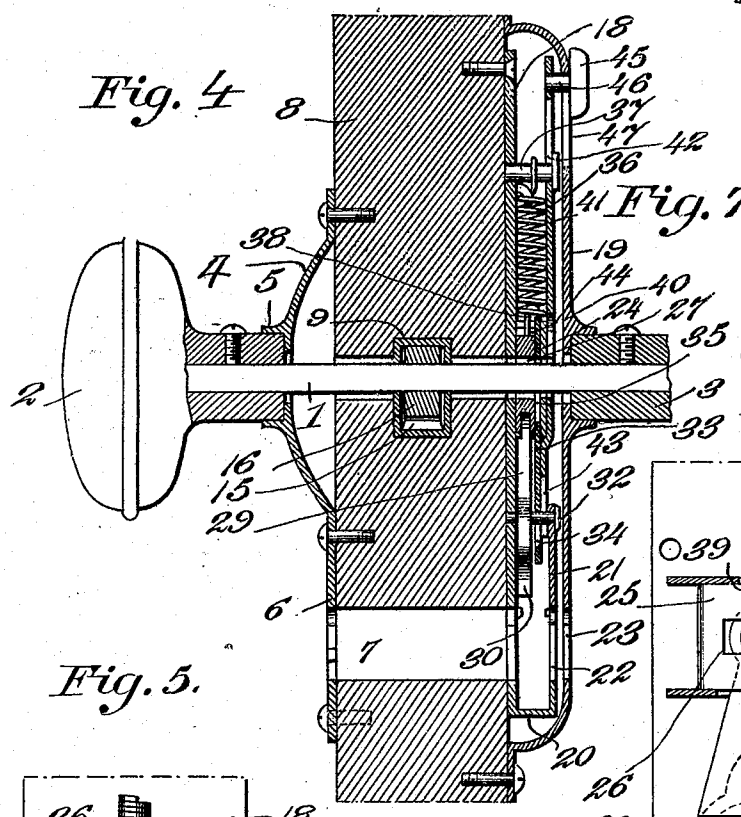


Fig. 7.

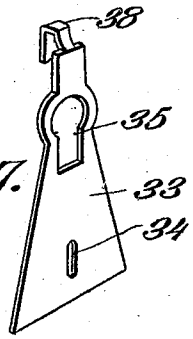


Fig. 6

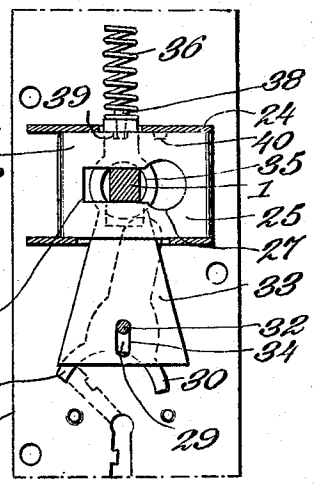
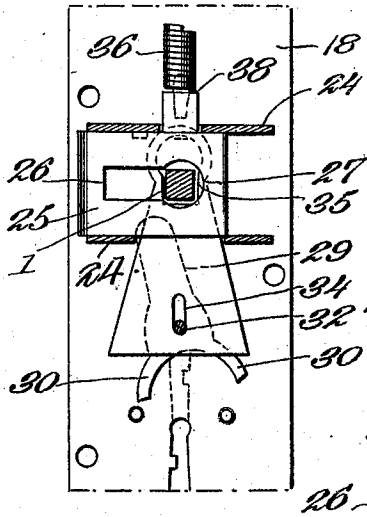


Fig. 5.



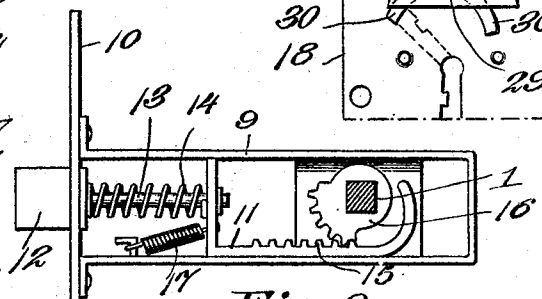


Fig. 9.

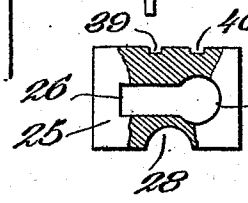


Fig. 8

Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM T. BLOUNT, JR., OF SPRINGFIELD, GEORGIA.

COMBINATION LOCK AND LATCH.

No. 924,421. Specification of Letters Patent. Patented June 8, 1909.

Application filed June 26, 1908. Serial No. 440,538.

To all whom it may concern:

Be it known that I, WILLIAM T. BLOUNT, Jr., a citizen of the United States, residing at Springfield, in the county of Effingham and State of Georgia, have invented new and useful Improvements in Combination Locks and Latches, of which the following is a specification.

This invention relates to a combined lock and latch, the object of the invention being to provide in connection with a knob spindle, means for locking and unlocking said spindle and thereby correspondingly affecting the bolt or latch, the arrangement being such that the mechanism may be manipulated by means of a key entered at either side of the door.

The lock also comprises a night latch which, while affording additional security to the occupants of a room or house, is adapted to be moved away from its operative position by the insertion and manipulation of a key introduced either from the outside or inside of the door.

With the above and other objects in view, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a face view of the improved lock, shown applied to a door. Fig. 2 is a similar view with the adjacent cover plate of the lock case removed to show the lock mechanism, the knob spindle being shown in section. Fig. 3 is a view of the lock taken from the same position as Fig. 2 and showing the night latch in operative engagement with the knob spindle. Fig. 4 is a vertical transverse section through the door and the lock mechanism applied thereto. Fig. 5 is a detail vertical section showing two of the spindle locking members and their operating devices. Fig. 6 is a similar view showing a different position of the two spindle locking members. Fig. 7 is a detail perspective view of the vertically movable spindle locking member. Fig. 8 is an elevation, partly in section of the horizontally movable spindle locking member. Fig. 9 is a detail elevation of the bolt or latch and the frame thereof. Fig. 10 is a detail vertical section illustrating the coöperation between the key, night latch, and the rocker which operates one of the spindle locking members. Fig. 11 is a detail view illustrative of the bit of the key for operating the lock.

Referring to the drawings, 1 designates the knob spindle provided with the knobs 2 and 3 at opposite ends thereof, while 4 designates the escutcheon plate at one side of the door which is provided with a bearing 5 for the hub portion of one of the knobs, said plate being preferably extended to form the key hole plate or escutcheon 6 directly in line of the key hole mortise 7 which extends through the door illustrated at 8.

Mortised centrally into the door is a latch frame or case 9 having the usual face plate 10 and the parallel side portions between which is mounted the carrier 11 of the latch or bolt 12, said latch or bolt being provided with a stem 13 which is inserted through an opening in the carrier 11 and is encircled by a thrust spring 14 which operates to project the latch or bolt outward to effect a reliable engagement between the bolt or latch and the keeper or striking plate on the door jamb or frame. The carrier 11 comprises a rack 15 which is engaged by a pinion segment 16 having a squared opening to receive the knob spindle 1 as clearly shown in Fig. 9. Thus, when the knob spindle 1 is turned, the bolt or latch is withdrawn or projected according to the direction in which the knob spindle is turned.

17 designates a latch throwing spring the tension of which is utilized to hold the latch or bolt in a projected position.

The lock case comprises an inner plate 18 and an outer plate or cover 19 between which the operative parts of the lock mechanism are mounted. In the preferred embodiment of the invention, the inner plate 18 is offset outwardly as shown at 20 at its lower end and provided with an upward extension or plate 21 in which a key hole 22 is formed, said key hole being in line with the key aperture 7 in the door, while the cover plate 19 is also provided with a key hole 23 thus enabling the key to be introduced from either side of the door.

Projecting outward from the inner or base plate 18 are parallel guides or flanges 24 between which is mounted to slide a horizontally movable spindle locking member 25 the same being provided with a longitudinal slot 26 having a width slightly greater than the knob spindle as shown in Figs. 5 and 6, the said slot being enlarged in circular form at

one end as shown at 27 so that when the knob spindle passes into the enlarged portion of the slot it is free to turn or in other words is unlocked. When, however, the member 25 is moved to a position in which the knob spindle lies in the narrow portion of the slot 26, it will be apparent that said plate defeats the turning of the knob.

In its lower edge the member 25 is provided with an opening 28 which receives the upper rounded extremity of a rocker 29, the lower end of which is forked or provided with fork arms 30 adapted to be operated upon by the bit of the key 31 shown in Fig. 11. The rocker 29 is mounted to turn on a fulcrum and guide pin 32 extending outward from the inner or base plate 18 so that as the fork arms 30 are operated upon by the bit of the key and moved in one direction, the upper end of the rocker is moved in the reverse direction and coöperating with the member 25 serves to slide said member in one direction or the other opposite to the direction in which the key is turned. The distance between the arms 30 is such that one arm or the other will remain in the path of the key bit.

Mounted at one side of the spindle member 25 is a vertically movable spindle locking dog 33, the same being substantially triangular in shape and being provided with a vertical slot 34 through which the pin 32 passes, thus permitting a limited vertical movement. Adjacent to its upper end the member 33 is provided with a slot 35 of key hole form as best illustrated in Fig. 7, the slot 35 corresponding in shape with the slot 26 in the other spindle locking member 25 with the exception that the slot 35 is disposed vertically while the slot 26 is disposed horizontally. It will be apparent that when the narrow portion of the slot 35 engages the knob spindle 1, the latter is prevented from being turned, whereas, when the spindle passes through the enlarged or circular portion of the slot 35, said spindle is free to be turned.

The locking dog 33 is held normally depressed by means of a superimposed spring 36 the upper end of which is connected to a stud 37 projecting forward from the inner or base plate 18, while the lower end of said spring bears against a hook-shaped extension 38 on the upper end of the member 33. The point of the hook-shaped extension 38 forms a lock pin, the same extending downward and being adapted to engage lock notches 39 and 40 formed in the upper edge of the horizontally movable spindle locking member 25, said lock notches being so located as to be engaged by the lock pin 38 when the member 25 is at either limit of its throw.

41 designates a vertically movable night latch the same being best illustrated in Figs. 2 and 3. This night latch is in the form of a vertical oblong plate which operates just inside of the lock case cover 19 being provided at its upper end with a slot 42 to embrace the stud 37 and being provided in its lower end with another slot 43 to embrace the pin 32. At an intermediate point the night latch plate is provided with a key hole slot 44 of the same shape and form as the slots 26 and 35 in the spindle locking members 25 and 33. When the night latch plate is raised as shown in Fig. 2, the knob spindle 1 lies in the circular portion of the slot and is thereby free to turn but when the night latch plate is moved downward as shown in Fig. 3, the knob spindle lies in the narrow portion of the slot and is held locked from turning thereby. The night latch plate is shifted by means of a finger piece or button 45 the shank 46 of which works in a slot 47 in the cover plate of the casing and is connected at its inner end to the night latch plate as clearly shown in Fig. 4. The lower edge of the plate 41 is preferably flanged as shown at 48 for engagement with the extremity of the key bit, whereby said plate may be raised by the turning movement of the key, to enable the night latch to be thrown out of its operative position preparatory to moving the spindle locking members 25 or 33 out of engagement with the knob spindle.

From the foregoing description it will be seen that to lock the door the key may be inserted from either side of the door and when turned in the proper direction, it will operate on the rocker 29 to swing the latter and cause it to move the spindle locking member 25. At the same time the bit of the key will operate against the bottom edge of the other locking dog 33 to elevate the latter and unlock the member 25 as illustrated in Fig. 5. When the night latch plate 41 is pulled downward, it forms an additional lock for the spindle. However, an authorized person inserting a key in the lock from the outside of a room or house, by turning said key in one direction, may first lift the night latch and then by turning the key in the opposite direction may work the spindle locking member 25. The spring 36 acts to depress the remaining member 33 and in this way the spindle is left free to be turned by the knob as far as the member 33 is concerned. The night latch plate 41 is so mounted that it works stiffly, or in other words, is held in either its upward or downward position by frictional contact with the lock case which enables said plate to be sustained in its inoperative position when not required for use.

By reference to Figs. 4 and 6, it will be understood that when the key is turned in one direction it operates against one of the arms 30 to swing the rocker 29 in one direction and when said key is turned in the op-

posite direction, it acts on the other arm 30 to swing the rocker in the opposite direction. In this way, the rocker acts to slide the spindle locking member 25 in opposite directions for the purpose of locking and unlocking the spindle 1. In these movements of the key, the latter acts against the bottom edge of the locking dog 33 to raise said dog out of interlocked engagement with the spindle locking member 25, the parts being returned to an interlocked position by means of the depressing spring 36.

I claim:—

1. A combined lock and latch embodying in combination with a knob spindle, a bolt actuated by the turning movement of the spindle, a slidable spindle locking member, a slidable locking dog for said member, and a key operated rocker coöperating with the spindle locking member.

2. A combined lock and latch embodying in combination with a squared knob spindle, a bolt actuated by said spindle, a slotted spindle locking member movable in a rectilinear path, and a rocker having a portion which coöperates with said spindle locking member for shifting the latter and also provided with fork arms adapted for engagement with the lock key.

3. A combined lock and latch embodying in combination with a squared knob spindle, a bolt actuated by said spindle, a plurality of spindle locking members slidable in different directions, and a night latch plate provided with a key hole slot through which the knob spindle passes, said night latch plate being shiftable relatively to the knob spindle.

4. A combined lock and latch embodying in combination with a squared knob spindle, a bolt actuated by said spindle, a plurality of spindle locking members movable in different directions, and a night latch plate having a key hole slot embracing said spindle, said night latch plate being shiftable relatively to the spindle and having a portion thereof lying in the path of the lock key adapting said plate to be shifted by the key.

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

WILLIAM T. BLOUNT, Jr.

Witnesses:
E. C. Shearouse,
F. M. Wever.