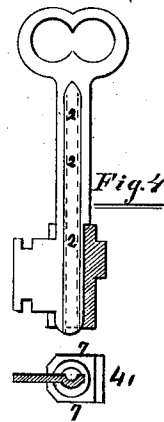
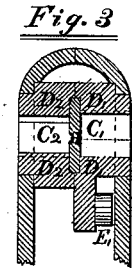
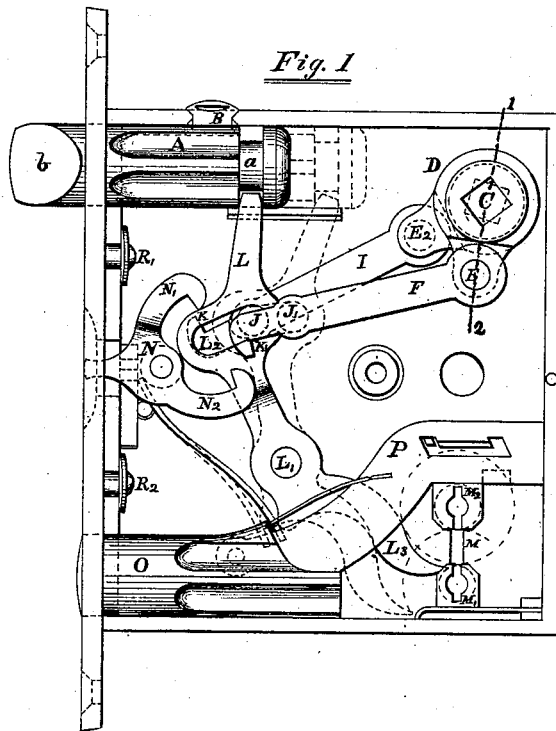
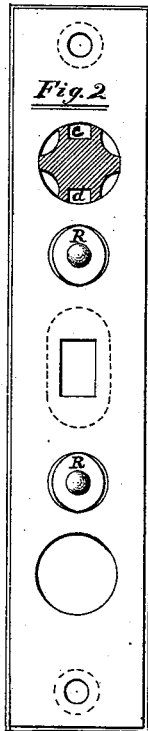


B. R. WHITE.
Latch.

No. 207,634.

Patented Sept. 3, 1878.



Witnesses

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BENJAMIN R. WHITE, OF TRENTON, NEW JERSEY.

IMPROVEMENT IN LATCHES.

Specification forming part of Letters Patent No. 207,634, dated September 3, 1878; application filed May 31, 1878.

To all whom it may concern:

Be it known that I, BENJAMIN R. WHITE, of the city of Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Door-Latches; and I do hereby declare that the following is a full, clear, and exact description thereof, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention consists in a new and useful door-lock, with new attachments thereto, all so arranged that the lock shall be convertible at pleasure into a right or left hand lock without opening the lock-case, with a lock-face adjustable to any bevel or rabbet in the face-edge of the door, with both bolt and night-latch operated from the same key-hole, and with independent knobs operating the latch-bolt, the whole held together and in place by one screw-bolt.

The mechanical arrangements and combinations used in said lock and attachments, and which are my invention, will be more fully shown by the drawings accompanying this.

Figure 1 represents the internal working parts of the lock. Fig. 2 represents the plain face of the lock, which is adjustable and reversible. Fig. 3 represents a cross-section of the lock through the spindles of the knobs, the cranks, and metal disk, the said cross-section being at the dotted line 1, 2, Fig. 1. Fig. 4 represents the key, with section of key-receiver attached.

In Fig. 1, A represents the latch-bolt, which is cylindrical shaped, provided with a groove passing all around it, near its rear end, as shown at *a*, and with the ordinary beveled end, as shown at *b*. This bolt is provided with two deep square grooves—one on its upper and one on its under surface, as shown at *c* and *d*, Fig. 2. These grooves are not both in use at the same time.

In the upper part of the case of the lock is a small slot, through which passes a small piece of metal or other hard substance, B, which passes down into the upper groove in the bolt, and serves to keep it from turning. This

piece of metal or other hard substance projects above the upper surface of the case, and is furnished with a small indentation near the top, by means of which it is easily raised and the bolt easily turned from the left to the right hand, and vice versa, the upper groove in the bolt A, as shown at *c*, Fig. 2, in turn becoming the under groove.

C, Fig. 1, is the end of the spindle, which spindle, by means of mechanism hereinafter described, is connected with the door-knob, and a cross-section of which spindle is shown at C¹, Fig. 3. D, Fig. 1, is a crank encircling the spindle, and is provided at its end with a rounded projection, E, to receive the end of the connecting-arm F. A cross-section of this crank is shown by D¹ D¹, Fig. 3, and of the rounded projection at E¹, Fig. 3. The lock is furnished with two of these spindles, C¹, Fig. 3, representing one, and C² representing the other. They are independent in their action, and are separated by the small piece of metal H. It is also provided with two cranks, the one already described and another immediately upon its opposite side, as shown at D² D², with a projection, E², Fig. 1, similar to the one shown at E, to receive another connecting-arm, I. These connecting-arms are provided with rounded projections, as shown at J and J', and hooked ends, as shown at K K'. L is a lever, playing freely upon a pivot, L¹, with a slot, L², to receive the projections J J'. This lever projects beyond this slot up into and plays freely in the groove *a* in the bolt A, and extending down below the pivot L¹, and terminating in the curved arm L³, against which curved arm the night-key, entering at M¹, (the lower end of the key-hole M,) presses as it is turned, and, depressing the said arm L³, throws back the other end of the lever L. Upon turning the knob to which is attached the spindle C¹, Fig. 3, being also C, Fig. 1, the spindle is turned with it. This carries back the crank D, which, in turn, carries back the connecting-arm F, and which arm, in turn, carries back with it the throwing-lever L and bolt A. Upon turning the spindle C², Fig. 3, the same action takes place with the crank D² and the arm I, throwing-lever L, and bolt A, Fig. 1.

At N is a catch or stop, N, with arms N¹ and N² to catch into and lock the connecting-

arms I and F at K and K'. This catch or stop is provided on its under side with two projections forming three notches, to receive a projection upon a spring fastened or resting on the case of the lock. When the projection on this spring rests in the upper notch of the catch N it locks one arm; when in the lower notch it locks the other arm; when in the middle notch it leaves both arms free to move. The bolt A, Fig. 1, thus operated by means of either the spindle C¹, Fig. 3, the spindle C², or the night-key entering at M¹, Fig. 1, according as the one or the other is in use, becomes both a door and night latch.

The bolt O, Fig. 1, with its tumblers P, Fig. 1, is operated by means of a key entering the key-hole M, Fig. 1, at M², Fig. 1, in the ordinary manner, with the exception of the tumbler-springs performing their usual office, and also bearing on the square sides of M², Fig. 1, as hereinafter described.

Those of my locks which are made as mortise-locks are provided with an adjustable reversible face or front. (Shown at Fig. 2.) This face is provided with openings for the bolts A and O, Fig. 1, and the latch or stop N, and for screws for fastening it to the face-edge of the door, all arranged in such a manner as to readily admit of the face being used either end up, thus allowing of its being fitted at once to either a right or left hand door, with either a plain or beveled face-edge, and for rabbeted face-edges.

I am thus enabled to use the same rabbeted lock face or front indifferently for right or left hand doors. This adjustable reversible face is fitted to the case of the lock by loosely-fitting pins R R, (shown at R¹ R²,) with or without washers, straight or bent, and the front of the lock-case being slightly rounded, the face adjusts itself to the bevel of the face-edge of the door.

I am aware that adjustable lock-faces are not new. Patent No. 166,797, of August, 1875, describes an adjustable face. Such face thus described I do not use.

What I claim as my invention is an adjustable reversible face, connected loosely by pins to the case and with the openings in it so adjusted that it is readily reversible. The spindles, as shown at C¹ and C², are square pieces of metal, which pass through the cranks D¹ and D², Fig. 3. These spindles are separate, and are independent of each other in their action. They enter the shanks a distance sufficient for the shanks to grasp them firmly in turning and to carry them with the shanks.

The key, on entering the key-hole, passes at once into a receiver, a cross-section of which is shown in Fig. 4. This receiver is furnished with flat sides, against which, in turn, is pressed a spring or springs, thereby holding the key firmly in the lock when left at a quarter-turn. Each key is provided with a similar receiver acting in a similar manner.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The latch-bolt A, cylindrical in shape, and provided with grooves *c* and *d* upon opposite sides, to receive the reverse stop B, and with the annular groove *a* to receive the end of the throwing-lever L, substantially as shown and described.

2. In a lock or latch, a cylindrical-shaped latch-bolt, in combination with grooves and reverse stop, substantially as shown and described.

3. The spindle C, the crank D¹, with its rounded projection E¹, and the crank D², with its rounded projection E², the dividing-piece of metal or other substance H, the connecting-arms F and I, all in combination with the spindles C¹ and C² and the throwing-lever L, substantially as and for the purpose shown and described.

4. In a lock or latch, the employment of a spindle, separated into two parts by a dividing-piece of metal or other substance, and furnishing each spindle with a crank and connecting arm acting upon the same throwing-lever, leaving each spindle independent in its action, substantially as and for the purpose shown and described.

5. In a lock or latch, a crank-motion operating directly from the spindle by means of a connecting-arm upon the throwing-lever, substantially as specified.

6. In a lock or latch, the employment of two separate crank-motions acting by means of connecting-arms direct upon the same throwing-lever, substantially as and for the purpose specified.

7. The combination of the spindles C¹ C², the dividing-plate H, the cranks D¹ and D², the connecting-arms F and I, provided with the projections J' and J, playing in the same slot L² in the same throwing-lever L, all constructed, arranged, and operating substantially as described, for the purpose specified.

8. In a door lock or latch, a throwing-lever passing the whole height of the case, operated at its lower end by a night-key, and furnished with a slot to receive one or two arms, operated from the spindle or spindles, said throwing-lever operated at will by the night-key or by either or both of the arms, substantially as shown and described.

9. The throwing-lever L, moving freely upon the pivot L¹, provided with a curved arm, L³, and slot L², in combination with the arms F and I and the annular groove *a* in the latch-bolt, constructed, arranged, and operated substantially as shown and described.

10. In a door-lock, a catch provided with notches or their equivalent, and a spring operating upon them, so as to hold the stop firmly in its lower and upper positions, and also in its center position, by means of which I am enabled to stop off either knob or neither knob.

11. In a lock, a key-hole fitted with two receivers, one at the top to receive the bolt-key, and the other at the bottom to receive the latch-key, all arranged and operating substantially as shown and specified.

12. In a lock, a key-receiver fitted with flat sides, which, when pressed against by a spring or springs, holds the key firmly in position either in a quarter, half, or three-quarter turn, and holding the receiver in proper position for receiving the key.

13. An adjustable lock face or front, plain or rabbeted, provided with the loose-fitting pins R R, with or without washers, with the openings for the bolts and stop or catch, all arranged and constructed substantially as shown and described.

14. The combination of the cylindrical bolt A, with its grooves *c* and *d*, the reverse stop B, the throwing-lever L, with its slot L², its

pivot L¹, and curved arm L³, the arms I and F, with their rounded projections J and J' and hooked ends K and K', the cranks D¹ and D², with their rounded projections E¹ and E², the spindles C¹ and C², the piece H, all arranged, constructed, and operating substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of May, A. D. 1878.

BENJ. R. WHITE.

Witnesses:

JAMES BUCHANAN,
EDMUND B. LEAMING.