

(Model.)

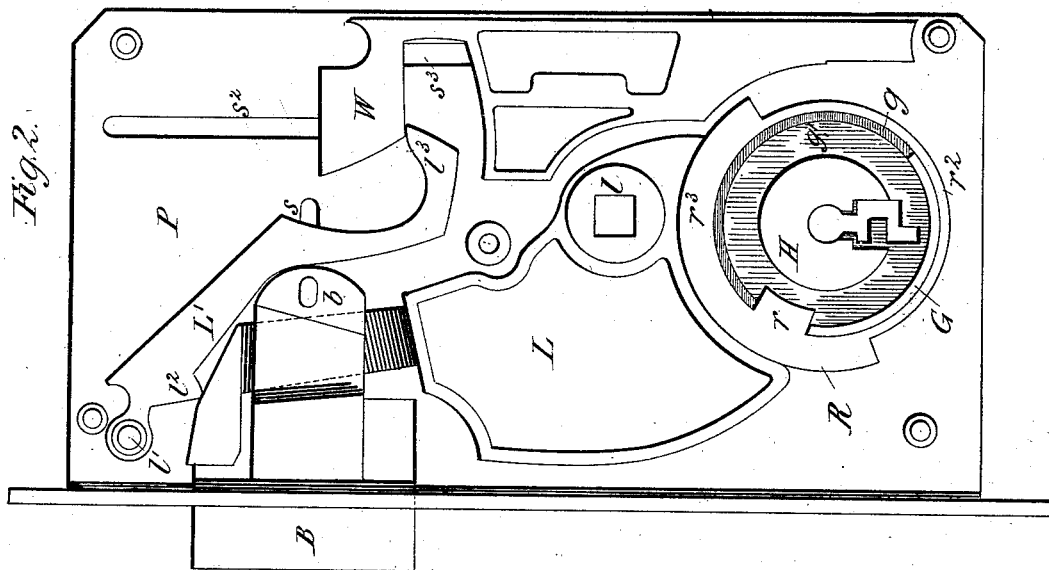
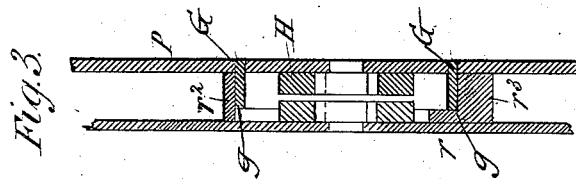
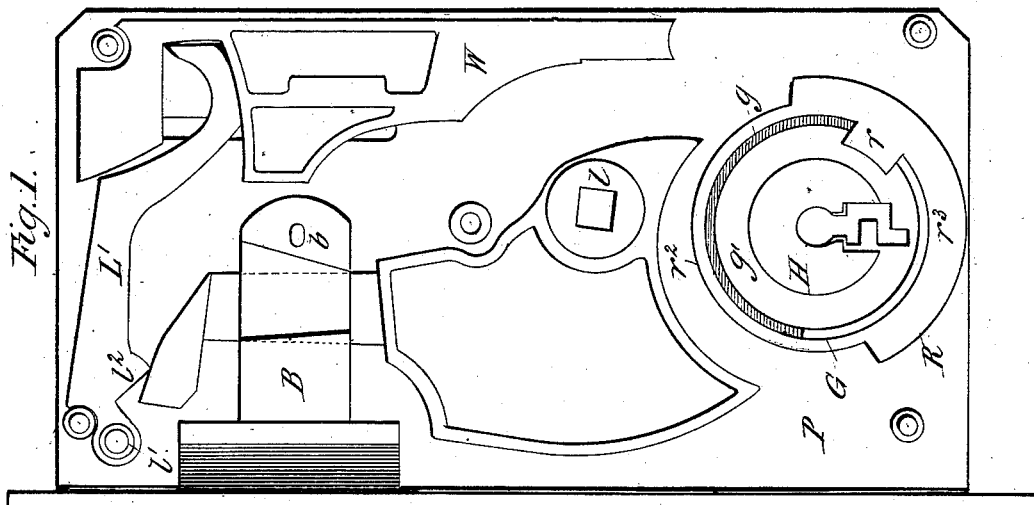
2 Sheets—Sheet 1.

F. HASDENTEUFEL.

LOCKING LATCH.

No. 264,081.

Patented Sept. 12, 1882.



Witnesses:
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J. A. Roe

Inventor:
Friedrich Hasdenteufel
per *[Signature]*
1884

(Model.)

2 Sheets—Sheet 2.

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Fig. 5.

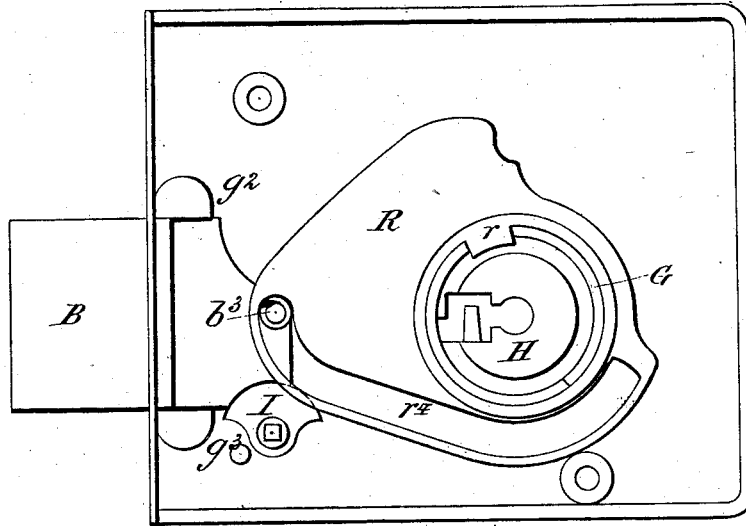


Fig. 4.

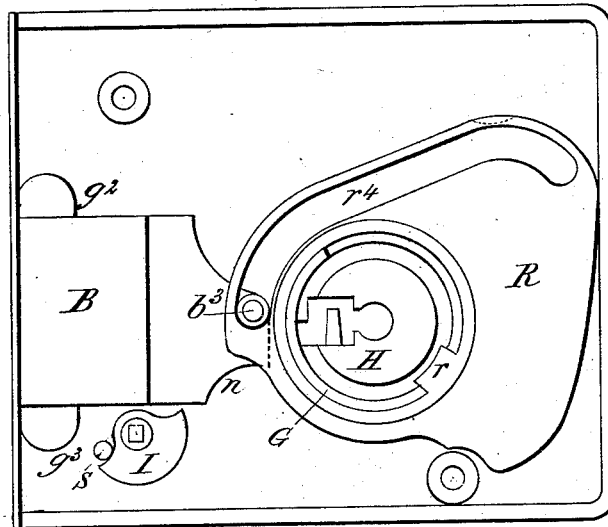


Fig. 6.

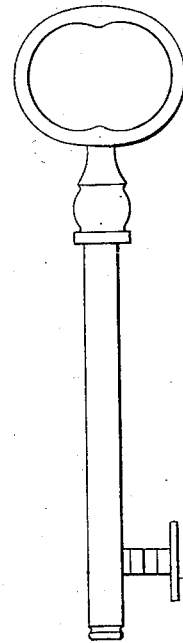
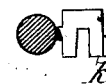


Fig. 7.



Witnesses:
C. Weller
J. A. Rae.

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att'y.

UNITED STATES PATENT OFFICE.

FRIEDRICH HASDENTEUFEL, OF ISERLOHN, PRUSSIA, GERMANY.

LOCKING-LATCH.

SPECIFICATION forming part of Letters Patent No. 264,081, dated September 12, 1882.

Application filed December 16, 1880. (Model.) Patented in France March 20, 1879, No. 129,699; in Germany April 10, 1879, No. 8,159, and September 16, 1880, No. 13,474; in Belgium November 13, 1880, No. 53,026; in Italy November 19, 1880, XXIV, 438; in Spain December 31, 1880, No. 1,217, and in England August 8, 1881, No. 3,426.

To all whom it may concern:

Be it known that I, FRIEDRICH HASDENTEUFEL, of Iserlohn, Prussia, Germany, have invented a new and useful Improvement in Locks, of which the following is a specification.

My invention relates more particularly to springless locks, and has for its principal feature a locking-ring turned by the key around an annular guide concentric to the key-hole.

The accompanying drawings represent two typical forms of locks, Figure 1 being an inside view of a mortise-lock when open; Fig. 2, the same when closed; and Fig. 3, a section through the key-hole, while Fig. 4 is an inside view of a cabinet-lock when open; Fig. 5, the same when closed. Figs. 6 and 7 show the shape of the key.

B, Figs. 1 to 3, is the latch or day-bolt, fitted loosely between the two lock-plates P P, and guided in a straight line by two stamps, *b b*, which slide in horizontal slots *s s* of the lock-plates. It is moved by the lever L, which has its fulcrum at the hub *l*, provided with a prismatic aperture for introducing the correspondingly-shaped shank of the door-handle, by which the lever L is turned.

In order to shoot the day-bolt or latch B automatically when the door is closed without the application of springs, the top end of the lever L is rounded and made to support a balance-lever, L', which has its fulcrum at *l'*, and rests on the rounded head of the lever L with its projection *l''*, while the extremity *l'''* supports a counter-weight, W. The latter is guided vertically by lateral stamps, which slide in vertical slots *s² s³* of the lock-plates. The weight of the balance-lever L and counter-weight W, pressing on the top of the actuating-lever L, causes the latter to move forward, thereby counteracting the weight of the door-handle.

For securing the lock by means of the key, the locking-ring R is provided, which forms the principal feature of my invention. This ring is concentric to the key-hole and turns loosely on the guide-ring G, which has the same depth between the lock-plates as the ring R, and is riveted to the lock-plate. A projection, *r*, is cast on the inside of the ring R, said projection being thinner than the body of the ring and passing over a recess, *g*, cut out in the

guide-ring G. This recess has the same depth as the projection *r*, and is sufficiently long to permit the necessary motion of the ring R. Each end of the recess forms an abutment to the projection *r* when the ring R is in one of its extreme positions. The projection *r* serves as a point of application for the outer (wide) portion, *k*, of the key-bit. The part *k* has the same depth as the rings R and G—that is to say, it fits between the lock-plates—and is guided concentrically to the key-hole in a groove, *g'*, formed between the ring G and the circumference of the bottom plates or key-hole fittings H, which are attached to the lock-plates. The ring R has a narrow portion, *r²*, and a wide portion, *r³*, which fit into the circular curve formed at the lower extremity of the lever L.

The function of the key and locking-ring R is as follows: As long as the narrow portion of the ring R is turned upward the lever L, and therefore the latch B, can be moved forward and backward by the door-handle and the counter-weight W. For locking the latch B in its closed position, the wide part of the ring R is turned upward by turning the key against the projection *r* until the latter is arrested by its contact with the high portion of the guide-ring G. In this position of the ring R the latter fits into the lower extremity of the lever L, thereby preventing any further motion of the lever L and the latch or day bolt B.

In the cabinet-lock, Figs. 4 and 5, the locking-ring R serves to move the sliding bolt B. The projection *r*, guide-ring G, and bottom plates, H, have the same purpose as in Figs. 1 to 3. The bolt B is guided between two pins, *g² g³*, and has at the back a stud, *b³*, which projects into a slot, *r⁴*, of the ring R. The ends of this slot are curved concentrically to the guide-ring G, and the ring R is enlarged on one side in such a manner that the weight of the ring rests on the stud *b³* when the lock is closed and when it is open, thereby securing the bolt in its extreme positions. The bolt is further guided by a pin projecting into a horizontal slot in the lock-plate.

A night-bolt, I, may be also used for securing the bolt in its extreme position. The wide portion of the rotary bolt I fits into a recess, *n*, on the bolt, and prevents the latter from go-

ing backward until the night-bolt has been turned out of its way. A stop-pin, S, serves to limit the motion of the night-bolt.

It is evident that the shape and arrangement of the different parts and other details of construction may be varied in many ways without departing from the nature of my invention, and that the locks shown in the drawings represent only two typical forms. For instance, instead of a slot and a stud, as in Figs. 4 and 5, other known devices may be used for converting the rotary motion of the ring R in a sliding motion of the bolt. The ring R may act on a bolt, as in Figs. 4 and 5, and at the same time serve to lock the latch of the door, as in Figs. 1 to 3. The night-bolt I may also be applied to other moving parts of the lock, so as to prevent their motion, instead of acting on the bolt. The sliding bolt may be dispensed with altogether and the ring R itself turned into a rotary bolt by making it project through the front plate of the lock. The balance-lever, instead of pressing on the top of the operating-lever L, may act directly on a latch or bolt, B.

I am aware of the Letters Patent No. 235,137, dated the 7th of December, 1880; and I do not claim any part of the invention described or claimed in the specification of said patent.

What I claim is—

1. The combination of a movable locking-ring, R, fitted loosely between the lock-plates and provided on its inside with a projection, r ,

serving as a point of application for the key-bit, with a fixed annular guide, G, situated inside the locking-ring and recessed on a portion of its circumference to give room for the rotary motion of the projection r and limit the motion of the latter, substantially as described.

2. The combination of a movable locking-ring, R, having a narrow portion, r^2 , and a wide portion, r^3 , fitted loosely between the lock-plates, and provided on its inside with a projection, r , serving as a point of application for the key-bit, with a fixed annular guide, G, situated inside the locking-ring, and recessed on a portion of its circumference to give room for the rotary motion of the projection r and limit the motion of the latter, and a lever fitting with a part of its circumference over the wide portion r^3 of the locking-ring, whereby the latter can be made to lock the lever in a fixed position, substantially as described.

3. The combination of an operating-lever, L, turned by the door-handle, with a latch, B, a balance-lever uniformly loaded by a vertically-movable counter-weight, W, a locking-ring, R, and circular guide G, substantially as described.

This specification signed by me this 4th day of March, 1880.

FRIEDRICH HASDENTEUFEL.

Witnesses:

OTTO AUER,
LUDWIG HENS.