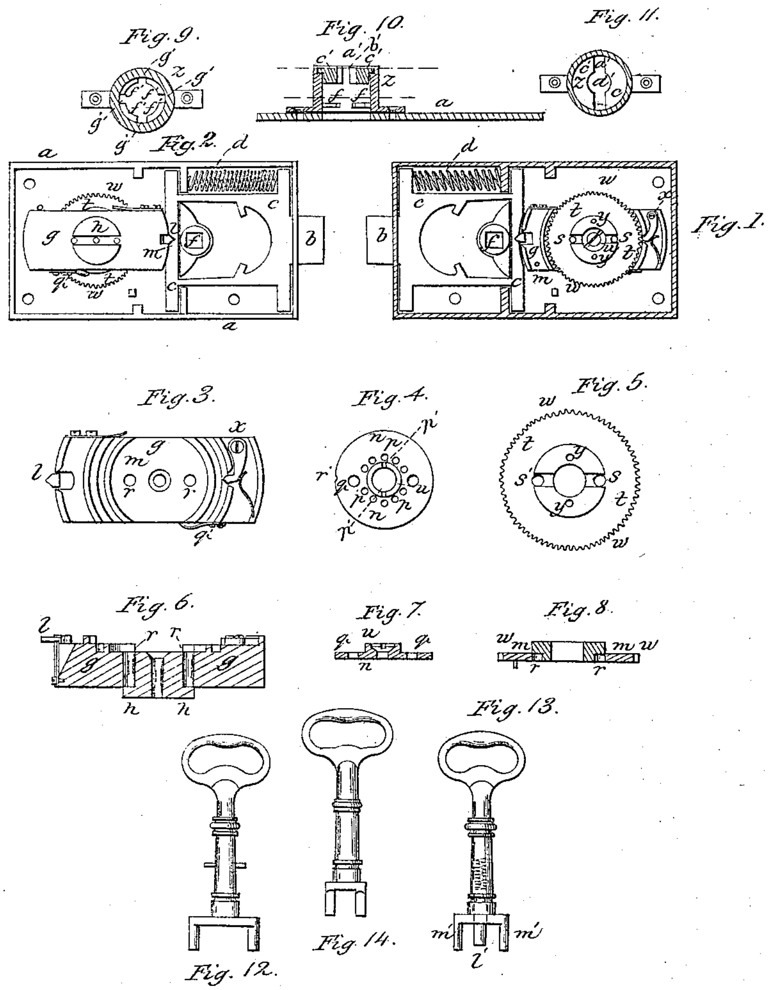
B. M. Van der Veer,

Latch.

No. 51,763. Patented Dec. 26, 1865.



Witnesses:

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AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

BENJN. M. VAN DER VEER, OF CLYDE, NEW YORK.

IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. **51,763**, dated December 26, 1863.

To all whom it may concern:

Be it known that I, BENJAMIN M. VAN DER VEER, of Clyde, in the county of Wayne and State of New York, have invented certain new and useful Improvements in Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates to certain improvements in locks, particularly applicable to a lock invented and patented by me on the 25th day of April, A. D. 1865; and it consists in a novel arrangement of parts in connection therewith, to be hereinafter described, the object of which is to enable the devices constituting the lock to be so set or adjusted as to be only susceptible of being unlocked by the person acquainted with such adjustment, the advantages resulting from which are obvious.

In accompanying plate of drawings my improvements are illustrated, Figure 1 being a view of the lock with the front plate removed; Fig. 2, a view of the lock with the lock-plate removed; Figs. 3, 4, 5, 6, 7, 8, 9, 10, and 11, detail views of the various parts composing the lock; Figs. 12, 13, and 14, views of the keys suitable for operating the lock.

a a in the drawings represent the outer casing or box for the locking devices, made of the form of all "mortise-locks," so-called, and so as to be screwed or bolted on doors, closets, &c.; *b*, the head of the latch projecting from one end of the casing *a*, and attached to the square-shaped frame *c*, arranged within the casing, all of which is thrown forward by the spiral or coiled spring *d* and backward by the usual lever-axle, *f*, through which the shaft of the knob or handle passes.

g is a traverse or key dog, turning on its axle *h* in the outer casing, which dog is operated by the key represented in Fig. 12, when properly inserted in the lock, as will be presently explained, throwing it into a vertical position with sufficient force to relieve its spring-catch *l* at its end in contact with the latch-frame *c* from the notch *m* thereof, thus unlocking the door and leaving the latch free to perform its functions as a spring-latch. By reversing the motion, or, in other words, turning it down to its original position, the door is locked, and is so indicated by the click of the catch in passing into the said notch in the end of the latch-frame, thus holding the dog in a horizontal position, as seen in the drawings. This operation of the lock is substantially similar to that described in the schedule annexed to my aforesaid Letters Patent, the detail construction, however, of the parts being slightly different therefrom, but operating upon the same principle.

In and upon one face *m*, Fig. 3, of the dog is hung a wheel or disk, *n*, turning upon a center axis, *o*, of the dog, in which wheel and extending through the same are a series of small apertures, *p p*, in one common circle, and two apertures, *q q*, diametrically opposite to each other and equidistant from the center of the wheel, corresponding to similar-placed apertures, *r r*, in the dog, so that when the said apertures *q* and *r* are opposite to each other, as well as also the apertures *s s* in the toothed wheel *t*, hung and turning upon the bushing *u* of the wheel *n*, or, in other words, form one continuous opening, communication for the key shown in Fig. 12 can then be had to the traverse-dog to be turned to the right sufficiently to disengage its spring-catch from the latch-frame and allow the requisite inward length of play to the latch, as before specified.

The periphery of the wheel *t* is formed of a series of teeth, *w w*, with which engages a spring-pawl, *x x*, of the dog, and through this wheel, at points diametrically opposite to each other and with the same radius as the circle described by the apertures *p p* in the lower or under wheel, *n*, are apertures *y y*, which apertures, when the two wheels are in the position above explained—that is, with their apertures *q* and *s* in same plane as *r r* of the dog—correspond to apertures in the wheel *n*.

Z is a projecting tube or hollow cylinder, attached to one side of the lock, in the outer end of which is the key-hole *a'*, consisting of a straight vertical slot, *b'*, slightly cut out at its center to allow the shaft of the key to pass through it, and of corresponding length to the width between the key-prongs. Within the upper portion of the hollow cylinder is hung a solid cylinder, *c'*, so as to freely turn, through which

cylinder c' is a slot, d', corresponding in shape to that of the tube Z, and below this cylinder c', between it and the inner parts of the locks, are a series of wards, f' f', four in number, and in the same plane, equidistant apart, with spaces g' g' between them, which spaces correspond to the direction of the key-hole and of the apertures in the traverse-dog when the latch is locked, the key-hole and said apertures being at right angles to each other.

When the latch is to be unlocked the key represented in Fig. 12 is inserted within the key-hole sufficiently to bring its prong-arm below the outer casing, when the key is turned about in the tube, carrying the cylinder c with it until it comes in the same plane or direction as the apertures in the traverse-dog, when, being then depressed, it enters the same, passing through similar apertures in the toothed wheel and disk, and the dog can be freely turned, releasing its catch from the latch-frame, as before explained, and again locked, as may be desired; but if desired to set the locking device to any particular adjustment or "register," as I term it, after the lock has been locked withdraw the locking-key and take the key represented in Fig. 13, which has a center spring guide-pin, l', between its bits or prongs m' m', and insert it in the key-hole, passing its bits through the apertures y y in the toothed wheel into opposite apertures in the disk, to do which it is necessary to bear with some pressure upon the key, its center guide-pin, l', yielding sufficiently to allow the parts to engage with the under wheel, when turn the key to the left, counting each tick or click of the spring-pawl as the toothed wheel passes by it, which, for instance, suppose, for illustration, to be five. This is what I term my "first register." Now relieve the pressure from the key, which, in consequence of its spiral spring against which its center pin acts, springs out of the apertures in the under wheel or disk, n, when, turning the key to the right, counting again the ticks or clicks of the spring-pawl, the toothed wheel is then moved alone back toward its original position, which we will now suppose to be, for illustration, equal to seven ticks. The position of the apertures in the toothed wheel and under wheel, through which the locking-key passes to the traverse-dog, is, it is plainly obvious, now thrown not only out of connection with each other, but with those of the dog, thus positively preventing the locking-key from being used to turn the traverse-dog, as is apparent without further explanation, it being also impossible to insert the key within the lock a sufficient distance to produce any effect whatsoever upon the same, the wards of the key-hole preventing it from being turned, except when in to such a distance as to bring its bit or prong-arm entirely between them and the traverse-dog.

From the above explanation it is apparent that the lock can only be unlocked by a person acquainted with the registry made, and that in such case it is very simply and quickly accomplished, the reverse operation to those above described being performed first upon the toothed wheel and then upon it and the under wheel in connection with it, each being turned in the opposite direction the same number of ticks as before.

In case the lock, after having its register adjusted as above explained, should be interfered with or disturbed by a baffled lock-picker, in which case the position of the wheels with regard to each other would be changed to such a degree as to prevent the register made being used to bring the parts to the proper position to allow the locking-key to be employed, it is only necessary to insert the register-key as far as it will go without affecting the center spring guide-pin, when turn the register or tooth wheel back to the left until its pin o' upon the under side comes to a stop against the traverse-dog, when turn it backward to the right seven ticks or clicks, which is one of your register. Now withdraw this key and insert the pronged end of the key shown in Fig. 14 in the notches p' p' in the end of the bushing of the under wheel, which then turn to the left until it is stopped by the spring q' engaging with the notch r' on its edge. Now reverse the motion, turning to the right for fourteen ticks or clicks, when the lock is in its register, and can be unregistered as if it had never been disturbed.

I claim as new and desire to secure by Letters Patent—

The combination of the wheel n and toothed wheel t with the traverse-dog g of a lock, arranged with regard to each other, substantially in the manner described, and operating as and for the purpose specified.

BENJAMIN M. VAN DER VEER.

Witnesses:

JOHN TREMPER,

H. P. JONES.