



A.D. 1824 N° 4972.

Locks.

CHUBB'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, CHARLES CHUBB, of Portsea, in the County of Southampton, Ironmonger, send greeting.

WHEREAS His most Excellent Majesty King George the Fourth did, 5 by His Letters Patent under the Great Seal of that part of the United Kingdom of Great Britain and Ireland called England, bearing date at Westminster, the Fifteenth day of June, One thousand eight hundred and twenty-four; in the fifth year of His reign, give and grant unto me, the said Charles Chubb, my exors, admors, and assignus, His especial licence, full 10 power, sole privilege and authority, that I, the said Charles Chubb, my exors, admors, and assigns, during the term of years therein mentioned, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "AN IM- 15 PROVEMENT IN THE CONSTRUCTION OF LOCKS;" in which said Letters Patent there is contained a proviso that if the said Charles Chubb, shall not particularly describe and ascertain the nature of my said Invention, and in what manner the same is to be performed, by an instrument in writing under my hand and seal, and cause the same to be inrolled in His Majesty's High 20 Court of Chancery within two calendar months next and immediately after the date of the said Letters Patent, that then the said Letters Patent, and all liberties and advantages whatsoever thereby granted, shall utterly cease, deter-

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mine, and become void, as in and by the same, relation being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said Charles Chubb, do hereby declare that the nature of the said Invention, and the manner in which the same is to be performed, are particularly described 5 and ascertained in and by the Drawings which are hereunto annexed, and by the following description thereof (that is to say) :—

My said Improvement in the Construction of Locks is applicable only to that description of lock generally known under the denomination of Chubb's Patent Detector Lock, and for which Letters Patent were granted to Jeremiah 10 Chubb, of Portsea, bearing date at Westminster, on or about the Third day of February, in the fifty-eighth year of the reign of His late Majesty King George the Third, and in the year of our Lord One thousand eight hundred and eighteen. And in order that the application of my said improvement may be distinctly understood, I will first briefly describe one of the said Patent 15 Detector Locks furnished with what the Patentee denominated Detecting Mechanism.

The detector is a detent or lever moving upon a fixed center pin, being formed with a hook or catch adapted to interlock with a notch or stud in the bolt of the lock, so as effectually to stop and resist the motion of such bolt 20 whenever the detector is moved on its center pin, so as to come into contact with the bolt; but if the detector is moved on its center pin so as to be clear of the bolt it will then make no opposition to its motion. The detector spring is a spring applied to the detector in such a manner as to urge its hook or catch towards the bolt when the detector is moved, so as to bring the said 25 hook or catch nearer to the bolt than a certain portion which may be called the point of detection; at the same time the said detector spring will urge the detector hook away from the bolt whenever the same is at a greater distance from the bolt than the said point of detection. The detector is so placed as to be operated upon by the tumblers of the lock when the whole or any of them 30 are raised, and if any of the tumblers is raised too high (that is to say), is moved further from the center of motion of the key than the required position in which the notch in such tumbler comes opposite to the stud of the main bolt (in order that the main bolt may pass to open the lock), then such tumbler which has been too much raised will move the detector beyond or 35 within the point of detection, in which case the detector spring will throw the hook of the detector into contact with the bolt, and the detector will thereby effectually stop any motion of the bolt, even though the tumbler which occasioned the detection should be restored to its proper position; for though any

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one of the tumblers which may be raised too high will operate against the detector to throw its hook into the notch in the bolt, yet there is no connection between such tumbler and the detector which can occasion the detector to leave its then position. As the true key of the lock will raise each tumbler 5 to its required position, and no further, it will never throw the detector beyond or within the point of detection, consequently the detector spring will always keep the detector hook disengaged from the bolt; but if a false key or pick-lock be employed to raise the tumblers, there will be every probability that some one will be raised too high, and will move the detector beyond the point 10 of detection, so that the detector spring will then throw the hook into contact with the bolt. In this state the lock is what is called detected, and the possessor of the true key has evidence that an attempt has been made to violate the lock, because the said true key will not now open it, for neither the true key or tumblers have any means of communication with the detector 15 after it has passed within the point of detection. The remaining parts of the detecting mechanism are for the purpose of regulating the lock, or releasing its bolt from the hook of the detector; they are as follows:—The regulating bolt is a slider within the lock, adapted to operate upon the detector in such manner as to raise or remove the hook thereof away from the bolt of the lock 20 beyond the point of detection, and it is operated upon by an adjusting instrument, which is called the regulating key, which may be similar in form to other keys, but so made as not to open the lock, it being designed only to discharge the detector and regulate the lock by restoring its parts to such a state of adjustment that its own key will open it. For this purpose the 25 regulating key has a different arrangement of the steps on its bit, one of which shifts or moves the regulating bolt. The regulating bolt may be placed over or under the bolt of the lock, and has a pin or stud which projects from it and applies against the tumblers of the lock, which are adapted to resist the motion of this regulating bolt, unless each one of the said tumblers is 30 raised or moved into a given position, and neither more or less, by means of the several steps in the bit of the regulating key. The regulating key being applied in its place in the lock and turned partly round, its several steps will first raise each tumbler to its exact required position, and then it will move the regulating bolt, by which means the detector will be moved without or beyond 35 the point of detection, and the detector spring will throw the hook of the detector out of the reach of the bolt, which may be effected by a small inclined plane or wedge upon the regulating bolt. By this means the lock will be regulated or restored to its original state, and can be opened by its true key.

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In another part of the said Jeremiah Chubb's Specification he described a plan whereby the same key may be made to serve for the true key and for the regulating key by changing its position in the lock. This he effected by having a small middle plate situated within the lock, having two keyholes formed through it at right angles to each other, which operated as follows:— 5
When the lock had been detected by an attempt to violate it, or by any other means, the true key was to be introduced into the keyhole, and after being turned one quarter round upon its pin it was to be drawn outwards, or away from the main lock plate, until its bit passed through the second keyhole formed in the middle plate before mentioned. The key was then turned partly 10 round, in which position the steps upon its bit would operate upon the tumblers and regulating bolt in a proper manner to regulate or restore the lock to its original position, and when this had been effected the key was to be pressed inwards and returned into its proper position for opening the lock. All the methods which were described by the said Jeremiah Chubb for regu- 15 lating or restoring the state of the lock when it had been detected were found to be attended with inconveniences, to obviate which has been the entire object of my present improvement, as will be herein-after fully described.

Figures 1 to 6 (inclusive) upon the Sheet of Drawing which is hereunto annexed, represent a lock with its parts adapted for a door. It is provided with 20 four tumblers, and is furnished with the aforesaid detecting mechanism, but the regulating part is constructed according to my present improvement. Note, the same characters or letters of reference are used to denote corresponding parts upon the Figures whenever they occur. 1, the center pin upon which the detector moves. 2, the tail or end of the detector, proceeding nearly down to 25 the tumblers B. 3, the hook which detains or holds the main bolt by falling into the notches 4 cut therein. 5 is the detector spring; it is formed into a triangular piece at the end which acts against the detector, the end of which is also made in a triangular form. Now, if the proper key is introduced into this lock it will raise the tumblers B upon their centre of motion D exactly to 30 the required height for the stud *b* (upon the main or locking bolt A) and the stud 10 (upon the regulating bolt 7) to pass through their respective openings in the tumblers, as seen in Fig. 1 upon the annexed Drawing, and thereby the main bolt may be withdrawn or unlocked; but if any key or other instrument should be introduced into this lock for the purpose of opening or picking 35 it, by which any one or more of the tumblers B should be raised too high, they will also raise the end 2 of the detector, and depress the end 3 until the inclined plane or triangular piece of the detector falls under the triangular piece of the spring 5, then the hook 3 will be instantly shot into one of the

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notches 4 on the main bolt (as shewn at Fig. 2, where the lock is represented in a locked position), and will retain it so effectually that the application even of its proper or true key will have no effect to withdraw the main bolt, nor can the same be moved until the detector has been returned to its original position as aforesaid.

I have above described the nature of Jeremiah Chubb's Detector Lock sufficiently to be enabled to explain clearly to persons conversant with works of a similar description how my present improvement is to be applied thereto; and I, the said Charles Chubb, do hereby declare that I make no claim to that detecting mechanism which I have above described, it having only been introduced into this my Specification to shew clearly the application of my present improvement, but I confine my claim entirely to the following particulars, that is to say:—I form and apply the regulating bolt in such manner that the proper or true key which is used to lock and unlock the lock may also perform the office of relieving the detector to regulate the lock when it has been detected as aforesaid, and that by simply turning the said key partly round upon its center pin in the same direction that it is turned in the act of locking or throwing the main bolt, as shewn by the direction of the small dart or arrow in Fig. 2. This improvement is effected in the following manner:—The regulating bolt 7, which is shewn in Fig. 3 upon the annexed Drawing as laying over the main bolt A, is adapted to move or slide backwards and forwards along with the main bolt in the act of locking and unlocking the same, for which purpose it has a groove or opening cut through it, which slides upon the stud D in the same manner as the main bolt does. The regulating bolt has also an opening formed through it for the stud *b* of the main bolt to pass through; and this opening is of such length in the direction of the bolt's motion that the regulating bolt 7 can slide forwards in a slight degree upon the main bolt A, even after the main bolt has been fully shot or locked, and it is this extra sliding motion of the regulating bolt upon the main bolt which operates to regulate the lock or return the detector to its original position after the lock has been detected by any means as aforesaid. When the lock is in the act of locking and unlocking the regulating bolt 7 is caused by the motion of the key to slide backwards and forwards along with the main bolt by means of a notch 8, which is made in its side for the bit of the key to take into, similar to the notch in the main bolt. Now if an attempt is made to violate or open the lock, and by that means the lock should become detected, as shewn in the Fig. 2, its proper or true key, on being introduced and turned round in the right direction for unlocking or withdrawing the main bolt will be found not to perform its office, since the main bolt will be retained by the

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hook 3 of the detector, and will thus intimate to the proprietor of the lock that an attempt has been made to pick it, in which case he must slide or move the regulating bolt in order that its inclined plane or wedge 9, before mentioned, may force back or relieve the hook 3 of detector from its hold upon the main bolt, to effect which he has nothing to do but simply to turn 5 the key in a backward direction, or in the same direction that it is turned in the act of locking or shooting the main bolt, as shewn by the small dart or arrow in Fig. 2, by which means the various steps upon the bit of the key will first raise the different tumblers so that their openings 11 will correspond with each other sufficiently to permit the stud 10 upon the regulating bolt to 10 enter; then by continuing to turn the key round a short distance further in the same direction, its bit will enter the second notch marked 12 in the side of the regulating bolt 7, and will advance or move the said bolt in a sufficient degree for its inclined plane or wedge 9 to relieve the detector from its hold, after which the key on being turned round in the proper direction for 15 withdrawing the bolt, as shewn by the arrow in Fig. 1. it will open the lock. Note, the main bolt has two notches cut in its side, as shewn in the Fig. 5 and 6, which represent two views of the main bolt as detached from the lock. The second notch in the main bolt, marked 13, is made wider than the notch marked 12 in the regulating bolt, in order that the bit of the key, when 20 moving the regulating bolt forwards in order to return the detector, might not act upon the main bolt. This improvement, by enabling the true key to be employed in such a simple manner for regulating the said Patent Detector Locks, is found to possess considerable advantage over the modes which were heretofore known and in use, and will, it is presumed, render those locks more 25 generally useful. The said improvement is equally applicable to all descriptions of the Patent Detector Locks before mentioned, and may, from the description above given, be easily adapted to them by persons conversant with such works.

Figs. 7 to 12 inclusive upon the annexed Drawing represent a padlock with 30 its tumblers and appendages, being provided with detecting mechanism, similar to what has been herein-before described, and with the regulating part constructed according to my aforesaid improvement. The same characters or letters of reference which are used upon the various parts of this lock will be found to correspond with those marked upon similar parts in the Figures of the 35 door lock; and, since its operation is nearly similar, it will not be necessary to enter into a minute description of it, observing that the form and proportion of the different parts may be varied according to the discretion of the workman employed in constructing the same. The materials of which the same may be

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made may also be varied according to the circumstances of the case without departing from the object of the Invention, as herein-before described and set forth.

5 In witness whereof, I, the said Charles Chubb, party hereto, have here-
5 unto set my hand and seal, this Tenth day of August, in the year
of our Lord One thousand eight hundred and twenty-four.

CHARLES (L.S.) CHUBB.

10 AND BE IT REMEMBERED, that on the Tenth day of August, in the
year of our Lord 1824, the aforesaid Charles Chubb came before our said
10 Lord the King in His Chancery, and acknowledged the Specification afore-
said, and all and every thing therein contained and specified, in form above
written. And also the Specification aforesaid was stamped according to the
15 tenor of the Statute made for that purpose.

STEPHEN.

15 Inrolled the Eleventh day of August, in the year of our Lord One
thousand eight hundred and twenty-four.

LONDON :

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1857.

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A. D. 1824. JUNE 15. N^o 4972.
CHUBB'S SPECIFICATION

FIG. 1.

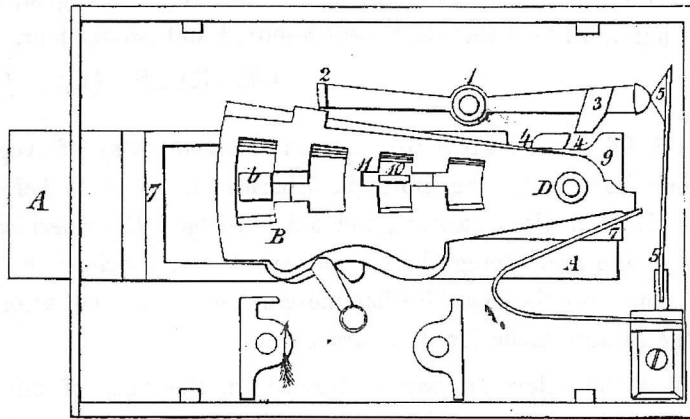
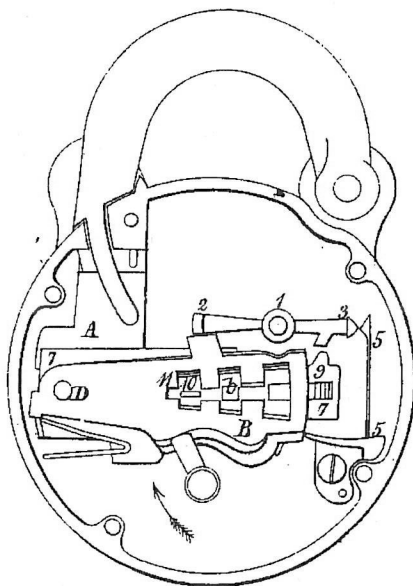


FIG. 7.



The enrolled drawing is colored.

FIG. 3.

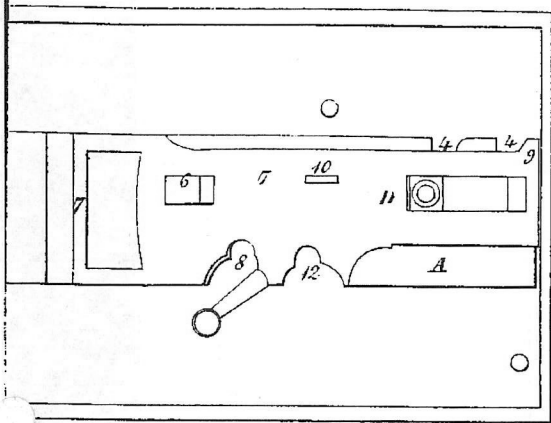


FIG. 5.

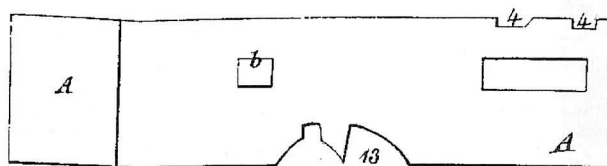


FIG. 4.

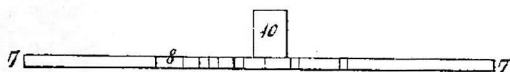


FIG. 6.

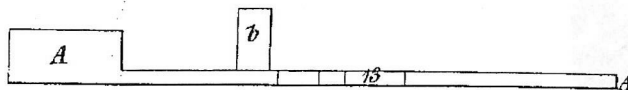


FIG. 9.

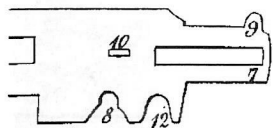
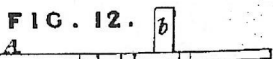
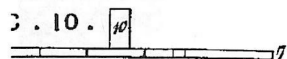
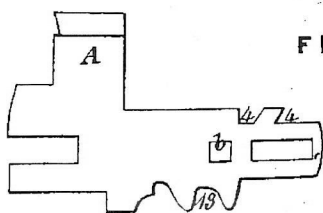


FIG. 11.



Drawn on Stone by Malby & Sons

FIG. 2.

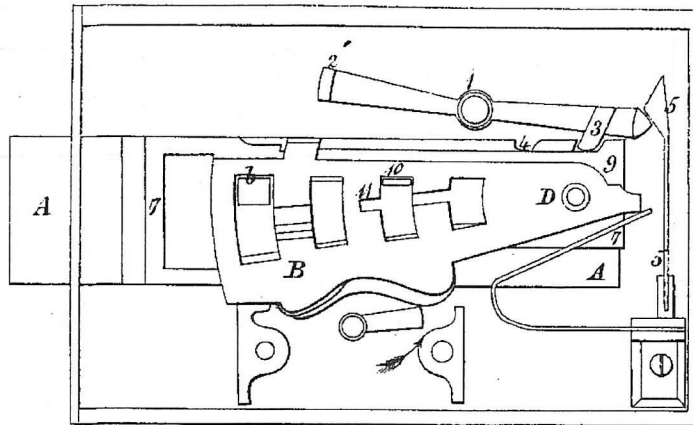


FIG. 8.

