

A.D. 1860, 13th DECEMBER. N° 3071.

Locks.

LETTERS PATENT to John Chubb, of Saint Paul's Churchyard, in the City of London, Lock and Safe Manufacturer, and Ebenezer Hunter, of Wolverhampton, Foreman to the said John Chubb, for the Invention of "IMPROVEMENTS IN LOCKS."

Sealed the 19th March 1861, and dated the 13th December 1860.

PROVISIONAL SPECIFICATION left by the said John Chubb and Ebenezer Hunter at the Office of the Commissioners of Patents, with their Petition, on the 13th December 1860.

We, JOHN CHUBB, of St. Paul's Churchyard, in the City of London, Lock and Safe Manufacturer, and EBENEZER HUNTER, of Wolverhampton, Foreman to the said John Chubb, do hereby declare the nature of the Invention for "IMPROVEMENTS IN LOCKS," to be as follows —

This Invention has for its object improvements in locks. In order more effectually to prevent the use of gunpowder in opening or unfastening locks, we construct a lock in the following manner:—A guard is introduced, the greater portion of which is concentric with the drill pin, but the two parts which enter the tumblers are in directions concentric with the main stump on which the tumblers move. The upper edge of the guard is recessed, or rebated for the reception of the disc of the curtain. A blank tumbler is applied over the other tumblers, having a recess or rebate at its lower edge to correspond and be flush with that in the guard, thus completing a circular

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bearing for the disc of the curtain. A stud, nib, or pin is applied or formed on the blank tumbler to press on the edge of the curtain; when the curtain is turned by the key, and there is a corresponding recess or notch in the edge of the curtain into which the stud pin or nib enters, when the curtain is brought into a position to admit of the key being removed from the lock. 5 The tumblers of the lock are so constructed that no open parts shall be accessible from the key hole of the lock, either whether a key or instrument capable of acting on the tumblers is in the lock or not. Over the curtain and the guard, and also over parts of the blank tumbler, a safety cap or cover is applied with a projecting escutcheon which passes through the main cap of the 10 lock. To the bolt head is applied a piece of vulcanised india-rubber, or other suitable material in such a manner as to render the bolt hole air-tight, as far as possible, and all the junction edges between the cap and plate of lock may be made air-tight by white lead, or any other air-tight composition. In such locks as are not required to be gunpowder proof, the blank tumbler may be 15 omitted, in which case one of the ordinary tumblers has a nib, pin, or stud to enter the recess or notch in the curtain. The curtain does not, as heretofore, require to have a spring applied for retaining it in position, the spring of the blank tumbler or the ordinary one carrying the nib, pin, or stud acting for the 20 tumbler, and for the curtain.

SPECIFICATION in pursuance of the conditions of the Letters Patent filed by the said John Chubb and Ebenezer Hunter in the Great Seal Patent Office on the 13th June 1861.

TO ALL TO WHOM THESE PRESENTS SHALL COME, we, JOHN CHUBB, of Saint Paul's Churchyard, in the City of London, and EBENEZER 25 HUNTER, of Wolverhampton, Foreman to the said John Chubb, send greeting.

WHEREAS Her most Excellent Majesty Queen Victoria by Her Letters Patent, bearing date the Thirteenth day of December, in the year of our Lord One thousand eight hundred and sixty, in the twenty-fourth year of Her reign, 30 did, for Herself, Her heirs and successors, give and grant unto us, the said John Chubb and Ebenezer Hunter, Her special licence that we, the said John Chubb and Ebenezer Hunter, Her executors, administrators, and assigns, or such others as we, the said John Chubb and Ebenezer Hunter, our executors, administrators and assigns, should at any time agree with, and no others, from 35 time to time and at all times thereafter during the term therein expressed,

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should and lawfully might make, use, exercise, and vend, within the United Kingdom of Great Britain and Ireland, the Channel Islands, and Isle of Man, an Invention for "IMPROVEMENTS IN LOCKS," upon the condition (amongst others) that we, the said John Chubb and Ebenezer Hunter, our executors or 5 administrators, by an instrument in writing under our or their hands and seals, or under the hand and seal of one of us or them, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the 10 date of the said Letters Patent.

NOW KNOW YE, that we, the said John Chubb and Ebenezer Hunter, do hereby declare the nature of the said Invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof, that is to say:—

15 This Invention has for its object improvements in locks. In order more effectually to prevent the use of gunpowder in opening or in fastening locks, we construct a lock in the following manner:—A guard is introduced, the greater portion of which is concentric with the drill pin, but the two parts which enter the tumblers are in directions concentric with the main stump on 20 which the tumblers move. The upper edge of the guard is recessed or rebated for the reception of the disc of the curtain. A blank tumbler is applied over the other tumblers, having a recess or rebate at its lower edge to correspond and be flush with that in the guard, thus completing a circular bearing for the disc of the curtain. A stud, nib, or pin is applied or formed on the blank 25 tumbler to press on the edge of the curtain when the curtain is turned by the key, and there is a corresponding recess or notch in the edge of the curtain into which the stud, pin, or nib enters when the curtain is brought into a position to admit of the key being removed from the lock. The tumblers of the lock are so constructed that no open parts shall be accessible from the key- 30 hole of the lock, either whether a key or instrument capable of acting on the tumblers is in the lock or not. Over the curtain and the guard, and also over parts of the blank tumbler, a safety cap or cover is applied with a projecting escutcheon, which passes through the main cap of the lock. To the bolt head is applied a piece of vulcanized india-rubber or other suitable material, in such 35 a manner as to render the bolt hole air-tight as far as possible, and all the junction edges between the cap and plate of lock may be made air-tight by white lead or any other air-tight composition.

Having thus stated the nature of our said Invention, we will proceed more fully to describe the manner of performing the same.

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DESCRIPTION OF THE DRAWINGS.

Figure 1 is a plan of the interior of a lock constructed according to our Invention, the outer plate or covering being removed, in order that the interior arrangement may be clearly seen; Figure 2 shows the interior of the lock without the tumblers and the curtain; Figure 3 shows the tumblers 5 separately, but in constructing other locks according to our Invention, the forms of the tumblers and the number of tumblers may be greatly varied; and such is the case in respect to the bolt and other parts of the lock, so long as the interior of the lock is guarded in the manner of our Invention, so as to prevent a large quantity of gunpowder being introduced into the lock through the key-hole. 10 Figure 4 shows the two sides of the covering disc or plate, and Figure 5, the outer plate of the lock.

a is a guard which is made concentric with the drill pin, which we prefer to be fixed to a plate of hardened steel, which is let into and fixed by screws or otherwise to the back plate of the lock and at the back of the drill pin we 15 prefer to have a plug of hardened steel. The interior of the guard is cylindrical, except where it is cut away between the parts a^1 and a^2 , in order that the parts of the tumblers acted on by the key may come into the interior of the guard, and it will be seen that the outside surfaces of the parts a^1 are struck from or are concentric to the pin or axis c , on which the tumblers b are 20 received and move when acted on by the key; d is the split spring which acts on the several tumblers in the ordinary manner. The upper end of the guard a is recessed, so as to receive the circular disc or curtain e , and there is a hollow groove formed in the recessed part of the guard and in the part of the upper or blank tumbler, in which a projecting ring f^1 , on the under side of the disc 25 or plate f is received, and a ring of leather or other packing may be introduced into the groove.

By this arrangement it will be seen that there will be a small cylinder within the lock, within which the key rotates when introduced through the keyhole, and which alone will be capable of being filled with gunpowder, and 30 which, by reason of its small capacity and it being open through the keyhole, will not contain a quantity of powder sufficient injuriously to act on the lock. The disc or covering plate f is fixed to the guard a , and over the edges of the tumblers where they come into the cylinder by the pins or projections a^3 on the guard, and by screws which pass through the openings into the holes a^4 of 35 the guard. It may be stated that it is not essential the disc or cover f should be used, as it may be dispensed with, but in such case the outer plate of the lock should be made with an internal ring f^1 , corresponding with that on the

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plate or disc *f*, so that such internal projecting ring *f*¹ may fit into the groove formed in the recessed part of the guard and the upper and blank tumbler.

The curtain is, as has been previously the case, formed with a notch or recess *e*¹ at its periphery, and the upper and blank tumbler is formed with a
5 pin or projection, so that the spring of the blank tumbler acts to retain the disc of the curtain from getting out of position, for it will be readily understood that as the curtain is turned round by the key, the notch or recess in its periphery will pass away from the pin or projection on the blank tumbler, whilst the pin or projection will constantly press on the periphery, and such
10 pin or projection, when the curtain comes round into the position to admit of the key of the lock being removed will enter the notch or recess of the curtain and hold it securely from any movement till a key be again inserted in the lock and turned therein. When it is desired that the hole or passage through which the bolt is moved should be air-tight it may be rendered so by
15 introducing around such passage vulcanized india-rubber.

Having thus described the nature of our Invention, and the manner of performing the same, we would have it understood that what we claim is the combination of the guard *a* and parts connected therewith for preventing the introduction of gunpowder into a lock, as herein described.

20 In witness whereof, we, the said John Chubb and Ebenezer Hunter, have hereunto set our hands and seals, this Fourth day of June, in the year of our Lord One thousand eight hundred and sixty-one.

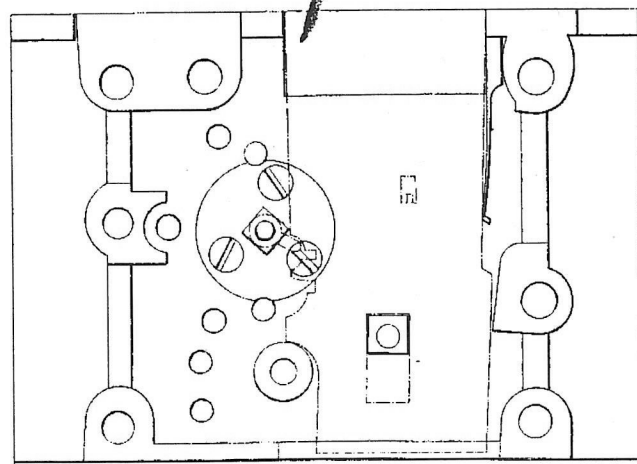
JOHN CHUBB. (L.S.)
EBENEZER HUNTER. (L.S.)

LONDON :

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1861.

FIG. 2.

Plan of the interior of the lock with the tumblers and curtain removed.



A smaller version of the Patent Drawings

FIG. 4.

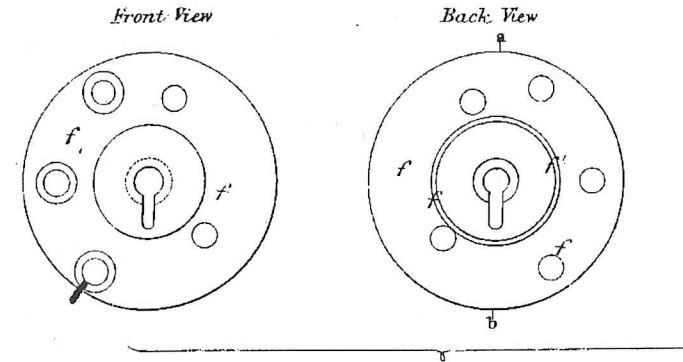


FIG. 3.

Each of the Tumblers shown separately.

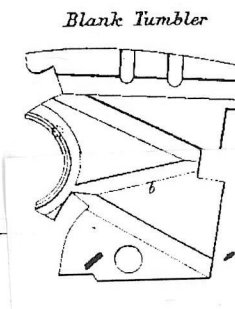
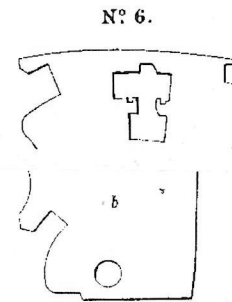
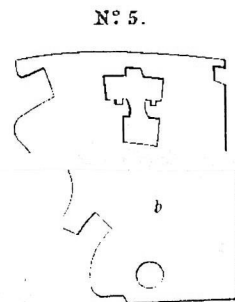
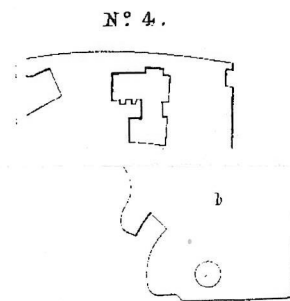
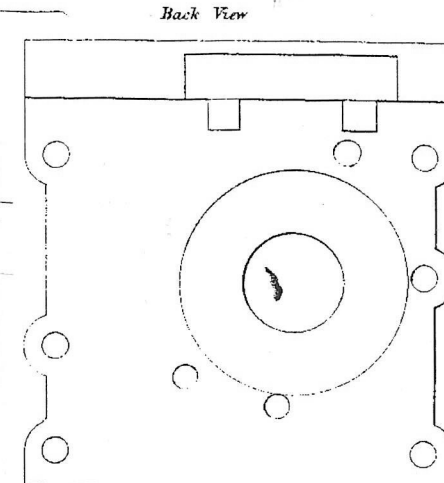
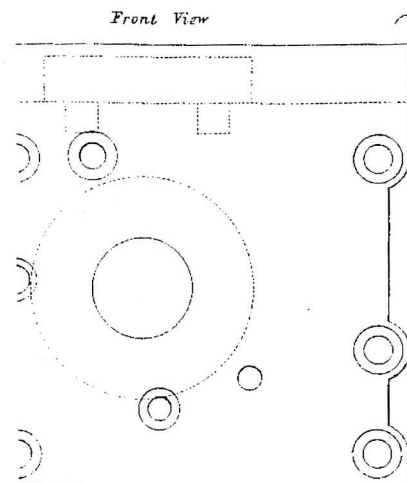


FIG. 5.



The outer plate shown separately

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FIG. 1.

Plan of Lock with outer plate removed.

