



A.D. 1833 N° 6527.

Locks.

CHUBB & HUNTER'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, CHARLES CHUBB, of Saint Paul's Churchyard, in the City of London, Patent Detector Lock Manufacturer, for myself and for EBENEZER HUNTER, of Wolverhampton, in the County of Stafford, Locksmith, send greeting.

5 WHEREAS we did, by Petition, humbly represent to His most Excellent Majesty King William the Fourth, that we had invented "CERTAIN IMPROVEMENTS IN LOCKS, AND FOR FASTENING AND SECURITY," which we believed would be of general benefit and advantage, and that we were the true and first
10 Inventors thereof; and thereupon His said Majesty, being willing to give encouragement to all arts and inventions which may be for the public good, was graciously pleased to issue His Royal Letters Patent under the Great Seal of Great Britain, bearing date at Westminster, the Twentieth
15 day of December last, in the fourth year of His reign; and by those Letters Patent His said Majesty did, for Himself, His heirs and successors, give and grant unto us, the said Charles Chubb and Ebenezer Hunter, our executors,
20 administrators, and assigns, His especial licence, sole privilege and authority, that we or they, by ourselves or themselves, or by our or their deputies, servants, or agents, or such others as we or they should at any time agree with, and no others, from time to time and at all times during the term of
fourteen years from the date of the said Letters Patent, should and lawfully
might make, use, exercise, and vend our said Invention, within England, Wales, and the Town of Berwick-upon-Tweed; and whereas the said Letters Patent also contain a proviso obliging us, the said Charles Chubb

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and Ebenezer Hunter, particularly to describe and ascertain the nature of our said Invention, and in what manner the same is to be performed, by an instrument in writing under our hands and seals, or the hand and seal of one of us, and to cause the same to be inrolled in His Majesty's High Court of Chancery within six calendar months after the date of the said Letters Patent.

NOW KNOW YE, that in compliance with the said proviso, I, the said Charles Chubb, for myself and for the said Ebenezer Hunter, do hereby declare that the nature of our said Invention, and the manner in which the same is to be performed, is described and ascertained in manner following, and by the aid of the three Sheets of Drawings hereunto annexed, that is to say:—

Our said improvements in locks used for fastening and security are carried into effect by arranging and forming those parts which are commonly called tumblers (for detaining the bolt from being moved) in such manner that the said tumblers will admit of applying the springs by which they are to be urged towards the key in a suitable direction for acting near to the centre pin or stud about which the tumblers are moveable; but the direction in which the springs are disposed, together with the arrangement and form of the tumblers, renders the lock so compact, that what is called a detector for detecting and frustrating any attempt to pick open the lock can be very readily applied, and in a very simple and effectual manner, as herein-after described, to the said tumblers, without increasing the quantity of workmanship, and consequent expence of the lock, in so great a degree as in the detector locks which have been heretofore made by me, the said Charles Chubb, according to certain improvements in the construction of locks for which Letters Patent were granted to Jeremiah Chubb by King George the Third, dated the Third day of February, One thousand eight hundred and eighteen, and also according to an improvement in the construction of locks for which a Patent was granted to me, the said Charles Chubb, by King George the Fourth, dated Fifteenth of June, One thousand eight hundred and twenty-four, and in the two Specifications which were inrolled in pursuance of the said Letters Patent respectively, the nature and invention of the locks which have since become known in trade by the name of Chubb's Patent Detector Locks is fully set forth, and the same consists in adding within a tumbler lock a detecting dettent or catch, which is capable when brought into action of latching and detaining the bolt of the lock from being withdrawn or unlocked, but which detector dettent will (by the tendency of a suitable spring) always remain out of action, so as to offer no impediment to the withdrawing of the bolt, unless some one of the tumblers of the lock have been overlifted or raised higher than the true

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key is intended to raise the same, which overlifting can never happen except on an attempt to violate the lock by the introduction of a picklock or false key; but on any one of the tumblers being thus overlifted it will bring the detector dettent into action, so that it will latch and effectually detain the bolt of the lock from being withdrawn; and after the detector has been so brought into action it will be kept in action by a new and contrary tendency of its spring, and then the lock is detected or deranged so that it cannot afterwards be unlocked even by the ordinary unlocking action of the true key; and it by the impediment to that usual unlocking action of the true key that the owner thereof will have information that an attempt has been made to pick open the lock, or to unlock it by a false key, and he must either employ another key expressly provided for undetecting, or else he must practise some particular manipulation of the true key, in order to undetect or throw the detector out of action, and put the lock into a condition to be opened by its own true key; and as the movement whereby the detector can be so thrown out of action requires the tumblers of the lock to be first put into a suitable arrangement, there is all the same difficulty opposed to undetecting, by picklocks or false keys, as there would to opening the lock by such means, and it must be undetected before it can be opened. And for the more complete explanation of our said improvements, I will first explain, by the aid of the Drawings hereunto annexed, the structure of the locks without a detector. In Sheet 1, Figures 1 to 10 inclusive represent a door lock of the kind called a rim lock. A, A, is the plate turned up at the front edge B, through an opening in which the end of the bolt 2 passes. D, D, is the raised rim to inclose the works of the lock, and 3 the cover plate. a is the centre pin for the key; c is the centre pin or stud upon which all the several tumblers 4, 5, 6, 7, and 8 are mounted as their common centre of motion. It is fixed fast into the plate A, A, and projects outwards therefrom, and passing through a slit W, in the tail of the bolt 2, serves as a stud to guide the sliding motion of the bolt. The upper end of the pin may project up through all the tumblers, and enter into a hole in the cover plate 3, in order to give the utmost support to the pin c. The different tumblers are represented separately at Figures 4, 5, 6, 7, and 8; they are small round plates of metal, like pieces of money, with holes cut out in them to receive the stud, and which projects up from the bolt 2. 9 is the spring, which is a piece of steel plate, cut with slits in the manner of a comb, in order to divide the acting end into as many distinct springs as there are tumblers. Although the fixed end is all in one piece, and that end is secured to the plate A, A, of the lock by rivetting or otherwise, the steel spring may be fixed by inserting the solid end of it into a notch in a stud

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which is fastened to the plate by a screw, the spring being fastened into the notch by a cross pin. When the spring is so fixed each portion of its divided end acts against the edge of one of the tumblers with a tendency to turn that tumbler round about its fixed centre pin, and towards the centre pin *a* of the key. When the bolt is either locked or unlocked the stud *d* of the bolt will occupy 5 either the outermost *k* or the innermost *l* of the wide parts of the openings in the tumblers, and in either case when the key is removed from the lock all the tumblers will arrange themselves so that their round edges will conform one with another, as shewn in Figure 1, and no examination which can be made of the tumblers through the keyhole will give any information as to 10 which of the steps in the key 10 are to be longer or which of them are to be shorter than the others. When the key, Figure 10, is inserted and turned round about its centre pin *a*, the bit of the key will act by its several steps; marked 4, 5, 6, 7, and 8, in Figure 10, against the edges of all the different tumblers at once, and by raising each one a different but equally determined height, 15 according to the form of the said several steps in the bit, the narrow middle parts *m* of the different notches in the tumblers (which narrow parts join the outermost wide parts *k* of the notches to the innermost wide parts *l*,) are all brought precisely to conform one with another, and to correspond with the stud *d* of the bolt; and when the key has been turned far enough to produce 20 that effect, the lower steps 2 of the bit of the key, in its turning motion, will then come to act against one or other of the edges of the notch *n* in the bolt, and will shoot the same either backwards or forwards, according to the direction in which the key is turned; and in so shooting the stud *d* of the bolt will pass through the narrow middle parts *m* of the notches; but if the 25 tumblers are not all correctly raised to an exact conformity of their narrow notches *m* with the stud *d*, the bolt cannot be moved, for any one tumbler which is lifted too high, or which is not lifted high enough, will detain the stud *d*, and prevent it or the bolt from moving at all.

Figure 11 represents a drawer lock of a similar construction, drawn full 30 size; the principal parts being marked with the same letters and figures for reference as the preceding Figures, the above description will explain. The rim D, D, for enclosing the works, is made in one piece with the cover-plate 3, and when the screws for fastening the cover-plate are removed the rim comes off with it. 35

Figures 15, 16, Sheet 2, represent a small padlock of a similar construction with four tumblers; it is drawn the real size, and shews that the compactness of the construction permits a lock of very great security to be made in very small dimensions.

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Figures 17, 18, 19 represent a lock on a similar construction, adapted for a portfolio; it is drawn full size, and contains four tumblers; and the application of a detector to locks of the aforesaid construction may be made according to our present improvements in a very simple mode, by fixing a small hooked spring detector within the lock in a suitable position to present its hooked end to one of the tumblers, which tumbler has a notch cut into its edge in such a position that if the said tumbler is ever overlifted or raised higher than its proper position for allowing the bolt to be moved, the said notch will be caught and detained by the hooked end of the spring detector before mentioned, so as to detain that tumbler in its overlifted position; and whilst so detained that tumbler will necessarily detain the bolt of the lock from being moved, and in that case the lock will be detected by the said spring detector, and the usual action of the true key will not unlock the lock when so detected, because it can have no operation upon that tumbler which has been overlifted, and which is kept so overlifted by the detector spring; and the owner of the true key, by finding that it will not unlock the lock, will be advertized that some attempt has been made to violate the lock by insertion of picklocks or false keys. And in order that the overlifting of any one of the tumblers may produce detection, that tumbler before mentioned on which the detector spring is to operate has a stud pin affixed into it and projecting from it so as to stand opposite to the edges of all the other tumblers, being received into suitable notches cut in those edges, so that the said stud pin will have no interference with any of the other tumblers during their ordinary action in locking or unlocking the bolt by the true key; but on any extraordinary action upon the tumblers by false keys or picklocks, any one of the tumblers being overlifted will come to act against the said stud pin so as to overlift that tumbler to which the said stud pin belongs, and cause that tumbler to be caught and detained by the hooked end of the spring detector in the same manner as if the overlifting action had been applied to that tumbler itself by false keys or picklock as above supposed. And whenever the lock has thus become detected, the spring detector cannot be released or disengaged so as to undetect or set the lock free by any other means than by overshooting the main bolt by the key a little further than its usual extent of throw for ordinary locking. But as all the tumblers concur in preventing such overshooting, by opposing the motion which the stud of the bolt must have in so overshooting, the tumblers require to be all arranged by the key into a particular position, and then other undetecting notches, which are cut in the tumblers at a suitable place in each one for admitting the stud of the bolt during the said overshooting of the bolt, will come to a conformity with the said stud, and as soon

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as the key has turned so far as to lift the tumblers to that conformity, but not till then. The bit of the key in turning a little further forwards will act in a second notch in the bolt, and produce the requisite overshooting of the bolt, and thereby a small projecting part of the bolt will advance so far towards the spring detector as to come in contact therewith, and bend the same away from the tumblers until its hooked end is taken out of the notch of that tumbler which it had previously detained in its overlifted and detected state; and the instant that the said tumbler is so released from the spring detector its own tumbler spring will cause it to drop down from its overlifted position, after which the key, being turned backwards, will carry back the bolt from its overshoot position, leaving the lock undetected and prepared for being opened without obstruction by its true key. And note, in order to admit of overshooting the bolt for the purpose of undetecting as aforesaid, the said undetecting notches require a somewhat different position to be given to the tumblers from their ordinary position for shooting the bolt in locking or unlocking, but, nevertheless, the true key will produce that different position of the tumblers, because for overshooting the bit of the key will meet the talon of the bolt, and begin to overshoot before the key has been turned round so far and has lifted the tumblers so high as the same key must be turned in ordinary locking to raise the tumblers, and begin to act upon the bolt for shooting the same forwards. And note, if it is preferred, a different key may be made for undetecting, with the steps in its bit differing from those of the true key, in which case the undetecting notches in the tumbler must be cut suitably to the arrangement of the tumblers which that key will produce.

Figures 12 and 13, Sheet I., represent a door lock on a construction very similar to that which is represented in Figures 1 to 10, but with a detector added to it, and its several parts being marked the same letters and characters of reference the previous explanation is nearly sufficient. P is the spring detector fixed at one end into the lock plate A, A, and its hooked extremity applies to the edge of the tumbler 6, which is the detecting tumbler, and has a notch *p* in its edge; and if ever that tumbler is overlifted the hooked end of the spring detector P, by dropping into that notch, will detect the lock by detaining that tumbler in its overlifted position. *q* is the stud pin which is fixed in the same detecting tumbler 6, and which pin projects upwards and downwards therefrom so as to occupy the notches *r* in the edges of the other tumblers 4 and 5, which are placed above the detecting tumbler 6, and also other like notches *r* in the edges of the other tumblers 7 and 8, which are placed below the detecting tumbler 6; and by means of the said stud pin *q* in the detecting tumbler, and the notches *r* in all the other tumblers, any one of

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the tumblers being overlifted will cause the overlifting of the detecting tumbler 6, and its consequent detention in that overlifted state, by the spring detector P. But note, it is not necessary that the middlemost tumbler 6 should be made the detecting tumbler, for the spring detector P may be applied to the edge of any one of the tumblers in which a suitable notch *p* is made, and in which a stud pin *q* is fixed to project so much as to stand opposite to the edges of all the other tumblers in their respective notches *r*. R is a guard which is fixed fast into the lock plate A, and rises up to the cover plate 3; its end reaches over the bolt so as to stand close to the edges of all the tumblers, but without touching them. Its use is to prevent any pricker being introduced so as to disengage the spring detector P. And in order to disengage the spring detector P when it has caught the notch *p* of the detecting tumbler, and detected the lock, a small lateral spur projects downwards from the hooked extremity of the spring detector P towards the lock plate A, A, so as to stand in the way of a small protection *v* of the bolt 2 (see the separate Figure thereof); and when the bolt is overshot beyond its usual extent of throw for ordinary locking, as hereinbefore described, the said projection *v* will bend the spring detector P away from the tumbler, and remove its hooked end from the notch *p* of the detecting tumbler. *x* is the second notch in the bolt wherein the key acts in order to overshoot the bolt for undetecting, *z* being the notch before described, in which the keys acts for ordinary locking and unlocking. The additional notches before mentioned, which are cut in the tumblers in order to permit of overshooting the bolt as much as is requisite for undetecting, are marked *y* in the separate Figures of the tumblers, and they are adapted to receive the stud *d* of the bolt when it is so overshot. And note, the notch *y*, in the detecting tumbler 3, must be cut so wide as to permit of the requisite overshooting of the bolt when that tumbler is detained in an overlifted state by the spring detector.

Figure 14, Sheet I., represents a box lock drawn full size. It contains four tumblers and a spring detector, constructed and applied very nearly in the same manner as the door lock, Figure 12 and 13, already described; but Figure 14 shews that our improvements can be applied to very small locks. The spring detector P is placed in a different direction, so as not to require to be hooked at the end, but nevertheless its action is just the same as before described.

Figure 20 and 21 represents a padlock drawn full size, to explain the application of our improvements thereto. It contains five tumblers and a spring detector P, constructed and applied very nearly in the same manner as hereinbefore described. And another part of our improvements consist in rendering

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locks of the kind herein-before described capable of a double security when required by the use of an additional key, which will shoot or throw the bolt a second time after it has been locked in the usual way by its ordinary key, the said additional key having the steps in its bit quite different from those of the ordinary key, so that the latter will not lock or unlock the bolt through its second or additional throw, neither will the additional key lock or unlock the bolt at its first throw. And this duplication of security is obtained without any additional parts except the additional key, or any increase of complexity in the mechanism of the lock, merely by giving suitable forms to the same parts as have been herein-before described. A door lock of this kind is represented at Figures 22 and 23, Sheet III., with the principal parts detached, and the same letters and characters of reference are used as in the former Figures to denote the same parts the preceding description will apply. The several tumblers 4, 5, 6, 7, and 8 are elongated to an oval shape, in order that each one may contain another narrow part *s* of the opening *k, l, m*, which is cut out in it, and also another wide part *t* of the same opening, both which parts *s* and *t* are farther from the centre pier *c* of the tumblers than the openings *k, l, m*, which are the same as those previously described. The additional narrow notches *s* are to permit the stud *d* of the bolt to pass whilst it is throwing its second shoot by the action of the additional key, and the said notches *s* are cut so as to require quite a different position to be given to all the tumblers from that which will bring the other narrow parts *m* to conformity with the stud *d* of the bolt, as is done by the ordinary key, which, after having raised the tumblers to that conformity, then acts in the notch *n* of the bolt to lock it the first shoot; but the additional key is suitably formed to raise all the tumblers so as bring their narrow notches *s* to conformity, and having produced that conformity to act in the additional notch *N* of the bolt, in order to throw the same its second shoot, which being done, and the key turned round in order to withdraw it, the tumblers descend so as to include the stud *d* of the bolt within the outermost wide parts *d*, and thereby detain the bolt in its completely locked state under the joint security of the detector and of two different keys, for the additional key must be first used to unlock the outermost shoot of the bolt, and then the ordinary key must be applied to unlock the other or ordinary shoot. The spring detector *P* is exactly the same as before described respecting the other locks, and *y* are the notches in the tumblers to admit the stud *d* of the bolt when it requires to be overshot beyond the ordinary extent of its second shoot, so as to bring the projection *v* of the bolt in contact with the spring detector *P* in order to undetect the lock, as herein-before described; and *x* is the notch in the bolt

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wherein the additional key acts to produce such overshooting. And note, as locks which throw the bolt through two successive shoots with the same key are in common use, this part of our improvements is confined to the double security which is given to the kind of locks herein-before described, by locking a second time or shoot of the bolt by an additional key, which is quite different from the ordinary key, that double security being further secured by a detector; and the chief proprietor of such a lock may have one double-ended key, which will serve the purpose of both keys by using one or other end of it, and he need only entrust his confidential agents with an ordinary key, which of itself will lock up with as great a security as any locks heretofore commonly used; but nevertheless he can at any time lock up all his locks a second time with his own additional key, which he need never to entrust to any other person; and the same additional key may serve for the additional locking up of any number of locks which require a variety of ordinary keys for use by as many different persons.

In fact, a lock constructed according to this part of our improvements possess every security which can be attained by applying two distinct locks to secure the same door or drawer. And another part of our said improvements is a mode of applying a seal of wax suitably imprinted, so as to secure the external escutcheon or sliding cover which is provided for closing the keyhole of any lock of the kind herein-before described, in such manner that the said seal must of necessity be broken and defaced before the keyhole can be any way examined or opened at all, either for the insertion of any key or for picklocks, the said wax seal being applied within a cell, which is afterwards inclosed by a suitable door, having such apertures through it as will permit a clear view of the seal to shew whether it remains whole or is broken, but which will effectually prevent any such access to the said seal as would be requisite in order to obtain any impression therefrom for the purpose of fabricating a false seal after having broken the true one. And the said door, after being closed in order to shut up the seal, is kept closed by an internal spring catch, which has no communication whatever from the outside of the lock, and which can only be released, or the door opened, by unlocking or withdrawing the bolt of the lock; and to do that the keyhole must be first opened, but in so doing the seal will be broken and defaced, and that will shew that the keyhole has been opened.

Figures 25, 26, 27, Sheet III., represents a padlock so constructed. The internal works, Figure 25, are same as those of the padlock represented in Sheet II., and herein-before described, and spring detector may be applied as herein-before described, but any other kind of internal lock works may be used. G is the keyhole, and H is the usual sliding cover to shut the keyhole

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perfectly. *h* is a blunt knife which is fixed into the said sliding cover *H*, and projects out laterally therefrom so as to pass over the extreme surface of the cover-plate of the padlock at the place where the seal of wax *K* is intended to be applied thereon at the side of the keyhole *G*, suitable indentations being punched into the metal at that place to enable the wax to adhere thereto; and it is obvious that if such a seal of wax is applied when the slider *H* of the keyhole is down, and has closed the keyhole *G*, that the slider *H* cannot be slid up so as open the keyhole without breaking up and defacing the seal by the said blunt knife *h*. The place where the said seal *K* is to be so applied is surrounded by a raised rim *M*, Figure 27, which is part of the cover-plate of the lock (or is firmly fastened thereto), forming a cell suitable for the reception of the seal *K*, and *N* is the door by which the said cell is inclosed. It is fitted with a hinge joint *n* to the upper part of the cell, and a spring *m* is applied withinside of the door *N* to cause it to fly open of itself when it is left at liberty; but when it is closed a hooked catch *p*, which is affixed to the inside of the door *N*, is caught by an internal spring catch *d*, which is applied within a cavity. The thickness of the cover-plate and the catch *d*, *g*, is moveable about a centre pin by the action of a spring *e*, so that it will of itself catch and fasten the door *N* when the same is shut after the seal *K* had been applied. *O* is a circular opening in the door *N*, of a sufficient aperture to give a full view of the seal when it is shut up within the cell, but solid cross bars are left across the opening *O* to prevent access to the seal; or, instead of those cross bars, a glass may be applied at the inside of the door *N* to cover the opening therein, and the tail *g* of the spring catch *d*, *g*, extends to the inside of the lock through its cover-plate into a suitable position to be intercepted by a stud *R*, which projects out from the bolt *2* of the lock, as shewn in Figure 25, in such manner that whenever the bolt is shot or locked the stud *R* will quit the tail *g* of the catch *d*, *g*, leaving the same quite at liberty to latch by the action of the spring *e*, in order to fasten the door *N* after the keyhole has been closed by the slider *H*, and the seal has been applied; and after that the catch *d*, *g*, cannot be released in any way except by the unlocking and withdrawing of the bolt, and then the stud *R* thereof will press the tail *g*, and remove the opposite end *d* out of the way of holding the hooked tooth *p* of the door *N*, which will immediately fly open by its spring *m*.

Having now described our said improvements in locks used for fastening and securities, I, the said Charles Chubb, for myself and for the said Ebenezer Hunter, do hereby declare that the Invention whereof the exclusive use is granted to us by the said Letters Patent consists in that simplified

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Chubb & Hunter's Improvements in Locks.

form and arrangement of the parts of the locks herein-before described, which renders the same suitable for the application thereto of the simple kind of detector herein-before described, whereby all the properties and advantages of the more complicated detector locks heretofore manufactured are attained, but with much less workmanship and cost.

Also in the mode herein-before described of giving to such simple detector locks the additional security of double-locking by an additional and different key, without any complexity or great increase of workmanship.

And, lastly, in the mode herein-before described of applying a seal to secure the keyhole of a lock from being opened without detection by the breaking of the seal.

In witness whereof, I, the said Charles Chubb, have hereunto set my hand and seal, this Twentieth day of June, One thousand eight hundred and thirty-four.

CHARLES (L.S.) CHUBB.

AND BE IT REMEMBERED, that on the same Twentieth day of June, in the year above mentioned, the aforesaid Charles Chubb came before our Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained, in form above written. And also the Specification aforesaid was stamped according to the tenor of the Statute in that case made and provided.

Inrolled the same Twentieth day of June, in the year above written.

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,
Printers to the Queen's most Excellent Majesty. 1856.

W. G. ADAM

A.D. 1833. DEC 20. N^o 6527.
CHUBB & HUNTER'S SPECIFICATION.

A drawer lock.

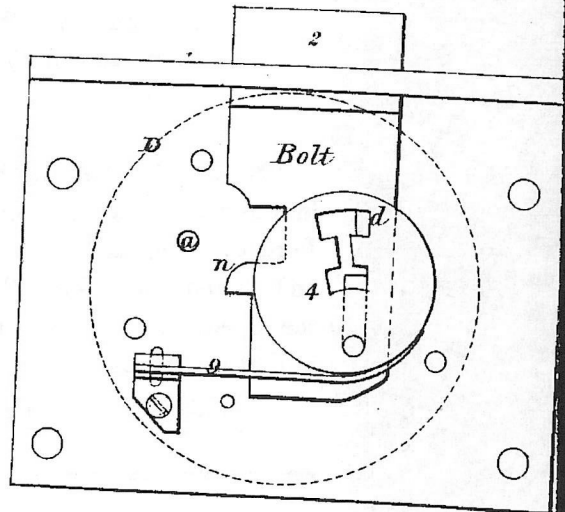
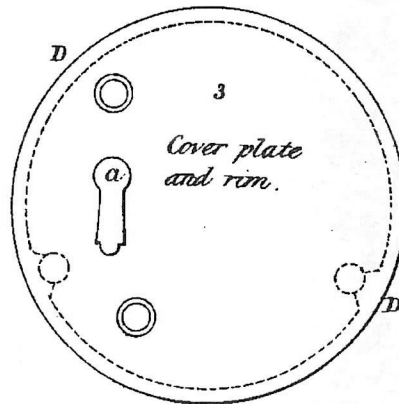
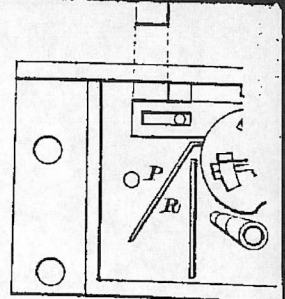
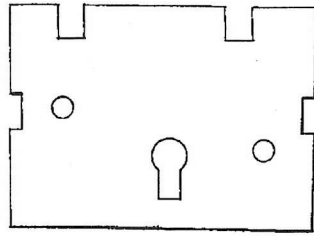


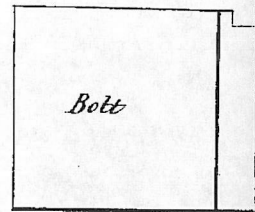
FIGURE II.



FIGURE



*A Bar Lock with four
and a detector.*

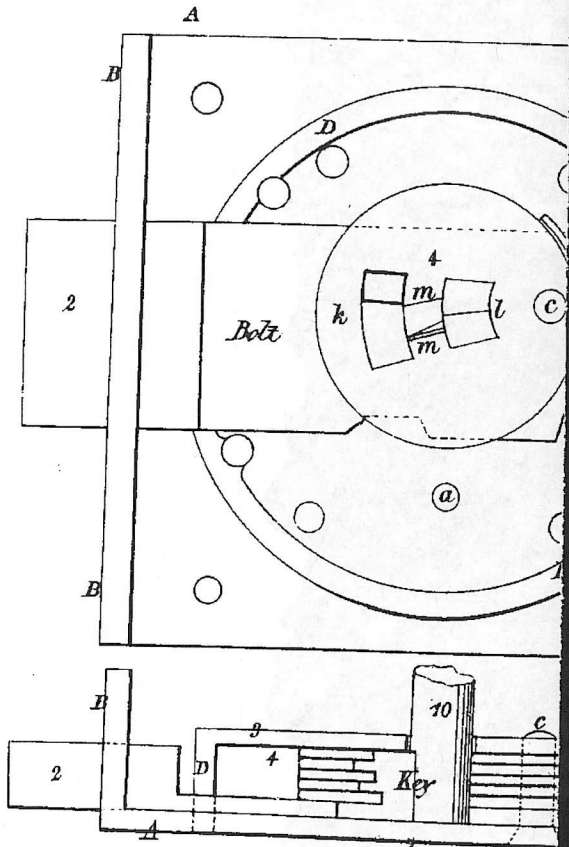


A door lock with

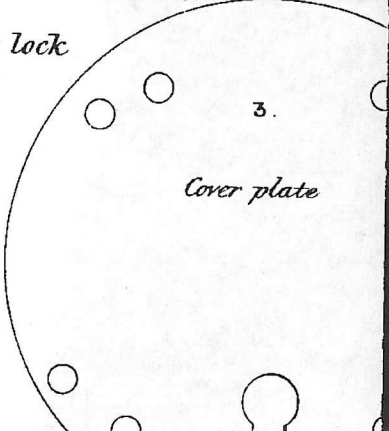
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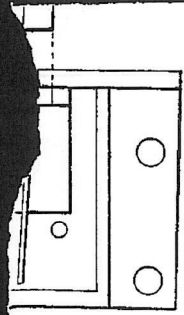
The enrolled drawing is colored

FIGURE 1



A door lock

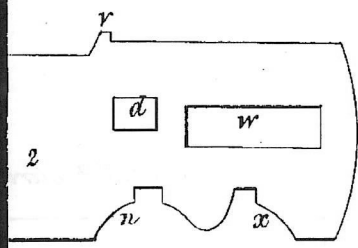




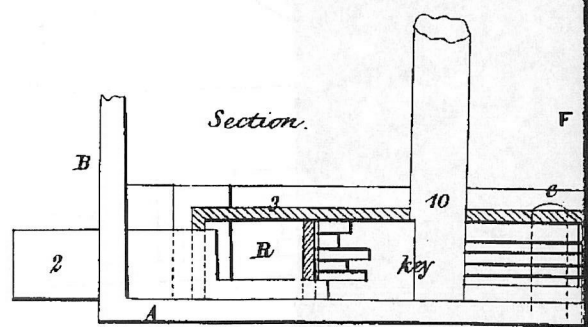
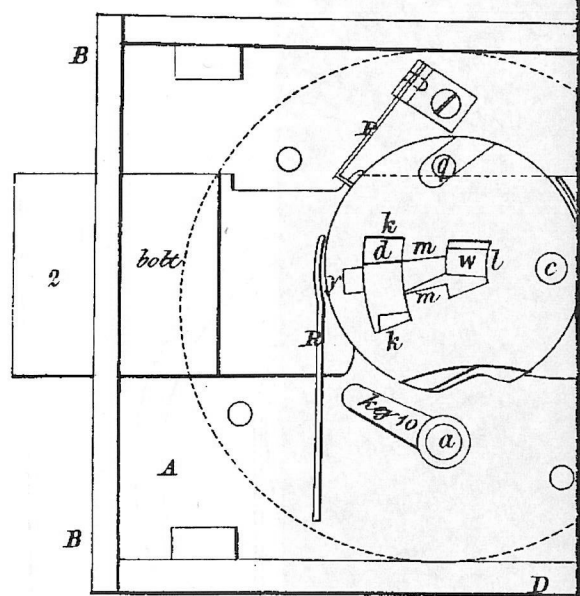
tumblers

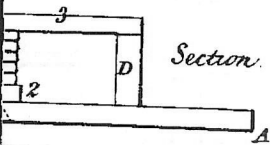
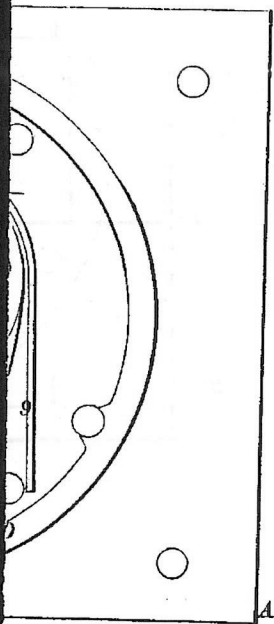
Cover plate.

FIGURE 12.

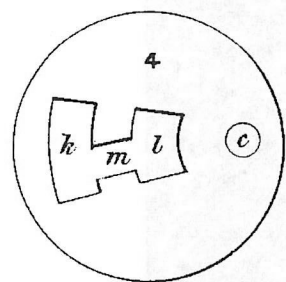
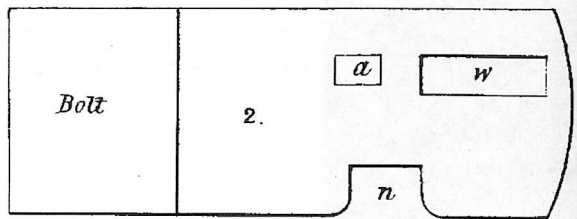


five tumblers and a detector

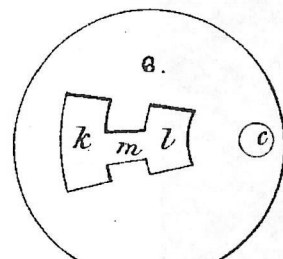


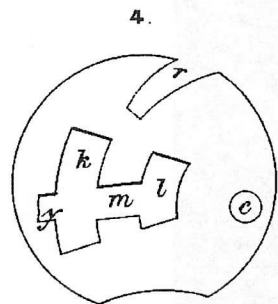
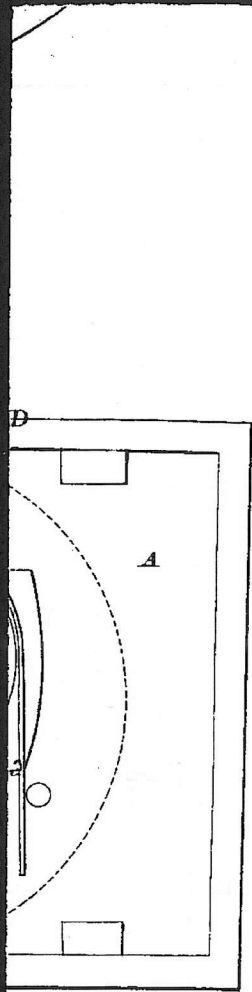


Detached Figures.



Five tumbl





Five tumbles

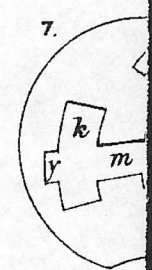
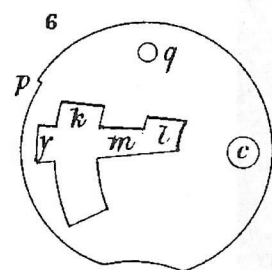
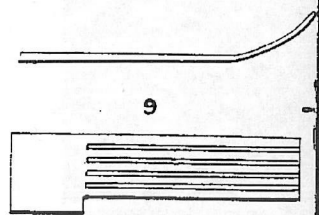
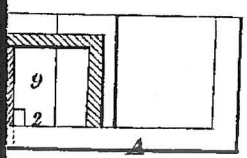
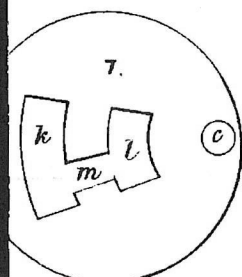
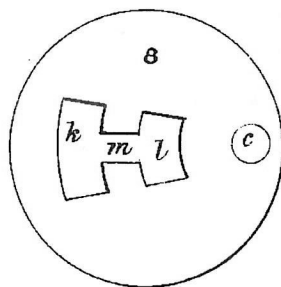
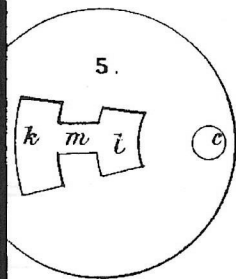
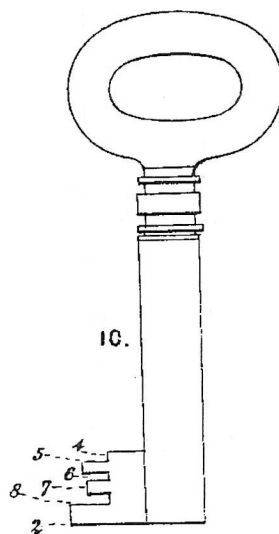


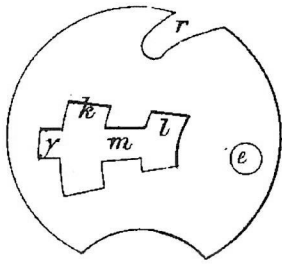
FIGURE 13.



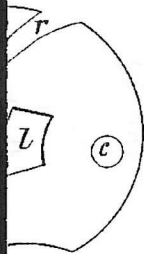


ers

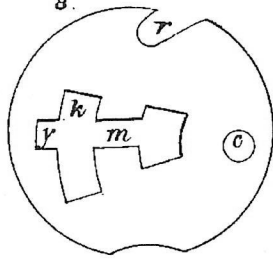
5.



ers.



8.



*Spring for all the
five tumblers.*

Drawn on Stone by Malby & Sons.

A. D. 1833. DEC 20. N° 6527.
CHUBB & HUNTERS SPECIFICATION.

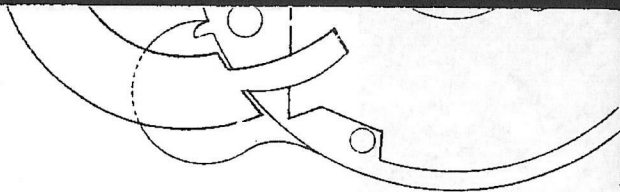
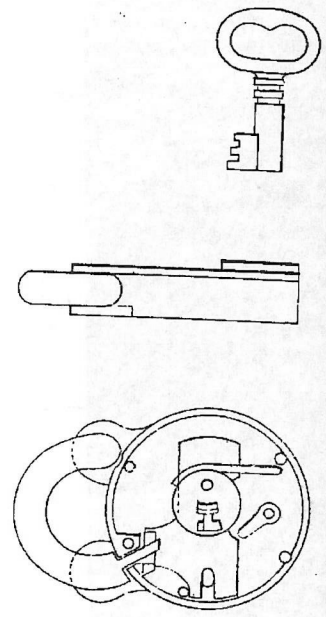


FIGURE. 15. FIGURE. 16.



A Padlock with four tumblers full size.

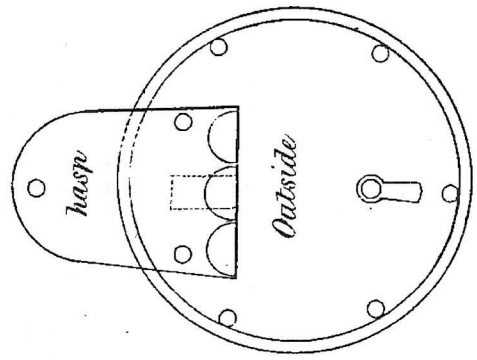


FIGURE 17.

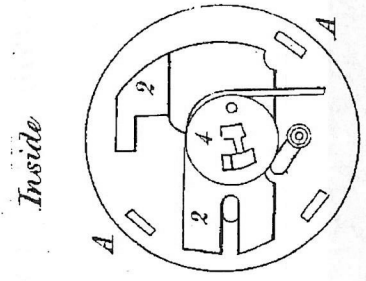
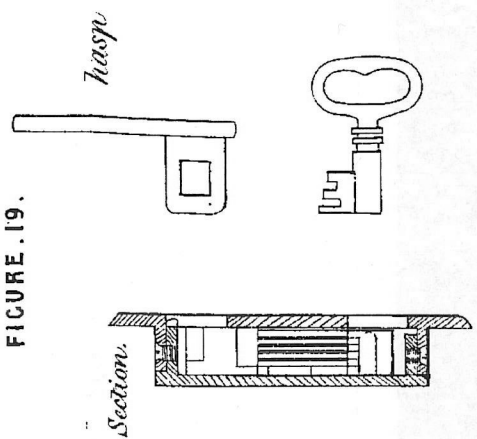


FIGURE 18.

Inside

FIGURE 19.

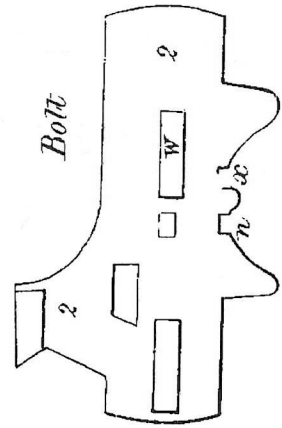
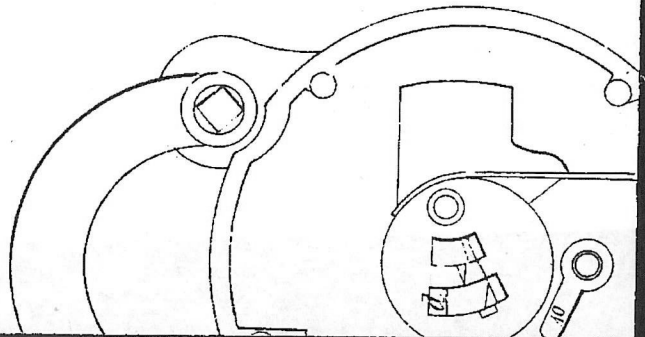


A Portfolio Lock with four Tumblers

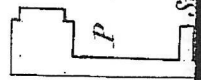
The enrolled drawing is colored.

A Padlock with five tumblers and detector.

Sections.



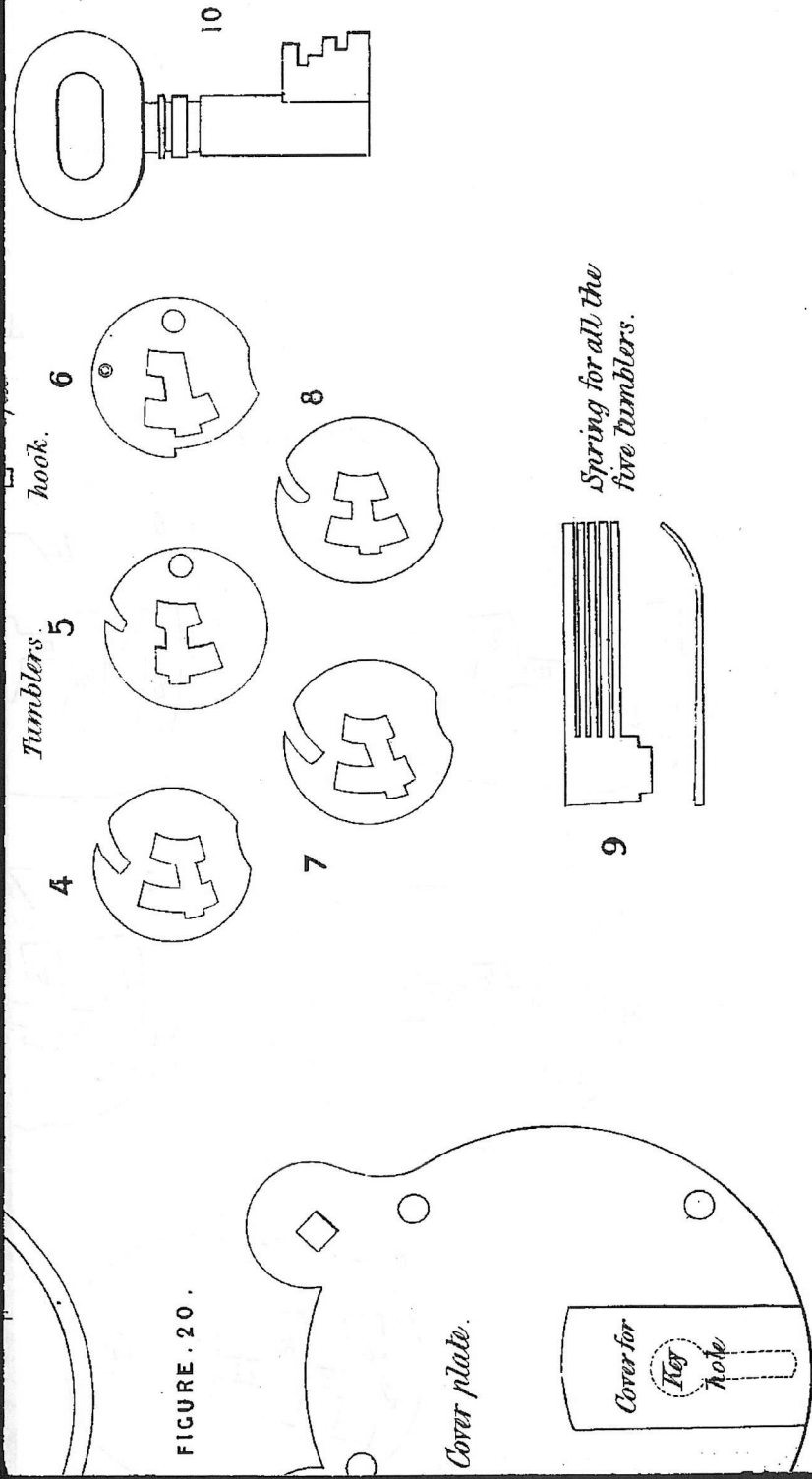
fixed end



P Spring detector.

2

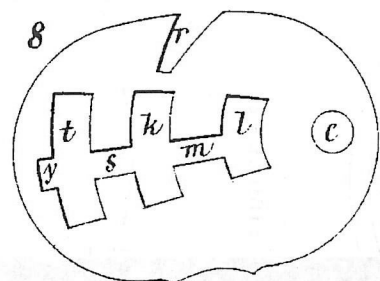
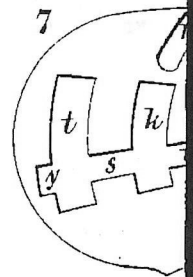
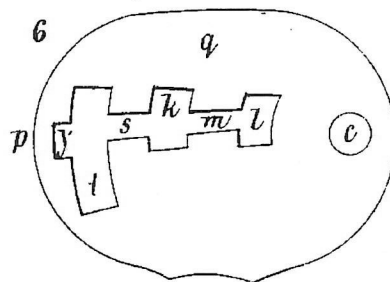
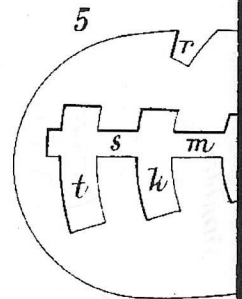
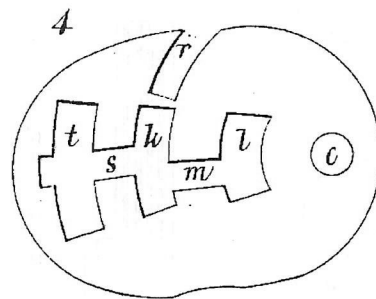
FIGURE 20.



The parts are drawn of the real Sige.

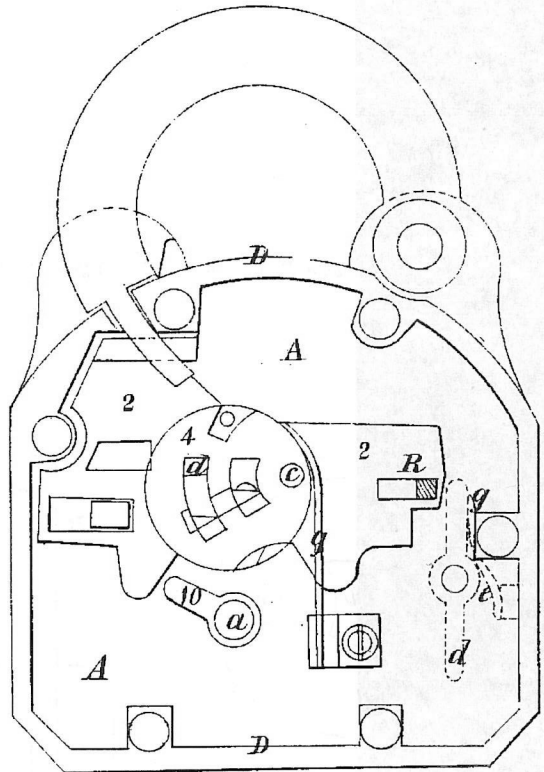
Drawn on Stone by Malby & Sons.

Five tumblers



A Padlock with

FIGURE 25.

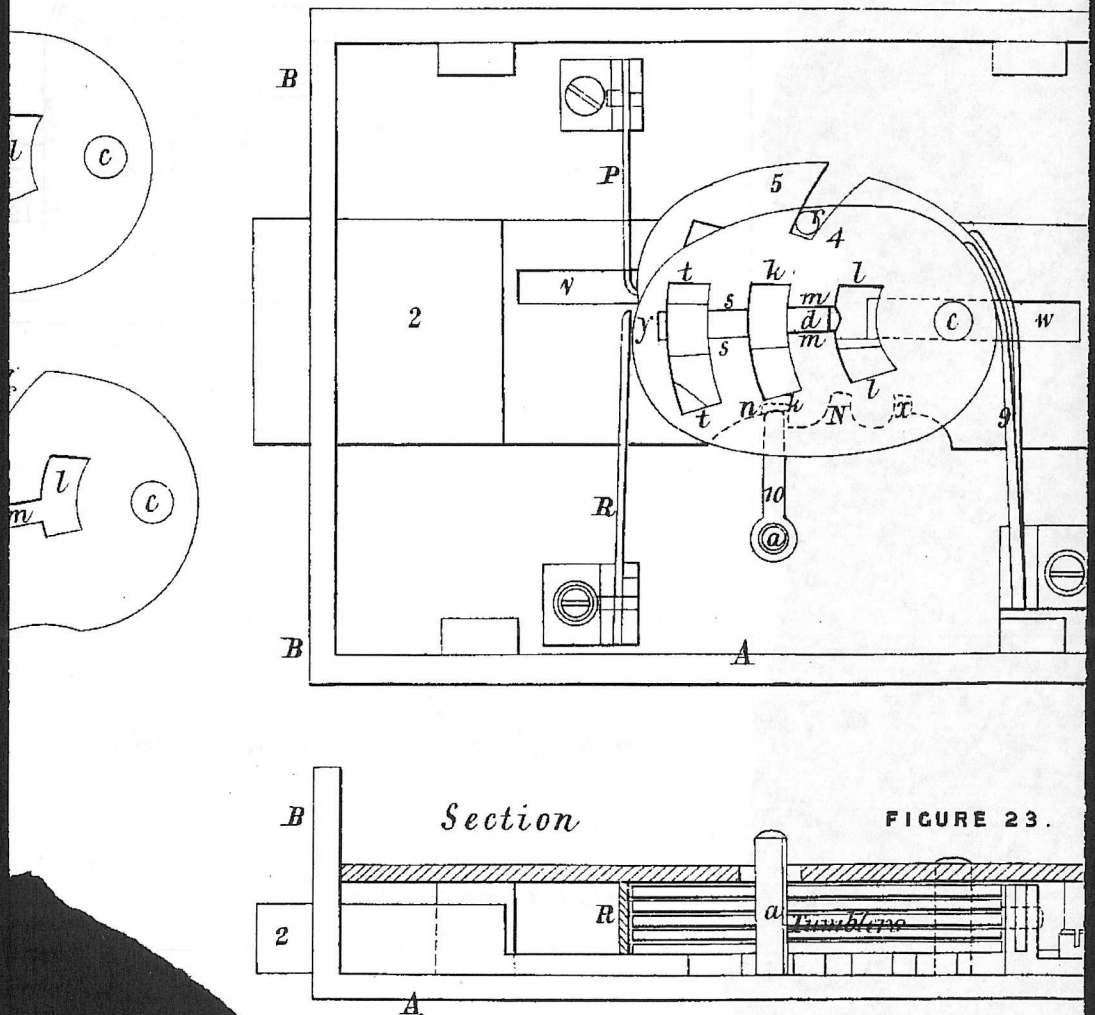


The parts are drawn of the real size

The enrolled drawing is colored.

door Lock with five tumblers and detector *a* with double security by

FIGURE



five tumblers the escutcheon

of the key hole being secured w

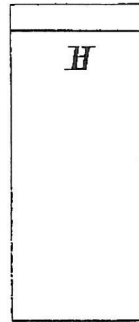
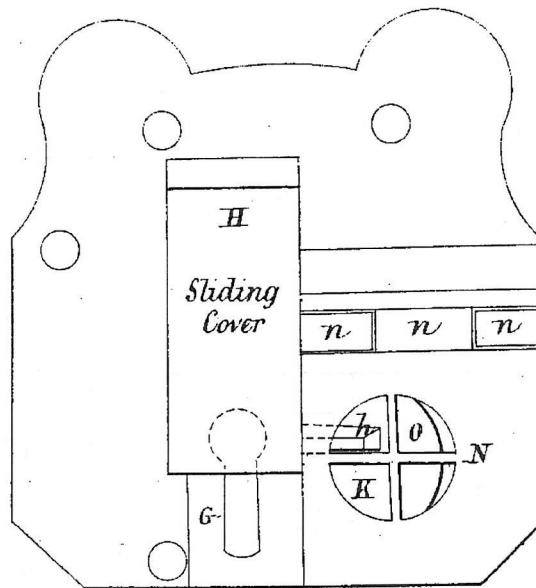


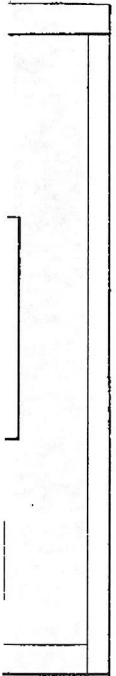
FIGURE 26.

h blunt knife

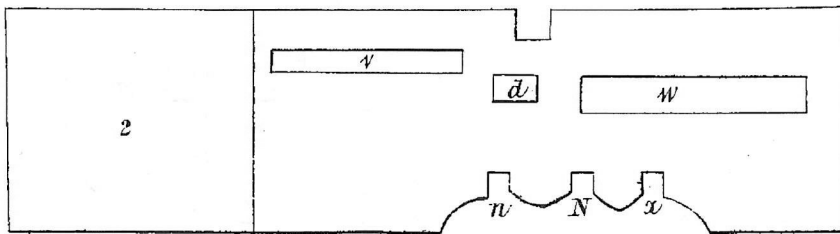


locking twice with different keys

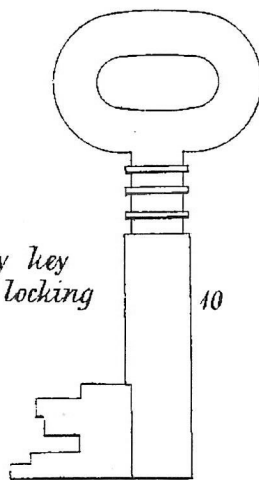
22.



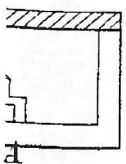
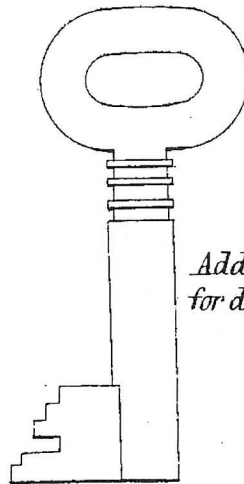
Bolt



*Ordinary key
for single locking*



*Additional key
for double locking*



with a Seal of Wax



FIGURE 27.

