



A.D. 1816 N° 4036.

Locks and Keys.

KEMP'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, ROBERT KEMP, Junior, of the City of Cork, Smith and Brass Founder, send greeting.

WHEREAS His most Excellent Majesty King George the Third, by His Letters Patent under the Great Seal of Great Britain, bearing date at
5 Westminster, the Twenty-seventh day of May, in the fifty-sixth year of His reign, did give and grant unto me, the said Robert Kemp, my eñors, adñors, and assigns, His especial licence, full power, sole privilege and authority, that I, the said Robert Kemp, my eñors, adñors, and assigns, during the term of years therein expressed, should and lawfully might make, use, exercise, and
10 vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "AN IMPROVEMENT OR IMPROVEMENTS IN THE MAKING OR MANUFACTURING LOCKS AND KEYS;" in which Letters Patent there is contained a proviso obliging me, the said Robert Kemp, by an instrument in writing under my hand and seal, to cause a particular description of the nature of my said
15 Invention, and in what manner the same is to be performed, to be enrolled in His Majesty's High Court of Chancery within two calendar months next and immediately after the date of the said recited Letters Patent, as in and by the same (relation being thereunto had) may more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said
20 Robert Kemp, do hereby declare that my said Invention of Improvements

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in the Making or Manufacturing of Locks and Keys, is described and ascertained in manner following, that is to say:—

My improvement in the making or manufacturing of locks consists in applying to the interior part of the lock certain sliders or tumblers, in such manner that when the bolt of the lock is shut or locked, certain parts of the 5 said sliders shall be in contact with and intercept some projecting part of the bolt, and the said sliders being incapable of motion, except in a direction at right angles to the direction of the motion of the bolt, they will prevent the bolt being drawn back so as to unbolt the lock. Before the lock can be 10 unbolted each of the aforesaid sliders must, by the application of the key, be moved a certain quantity in a direction perpendicular to the direction in which the bolt moves, which quantity must be such as will put the sliders into a position in which those parts of them which were in contact with, and which intercepted the projecting part of, the bolt will correspond with certain notches 15 cut through the said projecting part of the bolt. Thus the contact will be destroyed and the sliders will no longer intercept the motion of the bolt, but leave it at liberty to be thrown back by the action of the key in the usual manner of other locks. The motion of the said sliders are all independent of each other, and the said notches in the projecting part of the bolt are made 20 exactly of the size to correspond with the parts of the sliders which are to pass through them, therefore each one of the sliders must be moved precisely to its required position, and neither more or less, or it will not correspond with the notch belonging to it, and cannot suffer the bolt to pass. But be it 25 observed, I do not claim the Invention of all the different modes of applying such sliders to a lock which can be used; but my improvement is for that particular manner of applying them which is more minutely described herein-after and by the Drawings hereunto annexed, and also for the particular manner of communicating the requisite movement to the said sliders, which is by perforating the centre pin upon which the key turns round 30 when it is inserted into the lock in order to lock or unlock the same, so that the said centre pin is a hollow tube; and I apply within the perforation or hollow of the tube pins which operate upon each one of the aforesaid sliders, so that by pushing back the said pins in the tube or hollow of the centre pin it will give motion to the sliders, and as two, three, or more independent sliders are used in the lock, as many different pins must be inserted in the hollow or 35 centre pin of the lock to correspond with them. The pin which communicates motion to the first slider, or that which is nearest the key hole, may be perforated in the manner of a tube to admit the pin or the second slider to pass through it, and the pin for the second slider may in like manner be perforated

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like a tube for the pin of the third slider to pass thro', and so on for as many sliders as are adapted to the lock, and the greater the number of these the greater will be the security of the lock, because the sliders being each independent of the other, any one which is not placed in its proper position will
5 lock the bolt fast equally with the whole number.

But be it observed, that I do not make claim to the Invention of a hollow centre pin for a lock, or of a pin to be applied within the said hollow, for the purpose of communicating motion to certain parts within the lock. But my improvement consists in that particular manner of applying several different
10 pins one through the other, which is herein explained, and which are for the purpose of actuating or giving motion to that particular kind of sliders herein explained, and more minutely described by the Drawings hereunto annexed.

Also my improvement in the making or manufacturing of keys consists in applying within the pipe of the key (or that hollow tube which is to receive
15 the centre pin of the lock when the key is introduced into the lock) a pin which shall enter into the hollow or tube of the centre pin, and press upon the ends of the pins before described which actuate the sliders that detain the bolt, and this pin within the pipe of the key being made of determinate length, will depress or push back the pins and sliders to the required positions, when each
20 one will correspond with the notch which is cut for it in the projecting part of the bolt; also, if there are two, three, or more sliders employed, the pin in the bottom of the pipe of the key must be provided with as many different shoulders or steps as will correspond with each of the pins or tubes of the sliders which are contained in the hollow centre pin of the lock, and each of
25 the said shoulders or steps must be adapted in length or projection to produce that quantity of motion in each slider which it will require to make it correspond with its notch in the projecting part of the bolt.

These are the particulars of my said Invention, and to shew the manner of their application to a lock, I have hereunto annexed Drawings, in which
30 Fig. 1 is a plan of a lock; Fig. 2, an elevation corresponding therewith; Fig. 3, a section to shew how the key operates upon the sliders and bolt; and Fig. 4 is a perspective view of so much of the lock as will explain my Invention. In all the same Figures the same characters of reference denote the same parts, and those parts which are marked with numbers
35 are of my Invention, whilst the letters of the alphabet are placed upon those parts which are common to other locks, and which are not parts of my Invention, but are necessary to be described, in order fully to explain the manner of carrying my said improvements into effect. A, C, is the bolt

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of the lock guided by the square staple B, which is screwed down to the plate P, P, P, P, at the other end of the bolt; it is guided by a piece of metal K fixed to the plate P, and a notch in the returned part of the bolt fits upon K. The dotted lines D represent the tumbler of the lock, and E its spring; F, the projecting part of the tumbler, 5 which enters into the groove or opening R, N, O, cut in the bolt, and when the tumbler is down so that the projection F rests in either of the notches R or O, or when the tumbler is raised up so that the part F enters the notch N, in either of these cases the bolt cannot be moved, therefore the bit or part L, Fig. 3, of the key must be made of that exact length 10 which will raise the tumbler into the position of Fig. 1 (where the projection F is seen in the groove between R and N, O), and neither more or less than that position, or it will not allow the bolt to move. X is the circular box or case in which the bit of the key turns round upon its centre pin, which center pin is fastened to the cover plate of the said box, and projects through the 15 plate P, P, as shewn in Fig. 3 at x, where it is shaded of a brown or light red colour. G is a tube fixed fast to the plate P, and forming an external sheath for the reception of the shank of the key, which tends to guide it as it turns round. The action of this lock is that by introducing the key S, L, H, into the tube G, and with the center pin of the lock up the pipe of the key, and 20 turning the key round upon its centre pin, the part L of its bit will act upon the tumbler D, and raise it to the position of Fig. 1, which will set the bolt at liberty to move, and this being done by turning the key further, the part H of the bit will enter a notch or talon of the bolt, and will move the bolt either to lock it or unlock it according to the direction in which the key is turned. 25 This is the description of the common tumbler lock, and to the invention of which I make no claim; but my improvements in the making or manufacturing such locks is to apply the projecting piece of metal 20 to the bolt A, C, and two sliders 1 and 2 to slide upon pins 3, 3, which are firmly fixed into the plate X, and are supported by being received at the other ends into the 30 external plate of the box of the lock. 4 and 5 are the notches cut through the projecting piece 20, and the sliders 1 and 2 must be brought exactly opposite these notches before the bolt can move. The requisite movement is given to the sliders 1 and 2 by pins, which are conducted through the centre pin X of the lock, which is made hollow like a tube for that purpose, and the 35 pin which is attached to the slider 2 (and marked C, Fig. 4, and shewn by the yellow colour, Fig. 3) is perforated or made hollow to admit the pin 7, which is affixed to the other slider 1, and if there was a third slider above 1,

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the pin 7 must be made hollow to admit a pin from it in the same manner as the pin 7 passes through 6. The sliders 1 and 2 have always a tendency to approach the plate X by the constant pressure of the springs 10 and 11, which apply separately to each, and press them down in the absence of the key, so that they will not correspond with either of the notches in the projecting piece 20. And my improvement in the making or manufacturing of the key consists in applying at the bottom of the tube or pipe of the key a short pin 8, which, when the key is put into its place, as in Fig. 4, shall enter into the hollow of the centre pin, and press upon the end of the pin 7 of the slider 1, and move that slider into a position to correspond with the notch 4, as shewn in Fig. 3. Also at the side of the pin 8 is a small projection or step 9, which is adapted to act upon the end of the tube 6 of the other slider 2, and thus move it into the position to correspond with the notch 5.

The explanation of the action of these improvements is scarcely necessary after what I have said. Fig. 3 shews the whole action by which the pin 8 and step 9 press upon the pins 7 and 6, and put the sliders 1 and 2 into their required positions. To prevent the pins 6 and 7 within the hollow centre pin from being deranged or examined, I cover the end of the said hollow centre pin by a piece of metal, having a small hole in it shaped like x , Fig. 5, which admits the pin 8 in the pipe of the key to enter, and also the projecting step 9; but when the key is pushed back into its place, as in Fig. 3, it can be turned round on its centre pin to open the lock. The springs 10 and 11 are shewn as if they were supported at the top of pillars 12, 13, at one end, and the opposite ends bear upon the sliders 1 and 2, but it is not essential that the springs should be of this kind; spiral springs, or any other kind, may be used, as are found most convenient. Also for the sliders themselves, they may be guided in their motion by applying a pin or guide at each side of each slider (instead of one pin through the middle of the slider) as at 33, but such manner of guiding them must be used as will prevent them from moving in any other distance than in the direction perpendicular to the motion of the bolt.

With respect to the manner of making the key of my said lock, it may be made in two pieces; first, the bow or handle, and the pin within the pipe, by which the sliders are moved, and the tube or pipe of the key and its bit are made in a separate piece and screwed together, that is, by forming the part of the handle just below the pin into a screw, which enters a female screw cut withinside the tube or pipe at its upper end, and when the pins

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and projections are made of the exact length to push back the sliders to the proper place, the two parts of the key may be screwed fast together, and, further to secure them from any deviation, may be soldered fast.

In witness whereof, I, the said Robert Kemp, have hereunto set my hand and seal, this Twentieth day of July, in the year of our Lord 5
One thousand eight hundred and sixteen.

ROBERT (L.S.) KEMP, Junior.

AND BE IT REMEMBERED, that on the Twentieth day of July, in the year of our Lord 1816, the aforesaid Robert Kemp came before our said Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained and specified, in form above written. And also the Specification aforesaid was stampd according to the tenor of the Statute made for that purpose. 10

Inrolled the Twentieth day of July, in the year of our Lord One thousand eight hundred and sixteen.

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FIG. 1.

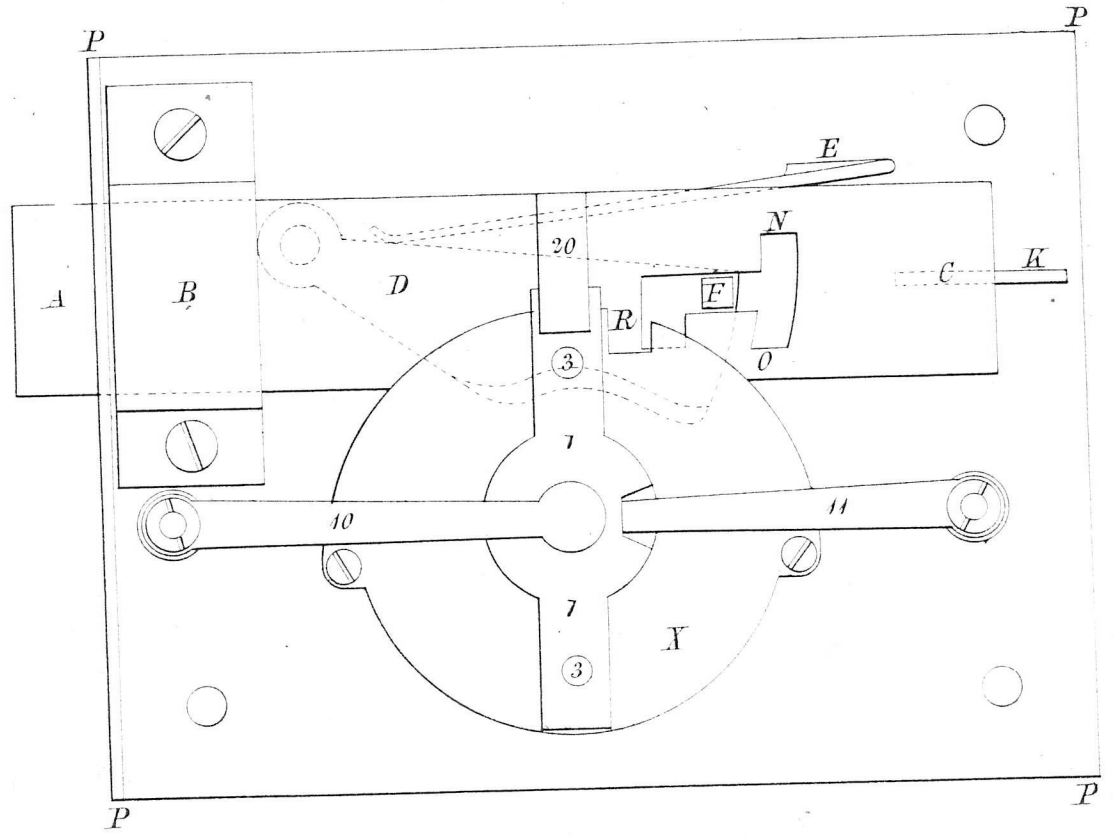


FIG. 2.

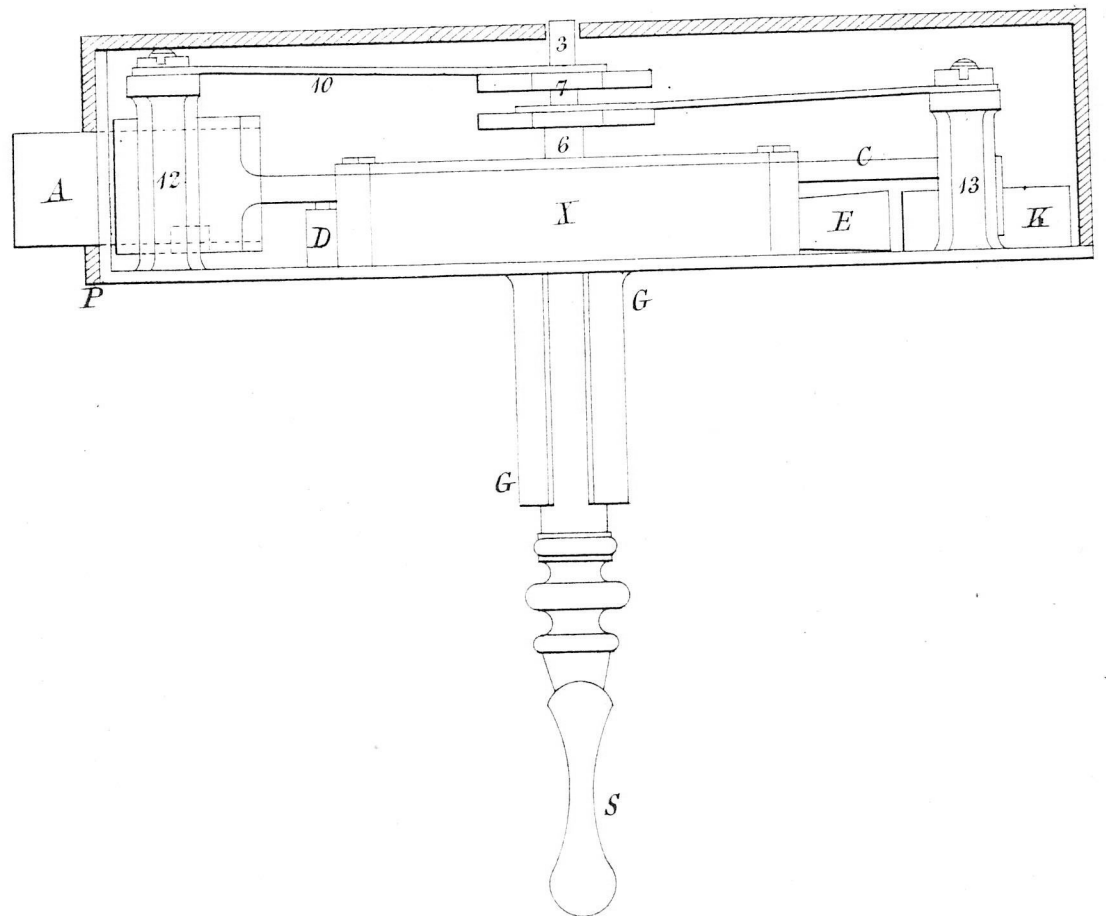


FIG. 4.

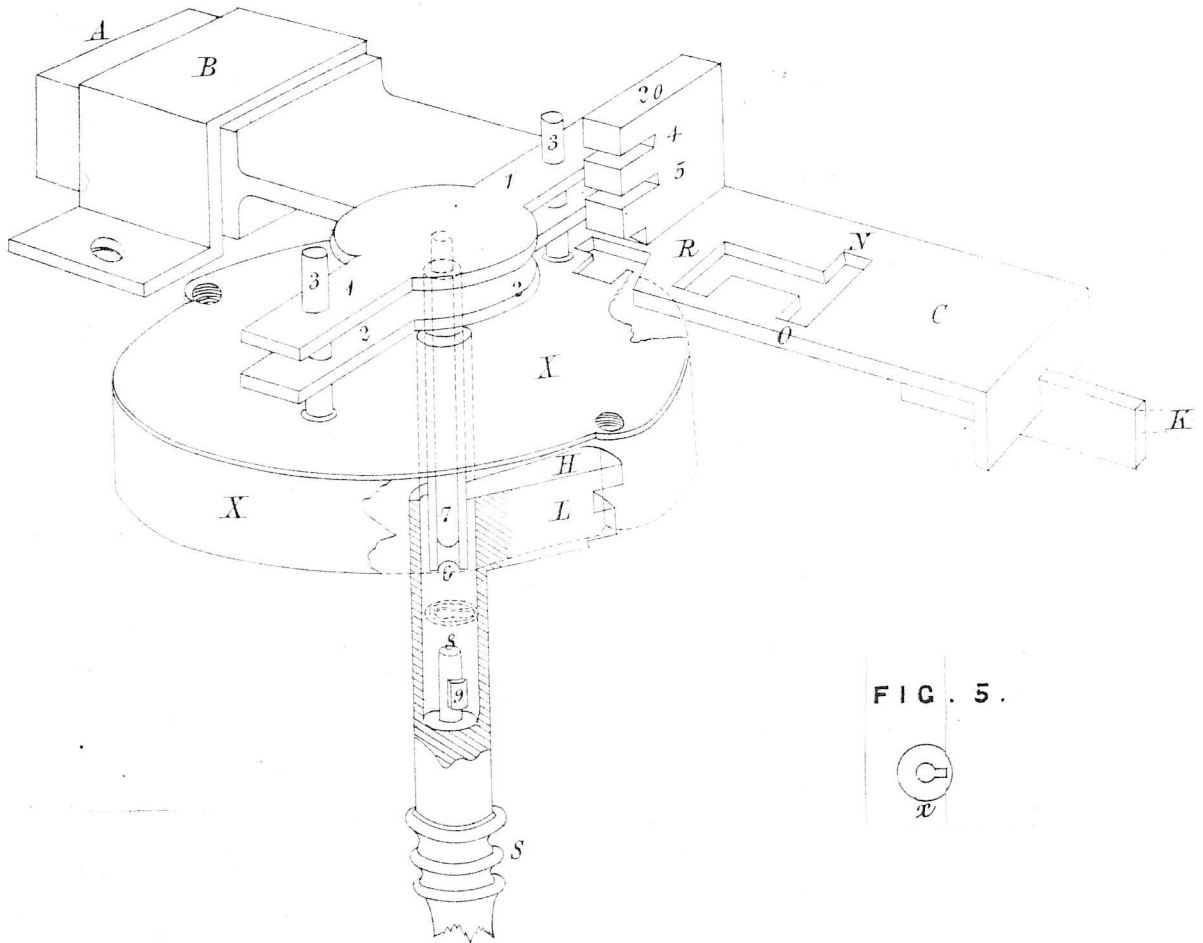


FIG. 5.



FIG. 3.

