

September 6, 1834

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A.D. 1834 . . . . . N° 6674.

Locks.

LONGFIELD'S SPECIFICATION.

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, WILLIAM LONGFIELD, of Otley, in the County of York, Whitesmith, send greeting.

WHEREAS His present most Excellent Majesty King William the Fourth, by His Royal Letters Patent under the Great Seal of Great Britain, bearing  
5 date at Westminster, the Sixth day of September, in the fifth year of His reign, did, for Himself, His heirs and successors, give and grant unto me, the said William Longfield, His especial license, full power, sole privilege and authority, that I, the said William Longfield, my executors, administrators, and assigns, or such others as I, the said William Longfield, my executors, administrators, or  
10 assigns, should at any time agree with, and no others, from time to time and at all times during the term of years therein expressed, should and lawfully might make, use, exercise, and vend, within England, Wales, and the Town of Berwick-upon-Tweed, my Invention of "AN IMPROVED LOCK OR FASTENING FOR DOORS AND OTHER SITUATIONS WHERE SECURITY IS REQUIRED;" in which said Letters  
15 Patent is contained a proviso that I, the said William Longfield, shall cause a particular description of the nature of my said Invention, and in what manner the same is to be performed, to be inrolled in His Majesty's High Court of Chancery within six calendar months next and immediately after the date of the said in part recited Letters Patent, as in and by the same, reference  
20 being thereunto had, will more fully and at large appear.

NOW KNOW YE, that in compliance with the said proviso, I, the said William Longfield, do hereby declare that the nature of my said Invention, and in what manner the same is to be performed, is particularly described and ascertained in and by the following description thereof, reference being had to

*Longfield's Improved Locks.*

the Drawings hereunto annexed, and to the letters and figures marked thereon (that is to say):—

My Invention of an Improved Lock or Fastening for Doors and other Situations where Security is required consists in the construction and arrangement of a novel combination of mechanism in which a lever bolt is adapted to act upon the ordinary sliding or shooting bolt of a lock, for the purpose of confining the shooting bolt when its end has been projected or shot out as in the act of locking. By the employment of this lever bolt the sliding or shooting bolt, when projected, cannot be moved back without first applying a key to withdraw the end of the lever bolt from its holding position. 10

In the accompanying Drawings, Figures 1 and 2 represent the internal construction of a lock on my improved plan, the face plate being removed for the the interior and the moveable parts in different positions in the two Figures. *a, a*, is the sliding or shooting bolt. *b, b*, the lever bolt, the end of which, it will be seen, is intended to pass into a notch *c* in the under part of the sliding bolt, as shewn in Fig. 1, for the purpose of preventing the sliding bolt from being shifted from its locked position. 15

Fig. 3 is a skeleton of the lock, shewing the working parts more perfectly. On the upper edge of the bolt *a* a rack is formed, into which the teeth of a pinion *e* take for the purpose of sliding the bolt. Below is a cam roller *i* which acts upon the lever bolt *b* for the purpose of depressing it, the lever being mounted on a fulcrum at *z*, and thrown up by a spring *y*. The keyhole at which the key is introduced for sliding the bolt *a* is formed in a cylindrical tube *d*, which I propose to make long enough to extend through the style of the door, and to come flush with the outside. Behind this tube is the pinion *e*, having a recess into which the web of the key passes for the purpose of turning it. As the teeth of this pinion take into the rack on the upper edge of the sliding bolt *a*, it will be perceived that when turned by the key the pinion will move the bolt to or fro. In the tube *h*, which is of the same dimensions as the tube *d*, the hole for the key is formed, by which the lever bolt *b* is operated upon, and behind the tube is the cam roller *i*, which the web of the key takes into. 20 25 30

Fig. 4 is a transverse section of the lock, shewing the position of these keyholes tubes, and of the pinion *e*, the sliding bolt *a*, the cam roller *i*, and the lever bolt *b* confined between two plates *f* and *g*. 35

Fig. 5 is a similar section taken through the keyhole tubes *d* and *h*, the pinion *e*, the sliding bolt *a*, the cam roller *i*, the lever bolt *b*, and the parallel plates *f* and *g*.

Fig. 6 shews the inner side of the parallel plate *f*; Fig. 7, the inner side of

*Longfield's Improved Locks.*

the parallel plate *g*; and Fig. 8 is an edge view of the last-mentioned plate, with the guide pins *k* and *l*, which project through the keyhole tubes fixed therein.

For the better illustration of these parts the pinion *e* is shewn detached at Fig. 9, and edgewise at Fig. 10. The cam roller *i* is also shewn detached at Figure 11, and edgewise at Fig. 12. The pinion in the position in which it stands at Fig. 9 is to be dropped into its socket in the parallel plate *f*, Fig. 6, and the cam roller, Fig. 11, likewise into its socket into the parallel plate Fig. 6, after which the other parallel plate *g*, Fig. 7 or 8, is to be attached to these, and secured by screws *m*, *m*, as shewn in Figures 4 and 5, when the shoulders of the pinion *e* and of the cam roller *i* will be confined within sockets in the parallel plates, but allowed to turn freely.

The key, Fig. 13, is made to suit the lock here represented, the sides of the web of the key fitting the keyholes or apertures in the pinion *e* and cam roller *i*, and the steps of the web being made to correspond to certain steps or wards formed at *n* in the back part of the tube *h*. It will of course be understood that I do not confine myself to any particular form of steps or inequalities on the web of the key, but vary them at pleasure, observing that the keyholes of the tubes *d* and *h*, and also of the pinion *e* and cam roller *i*, and the form of the wards *n* in the tube *h* must be made to correspond with the key, and also that the internal form of the tubes may be arranged so that the key may be required to make one or more turns, or any portion of a turn, in the tubes before it passes home to a place where its web acts upon the pinion or cam roller. By introducing the key through the passage of the tube *d*, and turning the pinion *e*, the bolt *a* will be projected, as shewn at Fig. 1, when the lever bolt *b* will, by force of the spring *y*, be raised, and its end introduced into the notch *e* of the sliding bolt, thus confining the bolt in its locked position, and the key in the tube *d* will be no longer able to move the sliding bolt. In order, therefore, to unlock, that is, withdraw the bolt, the key must be first introduced through the passage of the tube *h*, and the cam roller be turned round into the position shewn at *i*, Fig. 3, which will cause the cam of that roller to act against the lever bolt, and by depressing it to withdraw the end of the lever bolt from the notch (the cam roller *i* being confined in its action by a pin or stud *o* projecting from the plate *g*, Fig. 6, which pin acts between two small projections on the periphery of the cam rollers). The key may then be taken out of the tube *h* and introduced into the tube *d*, and the pinion *e* be turned round so as to slide back the bolt into the position shewn in Fig. 2. *p* is a friction spring acting upon the side of the sliding bolt to steady its movement.

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I would remark that it will be evident that the position of the lever bolt *b* and rack and pinion *e* may be reversed, or both placed so as to act upon one edge of the sliding bolt. I therefore do not intend to confine myself to the precise positions shewn in the Drawings.

Lastly, I desire it to be understood that I claim the Invention of the combination of the parts constituting a lock or fastening for doors, or other situations where security is required, as above described, and particularly the adaptation of a lever bolt to confine the sliding bolt, however that lever bolt may be applied to such purpose.

In witness whereof, I, the said William Longfield, have hereunto set my hand and seal, this Sixth day of March, in the year of our Lord One thousand eight hundred and thirty-five.

WILLIAM (L.S.) LONGFIELD.

ADAM. AND BE IT REMEMBERED, that on the Sixth day of March, in the fifth year of the reign of His Majesty King William the Fourth, the said William Longfield came before our said Lord the King in His Chancery, and acknowledged the Instrument aforesaid, and all and every thing therein contained and specified, in form above written. And also the Instrument aforesaid was stamped according to the tenor of the Statute made in the fifty-fifth year of the reign of His late Majesty King George the Third.

Inrolled the Sixth day of March, One thousand eight hundred and thirty-five.

LONDON:

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

FIG. 1.

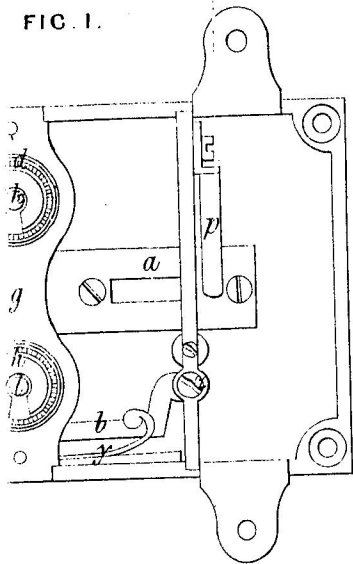


FIG. 2.

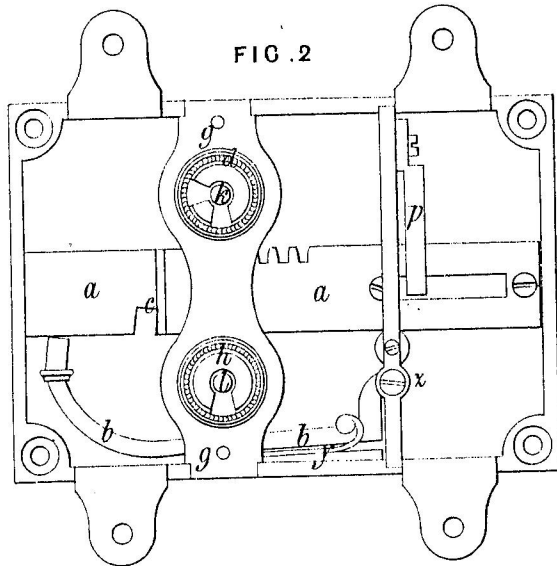


FIG. 3.

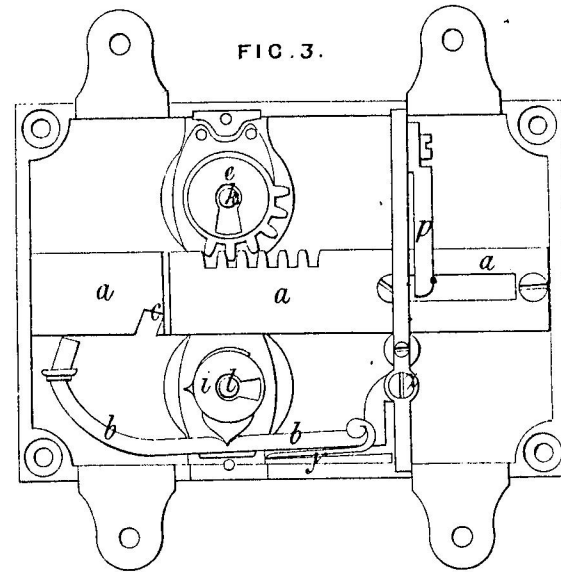


FIG. 5.

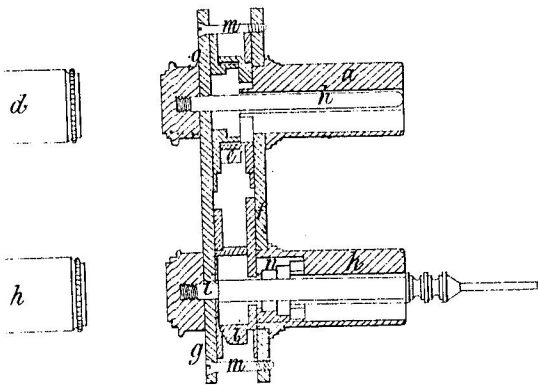


FIG. 6.

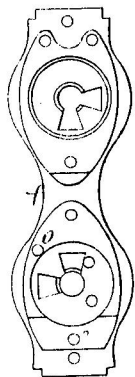


FIG. 7.

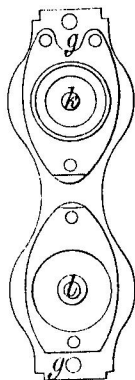


FIG. 8.

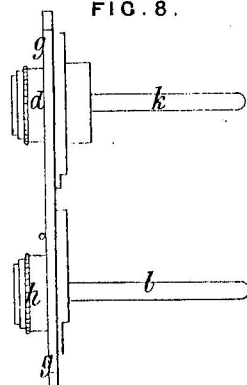


FIG. 9. 10.

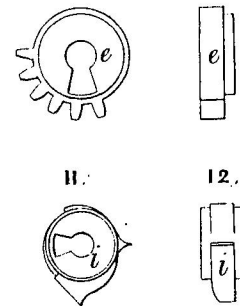
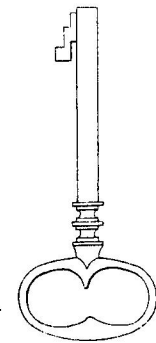


FIG. 13.



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FIG. 1.

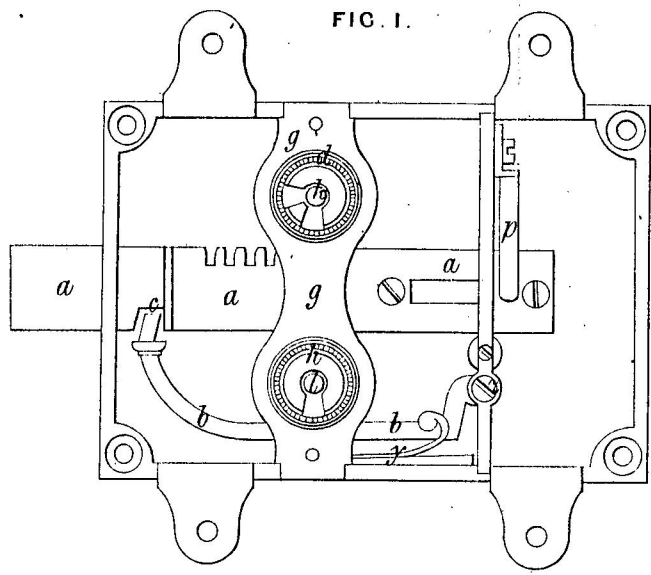


FIG. 2.

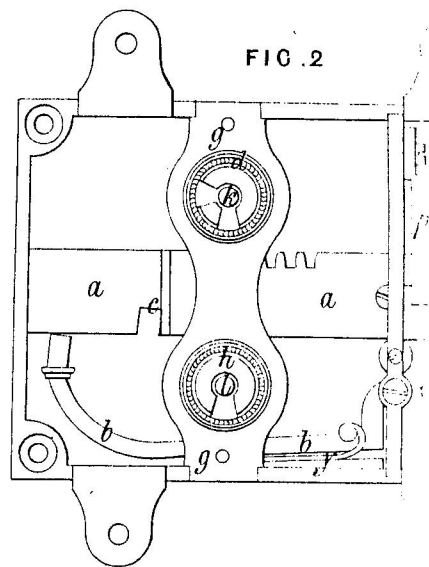


FIG. 4.

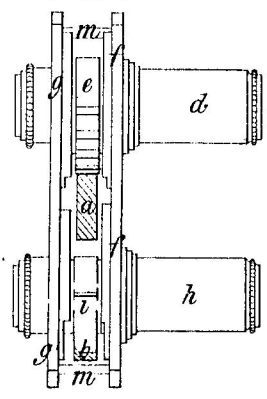


FIG. 5.

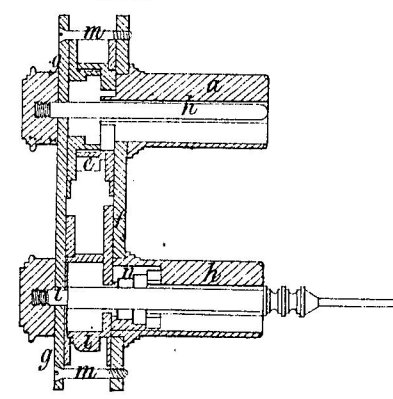
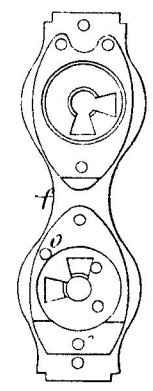


FIG. 6.



*The enrolled drawing is colored*