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A.D. 1805 . . . . . N° 2851.

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### Locks and Keys.

#### STANSBURY'S SPECIFICATION,

TO ALL TO WHOM THESE PRESENTS SHALL COME, I, ABRAHAM OGIER STANSBURY, of the City of New York, in the United States, send greeting.

"**HEREAS** His most Excellent Majesty King George the Third did, by  
5 His Letters Patent under the Great Seal of the United Kingdom of  
Great Britain and Ireland, bearing date at Westminster, the Eighteenth  
day of May, in the Forty-fifth year of His reign, give and grant unto me,  
the said Abraham Ogier Stansbury, my executors, administrators, and assigns,  
His especial licence that I, the said Abraham Ogier Stansbury, my executors,  
10 administrators, and assigns, should and lawfully might, during the term of  
years therein mentioned, make, use, exercise, and vend, within England,  
Wales, and the Town of Berwick-upon-Tweed, my Invention of "**LOCKS  
AND KEYS, UPON AN IMPROVED CONSTRUCTION**;" in which said Letters Patent  
there is contained a proviso obliging me, the said Abraham Ogier Stansbury,  
15 by an instrument in writing, under my hand and seal, to 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 High Court of Chancery  
within one calendar month after the date of the said recited Letters Patent,  
as in and by the same, relation being thereunto had, may more fully and at  
20 large appear

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**NOW KNOW YE**, that in compliance with the said proviso, I, the said Abraham Ogier Stansbury, do hereby declare that my said Invention is described and ascertained by the above Drawings and description thereof.

In witness whereof, I, the said Abraham Ogier Stansbury, have hereunto set my hand and seal, this Eighteenth day of June, in the year of our Lord One thousand eight hundred and five

AB<sup>M</sup> OGIER STANSBURY. (L S)

Before I proceed to describe my Invention it may be proper, by way of introduction, to say something of the nature of locks generally, and point out wherein their excellence consists, as applied to the security of property. Locks 10 are the guardians of our most valuable treasures, the silent protectors of property, to whose fidelity we intrust not only our fortune, but our lives; hence it is of importance to adopt such a construction as will admit of any required multiplication of numbers for the publick use, without the necessity of making two alike. This is one point of consequence. The next to be considered is 15 strength, to render the lock secure from violence. In order to this, the bolt should be large in proportion to the size of the lock; and the parts used to retain the bolt likewise require to be compact and firm, that they may not be liable to derangement. A third qualification of importance is, the security from picking. This is obtained by preventing the access of anything to release the 20 bolt, except its proper key. For this end, the best construction is, that which opposes the greatest difficulty to the making of a false key, for it is of little consequence what variety of keys the plan admits of if a false one may be made from an inspection of the lock itself. A further object of consequence is, the avoiding of friction as much as possible, that the bolt may move with 25 facility, and the works may not be injured from use. That part of door locks called the catch or catch-bolt, which is thrown out by a spring to hold the door shut, being in constant use, requires more particularly to move with ease, and to be so constructed as not to be liable to get out of order, which in the kind generally used is very often the case. In my Invention, security, 30 simplicity, and strength, have been my principal aim, as they appear to comprize all that is valuable in a lock. The principle of strength is that of pinning or nailing two pieces or plates of metal together, while their surfaces are held in contact, for it is well known that if even two boards be fastened together with a single slight nail driven through them, it will require an 35 immense force to separate them by sliding. For security, I make these nails or pins of such infinite variety, from their position and number, as to admit of any required number of locks without having two alike; in addition to this

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I multiply the varieties of position and number by every change in the thickness of the moveable plate; and as a further source of variety, the pins may be cut into unequal parts, by which means they will require to be pressed to different depths from the point of bisection. In order to release the moveable  
5 plate, a similar variety is produced by having grooves in the moveable plate, and corresponding raised parts on the fixed plate, so that the extent of changes afforded by a combination of these varieties becomes absolutely incalculable. In order effectually to prevent the opening of the lock by anything but its own key, the nails or pins may be placed out of sight, and guarded from access by  
10 the projecting stud of the lock in which the key turns; and as a security against the taking of an impression of the pins or nails, by the insertion of a soft substance or blank key, &c, I make a number of marks on the surface of the moveable plate, exactly similar to those caused by the ends of the pins entering through it. These pins admit likewise of being made of various sizes  
15 or diameters, so that some of them may be extremely small, and by this means render it nearly impossible to make a false key, even from the nicest inspection of the real one. Thus, the difficulty of ascertaining the number and position of the nails is alone sufficiently great, without resorting to any variation of their relative lengths, and the accuracy required to make a key whose points shall  
20 strike on all the pins or nails at once. The precise line of division between the surfaces of two plates in perfect contact with each other is greater than can be readily conceived, and can only be effected by taking the lock to pieces, and making the moveable plate itself the gauge for the points on the key. The pins or nails entering through the fixed plate are thrown by springs into the  
25 moveable plate, and the business of the key is to push them back, by corresponding points fixed in it, so as to release and turn the moveable plate without entering the fixed plate. for were this the case, these points on the key would act as nails from the moveable into the fixed plate, and effectually release the bolt. The bolt may be made either separate from the moveable plate, and so  
30 moved by a tooth or teeth, or the plate itself may constitute the bolt or fastening. These methods are applicable to locks of every description, as padlocks, door locks, chest and desk locks, &c, &c, as will appear more fully from the Drawings given. Any required number of bolts may also be thrown in different directions at the same time by means of their connection with the  
35 moving plate, or the plate itself may be made of such a form (as square, triangular, octagonal, &c,) as to throw out points in every direction when turned by the key. It is applicable to bars thrown across doors into staples, &c, and likewise to window fastenings. In door locks, where a catch or latch is required, and which, in the ordinary construction, is released by turning a

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knob or handle, I make this knob or handle to be pressed directly forward on one side, and pulled directly back on the other, according to the motion of the door, in order to open. This is effected by means of a sliding piece, which I call a pusher, and which, being pushed or drawn, draws back the catch or releases the latch, and opens the door by the same motion. This pusher may either 5 have a projecting piece acting upon the latch or catch bolt, as a wedge or inclined plane, or it may draw, by means of a chain or flexible substance turning over a roller, or the action may be communicated by means of a crank or a wheel, as shewn in the Drawings. A spiral or worm spring is used to throw the latch or catch bolt, but, as this acts in a contrary direction to the 10 motion of the pusher, a second spring may be added, to take upon the pusher and return it. This may be placed either inside of the lock or within a hollow handle fastened to the door, through which handle the pusher moves. Thus, by drawing the handle with the fingers, so as to hold the door while the thumb presses the pusher, the catch or latch is released silently on the opposite side 15 It is only necessary to press the door with the thumb, while the pusher is drawn back by the fingers, to produce the same effect, but in ordinary cases a simple pressure of the pusher, without the assistance of the handle, as just mentioned, is sufficient to enter the room. Instead of the small bolt generally used to fasten the door from within, I make the catch bolt answer 20 the purpose by stopping the action of the pusher with a button placed within the lock, and turning round the pusher. This button is connected to a plate or rim, likewise turning round the pusher in the room; and as the rim is moved it turns a projecting part into a notch in the pusher, or under a pin from it. The catch bolt likewise is made to increase the strength of the 25 fastening by causing the key bolt, usually employed alone as a security, to stop the return of the catch, which is thus incapable of being released until the other bolt be unlocked. Thus the two together constitute one large, strong fastening. In order to remove the inconvenience of a projecting box, which is commonly made to receive the bolt and catch of locks placed on a door, and 30 not morticed into it, I make the bolts with an elbow or bend, so as to shoot into the door post from the middle of the door, in the same manner as the bolt of a mortice lock. This mode is also applicable to drawer, desk, and other locks, where it may be used for greater security of fastening, by causing the bolt to take further in; or the bolts may be made streight, and let into the 35 door, which will be equally as neat, and stronger than a mortice lock.

Having thus given a summary view of the nature of my improvement, I proceed to explain the Drawings.

Fig I, section of the moveable and fixed plates *a*, the moveable, *b*, the

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fixed plate *s*, the stud or centric connecting the plates above and below. *c*, a pin or nail in the position in which it will be when pressed down by the key *d*, a pin or nail thrown through both plates by the spring *e*. *f, f*, the back of the lock, which must be so near the plate *b* as to prevent the pins  
5 from being pushed out of it by any attempts to pick the lock.

Fig II., section shewing the moveable plate grooved, and the fixed plate with corresponding raised parts, the pin *y* pressed to the surface of plate *b*, and the pins *x* and *z* rising to the surface of plate *a*. *s, s*, the stud which answers to conduct the key. *K*, the key, having points of the proper length to press  
10 the pins or nails to the surface of the plate *b*.

Fig III, section shewing the pins bisected, and passing through the fixed plate *b* nearly to the surface or top of moveable plate *a*, the holes on the face being smaller than the pins, in order to prevent the upper pieces from coming out of place. These pins may be made with a shoulder as *c*, or without as *d*  
15 These pins or nails are cut into unequal lengths, and that next the stud is shown divided at the line of separation between the two plates, and consequently requires no pressure of the key, which therefore has no corresponding point. This is also the case in Fig. 2. By this mode of bisection a lock of the most difficult description, having any number of pins, may be made,  
20 without requiring any increase of the size or complexity of the key, as will appear from Fig 4, when the key has but two points, and the lock has six nails or pins, four of which are bisected on a line with the surface of bottom or fixed plate *b*, and require no pressure.

Fig IV, section of a lock to open on both sides, in which case the move-  
25 able plate *a*, *a*, instead of turning on a stud, is held at the edge by cocks *g, g*, the key passing through both plates at the opening or key-hole *h, h, h*. The key has points at *o* to press, as before described, and similar points at *x*, which, being drawn upon the points of the nails, release and turn the plate *a, a*. Another way of locking on both sides is to place two locks reverse to each  
30 other, either separate or made under one cover. This can require no explanation.

Fig V. (A), front view of moveable plate *a*, used as a bolt, and turned out at *b, b*, to lock when the pins beneath rise into their holes at *c*, and hold it fast. *s*, stud. Wherever the key-hole is represented by dotted lines it is  
35 intended to shew its position, not on the moveable plate, but in the face or covering of the lock. (B), the same plate, with the bolt part *b, b*, turned back to unlock, when the holes will be at *e*, and the points of the pins or nails remaining at *z*, under the plate *a*, may be admitted to rise into it by corresponding holes being made to receive them, in which case the bolt or

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moveable plate is held fast unlocked, and will require the action of the key to lock in the same manner as to unlock it.

Fig VI., front view of moveable plate *a*, used as a pinion to turn bolt *b*. *c, c*, pins on each side of the stud or centre. *K*, the key to answer to them.

Fig VII (A), the moveable plate, to answer as a padlock, without any 5 separate piece or hasp, as is usually required. (B) the same unlocked.

Fig. VIII., the same plan, rendered more secure, by exposing less of the arm *a* of moveable plate, which may be either a part of the plate itself or a piece attached to it. The part B shews the surface of fixed plate.

Fig. IX., the moveable plate, represented as a bolt for desk or chest 10 locks.

Fig. X., the moveable plate, shewn as a padlock, having three different rows of holes, into each of which different pins beneath are placed to take as the moveable plate or bolt is turned round. These holes are so situated that only one row can be fastened at a time by admitting the pins, all the others 15 remaining behind or beneath the moveable plate, as shewn more clearly at (A), where the holes in the moveable plate are represented by small rings, and the pins beneath by dots. *s*, the stud or centre on which the plate moves. These pins being bisected, as shewn in Fig. 3, and each being different from the others, it will require as many keys to release the moveable plate as there are 20 rows of holes. Thus, the key corresponding with the holes on the line *s, a*, can only turn the plate till the springs throw the pins into the holes on the line *s, b*, which is then fixed, and requires another key to turn till the points below enter the holes at *s, c*. A third key is then necessary in order to release the bolt B. 25

Fig. XI. shews the manner of drawing back a bolt by means of a crank or bended lever applied to the pusher. *a, b*, pusher; *c, c*, crank turning on the pin *d*; *s*, the catch spring; *k*, the catch or bolt.

Fig. XII., view of a latch raised by a wedge from the pusher. *a*, pusher; *b*, wedge, *c*, roller, placed in the latch to diminish friction, but which is not 30 absolutely necessary; *d*, spring.

Fig XIII., pusher with a roller inserted, to answer the place of wedge.

Fig XIV. shews the mode of drawing back the catch by a chain or string over a roller, &c

Fig XV., lock of the common form, altered for the reception of pusher by 35 having a roller fixed on the arm *a*, and an opening made in the plate at *b* to permit the descent of the wedge. A second roller is shewn at *e* to support the arm *a*, and diminish the friction of catch bolt *f*

Fig. XVI., form of a catch bolt or frame, as shewn in Fig XIX, to

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admit the key to release the bolt *a*; *b*, the pusher; *c*, the hollow handle to receive a spring, as shewn in Fig 18; *e*, wedge or roller, as Fig. 13; *g*, roller to answer as *e*, Fig. 15; *h*, a circular rim or button, turning through a hole in the lock, with a piece attached to it to stop the descent of pusher

5 Fig. XVII, view of the button, as it appears out of the lock. *A*, the raised part, which passes through the lock, making a shoulder below on *g*, which moves in the room, and has a small pin at *f* to turn the stopper *e* under the pin *d* in the pusher, by the motion of the button; *B*, slit to permit the pin *d* to pass when the catch is used; *c* slit to let the end or bottom part of wedge *z*  
 10 enter in, descending to release the catch; *e*, stopper; *h*, notch in the raised part of button within the lock, to limit its motion by a check pin, against which it stops.

Fig. XVIII. *a*, *b*, pusher passing through hollow handle *c*, the part *p* of the pusher being made with a shoulder to take upon the spring within the  
 15 handle, while a plate *f*, with a hole the size of pusher, retains the spring by being screwed together with the handle at *D* to the door. The part *a*, *p*, of pusher takes off at *p* to admit the plate *f*.

Fig. XIX, view of the lock, with the catch frame moving through a similar frame of the key bolt. The key enters through this frame, as shewn  
 20 in Fig. 16, and turns the moveable plate *m*, which, having teeth taking upon the pins through the key bolt or frame at *a*, turns it as in Fig XX. *b*, *b*, frame supporting fixed plate, on which the moveable plate *m* turns, and under which the springs to the pins or nails are fixed. *s*, *s*, screws to fasten the lock to the door when the works are let into it, so as to make the back of the lock *w*, *x*,  
 25 *y*, *z*, even with the door.

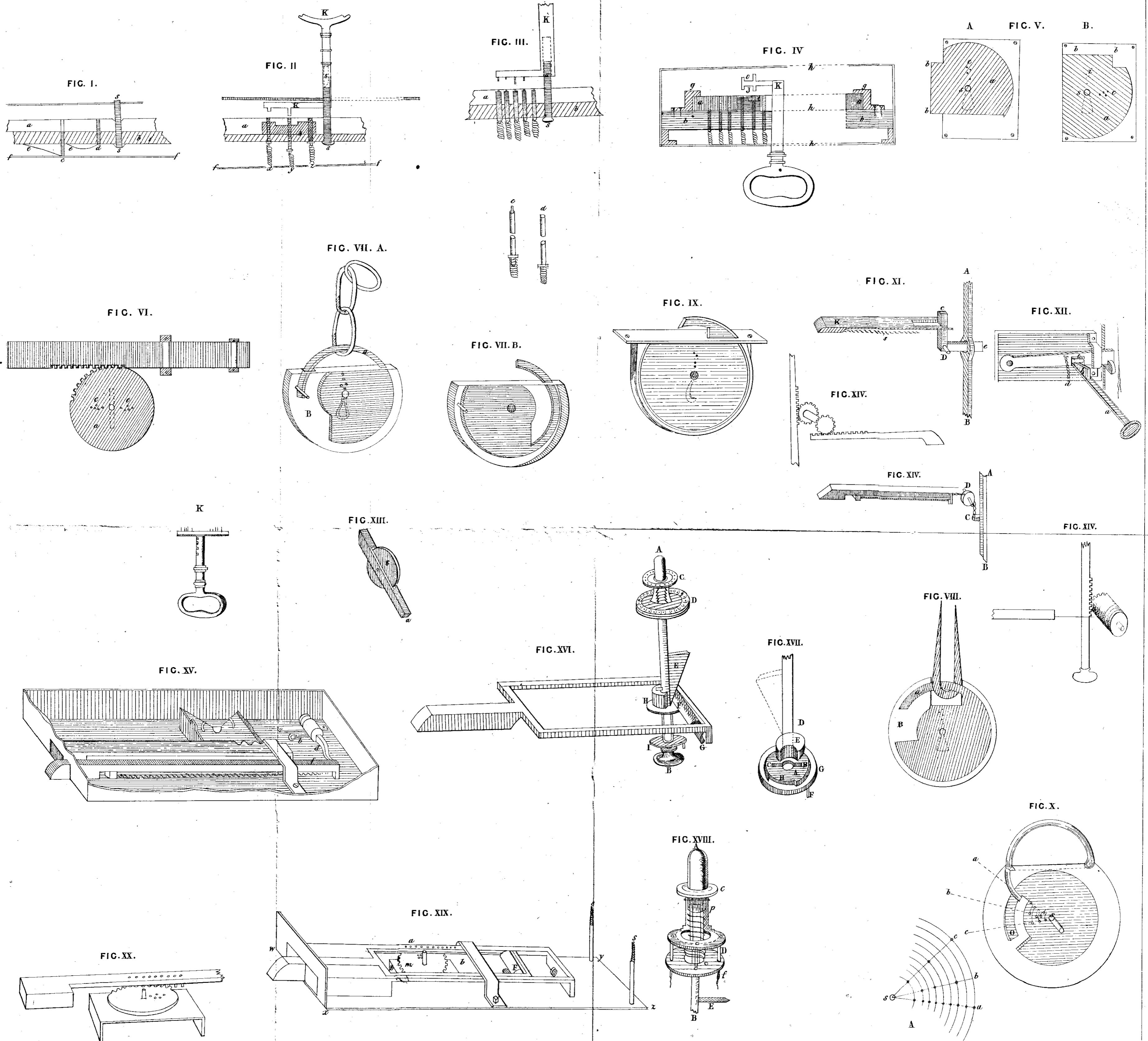
**AND BE IT REMEMBERED**, that on the same Eighteenth day of June, in the year above mentioned, the aforesaid Abraham Ogier Stansbury came before our Lord the King in His Chancery, and acknowledged the Specification aforesaid, and all and every thing therein contained, in form above written.  
 30 And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

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

JOHN SIMON.

LONDON.

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



The enrolled drawing is partly colored.