

E. COTTERILL  
- WILSON'S PATENT.



A.D. 1869, 11th NOVEMBER. N° 3257.

**Locks and Latches, &c.**

LETTERS PATENT to Peter Wilson, of Birmingham, in the County of Warwick, Lock Maker, for the Invention of "IMPROVEMENTS IN LOCKS AND LATCHES AND IN KEYS FOR LOCKS, AND IN ATTACHING DOOR AND OTHER KNOBS TO SPINDLES."

Sealed the 6th May 1870, and dated the 11th November 1869.

PROVISIONAL SPECIFICATION left by the said Peter Wilson at the Office of the Commissioners of Patents, with his Petition, on the 11th November 1869.

I, PETER WILSON, of Birmingham, in the County of Warwick, Lock  
5 Maker, do hereby declare the nature of the said Invention for "IMPROVEMENTS IN LOCKS AND LATCHES AND IN KEYS FOR LOCKS, AND IN ATTACHING DOOR AND OTHER KNOBS TO SPINDLES," to be as follows:—

My Invention consists, firstly, of the following improvements in  
10 barrel locks and keys, that is to say, locks of a barrel form provided with a series of radial slides or bolts. These radial slides or bolts are usually pressed inwards to the centre of the barrel by separate metal springs or by a single circular metal spring. According to my Invention

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I make in the edge of the barrel a deep annular groove or channel in which the outer ends of the slides or bolts are situate. Within this groove I place a strong ring of vulcanized india-rubber, which ring of india-rubber by bearing against a shoulder or shoulders on the slides presses the whole of them inwards. By the use of a ring of vulcanized 5 india-rubber a more equal or uniform pressure is exerted on the whole of the slides than when a metal spring is used, and the said india-rubber ring lasts longer and is not liable to the injury by corrosion to which metal springs are liable. I prefer to make the barrel thrower and drill pin in one piece by the process of casting. I make the keys of the keys 10 of the said barrel locks as follows:—I cut in the key nine or other odd number of radial slits or recesses to operate upon the slides or bolts of the lock, and I provide a solid nib at the edge of the key, which nib takes into a corresponding hole in the barrel. Or in place of making the nib solid it may be provided with a slit or recess to act upon one of the slides, a 15 solid part in this case being left at any desired part around the key in place of one of the recesses so as always to leave nine or other odd number of recesses or acting parts. By this means I can at pleasure reverse the position of the acting parts of the key by changing the position of the solid or non-acting part, and the manufacturer can by 20 thus changing from time to time the acting parts of the key and the slides of the lock produce locks less liable to be picked than locks having keys in which the acting parts are arranged in the usual manner.

My Invention consists, secondly, of the following improvements in lever locks and keys for the said locks. Instead of making the bits of 25 the key act upon the lower edges of the series of the levers to raise them preparatory to shooting or withdrawing the bolt I cut an opening at about the middle of each of the levers, and leave curved or projecting parts at the tops of the said openings in the levers for the key to act upon. Within the openings described in the levers a tubular keyhole is 30 fixed, the levers working upon the said keyhole in their motion. The upper part of the keyhole is cut away, and into the said cut away part the curved projections described on the levers are pressed by springs acting on the tails of the levers. The key for this lock consists of a 35 cylindrical stem, on the bottom of which a series of curved or excentric parts or bits are made. The shapes and positions of these bits are such that when the key is passed into the keyhole and turned, the said bits operate upon the said curved parts of the levers and raise the said levers

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to the respective heights proper to permit of the bolt of the lock being shot or withdrawn. The end of the key acts upon the bolt by bearing against a projection made at the middle of the bolt. This construction of key may also be used with barrel locks.

5 My Inventions consists, thirdly, of the following improvements in latches. One part consists in making the bevilled head of latch bolts reversable for the purpose of enabling the latches to be used either with right-handed or left-handed doors. I make the bolt head separate from the flat part of the bolt, and I provide the said separate head with a  
 10 stalk or rod. The outer end of the latch bolt is bent at right angles, and against the outer face of the said bent end the separate bolt head bears. The said separate head is connected to the bolt by the stalk or rod described and a coiled spring. When the head is secured to the bolt the said head may at pleasure be turned upon the bolt to reverse the bevil  
 15 of the said head. When the latch bolt is in its place in the lock or latch case the opening in the case in which the bevilled head works prevents the said head rotating on the bolt. Another part consists in making the followers of latches of a heart shape, the said followers being hollow or skeleton form. On the latch bolt and at right angles  
 20 thereto is an arm, on the end of which an antefriction roller is situated. The said roller is placed and works within the heart-shaped follower, and when the latch is in its shot position the said roller occupies the narrow end of the heart-shaped follower. When the door knob is turned in either direction one or other of the curved inner sides of the heart-  
 25 shaped follower bears against the antefriction roller on the arm of the latch bolt and withdraws the said bolt. Another part consists of the following improvements in the latch mechanism of double-handed locks and latches, that is, locks and latches in which two latch bolts are employed protruding from opposite sides of the case. Locks and latches  
 30 of this kind are applicable either to right or left handed doors without changing the positions of the parts. In constructing these latches I employ two cranked levers, the arms of which are nearly at right angles to one another. The vertical arm of one lever is connected to one latch bolt, and the vertical arm of the other lever is connected to the opposite  
 35 latch bolt. The horizontal arms of the levers are turned towards each other, the end of one horizontal arm carrying an antefriction roller on which the end of the other horizontal arm bears. These horizontal arms are pressed down by a spring. Beneath and midway between the levers

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is the horn-shaped follower. When the door knob is turned in either direction the said follower raises both the horizontal arms of the levers, and simultaneously withdraws the two latch bolts.

My Invention consists, fourthly, of the following improvements in attaching door and other knobs to spindles. I make in one or both ends of the spindle a longitudinal groove so as to form a fork at the end or ends of the spindle. By introducing the forked end of the spindle into the neck of the knob and passing a taper or other screw through the neck of the knob and between the fork the said fork is expanded into the neck of the knob and the said knob thereby securely attached to the spindle.

**SPECIFICATION** in pursuance of the conditions of the Letters Patent, filed by the said Peter Wilson in the Great Seal Patent Office on the 6th May 1870.

**TO ALL TO WHOM THESE PRESENTS SHALL COME, I, PETER WILSON, of Birmingham, in the County of Warwick, Lock Maker, send greeting.**

**WHEREAS** Her most Excellent Majesty Queen Victoria, by Her Letters Patent, bearing date the Eleventh day of November, in the year of our Lord One thousand eight hundred and sixty-nine, in the thirty-third year of Her reign, did, for Herself, Her heirs and successors, give and grant unto me, the said Peter Wilson, Her special licence that I, the said Peter Wilson, my executors, administrators, and assigns, or such others as I, the said Peter Wilson, my executors, administrators, and assigns, should at any time agree with, and no others, from time to time and at all times thereafter during the term therein expressed, 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 AND LATCHES AND IN KEYS FOR LOCKS, AND IN ATTACHING DOOR AND OTHER KNOBS TO SPINDLES,**" upon the condition (amongst others) that I, the said Peter Wilson, my executors or administrators, by an instrument in writing under my, or their, or one of their hands and seals, should particularly describe and ascertain the nature of the said Invention, and in what manner the same was to be performed, and cause the

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same to be filed in the Great Seal Patent Office within six calendar months next and immediately after the date of the said Letters Patent.

NOW KNOW YE, that I, the said Peter Wilson, 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 :—

My Invention consists, firstly, of the following improvements in barrel locks and keys, that is to say, locks of a barrel form provided with a series of radial slides or bolts. These radial slides or bolts are usually pressed inwards to the centre of the barrel by separate metal springs or by a single circular metal spring. According to my Invention I make in the edge of the barrel a deep annular groove or channel in which the outer ends of the slides or bolts are situated. Within this groove I place a strong ring of vulcanized india-rubber, which ring of india-rubber by bearing against the ends of the slides or under a shoulder or shoulders on the slides presses the whole of them inwards. By the use of a ring of vulcanized india-rubber a more equal or uniform pressure is exerted on the whole of the slides than when a metal spring is used, and the said india-rubber ring lasts longer and is less liable to the injury by corrosion to which metal springs are liable. I prefer to make the barrel thrower and drill pin in one piece by the process of casting or otherwise. I make the keys of the said barrel locks as follows:—I cut in the key seven, nine, or other odd number of radial slits or recesses to operate upon the slides or bolts of the lock, and I provide a solid nib at the edge of the key, which nib takes into a corresponding hole in the barrel. Or in place of making the nib solid it may be provided with a slit or recess to act upon one of the slides, a solid part in this case being left at any desired part around the key in place of one of the recesses so as always to leave seven, nine, or other odd number of recesses or acting parts. By this means I can at pleasure reverse the position of the acting parts of the key by changing the position of the solid or non-acting part, and the manufacturer can by thus changing from time to time the acting parts of the key and the slides of the lock produce locks less liable to be picked than locks having keys in which the acting parts are arranged in the usual manner.

Figure 1 represents in plan, Figure 2 in elevation, and Figure 3 in vertical section a portion of a barrel lock containing my improvements. *a* is the barrel, and *b, b*, are the radial slides or bolts of the lock. In

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the edge of the barrel *a* is a deep annular groove or channel *c*, into which the outer ends of the slides or bolts *b, b*, project. In this groove or channel is a strong ring *d* of vulcanized india-rubber, the said ring bearing against the outer ends of the said slides or bolts, and pressing the whole of them inwards. Instead of making the ring *d* press against the flat outer ends of the said slides *b, b*, as represented in the Drawing, a shoulder or shoulders may be made on the outer end of each slide by cutting away a portion of the slide, under which shoulder or shoulders the ring *d* may bear. The barrel *a*, thrower *a*<sup>2</sup>, and drill pin *a*<sup>3</sup> are made in one piece by the process of casting or otherwise, as represented in 10 the section Figure 3.

Keys for the barrel lock, Figures 1, 2, and 3, and for other barrel locks arranged according to my Invention are represented in end elevation in Figures 4 and 5. In the key represented in Figure 4 the solid nib is marked *e*, and the radial notches or slits to operate upon the slides 15 or bolts of the lock are marked *f*. In the key represented in Figure 5 the nib part *e* is provided with a slit or notch *f* to act upon one of the slides of the lock, and a solid or non-acting part *g* is made at the right-hand side of the said slit or notch in the nib *e*. Or the solid or non-acting part of the key may be placed at any desired part around the key 20 in place of one of the recesses *f*, the slides or bolts being arranged in a corresponding manner. In this way there are always left nine or other odd number of acting parts, the position of the solid or non-acting part being varied at the pleasure of the manufacturer.

My Invention consists, secondly, of the following improvements in 25 lever locks and keys for the said locks. Instead of making the bits of the key act upon the lower edges of the series of the levers to raise them preparatory to shooting or withdrawing the bolt I cut an opening at about the middle of each of the levers, and leave curved or projecting parts at the tops of the said openings in the levers for the key to act 30 upon. Within the openings described in the levers a tubular keyhole is fixed, the levers working upon the said keyhole in their motion. The keyhole is cut away at one side, and into the cut away part the curved projections on the levers are pressed by springs acting on the tails of the levers. The key for this lock consists of a cylindrical stem, on 35 the lower part of which a series of curved or excentric parts or bits are made. The shapes and positions of these bits are such that when the key is passed into the keyhole and turned the said bits operate upon

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the said curved parts of the levers and raise the said levers to the respective heights proper to permit of the bolt of the lock being shot or withdrawn. The end of the key acts upon the bolt by bearing against projections made in the middle of the bolt. This construction of key may also be used with barrel locks.

Figure 6 represents an elevation, and Figure 7 the same with the top plate removed of a lever lock constructed according to this part of my Invention. Figures 8 and 9 are longitudinal sections of the same (the levers being removed), Figure 8 showing the bolt shot, and Figure 9 the bolt withdrawn. Figure 10 represents the lock in cross section taken through the dotted line A, A, Figure 7; Figures 11, 12, and 13 are parts of the lock detached. Figure 14 represents in plan and edge view a slide for carrying a saddle piece or covering plate for closing the keyhole of the lock, and Figures 15 and 16 represent the keys of the lock and slide. The same letters of reference indicate the same parts in Figures 6 to 16.

$h$  is the bolt of the lock and  $i$  is the stump on the said bolt. The bolt  $h$  is shown separately in Figure 12.  $k$  are the levers of the lock turning on the pin or centre  $k^2$  and pressed down by springs  $k^3$ . In each of the levers  $k$  and at about the middle thereof an opening  $l$  is cut. One of the said levers is shown separately in Figure 11. At the tops of the openings  $l$  in the levers  $k$  curved or projecting parts  $l^2$  are left, against which the key acts to raise the levers for shooting or withdrawing the bolt. Within the openings  $l$  in the several levers  $k$  a tubular keyhole  $m$  is fixed. The said keyhole is represented separately in vertical and horizontal section in Figure 13. The said keyhole  $m$  is cut away at one side, and through the cut away opening  $m^2$  thus made the curved or projecting parts  $l^2$  of the levers are pressed by the springs  $k^3$  acting on the tails of the levers as represented in Figure 7.  $n$  are the gatings in the levers in which the stump  $i$  works. The key for raising the levers  $k$  and operating the bolt  $h$  is represented in elevation and plan of under side in Figure 15. The said key consists of a stem  $p$ , on the lower part of which is a series of curved or excentric bits  $q$ . The shape of these bits is best seen in the plan Figure 15. The radius or excentricity of the bits  $q$  is different at different parts of the stem for the purpose of raising the levers  $k$  to the respective heights necessary to permit of the shooting or withdrawing of the bolt. The key acts upon the bolt  $h$  by means of one or other of the wing-shaped parts  $r$  engaging with one or other of the teeth or

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recesses  $s^3$  in the bolt (see Figure 12). The bolt  $h$  is shot or withdrawn by introducing the key, Figure 15 into the keyhole  $m$ , and turning the key until the levers  $k$  are raised by the bits  $q$  to the respective heights proper to permit the stump  $i$  to pass into or out of the gatings  $n$  of the levers, as is well understood. I prefer to combine with the lock mechanism for closing the keyhole  $m$  after the bolt  $h$  has been shot, that is to say, I make a second opening  $s$  in each of the levers  $k$ , and place a second keyhole  $t$  in the several openings in the levers. The openings  $s$ , keyhole  $t$ , and projections  $s^2$  on the levers  $k$  for the key to act upon are similar in construction to those herein-before described. Under the 10 levers is a slide  $u$  (shown separately in Figure 14), having a stump  $v$  which works in the gatings  $w$  in the levers  $k$ . The said slide  $u$  carries a saddle piece or covering plate  $x$  connected thereto by the vertical arms  $y, y$ . By means of this saddle piece the keyhole  $m$  when the bolt  $h$  has been shot can be closed, and access to the keyhole for picking 15 the lock or for other purpose is thereby prevented. The key for shooting or withdrawing the saddle piece or covering plate  $x$  is represented in Figure 16. The said key is constructed similarly to the key, Figure 15, but the bits are differently arranged on the stem from the bits of the key Figure 15 and the radial projections  $z$  are made to act upon 20 or engage with the teeth  $u^2$  of the slide  $u$  (see Figure 14) to shoot or withdraw the said slide. After the bolt  $h$  has been shot the key Figure 16 is introduced into the keyhole  $t$  and turned, the levers are thereby raised so as to permit of the stump  $v$  passing out of the gatings  $w$ . By then shooting the slide  $u$  by the action of the projections  $z$  of the 25 key the saddle piece or covering plate  $x$  passes from the position represented in Figures 7 and 9 to that represented in Figure 8, and indicated in dotted lines in Figure 6, and covers the keyhole  $m$  and prevents access thereto. On raising the levers  $k$  preparatory to shooting or withdrawing the bolt  $h$  by the key Figure 15 the length of the gatings  $w$  permits the levers to work upon the stump  $v$ , the ends of the levers passing under the forked part of the stump. To withdraw the bolt  $h$  the saddle piece or covering plate  $x$  is first withdrawn from the keyhole by the action of the key Figure 16 before the key Figure 15 can be used. The lock represented may be used without the saddle 35 piece or covering plate  $x$  and parts connected therewith.

The improvements described and represented are applicable to padlocks and lever locks generally.



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My Invention consists, thirdly, of the following improvements in latches:—One part consists in making the bevelled head of latch bolts reversible for the purpose of enabling the latches to be used either with right-handed or left-handed doors. I make the bolt head separate from the flat part of the bolt and I provide the said separate head with a stalk or rod. The outer end of the latch bolt is bent at right angles, and against the outer face of the said bent part the separate bolt head bears. The said separate head is connected to the bolt by the stalk or rod described and a coiled spring. When the head is secured to the bolt the said head may at pleasure be turned upon the bolt to reverse the bevil of the said head. When the latch bolt is in its place in the lock or latch the bevelled head is prevented from rotating on the bolt. This part of my Invention is represented in connection with the combined lock and latch shown in elevation in Figure 17 of the Drawing, and detached in Figures 18 and 19.  $a$  is the separate latch bolt head, and  $a^2$  is the stalk or rod of the same. The separate bolt head is shown detached in Figure 19.  $b$  is the flat latch bolt, the outer end  $b^2$  of which is turned at right angles and forms a shoulder against which the inner face of the bevelled head  $a$  bears. The stalk or rod of the bolt head passes through a hole in the bent part  $b^2$  of the latch bolt, and is capable of sliding in the said hole. The separate head  $a$  is connected to the bent end  $b^2$  of the latch bolt  $b$ , by the coiled spring  $c$  situated around the inner end of the stalk  $a^2$ , one end of the spring bearing against the part  $b^2$  of the latch bolt, and the other end bearing against a cross pin on the stalk  $a^2$ . On the inner face of the separate head is a square or angular projection  $a^3$  which takes into a corresponding shaped recess  $b^3$  in the outer face of the bolt  $b$ , so that when the parts  $a$  and  $b^2$  are engaged together they are incapable of turning upon one another. The opening in the plate  $d$  of the case in which the bevelled head works also prevents the head  $a$  turning on the latch bolt. When it is wished to reverse the bevil of the bolt head  $a$  the said head  $a$  is pulled outwards so as to remove it from the plate  $d$  of the lock case, the coiled spring  $c$  is thereby compressed as illustrated in Figure 18. By now rotating the bolt head  $a$  its bevil is reversed, and on bringing the said head opposite the hole in the plate  $d$ , the said head is forced into its place in the plate  $d$  and its inner face made to engage with the end  $b^3$  of the latch bolt  $b$  by the action of the spring  $c$ . The reversal of the bevil of the latch bolt is by this arrangement effected without the necessity for

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removing the top plate of the lock or latch, or for disengaging the latch bolt from the latch mechanism by which the latch is worked.

Another part of my Invention consists in making the followers of latches of a heart shape, the said followers being hollow or skeleton form. On the latch bolt and at right angles thereto is an arm, on the end of which an antifriction roller is situated. The said roller is placed and works within the heart-shaped follower, and when the latch is in its shot position the said roller occupies the narrow end of the heart-shaped follower. When the door knob is turned in either direction one or other of the curved inner sides of the heart-shaped follower bears against the antifriction roller on the arm of the latch bolt and withdraws the said bolt. This part of my Invention is represented in Figures 17, 18, and 19 of the Drawings. *e* is the hollow heart-shaped follower carried by the square axis *f*, through which the spindle of the door knob passes. The said follower is represented separately in Figure 20. *g* is an arm on the bolt *b* of the latch, near the end of which arm an antifriction roller *h* is situated. The said roller *h* works within the heart-shaped follower, as seen in Figure 17. When the latch bolt *b* is in its shot or normal position the roller *h* occupies the narrow end of the heart-shaped follower. On turning the door knob in one or other direction one or other of the curved inner sides of the heart-shaped follower *e* bears against the roller *h* and withdraws the latch bolt *b*. On loosing the knob the latch bolt *b* is shot forward by its spring *i* and the roller *h* resumes the position represented in Figure 17.

Another part of my Invention consists of the following improvements in the latch mechanism of double-handed locks and latches, that is, locks and latches in which two latch bolts are employed protruding from opposite sides of the case. Locks and latches of this kind are applicable either to right or left handed doors without changing the positions of the parts. This part of my Invention is represented in Figure 21 of the Drawings. In constructing latch mechanism according to my Invention I employ two cranked levers *k*, *l*, turning on the centres *k*<sup>2</sup>, *l*<sup>2</sup>. The arms of each of the said levers are nearly at right angles to one another. The vertical arm of the lever *k* is connected to the latch bolt *m*, and the vertical arm of the other lever *l* is connected to the opposite latch bolt *n*. The horizontal arms of the levers *k*, *l*, are turned towards each other, the end of the horizontal arm of the lever *k* carrying an antifriction

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roller *p* on which the end of the horizontal arm of the lever *l* bears. The horizontal arms of the levers *k*, *l*, are pressed down by a spring *q*. Beneath and midway between the levers *k*, *l*, is the horn-shaped follower *r*. When the door knob is turned in either direction, the said  
 5 follower *r* raises both the horizontal arms of the levers *k*, *l*, and simultaneously withdraws the two latch bolts *m*, *n*. The return motion of the latch bolts is effected through the spring *q*.

My Invention consists, fourthly, of the following improvements in attaching door and other knobs to spindles. I make in one or both ends  
 10 of the spindle a longitudinal groove so as to form a fork at the end or ends of the spindle. By introducing the forked end of the spindle into the neck of the knob and passing a taper or other screw through the neck of the knob and between the fork, the said fork is expanded into the neck of the knob, and the said knob is thereby securely attached to the spindle.  
 15 This part of my Invention is illustrated in longitudinal section in Figure 22, and cross section in Figure 23. The spindle is shown separately in Figure 24. *a* is the spindle, the end *a*<sup>2</sup> of which is forked. On one of the outer faces of the said forked end *a*<sup>2</sup> of the spindle, a series of teeth or notches *c* is made, and in the interior of the neck of the knob *e* an  
 20 inclined projection or shoulder *d* is made with which projection or shoulder one or other of the notches *c* can be made to engage as hereinafter described and thereby fix the knob on the spindle. In attaching the knob *e* to the forked end *a*<sup>2</sup> of the spindle *a* the said forked end is introduced into the neck of the knob in such a position that the notched  
 25 side *c* of the spindle is opposed to the projection *d* on the neck. Having adjusted the spindle in the neck of the knob so that the required notch at *c* is brought opposite the projection *d* a taper or other screw *f* is passed through the neck of the knob and between the fork *a*<sup>2</sup>. By means of the said screw *f* the forked end *a*<sup>2</sup> of the spindle is expanded  
 30 into the neck of the knob so as to engage one of the notches at *c* with the inclined shoulder or projection *d* in the neck of the knob. The knob is thereby securely fixed on the spindle as represented in Figure 22. To remove the knob from the spindle the screw *f* is withdrawn, when the shoulder *d* is liberated from the notched side *c* of the spindle and the  
 35 latter may be removed from the knob.

Having now described the nature of my Invention, and the manner in which the same is to be performed, I wish it to be understood that I do not limit myself to the precise details herein described and illustrated, as

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the same may be varied without departing from the nature of my Invention; but I claim as my Invention,—

Firstly. The improvements in barrel locks herein-before described and illustrated in Figures 1, 2, and 3 of the accompanying Drawings, that is to say, pressing inwards the whole of the radial bolts or slides of the 5 said locks by means of a ring of vulcanized india-rubber placed in a deep groove or channel in the edge of the barrel and pressing against the outer ends of the said bolts or slides, substantially as described and illustrated. Also making the barrel thrower and drill pin of barrel locks 10 in one piece, substantially as described and illustrated.

Secondly. The improvement in the keys of barrel locks herein-before described and illustrated in Figures 4 and 5 of the accompanying Drawings, that is to say, arranging the acting and non-acting parts of the said keys substantially as described and illustrated, whereby the acting parts of the key may be reversed at pleasure by changing the 15 position of the solid or non-acting part.

Thirdly. The improvements in lever locks herein-before described and illustrated in Figures 6 to 16 both inclusive of the accompanying Drawings, that is to say, making openings at about the middle of the levers and leaving curved or projecting parts at the tops of the said openings 20 for the key to act upon, the curved or projecting parts of the levers being pressed through an opening in a tubular keyhole, into which keyhole the key is inserted to shoot or withdraw the bolt of the lock substantially as described and illustrated. Also combining with the said locks a sliding saddle piece or covering plate operated by an independent key for 25 covering or closing the keyhole of the lock when the bolt has been shot, substantially as described and illustrated.

Fourthly. The improvements in keys for lever locks and barrel locks herein-before described and illustrated in Figures 15 and 16 of the accompanying Drawings, that is to say, making the parts of the key for 30 operating upon the levers or slides of the lock of a series of curved or eccentric bits, so arranged on the stem of the key as to raise the levers to the required heights, or press outwards the slides to the required distances preparatory to shooting or withdrawing the bolt, as described and illustrated. 35

Fifthly. The improvements herein-before described and illustrated in Figures 17, 18, and 19 of the accompanying Drawings for reversing the bevelled ends of latch bolts to enable the latches to be used either with

*Wilson's Improvements in Locks and Latches, &c.*

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right-handed or left-handed doors, that is to say, making the head of the latch bolt separate from the body of the bolt, and so connecting the separate head with the body of the bolt that the said head can be turned from the outside of the lock or latch case to reverse its bevil, substantially as described and illustrated.

Sixthly. The improvements in the mechanism of latches herein-before described and illustrated in Figures 17, 18, and 20 of the accompanying Drawings, that is to say, making the followers of latches of a hollow heart-shaped figure, and causing a roller on an arm of the latch bolt to work within the heart-shaped follower, substantially as described and illustrated.

Seventhly. The combination of the parts of the latch mechanism of double-handed latches or locks and latches herein-before described and illustrated in Figure 21 of the accompanying Drawings.

Lastly. The combination of parts herein-before described and illustrated in Figures 22, 23, and 24 of the accompanying Drawings for attaching door and other knobs to spindles.

In witness whereof, I, the said Peter Wilson, have hereunto set my hand and seal, this Fourth day of May, in the year of our Lord One thousand eight hundred and seventy.

PETER WILSON. (L.S.)

Witness,

RICHARD SKERRETT,  
Clerk to George Shaw,  
Birmingham,

LONDON:

Printed by GEORGE EDWARD EYRE and WILLIAM SPOTTISWOODE,  
Printers to the Queen's most Excellent Majesty. 1870.



FIG. 1.

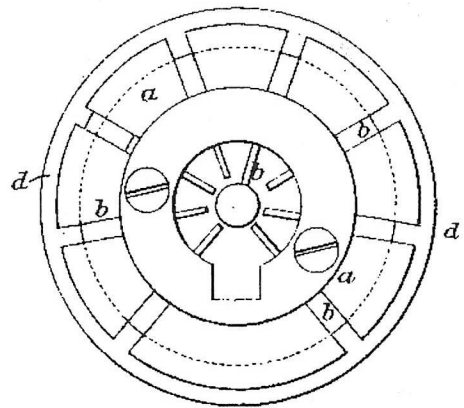


FIG. 2.

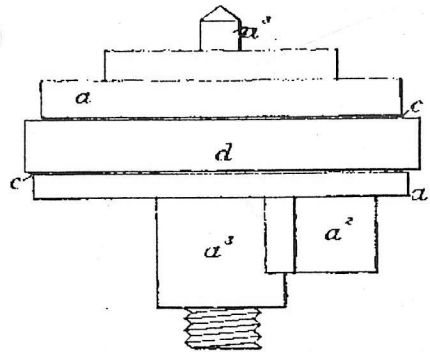


FIG. 3.

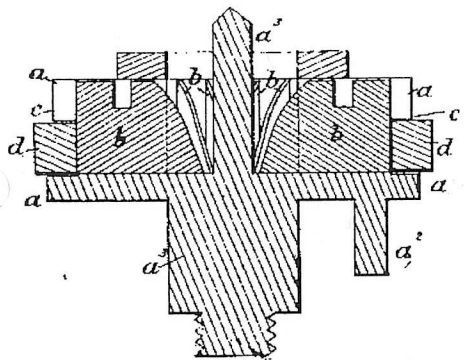


FIG. 4.

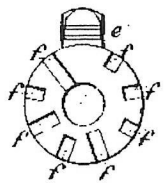


FIG. 5.

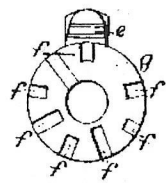


FIG. 6.

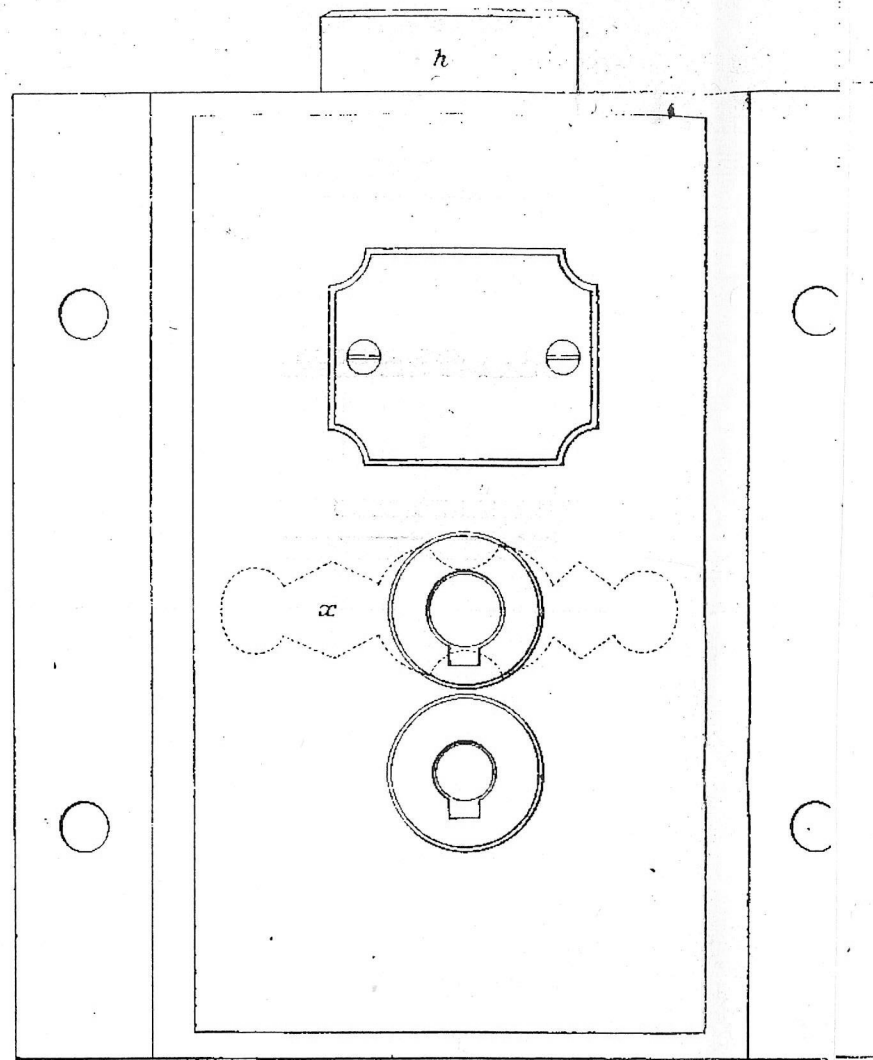


FIG. 7.

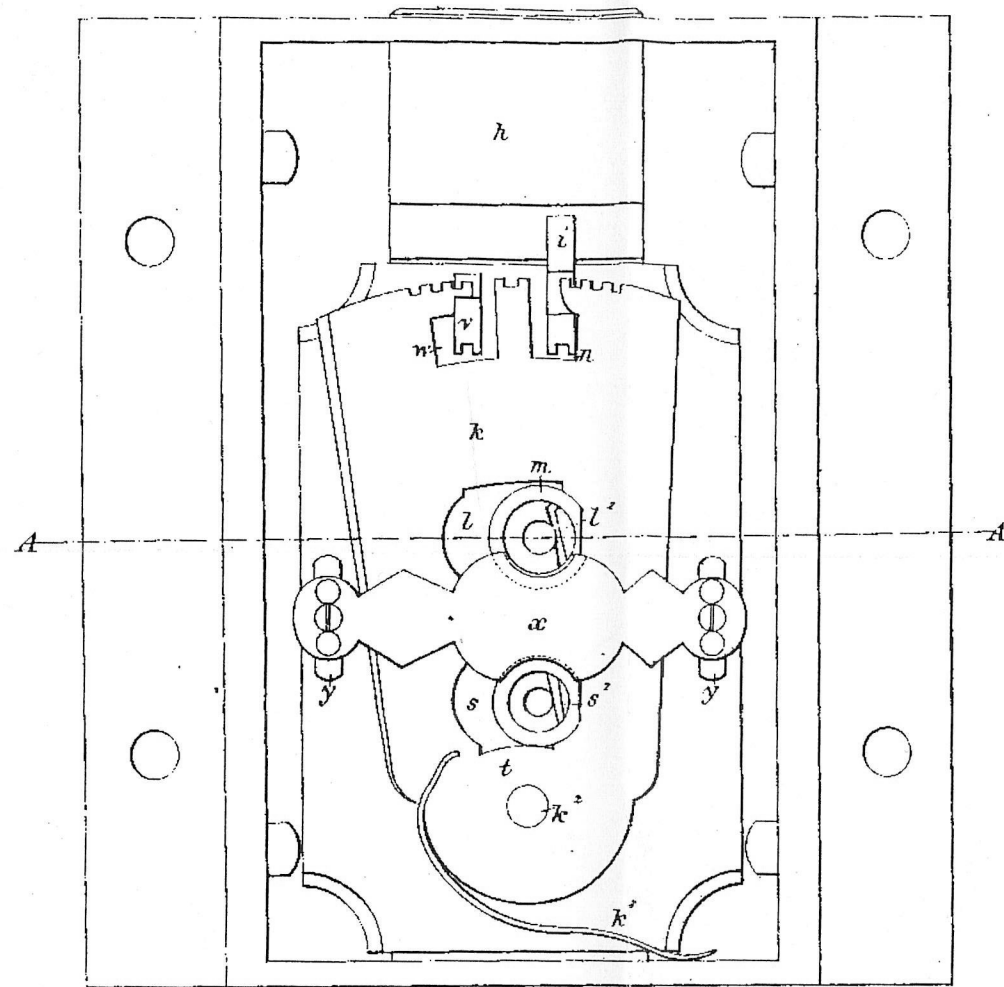


FIG. 8.

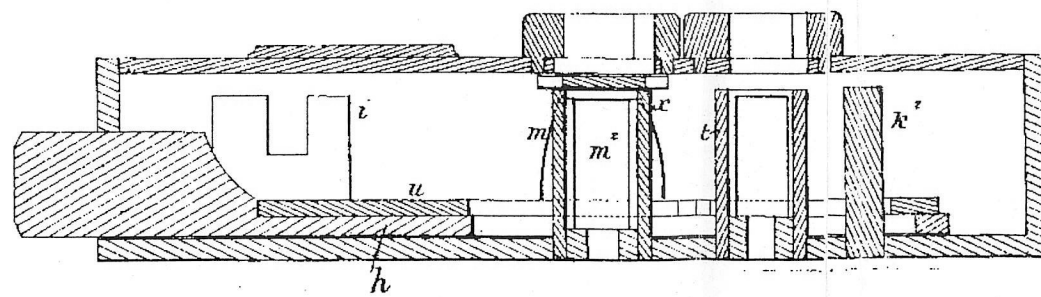


FIG. 9.

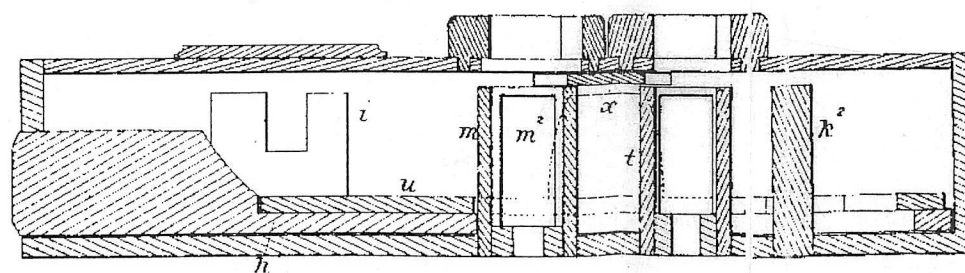


FIG. 14.

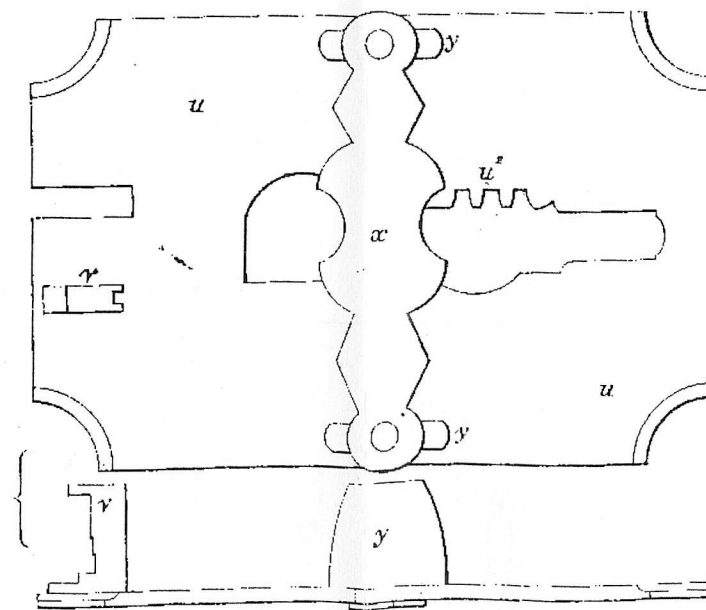


FIG. 15.

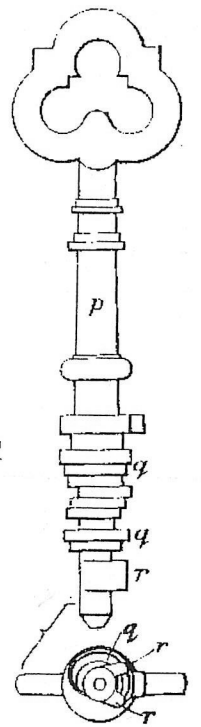


FIG. 16.

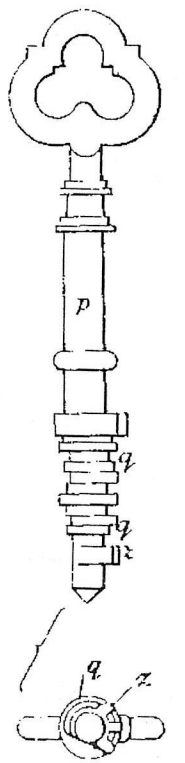


FIG. 10.

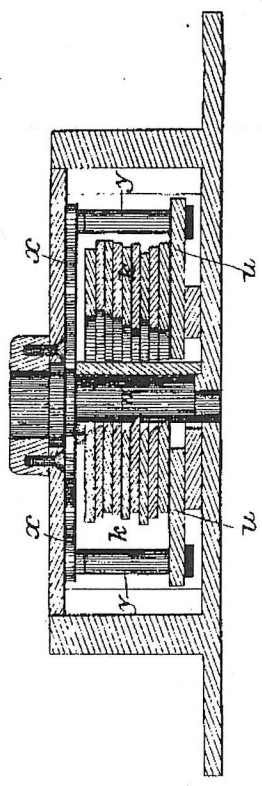


FIG. 12.

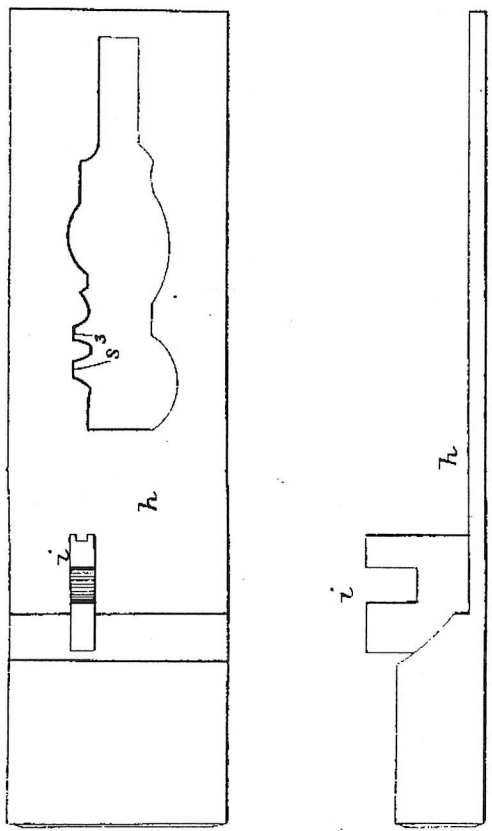


FIG. 11.

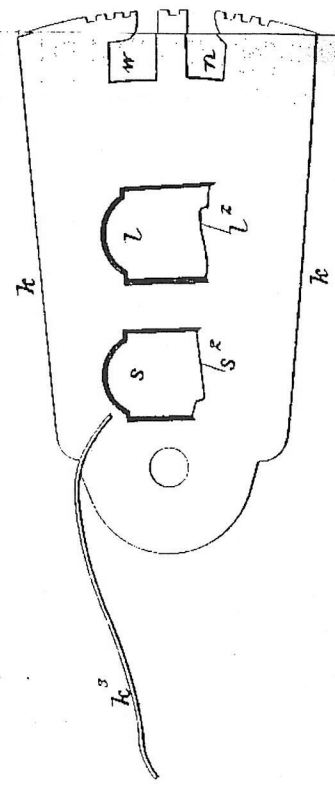
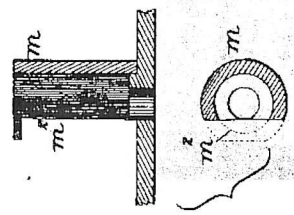


FIG. 13.



The tiled drawing is partly colored.

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Printers to the Queen's most Excellent Majesty 1870.

Drawn on Stone by Malby & Sons.



FIG. 17.

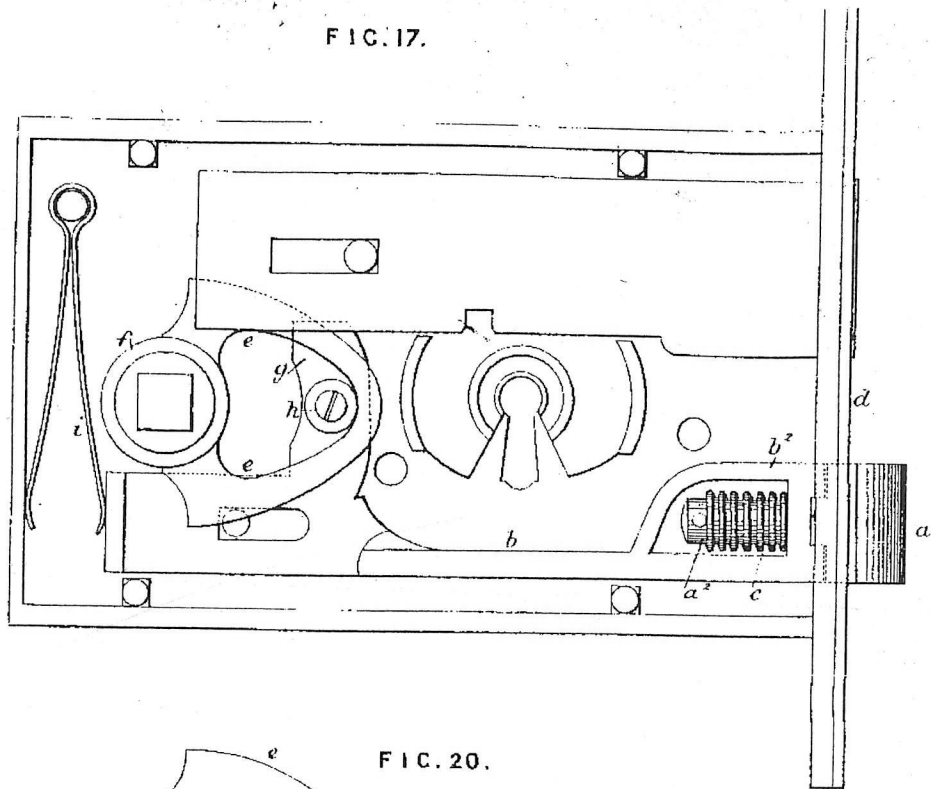


FIG. 20.

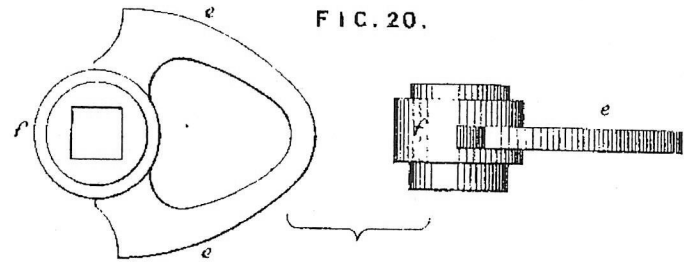


FIG. 19.

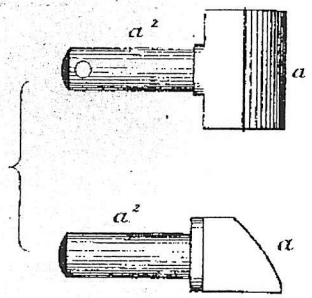


FIG. 18.

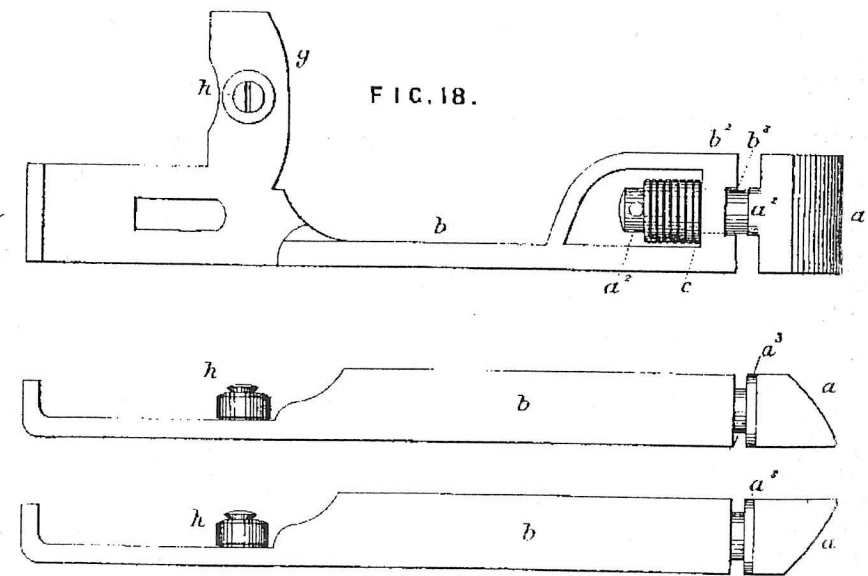


FIG. 21.

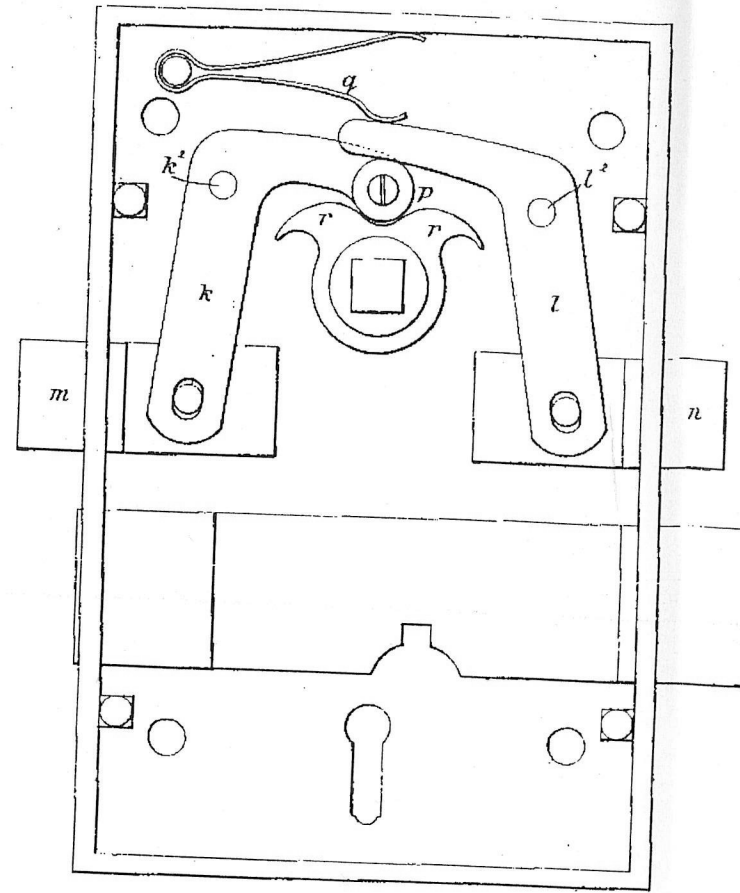


FIG. 23.

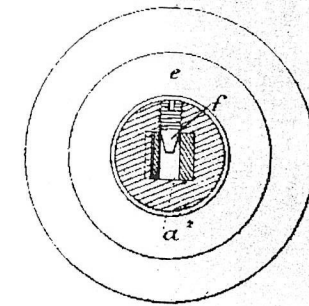


FIG. 22.

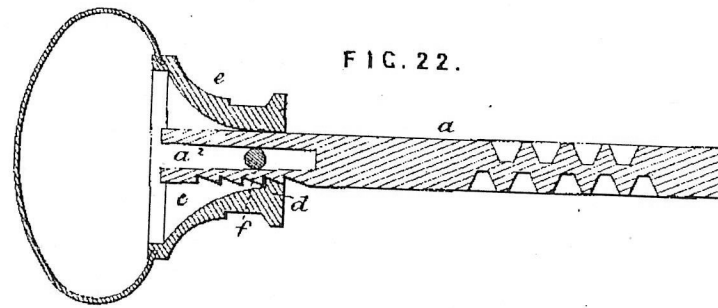
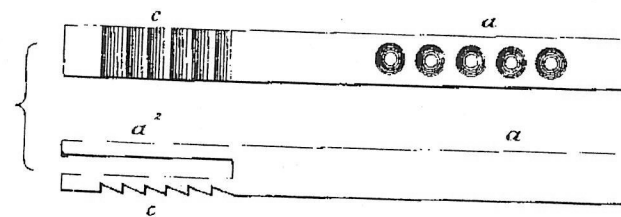


FIG. 24.



The filed drawing is partly colored