2 Sheets—Sheet 1

E. B. CATON.

Combined Indicator and Seal Lock.

No. 198,837. **Patented Jan. 1, 1878.**

Fig. 1

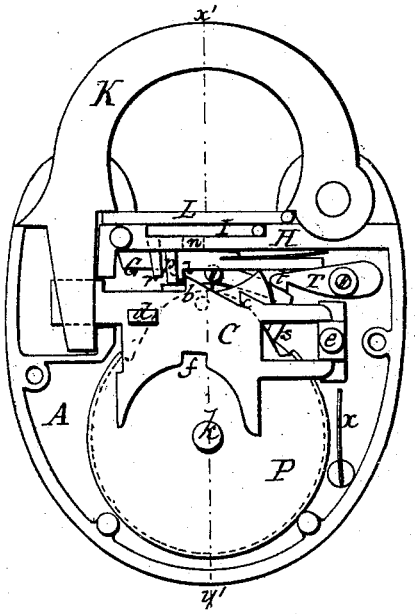


Fig. 2

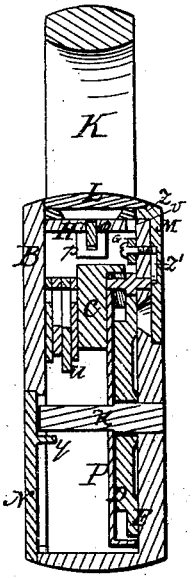


Fig. 3

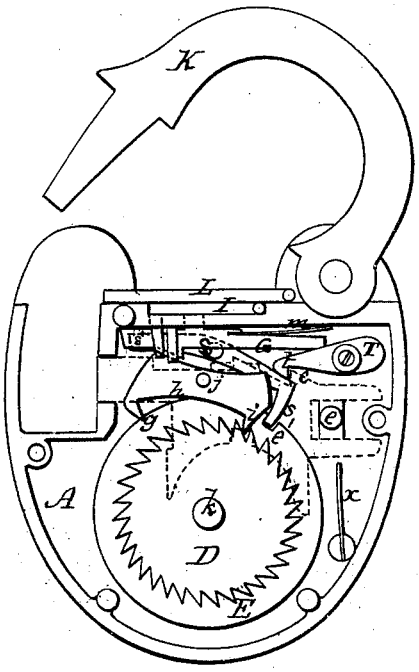


Fig. 4.

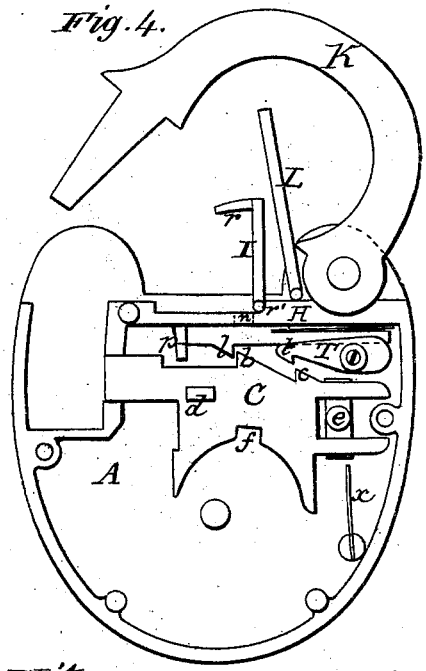
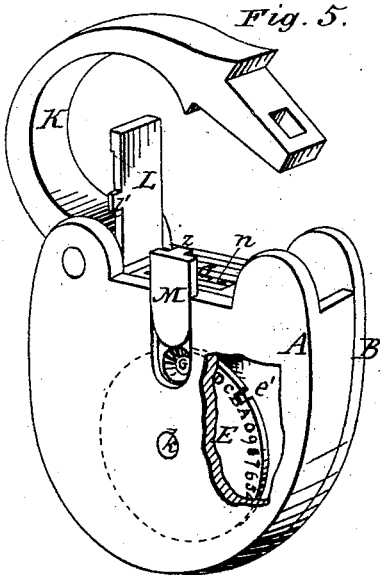


Fig. 5.



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2 Sheets—Sheet 2.

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Combined Indicator and Seal Lock.

No. 198,837. **Patented Jan. 1, 1878.**

Fig. 6.

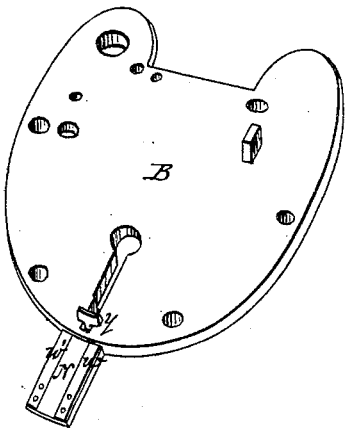

Fig. 7.

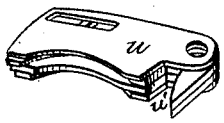

Fig 8.

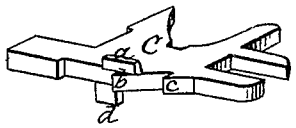

Fig. 9.

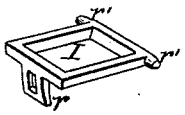

Fig. 10.

Fig. 11

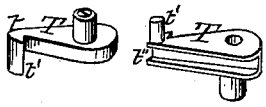

Fig. 12.

Fig. 13.

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UNITED STATES PATENT OFFICE.

EMANUEL B. CATON, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO ROBERT COLTMAN, OF SAME PLACE, AND JOHN T. CLEMENTS, OF ST. JOSEPH, MISSOURI.

IMPROVEMENT IN COMBINED INDICATOR AND SEAL LOCK.

Specification forming part of Letters Patent No. **198,837**, dated January 1, 1878; application filed November 7, 1877.

To all whom it may concern:

Be it known that I, EMANUEL B. CATON, of the city of Washington, in the District of Columbia, have invented certain new and useful Improvements in Combined Seal and Indicator Locks; and I do hereby declare that the following specification, taken in connection with the drawings, furnished and forming a part of the same, is a full, clear, and exact description thereof.

Referring to the drawings, Figure 1 represents the lock with its front face removed, showing the bolt in a forward position, and the hasp, seal-cap, and seal-protector locked. Fig. 2 represents the same in central vertical section on line x' y', Fig. 1. Fig. 3 represents the lock with the bolt in a backward position, and the indicator-wheel and seal-cap locked, as well as the sliding bolt, (shown in dotted lines,) which is also locked within the interior of the case. Fig. 4 represents the hasp, seal-cap, seal-protector, and bolt in an unlocked position. Fig. 5 represents, in perspective, the rear face of the lock with a portion of its surface removed, showing the indicator-wheel. Fig. 6 represents the front face of the lock, and Figs. 7 to 13, inclusive, represent the different portions of the lock in detail.

My invention consists in the novel construction and arrangement of parts, hereinafter fully described, and set forth in the claims.

A is the padlock-case; B, the front plate thereof. C is the sliding bolt, provided with a lug, *a*, shoulders *b c*, and stump *d*, as shown in Fig. 8. One end of said bolt engages with the hasp when the latter is locked. The other end is fork-shaped, and is in sliding contact with the stud or support *e*, projecting from the side of the lock-case.

The stud *e* is square at its base, and serves as a guide for the bolt in its movement to and fro; but at its top the stud is tubular, and acts as a pivot for the tumblers.

The key-notch or talon *f* is square-sided, and is approached on each side by concave surfaces.

An anchor, *g h i*, Fig. 13, is pivoted on a stationary axis, *j*. Its upper surface is curved, and is in sliding contact with the lug *a* on the bolt.

D is a ratchet-wheel, rigidly secured to the upper surface of an indicator wheel or dial, E, and these both together revolve on a stud or axis, *k*. The indicator-dial is marked on one side, near its periphery, with the letters of the alphabet, followed by the numerals up to and including 9, and ends with 0, amounting in all to thirty-six characters. There is a corresponding number of teeth on the ratchet-wheel D.

The anchor is so located with reference to the lug on the sliding bolt that after a forward and backward movement of the bolt the pallets *g* and *i* will move forward the ratchet-wheel one tooth, which at the same time moves forward the indicator-dial one degree.

e' is a notch formed on the periphery of the indicator-dial. Its use will be hereinafter explained. P is a metallic cap or cover, for protecting the ratchet-wheel and indicator, and also serves as a foundation for the bolt. G is a sliding catch, provided with a shoulder, *l*, spring *m*, and a stud, *n*, operating in a slot, *o*, in the horizontal frame H of the lock-case, as shown in Figs. 2 and 10. One end of this sliding catch is supported by a hook, *p*, projecting from the lower surface of the frame H. The other end works in grooves *t''*, Fig. 11, on the upper surface of a vertical lever, T, and controls the movement of this lever.

I is a seal-cap, (shown in Fig. 9,) rectangular in shape, and pivoted to the front and back faces of the lock at *r'*. It is provided with a downwardly-projecting staple, *r*, which enters a slot in the frame H, as shown in Fig. 1. In this rectangular frame of the seal-cap any suitable seal of paper, glass, or metal may be placed. At each forward movement of the sliding bolt the shoulders *b* and *l* bear on each other, and push forward the sliding catch G, the forward end of which enters the staple *r*, and securely locks the seal-cap. Now, in order to release the seal-cap from its locked position, it is necessary first to break or tear the seal, and then to push back the stud *n* in the slot *o*, which movement liberates the sliding catch from its engagement with the staple *r*.

S is a horizontal lever, pivoted to the lock-case, as in Fig. 3. It is provided with a hooked arm, *s*, and an extended arm, *s'*, as shown in

Fig. 12. The vertical lever T is also pivoted on a stud to the lock-case, and is provided with an inclined shoulder or hook, *t*, and an arm, *t'*, as illustrated in Fig. 11.

After the locking mechanism has caused the indicator-dial to make one complete revolution, commencing, in this instance, with 0, and ending at the numeral 9, the pressure of the spring sliding catch on the vertical lever T will cause the arm *t'* of said lever to bear forcibly against the hooked arm *s* of the horizontal lever S, and cause it to enter notch *e'*, and so prevent further movement of the indicator-wheel. At the same time the sliding bolt will be securely locked, on account of the shoulder *t* on the vertical lever T abutting against the shoulder *c* on said bolt, as in Fig. 3. Now, by breaking the seal and pushing back the stud *n* in its slot, the sliding bolt will be unlocked. At the same time the arm *t'* will be released from its pressure on hooked arm *s*, so that by pressing down the extended arm *s'*, by means of a pin inserted through an aperture, *v*, on the horizontal frame H, the hooked arm *s* will be lifted from the notch, and the indicator-dial will be released from its locked position.

With my lock, as thus far explained, it will only be necessary to break the seal after each complete revolution of the indicator-dial, or, in other words, after the sliding bolt has been locked and unlocked thirty-six times.

In some cases I propose to dispense with the indicator-dial, ratchet-wheel, anchor, horizontal lever S, and the lug *a* on the bolt, and use my invention merely as a seal-lock, as in Fig. 4. In this case tumblers are substituted for the parts removed.

When used as a seal-lock only, at every forward movement of the bolt the seal-cap will be locked in a manner before explained, and at every backward movement of the bolt said bolt will be securely locked, because the shoulder *c* on the bolt will be caught every time by the shoulder *t* on the vertical lever T.

In order to release the sliding bolt from its locked position, it will be necessary to break the seal every time and push back the stud *n* in the slot *o*. This backward movement of the sliding catch also unlocks the seal-cap I at the same time.

K is the hasp; L, the seal-protector, pivoted to the front and back faces of the lock, and is provided with a shoulder, *l'*, as shown in Fig. 5.

On the back of the lock-case an aperture is made large enough to permit the exposure of one of the characters marked on the indicator-dial. This hole or aperture is protected by a metallic slide, M. (Shown in Fig. 5.)

The slide M is provided with a slot, *z'*, on its under surface, in which a stud projecting from the frame operates to prevent it from sliding farther than is necessary. The slide also has a shoulder, *z*, as shown in Fig. 2. In my seal-locks the slide and aperture are both dispensed with.

The hasp, seal-protector, and metallic slide are so constructed with relation to each other that when the hasp is locked the seal-protector and slide will be locked also, and vice versa. In this instance, when in a locked position, the shoulder *l'* on the seal-protector bears against the shoulder *z* on the slide, and at the same time the seal-protector is held closed by a shoulder on the hasp. In my seal-lock the shoulder *l* is not required.

N is a key-hole slide or cover, (shown in Fig. 6,) provided with two springs, *w* and *w'*, one of the ends of said springs being secured to the under surface of the slide, and the other ends bearing against the lock-face B. The slide has a downward movement far enough to admit the key, any farther movement being prevented by the catch *y* operating in the key-hole slot and abutting against the frame of the lock. The object of the key-hole slide is to protect the interior of the lock from dust and dirt, and to afford a neat finish.

The four tumblers *u* (shown in Fig. 7) are pivoted to the stud *e*. Any suitable number may be employed. Strong steel springs *x*, one for each tumbler, secured to the frame of the lock, enter cavities *u'*, and hold the tumblers in their proper position. Upon turning the key on its post *k* the gatings in the tumblers *u* are brought in line with the stump *d*, and the sliding bolt receives a backward or forward movement.

I wish it to be distinctly understood that I do not confine my invention to use in padlocks merely, for I am well aware that many of my novel combinations may be applied equally as well to door and drawer locks.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a sliding bolt, C, provided with a projecting lug, *a*, of an anchor, *g h i*, a ratchet-wheel, D, and an indicator-dial, E, arranged substantially as described, and for the purpose specified.

2. The combination, with a sliding bolt, C, with its shoulder *b*, of a sliding catch, G, with its shoulder *l*, and the pivoted seal-cap I, having a downwardly-projecting staple, *r*, substantially as described, and for the purpose specified.

3. The combination, with a seal-cap, I, and its staple *r*, of a sliding catch, G, provided with a stud, *n*, operating in a horizontal slot, *o*, substantially as described, and for the purpose specified.

4. The combination, with a sliding bolt, C, its shoulder *c* and lug *a*, an anchor, *g h i*, a ratchet-wheel, D, and an indicator dial or wheel, E, provided with a notch, *e'*, on its periphery, of a horizontal lever, S, with its hooked arm, *s*, an extended arm, *s'*, a vertical lever, T, with its shoulder or hook *t* and arm *t'*, and a spring-catch, G, working in grooves

on the upper surface of said lever, substantially as described, whereby on each complete revolution of the indicator-wheel the sliding bolt and indicator-wheel may be locked and unlocked, as set forth.

5. The combination, with a sliding bolt, C, and its shoulders *b c*, of a vertical lever, T, with its shoulder *t*, and a spring-catch, G, provided with a shoulder, *l*, and working in grooves on the upper surface of said lever, and a seal-cap, I, with its staple *r*, arranged substantially as described, whereby on each complete movement of the sliding bolt the seal-cap and bolt will be securely locked, as set forth.

6. The combination, with a sliding bolt, C, and its shoulder *c*, of a vertical lever, T, with its shoulder or hook *t*, and a spring-catch, G, working in grooves on the upper surface of said lever, substantially as described, whereby at every backward movement of the sliding bolt said bolt will be held in a locked position, as set forth.

7. The combination, with a sliding bolt, C, and its shoulder *c*, of a vertical lever, T, with its shoulder or hook *t*, a spring-catch, G, provided with a stud, *n*, working in slot *o*, and a seal-cap, I, with its staple *r*, substantially as described, whereby the seal-cap and sliding bolt will be simultaneously unlocked, as set forth.

8. The metallic slide M, provided with a shoulder, *z*, and a slot, *z'*, in which a stud on the side of the lock operates, substantially as described, and for the purpose specified.

9. The combination, with a hasp, K, and its locking mechanism, of a seal-protector, L, pivoted to the sides of the lock, and held closed by a shoulder on the hasp, substantially as described, and for the purpose specified.

10. The combination, with a hasp, K, and its locking mechanism, of a pivoted seal-protector, L, with its projection or lug *l'*, and a slide, M, with its shoulder *z*, substantially as described, and for the purpose specified.

11. The key-hole slide N, provided with two springs, *w* and w^1, and a catch, *y*, working in the key-hole slot, substantially as described, and for the purpose specified.

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