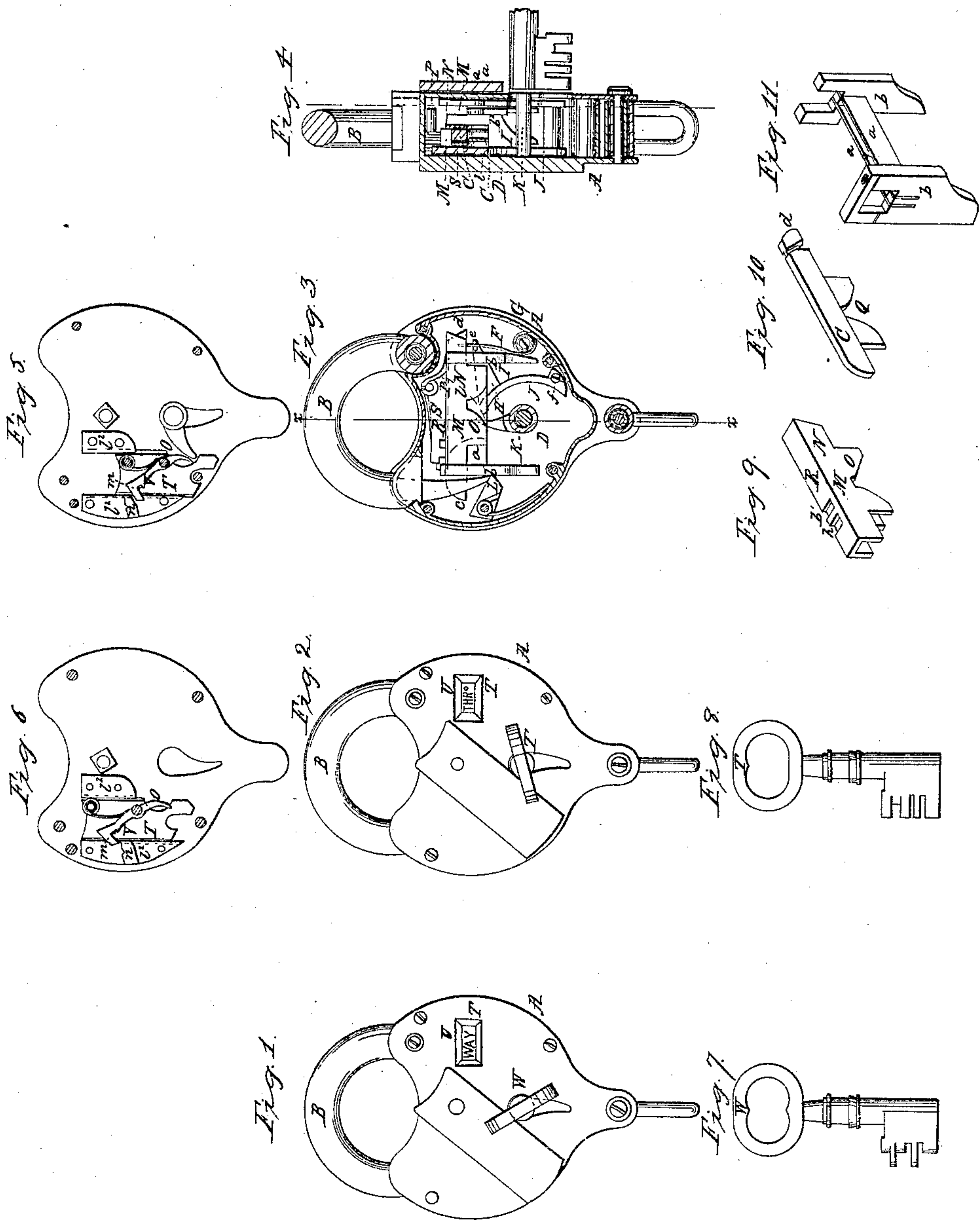


E. Lawshe,
Indicator Lock.

N^o 59,615.

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IMPROVEMENT IN LOCKS.

Specification forming part of Letters Patent No. 59,615, dated November 13, 1866.

To all whom it may concern:

Be it known that I, ER. LAWSHÉ, of Atlanta, in the county of Fulton and State of Georgia, have invented new and useful Improvements in Locks; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

By the present invention a lock is produced which is especially applicable for use upon freight-cars, although it can be applied to other and various purposes, the object being to combine with the lock a tablet or other suitable means, in such a manner that by the locking of the bolt such tablet will be so operated by the key used, or through the locking mechanism, as to expose such portion of its face to view as is marked to correspond to the destination which the freight-car is to have upon which the lock is used—as, for instance, whether its freight or load is “way” or “through,” or for this or that station along the line of the railroad over which the car may be run; and, in addition to the above, I also so arrange the indicating-tablet, together with the locking mechanism of the lock, that one lock may be used both for way and through freight, or for any two stations upon the rail or other road or route.

Having thus in general terms stated the principal features of the present invention, I will now proceed to describe the same in detail, reference being had to the accompanying plate of drawings, in which—

Figure 1 is a view of the front plate of the lock with its tablet indicating way freight; Fig. 2, a similar view to Fig. 1, but with the tablet indicating through freight; Fig. 3, a view of the lock with its front plate removed and its casing in section, showing the internal arrangement of locking mechanism, together with a key for operating the same, as well also as the tablet for indicating way freight; Fig. 4, a transverse vertical section through the lock, taken in the plane of the line *xx*, Fig. 3; Figs. 5 and 6, views of the inner or under side or face of the front plate of the lock, showing the arrangement of the tablet, and in both of its positions to indicate way or through freight, respectively; Figs. 7 and

8, views of keys adapted to the lock, the one for way and the other through freight; Figs. 9, 10, and 11, detached detail views of portions of the locking mechanism of the lock.

A in the drawings represents the casing or box of the lock, which casing is of the form of the ordinary padlocks, and has hung to its upper side or edge one end of a swinging bow or shackle, B, that, at its other end, is adapted to receive the bolt of the locking mechanism when said shackle or hasp is inserted in the lock-casing and brought to the proper position therein for the bolt to engage with it; C, the bolt hereinabove referred to, which bolt is arranged between fixed parallel ways or guide-plates *a a*, extending across from one upright plate, *b*, to the other, *b*², secured to the inside of the back plate, D, of the lock-casing, and in position parallel to each other, the plane of movement of the bolt being across that of the hasp or shackle to the lock.

With the tail end *d* of the bolt C is engaged the forked or pronged end *e* of a bent spring, F, this spring, at its other end, being hung upon and fixed to a stationary stud or pin, G, of the lock-casing. Between the two ends of the spring F one arm, H, of an angular or crank-shaped lever, I, is hung to it, which lever I, by the extreme end of its other arm, J, turns upon a center pivot or fulcrum, *f*, of the lock-casing. This arm J of the lever I is made of a curved shape in the direction of its length, with its curved side toward the central pin K of the lock-casing, on which the key turns, so that when a suitable key is placed upon such pin and turned in the proper direction—that is, toward the curved arm J—it will, by its bit, strike the same, and, turning it on its fulcrum, thus, through its connection with the bolt, move or slide the same in its ways or guides in a direction corresponding thereto, which is such as to release it from the shackle or hasp bar of the lock, setting it free, when, by the action of the spring-arm L upon the inside of the lock-casing and bearing against the said hasp, it is thrown out of the lock-casing.

The bolt, at its end which engages with the hasp-bar, is rounded upon its edge toward the hasp-bar, so that when such bar is forced into the lock-casing it can slip or pass down over the bolt, at the same time moving it back, when, the hole in the hasp-bar having come

opposite to the said bolt, the bolt, by its spring F, hereinbefore referred to, is then thrown forward and engaged with it, thus locking it, to unlock which it requires the use of a suitable key therefor.

From the above it is plain to be understood that the arrangement of the locking mechanism, so far as at present explained, is such that the lock is self-locking, and in this respect is similar in operation to the ordinary self-locking padlocks.

M is a secondary or supplementary bolt, made of the form shown in Fig. 9 of the drawings. This bolt is placed over and about the principal bolt C, extending by its sides N and projecting pieces or gating O about and over the outside faces of the upper and lower plates a, respectively. P, a spring bearing against the upper edge of supplementary bolt M.

The gating O of the supplementary bolt, both above and below the guide-plates a, is similar to each other, and also to the gating Q of the principal or main bolt C.

The upper edge, R, of the supplementary bolt is notched at two points, h and i, to engage with which, according to the position that the said bolt occupies, as will be presently explained, a spring-pawl, S, is hung in the lock-casing in suitable position therefor, as well also as to be operated by the crank-lever as it is turned or swung by the action of the key used in the lock, this crank-lever bearing against the circular-shaped edge l of the pawl S, and swinging it upward, and thus releasing it from the notch of the bolt with which it may be engaged.

With a lock having its locking mechanism arranged in the manner above described, if a key such as is represented in Fig. 7 be used, and, after being inserted in the key-hole of the lock, turned toward the right, it will by its bit operate against the crank-lever, and thus, through its connection with the principal or main bolt, draw it back, releasing the lock-shackle or hasp, which, as before explained, is instantly thrown out of the lock-casing by the spring-arm L, when, the bit having passed by the crank-lever, the bent spring F then throws the bolt back to its original position.

If, however, a key be used such as is shown in Fig. 8, and, after being inserted in the key-hole of the lock, turned toward the left, its bit, first acting against the crank-lever I, will, through it, draw back the lock-bolt, and also raise the spring-pawl S, when, continuing to turn it, its bit will strike against the gating of the supplementary bolt, carrying such bolt along with it toward the left, while at the same time the key-bit, gradually moving away from the crank-lever, allows the bent spring F to throw such bolt back to its original position—that is, also toward the left—when, the key having passed by the gating, both bolts are then left in a position for engaging with the shackle or hasp-bar, the lock being unlocked, when its locking mechanism is in the position above stated, by means of the same key, but

by turning it in the opposite direction to that for locking the lock, as is obvious without any further explanation.

Thus, from the above description, it is plainly apparent that if the lock be locked with the key shown in Fig. 8, which, as explained, moves the supplementary bolt, it can only be unlocked with that key, the key shown in Fig. 7, if used in such a case, producing no effect upon the supplementary bolt, it simply moving the principal bolt C, whereby the lock, if used upon a freight-car which is loaded with through freight, can be so locked as to prevent it being unlocked at any of the many way stations along the railroad, provided that the key shown in Fig. 8 be used, and that, furthermore, such keys are only in the possession of persons at terminal stations along the road, and not in the possession of persons at any of the way stations.

By this means the safety of freight transported over the line of railways is more fully and perfectly insured; and in case the freight or load of any through car, when it has arrived at its place of destination or the terminus of the railroad by which it is transported, should, in being unloaded at such station, fall or be checked short, the person responsible for such deficiency can be with more certainty and definiteness ascertained or determined, from the fact that as no person at way stations was furnished with a through key, it is *prima facie* evidence that the deficiency could not have been produced while the train was *in transitu*, but must have occurred at the station or place where the car was loaded.

In the use of my improved locks it is best to mark the two keys which are adapted to the lock with a letter or letters sufficient to indicate which they are, whether a through or a way key—as, for instance, by the letters “T” and “W,” respectively, as plainly shown in the drawings.

In order that the lock may indicate when locked to a freight-car the destination of the car, whether way or through, I have combined with the lock a tablet or plate, T, on which is painted, engraved, printed, or in any other proper manner marked the words “Way” and “Through,” with the latter abbreviated, and below the former, and the one in black and the other in red letters, so as to be the more readily distinguished and read.

This tablet T is placed upon the inside of the lock, back of the front plate of the lock-casing, on which it is arranged to slide, moving in and between parallel guide cleats or strips l² of the same, the said front plate being sufficiently cut away at U to expose the words upon the tablet to view, but only one at a time, when either one or the other is brought in line with such opening (as will be soon described) by the operation of locking the lock.

This tablet plays or moves in a plane at right angles to the movement of the lock-bolt, and at its lower end rests against the lower edge

of the lock casing or box, the word "Way" being exposed to view at the opening U in the front plate of the lock when the tablet is in such position, this position of the tablet being shown in front view in Fig. 1, and in back view in Fig. 5, of the drawings.

To the back side or face of the tablet T a spring pawl or catch, V, is hung, that at its hook end *m*, when the tablet is down, rests against the under side of the fixed or stationary staple *n* of the front plate; but when the tablet is raised up to the position shown in Fig. 6—that is, so as to have its word "Through" exposed to view—engages with the upper edge of the staple *n*, as plainly shown in the drawings, Fig. 6 more especially.

The tail end *o* of the pawl projects beyond the side or edge of the tablet toward the key-hole sufficiently for the bit of the through-key, which is suitably constructed or formed therefor, to abut against it as the key is turned, and, releasing its hook end from the under side of the staple *n*, leave the tablet free to be raised with the key-bit by continuing the motion of the key, when, the spring-pawl becoming engaged with the staple *n* upon its upper edge, the tablet is there held and prevented from falling as the turning of the key is continued.

Thus, it is obvious that by the arrangement of the tablet at the same time that the lock is locked with the through-key the said tablet is so operated as to expose its word "Through" to view, in which position it remains until the lock is unlocked by the through-key, which operation releases the spring-pawl and allows the tablet to fall sufficiently to expose its word "Way" to view; the way-key, when the tablet has its word "Through" exposed, not being disturbed in position by the turning of such key in the lock, nor is the lock, as has been hereinbefore stated, then susceptible of being unlocked by the same.

With a lock of the construction hereinabove particularly explained, having a tablet arranged in it, as described, especially when such a lock is used upon freight-cars, the destination of the freight or load of the several cars, whether, for instance, it is way or "through," can be indicated with the lock itself, by locking them with the proper key to expose to view the word "Way" or "Through" of the tablet, according as may be required or desired, the importance of which, in connection with the management of railways, is obvious to all conversant with the same; the lock, besides, possessing many other advantages, among which may be here mentioned as the most important, first, that the lock, by its construction and arrangement of parts, is as firm, strong, reliable, and as secure against picking or breaking as any lock heretofore generally used for railroad-cars; second, that when locked with the through-key the hasp is firmly and strongly held and secured, and is much more difficult to be picked than other

locks; third, that the use of seals on through cars is entirely dispensed with, since the lock cannot be unlocked when its tablet shows or indicates "Through" without a through-key is used, thus increasing the safety of through freight, and enabling the loss of or deficiency in such freight to be more easily detected and its cause ascertained or determined; fourth, that the lock is simple in the construction and arrangement of its several parts, and its principle of operation susceptible of ready application to many of the locks now in common use.

Although I have herein described my improved lock as arranged for two keys only, it is plainly obvious that by simply adding one or more of the secondary bolts F to the same, one over the other, in a manner substantially similar to that explained for the supplementary bolt F used in connection with the principal bolt C, the efficiency of the lock may be greatly increased, as it can then be used for an additional number of places or stations corresponding to such increase in the number of the secondary bolts.

In lieu of marking the tablet with the words "Way" and "Through," as explained, the names of stations along the line of railway may be substituted therefor—as, for instance, the names "Atlanta" and "Chattanooga" of the Atlanta and Chattanooga railroad; and, furthermore, in lieu of using the lock for railroads alone, it may be adapted to other and various purposes—as, for instance, for use by express companies in the locking up of valuables, either when in the office or to be transported by them; and, in conclusion, it may be here stated that the tablet may be dispensed with; but I deem it best to use it, as it affords a more ready and easy mode of ascertaining the destination of the freight which is locked up by the lock, the tablet itself being the indicator, whereas if the tablet were not used it would require the lock to be tried by all the keys which are adapted to it in order to ascertain which of the several is the proper one to unlock it, and, consequently, the destination of the freight.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The bolts C and M, in combination with the pawl S, springs P and F, guide-plates *a a*, and lever I, all constructed, arranged, and operating in the manner and for the purpose specified.

2. The combination, with a lock constructed as described, of a tablet or plate, or its equivalent, when arranged with regard to the locking mechanism of the lock, so as to be operated by the key or keys of the lock, substantially in the manner and for the purposes specified.

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