(No Model.) 3 Sheets—Sheet 1.

F. H. HALEY.

SEAL LOCK.

No. 576,309. Patented Feb. 2, 1897.

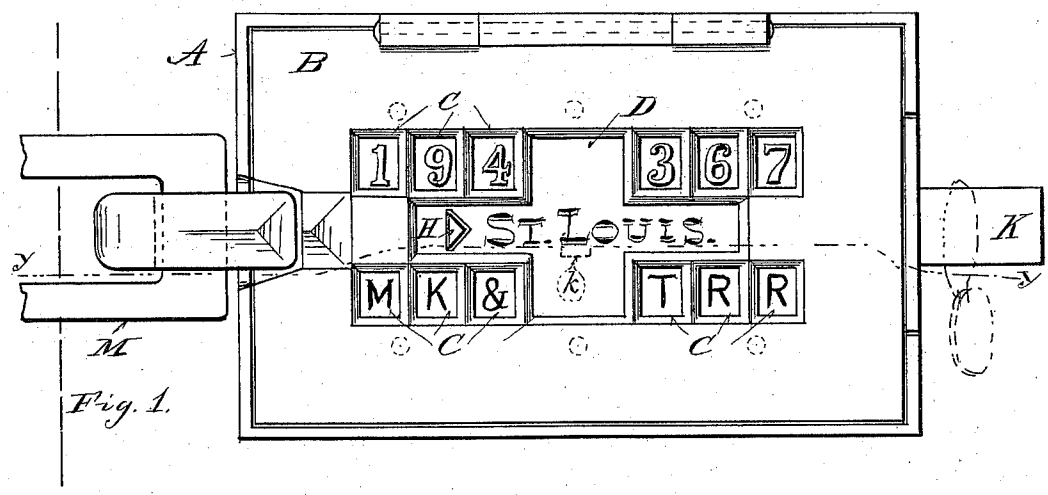

Fig. 1.

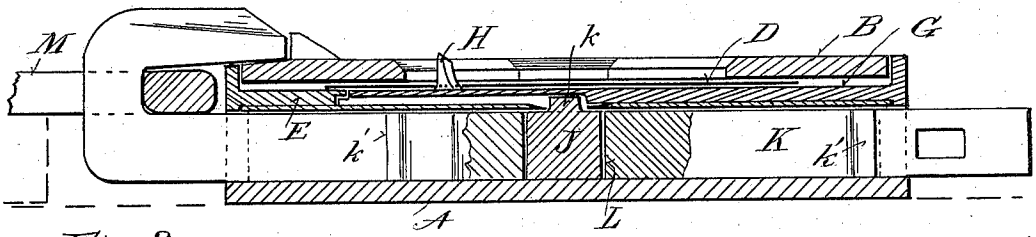

Fig. 2.

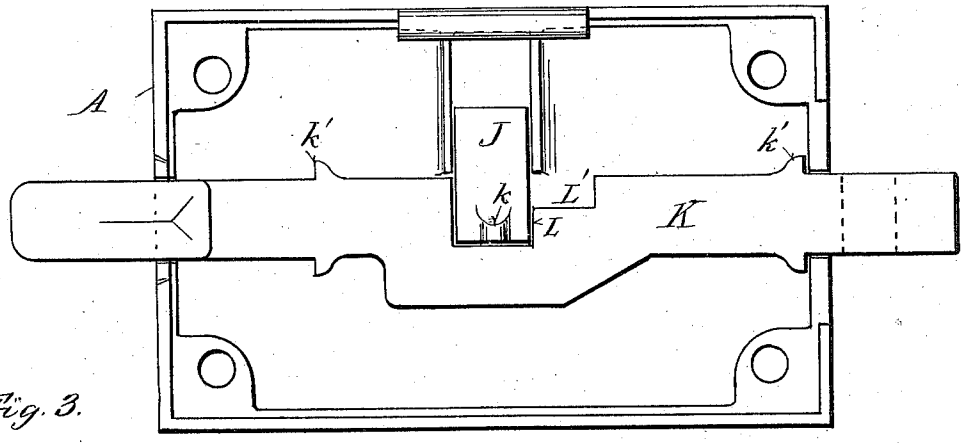

Fig. 3.

Witnesses:
E. T. Wray.
Jean Ellis

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(No Model.) 3 Sheets—Sheet 2.

F. H. HALEY.

SEAL LOCK.

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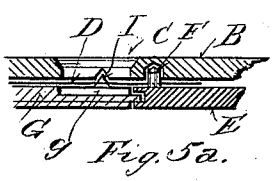

Fig. 5a.

Fig. 5.

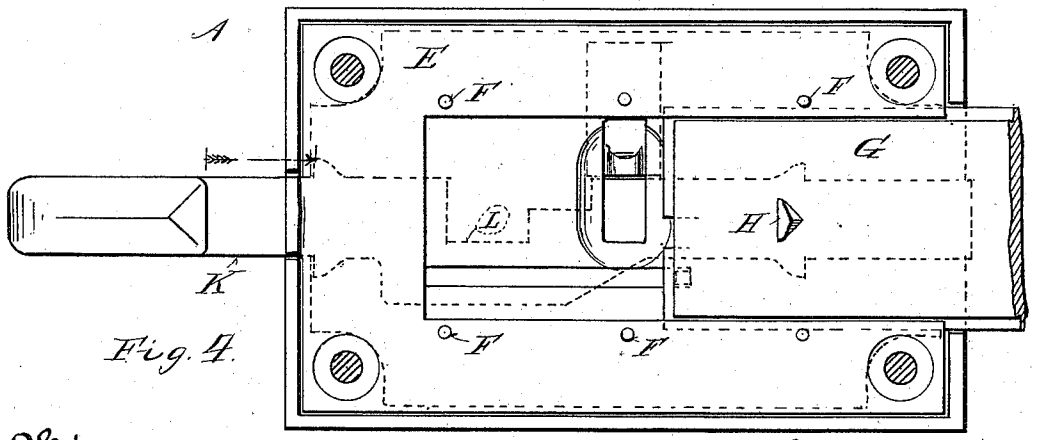

Fig. 4.

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(No Model.) 3 Sheets—Sheet 3.

F. H. HALEY.

SEAL LOCK.

No. 576,309. Patented Feb. 2, 1897.

Fig. 7.

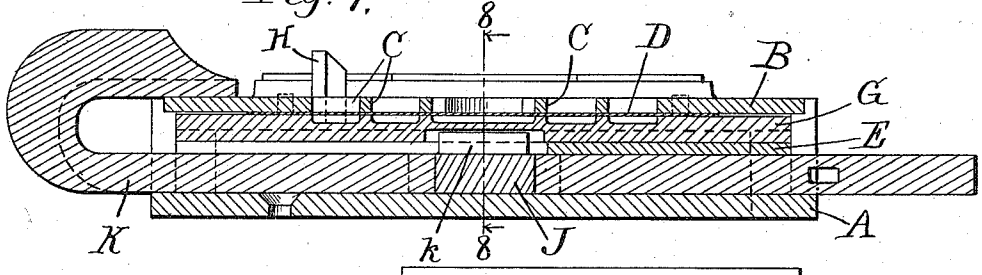


Fig. 6.

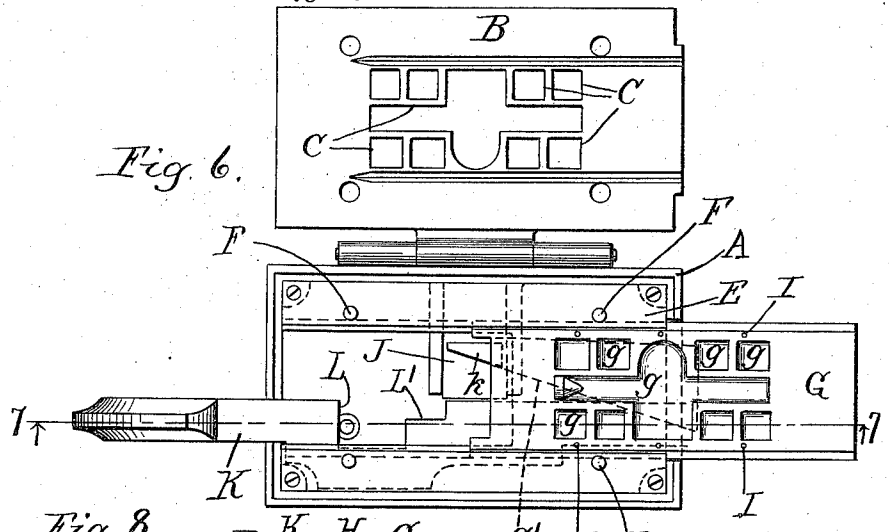
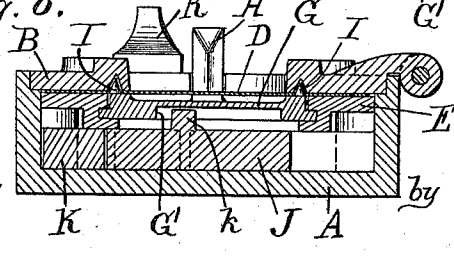


Fig. 8.



Witnesses.
E. T. Wray.
Jean Elliott.

Inventor.
Fred H. Haley
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his Attorneys

UNITED STATES PATENT OFFICE.

FRED H. HALEY, OF BATAVIA, ILLINOIS, ASSIGNOR TO CHARLES H. HALEY AND IDA M. HALEY, OF SAME PLACE, AND G. B. COLLINS, OF DENTON, TEXAS.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 576,309, dated February 2, 1897.

Application filed February 20, 1896. Serial No. 580,103. (No model.)

To all whom it may concern:

Be it known that I, FRED H. HALEY, a citizen of the United States, residing at Batavia, county of Kane, and State of Illinois, have invented certain new and useful Improvements in Car Seal-Locks, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

This invention relates to certain new and useful improvements in car seal-locks.

The object of my improvements is to provide a lock that cannot be tampered with without the fact being readily perceptible, and thus prevent the car passing unobserved the point where such lock was opened.

To this end my improvements have reference to a seal of paper or other fragile material that may be torn from its position on the seal car-lock, but cannot be partly or wholly cut out and then restored to its position in the lock after the latter has been opened; have reference to various peculiarities of construction and arrangement of the lock itself, as will hereinafter be fully described in the specification and pointed out in the claims.

In the accompanying drawings, on which like reference-letters indicate corresponding parts, Figure 1 represents a face view of the lock sealed and locking the door of the car to which it is applied; Fig. 2, a section along the line *y y* of Fig. 1, showing the bolt and locking-block partly in section; Fig. 3, a face view of the bolt and block in their locked position, the upper plates being removed; Fig. 4, a similar view showing the slide-plate with the slide partly opened; Fig. 5, a similar face view with the slide closed and with the cover thrown up to show its back side, and Fig. 5ª a detail view showing the construction for holding the paper seal by penetrating-points. Fig. 6 is a plan of a lock with the cover turned back and the slide-plate partly withdrawn, showing a modification whereby the slide-plate, when pushed aside to uncover the locking-bolt and rupture the seal, lifts the locking-block. Fig. 7 is a longitudinal section through such a lock, as at the line 7 7 on Fig. 6, the lock, however, being closed and the seal in position. Fig. 8 is a section at the line 8 8 on Fig. 7.

The immense number of seal-locks that are in use on car-doors makes it an item of considerable importance that the seals should be cheap without loss of security of detection in case of being tampered with. The seal that I have presented herein is of paper or like fragile material, a large number of which may be used at a minimum cost. At the same time my lock is so constructed that the seal itself cannot be mutilated to tamper with the lock and such mutilation pass unobserved.

Referring to the drawings, the letter A represents a box or casing, preferably of rectangular shape and provided with a hinged cover B, that has a series of openings C, through which is visible the paper seal D, bearing the number of the car, the route, and destination, or other characters that it may be desired to place thereon. Below the cover and under the seal is a plate E, secured to the casing and having pointed projections F extending upward and entering holes F′ in the cover B when the latter is closed, as shown in Fig. 1. The seal D is thus held firmly between the cover and the plate E in its normal position. A portion of the plate E, however, is cut out and grooved at its edges and a slide-plate G mounted therein, as shown in Fig. 5. This slide-plate is recessed at *g* back of the openings *c* in the cover, and thus forms an air-space back of the seal D. The object of these recesses will presently appear. A thumb-piece H on the sliding plate extends outward and operates it longitudinally in the center opening of the cover, as shown in Fig. 5, the seal being perforated to allow the thumb-piece to extend above the same. Upon this sliding plate are a number of pointed projections I, that extend upward and more or less penetrate the back of the seal D. These points are under the partition-strips forming the openings in the cover, and these strips are grooved below, as shown in Fig. 5ª, to allow the points I to extend upward through the paper seal. When the cover is closed upon the seal, the points F and I engage with the latter. Now if the slide G be moved lengthwise by means of the thumb-piece H the points I on the slide will tear the seal away from the fixed points F on the plate and mutilate the seal beyond repair.

The movement of the slide G is necessary

in order to expose the locking block or key J, mounted in vertical guides below the plate E and adapted to engage with the bolt K by the recesses L L'. The bolt is slidingly mounted longitudinally in the casing A and has a hook on one end and a hole on the other end. Through the latter an ordinary lead or other seal may be inserted, if so desired. The hook of the bolt engages with the link M, attached to the door or part to be locked.

The recess L on the bolt receives the key-block when the hook is closed to engage with the cover B, as shown in Figs. 1 and 2. The cover cannot be raised without lifting the key-block, which, being hidden under the slide-plate G, cannot be reached till the plate is slid outward, as shown in Fig. 4. This sliding of the plate, however, will tear the paper, because the seal is held by the points F between the plate E and the cover, and the points I on the slide will tear the seal effectually if the slide be moved by its thumb-piece H. Thus it will be seen that the seal cannot be cut out and replaced unobserved, since it is recessed back of the holes C in the cover; also, that the slide-plate guards the key-block, while the seal gives visible and noticeable evidence of any movement of the slide-plate. In every-day use, however, it is only necessary to place the thumb on the projection *k*, throw the slide-plate outward, thus tearing the seal to pieces and exposing the key-block J, which when lifted unlocks the bolt K and allows it to slide outward, as shown in Fig. 4, to free the link end from its engagement.

The bolt is provided with stops *k'*, that limit its movement in both directions. In order to prevent any conspiracy by apparently closing the lock or through accident in not entirely doing so, I have provided more than one locking-recess, as at L'. Referring to Fig. 4, if the hook be pushed in so as to inclose the link and apparently lock it, but not to its full position, yet then the block will engage with this recess L' and lock the door as securely as if it were inserted in the deeper recess L, as shown in Fig. 3. This obviates any danger from only partially closing the hook-bolt.

When an ordinary lead or tin seal is hooked to the opposite end of bolt, as shown in Fig. 1, the act of throwing the bolt lengthwise to unlocking position will shear off the lead seal. This is for the advantage of those wishing to use the latter kind of seal in connection with my lock.

It is sometimes preferred to avoid the necessity of using the finger to lift the locking-block, making the operation of opening the lock quicker by providing the slide G on the under face with an oblique shoulder or rib G', adapted to engage the projection *k* on the locking-block and lift the block as the slide is withdrawn. Such shoulder is most conveniently provided by recessing the under face of the slide, as shown in Fig. 6, the recess having the form of a right-angle triangle, the hypotenuse of which constitutes the shoulder, the longer side of the right angle being longitudinal with respect to the movement of the slide and the shorter side transverse thereto and adapted to permit the direct drop of the block when the bolt K is shot into place in locking. When the lock is made in this form, the slide G may be the full length of the plate E, which is in that case cut away at the middle part for its whole length to allow room for the slide. It is so shown in Figs. 6, 7, and 8. This, however, is only made necessary by keeping the position of the block central with respect to the length of the lock.

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

1. In combination with the case and a cover for the same, a locking-bolt adapted to engage the cover when the latter is closed and the locking-bolt is in locking position; devices for securing said bolt in locking position; a movable guard-plate which protects said bolt-securing devices from exterior manipulation; a rupturable seal, and means for holding it in engagement with the movable guard-plate and the cover: substantially as set forth.

2. In a car seal-lock, in combination with the locking-bolt and devices for securing the same in locking position, a sliding plate which guards said devices against manipulation from the exterior; a fixed plate and a cover and a rupturable seal secured between the fixed plate and cover by the closing of the cover, said sliding plate being adapted to engage the rupturable seal and rupture the same when the plate is caused to slide to uncover the locking devices.

3. In a car seal-lock, the case and a cover for the same; a locking-bolt adapted to engage the cover when the bolt is in locked position, and an auxiliary bolt adapted to engage the locking-bolt, the latter having two recesses suitable for such engagement, one of said recesses being in position to be engaged as soon as the locking-bolt has moved far enough to secure the cover, and the other being in position to be engaged after the said bolt has been fully shot home.

4. In a car seal-lock, in combination with a case and a cover for the same, a locking-bolt and an auxiliary bolt adapted to secure the locking-bolt in locking position; a sliding guard-plate to secure the auxiliary bolt from manipulation; a rupturable seal interposed between the guard-plate and the cover, the former being adapted in its sliding movement to engage and rupture the seal, the locking-bolt being adapted to come into engagement with the cover when moving into locking position when the cover is closed, and to secure it closed; the auxiliary bolt being adapted to engage said locking-bolt after the latter has moved to the cover-securing position.

5. In a car seal-lock, a case and a hinged

cover for the same; a sliding locking-bolt having a part adapted to engage the cover and secure the same in closed position when the bolt is in locking position; an auxiliary bolt for securing the locking-bolt; a movable guard-plate which secures said auxiliary bolt from manipulation, and a seal adapted to be ruptured by the movement of said guard-plate.

6. In a car seal-lock, in combination with the case, a hinged cover for the same having a longitudinal aperture; a sliding locking-bolt which engages and secures the cover in closed position when the bolt is in locking position; an auxiliary bolt which secures the locking-bolt in locking position; a sliding plate which guards said auxiliary bolt from manipulation, located below the cover and having a finger projecting up through the aperture in the cover; a paper seal secured between the sliding plate and the cover and penetrated by the finger of the former, whereby the longitudinal movement of the sliding plate necessary to give access to the auxiliary bolt causes the finger of said plate to rupture the seal before the sliding locking-bolt can be disengaged from the cover.

7. In a car seal-lock, in combination with the case, a cover for the same adapted to be secured thereon by an overhanging stop at one edge; a locking-bolt having a projection adapted to overhang and stop the cover at one edge when said bolt is in locking position; an auxiliary bolt adapted to secure the locking-bolt in locking position; a sliding plate to guard said auxiliary bolt from exterior manipulation, the case having a fixed ledge or plate beneath the cover provided with projections which protrude up into the cover; a paper seal secured at its edges between said ledge and the cover and engaged by the projections of the former, and at its middle portion located between the guard-plate and the cover, the cover having a longitudinal aperture and the guard-plate having a finger which projects through the seal and into said longitudinal opening; whereby the seal is retained at its edges and adapted to be ruptured at its middle when the guard-plate is moved to uncover the auxiliary bolt.

8. In a car seal-lock, in combination with the case and the cover, the locking-bolt adapted at locking position to secure the cover; an auxiliary bolt adapted to secure the locking-bolt in locking position; a guard-plate adapted to protect the auxiliary bolt from manipulation; a seal adapted to be ruptured by the movement of the guard-plate, the latter having an oblique shoulder on its under face and the auxiliary bolt having a projection engaged by said shoulder, whereby the movement of the guard-plate which ruptures the seal releases the locking-bolt from the auxiliary bolt.

9. In a car seal-lock, in combination with a case, the cover, the locking-bolt, the means for securing the locking-bolt in locking position and the cover in closed position; a sliding guard-plate which protects the locking-bolt-securing devices from manipulation; a paper seal secured between the sliding guard-plate and the cover; the case having a ledge or plate between which and the cover the margins of the seal are grasped; the sliding guard-plate having prick-points projecting through the seal, and the under side of the cover having longitudinal channels in which said prick-points move when the guard-plate slides, whereby such movement tears the seal.

10. In a car seal-lock, in combination with a case, the cover; the locking-bolt; the means for securing the locking-bolt in locking position and the cover in closed position; a sliding guard-plate which protects the locking-bolt-securing devices from manipulation; a paper seal secured between the sliding guard-plate and the cover; the case having a ledge or plate between which and the cover the margins of the seal are grasped, the cover being apertured at intervals to disclose the seal and having longitudinal channels on its inner face laterally beyond such apertures; the sliding guard-plate having prick-points which penetrate the seal and travel in said channels when the plate is moved longitudinally, whereby such movement ruptures the seal beyond the exposed portions.

11. In a car seal-lock in which the locking-bolt-securing devices are guarded from manipulation by a sliding plate, and in which a paper seal is secured above said sliding plate and between the same and the cover; the cover having detached apertures to expose portions of the seal; the sliding guard-plate provided on its upper surface with recesses or cavities corresponding to, and on opposite sides of the paper seal from, the apertures in the cover respectively, and ridges between said recesses adapted to clamp the seal against the under side of the cover.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 15th day of February, 1896.

FRED H. HALEY.

Witnesses:
CHAS. S. BURTON,
CHARLES HALEY.