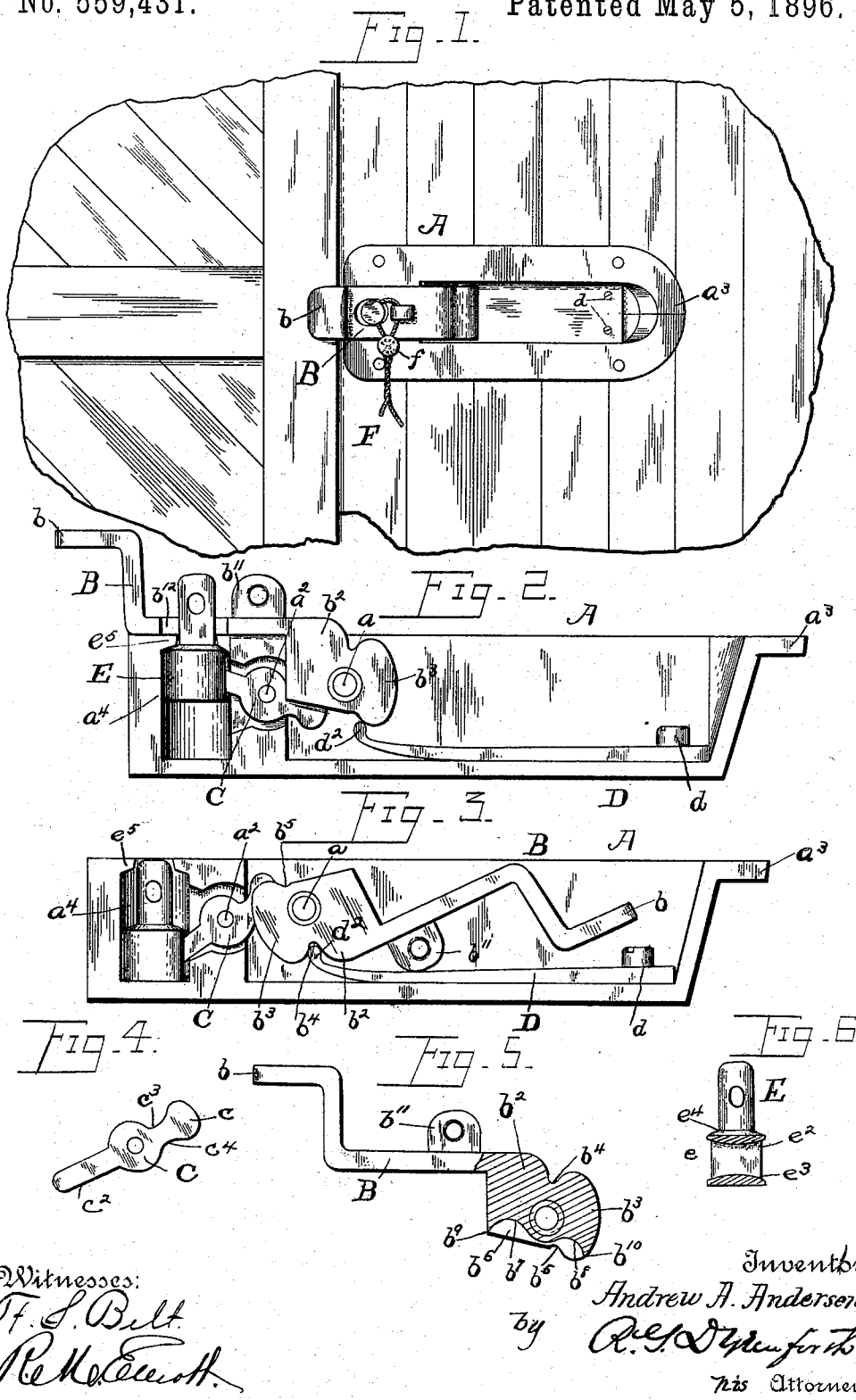


(No Model.)

A. A. ANDERSEN.
CAR DOOR LOCK.

No. 559,431.

Patented May 5, 1896.



UNITED STATES PATENT OFFICE.

ANDREW A. ANDERSEN, OF ALTOONA, PENNSYLVANIA.

CAR-DOOR LOCK.

SPECIFICATION forming part of Letters Patent No. 559,431, dated May 5, 1896.

Application filed February 1, 1896. Serial No. 577,706. (No model.)

To all whom it may concern:

Be it known that I, ANDREW A. ANDERSEN, a citizen of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Car-Door Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to seal-locks for sliding doors.

The object is to produce a lock for sliding doors which shall be of such construction that when locked it will effect thorough and adequate protection against being tampered with and when unlocked will be out of the plane of the movement of the door, whereby the presentation of an obstruction will be obviated and the shielding of the lock from injury or from inflicting injury will be accomplished; furthermore, to produce a lock in which the movement of the hasp in the direction to effect locking will bring into operative position a supplemental locking device normally occupying a plane at or below the plane of the travel of the door, and the movement of the hasp in the opposite direction will effect removing of this supplemental device out of operative position; furthermore, to produce a lock in which the operative parts are held in and out of locked position by means of a holding device in the nature of detent or spring; furthermore, to produce a lock which shall be simple of construction, efficient and durable in use, and which may be applied to an ordinary car without requiring any change in its structural arrangement.

With these objects in view the invention consists in a lock comprising a pivoted hasp, a movable staple, and mechanism operated by the movement of the hasp to move the staple into and out of operative position with relation to the hasp.

The invention consists, further, in the combination of a pivoted hasp, a movable staple, mechanism operated by the movement of the hasp to move the staple into and out of operative position with relation to the hasp, and

a detent or holding device for retaining the hasp in either its locked or unlocked position.

The invention consists, further, in the combination of a pivoted hasp, a movable staple, mechanism operated by the movement of the hasp to move the staple into and out of operative position with relation to the hasp, and a spring coacting with the hasp for retaining the hasp in either its locked or unlocked position.

The invention consists, further, in the combination of a pivoted hasp, a movable staple, and a lever in engagement with the hasp and with the staple, whereby the rocking of the hasp will cause the staple to raise or lower.

The invention consists, further, in the combination of a pivoted hasp carrying a staple, a movable staple normally out of coacting position with the staple on the hasp, and mechanism actuated by the movement of the hasp to bring the movable staple into coacting position with the staple on the hasp.

The invention consists, finally, in the various novel details of construction, that will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which like letters of reference indicate corresponding parts, I have illustrated an embodiment of my invention, although other forms of embodiment thereof may be employed without departing from the spirit of the same.

In the drawings, Figure 1 is a view in front elevation showing the lock as applied to a car with the hasp in locked engagement with the door and the seal for preventing opening of the hasp. Fig. 2 is a view in side elevation showing the position of the parts of the lock when locked. Fig. 3 is a similar view showing the position of the lock when unlocked. Fig. 4 is a detached detail view of the lever for operating the movable staple. Fig. 5 is a sectional detail view of the rear portion of the hasp, showing the peculiar contour of the groove for actuating the lever shown in Fig. 4. Fig. 6 is a sectional detail view of the movable staple.

Referring to the drawings, A designates the lock-casing, which may be cast or otherwise formed of one piece of metal; but for cheap-

ness of construction and to facilitate the assembling of the parts it is preferred to make it in two sections suitably held together in this instance by pins, screws, or staves a^2 , constituting also the supports for the hasp B and lever C, respectively. The casing is provided with a flange a^3 , having openings through which pass bolts or screws for holding the casing in place, the securing of the casing being effected, by preference, from the inner side of the car, so that it will be impossible to remove the screws or bolts for the purpose of detaching the lock when the car-door is once sealed.

The hasp B, which may be provided with an offset b to overlap the edges of the door, as where a sliding door working in guides is employed, or made straight, as where the door drops in flush with the side of the car, has at its inner or pivotal end a head b^2 , formed with a cam-surface b^3 , the extremities of which terminate in transversely-disposed recesses or nicks $b^4 b^5$. The cam-surface is eccentric to the pivot a and is designed to be engaged by a detent or holding device, in this instance formed by a spring D, secured at one end to the bottom of the casing by means of screws d , of which there are two shown in this instance, one engaging the bottom portion of each of the sections, by which arrangement it is only necessary to remove one of the screws to permit of the sections being separated, the pins a^2 , while operating in conjunction with the screws d to hold the sections of the casing assembled, not being, strictly speaking, fastening devices. The spring D is provided at its free end with an upturned toe or flange d^2 , adapted to engage the recesses $b^4 b^5$, according as the hasp is in its locked or unlocked position, and thereby securely hold it in either of these positions.

About centrally of the width of the head, in the under side thereof and extending the length of the head, there is formed a groove or recess b^6 , the upper wall of which is formed with double cam-surfaces $b^7 b^8$, adapted to be engaged by the rounded head c on one end of the lever C, the other end c^2 of this lever being straight and working in an orifice e in the movable hasp E. When the hasp is in its locked position, as shown in Fig. 2, the stop b^9 , formed by the metal at the termination of the groove b^6 , engages with the recess c^3 in the upper side of the head c and locks the staple E in raised position, and when the hasp is in its unlocked position, as shown in Fig. 3, the stop b^{10} , formed by the metal at the other termination of the groove b^6 , engages the recess c^4 in the under side of the head c and locks the staple E in its dropped position. The end c^2 of the lever works loosely within the orifice e , the upper and the lower walls $e^2 e^3$ of which are curved or rounded in order to prevent any binding when the lever is rocked by the movement of the hasp. The casing is formed or provided with a bore a^4 , in which the staple E works, and the latter is reduced

at its upper end in order to present a shoulder e^4 , which by contacting with a stop or stops e^5 , formed at the upper end of the bore, limits the upward movement of the staple, and also prevents its removal. As shown, the hasp is provided with a fixed staple b^{11} , and in order that the staple E may be brought into coacting relation to this fixed staple the hasp is provided with an opening b^{12} , through which the staple E projects when the hasp is in locked position. In order to seal the hasp, a wire F is passed through the two staples and by an ordinary lead seal f the lock is securely sealed.

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

1. A lock comprising a pivoted hasp, a movable staple, and mechanism operated by the movement of the hasp to move the staple into and out of operative position with relation to the hasp, substantially as described.

2. A lock comprising a casing, a hasp pivoted therein, a movable staple housed in a part of the casing, and mechanism operated by the movement of the hasp to move the staple into and out of operative position with relation to the hasp, substantially as described.

3. In a lock, the combination of a pivoted hasp, a movable staple, mechanism operated by the movement of the hasp to move the staple into and out of operative position with relation to the hasp, and a detent or holding device for retaining the hasp in either its locked or its unlocked position, substantially as described.

4. In a lock, the combination of a pivoted hasp, a movable staple, mechanism operated by the movement of the hasp to move the staple into and out of operative position with relation to the hasp, and a spring coacting with the hasp, substantially as described.

5. In a lock, the combination of a pivoted hasp, a movable staple, and a lever in engagement with the hasp and with the staple, whereby the rocking of the hasp will cause the staple to raise or lower, substantially as described.

6. In a lock, the combination of a pivoted hasp carrying a staple, a movable staple normally out of coactive position with the staple on the hasp, and mechanism actuated by the movement of the hasp to bring the movable staple into coactive position with the staple on the hasp, substantially as described.

7. In a lock, the combination of a pivoted hasp provided with a cam-surface, a movable staple, mechanism operated by the movement of the hasp to move the staple into and out of operative position therewith, and a spring coacting with the cam-surface, substantially as described.

8. In a lock, the combination with a casing, of a pivoted hasp B, a movable staple E, a lever C in engagement with the hasp and the staple, and a spring D in engagement with the hasp, substantially as described.

9. In a lock, the combination with a casing,
of a pivoted hasp B having cam-surfaces *b*⁷
*b*⁸, a movable staple E, a lever C in engage-
ment with the cam-surfaces of the hasp and
5 with the staple, and a spring D in engage-
ment with the hasp, substantially as de-
scribed.

In testimony whereof I affix my signature
in presence of two witnesses.

ANDREW A. ANDERSEN.

Witnesses:

R. G. DYRENFORTH,
R. M. ELLIOTT.