

UNITED STATES PATENT OFFICE.

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SEAL-LOCK.

962,827.

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To all whom it may concern:

Be it known that I, CHARLES W. GILL, a citizen of the United States, residing at Syracuse, in the county of Onondaga and State of New York, have invented certain new and useful Improvements in Seal-Locks, of which the following is a specification.

This invention relates to improvements in seal-locks, and has for its object to provide novel and simple means for securing the doors of freight cars to prevent entry and the disturbing of the contents of the car without destroying or removing the seal.

A particular object of the invention is to provide a cheap, effective and quick-acting car door lock and seal, especially adapted for securing the doors of box-cars and other receptacles used for carrying or storing freight or other valuable articles, the construction, arrangement and application of the device being such that all of the movable or working parts are hid from view when the car door is closed and thus concealed from the weather, dust and dirt, and out of reach of meddlesome persons.

The invention relates particularly to an improvement in the devices shown and described in my United States Patent No. 907,990, bearing date December 29, 1908.

The invention consists of the features and parts set forth in the detail description which follows, and as illustrated in the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a part side elevation of a freight car, showing a portion of the door and a portion of the wall of the car having my improved seal-lock applied. Fig. 2 is a central longitudinal section taken on the line 2—2 of Fig. 1, showing the construction and arrangement of the principal parts of the seal-lock. Fig. 3 is a vertical cross-section through the lock and seal, substantially on line 3—3 of Fig. 1. Fig. 4 is a plan view of the hasp and one of the plates forming the pocket. Fig. 5 is a detail view of the sealing-pin.

Similar characters of reference indicate like parts throughout the several views.

In the drawing, 2 represents a hasp, having an elongated eye or slot 3 formed through its enlarged free end, its opposite end perforated to receive a rivet or bolt 4, by means of which the hasp is pivotally attached to a stationary supporting bar 5, which in turn is rigidly secured to the inner

side of the car door 6, by a series of bolts 7.

A small angular plate 9 is shown to cooperate with the bar to form a fork to receive the end of the hasp and by means of which the hasp is limited to vertical movement only. A hinge connection (not shown) may be employed instead of the fork, and render the hasp equally effective.

10 and 11 represent oppositely facing metallic parts, preferably embedded in a mortise or cavity 12 formed in the car wall 13. The cavity 12 has its open end facing the door opening, and disposed so as to register with and to receive the hasp 2 when extended in horizontal position, as shown in Figs. 2, 3 and 4. The plate 10 is preferably formed as shown in Figs. 3 and 4 with a large shallow recess which faces the outer side of the car, and the plate 11 is formed with a corresponding inwardly facing recess. The recesses of the two plates forming a pocket A into which the free end of the hasp enters and lies when the car door is closed. The mouth of this pocket is enlarged or flared to facilitate the entering and guiding of the hasp. The plates 10 and 11 may be secured to the car wall in any suitable manner, or by screws, as 14, 14.

The lock comprises a number of novel parts which I will now describe: The plate or part 11 is provided with an integral drawn or cast outwardly extending neck or socket 15, preferably tubular in form, which passes through a suitable hole and extends some distance beyond the outer surface of the wall 13. Within the socket 15, I dispose a lock-bolt 17, having a stem 19, the free end of which is bent at right angles to the bolt to form a finger-catch which passes out through a slotted opening 20 in the upper side of the socket, and projects sufficiently to allow the latch to be lifted with the finger against the tension of the spring 21, for the purpose of releasing and permitting the withdrawal of the hasp 2 from the pocket. By the use of the coil spring 21 the latch-bolt 17 is normally held in position for locking and holding the hasp. The end of the bolt 17 is beveled on the side facing the door, to permit the insertion and locking of the hasp without any other manipulation. Under this arrangement the inner movement of the hasp forces the bolt 17 outwardly and holds it in this position until the eye 3 is brought into register with the bolt, when the latter acting under the force of the spring enters

the eye and effects the locking of the car door. The plate 10 is perforated, as at 18, at a point opposite the bolt 17, to permit the end of the bolt to pass through the plate, for preventing the bolt from being wrenched out of place by any pull or strain applied to the hasp or car door.

To seal my improved car door lock, the opposite walls of the socket 15 are perforated, as at 22, to receive a temporary leaden sealing-pin 23, which may only be inserted when the latch-bolt 17 is in locking position (shown in Figs. 2 and 3). The disposition of the sealing pin 23, when set in place is such that it barely clears the stem 19 of the latch-bolt, and prevents the latter from being moved or withdrawn from the eye of the hasp, as long as the sealing-pin is in place. As shown and described in my former patent referred to, I prefer, in the present case, to employ a sealing-pin consisting of a leaden part incased in a steel jacket, so as to render the portion of the pin which passes through the socket 15 stiff and rigid as compared with the soft and pliable lead. After the sealing-pin has been inserted in the socket, the opposite ends are preferably upset to form heads 24, to prevent the removal of the seal and the opening of the car door except by a special device operated by an authorized person.

To protect my lock and seal against the weather, dust and dirt, and also to insure the same against meddling and tampering, I provide a shield 25, which is so arranged that when mounted on the car it forms a covering for the lock which is closed on all sides except that facing the ground. The shield is provided with flanges on three sides which rest upon the outer side of the car wall, the flanges being perforated to receive bolts or screws 26, which pierce the wall 13, the nuts preferably being placed on the opposite or inner side of the wall. The bolts employed for securing the hasp support 5 are preferably applied in the same manner as the bolts 26. The shield 25 may be attached to the outer end of the socket 15 of the lock in any suitable manner, or as by a screw or rivet 27.

The dotted lines in Fig. 4 indicate how the hasp 2 may be swung on the pivot 4, out of the way, while the car is being loaded and unloaded.

The operation of my improved lock and seal is extremely simple; after a car has been loaded, the hasp 2 may be swung from the position shown by dotted lines in Fig. 4, to the position shown in full lines, and then the door may be closed. As the door approaches the lock side of the opening, the hasp enters the pocket A. When the end of the hasp strikes the bevel of bolt 17, the latter yields outwardly against the tension of spring 21 and allows the hasp to finish its travel.

When the door comes against the stop, as 29, the bolt 17 enters the eye 3 of the hasp and locks and holds the hasp and door from movement in either direction. If the door has only been closed temporarily, as between intervals of loading and unloading, the person in charge may release the latch-bolt 17 by inserting a finger beneath the shield 25 and lifting the projecting end of stem 19 which extends through the slotted opening 20 in the socket 15, and thus release the hasp. If, however, the car is loaded and ready for transportation and it is desired to lock and seal the doors, the person in charge may take a sealing-pin 23 (see Fig. 5), and insert it through the socket 15 (see Fig. 2), and then with a suitable instrument he may upset the ends of the pin to form the heads 24, to prevent the loss or displacement of the seal. The insertion and upsetting of the sealing-pin as described, owing to the position of the pin, it being directly over the stem of the latch-bolt 17, the pin will prevent the bolt from being withdrawn from the eye of the hasp until the sealing-pin is ejected or removed. The position of the pin 23 and the arrangement of the shield 25, in relation to the socket 15 are such that a special seal ejector must be employed to remove the pin so as to permit the withdrawing of the bolt 17 and the opening of the car door.

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

1. A seal lock, comprising a plate mounted on the inner wall of a car, a tubular socket formed in said plate and passing outwardly through the wall, a hasp pivotally secured to the inner side of the car door in a manner to adapt it for vertical movement into and out of operative position, the free end of the hasp having a slotted eye adapted to register with the tubular socket when the door is closed, a latch-bolt in said socket, one end of said bolt projecting outside of the car wall and having an integral finger catch, the opposite end of said bolt projecting inwardly through said plate and normally disposed in the path of the hasp, and a spring adapted to force and normally hold the latch-bolt in the eye of the hasp for automatically locking the car door in closed position.

2. A seal lock, comprising a plate mounted on the inner wall of a car, a tubular socket formed on said plate and passing through the wall, a hasp pivotally secured to the inner side of the car door and having a slotted eye adapted to coincide with the tubular socket when the door is closed, a latch-bolt in said socket, a spring adapted to force and normally hold the latch-bolt in the eye of the hasp for locking the car door when closed, and a sealing-pin capable of being inserted transversely through the

socket for preventing the withdrawal of the latch-bolt and the opening of the door.

3. A car door lock, comprising two oppositely recessed plates disposed in a mortise in the wall of a car adjacent the car door opening, the recesses of said plates forming a pocket the mouth of which faces the car door opening, one of said plates having an integral socket extending through and beyond the outer wall of the car, a latch-bolt disposed in said socket and projecting into said pocket, a spring to normally hold said latch-bolt in locking position, a hasp pivotally mounted on the inner side of the car door, said hasp having an eye adapted to receive the latch-bolt when the door is closed, means for withdrawing the latch-bolt from the eye of the hasp by hand, and a pin adapted to be inserted through the socket to prevent the unlatching of the hasp and the opening of the door.

4. The combination with a car and a car door, of a hasp pivotally mounted on the inner side of the door capable of adjustment vertically, a lock comprising a pair of recessed plates disposed in the wall of the car, the said plates forming a pocket for receiving and concealing the hasp when the door is closed, one of said plates having a socket which pierces the outer wall of the car, the said socket opening into the pocket, a latch-bolt in said socket, one end of the latch-bolt extending into the pocket and adapted to pierce the eye of the hasp, the other end of the latch-bolt passing through the wall of the socket and terminating in a finger-catch, and a spring in said socket adapted to normally force and hold said latch-bolt in the eye of the hasp for locking the car door.

5. The combination with a car and a car door, of a hasp pivotally mounted on the door capable of adjustment vertically, a seal lock comprising a pair of recessed plates disposed in the wall of the car, the said plates forming a pocket for receiving the hasp when the door is closed, one of said plates having a socket which pierces the outer wall of the car, the said socket opening into the pocket, a latch-bolt in said socket, one end of the latch-bolt extending through the pocket adapted to pierce the eye of the hasp, the other end passing through the wall of the socket and terminating in a finger-catch, a spring in said socket adapted to normally force and hold said latch-bolt in the eye of the hasp for locking the car door, and a sealing-pin capable of being inserted transversely through the socket for preventing the withdrawal

of the latch-bolt and the opening of the door.

6. A seal lock, comprising a plate mounted on the inner wall of a car, a tubular socket formed in said plate and passing through the wall, a hasp pivotally secured to the inner side of the car door and having a slotted eye adapted to register with the tubular socket when the door is closed, a latch-bolt in said socket, a spring adapted to force and normally hold the latch-bolt in the eye of the hasp for locking the car door when closed, and a shield mounted on the car wall for sheltering and concealing the socket.

7. A car door lock, comprising a hasp and a support therefor mounted on the inner side of a car door, the free end of the hasp having an elongated eye, a pair of oppositely recessed plates set in a mortise in the wall of the car, and forming a pocket adapted to receive the free end of the hasp when the door is closed, one of said recessed plates provided with a tubular neck which passes through the wall of the car, a latch-bolt disposed concentrically in said neck, said latch-bolt having a stem, the free end of which is bent and passes out through a slot in said neck, a spring to normally hold the latch-bolt in position to engage and lock the hasp when the latter is inserted in the pocket, and a sealing-pin capable of being inserted through the neck and adapted to prevent the withdrawal of the latch-bolt and the opening of the car door.

8. A car door lock, comprising a hasp and a support therefor mounted on the inner side of a car door one end of the hasp having an elongated eye, a pair of recessed plates set in the wall of the car, and forming a pocket to receive the hasp when the door is closed, one of said plates provided with a tubular neck which passes through the wall of the car, a latch-bolt disposed concentrically in said neck, said latch-bolt having a stem, which passes out through a slot in said neck, a spring to force and normally hold the latch-bolt in position to engage and lock the hasp when the latter is inserted in the pocket, a sealing-pin adapted to prevent the withdrawal of the latch-bolt and the opening of the car door, and a shield for concealing the socket and sealing-pin.

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

CHARLES W. GILL.

Witnesses:

E. C. WRIGHT,

HARRY DE WALLACE.