(No Model.)

W. K. EDGAR & W. L. SEBRING.

SEAL LOCK.

No. 563,916. Patented July 14, 1896.

Fig. 1.

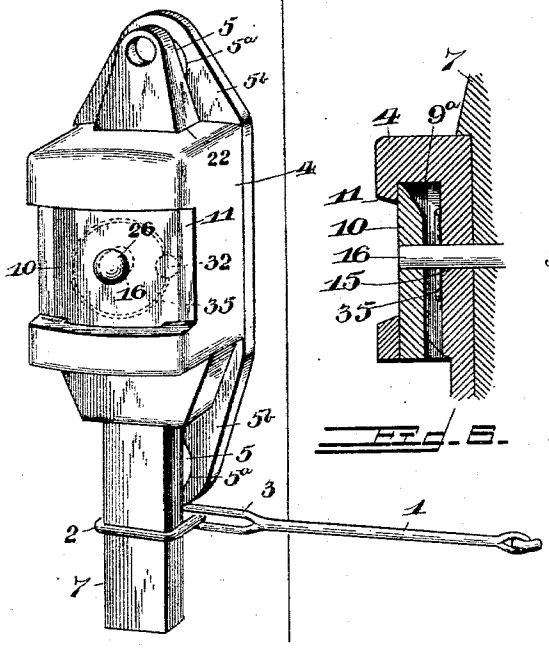


Fig. 6.

Fig. 2.

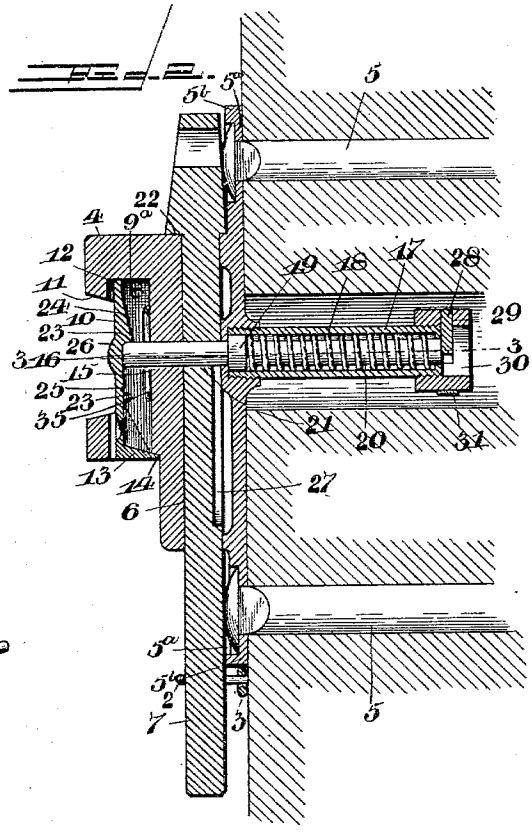


Fig. 4.

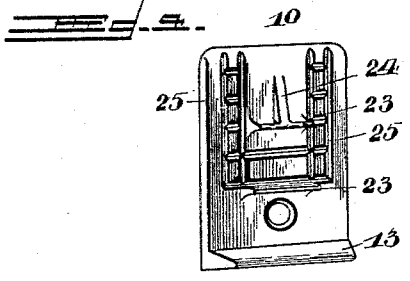


Fig. 5.

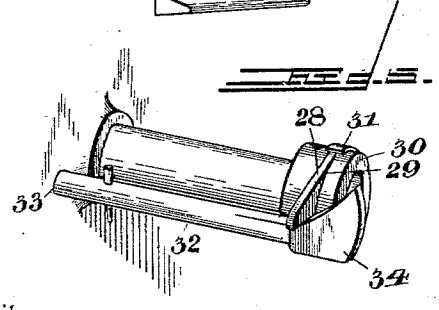
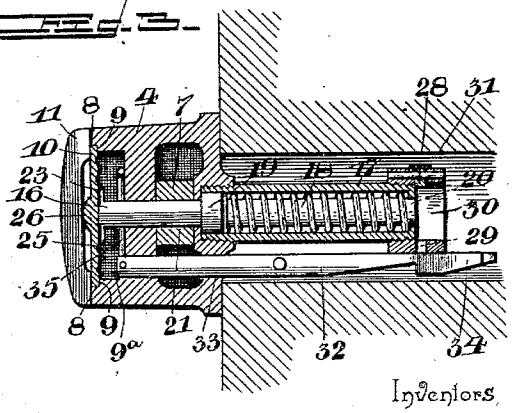


Fig. 3.



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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM K. EDGAR AND WILLIAM L. SEBRING, OF COLORADO SPRINGS, COLORADO.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 563,916, dated July 14, 1896.

Application filed March 21, 1896. Serial No. 584,284. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM K. EDGAR and WILLIAM L. SEBRING, citizens of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Seal-Lock, of which the following is a specification.

Our invention relates to seal-locks; and it consists, essentially, in an improvement upon the lock for the same purpose shown and described in a former patent granted to us on March 5, 1895, No. 535,026; and the objects of the present invention are to provide an improved construction of seal-seat whereby the seal is supported at its lateral edges in such a manner as to facilitate the breaking thereof to give access to the locking-pin, whereby the seal may be broken without injury to the seat, and hence without detracting from the efficiency of the lock; to provide an efficient seal whereby the locking-pin is protected from tampering and may be made of lighter material than that illustrated in the aforesaid patent, said seal being provided with means to prevent access to the locking-pin by drilling, and to provide means for securing the locking-pin from movement by drilling or without entirely destroying and removing the seal.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a lock constructed in accordance with our invention. Fig. 2 is a vertical central section of the same. Fig. 3 is a transverse section on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of a seal, showing the rear side thereof. Fig. 5 is a detail view in perspective of the means for securing and releasing the locking-pin. Fig. 6 is a detail section through the seal-seat and seal to show that when a clay seal is employed the locking-pin may be allowed to extend entirely therethrough, inasmuch as the repression of the locking-pin is prevented by the securing means employed in connection therewith and can be released only after removing the seal.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a swinging or loose hasp adapted to be attached in the ordinary or any preferred manner to a door, and 2 a staple adapted to be secured to the jamb or casing of the door for engagement by the eye 3 of the hasp, said parts being of the ordinary construction.

4 represents the casing of the lock, which is preferably formed of a single casting or block of metal and is adapted to be secured to the framework of a car by means of bolts 5, engaging openings 5^a in upper and lower extensions 5^b of the base of the casing, whereby the bolt-heads are covered by the locking-bolt, hereinafter described, in all positions thereof. Formed longitudinally in this casing is a guide or way 6, in which fits the locking-bolt 7, adapted, when extended, to engage the staple to hold the eye of the hasp in place thereon.

Parallel with the above-described guide or way is a seal-seat 8, set in from the face or outer side of the casing and consisting of parallel side shoulders 9, between which the seat is cut away to form a depression or cavity 9^a beneath or in rear of the seal 10. An opening 11 is formed in the face of the casing communicating with said seat, through which the outer surface of the seal may be seen, and the upper edge of the seal extends under the portion of the face of the casing which overhangs the seat, as shown at 12. The outer face of the seal is flush with the side edges of the opening 11 by reason of the side shoulders 9 being set back from the plane of the opening a distance equal to the thickness of the seal, and the seal is provided at its lower end with a rearwardly-extending rib or wing 13 to engage a stop-shoulder 14 at the lower end of the seal-seat to limit the insertion of the seal. The exterior surface of the seal is adapted to be inscribed by means of countersunk or upset letters with the name of the company, the number of the seal, and other desired information.

Formed in the casing, perpendicular to the planes of the guide and seat, is a transverse perforation 15, in which fits and operates the

spring-actuated locking-pin 16, the perforation communicating with both the guide and the seat. The rear end of the locking-pin operates in the barrel 17, in which is arranged a coiled spring 18, bearing at one end against a shoulder 19 and at the other end against the partly-closed end of the barrel. The reduced terminal 20 of the pin operates in an opening in said partly-closed rear end of the barrel to prevent lateral deflection of the pin.

The bolt 7 is provided with an opening 21, which is adapted to register with the perforation 15 when the shoulder 22 of the bolt is in contact with the upper end of the casing, or, in other words, when the bolt is extended, and the seal is provided upon its reverse or rear side with upper and lower transverse ribs 23, which project into the cut-away portion or cavity between the side shoulders 9 for engagement by the front extremity of the locking-pin when the latter is extended through the perforation 15 of the bolt. In connection with the upper transverse rib on the rear side of the seal is arranged a longitudinal beveled guide-rib 24, which serves to repress the locking-pin, as the seal is introduced into the seat, sufficiently to cause the front extremity of said pin to pass over the upper transverse rib. The rear surface of the seal is preferably scored, as shown at 25, to facilitate the breaking of the seal, the latter being preferably constructed of cast metal, and in order to prevent drilling to gain access to the extremity of the locking-pin the seal is thickened at a point just below the upper transverse rib by means of an enlargement 26, which, in the construction illustrated, is formed on the front or exposed face of the seal and is rounded to guard against the effective seating of a drilling-tool at the proper point for making the perforation. The bolt is also provided in its rear side with a longitudinal limiting-groove 27, in which the front extremity of the locking-pin is adapted to engage when withdrawn from the perforation 15, said groove communicating at its upper end with the perforation 15 and being adapted to limit the longitudinal movement of the bolt to prevent its detachment from the casing when the parts of the apparatus are in their unlocked positions.

From the above description it will be seen that the securing-bolts by which the casing is fastened to the framework of the car are covered and protected by the locking-bolt in all positions of the latter, whereby the removal of the casing is prevented after the insertion of the locking-bolt. Furthermore, it will be seen that the seal is supported only at its edges, and being unsupported at its center it may be readily fractured by a blow of a hammer or other suitable tool without injury to the casing or to the seat in which the seal is fitted. Furthermore, the seat-shoulders, in connection with the rearwardly-projecting wing at the lower end of the seal, said wing fitting against a shoulder at the lower end of the seat, prevent access to the locking-pin when the seal is in place, except by drilling through the seal, and drilling is rendered difficult by the rounded enlargement. The thickest portion of the seal is over the extremity of the locking-pin, and hence the facility of breaking the seal and the difficulty of gaining access thereto by boring are increased over the construction illustrated in our above-mentioned patent.

While the above-described means are calculated to increase the difficulty of gaining access to the locking-pin by drilling, it is possible to overcome said difficulty, and hence we have devised auxiliary means for securing the locking-pin in place and preventing the repression thereof, even if the seal is drilled, whereby the seal must be entirely destroyed and removed to release the bolt. These securing means embody a latch 28, pivoted to operate in a guide-slot 29, formed in a nut 30 at the rear end of the barrel 17, and normally held in the path of the rear end of the locking-pin to prevent repression thereof by means of a spring 31.

In order to displace the latch to release the locking-pin, we employ a trip-rod 32, mounted in a suitable guide-opening 33 in the casing and provided at its rear end with a cam-head 34 to engage the latch. This trip-rod must be drawn outwardly or forwardly to actuate the latch, and it is disposed at its front end in the seal-seat, where it is fitted with a finger-ring 35. This ring serves as a finger-hold by which the trip-rod may be drawn out or operated, and when the seal is in place the ring is arranged in a flat position under the seal and around the front end of the trip-pin. The ring cannot be released to allow the drawing of the trip-rod without entirely removing the seal, and hence if preferred a clay or other frangible seal may be employed.

It will be understood that the tubular guide or barrel 17, although shown in the drawings as threaded in an opening in the base-plate, may be cast integral therewith in order to reduce the number of parts, it being, however, deemed unnecessary to illustrate the same.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described our invention, what we claim is—

1. In a seal-lock, the combination of a casing provided with a longitudinal bolt-guide, a parallel seal-seat, a seal fitted in said seat and having an unsupported center, a locking-bolt mounted in said guide and having a transverse perforation, and a locking-pin mounted in the transverse guide in the casing to engage said perforation in the bolt and also engage the seal, substantially as specified.

2. In a seal-lock, the combination of a casing provided with a longitudinal bolt-guide, a seal-seat parallel with the bolt-guide and

having opposite shoulders and a cut-away intermediate portion or cavity, a seal seated upon said shoulders, and a transverse locking-pin mounted in a transverse guide in the casing intersecting the bolt-guide and seal-seat, and adapted to extend through a transverse perforation in the bolt and engage the seal, substantially as specified.

3. In a seal-lock, the combination of a casing provided with a longitudinal bolt-guide, a parallel seat closed at one end and comprising lateral supporting-shoulders and an intermediate cavity, and a transverse perforation intersecting said guide and seat, a bolt mounted to slide in the guide, a seal fitting in the seat and provided with a rearwardly-extending wing to close the open end of the seat, and a spring-actuated locking-pin fitting in the transverse perforation in the casing, extending through a perforation in the bolt and engaging the seal, substantially as specified.

4. In a seal-lock, the combination of a casing provided with a longitudinal bolt-guide, a parallel seat having a closed upper end and a cut-away central portion, and a transverse perforation intersecting said guide and seat, a bolt mounted in the guide, a seal fitting in the seat and provided with a transverse rib extending rearwardly into the said cavity, and a spring-actuated locking-pin fitting in the perforation in the casing, extending through a perforation in the bolt and engaging said rib on the seal, substantially as specified.

5. In a seal-lock, the combination of a casing provided with a longitudinal bolt-guide, a parallel seat closed at its upper end and having a central cavity, a transverse perforation intersecting said guide and seat, a bolt mounted in said guide, a seal fitting in the seat and provided with upper and lower transverse ribs projecting into the cavity and also provided with a longitudinal beveled rib extending upwardly from the upper transverse rib, and a spring-actuated locking-pin fitted in the perforation in the casing, extending through a perforation in the bolt and bearing against the rear surface of the seal between said transverse ribs, substantially as specified.

6. In a seal-lock, the combination of a casing provided with a longitudinal bolt-guide, a parallel seat having a closed upper end and a central cavity, and a transverse perforation intersecting said guide and seat, a bolt mounted in the guide, a seal fitting in the seat and provided upon its rear side with a transverse rib and below said rib with an enlargement, and a spring-actuated locking-pin fitting in the perforation in the casing, extending through the perforation in the bolt and engaging the rear side of the seal below said transverse rib and opposite the said enlargement, substantially as specified.

7. In a seal-lock, the combination with a casing, a bolt mounted in the casing, a frangible seal, and a locking-pin adapted to engage said bolt and seal and normally held in operative position, of a latch arranged in operative relation with the locking-pin and adapted to engage and secure the same when in engagement with the seal, and means for disengaging the latch to release the pin, substantially as specified.

8. In a seal-lock, the combination with a casing, a bolt mounted therein, a frangible seal, and a locking-pin adapted to engage the bolt and seal and normally held in operative position, of a latch adapted to engage the locking-pin when in engagement with the seal, and means for disengaging said latch to release the locking-pin, said means including a stem terminating contiguous to the rear side of and normally concealed by the seal, substantially as specified.

9. In a seal-lock, the combination with a casing, a bolt mounted therein, a frangible seal, and a locking-pin adapted to engage the bolt and seal and normally held in operative position, of a latch adapted to engage the locking-pin when in engagement with the seal, and means for disengaging the latch, the same including a cam arranged in operative relation with the latch, and a stem connected to the cam terminating contiguous to the rear side of and concealed by the seal, substantially as specified.

10. In a seal-lock, the combination with a casing having a seal-seat depressed or cut away at its center to form a cavity, a bolt mounted in the casing, a seal fitted in said seat and covering the cavity therein, and a locking-pin adapted to engage the said bolt and seal and normally held in operative position, of a latch for engaging the locking-pin when the latter is in engagement with the seal, and means for disengaging the latch including a cam arranged in operative relation with the latch, a stem or shank terminating contiguous to the rear side of the seal, and a loose ring connected to the front end of the stem and adapted to lie in the cavity in the seat, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM K. EDGAR.
WILLIAM L. SEBRING.

Witnesses:
L. C. WEYAND,
D. P. CATHCART.