J. KINZER.

Seal-Lock.

No. 160,336. Patented March 2, 1875.

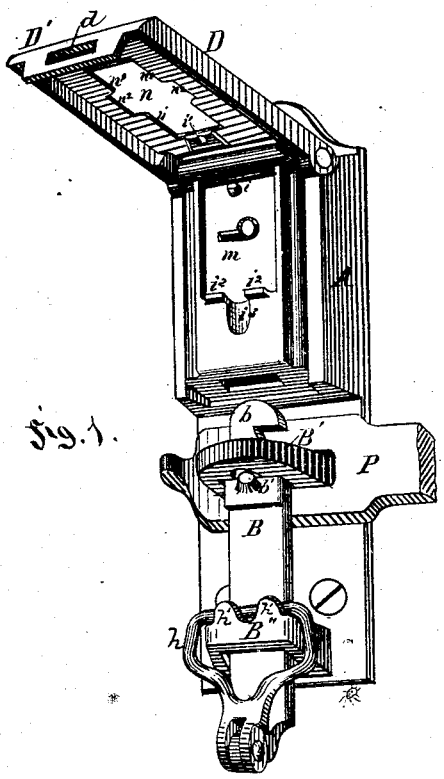

Fig. 1.

Fig. 10.

Fig. 9.

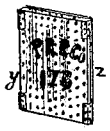

Fig. 8.

Fig. 7.

Fig. 6.

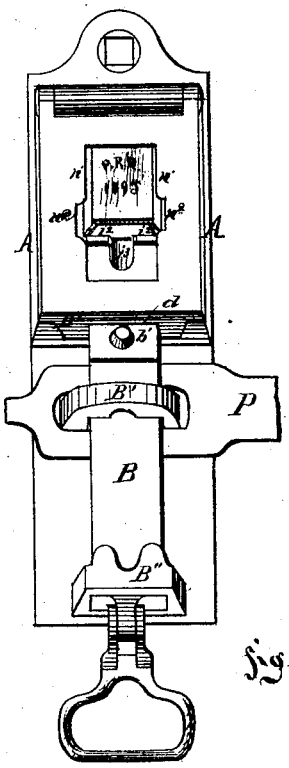

Fig. 2.

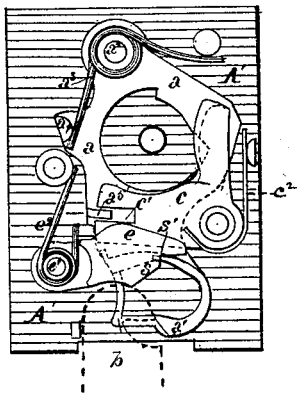

Fig. 3.

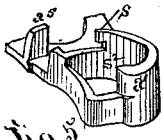

Fig. 5.

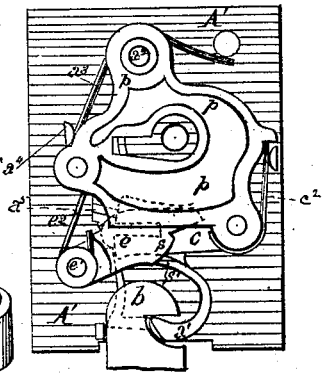

Fig. 4.

Witnesses { Morris Sellers
Thos. H. Christy.

Inventor: Jacob Kinzer
by George H. Christy
his atty in fact.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

JACOB KINZER, OF PITTSBURG, PA., ASSIGNOR TO HIMSELF, DAVID M. WATT, ROBERT PITCAIRN, AND JOHN J. TORLEY, OF SAME PLACE.

IMPROVEMENT IN SEAL-LOCKS.

Specification forming part of Letters Patent No. **160,336**, dated March 2, 1875; application filed September 29, 1874.

CASE E.

To all whom it may concern:

Be it known that I, JACOB KINZER, of Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Seal-Locks; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which like letters indicate like parts.

Figure 1 is a perspective view of my improved lock unlocked, with the lid open, and no seal in place. Fig. 2 shows the same devices in elevation, seal in place, lid closed and locked. Figs. 3 and 4 are detached plan views of the locking devices proper. Fig. 5 shows, in perspective, the locking end of the pivoted bolt; and Figs. 6 to 10 show, in perspective, different constructions of seals.

My invention relates to certain improvements in what are commonly known as seal-locks, chiefly designed for doors of railway freight, baggage, and express cars, bonded warehouses, &c.; but I will describe it with particular reference to its use on car-doors, it being within the power of the skilled mechanic to fit it up for other kindred uses.

In some of its features of construction the present lock resembles that described in patent granted to me May 6, 1873, No. 138,566. Like that it has a lock-case, A, containing the locking devices shown in Figs. 3 and 4, attached to the back-plate A′, as also a locking-bolt, B, with an end, *b*, of hook or other suitable shape, so as to be caught by the hook a^1 of the pivoted bolt *a* in the operation of locking. The bolt B also plays through suitable guides B′ B″, and is provided with a like stop-pin, *b*′, which, engaging some fixed part of the device, (say, the lower guide,) keeps the bolt B from falling out. A hasp, P, of any suitable form, is also employed in the usual way.

In my present improvement the lid D is hinged at one end to the lock-case, and at its lower or opposite end it has a flange, D′, which, when the lid is closed down, as in Fig. 2, comes between the end of the bolt B and the hook a^1. In this flange D′ is a mortise, *d*, for the bolt B to pass through in locking, so that the lid is secured in place by the bolt in the operation of locking.

The locking devices of Figs. 3 and 4 are made with a pivoted bolt, *a*, pivoted at a^2, carrying the locking-catch a^1, and pressed forward into a locking position by a spring, a^3, engaging a stud, a^4. These devices are clearly shown in Fig. 3, where the frame *p* of Fig. 4 is removed. The pivoted bolt *a* extends forward under the tumblers *c*, in any desired number, which are thrown into the position shown in Fig. 3 by the key in the usual way, and at the same time the pivoted bolt is thrown back, so as to bring the stud a^5 into the slot c^1 of the tumblers. A dog, *e*, is pivoted at e^1, and is so shaped that when the pivoted bolt *a* is thus thrown back the dog *e*, acted on by a spring, e^2, is thrown forward till a shoulder, *s*, on its forward or free end engages a shoulder, s^1, of the catch a^1. The devices are then in an unlocked position, and by the dog *e* are held in that position; and as this dog *e* is out of reach of the key the lock must remain in that condition until, by the insertion of the bolt B, its end comes against the dog, as shown by dotted lines in Fig. 3, forces back the dog, and thus releases the catch a^1. This catch, under the action of the spring a^3, then comes forward to the position shown in Fig. 4, so as to make a locking connection with the bolt B. At the same time the stud a^5 moves outside the notch c^1, and the tumblers *c*, acted on by the springs c^2, shift position, so as to prevent unlocking except by the key, the devices then being in the position shown by Fig. 4. The part of the pivoted bolt *a* adjacent to the head *b* of the bolt B is made broad vertically, as shown at s^2, Fig. 5, so as to extend from the back plate A′ to the dog *e*, and thereby close or prevent all access to the tumblers through the mortise at which the bolt enters the case, and so render it impossible to pick the lock, except through the key-hole.

The lid D has the usual opening *n*, and just below such opening is a seal-seat, *m*, in which is the key-hole. This seat has a pin, *i*, to perforate a paper-seal and hold it in place, which

it does in connection with a recess or socket, i^1, made in the inside face of the lid.

The studs i^2 provide means for supporting a metallic or rigid seal, and the recess i^3 is such as to facilitate the insertion of a tool for the purpose of breaking the seal or removing it or its broken fragments when necessary. The ledges n^1 project inward over the seal-seat far enough to cover the edges of the seal and hold it in place, though, for convenience in removing the seal, the notches n^2 are made at suitable intervals, and preferably near the lower end of the seal-seat, so that the edges of the seal can be got at.

The form of the lid-opening may be varied at pleasure, and the useful results above set forth be still obtained by the means specified.

In Figs. 6 to 10 I have shown various forms or constructions of seals, adapted to be used in connection with the lock above described. Fig. 6 shows a metallic seal-holder, *z*, such as is described in Patent No. 154,682, granted to me September 1, 1874, except that the hole *a* shown in said patent is wholly omitted, and the seal-holder is made so close or tight as to prevent any of the pieces of the frangible seal, when broken, from entering the key-hole. To this extent it performs a function more properly designated as a key-hole protector. It may be corrugated, as shown at z', or be finely perforated, as in Fig. 8, or may have any desired design, figures, letters, or other private or public mark or designation engraved or stamped therein or thereon, one such being also shown in Fig. 8. Where such mark or designation is used, I combine with it a glass or other transparent frangible seal, *y*, as illustrated in Fig. 8, or, the seal-holder being plain, if so preferred, I use a glass or other frangible seal, y^1, with the mark or other designation made thereon or therein, by casting or pressing, or in other known way, such seals being shown in Fig. 10; or a paper-seal y^2, with or without such mark or designation, may be employed with the seal-holder z', such seals being shown in Figs. 7 and 9, though such paper-seals are preferably used in connection with glass, as shown in Fig. 9; and it will be observed that in all these cases the seal-holders clasp the seal so that the two constitute but a single device for purposes of manipulation, and that, when inserted in its seat, the seal-holder constitutes a key-hole protector or guard-plate, not only to cover the key-hole against the insertion of the key, but also to keep the pieces of the seal from entering therein when broken.

When a car is running empty, it is sometimes preferred that the door should not be locked, but should still be fastened, so as not to swing out or be easily opened by tramps. The better to do this I arrange a swinging loop, *h*, or a hook, as its mechanical equivalent, on the bolt B, in such position that the bolt B may be passed through the guide B′ over the hasp P, so as to secure the latter in place, but without entering the lock-case, so as to disengage the dog *e*, and it is there secured in that position by the loop *h* being passed over a hook, *h′*, or other suitable catch on the guide B″, or other fixed part of the lock. The devices are then in the position shown in Fig. 1. The car can then be opened by the proper persons for inspection or loading, and, when loaded, can be sealed and locked, all without the use of a key, the necessary use of that implement being confined to those whose business it is to inspect the load *in transitu*, or to inspect or unload it at its destination. But the loop and hook may obviously change places, with the retention of the same useful function.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The guides B′ B″, arranged in line with the mortise in the flange D′ of the hinged lid, in combination with the bolt B, hasp P, and spring-catch, substantially as set forth.

2. In the hinged lid D, the flanges n^1, at the sides of its seal-opening, which, when the lid is closed, project inwardly, or cover a portion of the seal-seat of the lock-case, in combination with recesses n^2 in such flanges at suitable intervals, substantially as and for the purposes set forth.

3. The studs i^2, for supporting the seal from below, in combination with the recess i^3, substantially as described.

4. The bolt B, in combination with a catch, a', for locking it in one position, so as to lock the door, a loop and catch, *h h′*, for fastening it in another position, so as by engaging a hasp, P, to fasten the door without locking, and such bolt having a third position where it neither locks nor fastens the door, substantially as set forth.

5. As a new article of manufacture, a metallic seal-holder for seal-locks, having a distinguishing mark or design stamped or engraved thereon or therein, substantially as set forth.

6. An imperforate or finely-perforated sheet-metal key-hole protector, arranged as a part of the seal between the frangible plate and the key-hole, and which, as a part of the seal, shall be broken or destroyed in the removing of the seal, substantially as and for the purposes set forth.

In testimony whereof I have hereunto set my hand.

JACOB KINZER.

Witnesses:
JAMES M. CHRISTY,
GEORGE H. CHRISTY.