(Model.)

2 Sheets—Sheet 1.

J. F. INGHRAM.

SEAL LOCK.

No. 315,945. Patented Apr. 14, 1885.

Fig. 1.

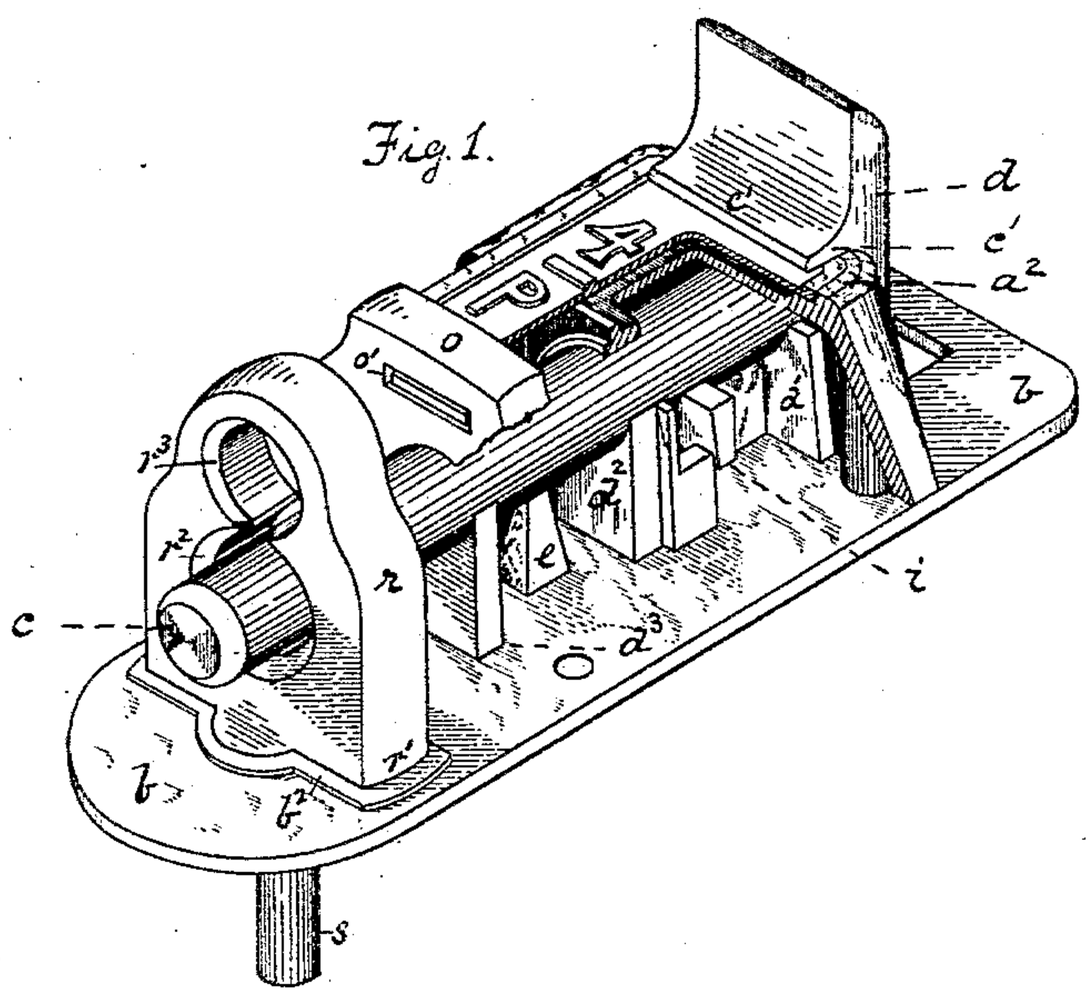


Fig. 2.

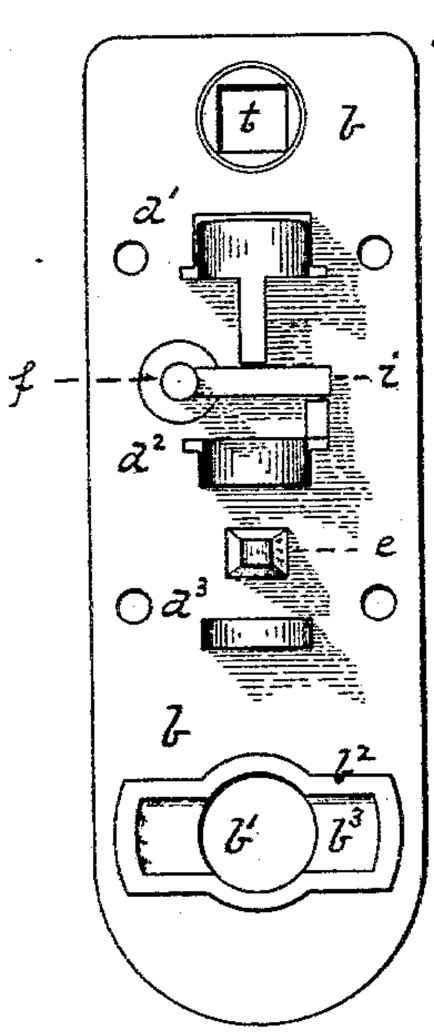
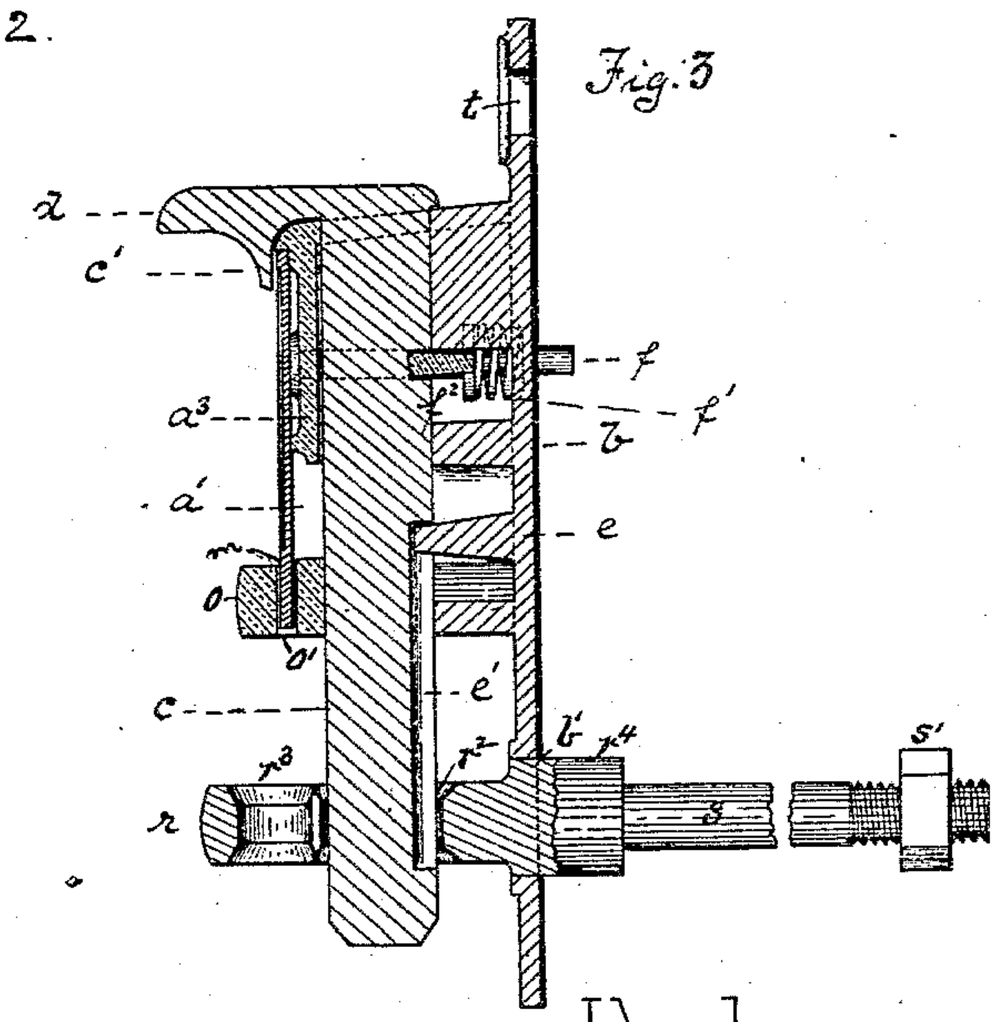


Fig. 3.



Witnesses.

J. A. Burns.

M. B. Corwin

Inventor.

John F. Inghram

by his attorneys

Bakewell & Kerr

(Model.)

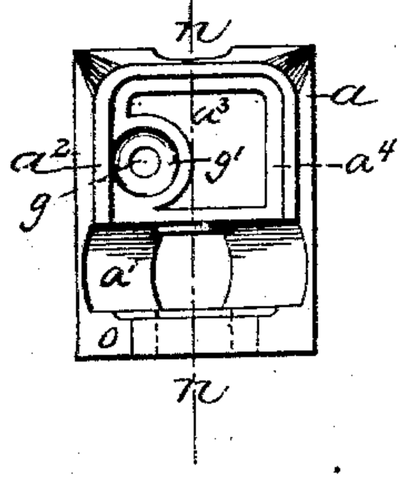
2 Sheets—Sheet 2.

J. F. INGHRAM.

SEAL LOCK.

No. 315,945. Patented Apr. 14, 1885.

Fig. 9.



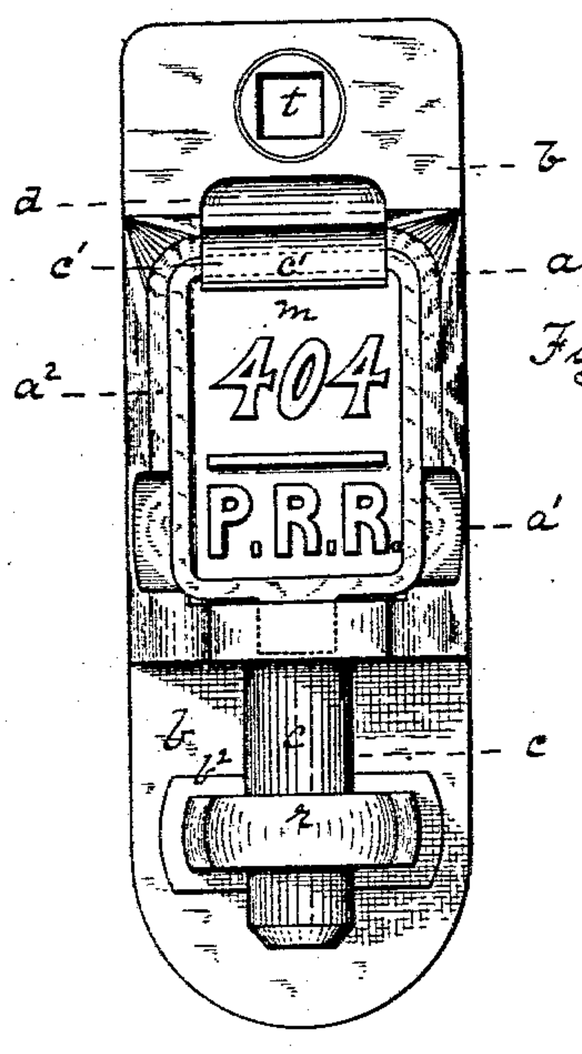
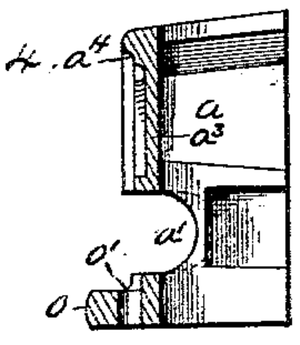


Fig. 10.

Fig. 4. a⁴



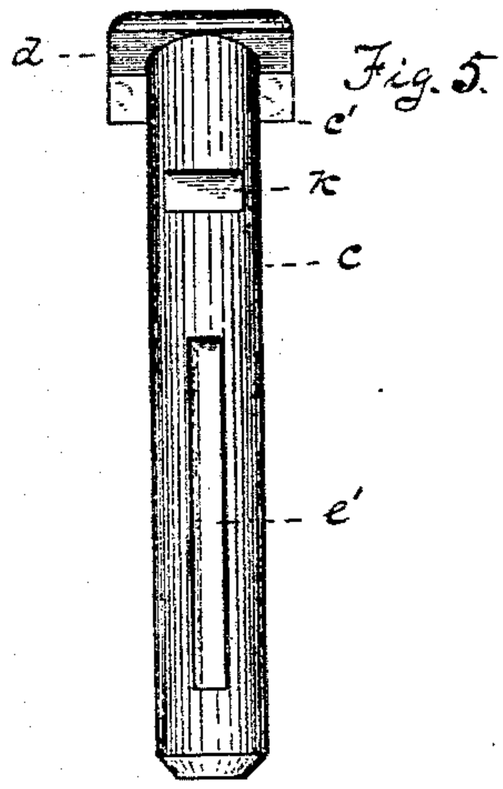


Fig. 5.

Fig. 6.

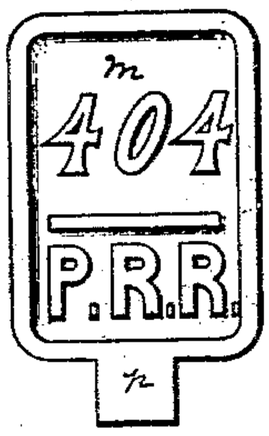


Fig. 7.

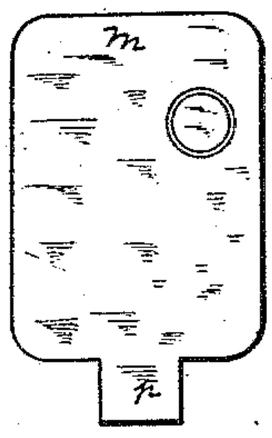
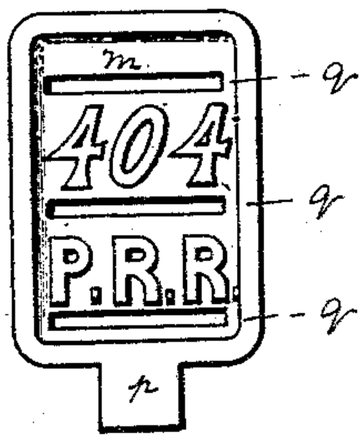


Fig. 8.



Witnesses.

J. A. Burns.

W. B. Corwin

Inventor.

John F. Inghram

by his attorneys

Bakewell & Kerr

UNITED STATES PATENT OFFICE.

JOHN F. INGHRAM, OF ALLEGHENY, ASSIGNOR OF ONE-HALF TO JOHN H. NOBLE, OF HULTON, PENNSYLVANIA.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 315,945, dated April 14, 1885.

Application filed November 13, 1884. (Model.)

To all whom it may concern:

Be it known that I, JOHN F. INGHRAM, of the city of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Seal-Locks; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view, partially broken away, of my improved seal-lock. Fig. 2 is a plan view of the rear plate of the lock-case, showing the spring-dog and bolt-guide. Fig. 3 is a vertical sectional view of the lock. Fig. 4 is a front elevation of the lock, showing the seal in position. Fig. 5 is a rear view of the sliding bolt. Fig. 6 is a front view of the frangible seal. Fig. 7 is a rear view of the same. Fig. 8 is a view of a modified form of the seal. Fig. 9 is a plan, and Fig. 10 is a longitudinal section of the case on line *n n* of Fig. 9, without the back plate or working parts.

Like letters of reference indicate like parts wherever they occur.

In the drawings, *a* represents the case of the lock, the open or rear side of which is closed by a plate, *b*, united thereto by rivets or screws. Extending through the lock-case is the vertical bolt *c*, at the upper end of which, outside of the lock-case, is the lateral arm *d*, on the lower face of which arm is a rib or lug, *c'*, which extends vertically downward over a portion of the upper part of the face-plate a^3.

On the inner face of the rear plate, *b*, are the grooved guide-lugs d' d^2 d^3, and between the lugs d^2 d^3 is a projecting lug, *e*, which engages in a vertical guide-slot, *e'*, formed on the back or rear face of the bolt *c*, and thereby prevents the bolt *c* from rotating on its axis.

Between the lugs d' and d^2 is a spring-bolt, *f*, extending through the lock-case at right angles to the face and rear plate, one end of which spring-bolt extends through the hole or aperture *g* in the face-plate a^3, the other end sliding in an aperture in the rear plate, the spiral spring *f'*, which encircles and actuates the bolt, being interposed between the inner face of the rear plate, *b*, and a collar, f^2, on the bolt *f*.

Inside of the lock-case, extending laterally from the side of the spring-bolt *f* and integral with or firmly attached thereto, is a dog or lug, *i*, which bears against the rear side of the bolt, and is designed to engage with the lateral slot *k* therein, so that when the bolt is lowered in the case and the slot *k* comes opposite the dog *i* the force of the spring *f'* shoots the dog into said slot *k* and locks the bolt in its lowered position, so as to prevent its being raised until the spring-bolt *f* is forced back by pressure on the end thereof which projects through the front or face plate, a^3.

Around the upper edge and sides of the face-plate a^3 is a bead, a^2, in which there is a shallow seat, a^4, (see Figs. 9 and 10,) for the reception of the seal *m*. That portion of the face-plate around the spring-bolt *f* is depressed below the surface of the seat a^4, so that when the seal is in position the latter shall not be in contact with the end of the spring-bolt, which projects above the surface of the depressed portion of the face-plate, so that it may be pushed back to release the bolt *c* by the finger, and thus obviate the necessity of inserting an instrument in the hole *g* for that purpose. Preferably I make a concave recess, *g'*, in the face-plate around the hole *g*, to permit a longer movement and as a guide for the finger.

Extending across the case *a*, between the face-plate a^3 and the foot or projection *o*, is a deep lateral recess, *a'*. The projection *o* extends outward beyond the plane of the face-plate a^3, and has a vertical slot or opening, *o'*, which is flush with the seat a^4, and is designed to receive the tongue *p* on the lower end of the seal when the latter is in position in the lock.

When the lock is put together, the position of the parts is as follows: The bolt *c* fits in the lugs d' d^2 d^3, and its head *d* projects from the upper end of the case *a*. The lug *e* extends into the slot *e'*, and the bolt *f* extends across the case at the side of the bolt *c*, while its lug *i* extends in the rear of the same. In the lower end of the plate *b* is a hole, *b'*, for the passage of the shank of the keeper *r*, and on the face surrounding said hole is a bead, b^2, forming a shallow seat, b^3, the shape of which is the counterpart of the heel *r'* of the keeper. The keeper has a hole, r^2, for the reception of the end of the bolt *c*, an eye, r^3, for the attachment of a padlock, if desired, a shank,

r^4, which passes through the plate *b*, and a threaded bolt-stem, *s*, which forms the lower bolt by which the lock is fastened to the car, being provided with a nut, *s'*, to secure it on the inside. The shank r^4 may, if desired, be dispensed with and the stem *s* extend directly from the keeper. This construction of combined keeper and fastening-bolt enables me to dispense with a separate bolt and to cast the plate *b* without coring, thereby cheapening the manufacture and simplifying the lock, while it makes a stronger structure than if the keeper were cast with or riveted to the plate *b*, and fastens the hasp more securely. The upper end of the lock is fastened to the car by a bolt through the hole *t*.

The position of the seal when in place is shown in Figs. 3 and 4. The upper edge is held by the overlapping lip *c'* of the bolt *c*, and the lower end by the tongue *p*, extending in the slot *o'* of the projection *o*. It is not slid into nor held in place by guides, but merely placed against the face-plate. The upper portion rests by its edges against the seat a^4 on the face-plate, and the lower portion extends across the deep open transverse recess *a'*. It is only supported at the edges, and is therefore easily fractured by a slight blow of a hammer, which may safely be delivered without danger of breaking the case or injuring the lock, owing to the clear space back of the seal and the absence of overlapping guides or retaining-flanges for holding it. The deep recess *a'* enables the pieces of the seal to drop down easily and clear the lock. An important function of the deep open recess *a'* is that it enables the rear side of the seal to be inspected, thereby insuring greater safety.

Sometimes persons will open a car and then paste or glue the pieces of the broken seal on a piece of paper and restore it to place. The face of the seal in such a case will often not reveal the fracture except on very close inspection, while a glance at the back will discover the fraud instantly, and my improved lock affords opportunity for such inspection.

The operation is as follows: When it is desired to lock the car-door, the bolt *c* is raised, the hasp is placed over the keeper *r*, the seal is put in place by inserting its tongue *p* in the slot *o*, and resting the upper part of its body against the seat a^4, and then the bolt *c* is lowered until the lug *i* shoots into the slot *k*, when it will be locked with its lower end projecting through the hole r^2 of the keeper *r* over the hasp, and its lip *c'* projecting down over the upper edge of the seal *m*, securing the seal firmly in place, so that it cannot be removed without breaking it.

When it is desired to unlock the door, the seal is broken and the bolt *f* pressed back to release the bolt *c* from the lug *i*. Then the bolt *c*, being free, is raised out of the keeper *r* and the hasp removed from the latter, when the car-door may be opened.

The bolt *c* is made non-rotatory, so that the lip *c'* will be guided properly over the upper edge of the seal.

In Fig. 8 a modified form of seal is shown, having perforations *q*, the purpose of which is to prevent the seal, after it has been broken, from being repaired without detection by pasting paper on the rear face thereof, the perforations being of sufficient size to permit light to pass through from the depression *a'* in the face of the bracket.

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

1. The combination of a sliding bolt provided with a locking-slot and a spring-bolt provided with a locking-lug with a case for containing said parts, having a face-plate with the end of the spring-bolt projecting through the face-plate and beyond the surrounding surface of the same, substantially as and for the purposes described.

2. In a seal-lock, a sliding bolt provided with a locking-slot, and a spring-bolt with a locking-lug, in combination with a case for containing said parts, having a face-plate provided with a seal-seat and a depressed central portion, with the end of the spring-bolt projecting through the face-plate into the depressed portion below the seal-seat, so as to be operated by the finger when the seal is removed, substantially as and for the purposes described.

3. In a seal-lock, the combination of a sliding non-rotatory bolt having a downwardly-projecting lip for holding the upper edge of a seal resting against the face-plate, an outward projection of the case, having a slot for receiving and holding the lower end of the seal, and a deep open transverse recess extending across the case between the face-plate and the said outward projection, substantially as and for the purposes described.

4. A frangible seal having perforations formed therein, substantially as and for the purposes specified.

5. A flat frangible seal having a projecting tongue extending from an edge thereof, adapted to engage in a retaining-recess in the lock, substantially as and for the purpose specified.

In testimony whereof I have hereunto set my hand this 4th day of October, A. D. 1884.

JOHN F. INGHRAM.

Witnesses:
W. B. CORWIN,
THOMAS W. BAKEWELL.