

(No Model.)

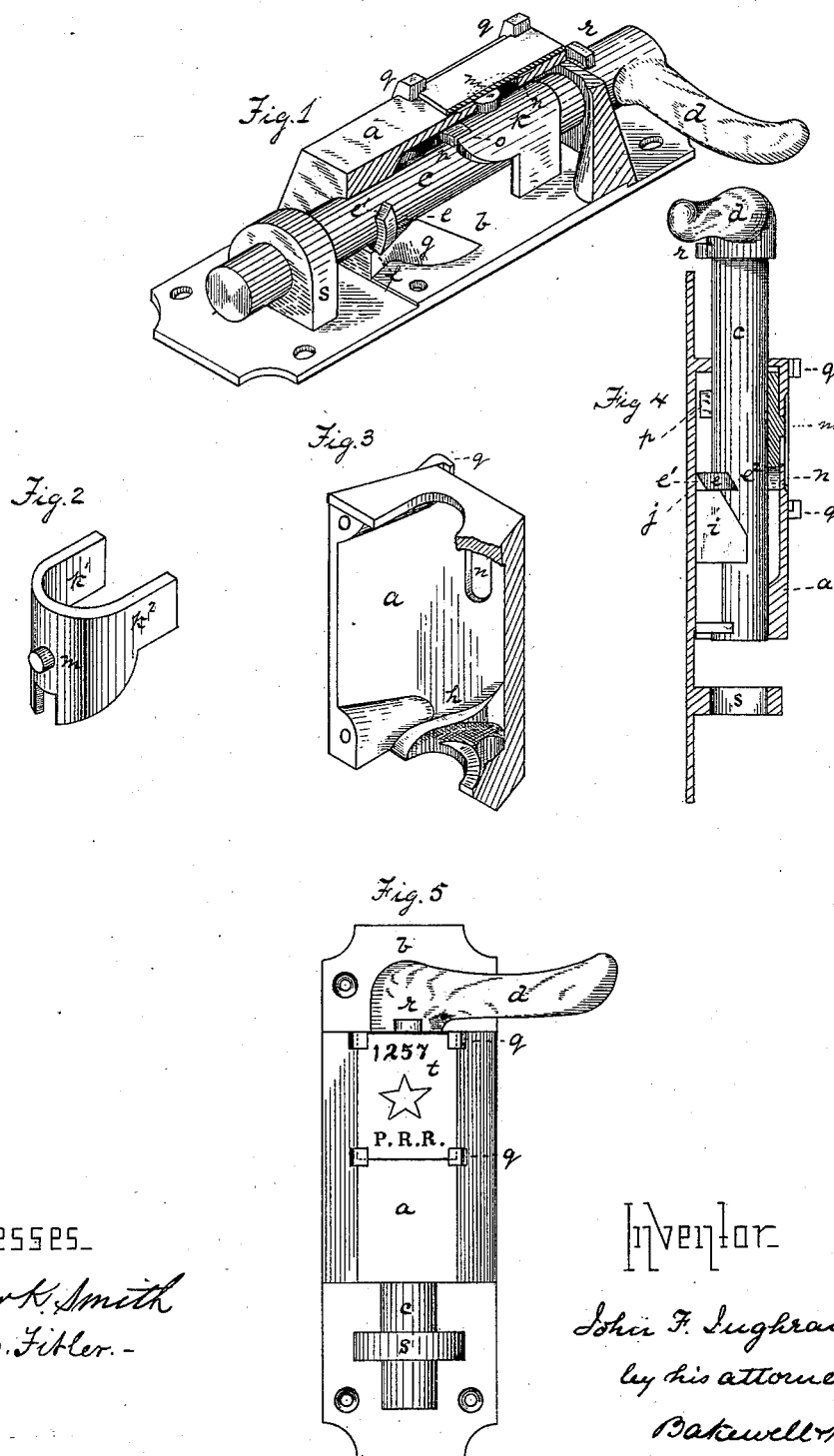
2 Sheets—Sheet 1.

J. F. INGRAM.

SEAL LOCK.

No. 304,649.

Patented Sept. 2, 1884.



Witnesses.
J. W. K. Smith
L. C. Fidler.

Inventor
John F. Ingram
by his attorneys
Bakewell & Kerr

(No Model.)

2 Sheets—Sheet 2.

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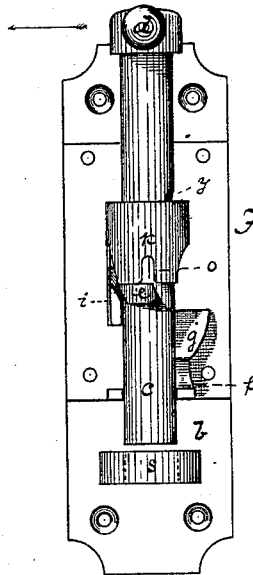


Fig. 6

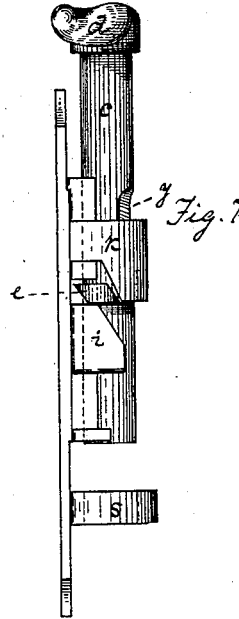


Fig. 7

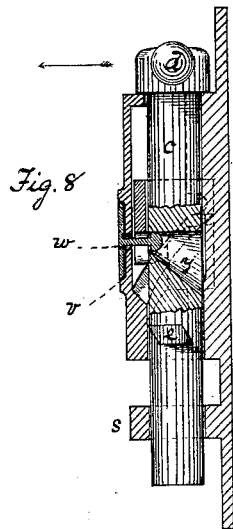


Fig. 8

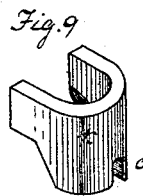


Fig. 9



Fig. 11

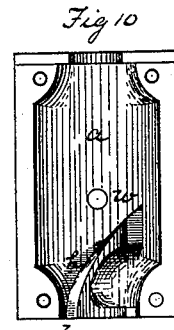


Fig. 10

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UNITED STATES PATENT OFFICE.

JOHN F. INGRAM, OF ALLEGHENY, PENNSYLVANIA.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 304,649, dated September 2, 1884.

Application filed November 22, 1883. (No model.)

To all whom it may concern.

Be it known that I, JOHN F. INGRAM, 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.

My invention relates to an improvement in seal-locks; and it consists in the arrangement and construction of devices whereby a rotary movement is imparted to the bolt as it is raised or lowered, in devices for locking the bolt, and in devices for locking the seal.

I will now describe my invention, so that others skilled in the art may manufacture and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of my improved lock. Fig. 2 is a detached view of the locking-dog. Fig. 3 is a detached perspective view of the inside of the face-plate. Fig. 4 is a vertical sectional view of the lock. Fig. 5 is a front elevation of the lock. Fig. 6 is a front elevation of a modified form of my improved lock, the face-plate being removed. Fig. 7 is a side elevation of the same. Fig. 8 is a side elevation of the same, partly in section. Fig. 9 is a detached view of the locking-dog. Fig. 10 is an elevation of the inside of the face-plate, and Fig. 11 is a detached view of the seal.

Like letters of reference indicate like parts wherever they occur.

In the drawings, *a* represents the front or face plate, and *b* the rear plate, which plates are united by rivets or bolts, and together form the case of the lock.

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*.

Inside of the lock-case, on the side of the bolt, is a projecting lug, *e*, having inclined sides or ends *e'* *e''*, which engage with an inclined plane, or the segment of a spiral which is formed in the interior of the lock-case by the V-shaped notch *f* in the projecting lug *g* on the rear plate of the case, the inclined groove *h* on the inner side of the face-plate *a*, and the inclined face of the lug or projection

i on the rear plate. The upper end of this lug *i* is at right angles to the face of the plate *b*, forming a shoulder or rest, *j*, which supports the lug *e* and retains the bolt in its elevated position.

Inside of the lock-case is a sliding yoke or dog, *k*, having parallel arms *k'* *k''*, with flat edges, which rest on the face of the plate *b*, and a curved front portion, which rests on and over the bolt *c*. On the face of this dog is a projecting button, *m*, which extends through an oblong slot or opening, *n*, in the face-plate *a*.

In the lower edge of the dog *k* is the slot *o*, which is adapted to engage with a lug, *p*, on the bolt *c* above the lug *e*, extending from the bolt at right angles to the lug *e*.

On the outer side of the face-plate *a* is a bracket for the reception of the seal, which bracket is formed by the recessed projecting lugs *q*, which are arranged at the sides of the opening *n*, so that the opening shall be closed by the insertion of the seal in the bracket.

Above the lock-case, on the bolt *c*, on a line with the lug *p*, is a projecting lug, *r*, which, when the bolt is lowered, is brought above the seal and prevents it from being removed from the bracket.

Below the lock-case, on the face of the plate *b*, is a thimble, *s*, through which the bolt passes when it is lowered.

The operation is as follows: The bolt being in a raised position, in order to lock the door, the hasp is placed over the thimble *s*, the seal *t*, which is a flat frangible seal, is placed in the bracket *q* by sliding it downward from the top of the lock-case in the dovetails or recesses in the lugs, and the bolt *c* is lowered by giving it a half-revolution on its axis by the arm *d*, the bolt being guided by the face *e'* of the lug *e* traveling on the inclined face of the lug *i* and the groove *h*, and the face *e''* traveling on the inclined face of the notch *f*, which inclines form the spiral, until the end of the bolt passes through the thimble over the hasp. When the bolt is raised to its elevated position, the dog *k* is lifted by the lug *e*, and as the lug *p* passes under the inclined lower edge of the dog *k* the dog is retained thereby in its elevated position until the lug comes under the slot *o*, when the dog falls by the force of gravi-

ty and incloses the lug in the slot. At the same time the lug *r* is brought over the upper edge of the seal *t*, and in such a position that the seal cannot be removed from the bracket. By these means the bolt is locked, as it is prevented from being turned on its axis by the dog *k* engaging with the lug *p*, and owing to the spiral it cannot be raised without turning on its axis, and the seal is locked by the lug *r*.

In order to unlock the bolt, it is first necessary to break and remove the seal, so as to obtain access to the opening *u*. When the seal is broken, the dog *k* may be raised by the lug or button *m*, which releases the lug *p* from the slot *o*, allowing the bolt *c* to be raised to its original position, the lug *e* resting on the shoulder *j*.

In Figs. 6, 7, 8, 9, 10, and 11 of the drawings my improved lock is shown arranged to be used with a seal having an internally-projecting shank, *u*, and button *x*, the face of the seal resting in a recess, *v*, in the outer face of the plate *a*, the shank of the seal entering the lock-case through an opening, *w*, in the center of the recess *b*, and the button *x* at the end of the shank engaging with an inclined slot, *y*, in the bolt *c*, in which position it is locked by the dog *k*, the slot *o*, which is less in width than the button, inclosing the shank of the seal.

The operation is as follows: The bolt *c* being in a raised position, the dog *k* being supported in the upper portion of the lock-case by the lug *e*, the shank of the seal is inserted through the opening *w*, the button *x* coming in contact with the bolt *c*. The bolt *c* is then lowered, in the manner already described, until the end enters the thimble *r* and secures the hasp. At the same time, the inclined slot *y* being brought under the opening *w*, the button *x* enters the slot, which releases the dog *k*, so that it falls and incloses the shank of the seal. By these means the bolt is locked, so that it cannot be

turned on its axis, and thereby raised without breaking the button from the shank of the seal, and the seal is locked by the dog *k*. In order to release the hasp, the bolt is turned on its axis by the arm *d*, which breaks the button *x*, and thereby mutilates the seal. When the button is broken from the shank, it falls to the bottom of the lock-case and out through the opening *z*.

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

1. In a seal-lock, the combination of a bolt susceptible of axial as well as longitudinal movement, a spiral or inclined plane engaging with the bolt to guide the movement of the bolt, and to prevent the bolt being raised without at the same time being turned on its axis, and a device or devices for locking the bolt by preventing its being turned on its axis, substantially as and for the purpose specified.

2. In a seal-lock, a bolt susceptible of axial as well as longitudinal motion, engaging with an inclined plane or spiral, which prevents the bolt being raised without at the same time being turned on its axis, a dog which engages with the bolt when in a locked position, to prevent the turning of the bolt on its axis, a bracket for the reception of a frangible seal, which seal prevents access being had to the locking-dog, and devices for engaging the bolt with the seal when the bolt is in a locked position, to prevent the seal being removed from the bracket without being broken, substantially as specified.

In testimony whereof I have hereunto set my hand this 16th day of November, A. D. 1883.

JOHN F. INGRAM.

Witnesses:

THOMAS W. BAKEWELL,
JOHN S. KENNEDY.