No. 621,637. Patented Mar. 21, 1899.

J. P. DOHERTY.

SEAL LOCK.

(Application filed Nov. 21, 1898.)

(No Model.)

Fig. 1.

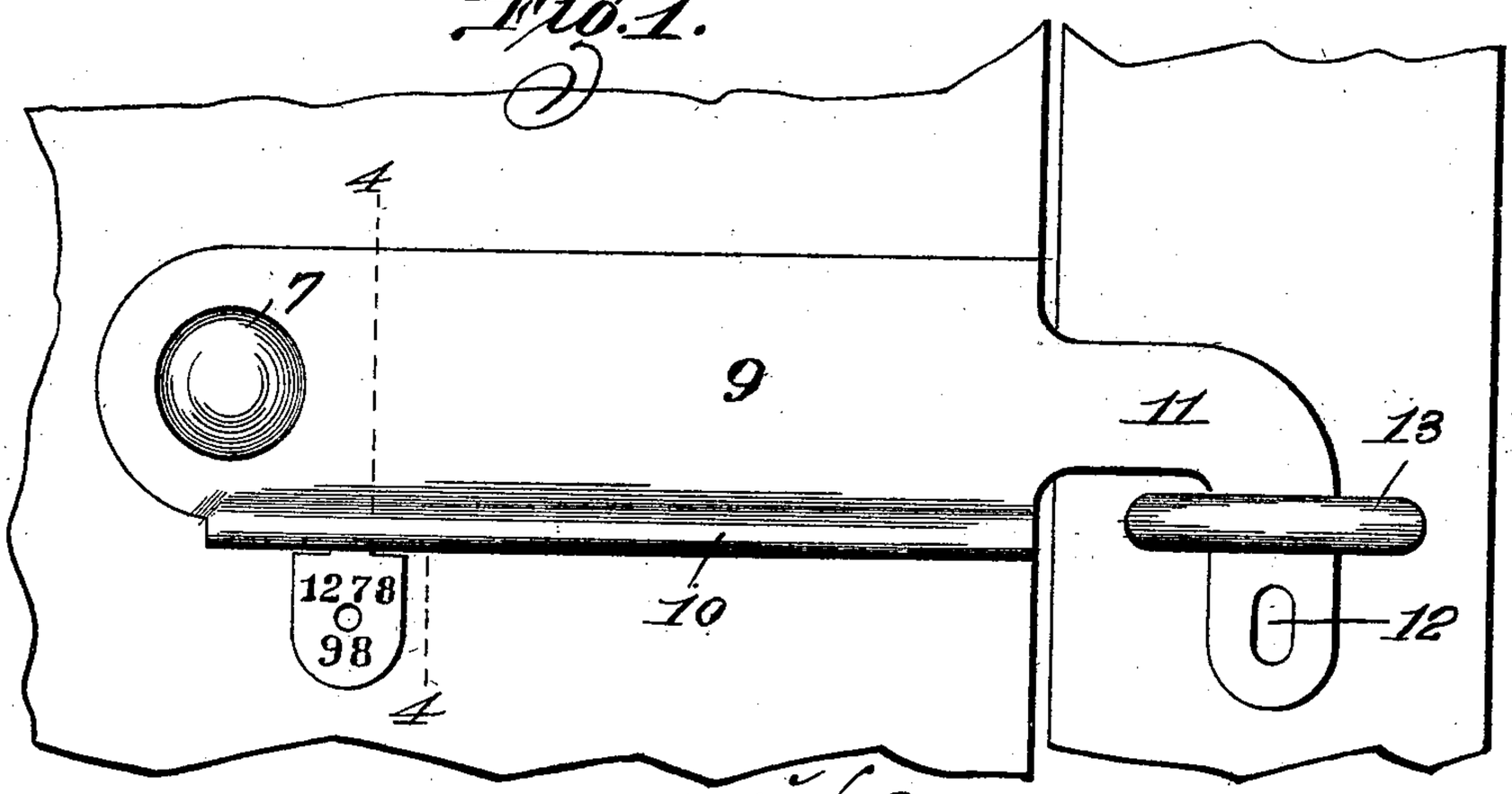


Fig. 2.

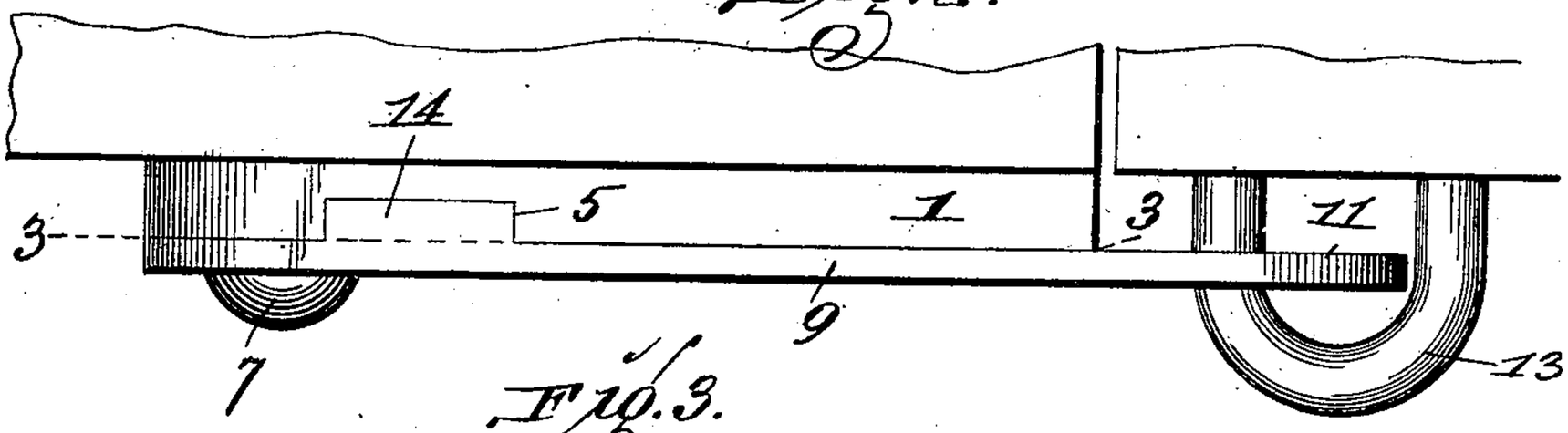


Fig. 3.

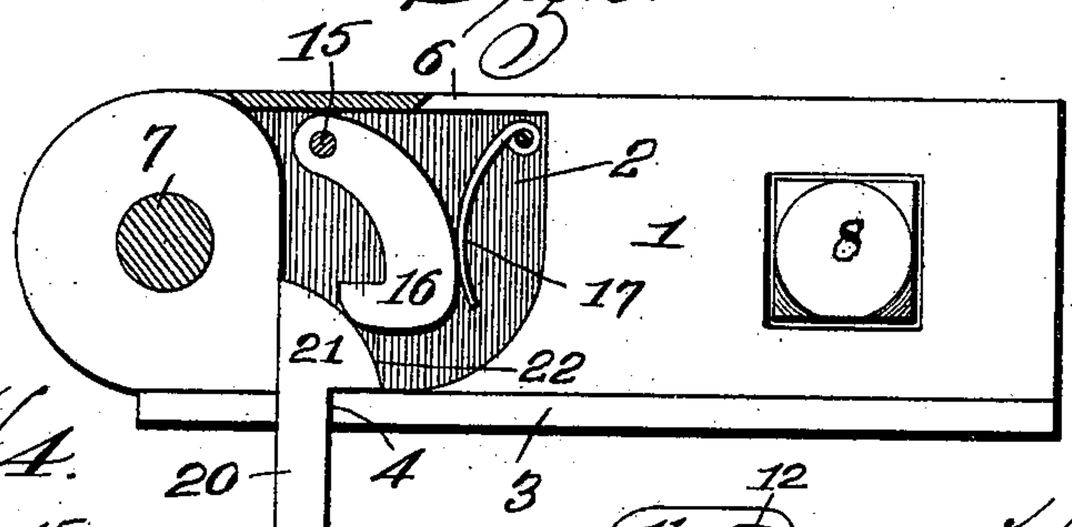


Fig. 6.

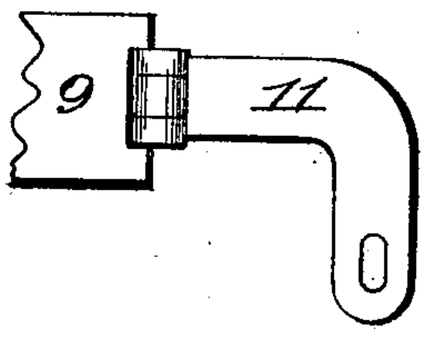


Fig. 4.

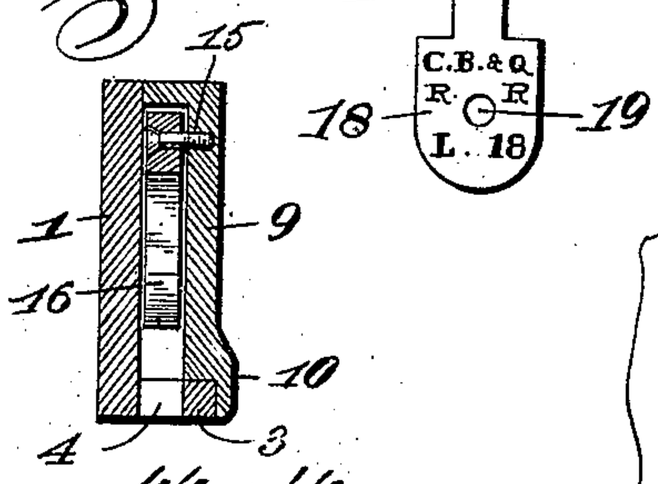
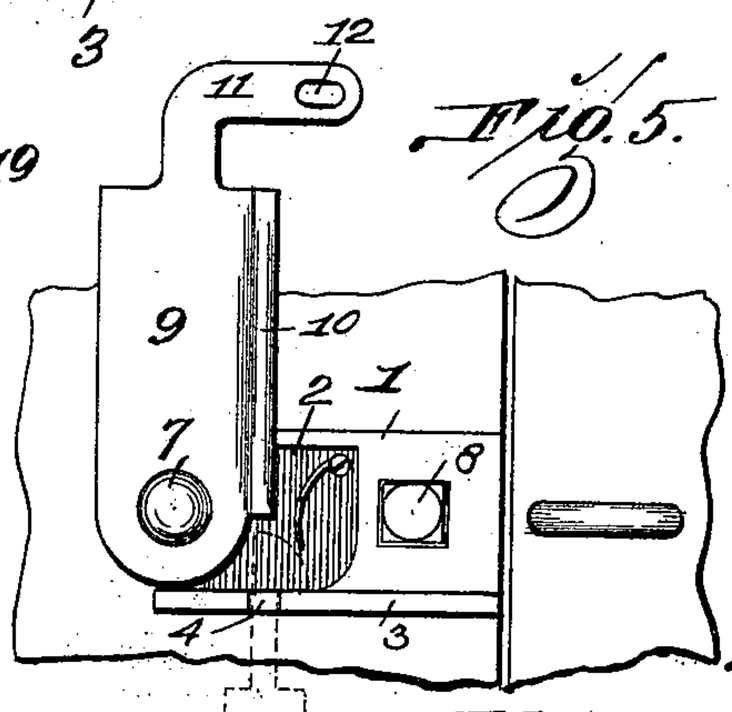


Fig. 5.



Attest

H. P. Smith

Maude Griffin

Inventor:

John P. Doherty:—

By Higdon & Langan Atty's.

UNITED STATES PATENT OFFICE.

JOHN P. DOHERTY, OF EAST ST. LOUIS, ILLINOIS.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 621,637, dated March 21, 1899.

Application filed November 21, 1898. Serial No. 697,047. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. DOHERTY, of the city of East St. Louis, St. Clair county, State of Illinois, have invented certain new and useful Improvements in a Combined Latch, Lock, and Seal for Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to a combined latch, lock, and seal for cars; and it consists of the novel construction, combination, and arrangement of parts hereinafter described and claimed.

Figure 1 is a side elevation of my combined latch, lock, and seal. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical sectional view taken approximately on the line 3 3 of Fig. 2. Fig. 4 is a vertical sectional view taken approximately on the line 4 4 of Fig. 1. Fig. 5 is a detail view showing the position of the lock previous to the positioning of a seal therein. Fig. 6 illustrates a modified form of a portion of my improved device.

In the construction of my improved latch, lock, and seal a plate 1 is horizontally arranged upon the surface at the edge of the car-door, in which plate 1 is formed a recess 2, the same being located in said plate a short distance to the left of the center thereof, and formed integral with and projecting outwardly from the lower edge of the plate 1 is a flange 3, in which flange is formed a rectangular notch 4, the same communicating with the recess 2. The upper end of the recess 2 does not communicate with the top of the plate 1, and there is an opening 5 leading from the recess 2 through the flange 6 above said recess. The plate 1 is rigidly fixed in position by means of the bolts 7 and 8, said bolt 8 having its head countersunk in the right-hand end of the plate 1 and a bolt 7 passing through the left-hand end of said plate 1, and upon said bolt 7 is pivotally arranged a spring-plate 9. This plate 9 is of the same shape and coincides with the plate 1, there being an outwardly and downwardly projecting flange 10 formed integral with the lower edge of said plate 9, said flange 10 extending downwardly over the flange 3. Formed integral with the right-hand end of the spring-plate 9 is a hook 11, the same being provided with an eye 12, and said hook is intended to pass through the staple 13, that is fixed in the car-door frame. Integral with the upper edge of the spring-plate 9 is a rearwardly-projecting flange 14, that normally occupies the opening 5 in the flange 6. Pivoted upon the pin 15, that is carried by the plate 9 within the recess 2, is a detent 16, the hooked lower end thereof normally occupying a position just below the center of the recess 2, and a leaf-spring 17 is arranged within said recess in such a manner that its free end engages upon the rear side of the lower end of said detent.

The seal made use of in carrying out my invention is constructed of glass, earthenware, or analogous frangible material, the same comprising the body 18, upon which may be formed the characters indicating the name of the railway, the date, the number of car, and the inspector's number, and through the center of said body is formed an aperture 19. Formed integral with and extending upwardly from the center of the body 18 is a rectangular neck 20 of such size as that it will fit readily within and pass through the notch 4. Integral with the upper end of said neck 20 is a triangularly-shaped head 21, the same having a curved face 22, which curved face is intended to engage against the point of the detent 16.

When my improved device is used as a latch, the hook 11 is swung downwardly into the staple 13 after the car-door is shut, and if it is desired to lock said door and none of the seals used in my improved device are available the ordinary car-seal comprising the twisted wire and lead disk may be employed, said wire being first passed through the eye 12 and then through the staple 13 before being engaged by the lead disk.

When it is desired to lock and seal a car with my improved device, the operator first swings the plate 9 upwardly into a vertical position, and by so doing the detent 16 is thrown upwardly through the opening 5, after which one of the seals comprising the body 18, neck 20, and head 21 is placed in position, as shown by dotted lines in Fig. 5—that is, with the head 21 within the recess 2, the under side of said head resting directly upon the flange 3 and the neck 20 passing through the rectangular notch 4. The plate 9 is now swung downwardly, so that the hook 11 engages through the staple 13, and this brings

the point of the detent 16 directly onto the curved face 22 of the head 21, as shown in Fig. 3.

To seal the car, the operator need only engage the body 18 and elevate the same until the upper end of said body engages against the under side of the flange 3, and this movement causes the head 21 to pass upwardly into the recess 2, and in so doing the hooked lower end of the detent 16 is moved laterally, overcoming the resistance offered by the leaf-spring 17 until the notch or shoulder between the head and neck of the seal passes the hooked end of the detent, whereupon said hooked end will engage beneath said shoulder and the sealing operation is complete.

The distance from the top of the hook of the detent to the under side of the flange 3 is equal to the length of the neck 20 of the seal. Therefore said seal must be pushed to its entire limit of movement upwardly before the sealing operation is complete, and when in this position the plate 9 cannot be raised until the seal is broken. The leaf-spring 17 prevents the detent from releasing from the head of the seal while the car is in motion, and by the arrangement of the flanges 3 and 10 it will be impossible to insert a knife-blade or thin strip of metal to release the detent after the same has once engaged the head of the seal.

To unseal and open the device, it is first necessary to break the body 18 from the neck 20, said break being made at the point where said body and neck join, and after said body has been broken from the neck it may be filed away by being strung on a wire or cord, and the plate 9 may be elevated so as to allow the car-door to open, and the head and neck of the seal may be removed from the lock while the plate 9 is in a vertical position. In some instances the hook 11 may be hinged to the plate 9, as illustrated in Fig. 6, this construction being employed where the door and door-frame occupy different planes.

Thus it will be seen how I have constructed a combined lock, latch, and seal for cars that possesses superior advantages in point of simplicity, durability, and general efficiency.

I claim—

1. In a device of the class described, a plate fixed to the car-door, in which plate is formed a recess, a flange integral with the lower edge of said plate, in which flange is formed a notch communicating with the recess, a plate pivoted to the first-mentioned plate, a hook integral with the free end of the second-mentioned plate, a flange integral with the lower edge of the second-mentioned plate, which overlies the flange of the first-mentioned plate, a spring-actuated detent carried by the second-mentioned plate and normally occupying a position within the recess, and a frangible seal passing upwardly through the notch in the flange of the first-mentioned plate and engaging the detent when the second-mentioned plate is in position upon the first-mentioned plate, substantially as specified.

2. In a device of the class described, the combination with a pair of plates, one of which is fixed to the car-door, in which plate is formed a recess, the remaining plate being pivoted to the first-mentioned plate, which last-mentioned plate is provided at its free end with a hook, of a spring-actuated detent carried by the pivoted plate and entering the recess in the fixed plate, and a frangible seal passing into said recess and having an integral triangular head for engaging the point of the detent when the pivoted plate is in position upon the fixed plate, substantially as specified.

3. In a device of the class described, the combination with a pair of plates, one of which is fixed to the car-door and provided with a recess, the opposite plate being pivoted upon the first-mentioned plate, which last-mentioned plate is provided at its free end with a hook, of a spring-actuated detent carried by the pivoted plate and entering the recess, and a frangible seal constructed with the body 18 having an aperture therethrough, the neck 20 integral with said body and the triangular head 21 integral with said neck, which triangular head is provided with a curved face 22 on which the point of the detent rides, substantially as specified.

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

JOHN P. DOHERTY.

Witnesses:
M. P. SMITH,
MAUDE GRIFFIN.