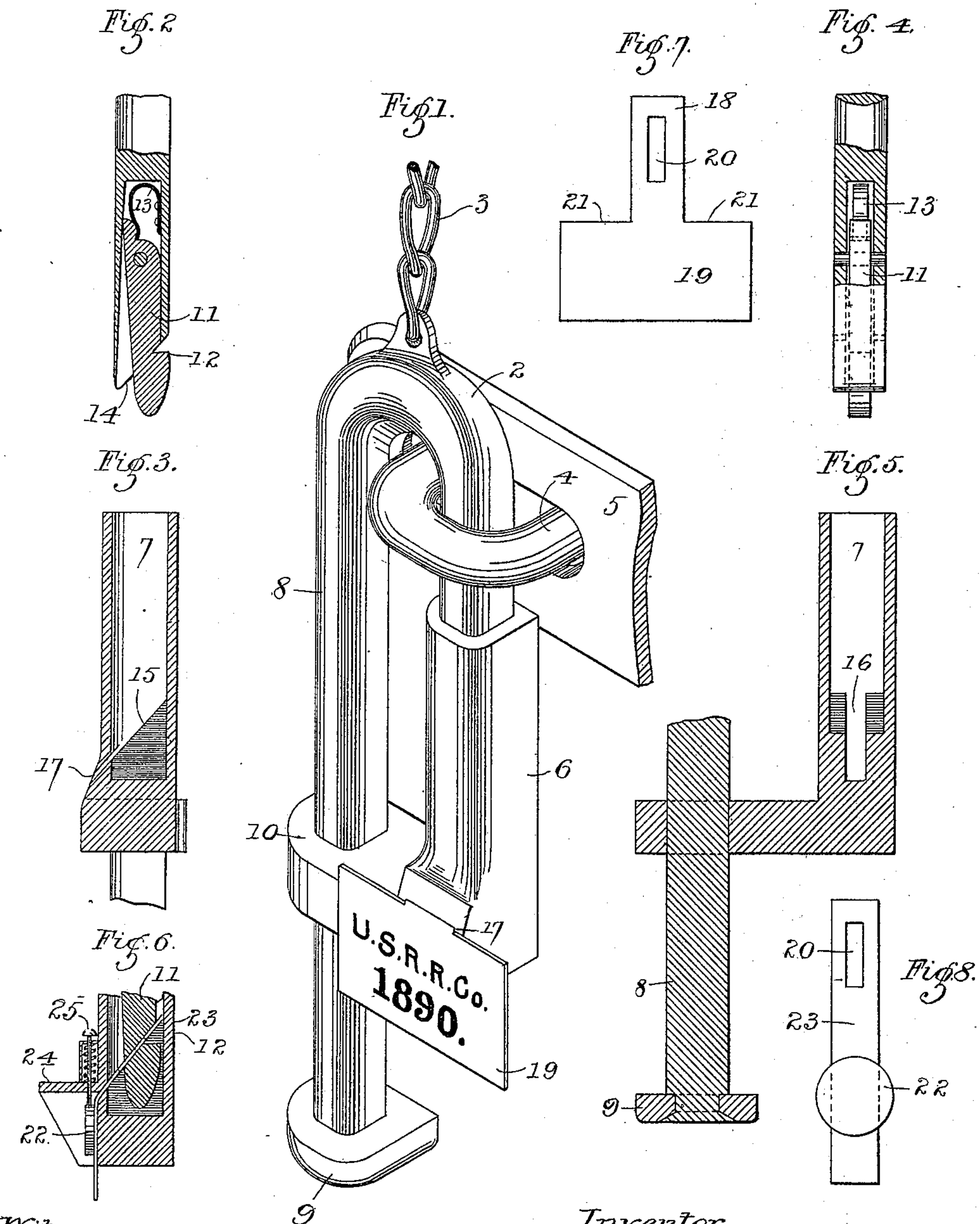


(No Model.)

D. F. MACCARTHY.  
SEAL LOCK.

No. 441,770.

Patented Dec. 2, 1890.



Witnesses:-

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# UNITED STATES PATENT OFFICE.

DANIEL F. MACCARTHY, OF ST. PAUL, MINNESOTA.

## SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 441,770, dated December 2, 1890.

Application filed May 15, 1890. Serial No. 351,991. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL F. MACCARTHY, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Seal-Locks, of which the following is a specification.

My invention relates to improvements in devices for securing and sealing the doors of railway freight-cars; and it consists in arranging a seal attachment to be secured to the bolt or pin used for fastening the door when closed, so as to prevent the withdrawal of the bolt and unfastening of the car-door without breaking the seal.

My invention further consists in the construction and combination hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is an isometrical projection of my improved seal-lock shown in a locked or sealed position and attached to the staple of the car. Fig. 2 is a detail sectional view of the locking-dog arranged in the bolt. Fig. 3 is a sectional detail of the seal-holder. Fig. 4 is another sectional detail of the end of the bolt, showing the arrangement of the dog therein. Fig. 5 is a sectional detail of the seal-holder, showing its connection to the bolt. Fig. 6 is a detail of a modified form of the seal-holder. Fig. 7 is a plan view of a seal, and Fig. 8 is a plan view of a modified form of seal provided with a torpedo.

In the drawings, 2 represents the securing pin or bolt, which is attached to the car, preferably by means of a chain 3, and is adapted to be inserted through the staple 4 in the body of the car over the hasp 5 of the car-door, so as to fasten the door.

6 is the seal-holder, which is formed with a socket 7 to receive the end of the bolt. This seal-holder may be attached to the car in any desired manner; but I prefer to connect it loosely and permanently with the bolt itself, as shown in Fig. 1. The bolt is provided with a depending arm 8, having a head 9 at its lower end, and the seal-holder is provided with the projection or arm 10, having an opening, through which the arm 8 is passed, and permanently held therein by means of the head 9, afterward secured thereon. The seal-holder is thus permanently attached to the

bolt, but is free to slide up and down on the arm 8 to permit of sealing and unsealing the car.

The end of the bolt 2 is socketed to receive the dog 11, pivotally secured therein and provided with the catch 12 near its point, which projects beyond the end of the bolt. A spring 13, arranged in the socket of the bolt, bears upon the dog and tends to hold it in bearing contact with the wall of the socket adjacent to the catch. The socket is formed somewhat wider than the dog, so that it can turn through a small angle on its pivot against the tension of the spring 13. The end of the bolt is formed with an inclined or beveled surface 14.

The socket 7 of the seal-holder is in shape and dimensions adapted to receive the bolt, and has its bottom formed with an inclined surface 15, corresponding to the beveled end 14 of the bolt. The shape of the bolt and socket is preferably such that the bolt can be inserted only in one position, and so that the beveled surfaces will meet. The bottom of the socket in the seal-holder is formed with a central groove 16 to receive the point or projecting end of the dog as the bolt enters it. A transverse slot 17 is cut through the front wall of the seal-holder, opening into the socket 7 in line with the inclined bottom of the socket, and is adapted to receive the tongue or narrow end 18 of a seal 19. (Shown best in detail, Fig. 7.)

The seal is formed, preferably, of tin or similar sheet metal, or of other strong flexible material—as, for example, tough fibrous paper. Upon the body of the seal may be stamped or otherwise placed any suitable designating-mark, as shown illustratively in Fig. 1. The tongue 18 is formed with a central longitudinal slot 20, in width sufficient to receive the projecting end of the dog 11, the body of the seal having shoulders 21 extending on either side of the tongue at right angles therewith, and at such distance from the slot 20 that when the tongue is inserted through the slot 17 into the seal-holder, with the shoulders 21 in contact with the wall of the seal-holder, the slot 20 is in such position as to be entered by the dog 11 when the bolt 2 is thrust into the socket 7, the dog being turned on its pivot against the tension of the spring 13 as the inclined surface of the catch strikes upon



the edge of the slot in entering, and the spring throwing it back into engagement with the tongue when the catch has passed through. It will thus be seen that in order to seal or lock the parts together the tongue 18 of the seal 19 is passed into the opening 17 of the seal-holder, wherein the tongue lies upon the inclined bottom of the socket, with the slot 20 registering with the groove 16, and the bolt 2 being then thrust to the bottom of the socket the tongue 18 is engaged by the dog. The bolt then cannot be withdrawn from the seal-holder without breaking off the seal, as the shoulders 21 prevent the seal from being drawn through the slot 17.

The seal is broken by severing the tongue 18 from the body 19, when the seal-holder drops off the bolt, leaving the tongue 18 attached to the dog, by which it is drawn through and out of the socket 7.

In some cases it may be desirable to use a torpedo upon the seal in such position that it will serve two purposes: to break the seal when it is exploded and to be necessarily exploded when the seal is broken, so as to give an alarm in case of unauthorized tampering with the seal. To do this, I prefer to arrange the torpedo 22 upon a strip 23, in width the same as the tongue 18, and provided with a similar slot 20, the torpedo being placed in such position that it serves the purpose of the shoulders 21 in the other form of seal of bearing against the wall of the seal-holder and preventing the seal-strip from being drawn farther into the socket, and a force necessary to break the seal will necessarily explode the torpedo, and the explosion of the torpedo will break the strip. In order to protect the torpedo, and also to furnish means for readily exploding it, I prefer to provide a cap or hood 24 over and around the seal and to arrange above the torpedo the spring-controlled plunger 25, which is held by its spring normally out of contact with the torpedo, but when struck a sharp blow will be driven upon and explode it.

I claim—

1. In a seal-lock, the combination of a bolt, a dog pivoted to said bolt, a seal-holder socketed to receive the end of said bolt, and a flexible seal in said holder, having an opening therethrough adapted to be engaged by said dog when the bolt is inserted into the holder, substantially as described.

2. The combination of a car, its door, a bolt to secure said door, a spring-controlled dog pivoted in said bolt and projecting beyond the end thereof, a seal-holder socketed to receive the end of said bolt and having a slot to receive a flexible seal-strip, a seal entering said socket through said slot and having shoulders limiting the distance to which it can enter the socket, and an opening to receive and to be engaged by said dog, so as to lock the bolt in the seal-holder, substantially as and for the purposes set forth.

3. In a seal-lock, the combination, with the securing-bolt, of the seal-holder socketed to receive the end of said bolt, a slot in the side wall of said seal-holder opening into said socket, a removable strip inserted through said slot into said socket, means for preventing said strip from being drawn through said slot, and an automatic locking mechanism carried by said bolt and engaging said seal-strip when the bolt is thrust into the seal-holder, substantially as and for the purposes set forth.

4. In a device of the class described, the combination of a seal-holder having an opening to receive a seal-strip and a socket connected with said opening, a bolt entering said socket, a seal-strip inserted through said opening into said socket, spring-controlled locking devices on said bolt engaging the seal-strip when the bolt is thrust to the bottom of the socket, and a torpedo secured to the outer end of said seal-strip in such position as to be necessarily exploded when the seal is broken, substantially as and for the purposes set forth.

5. In a device of the class described, the combination of a seal-holder having an opening to receive a seal-strip and a socket connected with said opening, a bolt entering said socket, a seal-strip inserted through said opening into said socket, a torpedo secured to the outer end of said seal-strip, and a spring-controlled plunger arranged upon the seal-holder and adapted to impinge upon said torpedo to explode the same and to break said seal, substantially as and for the purposes set forth.

In testimony whereof I hereunto set my hand this 9th day of May, 1890.

DANIEL F. MACCARTHY.

Witnesses:

T. D. MERWIN,  
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