

(No Model.)

2 Sheets—Sheet 1.

R. M. SULLY.
SEAL LOCK.

No. 516,579.

Patented Mar. 13, 1894.

Fig. 1.

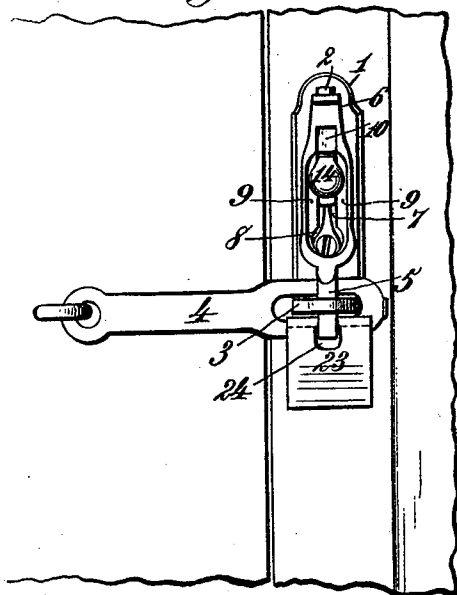


Fig. 2.

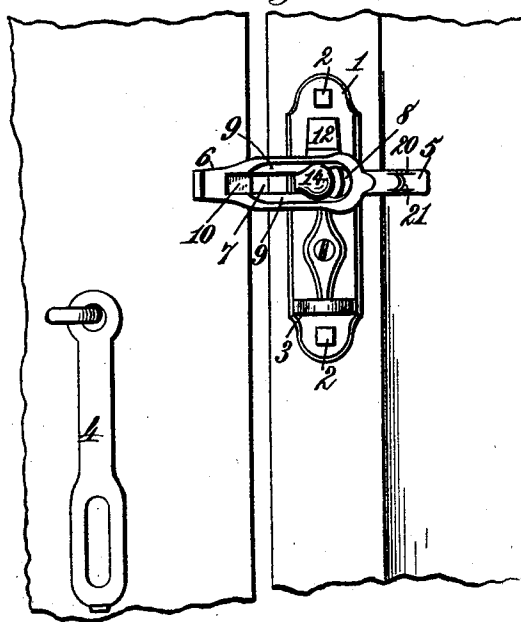


Fig. 3.

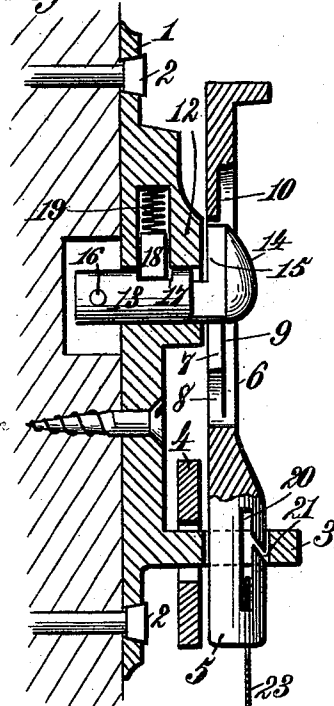


Fig. 4.

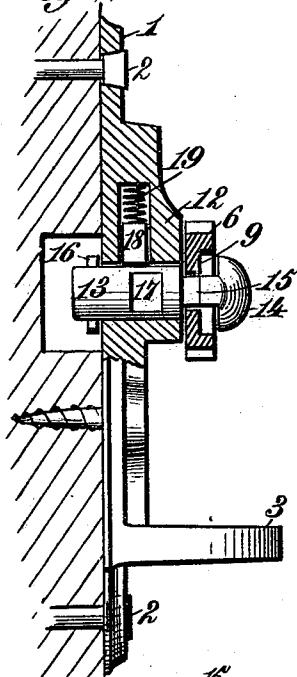
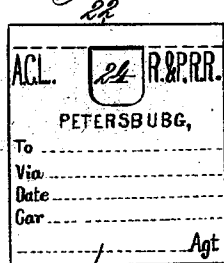
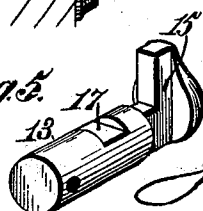


Fig. 6.



Witnesses,
Robert G. Smith
Geo. B. H. H. H.

Fig. 5.



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Robert M. Sully.
By
James L. Norris.
Atty.

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Fig. 7.

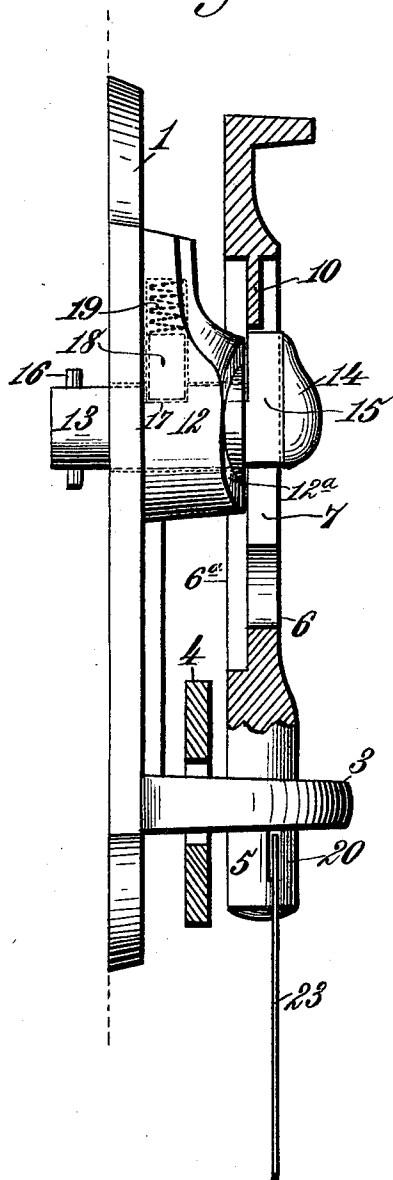


Fig. 8.

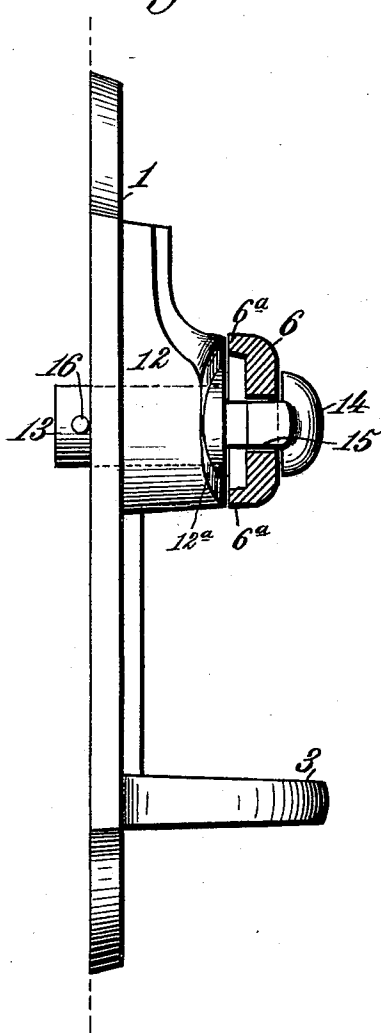
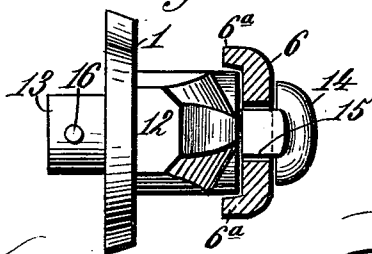


Fig. 9.



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UNITED STATES PATENT OFFICE.

ROBERT M. SULLY, OF PETERSBURG, VIRGINIA.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 516,579, dated March 13, 1894.

Application filed November 6, 1893. Serial No. 490,135. (No model.)

To all whom it may concern:

Be it known that I, ROBERT M. SULLY, a citizen of the United States, residing at Petersburg, in the county of Dinwiddie and State of Virginia, have invented new and useful Improvements in Seal-Locks, of which the following is a specification.

My invention relates to seal-locks for freight-cars, warehouses, and other inclosures, in which goods or valuables are placed either for transportation, or storage.

It is the purpose of my invention to provide a strong, simple, and easily operated device of the kind specified, which shall be capable of use with any ordinary shipping-tag, without requiring a separate metallic, or other seal, but more particularly in conjunction with the tag for which Letters Patent of the United States were granted me upon the 14th day of June, 1887, No. 365,029.

The invention consists to these ends, in the novel features of construction and in the parts and combinations of parts hereinafter fully described and then particularly pointed out and defined in the claims which conclude this specification.

To enable those skilled in the art to which my invention pertains to fully understand and to make, construct, and use the same, I will proceed to describe said invention in detail, reference being had to the accompanying drawings in which—

Figure 1, is a front elevation showing the invention applied to a car-door, the parts being shown in the position they occupy when locked. Fig. 2, is a front elevation showing the same parts in the position they occupy when unlocked. Fig. 3, is a central, longitudinal section of the parts when arranged as shown in Fig. 1. Fig. 4, is a similar section showing the same parts in the position illustrated in Fig. 2. Fig. 5, is a detail view of the locking pin detached. Fig. 6, is a detail view showing one form of shipping tag used in connection with my invention. Figs. 7, 8 and 9 are sectional views, showing a preferred construction of the parts, whereby the locking-pin is automatically projected by merely turning the bolt upon, and with, said pin.

In the said drawings the reference numeral 1, indicates the base plate of the lock, which

is of any suitable form, its ends being provided with openings to receive bolts 2, by which it is secured to the door-frame of the car, or other structure.

Projecting from the base-plate 1, at or near one end of the same, is a staple 3, with which the hasp 4 on the car door engages. The staple is provided with an opening of sufficient size to receive the locking bolt 5, which is preferably of cylindrical shape, said bolt forming part of a slide-plate 6. This plate, which is of suitable thickness for the purpose, is provided with a longitudinal slot 7, terminating at one end in an enlarged opening 8. The outer face of the locking bolt is countersunk, or removed, to form depressed faces 9, upon both sides of the slot 7, and at the end of said slot most remote from the enlarged opening 8, a countersunk recess or depressed portion 10 is formed, lying substantially in line with the slot 7. The slide-plate 6, rests upon the flat outer face of a boss 12, which forms part of the base-plate 1. In this boss is formed a circular opening which receives a locking-pin 13, the body-portion of which is so formed as to fill the opening in the boss 12, but have free movement therein, its length being such that it will project somewhat beyond the rear face of the base-plate. The outer end of the locking-pin is provided with a head 14 of somewhat greater diameter than the body of the pin and projecting upon one side thereof in the longitudinal line of the base-plate and toward that end of the latter which is farthest from the staple 3. Immediately beneath the head 14 the body of the pin is filed, or cut away, together with a portion of the head, upon each side, thereby forming a flattened portion 15, of such thickness that the slide-plate 6, may move freely thereon, the width of the flattened portion being somewhat greater than the maximum thickness of said slide-plate, in order that the locking-pin 13 may have a certain degree of movement in the line of its axis, this movement being limited by a cross-pin 16, inserted through the end of the pin which projects in rear of the base-plate 1. In the body portion of the locking-pin, beneath the extended part of the head 14, is formed a notch 17, so arranged that when the locking-pin is moved so as to bring the flattened por-

tion 15, against, or quite close to, the boss 12, said notch will be engaged by a spring-projected detent, or bolt 18, which lies in a suitable recess in the boss 12 and is thrown into the notch 17, by a spring 19. The locking-bolt 5, is preferably, though not necessarily, cylindrical in form, and of such length that, when moved to the limit of the slot 7, in one direction, its end will project beyond the staple 3; whereas, when moved to its limit in the opposite direction, it will be wholly withdrawn from engagement with said staple. In the bolt 5 is formed a slot 20, lying either in, or parallel with the line of the axis. From the cylindrical face of the bolt a second slot 21, is cut into the slot 20, entering the latter at a point between its ends. The slot 21 is preferably formed at an acute angle with the slot 20, the opening of the angle being next to the free end of the locking-bolt 5, the purpose being to facilitate the introduction of a shipping-tag within the slot 20, in the manner shown in Fig. 1.

The manner of using the seal-lock is as follows:—The locking-bolt 5, being withdrawn from the staple 3, the hasp on the door is placed over said staple and the locking-bolt is again inserted in the latter and projected until the flattened end 15 of the head 14 of the locking-pin 13 lies in the recess, or depression 10, at the end of the slot 7, in the slide-plate 6. In this position the slot 21 in the locking-bolt 5 is disclosed to view and rendered accessible, and it is easy to insert therein the edge 22, of a shipping-tag 23, which should be provided with an opening of any preferred form, such, for example, as that shown at 24, in Fig. 6. The narrow portion of the tag lying between said opening and the outer edge, will readily pass into the slot 20, and is drawn toward the end of the locking-bolt, and away from the entrance-slot 21. The locking-bolt 5, and the slide-plate 6, are now retracted until that portion of the former containing the entrance-slot 21, is drawn into the staple 3, thereby securely locking the shipping-tag within the exposed portion of the slot 20. Upon reaching this position the prolonged, flattened portion 15, of the head 14 of the locking-bolt 13 is drawn off the depressed portion 10 of the locking-plate 6, whereupon the locking-pin, thus released, is pushed inward until its head reaches the boss 12, or nearly so, whereupon the spring-projected detent, or bolt 18, snaps into the notch 17, in the locking-pin, thereby preventing movement in either direction, rotary movement being impossible by reason of the prolonged, flattened portion 15 of the head of the pin, which lies now within the slot 7, of the slide-plate 6. For this reason, also, the locking-bolt cannot be projected to uncover the entrance-slot 21, and permit the removal of the shipping-tag, since the end of the flattened portion 15, of the head of the pin 13 abuts against the end of the slot 7, in the slide-plate, which can only be retracted by

rupturing the tag and removing it from the slot 20. When the lock is opened in this manner, the slide-plate and locking-bolt are retracted until the latter is withdrawn from the staple 3. A partial rotary movement is then given upon the locking-pin as an axis, said pin being compelled to turn with the locking-plate by reason of the prolonged, flattened portion 15, of its head 14, which lies in the slot 7, of said slide-plate. This partial revolution forces the detent, or bolt 18, out of the notch 17 in the locking-pin and thereby permits the latter to be moved longitudinally in the boss 12.

I may use different patterns, or forms of shipping or other tags with this invention, and said tags may be made of any suitable material, as a great capacity of resistance to a strain calculated to rupture the tag is by no means an essential requisite. I prefer, however, to employ the tag shown in Fig. 6, of the drawings, which is substantially that patented to me upon the 14th day of June, 1887, No. 365,029.

The several parts of the seal-lock may be manufactured from any suitable metal by casting, or partly by casting and partly by forging in suitable dies, or otherwise. I may also, employ more than one kind of metal in constructing said parts and the several details of construction may be varied, or modified, without in any manner departing from the principle of my invention. I consider it preferable, in all cases, though not absolutely necessary, that the locking-pin, or spindle 13 should be automatically projected, or driven outward, by merely turning the locking-bolt 6 upon, and with, the said locking pin, for the purpose of releasing the head 14 of the locking-pin from the upper end of the slot 7. For this purpose I have devised the construction shown in Figs. 7, 8 and 9, in which all the parts are of the same general form and arrangement already described; with the following exceptions: the diameter of the boss 12, measured in the longitudinal line of the base-plate 1, is substantially equal to the width of the slide-plate 6, as shown in Fig. 8, but its transverse diameter is so much less than the width of the slide-plate that the boss is enabled to enter and lie between the rearwardly projecting marginal ribs 6^a, formed upon the slide-plate, when the latter is turned into substantial parallelism with the base-plate, as shown in Figs. 7 and 9. The upper and longer edges of the boss 12, which lie adjacent to the longer sides of the base-plate 1, are cut away from points near the median longitudinal line to the transverse diametrical line of the boss 12, thereby forming opposite edges 12^a, which have a maximum outward projection from the base-plate at and near the central longitudinal line of the boss. From these two points said edges approach the base-plate at a small angle of inclination until they vanish, or nearly so, upon reaching the transverse diameter of the boss, thereby

providing the outer end of the boss with a cam or cam-shaped face. When the seal 23 is removed and the locking-bolt 5 is retracted until its end is withdrawn from the staple 3, the side-plate is turned in either direction in the manner already described, thereby causing the rearwardly projecting ribs 6^a to ride upon the edges 12^a of the boss, in the manner shown in Fig. 8, the detent 18 having been driven out of the notch in the locking-pin 13 as the latter begins to turn. The said locking-pin is thus projected, or driven outward to its limit of movement, as seen in Fig. 8, and remains thus withdrawn until the locking-bolt is returned to its normal position and driven through the staple 3 far enough to receive the seal 23, after which it is retracted to the position shown in Fig. 7 and the locking-pin 13 is driven inward by pressure upon its head 14.

What I claim is—

1. In a seal-lock, the combination with a slotted slide-plate provided with a locking-bolt, of a locking-pin having a prolonged head adapted to lie in the slot of the slide-plate and lock the bolt, said pin being capable of a longitudinal adjustment, and a spring-projected detent adapted to engage a notch in said pin, substantially as described.

2. In a seal-lock, the combination of a base-plate, a lengthwise movable and axially rotatable locking-pin mounted in the base-plate, a slide-plate having a locking-bolt and movable lengthwise on the locking-pin but engaging the latter to turn or rotate it axially when said slide-plate is turned or rotated, and means for holding the locking-pin against lengthwise movement when the parts are in locking position, substantially as described.

3. In a seal lock, the combination with a

staple, of a locking-bolt forming part of a slotted slide-plate and having a tag retaining slot and an entrance slot cut from its surface into said tag retaining slot, a longitudinally movable locking pin having a head prolonged and flattened in the direction of the slot in the slide-plate, to enable it to enter said slot when the entrance-slot in the bolt is drawn into the staple, and a spring-projected detent lying in a recess in a boss in an aperture of which the locking pin is arranged, substantially as described.

4. In a seal-lock, the combination with a base-plate having a staple and provided with a boss having its opposite, longer edges approaching said base-plate, of a slotted locking-bolt having rearwardly projecting marginal ribs, and a locking-pin adjustable in the boss and having a prolonged head adapted to lie in the slot of the locking-bolt, substantially as described.

5. In a seal-lock, the combination with a base-plate having a staple 3 and a boss 12, of a slotted locking-bolt 6, having rearwardly projecting marginal flanges 6^a, locking-pin 13 having a prolonged head lying in the slot of the locking-bolt, and means for automatically locking said pin, the boss 12 being provided with opposite longitudinal edges 12^a upon which the rearwardly projecting marginal ribs of the locking-bolt are adapted to ride when said bolt is turned, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ROBERT M. SULLY.

Witnesses:

ALEXANDER HAMILTON,
M. B. COGBILL.