F. J. HOYT.

Lock for Freight-Car.

No. 199,713. Patented Jan. 29, 1878.

Fig. 1.

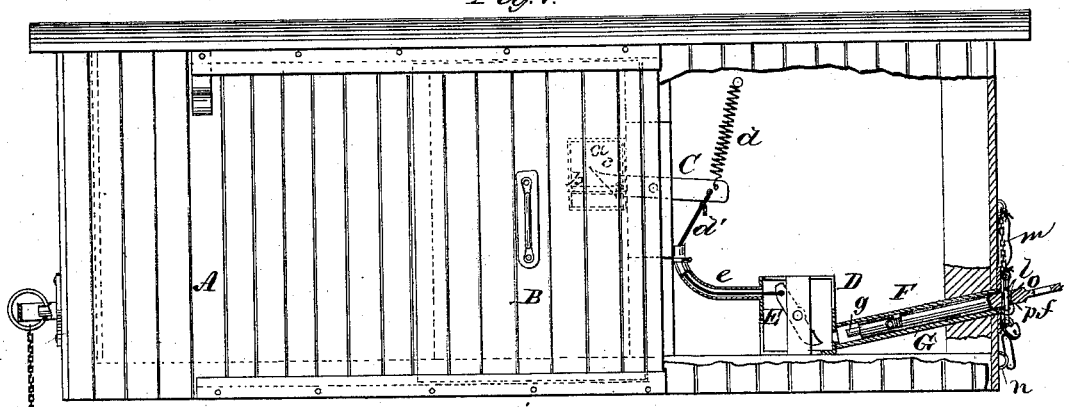



Fig. 2.

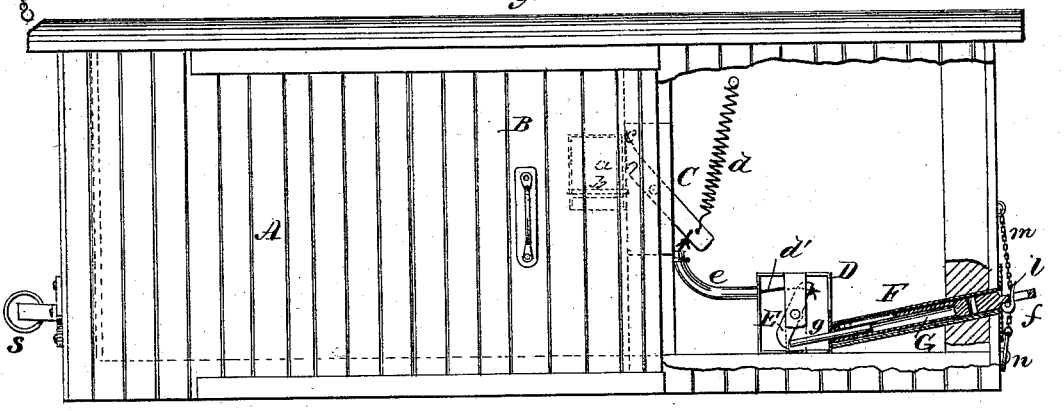



Fig. 3

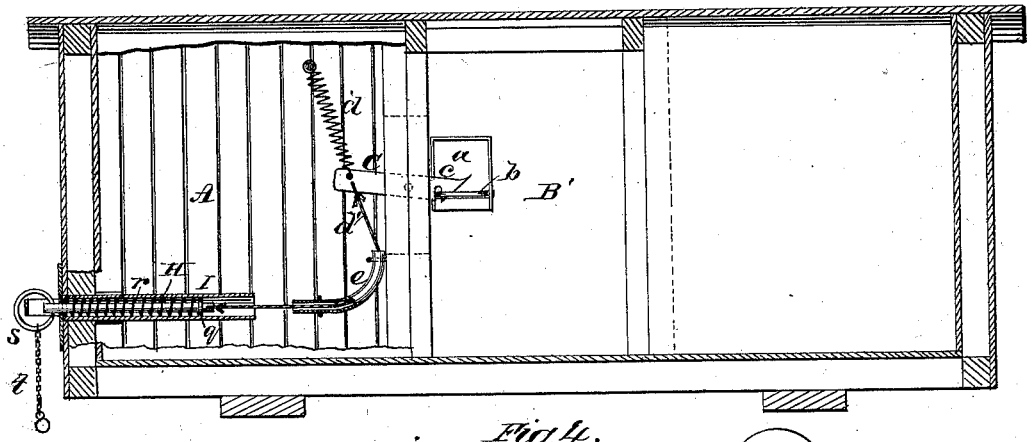



Fig. 4.

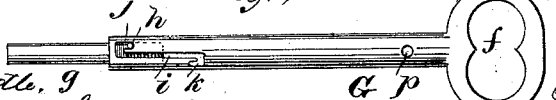
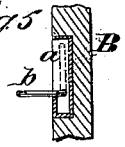



Fig 5

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# UNITED STATES PATENT OFFICE.

FREDERICK J. HOYT, OF NEW YORK, N. Y.

## IMPROVEMENT IN LOCKS FOR FREIGHT-CARS.

Specification forming part of Letters Patent No. **199,713**, dated January 29, 1878; application filed November 26, 1877.

*To all whom it may concern:*

Be it known that I, FREDERICK J. HOYT, of the city, county, and State of New York, have invented a new and Improved Device for Locking Freight-Cars, of which the following is a specification:

Figure 1 is a side elevation of a freight-car having my improvement attached, showing the door locked. Fig. 2 is a side elevation of a car having my improvement, showing the door unlocked. Fig. 3 represents a modified form of the improvement. Fig. 4 is a detail view of the key or unfastening-rod, and Fig. 5 is a detail view of the hinged staple attached to the door.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish an effective device for locking freight-cars while in transit, that will protect the contents of the car from thieves, and that may be readily opened by authorized persons.

Referring to the drawing, A is a car of ordinary construction, having sliding doors B B′, in each of which a recess, *a*, is formed to receive a hasp or square staple, *b*, which is pivoted in the said recess, so that it may be folded in flush with the surface of the door or let down into a horizontal position, when it may be engaged by the locking device. A lever, C, is pivoted in a mortise in the door-post, and has formed upon one of its ends which projects into the doorway a catch or hook, *c*, that engages the hasp *b* when the latter is in a horizontal position and the door is shut. A spiral spring, *d*, is attached to the longer arm of the lever C, to draw it upward, and thus throw the hook *c* downward into engagement with the hasp *b*. The nib of the hook is beveled, so that when the door is closed the hook will automatically engage the hasp.

There is a box, D, in the wall of the car, in which is pivoted lever E, having equal arms. To the upper arm of this lever a cord or chain, *d′*, is attached, which runs through a curved tube, *e*, that projects from the side of the box, and is turned upward toward the lever C. The cord *d′* is attached to the longer arm of the lever C.

A tube, F, extends diagonally upward from the lower part of the box D to the end of the car, and contains a key, G, which is longer than the space between adjacent cars when they are coupled, so that it cannot be withdrawn from the tube F while the cars are coupled together.

There is a bow, *f*, on the outer end of the key for convenience in handling, and its inner end is bored longitudinally to receive a bolt, *g*, which is provided with a pin, *h*, that projects through a slot, *i*, formed in the side of the key, and is capable of being placed in either of the notches *j k*, formed at opposite sides and opposite ends of the slot *i*.

When the bolt is entirely within the shank of the key, the pin *h* rests in the notch *k*, and prevents the bolt from becoming accidentally projected from the shank of the key. When the cars are separated, and it is desired to unlock the car, the key G is withdrawn from the tube F, and the bolt *g* is projected from the shank and retained by placing the pin *h* in the notch *j*. The key is now replaced in the tube F, and pushed forward against the lever E, moving it so as to draw upon the cord *d′* sufficiently to release the hook at the end of the catch-lever C from the hasp *b* projecting from the door. The door may then be opened. If it be desired to open the door wide, the hasp *b* is folded into the recess in the door, when there is no impediment to the opening of the door to its full width.

When the key is pressed in, so as to unfasten the door, it may be retained in that position by turning the bow so that it will be engaged by the hook *l*, which is secured to the end of the car.

To prevent the unlocking of the car when uncoupled and detached, a chain, *m*, is secured to the end of the car, and provided with a long link, which may be placed over the staple *n* and locked, the chain being first passed through the bow of the key.

When it is desired to leave the key G in the tube F with the bolt *g* projecting from the end, and at the same time prevent the opening of the car by unauthorized persons, a pin, *o*, is inserted in the transverse hole *p* in the key-shank, and is locked by placing through it a padlock.

The door at the opposite side of the car is secured by a device a portion of which is like

that just described, and will therefore be referred to by the same letters of reference. In this case the box D, containing the lever E, is omitted, and the cord *d'* is attached to a rod, H, that extends through a horizontal tube, I, arranged in the wall of the car, and terminating at the end of the car. The rod H has a head, *q*, between which and the end of the tube a heavy spring, *r*, is placed. A ring, *s*, is connected with the outer end of the rod H, and to it a chain, *t*, is attached, which may be engaged by a hook projecting from the end of the adjacent car.

A hasp, *b*, projects from the end of the car, and extends through the ring *s*, and limits the motion of the rod H. The spring *r* has sufficient strength to resist any effort to draw the rod H out of the tube by hand. The unfastening is effected by placing the chain I on the hook of the adjacent car, uncoupling the cars, and drawing them apart by means of the locomotive.

If it be desired to unfasten the door without separating the train, it may be done by entering the other door and unfastening it from the inside.

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

1. The locking-lever C, spring *d*, cord *d'*, disengaging-lever E, and key G, in combination, substantially as herein shown and described.

2. The hook *l*, projecting from the end of the car, for retaining the key G in the tube F, as herein shown and described.

3. The folding hasp *b*, in combination with the door B, having the recess *a*, substantially as shown and described.

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