B. CRAWFORD.

Freight-Car Lock.

No. 211,838. Patented Feb. 4, 1879.

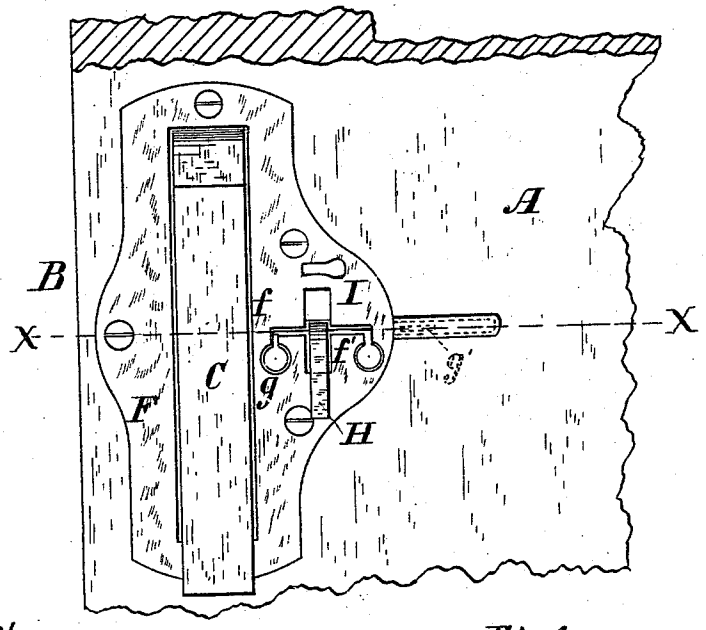


Fig 1

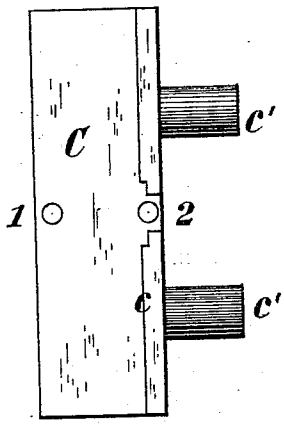
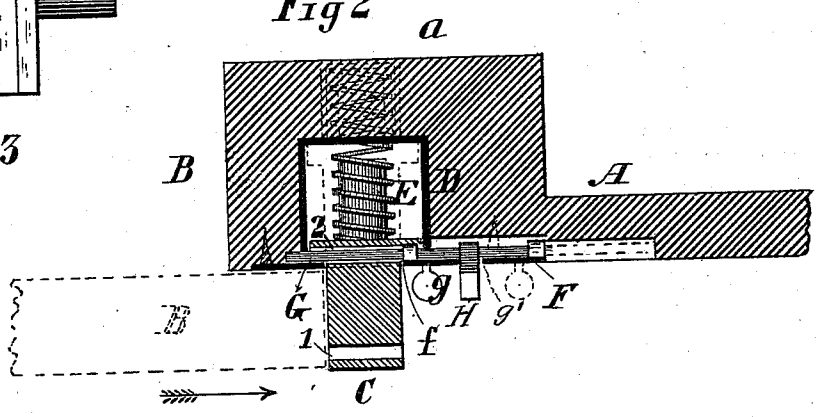


Fig 3

Fig 2



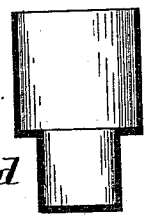


Fig 4

Witnesses

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IMPROVEMENT IN FREIGHT-CAR LOCKS.

Specification forming part of Letters Patent No. **211,838**, dated February 4, 1879; application filed December 14, 1878.

To all whom it may concern:

Be it known that I, BENJAMIN CRAWFORD, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Freight-Car Locks, which is fully described in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a portion of the side of a car with my improved locking device attached; Fig. 2, a cross-section of the same, taken on the line *x x*, Fig. 1; Fig. 3, a side elevation of the spring stop or cleat detached, and Fig. 4 a transverse section of the case which holds the door-stop and springs.

The object of my invention is to provide a device for fastening the doors of freight-cars, operating something upon the principle of the ordinary cleat-fastening, so as to dispense with lock and keys, but applied in such a way as to obviate the nailing of the cleat to the car, and at the same time provide for the application of a seal to the fastening device, so that the latter cannot be released to permit the opening of the door without breaking the seal.

The invention consists in an elastic sliding strip or stop inserted in the side of the car, and adapted to be projected behind the rear edge of the door when the latter is closed.

It also consists in arranging the said movable stop within a case provided with springs, whereby the former is projected from the side of the car automatically.

It also consists in the combination, with a reciprocating stop, of a fastening device, whereby the latter is secured when projected from the side of the car, and also when returned within its case.

It also consists in the combination, with the reciprocating stop and fastening-bolt, of a seal, whereby the shooting of the bolt is prevented unless the seal is broken.

It also consists in various special devices and combinations, all of which will be hereinafter more fully set forth.

In the drawings, A represents a portion of the side of an ordinary freight-car, representing a portion of the car at the right hand of a sliding door, B, applied in the usual manner. A movable strip or stop, C, is arranged in the side of the car, so that it will project immediately behind the door when the latter is closed, as shown in Fig. 2 of the drawings—*i. e.*, it occupies about the same position that the cleat does, which is frequently nailed to the car at the rear edge of the door, to fasten the latter in place. This strip or movable cleat is made as shown in Fig. 3 of the drawings, being provided with a flange, *c*, projecting on each side at the inner edge, and also with posts or studs *c'*, projecting from its inner edge, as shown in Fig. 2 of the drawings.

There is an enlargement, *a*, in the side of the car next to the doorway, and projecting upon the inside, as shown in Fig. 2 of the drawings. Within this is fitted a case, D, preferably of metal, which is adapted to receive the movable strip C, being as wide as the greatest thickness of the latter at its flanged portion, and of sufficient depth to permit it to be forced back into the case bodily.

In the bottom or inner side of the case are two circular recesses or well-holes, *d*, which are adapted to receive the inner ends of coiled springs E, and are of sufficient size to permit the latter to be pressed back entirely within them. When free, however, the springs project outward into the case, and are adapted to receive the studs *c'* on the movable cleat, as shown in Fig. 2 of the drawings.

The case is covered by a shield, F, preferably of metal, and secured to the outside of the car over the case. A long slot, *f*, is cut in the shield, sufficiently wide to accommodate the thinner portion of the movable strip, which is fitted within the slot, and will evidently be forced out through the latter by the coiled springs until the flanges *c* strike the shield F.

Now, when the door B is closed, the movable cleat C will be forced out by the springs immediately behind the rear edge of the door, and will consequently prevent the latter from being slipped back to open the car until the stop is removed by forcing it back into its case within the side of the car.

In order to fasten the movable cleat or stop, either when projected in rear of the door or when forced back within its case, a bolt, G, is provided, which is mounted in suitable bear-

ings on the shield F, arranged preferably on the inside of the latter, which is extended at one side, as shown in Fig. 1 of the drawings, for the purpose of accommodating the application of the bolt.

Two holes, 1 and 2, are made in the movable cleat, the first near the outer and the latter near the inner edge thereof. The bolt is arranged in line with these holes, and is shot by means of an ordinary thumb-piece, *g*, the shield being slotted to permit the latter to slip back and forth. The holes 1 and 2 are preferably extended through the cleat, and are so arranged that when the latter is forced out by the springs to the fullest extent, the bolt G may be shot into the hole 2, and, if desired, pass through it and project underneath the shield on the other side; and if the cleat is forced back into its case, so as to permit the door to slide back, the bolt may, in like manner, enter the hole 1 at the outer edge thereof. It will thus be seen that the movable cleat may be secured by means of the bolt in either adjustment.

A slot, *g'*, is cut through the bolt G, of suitable size to receive an ordinary seal-strip, H, and an opening, *f'*, is made in the shield F, arranged so that when the bolt is shot into the movable cleat the slot in it will be immediately under this opening in the shield. The opening extends both above and below the bolt, so as to accommodate the insertion of the sealing-strip after the bolt is shot into its place.

If, now, the car-door is closed, and it is desired to seal it up, the bolt is first slipped back, as shown in Fig. 1 of the drawings, when the springs will force out the fastening-strip C just behind the rear edge of the door, as shown in Fig. 2 of the drawings. The bolt is then slipped forward again, as shown in full lines in Figs. 1 and 2, when it will pass through the inner hole of the cleat, thereby preventing the latter from being forced back into the side of the car.

An ordinary metallic sealing-strip is then inserted in the slot *g'* of the bolt, and the ends secured to a seal in any well-known way. This strip effectually prevents the bolt from being slipped back and forth as it lies in the opening in the shield; hence the bolt cannot be slipped out from the cleat to permit the latter to be pushed back to open the door without first breaking the seal.

An efficient fastening for the car-door is thus provided, which will prevent the unlawful opening of the car without detection, and at the same time it obviates the necessity of supplying the employés of railways with keys to unlock the fastenings usually employed.

The parts are also all attached to the car, so that there is no danger of their being lost therefrom, and can be adjusted by any one as occasion requires.

The fastening is not intended as a security against forcing an entrance into the car; but it has been found to be almost impracticable to prevent the forcible entry of cars, for ordinary locks are no protection against those who are disposed to break open a car by force, if necessary.

If, however, it is desired to use a lock, one may be employed with my improvement, for it will only be necessary to enlarge the shield so that a suitable lock may be arranged back of it, in such a position that the bolt thereof may be shot through the slot in the bolt G when the latter is slipped forward into the stopping-strip, as above described. A key-hole, I, should then be made in the shield, to permit the insertion of a key into the bolt-lock.

It is evident that the construction of the devices herein set forth may be changed in very many respects without destroying the main feature of my invention. For instance, the springs may be dispensed with, and some other device substituted for the bolt, and yet the movable cleat be retained, with some sort of a device for fastening it in position when projected in rear of the door, which constitutes the gist of my invention.

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

1. An elastic cleat or stop, C, arranged in a suitable case, to slide out and in the body of the car at the side thereof, and adapted to be thrust out in rear of the door, to prevent the latter from slipping back when closed, substantially as described.

2. A movable cleat or strip in the side of a car, constructed and arranged to be projected in rear of the door when closed, in combination with a fastening device, whereby it is held in such position, substantially as described.

3. The yielding strip C, attached to the side of a car, in combination with a fastening-bolt, G, substantially as described.

4. The yielding strip C, attached to the side of a car, in combination with the fastening-bolt G and sealing-strip H, substantially as described.

5. The case D in the side of the car, in combination with the slotted shield F, locking-strip C, and springs E, substantially as described.

6. The shield F, provided with a slot or opening, *f'*, in combination with the slotted bolt G and sealing-strip H, substantially as described.

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