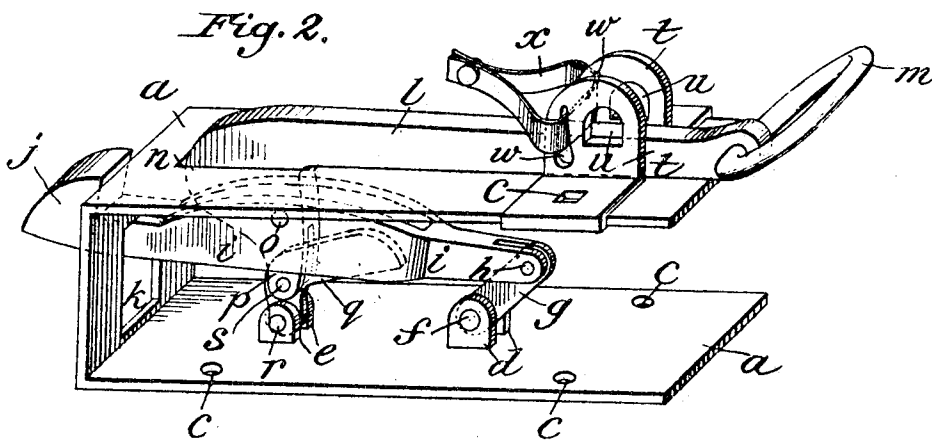
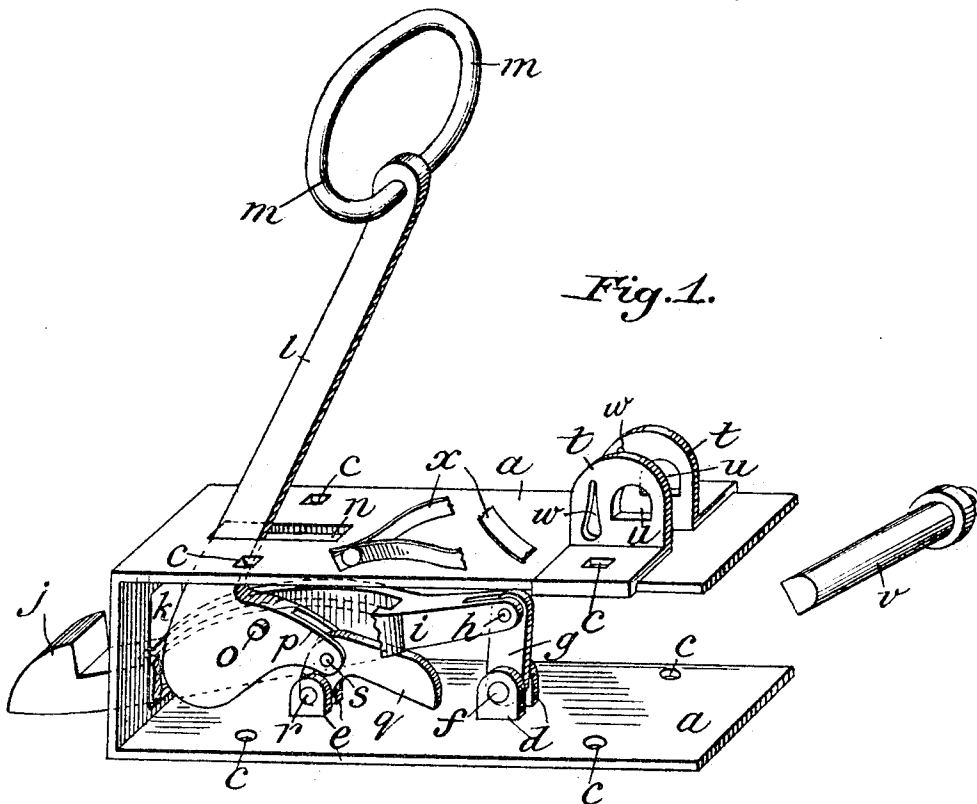


E. R. GREENE.
CAR DOOR FASTENER.
APPLICATION FILED MAR. 31, 1904.

2 SHEETS—SHEET 1.



WITNESSES:

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2 SHEETS—SHEET 2.

Fig. 3.

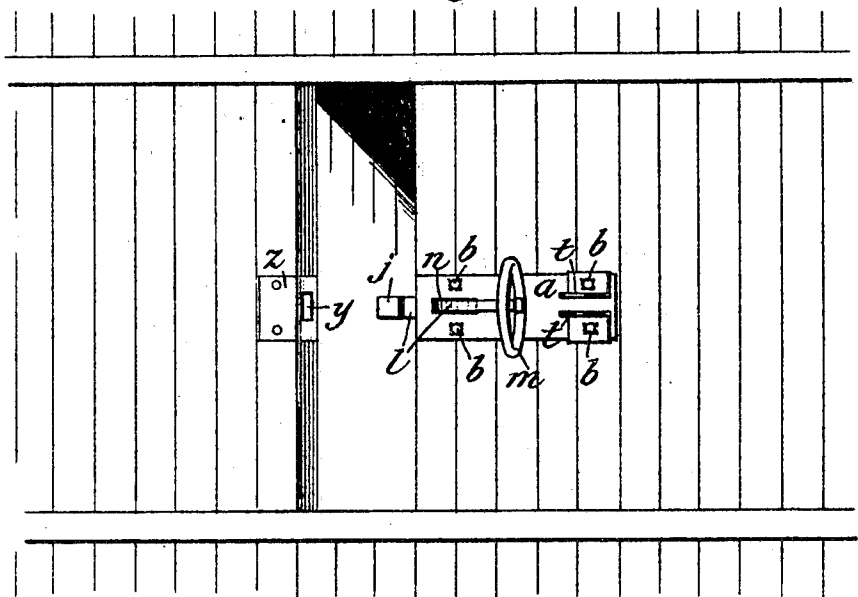


Fig. 4.

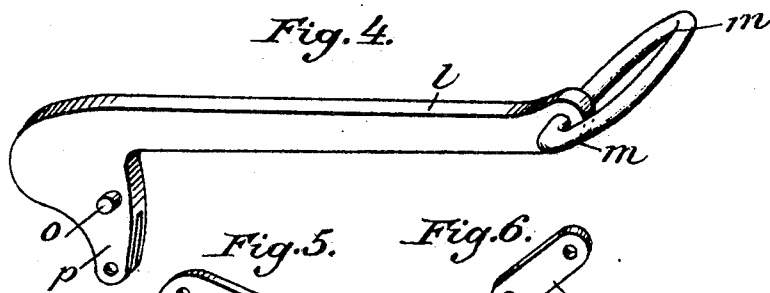


Fig. 5.



Fig. 6.



Fig. 7.



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UNITED STATES PATENT OFFICE.

ELI R. GREENE, OF SPIRIT LAKE, IOWA, ASSIGNOR OF ONE-HALF TO
FRANK W. SPRAGUE, OF DES MOINES, IOWA.

CAR-DOOR FASTENER.

No. 799,043.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed March 31, 1904. Serial No. 200,951.

To all whom it may concern:

Be it known that I, ELI R. GREENE, a citizen of the United States, residing at Spirit Lake, in the county of Dickinson and State of Iowa, have invented certain new and useful Improvements in Car-Door Fasteners, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to door-fastenings, and particularly to that class of fastenings fitted for use in connection with sliding doors, such as the doors of freight-cars and the like, where it is of first importance that the fastening shall be secure against unauthorized interference and yet quickly and easily operable by one having authority.

My invention has for its object, moreover, the provision of a fastening adapted for use in connection with either a padlock or a seal, or both, and when used in connection with a seal it provides in itself for the ready breaking of said seal without the use of a tool or other special means, such as are usually required.

In order that my invention may be readily understood, in the accompanying drawings I have illustrated my invention in detail, in which—

Figure 1 represents in perspective the fastener disassociated from a door in its "open" position. Fig. 2 is a similar view representing the fastener in its "closed" position and with a seal in place. Fig. 3 shows the fastener as arranged in operative relation to the sliding door of a car, while Figs. 4, 5, 6, and 7 show various details.

Referring to the drawings more in detail, the various portions of the fastener are assembled within a metal casing or frame *a*, which is arranged over a cut-away portion of the car-door and secured by means of suitable bolts *b*, passing through the holes *c* and provided with tightening-nuts on the inner inaccessible side of the door. This arrangement leaves the space within the metal frame *a* unobstructed for the operation of the fastener. Upon the lower portion, which may be called the "base," of the frame *a* small studs or ears *d* and *e* are formed, each in pairs. The studs *d* are connected by means of a pin *f*, upon which is pivoted a straight bar *g*, serving as a link, its other end being pivoted at *h* within the bifurcated end of the latch *i*. This latch is provided at its opposite end with the hook

j, which projects through the opening *k* and beyond the edge of the door, the latch lying in its open position substantially horizontal.

The operating-lever *l* preferably carries at one end a ring *m* or other device serving as a handle, while near the other end it passes through an opening *n* in the upper portion of the frame and, curving, terminates in a broad head pivoted at *o* within the latch *i*, which is cut away centrally in order to accommodate said lever. The head of the lever is, moreover, provided with a projecting bifurcated nose *p*. An angular piece *q* is pivoted at one of its extremities upon the pin *r*, mounted in the ears *e*, and another pin *s* pivotally connects this piece at its elbow with the bifurcated nose *p*, thus forming a link having a projection extending at an angle therefrom.

Two angle-irons *t* are secured in position by two of the bolts *b* in such a manner that their upright portions are disposed parallel to each other, forming a guide for the reception of lever-arm in its closed position. These guides are provided with corresponding apertures *u*, through which a pin *v* or the shackle of a lock, if desired, may be passed for the purpose of securing the lever-arm. These guides are also provided with elongated apertures *w* for the reception of the band of an ordinary car-seal *x*, as shown in Fig. 2.

If the sliding door upon which the fastener is mounted be closed, the hook *j* of the latch *i* enters the usual opening *y*, formed in the face of the plate *z*. At this point the various portions of the fastener occupy the relative positions shown in Fig. 1. The lever-arm *l* is then pressed toward the door or guides, the pin *s* serving as a fulcrum, and the latch by means of the pin *o* is drawn upwardly and inwardly to the right, as shown in said figure, assuming an inclined position until the lever-arm enters the guides and nearly reaches its closed position—just about the position of the apertures in the guides. At this point the inner curved portion or throat of the lever comes in contact with the edge of the opening *n*, as shown in Fig. 2. The edge of this opening then serves as a fulcrum, and the angle-piece *q* is quickly thrown upward into the position shown in said Fig. 2, while the latch has a slight retrograde movement to the left. It will thus be seen that the initial closing movement of the lever tends to draw the door tightly against the jamb, and then as the ful-

crum of the lever is shifted from the pin *s* to the edge of the opening *n* the lever springs into its closed position readily under the influence of the strain upon the latch *i*. Thus

5 any pull upon the door would only serve to hold the lever the more tightly in its closed position even without the retaining-pin *v*. After the lever has been thrown into this position, the door being closed, the seal-band is passed
10 through the elongated apertures *w* and its two ends secured together by a metal disk in the usual manner, and, as stated, the seal may be supplemented by the use of the pin *v*. When it is desired to open the door, the lever-handle *m* is grasped and given a quick jerk. The seal-band is cut in two places by the edges of the guide, as indicated in Fig. 1, and as the lever is pulled farther open the latch *i* moves to the left, and, as will be seen by a comparison of Figs. 1 and 2, the hook *j* of the latch at the same time drops downwardly, so as to clear its engagement with the opening *y*, thus permitting the door to be slid backward and ingress to the car permitted.

25 It will be obvious that certain changes in matters of detail will suggest themselves to the skilled mechanic, such modifications coming well within the scope of my invention, wherefore I do not desire to be limited to the
30 peculiar construction shown.

Having thus fully described my invention and the manner of its use, what I claim as new, and desire to secure by Letters Patent of the United States, is—

35 1. The combination, with a latch, of an operating-lever pivoted thereto, a nose carried by said lever, and a link connection between said nose and a suitable support.

40 2. The combination, with a latch connected at one end to a suitable support, of an operating-lever pivoted thereto, a nose carried by said lever, and a link connection between said nose and a suitable support.

45 3. The combination, with a latch, and a link connecting one end of said latch with a fixed support, of an operating-lever pivoted thereto, a nose carried by said lever, and a connection between said nose and a suitable support.

50 4. The combination, with a latch having a hook at one end, and a link connecting the other end with a suitable support, of an operating-lever pivoted to the latch at a point between the two ends, a nose carried by said lever, and a connection between said nose and
55 a suitable support.

5. The combination, with a latch connected at one end to a suitable support, of an operating-lever pivoted to the latch, a nose carried by said lever, and a link connection between said nose and a suitable support.
60

6. The combination, with a latch connected at one end to a suitable support, of an oper-

ating-lever pivoted to the latch, a link connecting said nose with a suitable support, and a projection extending at an angle from said
65 link.

7. The combination, with a latch having a hook at one end, and a link connecting the other end of said latch with a fixed support, of an operating-lever pivoted to said latch at
70 a point intermediate its two ends, a nose carried by said lever, a link connecting said nose with a suitable support, and a projection extending at an angle from said link and adapted to abut against a fixed support.
75

8. The combination, with a latch having a hook at one end, and a link connecting the other end with a fixed support, of a lever pivoted to the latch at a point between its two
80 ends, a nose carried by said lever, a link connecting said nose to a suitable support, a projection extending at an angle from said link and adapted to abut against said support, and a fixed support arranged adjacent to the arm of said lever and adapted to contact therewith.
85

9. The combination, with a latch, connected at one end to a suitable support, of an operating-lever pivoted to the latch, a nose carried by said lever, a connection between said
90 nose and a suitable support, and guides arranged for the reception of the free arm of said lever, said guides being provided with elongated apertures for the reception of a car-seal.

10. The combination, with a latch, and a
95 link connecting one end of said latch to a fixed support, of an operating-lever pivoted to the latch at a point between its two ends, a nose carried by said lever, a link connection between said nose and a fixed support, and guides
100 arranged for the reception of the free arm of said lever, said guides being provided with narrow elongated apertures for the reception of a car-seal.

11. The combination, with a latch having a
105 hook at one end, and a link connecting the other end with a fixed support, of an operating-lever pivoted to said latch at a point intermediate its two ends, a nose carried by said lever, a link connecting said nose with a suitable
110 support, a projection extending at an angle from said link and adapted to abut against the support, a point of support arranged adjacent to the throat of said lever, and guides adapted to receive the free arm of the lever,
115 said guides provided with elongated outwardly-narrowing apertures for the reception of a car-seal.

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

ELI R. GREENE.

Witnesses:

C. MARCY,
H. E. MILLS.