

(Model.)

2 Sheets—Sheet 1.

H. A. TOWNE.  
Freight Car Door Fastening.  
No. 233,644. Patented Oct. 26, 1880.

Fig. 1.

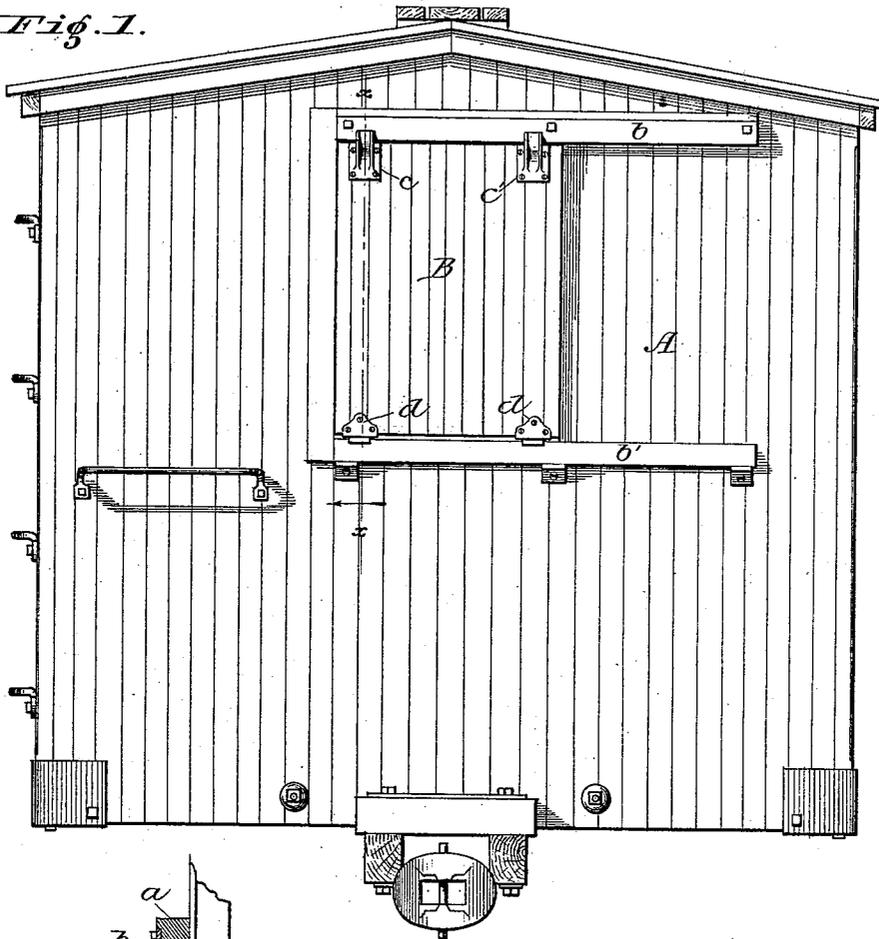
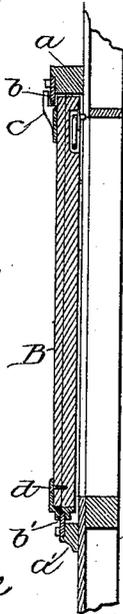
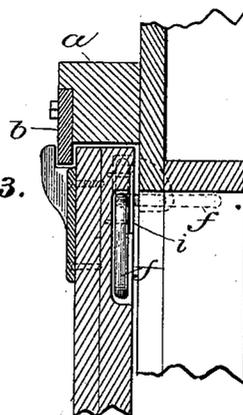


Fig. 2.



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Fig. 3.



By

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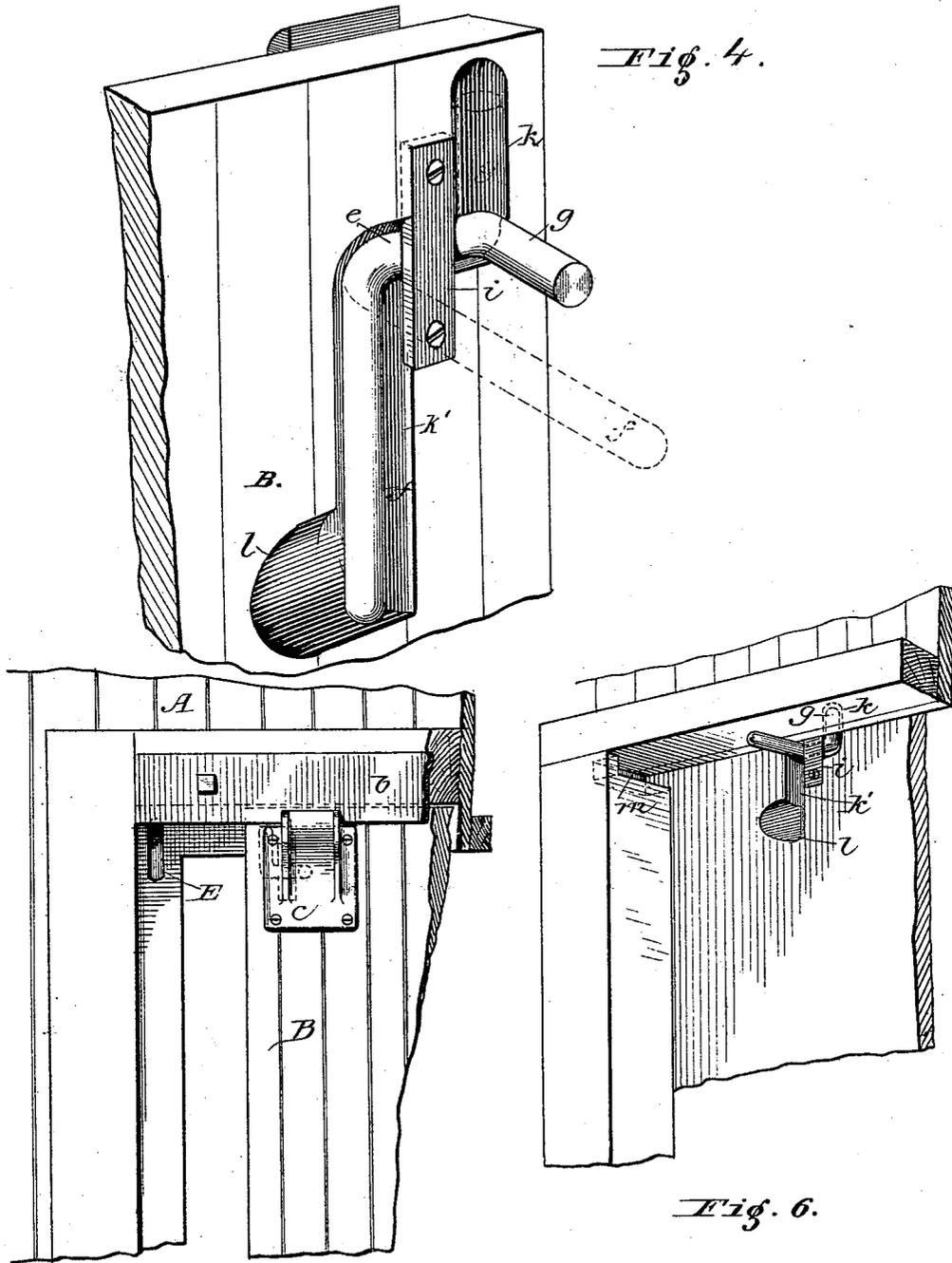


Fig. 5.

Fig. 6.

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Inventor  
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# UNITED STATES PATENT OFFICE.

HORACE A. TOWNE, OF BRAINERD, MINNESOTA.

## FREIGHT-CAR-DOOR FASTENING.

SPECIFICATION forming part of Letters Patent No. 233,644, dated October 26, 1880.

Application filed September 8, 1880. (Model.)

*To all whom it may concern:*

Be it known that I, HORACE A. TOWNE, of Brainerd, in the county of Crow Wing and State of Minnesota, have invented certain new and useful Improvements in Door-Fastenings for Freight-Cars or for other purposes, of which the following is a specification, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

It is well known that railroad companies, by reason of the want of a suitable fastening for end and other car-doors, suffer much loss by the depredations of tramps and other marauders. Exterior fastenings, of whatever character, have been proven to be insecure, as they invite and admit of such depredations. The sealing of the doors has also been resorted to; but this expedient, while a source of expense, is inadequate to afford absolute security, as the seals can be easily broken and a noiseless entrance to the car effected. In view of these facts, an interior fastening or locking device is obviously more secure than an exterior one. Heretofore, however, so far as my information has extended, no inside fastening of a satisfactory character, and one adapted to all the various contingencies and circumstances known to freight-men, has been devised. The want of such a fastening for end doors has been specially felt. These doors, while the cars are being loaded at the sides, are often opened to admit light and air, and the fact that they are open is frequently overlooked until the car is fully loaded, when it has heretofore been found impracticable to fasten the doors interiorly, because of their inaccessibility. The result has been that when such discovery was made it was found necessary to resort to outside fasteners. Doors are also known to have been left open with dishonest intent.

My invention furnishes an inside fastener which locks automatically in the act of closing the door, and which offers no mark upon the exterior of the car as to its location.

In the accompanying drawings, Figure 1 is a view of the end of a box-car having my invention applied to the door. Fig. 2 is a vertical section on line *xx* of Fig. 1. Fig. 3 is an enlarged vertical section of a portion of the door and the frame-work of the car, showing the fastener in its locked position. Fig. 4 is

an enlarged view, in perspective, of the fastener, showing in full and dotted lines its locked and unlocked positions. Figs. 5 and 6 are enlarged detail views, showing parts hereinafter fully described.

Similar letters of reference indicate similar parts in all the views.

A is a box freight-car having the usual side doors. The end door, to which the invention is here shown applied, is designated by B. This door slides to and from the door-opening in ways which consist of timbers *a a'*, having tracks *b b'* bolted thereto.

To the outside of the door B, at its upper edge, are attached guide-plates *c c'*, each being provided with a groove which fits over its proper track. The plate at the upper left-hand corner of the door should be placed opposite or over the fastener, and when so situated it will act as a guard to prevent a person knowing the location of the fastener from reaching and tampering with it from the outside. The lower edge of the door is provided with guide-plates of a somewhat similar construction, (marked *d*.)

At the upper left-hand corner of the door, on the inside thereof, is placed the fastener, which consists of a metallic bolt of circular cross-section, bent to the form shown particularly in Fig. 4. The portion *e* of the bolt between the arms *f* and *g*, which stand at a right angle to each other, constitutes the bearing or pivot on which the bolt has a movement of one-fourth of a revolution. This central portion of the bolt rests in a horizontal cavity or seat cut in the inner side of the door-stile, and is kept therein by a metallic guard-plate, *i*, let into the stile flush with its face and secured thereto by screws. The door-stile is further provided with a vertical cavity, *k*, which receives the short arm *g* when in a vertical position and causes it to be flush with the face of the stile. A similar cavity, *k'*, receives and embeds in the same manner the long arm *f* when hanging in a perpendicular position.

A slot, E, (shown clearly in Fig. 5,) is cut in the face of the door-frame, in a position to bring the short arm *g* of the bolt, when the door is closed, opposite thereto, the slot being of proper size to receive said arm and form its keeper.

Certain features and their uses not above

described will be pointed out in the following statement of the operation of the fastener.

Supposing the door to be in the half-opened position shown in Fig. 5 and it is desired to close it, the door is slid to the left. When the short arm *g*, which is now in a vertical position, embedded in the cavity *k* in the door-stile, is brought opposite the slot *E* in the door-frame, it falls therein by reason of the weight of the long arm *f*, which, from occupying a horizontal position, finds a vertical one within the cavity *k'*. The door is thus locked. To open the door the long arm *f* must be raised by the finger to a horizontal position, (to which end a finger-recess, *l*, is cut in the stile,) thus throwing the short arm *g* up out of its slot or keeper *E*, when the door can be slid open. It is only necessary to hold the long arm up until the short arm has passed the slot *E*, when the bolt will be maintained in the position to which it has been brought by the contact of the short arm with the door-frame. A recess or cavity, *m*, is cut in the opposite post of the door-frame, within which the long arm of the bolt enters to permit the door to be opened wide.

From the foregoing description it will be seen that this invention is strictly automatic in the act of closing the door, and that it is cheap, simple, effective, and durable, and may be applied to sliding doors generally.

Having described my invention, I claim—

1. In an automatic inside fastening device for freight-car or other doors, a bolt pivoted to the inner side of a sliding door, combined with a slotted door-frame, one arm of said bolt

locking therewith by the weight of the other arm of the bolt acting thereon, substantially as specified.

2. In an automatic inside fastening device for car and other doors, a door-frame having a cavity cut in its exterior face, combined with a sliding door having pivoted within its inner face a gravitating bolt, one arm of which is caused, when brought opposite the cavity in said frame as the door is closed, to fall therein by the weight of the other arm of said bolt, substantially as specified.

3. In an automatic inside fastening for car sliding doors, a gravitating bolt having two arms at a right angle to each other, and a central horizontal section serving as the pivot, substantially as specified.

4. In an automatic inside fastening for car sliding doors, a gravitating bolt consisting of two arms at a right angle to each other and a central horizontal section, the latter serving as the pivot, combined with the door and a guard-plate let into the door over the pivot, substantially as specified.

5. A door sliding in ways and provided with guide or track plates upon its exterior, and having, further, an automatic fastener placed on the inside of the door, behind one of the said guide-plates, substantially as and for the purpose specified.

Witness my hand this 6th day of August, A. D. 1880.

HORACE A. TOWNE.

Witnesses:

E. M. WESTFALL,  
T. J. DE LAMERE.