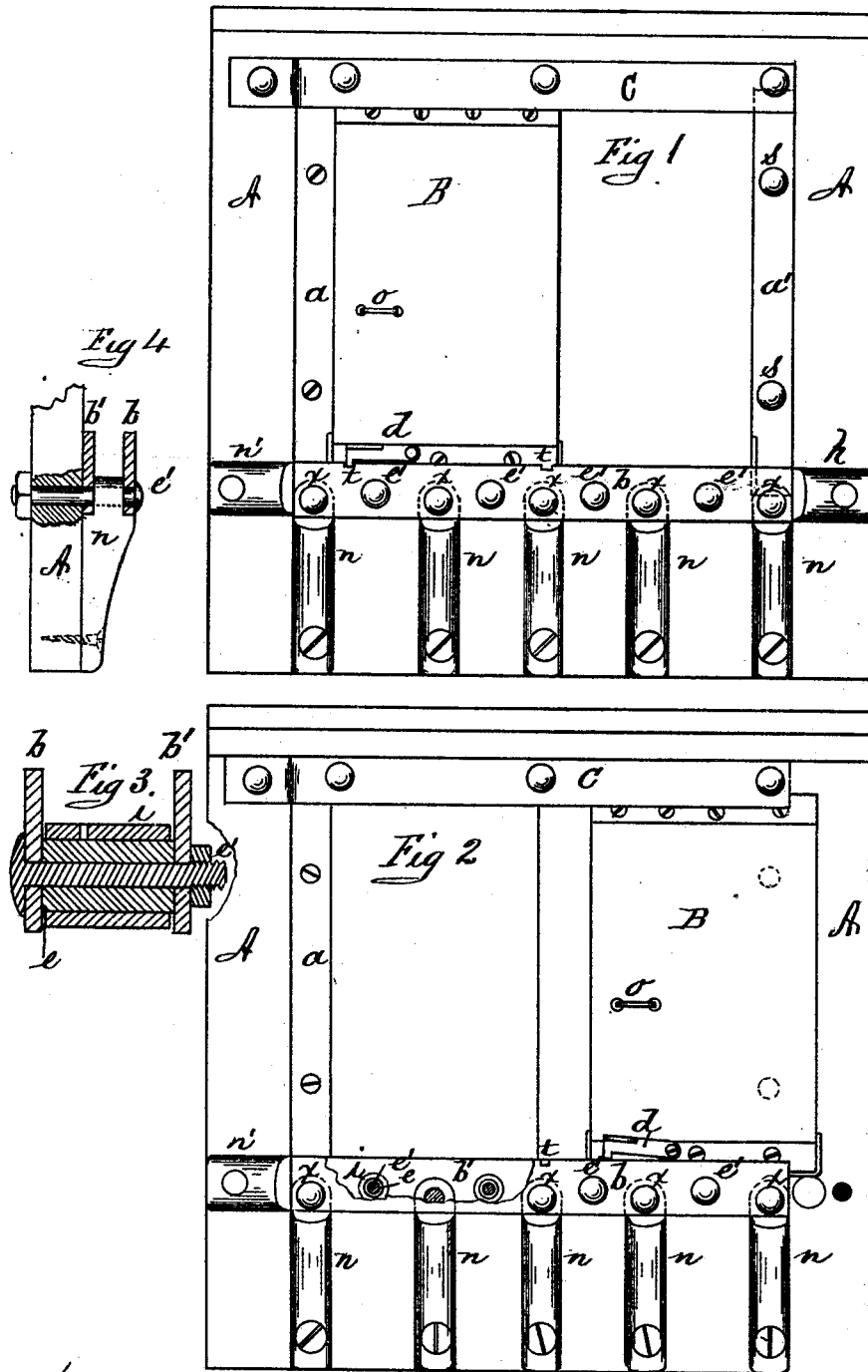


G. O'BRIEN.  
Freight-Car Door.

No. 215,019.

Patented May 6, 1879.



Witnesses  
Wm H Chapin  
H. A. Chapin

Inventor  
Garret O'Brien  
By Chapin & Co Attys

# UNITED STATES PATENT OFFICE.

GARRET O'BRIEN, OF WESTFIELD, MASSACHUSETTS.

## IMPROVEMENT IN FREIGHT-CAR DOORS.

Specification forming part of Letters Patent No. **215,019**, dated May 6, 1879; application filed November 22, 1878.

*To all whom it may concern:*

Be it known that I, GARRET O'BRIEN, of Westfield, county of Hampden, and State of Massachusetts, have invented new and useful Improvements in Freight-Car Doors, in fastenings therefor, and in guiding-tracks for them to slide in, which improvements are fully set forth in the annexed specification and in the accompanying drawings.

My invention relates to that class of car-doors which are arranged to slide back and forth on the side of a freight-car; and consists in a peculiar construction of the track in which the door slides, the construction of the frame surrounding the door, so as to provide a convenient and expeditious means for removing a door from a car, and a door provided with a fastening-latch, both constructed and adapted to operate with the before-mentioned track and frame.

The object of my invention is to provide a more solid and durably-constructed car-door and frame than has heretofore been made—that is to say, one less likely to be injured, displaced, or disabled by any ordinary abrasion that moving trains are often subjected to, and which frequently pushes the doors open or tears them off; also, to provide a track for the door to slide in, of such a construction that it must keep its position, and present, as nearly as practicable, a frictionless course upon which the door can slide.

Referring to the drawings, which consist of four figures, Figure 1 shows that portion of a side of a car on which the door is secured, with my improved door and frame thereon, the door being shown as shut. Fig. 2 presents the same view as Fig. 1, excepting that it shows the door open, one end of the frame removed, and a portion of the front side of the track broken away to show the ends of the rollers and bolts therein. Fig. 3 is a transverse section through both sides of the door-track and through one of the friction-rollers and its center bolt. Fig. 4 is an end view of the track, showing the position of the guard-blocks between the track-bar.

In the drawings, A is the side of the car. B is the door. C is the top strap of the door-frame. *aa'* are vertical side posts of the frame.

*b* is the front bar of the door-track. *b'* is the rear bar. *e* is a roller-bearing on bolt *e'*. *e'* are bolts securing the parts constituting the door-track together and to the side of the car. *i* is a roller. *h* is a removable block bolted on at the end of the door-track. *d* is a latch. *o* is a handle. *n* are guard-blocks under the door-track. *n'* is a guard-block at the end of the track.

Like letters refer to like parts in the different figures.

Freight-car doors, as ordinarily constructed and hung to the car, are made with grooved rollers attached to the bottom of the door, and a track consisting of a bar of flat iron is bolted flatwise to blocks on the side of the car under the door, on the edge of which the door rides to open and shut. For a fastening there is usually employed a hook-hasp and staple.

The above construction and arrangement of door, track, and fastening present, in practice, many inconveniences, and entail quite frequent repairs.

To obviate the above objections, I construct the track for my car-door as shown in Fig. 3, consisting of two flat bars of iron, *b* and *b'*, arranged parallel to each other, and having interposed between their inner faces roller-bearings *e* and rollers *i*, the latter being a little shorter than the former. The rollers are slipped upon the bearings placed between the bars, and a bolt, *e'*, is inserted through bars *b b'* and roller-bearing *e*, and tightly screwed up. Thus the bars and roller-bearings will be tightly screwed together, and the rollers *i* will be left free to turn on their bearings *e*. The rollers are set at such distances apart as will conveniently allow the insertion between them of the bolts *x*, which pass through the upper ends of guard-blocks *n* and through the side of the car to secure the track thereon. The upper ends of said guard-blocks *n* reach up between bars *b b'*, and being bolted with the track to the car very much strengthen it, and prevent its being easily displaced or injured.

When the rollers and guard-blocks are secured in place between the bars *b b'*, as above described, sufficient space is left between said blocks and rollers to allow any dirt to fall down between them, thus keeping the track

free from any accumulation of obstructions therein that can hinder the free movements of the door.

The upper end of the door is retained in proper position behind the lower edge of the top strap C, which is properly blocked out from the side of the car a little more than the thickness of the door, and so secured, as shown, by bolts.

Side post *a* stops the door in a shut position, as does side post *a'* in an open one; but post *a'* is so applied to the car relative to the strap C and the track that it can be conveniently removed by taking out bolts *s*, and by taking off guard-block *h*, and thus the door can be drawn out of the track, as partly shown in Fig. 2, and removed for repairs or otherwise.

Upon the outside of the door, just above the edge of bar *b*, I hang a latch, *d*, having a projection on its lower edge, which, when the door is open or shut, drops into notches *t t* cut in the upper edge of bar *b*, and retains the door in either of those two positions. This latch is easily reached from the ground, and is intended to be employed for securing the door temporarily off from station to station, and not to supersede the ordinary hasp-hook and staple.

A vertical bolt arranged to drop into said notches may be used on the door in place of latch *d*; but it could not be so compactly made, and would necessitate the employment of more parts in its construction.

The door B has its ends properly faced, and

its bottom edge shod with iron, as shown, so that its parts in contact with strap C and the track and rollers *i* may not so wear as to offer any unusual resistance to the movements of the door.

I do not claim, broadly, a sliding-door track consisting of friction-rollers operating between two guide bars or rails, as that is not new; but

What I claim as my invention is—

1. In combination with the car-door B, the door-track consisting of the notched bar *b* and back bar *b'*, rollers *i*, roller-bearings *e*, and bolts *e'*, and the top strap C, and side posts *a a'*, all constructed and arranged substantially as and for the purpose set forth.

2. A car-door frame consisting of the top strap C, side posts *a a'*, and a door-track consisting of the bars *b b'*, rollers *i*, roller-bearings *e*, and bolts *e'*, and the guard-block *n'*, and end block *h*, constructed and arranged to receive the sliding door B, substantially as set forth.

3. The door-track consisting of the bars *b b'*, rollers *i*, roller-bearings *e*, and bolts *e'*, in combination with the guard-blocks *n*, having their upper ends bolted between bars *b b'*, and end block *h*, all constructed and arranged substantially as set forth.

GARRET O'BRIEN.

In presence of—

H. A. CHAPIN,  
L. W. PHELPS.