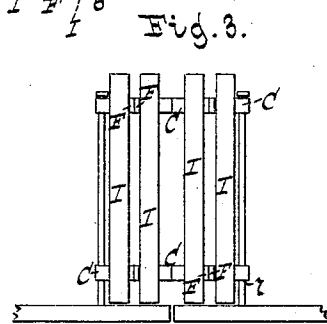
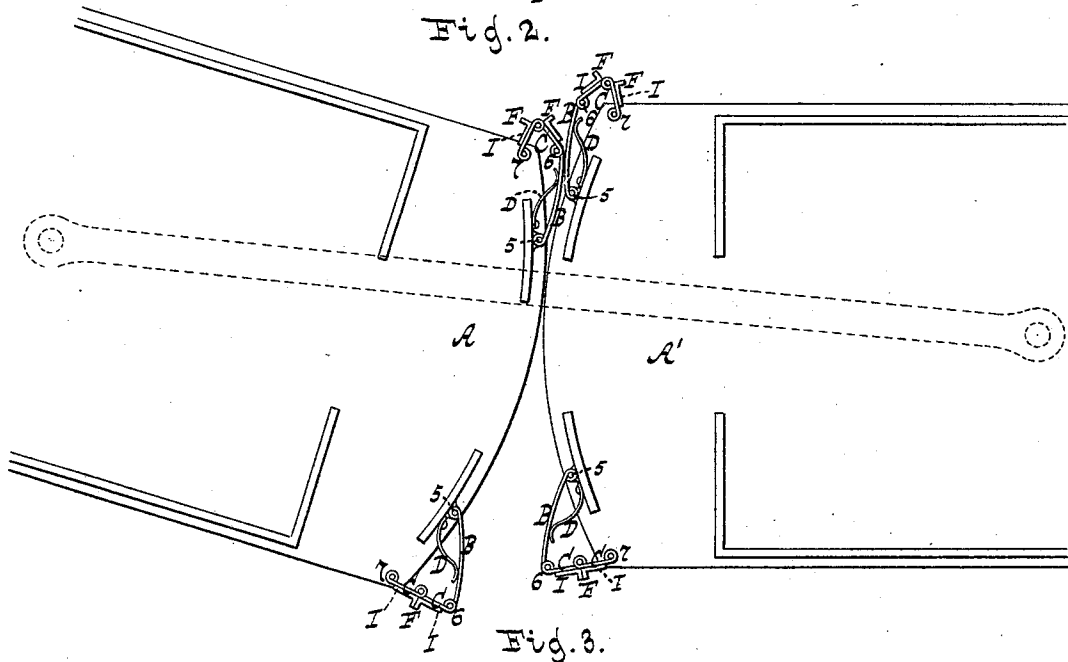
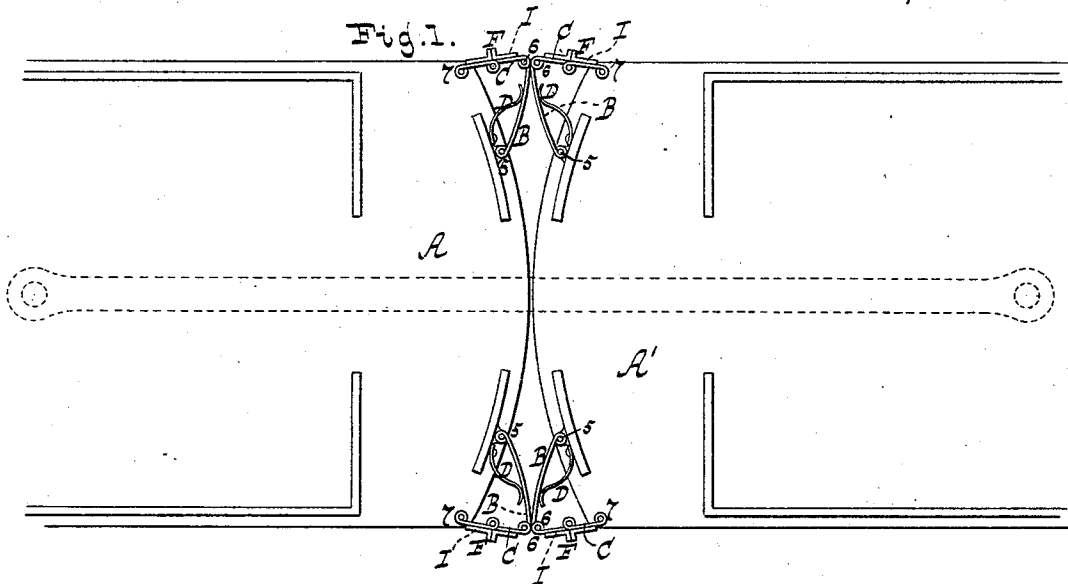


(No Model.)

S. B. CONOVER.
GUARD FOR RAILWAY CARS.

No. 251,189.

Patented Dec. 20, 1881.



Witnesses.
Chas. Wahlers
William Miller

Inventor.
Stephen B. Conover
By Van Santwood & Hauff
Attys.

UNITED STATES PATENT OFFICE.

STEPHEN B. CONOVER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
JOSHUA SAWYER, OF BOSTON, MASSACHUSETTS.

GUARD FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 251,189, dated December 20, 1881.

Application filed May 2, 1881. Renewed November 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN B. CONOVER, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Guards for Railroad-Cars, of which the following is a specification.

The object of my invention is to produce a guard for closing the space between the adjacent ends of two railroad-cars, and especially those cars having their ends rounded and their couplings pivoted at or near the middle of the cars—as, for example, on elevated railroads.

It is a well-known fact that the space referred to is a source of great danger to passengers on elevated railroads, and many attempts have been made to produce the required guard, one of the conditions necessary to its success being that it shall allow the corners of the cars to separate and approach each other, and also allow a lateral motion of the ends of the cars, as in passing over a curve. The guard obtained by my invention possesses the necessary requirements without complexity of construction or liability to get out of order.

This invention is illustrated in the accompanying drawings, in which Figure 1 represents a plan view, showing the guard applied to two cars, the latter being on a straight track. Fig. 2 is a similar view, showing one car on a straight track and the other on a curve. Fig. 3 is a side view.

Similar letters indicate corresponding parts.

The letters A A' designate portions of two railroad-cars, the ends of which are rounded, and whose coupling is pivoted at or near the middle of the cars in a well-known manner.

At the corners of the cars, respectively, I arrange my improved guard, which comprises what I term "chafing-bars" B, one end of which is pivoted to the car at a point inside of its corners, as at 5, and jointed arms C, one end of which is pivoted to the chafing-bars, as at 6, while the other end is pivoted to the car at or near its corners, as at 7. Each of the chafing-bars B is subjected to the action of a spring, D, which has a tendency to force its outer end, 6, away from the car, and thereby to

extend the jointed arms C to an approximately straight position, which is the normal position of such arms, being determined by stops F—that is to say, these stops are arranged to allow the jointed arms to unfold outward from a straight position, but not inward. The length of the jointed arms C is about equal to one-half the space left between the corners of the adjacent cars A A' when the cars are in line with each other, and hence when the cars are on a straight track, as at a station, the jointed arms of one car meet those of the other car, as shown in Fig. 1, while when the cars reach a curve and their corners approach each other, the ends of the cars at the same time describing a lateral movement, the bars B chafe or slide against each other and are compressed against the action of their springs, thus bending the arms C outward on their joints, as shown in Fig. 2.

The stops F are applied to the jointed arms C opposite to their joints, each half or portion of the arms having a stop which strikes that of the other portion; but the stops can also be arranged to act on the chafing-bars instead of the arms. The springs D, moreover, may be arranged to act on the jointed arms C instead of the chafing-bars B, or the bars may be made elastic and fixed to the cars, thus constituting the springs.

The chafing-bars B and jointed arms C are placed at or near the top and bottom of the dash-board G of the cars, and the corresponding sections of the upper and lower arms are connected together by slats I, (best seen in Fig. 3,) whereby the whole is converted into a gate. The slats, however, may be omitted, and in that case the number of the bars and arms may be increased; or a single bar and arm may be used and placed between the top and bottom of the dash-board or made of a width equal to the height of the dash-board; or such single bar and arm may be placed at the bottom of the dash-board and covered with a folding platform.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, substantially as here-

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inbefore set forth, of the chafing-bars, (one or more,) the jointed arms, the springs, and the stops, for the purpose described.

5 2. The combination, substantially as hereinbefore set forth, of the chafing-bars, (one or more,) the jointed arms, the slats connecting the jointed arms, the springs, and the stops.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

STEPHEN B. CONOVER. [L. s.]

Witnesses:

W. HAUFF,

CHAS. WAHLERS.