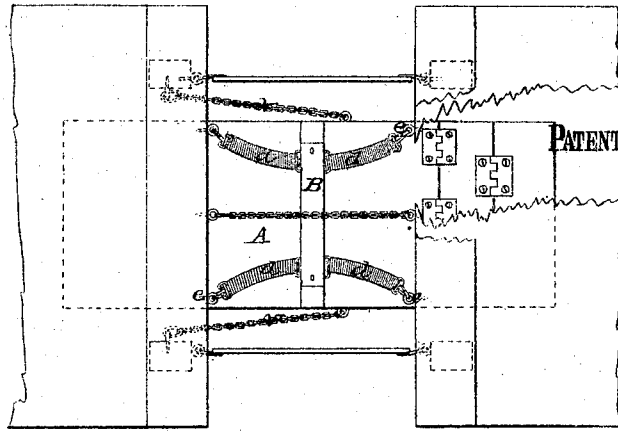


ELI STURGEON. SAFETY BRIDGE FOR RAILWAY CARS.

118167

Fig. 1.



PATENTED AUG 15 1871

Fig. 2.

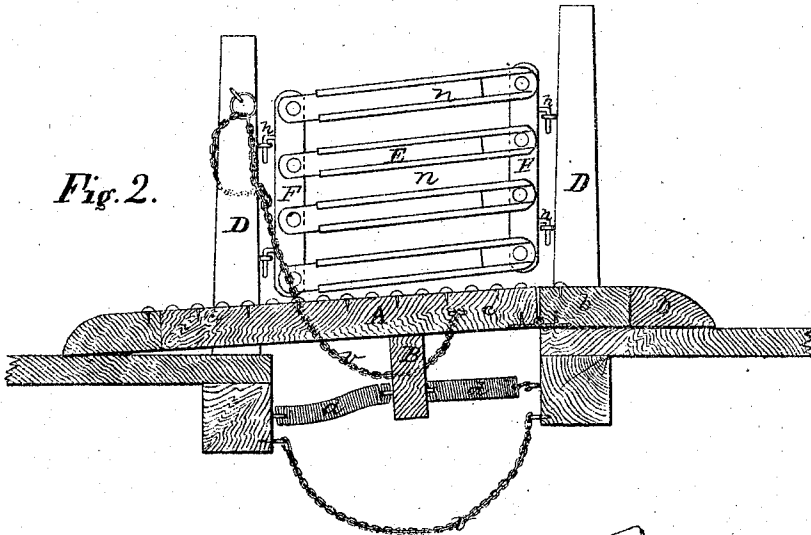


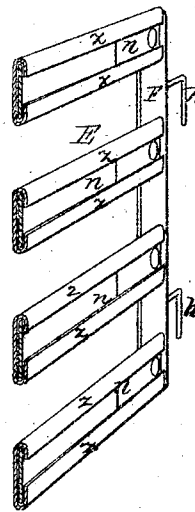
Fig. 3.



Fig. 4.



Fig. 5.



Witnesses.
Villette Anderson
J. P. Curtis,

Inventor.
Eli Sturgeon
Chipman & Son, attys

UNITED STATES PATENT OFFICE.

ELI STURGEON, OF COLUMBIANA, OHIO.

IMPROVEMENT IN SAFETY-BRIDGES FOR RAILWAY CARS.

Specification forming part of Letters Patent No. 118,167, dated August 15, 1871.

To all whom it may concern:

Be it known that I, ELI STURGEON, of Columbiana, in the county of Columbiana and State of Ohio, have invented a new and valuable Improvement in Safety Railway-Car Bridge; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Fig. 1 of the drawing is a bottom view of my bridge. Fig. 2 is a central vertical section. Figs. 3, 4, and 5 are detached views.

My invention has relation to certain improvements in safety-bridges for connecting the platforms of railroad cars; and it consists in the construction and novel arrangement of devices whereby the bridge and its railings are adapted to suit platforms of different heights, and are connected to the platforms in such a manner that, while security is attained, they will automatically adjust themselves to the constant change of distance which occurs between the platforms.

In the drawing, A designates the bridge, which is provided at one end with a series of hinged slats, *b*, adapted to lie flat on the platform of the car, although the main board of the bridge be considerably inclined on account of the difference of height between the platforms. These hinged slats may be provided at both ends of the main board C; but if one end be furnished in this manner it will be sufficient. B represents a cleat secured to the under side of the main board *c* of the bridge, to each side of which cleat are attached the springs *d d*, by means of which the bridge is connected to the platforms of the cars. The outer end of each spring is provided with a hook, adapted to be fastened to the eyes *e*, with which the platform of each car is provided. The bridge being connected with the platforms, as indicated, it is apparent that the variation of distance between the cars will have no effect to displace or disarrange the bridge. D D represent the uprights attached to the platform of the cars, which are usually employed to sustain the

inner ends of the short railings which protect the edges of said platforms. E E represent the expanding and contracting railings which extend between the platforms of the cars on each side of the bridge.

The construction usually employed is as follows: An upright, F, is provided at each end of the railing. This upright or vertical bar is hung by means of hooks *h* to suitable eyes on the posts D D. To the vertical bar F, at one end of the railing, are pivoted the horizontal bars *n*, which are designed to slide in the flanged or tubular rails *z z*, pivoted to the vertical bar F at the other end of the railing. Hence the railing will automatically adapt itself to the varying distance between the posts D D of the two platforms, and the ends of the horizontal bars *n z* being pivoted, they will readily adapt themselves to the inclination necessary in connecting cars of different heights. The bars *z n* are not attached to each other except by the sliding arrangement above described. Therefore they will readily separate when from any cause the cars are uncoupled accidentally, and there is no danger of their being broken.

In order to prevent accident from the falling of the bridge between the cars on the track when the cars become uncoupled by chance, chains *v v* are provided, and arranged to connect the bridge on each side with the uprights D D. The upper surface of the bridge is studded with nails *a a*, for the purpose of providing a more secure foothold.

I claim as my invention—

In a safety-bridge, the railings E, consisting of the slide-bars *n z*, vertically pivoted, and the heel-posts F F, horizontally pivoted, all substantially as herein shown and described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ELI STURGEON.

Witnesses:

D. D. KANE,
J. M. HYNE.