(No Model.) 2 Sheets—Sheet 1.

W. SCHIRMER.

SAFETY BRIDGE FOR CAR PLATFORMS.

No. 363,485. Patented May 24, 1887.

Fig: 1.

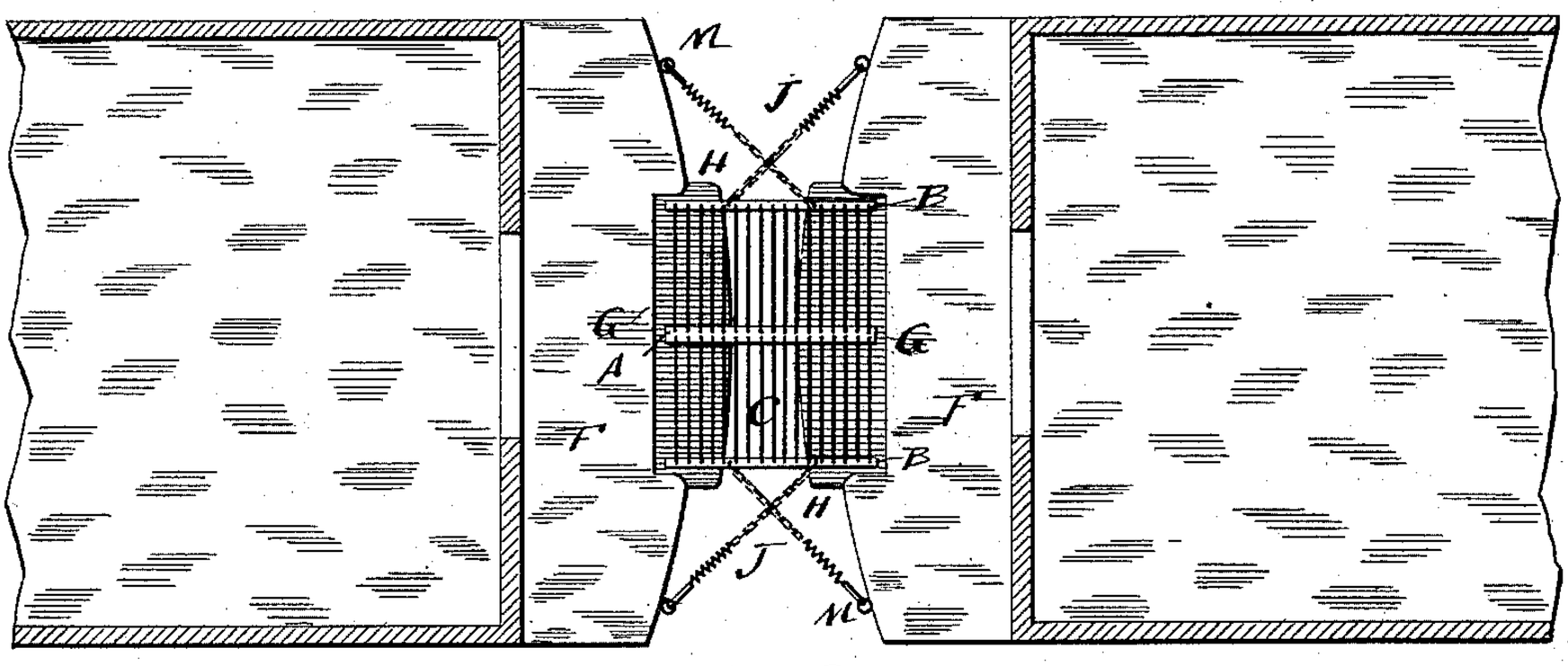


Fig: 2.

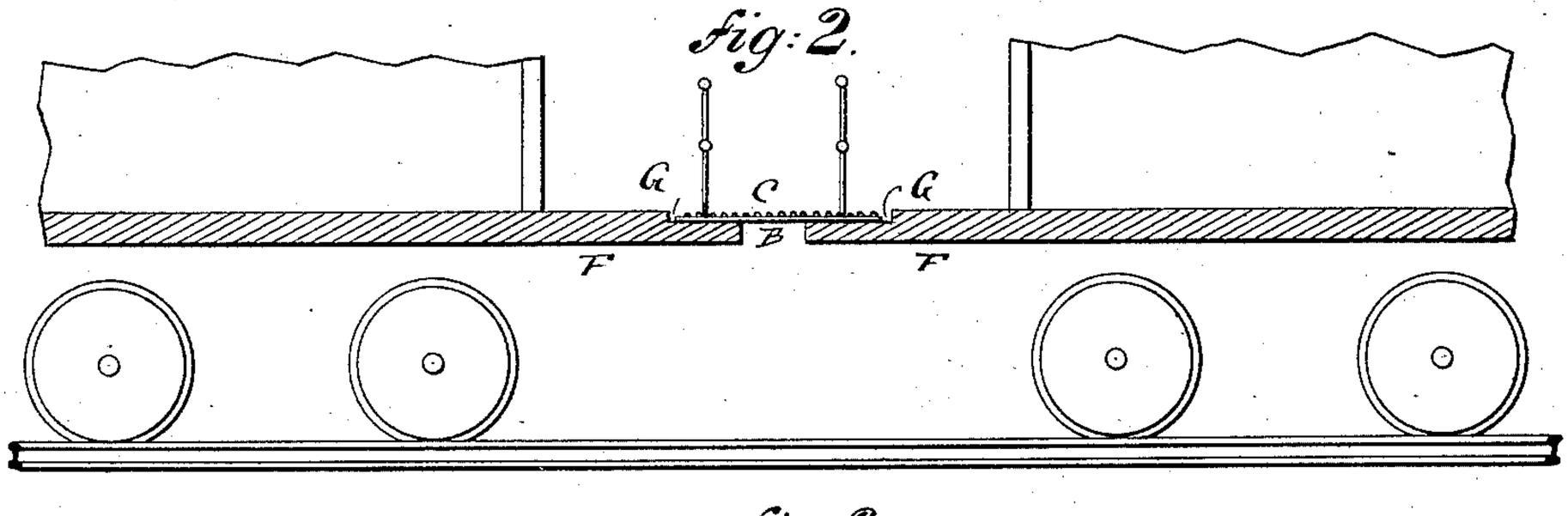
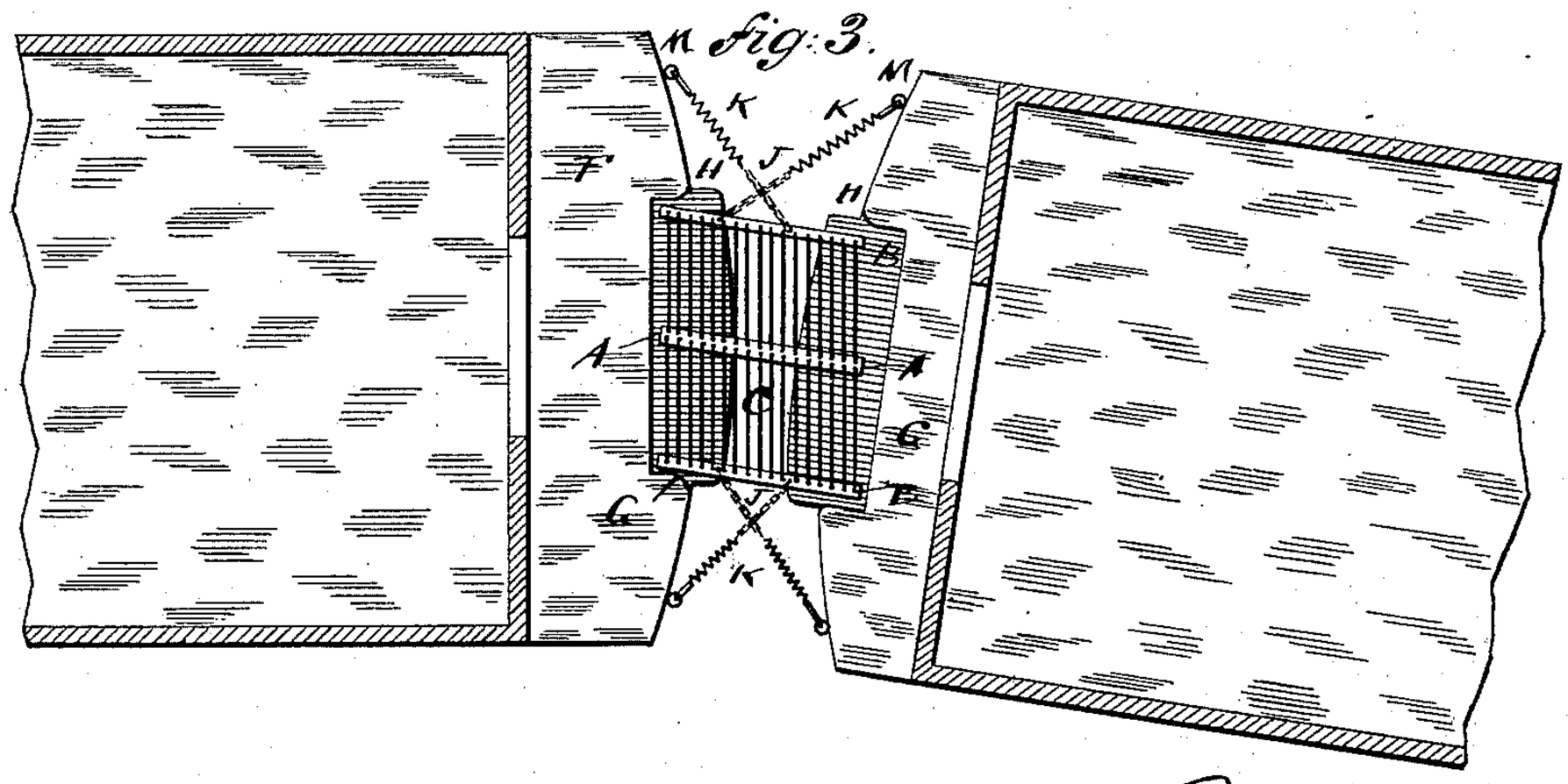


Fig: 3.



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(No Model.) 2 Sheets—Sheet 2.

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SAFETY BRIDGE FOR CAR PLATFORMS.

No. 363,485. Patented May 24, 1887.

Fig: 4.

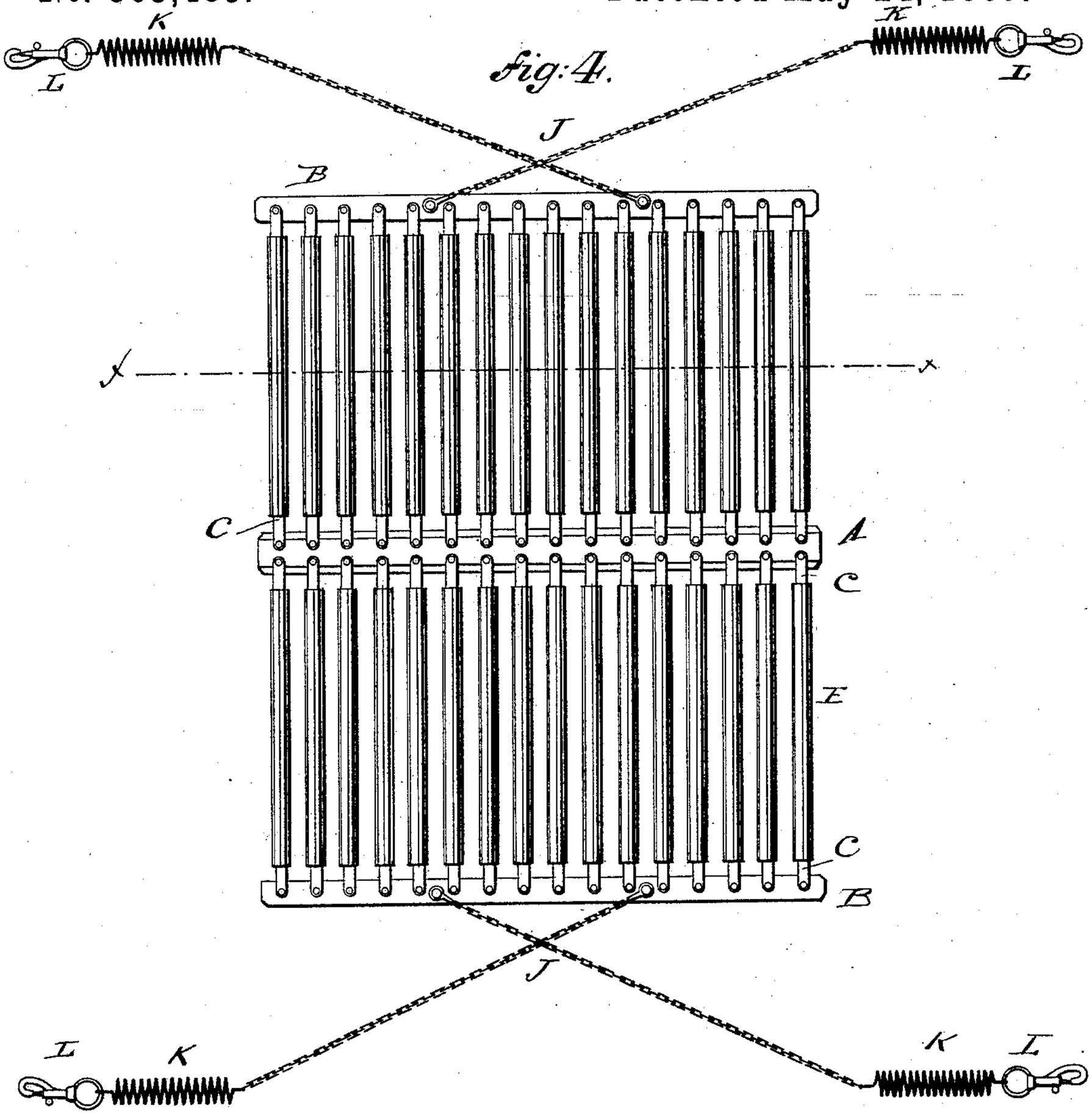


Fig: 5.

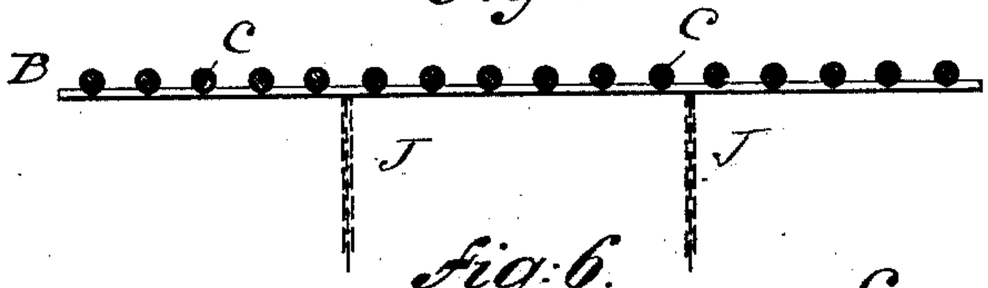


Fig: 6.

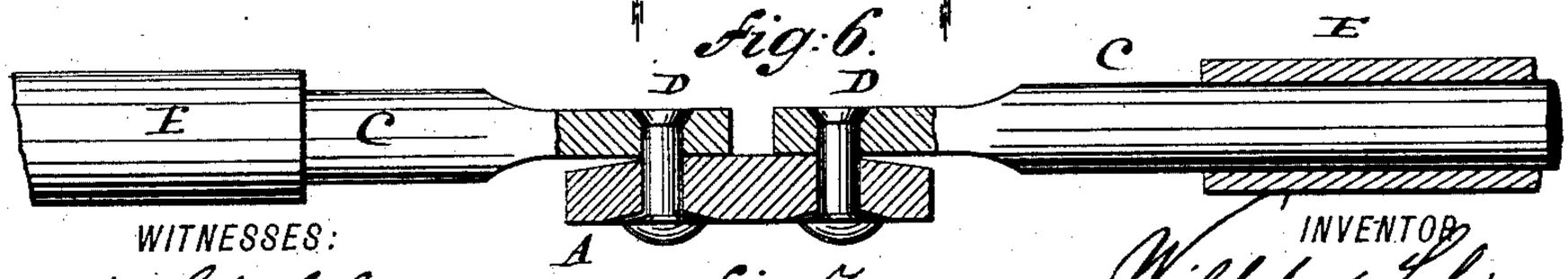
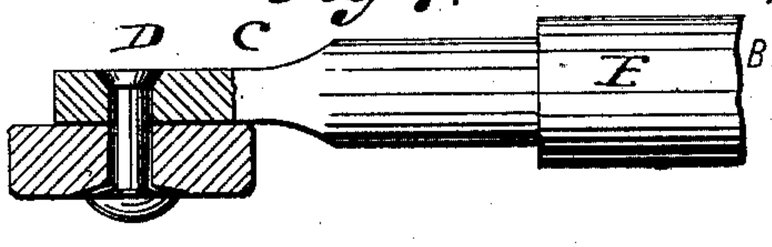


Fig: 7.



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UNITED STATES PATENT OFFICE.

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SAFETY-BRIDGE FOR CAR-PLATFORMS.

SPECIFICATION forming part of Letters Patent No. 363,485, dated May 24, 1887.

Application filed February 24, 1887. Serial No. 228,656. (No model.)

To all whom it may concern:

Be it known that I, WILHELM SCHIRMER, of the city, county, and State of New York, have invented certain new and useful Improvements in Safety-Bridges for Railway-Car Platforms, of which the following is a specification.

The object of my invention is to provide a new and improved safety-bridge for the purpose of connecting the adjacent platforms of railway-cars, which bridge is made flexible, so as to adapt it to fold automatically or to extend according as the cars run on curves or on a straight line, thus closing at all times the middle part of the gap between the platforms and permitting passengers and train-men to pass in safety from one part of the car to the other.

The invention consists in a bridge formed of three parallel bars and a series of rods, preferably covered with rubber, and having their outer ends pivoted to the side bars and their inner ends pivoted to the inner bar. The bridge is rested on the car-platform, and tension springs and chains serve to hold the bridge in place, at the same time permitting it to fold and extend according to the movements of the cars, all as will be fully described and set forth hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 is a sectional plan view of the end parts of two cars provided with my improved safety-bridge, the cars being in line. Fig. 2 is a longitudinal sectional view of the same, parts being omitted. Fig. 3 is a sectional plan view similar to Fig. 1, the longitudinal axes of the cars being at an inclination to each other. Fig. 4 is an enlarged detail plan view of my improved bridge with springs and chains. Fig. 5 is a cross-sectional view on line *x x*, Fig. 4. Fig. 6 is an enlarged detail cross-sectional view of the middle bar and the ends of the rods pivoted to the same. Fig. 7 is an enlarged sectional view of one of the end bars and part of one rod pivoted on the same.

Similar letters of reference indicate corresponding parts.

The bridge is composed of the middle bar, A, the two ends bars, B B, and the rods C, which have their ends flattened and pivoted by rivets D to the middle bar, A, and end bars, B. The inner ends of all the rods C are pivoted to the middle bar, A, and the outer ends of the rods are pivoted to the end bars, B B. The upper heads of the rivets D are countersunk, as shown, so as not to project from the flattened surface of the upper part of the rods, and present no obstruction.

The rods C are provided with rubber sleeves E, to prevent persons stepping on the bridge from slipping; but in place of providing said rubber sleeves the rods may be wrapped with cords or ropes, the rubber, however, being preferred.

As shown in Fig. 6, the top of the middle bar, A, is beveled toward the outer edges, so as to avoid any undue friction between the inner ends of the rods C and said middle bar, A.

Each car-platform F is provided in the middle of the end edge part with a recess, G, for receiving part of the bridge. At the bottom of the recess G the bracket H is formed for the purpose of supporting the bridge, which is placed in the recesses G in such a manner that the bars A B are usually in the direction of the length of the cars, the middle bar, A, being at the middle of the recess and the bars B B at the ends. Two chains, J, are fastened to the edge of each end bar, B, a short distance from the middle of the same, which chains cross each other. To the opposite ends of the chains spiral springs K are fastened, which are secured by snap-hooks L or analogous devices to rings, eyes, or hooks M on the end of the platform, a short distance from the sides of the same, as shown in Fig. 1. The springs K keep the chains J drawn taut and hold the bridge in place in the recesses of the platforms.

When the cars are in line, as shown in Fig. 1, the bars A B are parallel with the length of the cars and the rods C are transversely to the length of the cars and at right angles to the bars A B. When the cars turn a curve, the bridge is shifted, as shown in Fig. 3, the rods C being at an angle to the bars A B. The chains and springs must pull in opposite direction to prevent the bridge from being moved entirely from the recess G or off the brackets H, and thus prevent persons from dropping down between the car-platforms.

The bridge can easily be removed when the cars are to be uncoupled, and can be folded completely when not in use.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A safety-bridge for railway-car platforms, consisting of a middle bar and two end bars, and a series of rods having their outer ends pivoted to the end bars and their inner ends pivoted to the middle bar, substantially as shown and described.

2. In a safety-bridge for railway-car platforms, the combination, with the middle bar, A, and end bars, B B, of the rods C, having their ends flattened and pivoted to the bars A B, and the rubber sleeves F, surrounding the rods C, substantially as shown and described.

3. The combination, with a flexible or collapsible bridge for railway-car platforms, of chains fastened on the end bars of the bridge, and of springs fastened to the outer ends of the chains, substantially as shown and described.

4. The combination, with a flexible or collapsible bridge for railway-car platforms, of chains fastened to the end bars of the bridge a short distance from the centers, springs fastened to the outer ends of the chains, and fastening devices on the springs, substantially as shown and described.

5. The combination, with two car-platforms having recesses at their end edges, of a flexible or collapsible bridge resting in said recesses and connected with said cars by chains fastened to the ends of the bridge, springs fastened on said chains, fastening devices on the springs, and hooks or eyes on the end edges of the car-platform for fastening said springs, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

WILHELM SCHIRMER.

Witnesses:
PAUL GOEPEL,
CARL KARP.