

No. 626,349.

Patented June 6, 1899.

F. STEFFENS.

DOUBLE SAFETY GUARD FOR OPEN RAILWAY PASSENGER CARS.

(Application filed Mar. 2, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

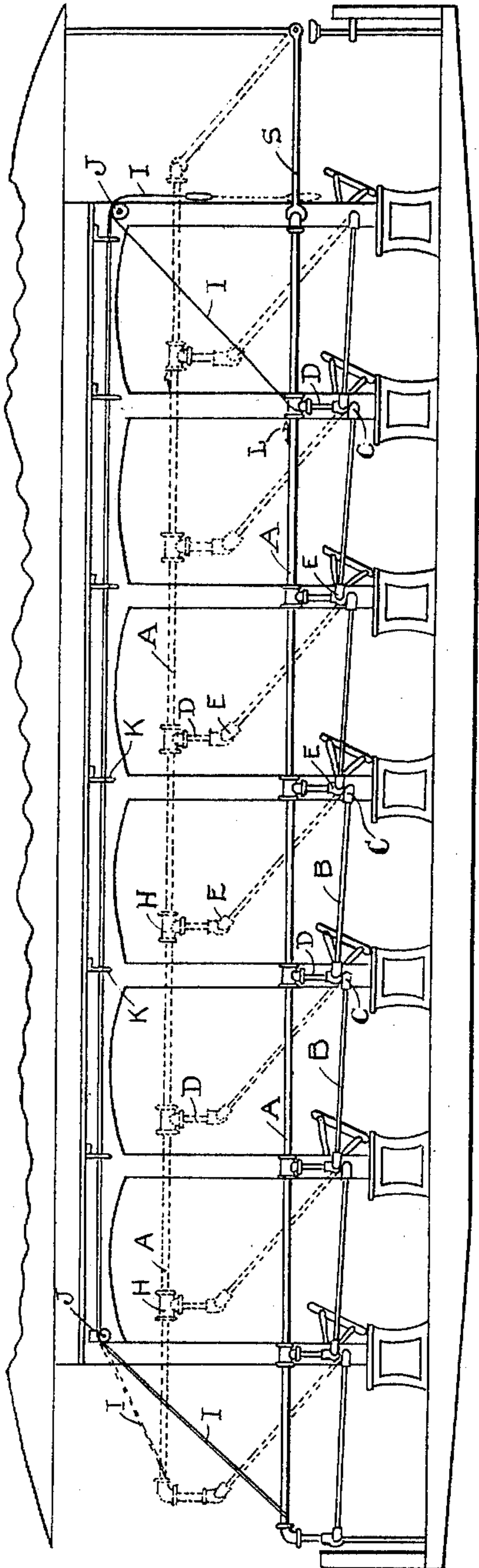


Fig. 18.

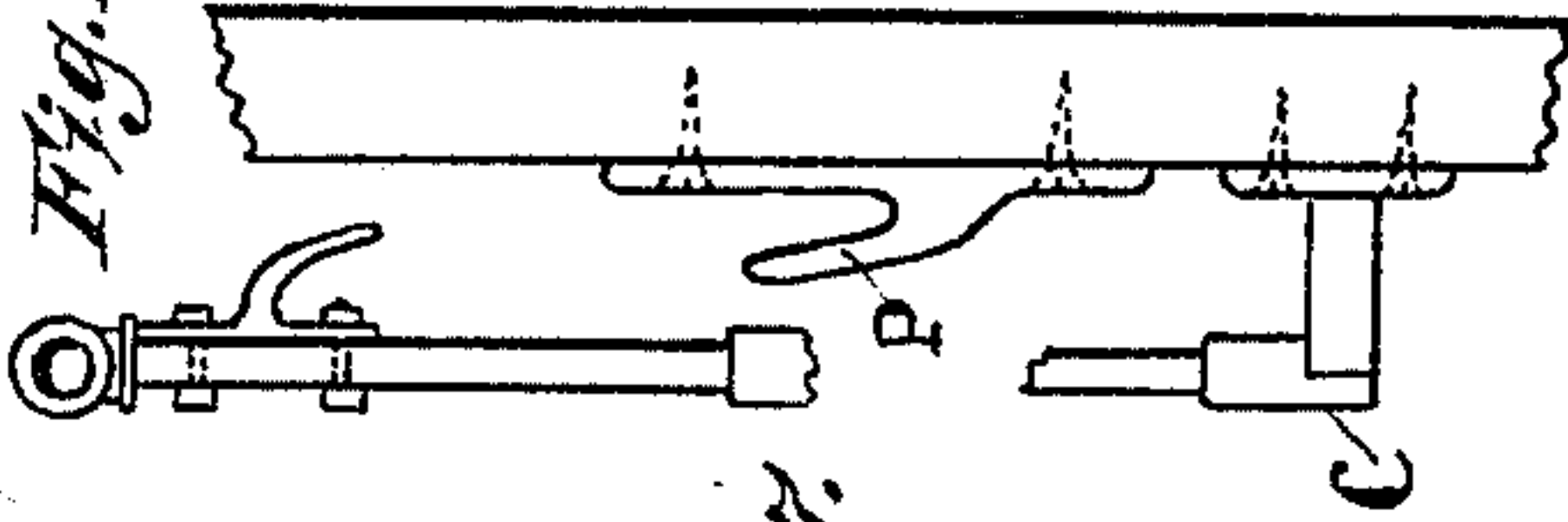


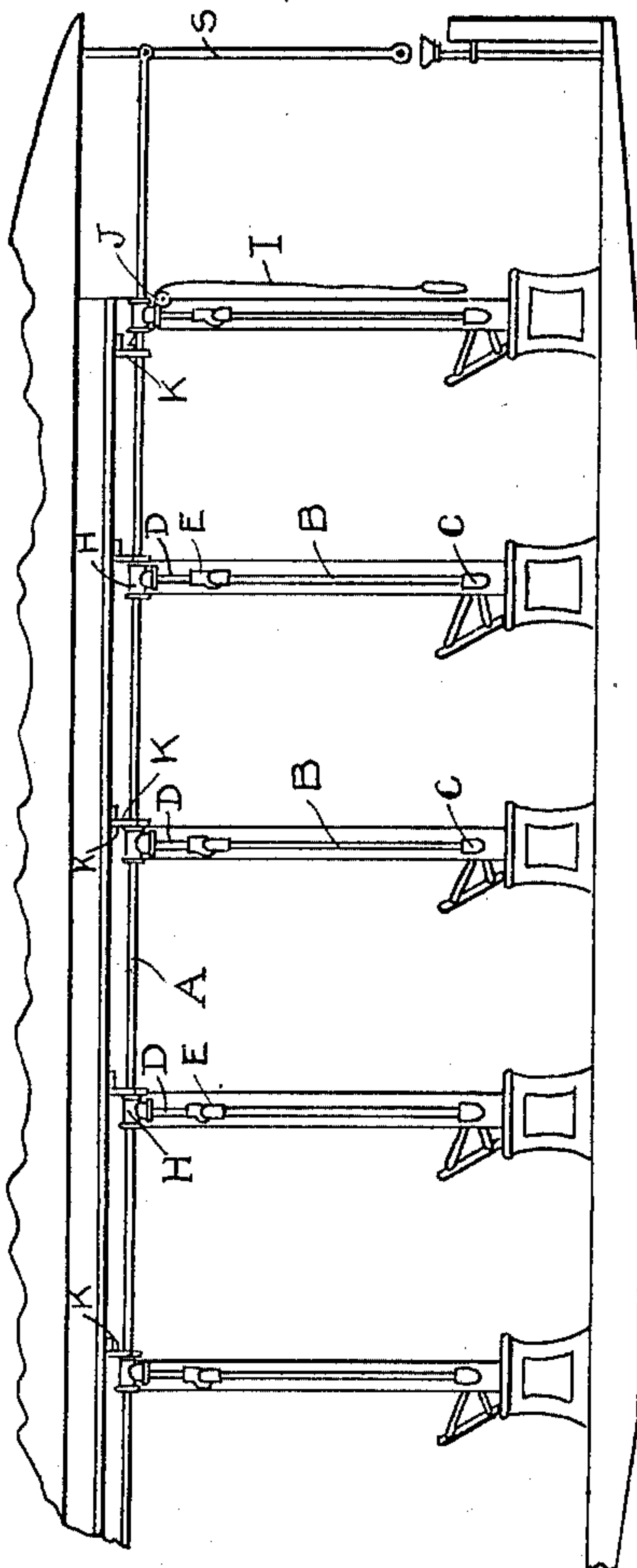
Fig. 17.



Fig. 16.



Fig. 2.



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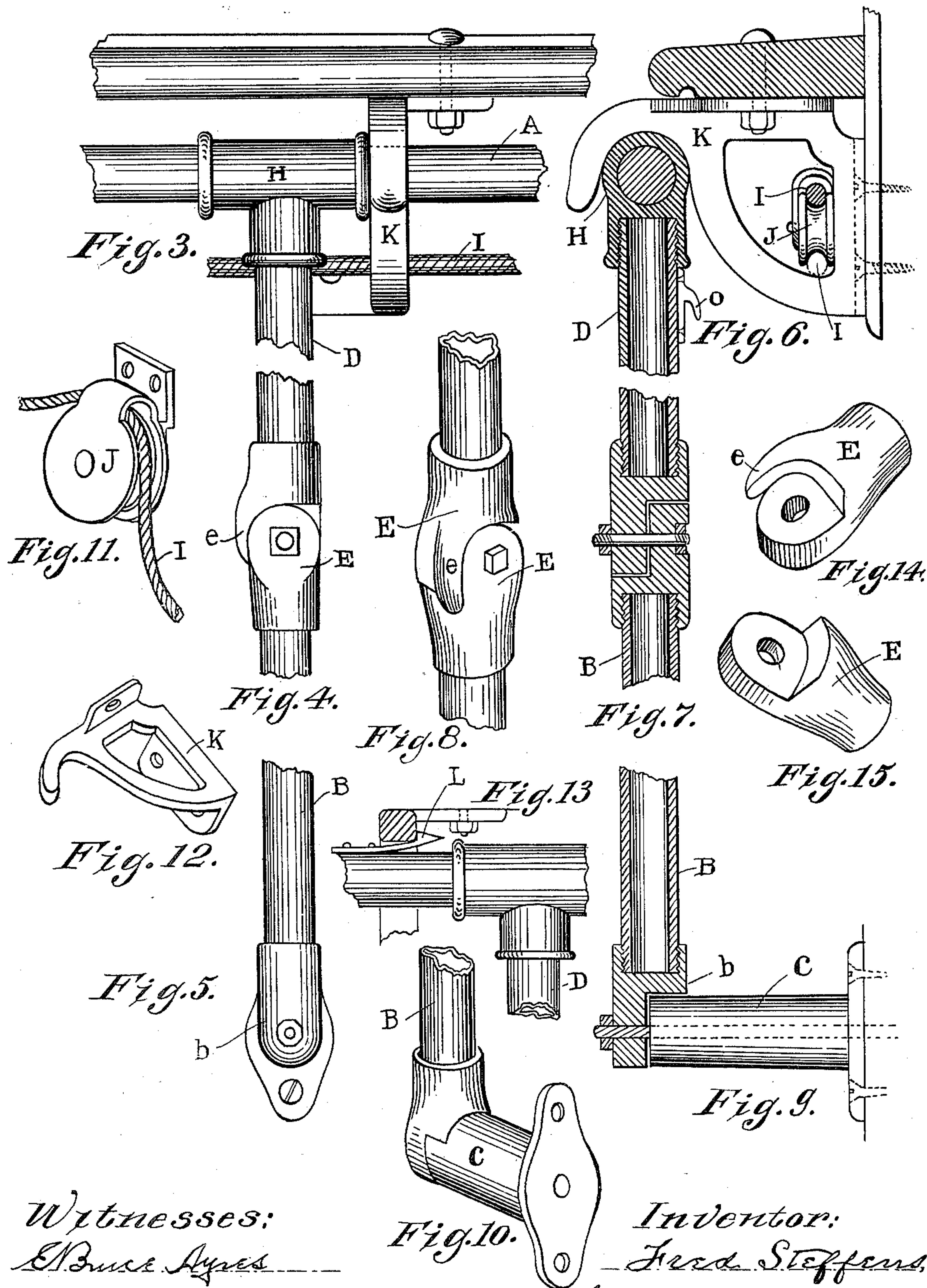
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DOUBLE SAFETY GUARD FOR OPEN RAILWAY PASSENGER CARS.

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(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

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DOUBLE SAFETY-GUARD FOR OPEN RAILWAY PASSENGER-CARS.

SPECIFICATION forming part of Letters Patent No. 626,349, dated June 6, 1899.

Application filed March 2, 1899. Serial No. 707,435. (No model.)

To all whom it may concern:

Be it known that I, FRED STEFFENS, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented certain new and useful Improvements in Double Safety-Guards for Open Railway Passenger-Cars; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to safety-guards for open or summer railway passenger-cars; and the objects of my improvement are, first, to provide a lower as well as upper guard, thus diminishing the danger there is with a single guard of passengers crowding out under or over the guard; second, to provide a guard that can be raised and lowered with greater ease than those now in use, and, third, to provide a guard that closes the entire side, including platforms, being double except at rear platform. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a car with guard down and dotted lines showing movement of guard while being raised or lowered. Fig. 2 is a side elevation of a car, showing the guard in position occupied when not in use. Fig. 3 is a front elevation of the guard when not in use in position under bracket. Fig. 4 is a view of the knuckle-joint connection; Fig. 5, a front view of the lower end of a grab-handle in connection with a casting more fully shown in Fig. 9; Fig. 6, a section view of a bracket attached under the water-table, showing pulley and cable used in raising and lowering the guard, also showing the guard when upheld in position under bracket. Fig. 7 is a section view of knuckle-joint in connection with the upper end of a grab-handle and the lower end of a grab-handle extension; Fig. 8, a perspective view of the knuckle-joint, showing the stop preventing it from going beyond a perpendicular line. Fig. 9 is a cross-section showing lower casting and lower end of grab-handle in connection; Fig. 10, a perspective view of said lower casting

and lower end of grab-handle; Fig. 11, a perspective view of pulley with cable; Fig. 12, a perspective of bracket; Fig. 13, an elevation showing a spring-catch fastened to the guard and held by the bracket when the guard is not in use; Fig. 14, a perspective view showing the upper half of knuckle-joint; Fig. 15, a perspective of the lower half of the knuckle-joint. Fig. 16 is a perspective of a hook-shaped casting for attaching on the inside of the grab-handle. Fig. 17 is a perspective of a pocket for fastening to the outside of a car-post to receive said hook, and Fig. 18 is an elevation of said hook and pocket.

Similar letters refer to similar parts throughout the several views.

In my invention the rod A and grab-handles B B constitute a double guard. Castings C C are rigidly attached to the outside of posts of the car, the projecting ends being circular with flat faces. The lower ends of grab-handles *b b* are halved, the inside being made circular to ride and turn on said casting, while the remainder works against the face of the end of casting. The upper ends of the grab-handles have extensions D D, the grab-handles and extensions being connected by knuckle-joints E E. The upper ends of extensions D D are connected with guard A by means of T-castings H H. The upper halves of knuckle-joints E E are provided with stops *e e*.

To car-posts and water-tables I attach brackets K K to hold the upper guard in firm position when it is raised. There are two cables or ropes I I used in raising and lowering the guard, one fastened to the guard near its front end. This cable runs over a pulley J, fastened near the top of the front post, and is held up by guard-brackets K K. The other cable is fastened to the guard near its rear end and is run over another pulley J, fastened to the rear post, all of which is shown in Figs. 1 and 2. Near the rear end and upon the upper edge of the upper guard there is a spring L to hold the guard from falling forward when up and not in use. This spring slides under the rear bracket and then flies up automatically and holds against the bracket, as shown in Fig. 13. In order to permit this, the rear bracket is set somewhat higher than the rest to allow the spring to

pass under it. Thus the stops on knuckle-joints prevent the guard from going backward, and the spring prevents it from going forward, and it is thus held in firm position.

5 There are hook-shaped castings O O, Fig. 16, bolted or screwed to the upper ends inside of the grab-handle extensions right under T-shaped castings H H. These hook-shaped castings will drop into pockets P P, Fig. 17, 10 fastened to the car-posts near the lower ends of the grab-handles, thus holding the double guard when down firm and solid. These pockets are of such form that the hooks will slip in and out with ease as the guard is being 15 lowered or raised. The pockets are made open on one side, and therefore cannot fill with dirt and will permit the hooks to enter the more freely.

This guard may be made of wood, gas-pipe, 20 or metal tubings, such as brass or bronze, or any suitable material, as may be desired by the builder. It will be noticed that in making this double guard I use the grab-handles B B as the lower guard. The lower ends of 25 these grab-handles are fastened to castings C C by bolts or similar convenient manner and are made so they will turn on the castings, as shown in Fig. 9, their construction permitting them to make a quarter-turn 30 from a perpendicular to a horizontal position, thus forming the lower guard. The grab-handle extensions, if made of wood, are mortised and tenoned to horizontal rod or upper guard A. If made of metal, they will be 35 screwed into the T-shaped castings H H, as shown in Fig. 6. In lowering the guard these grab-handle extensions are carried down to a perpendicular position, as shown by dotted lines in Fig. 1, at the same time carrying 40 down the horizontal bar or upper guard and holding it about twelve or fourteen inches above the lower guard. When the guard is down, the upper ends of the grab-handles or knuckle-joints E E will rest on lower castings 45 C C, as shown in Fig. 1. At the rear end of the upper guard there is a knuckle-joint. To this knuckle-joint there is an extension S, which hangs down, and the lower end of which is fastened by bolt to the hood-post. 50 Where there is no hood-post, this end may be fastened to the dasher-post. When the guard is down, this extension closes the side of back platform. The guard thus closes the full length of the car, including both platforms, 55 as shown in Fig. 1.

When this double guard is not in use, it will be in the position shown in Fig. 2, guard A extending longitudinally near top of car the entire length of the car, while grab-handles B B, which form the lower guard, and 60 their extensions D D will stand vertically at the sides of the car-posts.

It will be readily seen that one man, by use of cables and pulleys, can easily and quickly 65 raise or lower this double guard.

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

1. The combination, in an open passenger-car, of the side posts and water-table, an upper rod or guard, with extension, extending 70 the entire length of the car and platforms, and grab-handles and extensions forming a lower guard and which, when raised, form a support for the upper guard, substantially as described and for the purpose specified. 75

2. In a combination with the body and seats of an open car, a grab-handle, a casting on post of car adapted to serve as rider, an extension and a hook-shaped casting O attached thereto, a pocket P on post of car to receive 80 said hook, a knuckle-joint and T-casting by which said extension is connected with grab-handle and upper guard, a bracket and spring, together with a cable and all necessary pulleys, ropes and bolts, substantially as de- 85 scribed.

3. The combination in an open-passenger-car guard of a bracket above the upper guard, a spring attached to guard which by its elasticity may be carried under and back of the 90 rear bracket and when beyond the line of bracket instantly flies up and holds the guard from swinging forward, and a knuckle-joint provided with a stop that prevents the guard from going back, substantially as specified. 95

4. In a double guard for open cars a grab-handle serving as a lower guard with the lower end thereof halved, the halved part being 100 arched, and a circular casting adapted to be attached to the car-post by a bolt and to carry upon its outer end the lower end of grab-handle permitting said grab-handle to revolve from a perpendicular to a horizontal guard position, substantially as described and for 105 the purpose specified.

5. In a double safety-guard for open passenger railway-cars an upper guard with an extension connecting with hood or dasher post, grab-handles with lower ends turning upon 110 castings that permit the same to revolve from a perpendicular to a horizontal position, an extension connecting with the upper guard, knuckle-joints connecting said grab-handles with said extensions, hooks on inside of grab-handle extensions and pockets on posts of 115 car to receive said hooks, brackets under the water-table and a spring attached to top edge of the upper guard for holding the guard in position when up, together with all necessary cables, pulleys and bolts, substantially as de- 120 scribed.

6. In a double guard for open passenger-cars the combination of the upper guard, the grab-handles forming lower guard, the grab-handle extensions, the knuckle-joints and the 125 halved lower ends of grab-handles and the side-post castings adapted to receive the same, substantially as described and for the purpose specified.

7. In a double guard for open passenger- 130 cars, a pocket adapted to have its back secured to a car-post and having its front and one end flaring outwardly and its other end open, in combination with a hook adapted to

be rigidly attached to the inside of a grab-handle extension and to drop into said pocket as the guard descends, thus holding the double guard, when down, securely against the side of the car, substantially as specified.

8. In an open passenger-car in combination with a double guard, an extension, a knuckle-joint adapted to connect one end of said extension to the rear end of the upper guard, its other end connecting with the hood or dasher post, thus forming a rear-platform guard when the double guard is down and being carried to a vertical position when the guard is up, substantially as described.

9. In a double guard for open passenger-

cars, an extension having its upper end attached to the upper guard and its lower end attached to the upper end of the grab-handle by a knuckle-joint provided with a stop, said extension being in a vertical position at all times and serving as a support for the upper guard both when said guard is up and when it is down, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

FRED STEFFENS.

Witnesses:

CHAS. PETERSEN,
EMMA HECKEL.