(No Model.)

J. DÉNÉCHAUD, Sr.

SAFETY CAR TRUCK.

No. 303,131. Patented Aug. 5, 1884.

Fig: 1.

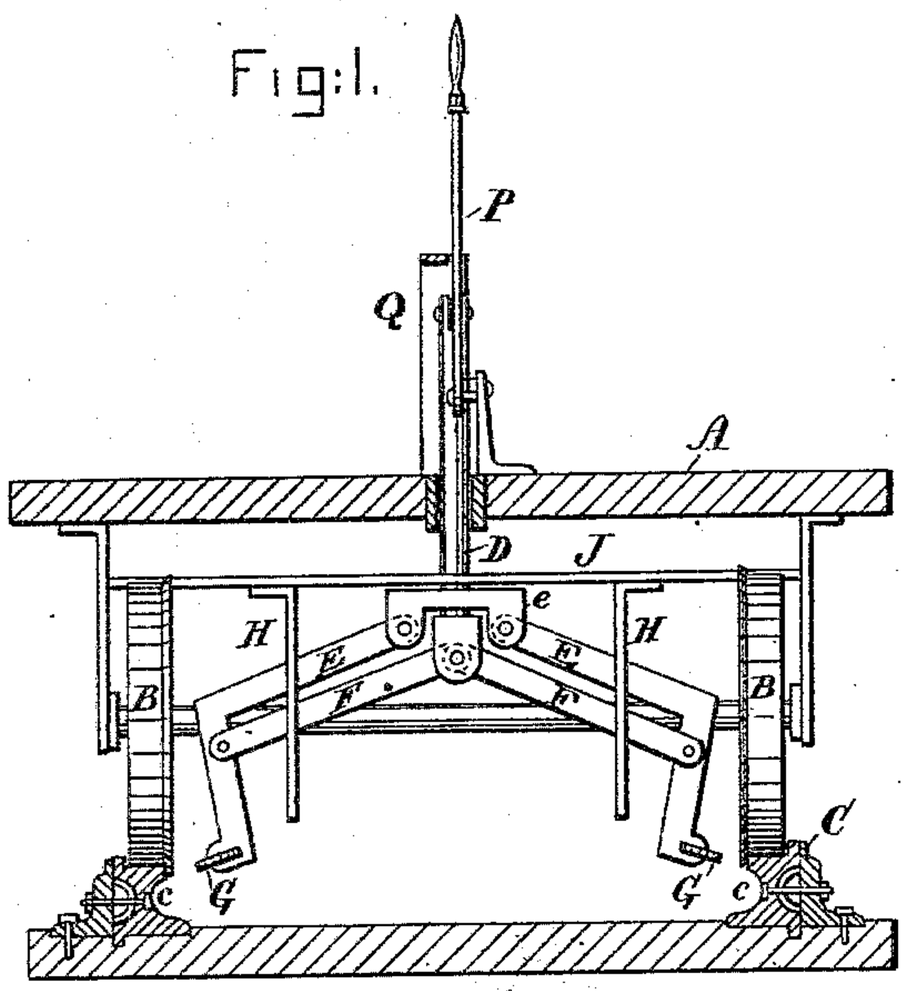

Fig: 2.

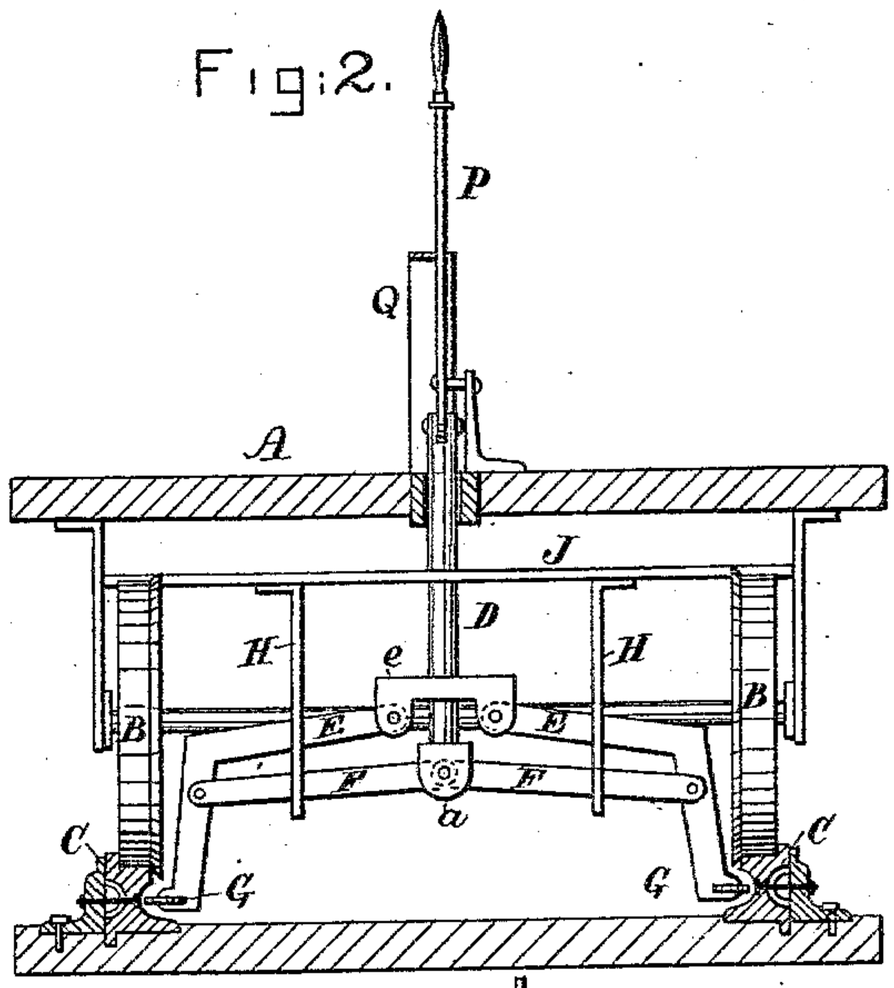

Fig. 3.

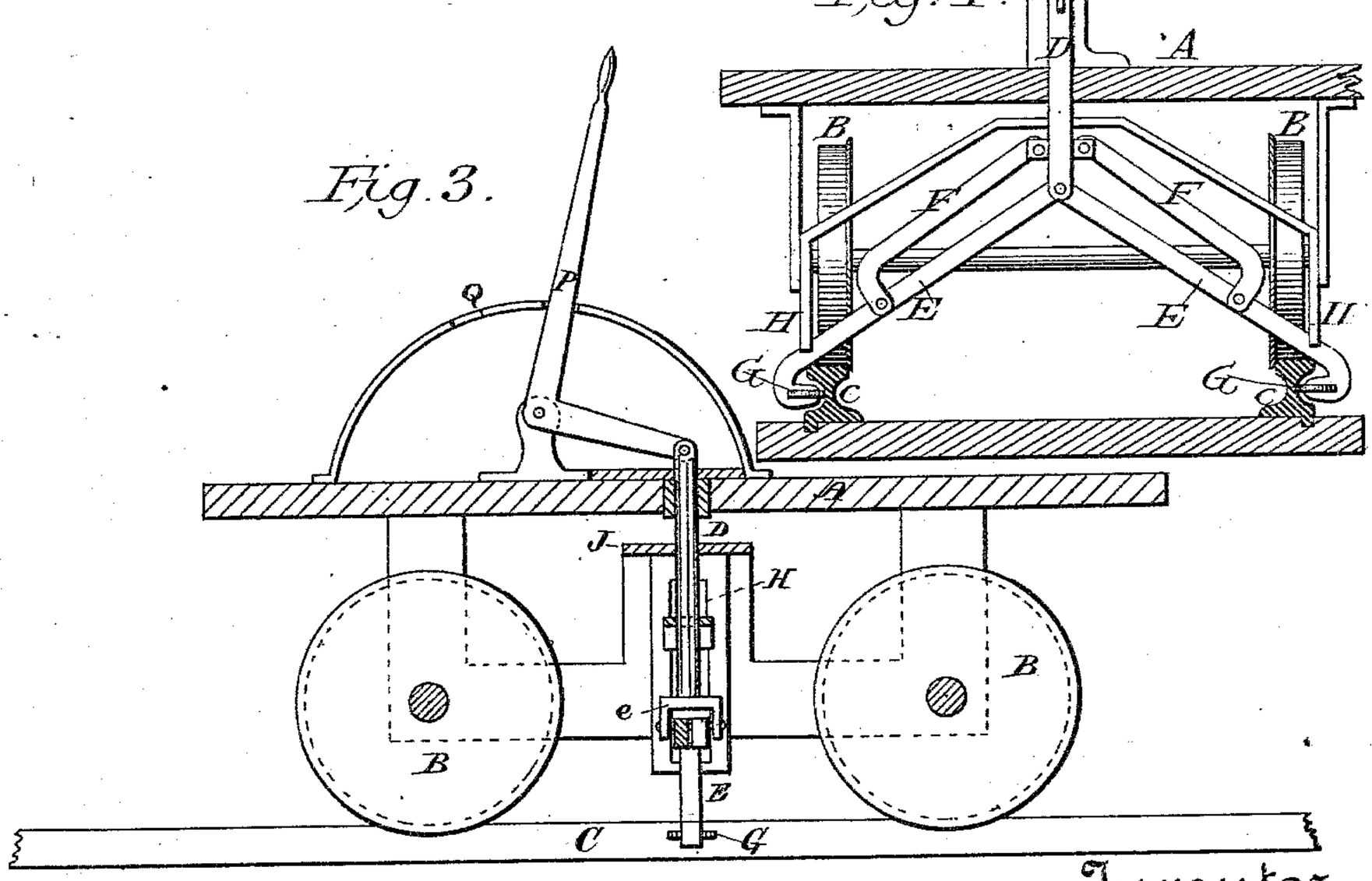

Fig. 4.

Witnesses,
Geo. H. Strong.
[illegible]

Inventor,
J. Dénéchaud Sr
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UNITED STATES PATENT OFFICE.

JEANTY DÉNÉCHAUD, SR., OF SAN FRANCISCO, CALIFORNIA.

SAFETY CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 303,131, dated August 5, 1884.

Application filed December 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, JEANTY DÉNÉCHAUD, Sr., of the city and county of San Francisco, and State of California, have invented an Improvement in Safety Railway-Cars; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to that class of safety railway-cars in which rollers are projected into or withdrawn from the grooves in the rails by means of suitable mechanism attached to and operated from the car, whereby in dangerous places and sharp curves in the road derailment is prevented.

My present invention relates, more particularly, to certain improvements upon that safety railway-car secured to me by Letters Patent of the United States, No. 235,135, dated December 7, 1880; and they consist in arched arms which carry the rollers and in novel mechanisms for operating them, all of which I shall hereinafter fully explain.

The object of my invention is to so shape the arms that in their operation they shall not come in contact with cross-roads, and to provide more practical means for operating them.

Referring to the accompanying drawings, Figure 1 is a vertical cross-section through the car, showing the arched arms raised and the rollers removed from the groove in the rails. Fig. 2 is a similar view showing the rollers projected into the rails. Fig. 3 is a vertical longitudinal section of same. Fig. 4 is a vertical section showing means for introducing the rollers in the outer grooves.

A is the car, and B its wheels, traveling on rails C, in which is the groove *c*. Under the car is secured a frame, J, to which are bolted slotted guides H.

D is a vertical spindle or rod passing loosely through the car and frame J.

E E are arms, the inner ends of which are pivoted to a piece, *e*, through which the spindle D extends. These arms pass through the slotted guides H, and their outer ends are bent downwardly and outwardly, as shown in Figs. 1, 2, and carry the friction-rollers G. It will be seen that the arms E E thus bent form an arch under which an obstruction might pass.

In order to operate these arms I have the toggle-lever F, the inner ends of which are pivoted to a block or piece, *a*, in the top of which the end of spindle D is secured. The outer ends of the lever passing through slotted guides H are pivoted to the downturned portion of arms E.

P is an elbow-lever pivoted on the car, and connected with the upper end of spindle D. Q is a rack with which said lever engages. When the spindle D is drawn up, the arms E are raised, the rollers G being withdrawn from the rails, and the whole mechanism being out of the way, as shown in Fig. 1. When the spindle is forced down, it presses down the toggle-lever F, which carries with it the arms E, forcing the rollers G down to a plane horizontal with the grooves in the rails. At this point the toggle-lever is stopped by the guides H and the pressure of the lever is exerted to force said toggle into a straightened position. This causes the arms E E to extend outwardly and to insert their rollers into the grooves in the rails, as shown in Fig. 2. The operation of the lever P is more rapid than if a screw were used to operate the arms. Wherever wagon-roads or streets cross a railroad-track, the space between the rails is filled in to a level with the rails to permit the continuation of the common road; or, for some other cause, the bed of the road may be filled in to a level with or higher than the grooves in the rail. It is obvious that in such a case the arms shown in my former patent would be obstructed as they were forced down to a plane on a level with the grooves; but in my present improvement, the arms, being bent or arched, are not liable to be obstructed, but will pass over the intersecting roads, even when forced down, as shown in Fig. 2.

Although I have indicated only the insertion of rollers in the inner groove of the rail, it is not impossible, though not preferable, to cause them to fit the outer groove. This I show in Fig. 4, the only changes being the reverse of the relative positions of the arms E E and toggle-lever F, the divergence of the slotted guides H, and the inwardly-turned ends of the arms E E. This arching of the arms is the more necessary, as it is intended in the use of my safety device to project the rollers into the

grooves of the rails at the beginning of the journey, and leave them so placed throughout its continuance; but if no provision were made for cross-roads and obstructions this could not be done. With the arched arms, however, the difficulty is fully remedied, and the safety device may be continued in position without liability to injury.

The rail herein shown forms the subject-matter of a separate patent, and needs no further reference.

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

1. In a safety railway-car, the bent arms E E, carrying rollers G, and the piece *e*, to which their inner ends are pivoted, in combination with the toggle F, bearing *a*, spindle D, and means for raising and lowering said spindle, substantially as and for the purpose herein described.

2. In a safety railway-car, the frame J, having the slotted guides H, the bent arms E, passing through said guides, and having rollers G, and the piece *e*, to which said arms are pivoted, in combination with the toggle F, passing through slotted guides H, bearing *a*, spindle D, and means for raising and lowering said spindle, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

JEANTY DÉNÉCHAUD, PÈRE.

Witnesses:

WM. F. BOOTH,

C. DÉNÉCHAUD.