(No Model.) 2 Sheets—Sheet 1.

J. DÉNÉCHAUD, PÈRE.

SAFETY CAR TRUCK.

No. 303,713. Fig. 1. Patented Aug. 19, 1884.

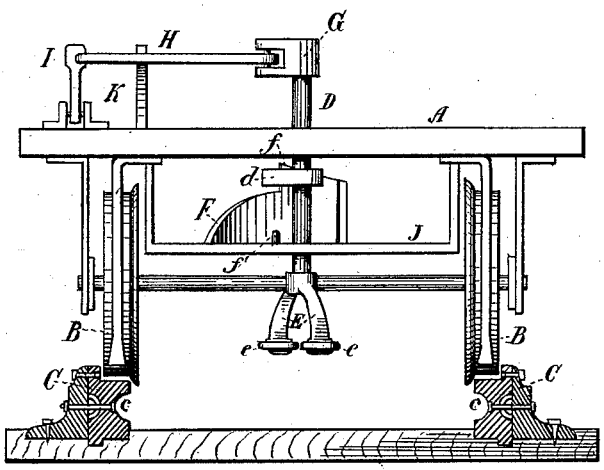
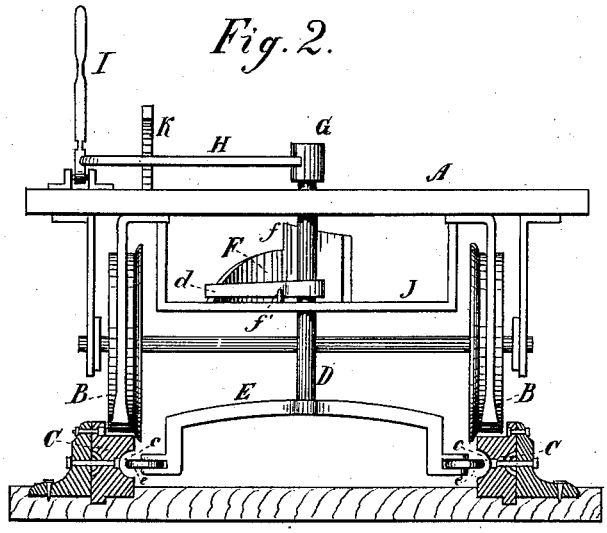


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

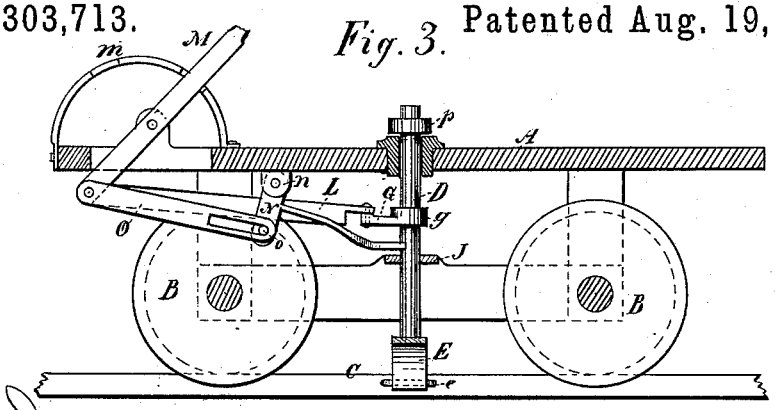


Fig. 4

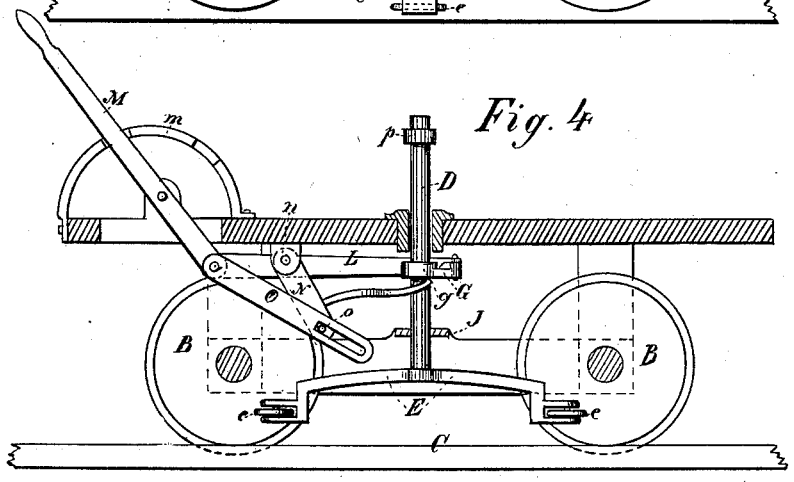
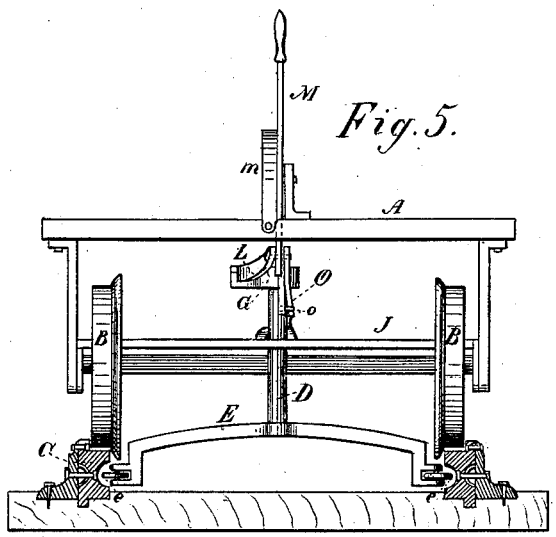


Fig. 5.



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UNITED STATES PATENT OFFICE.

JEANTY DÉNÉCHAUD, PÈRE, OF SAN FRANCISCO, CALIFORNIA.

SAFETY CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 303,713, dated August 19, 1884.

Application filed May 15, 1884. (No model.)

To all whom it may concern:

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

My invention relates to a new and useful safety car-truck of that class in which a suitable arm or arms are mounted under the car, and are adapted to be moved by suitable mechanism in such manner as to insert guard-rollers, which are mounted in their ends into the grooves in the rails, or to withdraw them therefrom.

My invention consists in a single rigid arched arm carrying rollers in its ends and mounted under the truck, and in suitable mechanism by which said arm is lowered and turned to extend transversely and insert its rollers in the grooves of the rails, and by which it is turned again to withdraw its rollers, and is raised to a position parallel with and above the plane of the rails, all of which I shall hereinafter fully explain.

The object of my invention is to prevent derailment of the cars or of the locomotive to which the devices may be attached.

Referring to the accompanying drawings, Figure 1 is an end view of a car or locomotive, showing my safety-guard applied, the rollers being withdrawn from the grooves in the rails. Fig. 2 is a similar view showing the rollers inserted in the grooves. Fig. 3 is a side view showing a modified mechanism by which the guard-arm is operated, the rollers being in position. Fig. 4 is a similar view of same, showing the arm raised and the rollers withdrawn. Fig. 5 is an end view of same.

A is a portion of the frame of a car or locomotive mounted on wheels B.

C are the rails, having grooves *c*.

Secured to frame or car A is a rigid metal frame, J, through which and through the car A is passed a spindle, D, to the lower end of which is firmly secured a rigid arm, E, having downwardly and outwardly turned ends, in which the guard-rollers *e* are mounted. The shape of this arm is curved upwardly or arched, as shown, in order to avoid obstructions, such as the raised center of the road-bed or cross-roads, when the arm is lowered to insert its rollers in the grooves of the rails, as shown in Fig. 2.

Upon frame J is mounted a curved inclined plane or cam, F, upon which an arm or pin, *d*, secured to the spindle D, is adapted to travel, whereby said spindle is raised or lowered. A shoulder, *f*, on the top of the cam limits the upward movement of pin *d*, as in Fig. 1; and a pin, *f'*, limits its downward movement, as in Fig. 2.

Upon top of the spindle D is a crank-arm, G, to which is pivoted the end of a bent rod, H, the other end of which extends backwardly and parallel with frame A, and is secured to the short arm of an elbow-lever, I, pivoted to said frame. The transverse portion of the bent rod H passes by an inclined plane or cam, K, which guides it. When the long arm of lever I is depressed, whereby, as in Fig. 1, its short arm is raised, the bent rod H is carried up, and thereby pulls on the crank-arm G, turning the spindle D and arm E, said spindle and arm at the same time rising by reason of the arm *d*, traveling up the cam F, whereby the arm is turned parallel, or nearly so, with the rails, and is raised up out of the way. When the long end of lever I is raised, as in Fig. 2, the bent rod H is depressed and forces the crank-arm G away to turn the spindle and carry the arm E across the track, and at the same time lowers it to the plane of the grooves in the rails into which the rollers project; but I do not confine myself to the mechanism thus far described for accomplishing this movement of the arm E.

In Figs. 3, 4, 5 I show a modified mechanism. The spindle D is provided with the crank-arm G, which in this case is under instead of above car A. With this is connected a rod, L, the other end of which is pivoted to the lower end of a lever, M, pivoted on the car A, and adapted to engage with a rack, *m*. The movement of the lever M turns the spindle D and the arm E transversely, as in Figs. 3, 5, or parallel with the rails, as in Fig. 4; but, in order to raise the arm when turned away and to lower it when turned across, I have the elbow-lever N pivoted by one end or arm to a short bearing, *n*, under car A. Its other arm is bifurcated, and embraces the spindle D under the collar or head *g* of the crank-arm G. At its angle is a pin or stud, *o*, upon which is slotted

a bar, O, the other end of which is pivoted to the lower end of lever M. The movement of the lower end of this lever toward the spindle forces the bar O down until it is limited by its slot, as in Fig. 4, when it presses against the stud *o* and forces the elbow-lever N to raise the spindle. When the bar O is withdrawn, the weight of the spindle causes it to drop, and it is stopped by any suitable means above, as by a collar, *p*.

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

1. In a safety car-truck, a rigid arm supported under the truck, and having rollers mounted in its ends, in combination with a mechanism by which said arm is lowered to carry its ends down to the plane of the grooves in the rails of the road-bed, and turned transversely to insert its rollers in said grooves, and by which it is turned parallel with said rails to free its rollers therefrom, and raised above the plane of the grooves therein, substantially as herein described.

2. In a safety car-truck, the bent or arched arm E, having rollers *e* in its ends, and the spindle D, upon which said arm is mounted, in combination with a mechanism by which said spindle is lowered and turned, to drop and turn the arm transversely to fit its rollers into the grooves in the rails of the road-bed, and is turned and raised to free the rollers from the rails and raise the arm, substantially as herein described.

3. In a safety car-truck, the rigid arm E, having rollers *e* in its ends, and the spindle D, upon which the arm is mounted, in combination with the curved cam F, the pin or arm *d* on the spindle traveling on said cam, the crank-arm G on the top of the spindle, the bent rod H, secured to the crank-arm, and the elbow-lever I, all arranged and operating substantially as herein described.

4. In a safety car-truck, the rigid arm E, having rollers *e* in its ends, and the spindle D, upon which the arm is mounted, in combination with the curved cam F, having shoulder *f* near its top, the stop-pin *f'*, the arm *d* on the spindle, adapted to travel on the cam between the shoulder *f* and pin *f'*, the crank-arm G on top of the spindle, the bent rod H, inclined guide-plate K, and elbow-lever I, all arranged and operating substantially as herein described.

In witness whereof I have hereunto set my hand.

JEANTY DÉNÉCHAUD, PÈRE.

Witnesses:

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