(No Model.)

C. RUTULINI.

SAFETY DEVICE FOR RAILROADS.

No. 250,005. Patented Nov. 22, 1881.

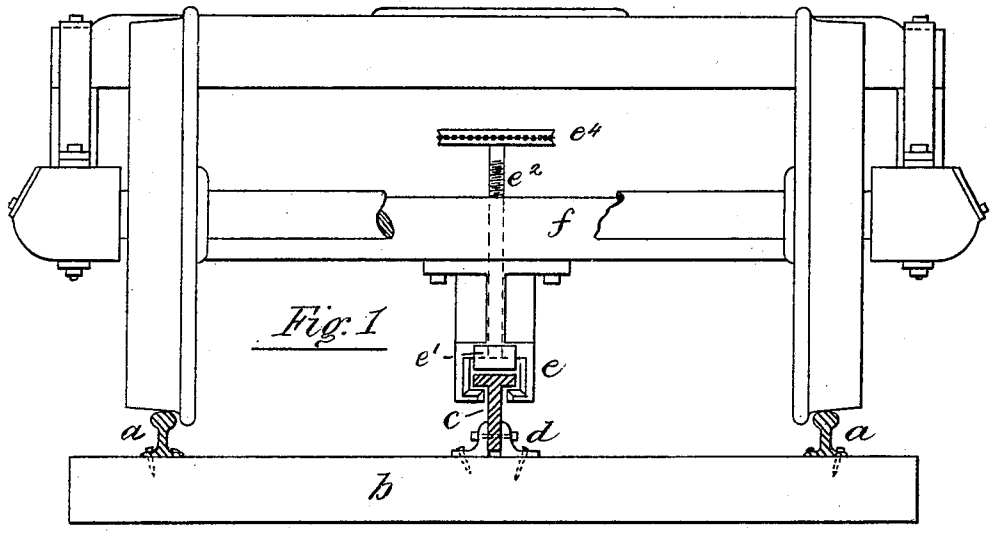


Fig. 1

Fig. 3

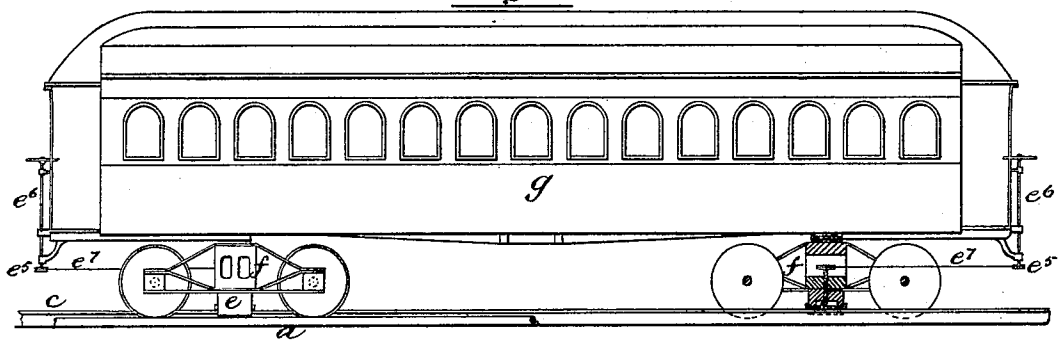


Fig. 2

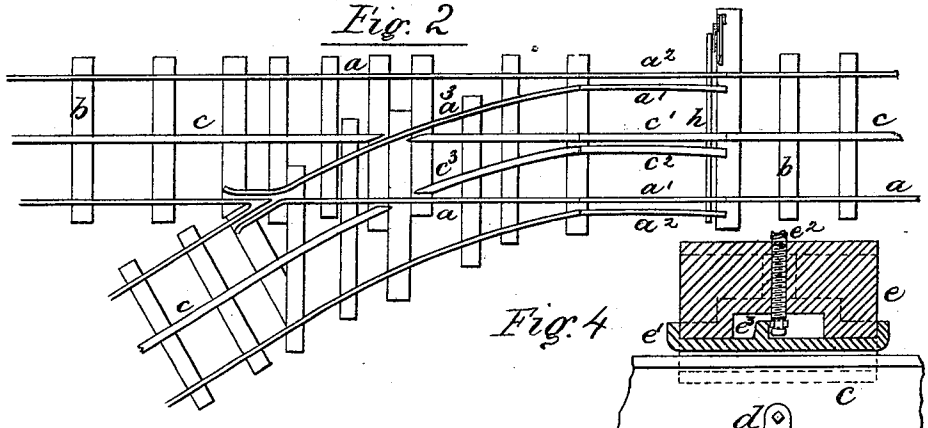


Fig. 4

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SAFETY DEVICE FOR RAILROADS.

SPECIFICATION forming part of Letters Patent No. 250,005, dated November 22, 1881.

Application filed March 14, 1881. (No model.)

To all whom it may concern:

Be it known that I, CORRADO RUTULINI, of the city of New York, county and State of New York, have invented a certain new and Improved Safety Device for Railroads, of which the following is a specification.

This invention has for its object to prevent accidents on railroads from the locomotive and cars leaving the rails, and from broken wheels and axles, by means of a simple device also adapted to be used as a brake as auxiliary to the ordinary brake in times of emergency.

It consists of a T-shaped safety-rail secured to the ties centrally between the two rails which support the trains, and socket-frames secured to the locomotive and cars, and constructed to fit over the head of the T safety-rail so as to surround all sides of it, but with sufficient freedom not to come in contact with it under all ordinary lateral and vertical movements of the rolling stock, due to irregularities in the rails, &c. The T-shaped safety-rail and socket-frames, as well as preventing the wheels of the trains ever leaving the rails, are also a security against accidents from broken wheels and axles, as under such circumstances brake-shoes fitted in the socket-frames will rest on the top of the T-shaped rail, and by means of screws arranged to be operated from the car or locomotive these shoes are pressed downward and clamp the socket-frames to the T-shaped rail, thus causing them to act as brakes to stop the train, and at the same time maintain the cars and locomotive in a central position on the track. Where switches, &c., occur in the road-bed the T-shaped safety-rail will be made so as to be operated as the ordinary rails are, and by the same means.

Figure 1 of the accompanying drawings represents a transverse sectional view of a railroad-track and a car-truck provided with my improved safety device. Fig. 2 is a plan view of the rails, showing the manner in which the T-shaped rail is constructed and arranged at switches, &c. Fig. 3 is a longitudinal elevation of my improved safety device, partly in section; and Fig. 4 is an enlarged sectional view of the safety-rail and socket.

a a represent the ordinary rails of the road, and *b b* the ties or supports therefor. The safety-rail *c* is centrally located between the rails *a a*. It is T-shaped in cross-section, as shown at Fig. 1, and is secured in position by its vertical flange being bolted in slots in the shoes *d d*, which are firmly bolted or spiked to the ties or supports *b b*. The safety-rail *c* may be provided with a bottom flange, by which it may be secured to the ties or supports *b b*.

Fitting over the head of the T-shaped rail *c* are the open sockets *e e*, which surround all parts of the head of the T-shaped rail, but with plenty of space between their adjacent parts. The edges of both ends of the sockets *e e* are considerably beveled, to prevent their catching against any irregularities that may be at the junctions of the ends of the sections of the T-shaped rail. The sockets *e e* are secured to the trucks *f f* of the car *g*, directly under and in line with the king-bolts or the centers of swiveling of the trucks to the car-body, or they may be secured to the car-body itself, in which case they would be as near as possible to the centers on which the car turns in passing around curves, so that the sockets *e e* would not come in contact with the sides of the T-rail *c*. It will, of course, be understood that all the trucks of the train, or the parts of the car-bodies at which the swiveling actions take place, as well as the corresponding parts of the locomotive, will be provided with these sockets *e e*, embracing the T-shaped rail *c*, to prevent the wheels of any part of the train leaving the rails *a a*, and to keep the cars on the track should any of the wheels or axles give way.

In the upper part of the socket *e* is fitted the brake-shoe *e'*, and through the center of the socket is fitted the screw e^2, the lower end of which bears on the center of the brake-shoe *e'*, and a circular groove formed in the screw, near its end, is embraced by flanges e^3, formed on the top of the brake-shoes, so that as the screw is turned backward the brake-shoe is carried up with it and clears the top of the T-shaped rail *c*, in which position it is held under ordinary circumstances.

On the upper end of the screw e^2 is secured the chain-wheel e^4, which is connected to another chain-wheel, e^5, on the brake-handle shaft e^6, by means of the chain e^7, and by reason of this brake-handle shaft e^6 being rotated in the right direction the brake-shoe *e'* is caused

to press hard on the top of the T-shaped rail *c*, drawing the bottom flanges of the socket *e* up against the under side of the top flange of the T-shaped rail *c*.

The brake-handle shaft e^6 may be independent of the ordinary brake-operating devices, so as to be used to apply the brake-shoe *e'* to the rail *c* only in times of impending danger; or it may be used also to apply the ordinary brakes, thus utilizing the brake-power of ordinary brakes and my improved brake combined, or my improved brake may be used under all circumstances as a substitute for the ordinary brakes, thereby saving the wear of the wheels, due to the abrasive action of the ordinary brakes thereon.

At the parts of the r. ads where switches occur I propose to fasten the movable parts c' c^2 of the T-rail to the bar *h*, to which the movable parts a' a^2 of the rails *a a* are secured, so that the safety-rail may be operated at the same time and by the same means as are the rails *a a* in the manner as now employed. The T safety-rail *c* necessarily has a break in it where the switch-rail a^3 crosses it, and where the switch T safety-rail c^3 crosses the main line *a*. At these points and similar places of the track the ends of the T-rail are considerably beveled, as shown at Fig. 2, to obviate the possibility of the sockets *e e* catching against them. The bevel ends of the sockets, before mentioned, also assist to prevent such catching, and the sockets *e e* are long enough to span the gap between the ends of the T-rails and to embrace the end approached before passing clear of the other end, so that under all circumstances this safety device is always operative. The T safety-rail stands above the level of the rails *a a*, to allow the bottom of the socket *e* to clear the top of the rails *a a* at places where the T-rail has to cross the rails a a^3, as above described.

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

1. As a safety device for railroads, the combination of the auxiliary T-shaped rail *c*, secured to the ties of the road-bed between the ordinary rails, with the embracing-sockets *e e* secured to the bottom of the rolling stock, constructed and operated substantially as hereinbefore set forth.

2. The socket *e*, brake-shoe *e'*, screw e^2, and auxiliary T-shaped rail *c*, secured to the ties between the ordinary rails, combined, constructed, and operated substantially as and for the purposes hereinbefore set forth.

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