(No Model.)

M. E. BEASLEY.

MEANS FOR PREVENTING DERAILMENT OF RAILROAD CARS.

No. 604,513. Patented May 24, 1898.

Fig. 1.

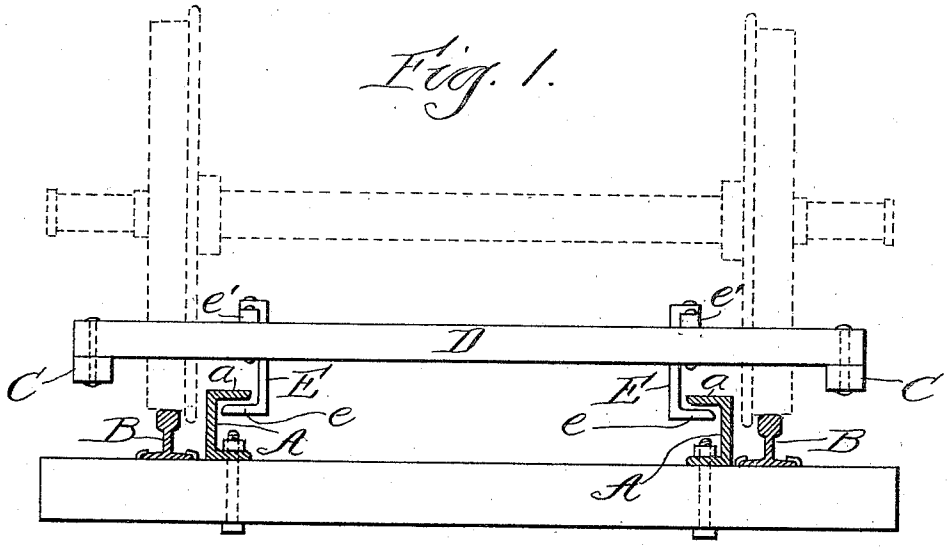


Fig. 2.

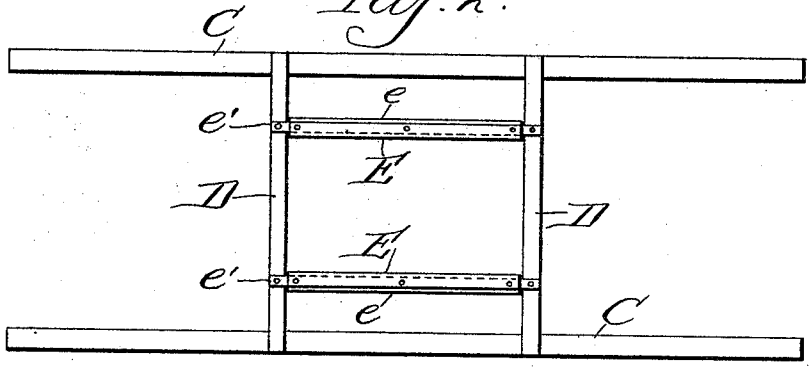


Fig. 3.

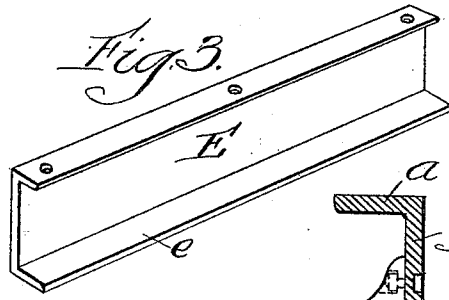
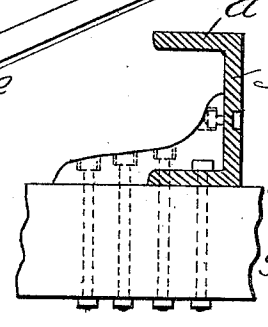


Fig. 4.



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UNITED STATES PATENT OFFICE.

MARIA E. BEASLEY, OF CHICAGO, ILLINOIS.

MEANS FOR PREVENTING DERAILMENT OF RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 604,513, dated May 24, 1898.

Application filed July 9, 1897. Serial No. 644,012. (No model.)

To all whom it may concern:

Be it known that I, MARIA E. BEASLEY, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Means for Preventing the Derailment of Railroad-Cars, of which the following is a specification.

Referring to the accompanying drawings, wherein like reference-letters indicate like parts, Figure 1 is a cross-section showing the combined guard-rail and locking devices. Fig. 2 is a plan of the locking device of the truck and its supporting-frame. Fig. 3 is a perspective view of one form of the locking device apart from its supporting-frame, and Fig. 4 is a vertical cross-section of the guard-rail and its inner brace.

In elevated railways with light trains running at the extremely high speed now attainable by the use of electric motive power guard-rails at one or both sides of the track-rails do not absolutely assure against derailment; and it is the object of this invention to provide additional safeguards which, in connection with the guard-rails, shall render it absolutely impossible for cars to leave the track.

To this end I employ at the inner side of and parallel to each track-rail B and at a sufficient distance therefrom to just clear the car-wheels when running a strong iron or steel guard-rail A, having a strong top flange *a*, adapted to engage with a suitable detent or locking device connected with the car-truck to lock the latter to the track. These guard-rails are preferably to be braced along their inner side, from point to point, as illustrated in Fig. 4. They are discontinued at and in the vicinity of switches and railroad-stations.

Detents *e*, connected to the car-trucks and of suitable form, are arranged to run under the guard-rail flanges *a* at a distance therefrom of about one-half of an inch, more or less, their office being to strike the lower face of the flange whenever the car attempts to leave the track, thereby arresting such movement and restoring the car to its normal position.

The impact of the detent against the flange *a* when the train is running at high speed causes an enormous strain upon the detent, tending to force it backward and wrench it from its fastenings, and if it yields backward at all it is liable to cramp or bind against the flange and thus become an element of great danger instead of safety. If it be constructed and applied in the form of a pendent hook or any other form giving a leverage against its fastenings, it will inevitably be destroyed and is liable to cause the destruction of the car. It is therefore of the highest importance to so connect and attach the detent to the car-truck as to hold the detent rigidly in position under any amount of backward or downward strain to which it may ever be liable and to provide against any possibility of its swinging back upon its fastenings and cramping against the guard-rail flange. To this end I mount the detent upon a frame, which I term the "lock-frame," and which is constructed substantially as follows: For the outside members of said frame the inverted arch-bars, when not subject to the action of the car-springs, may be utilized. Otherwise two strong metal bars C C, supported on the axle-boxes or pedestals independently of the springs and lengthwise of the truck, must be employed, they being for this purpose the equivalents of the inverted arch-bars. The two outside members are connected by two strong cross-bars D D, or when the truck contains a wide spring-plank securely fastened to inverted arch-bars which are independent of the action of the springs said spring-plank may be utilized as an inferior equivalent of the cross-bars. Two deep inside members E E, lying as close to the flanges *a a* as is practicable, are rigidly fixed to the cross-bars, (or to the spring-plank when the latter is substituted for the cross-bars,) so as to extend down below the level of said flanges a suitable distance to form a support for the detents *e*, which project from the side of said members E and run under the flanges. By this means the backward strain is transmitted practically without leverage directly from the detent to its supporting member E, while the latter, being arranged longitudinally of the truck and having its points of support a considerable distance apart, is substantially free from any tendency to rock or turn on its fastenings, and thus the whole

strain is transmitted to the lock-frame simply in the form of a backward strain upon its entire structure. The longitudinal members E of the lock-frame may, if preferred, be connected to the cross-bars D by means of bars *e'*, attached to said cross-bars, the members E having a top flange which rests upon the bar *e'* and is bolted thereto. All the parts of said lock-frame are strongly fastened together by any suitable means. Inasmuch as anti-friction rollers, balls, and wheels are well known in the arts as common expedients for relieving undue friction, it is hardly necessary to add that the detent may, if preferred, be provided with any of them to relieve its friction against the flange *a*. It is also evident that the members E instead of being made each in the form of a single integral plate may be made of multiple plates or in parts properly secured together.

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

1. In a car-truck, the lock-frame herein described, consisting of the side bars C C, the cross-bars D D, and the longitudinal bars E E; substantially as and for the purpose described.

2. In a car-truck, a lock-frame independent of the action of the car-springs and having longitudinal members E E extending below the level of the guard-rail flanges and in the immediate vicinity thereof, for the purpose of supporting the detent or locking device in proper relation thereto; substantially as described.

3. The combination of the flanged guard-rails A A with a car-truck provided with the lock-frame herein described, and with a detent or locking device projecting outward laterally from the side of the inner longitudinal member of said lock-frame and normally running under the flange of the guard-rail; substantially as and for the purpose described.

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