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SAFETY STOP OR BUMPER FOR RAILWAY CARS.

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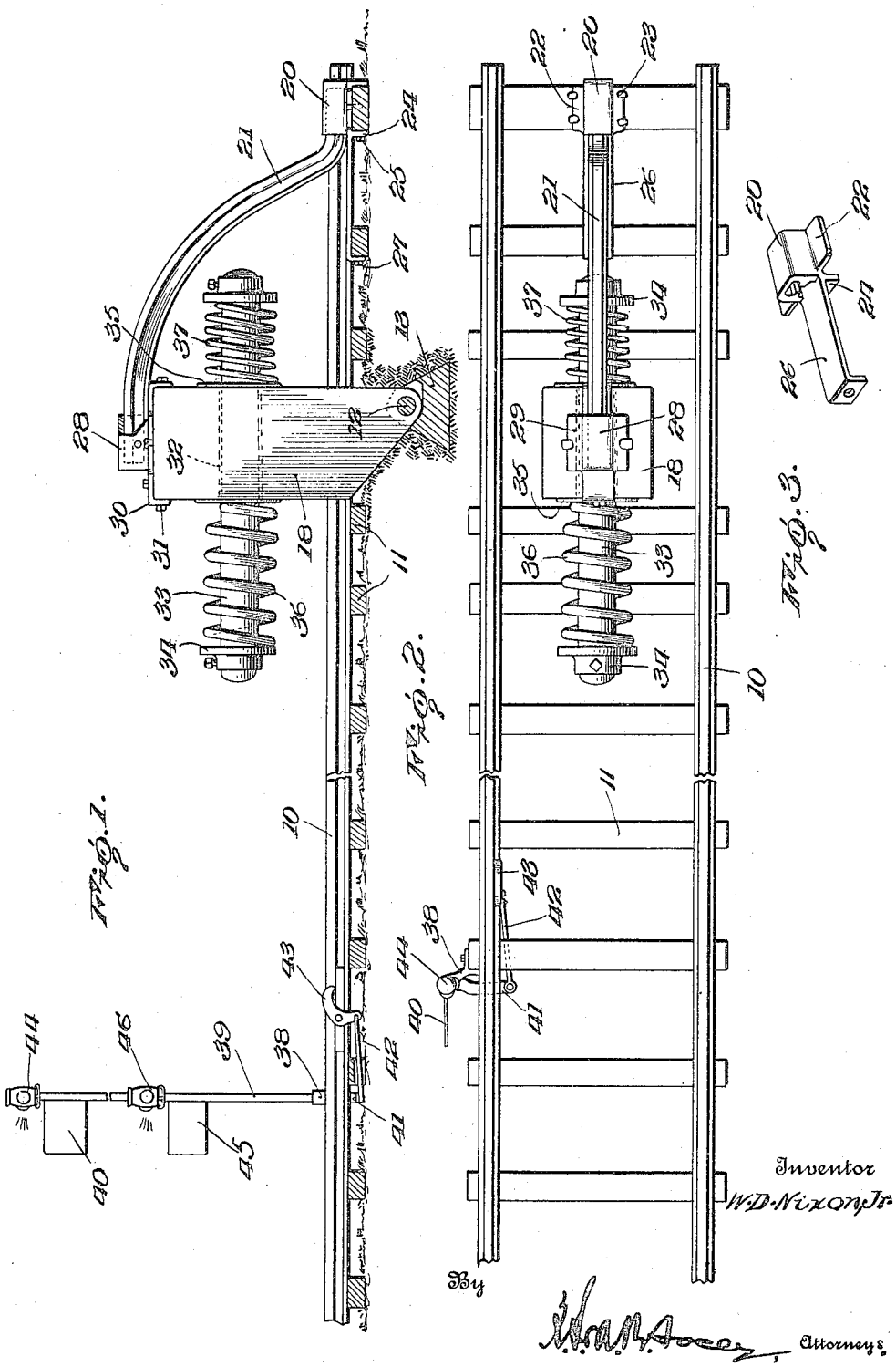


Fig. 1.

Fig. 2.

Fig. 3.

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SAFETY STOP OR BUMPER FOR RAILWAY-CARS.

1,252,607. Specification of Letters Patent. Patented Jan. 8, 1918.

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To all whom it may concern:

Be it known that I, WILLARD D. NIXON, Jr., a citizen of the United States, residing at Avondale, Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Safety Stops or Bumpers for Railway-Cars, of which the following is a specification.

My invention relates to new and useful improvements in bumpers of the type positioned between the rails at the terminal of a main line track or at the ends of branch tracks to engage and check a car moving upon the track and prevent its passage off from the ends of the track, the primary object of my invention being the provision of a yieldable or resilient bumper which will cause no injury to the car, under ordinary conditions.

A further object of my invention resides in the provision of a bumper which, unless struck by a rapidly moving car, will in no way be in itself injured.

Another object which I have in view is the provision of a bumper including a hinged support which is strongly braced against swinging movement and which carries a cushioned bumper proper for engagement by the car.

A yet further object which I have in view is the provision of a suitable signal device coöperating with the bumper, whereby the train crew in charge of the car or train being operated upon the track may tell when they are approaching the bumper and therefore properly gage the time at which power should be shut off and the brakes applied.

With these and other objects in view, my invention will be more fully described, illustrated in the accompanying drawings, and then specifically pointed out in the claims which are attached to and form a part of this application.

In the drawings:

Figure 1 is a side elevation of my improved invention in use, the track to which it is applied being shown in longitudinal section;

Fig. 2 is a plan view of the structure shown in Fig. 1;

Fig. 3 is a perspective view of one of the anchoring devices employed for securing a brace for the bumper.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

In order to insure a clear and accurate understanding of my invention I have shown it in connection with the terminal of a track including the rails 10 fixed to ties 11, in the usual manner. A pedestal 18 has its lower end buried beneath the surface of the road bed and such end is formed with trunnions 12 which have pivotal engagement with a supporting base 13. The pedestal normally occupies a vertical position, as shown, but may be swung rearwardly about its trunnions 12 as a pivot, under certain circumstances, as will be later pointed out.

A pocket 20, open at one end, is shaped interiorly to receive an end of a rail section 21 which forms a brace, as will be later apparent, and this pocket is provided with laterally directed flanges 22 which seat upon one of the ties at the rear of the pedestal and which are engaged by spikes 23 driven into such tie. The pocket at its ends also has depending flanges 24 which engage against opposite faces of the tie and receive bolts or spikes 25. A brace arm 26 preferably extends from the forward end of the pocket and has a hooked terminal engaging over the forward face of an adjacent tie to which it is secured by a bolt 27, as shown in Fig. 1. A similar pocket 28 has spike engaging flanges 29 which seat on the top of the pedestal and depending flanges 30 which engage against the front and rear edges of the pedestal to which they are secured by bolts or spikes 31. The rail section 21 is bent in such a manner that when its ends are inserted in these pockets 20 and 28 they will support and brace the upper portion of the pedestal 18, so that it cannot swing about its hinged support unless sufficient pressure is brought to bear against it to further bend the rail members 21.

The pedestal 18 is formed with a horizontally disposed bore 32 opening through its front and rear faces and a plunger or buffer proper 33 is reciprocally mounted in this bore. Collars 34 are fixed upon the plunger adjacent its ends in any suitable manner and wear plates 35 encircle the plunger and engage against the front and rear faces of the pedestal 18. A stiff heavy helical spring 36 is interposed between the collar at the forward end of the plunger and the adjacent wear plate, while a somewhat lighter helical

spring 37 is interposed between the other collar and wear plate. These springs are under a certain amount of compression and operate to normally hold the plunger in substantially the position shown in Fig. 1.

Obviously, a car moving along the track and striking the forward end of the plunger will force it rearwardly against the tension of the spring 36 so that the shock of the car striking the bumper will be cushioned and all injury, either to the bumper or car, will ordinarily be avoided. The spring 37 serves to cushion the rebound of the plunger when released by movement of the car away from the bumper. Should the car be going at too high a speed, when the spring 36 has been wholly compressed, the shock will be taken up by the pedestal and its brace 21 and, due to the hinged mounting of the pedestal, the latter may swing somewhat and still act as an efficient bumper, the bending steel rail serving as a cushion during this action.

Preferably, I employ a signal device in connection with my bumper, as shown in Figs. 1 and 2. This signal device includes a bracket 38 fixed to the end of one of the ties adjacent the track and journaling a flag staff 39 carrying a signal flag 40. A crank arm 41 extends from the lower portion of this flag staff and is connected by a link 42 with a pivoted depressible trip 43 mounted adjacent one of the rails to be engaged by the flange of a passing car wheel, this arrangement being such that depression of the trip will cause the flag staff to turn and swing the flag at right angles to the track so that the crew handling the train may tell when the end car is approaching the bumper and, consequently, can determine at what time the power should be cut off and the brakes applied. For night work, a signal lantern 44 may be supported upon the top of the flag staff and provided with red and green bull's eyes. If this is the case, the lantern will be so disposed that the green bull's eyes will show until the trip is depressed when the lantern will be turned to show the red bull's eyes. Preferably, the flag staff is high enough so that the flag and lights may be seen over a car operating on the track so that the members of a train crew upon the tops of cars at the front of the train will be able to see the signals even if there is a curve in the track. If desired, an additional flag 45 may be mounted on the lower portion of the staff and an additional signal lantern 46 may be adjustably secured upon the staff above this second flag.

Although I have illustrated and described my invention in all its details, it will of course be understood that I reserve the right to make any changes, within the scope of the appended claims, without in the slightest degree departing from the spirit of my invention.

Having thus described the invention, what is claimed as new is:

1. A railway bumper including a pedestal swingingly supported at its lower end, a brace at the rear end of the pedestal fixed at its ends to the pedestal and road bed to normally hold it against swinging movement, and a cushioned bumper proper projecting in advance of and supported by the pedestal.

2. A railway bumper including a pedestal adapted for hinged connection to a support, a brace end receiving pocket member secured to the top of the pedestal, a second brace end receiving pocket member adapted for attachment to a tie, a curved brace seated at its ends in the pocket members to brace the pedestal against swinging movement, a plunger reciprocally mounted through the pedestal and provided adjacent its ends with abutments, and helical springs engaging between the abutments and pedestal to cushion the movement of the plunger.

3. A railway bumper including a pedestal adapted to be mounted between the rails of a track and between ties thereof, brace receiving pockets one adapted to be secured to a tie at the rear of the pedestal and the other being secured to the top of the pedestal, a curved brace seated at its ends in the pocket members to brace the pedestal, and a cushioned bumper proper carried by the pedestal and projecting beyond that side opposite the brace.

In testimony whereof I affix my signature.

WILLARD D. NIXON, JR. [L. S.]

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."