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2 SHEETS—SHEET 1.



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DEVICE FOR PREVENTING WRECKS UPON RAILWAYS.

947,385.

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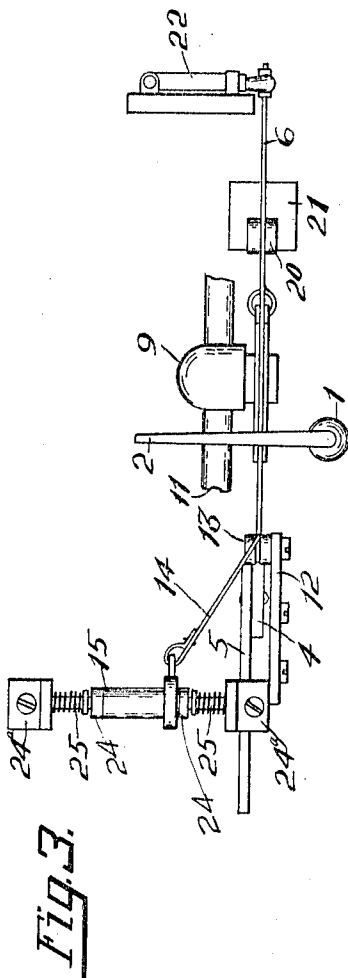
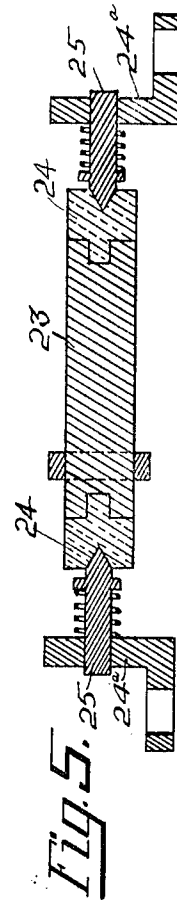
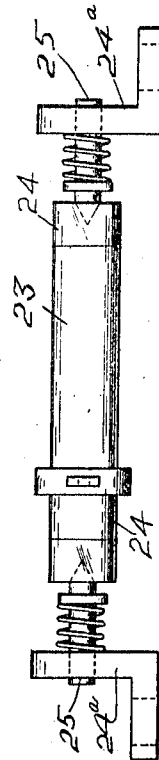


Fig 4.



Witnesses

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN G. HENZEL, OF CHICAGO, ILLINOIS.

DEVICE FOR PREVENTING WRECKS UPON RAILWAYS.

947,385.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN G. HENZEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Devices for Preventing Wrecks upon Railways, of which the following is a specification.

My invention relates to devices for preventing wrecks upon railways, applicable to steam and electric railroads, and to electric street railways, and my object is to provide a highly efficient device carried by the moving car and operated by a track-carried arm under the control of the despatchers or signalmen at adjacent stations.

Inasmuch as my invention is equally operative in connection with steam and electric roads, and the throttle and circuit breakers respectively thereof, I will hereinafter term the engine and motor car as the "moving car" and the throttle and circuit-breaker thereof, as the "controlling element," in order that a superfluity of language may be avoided.

In the accompanying drawings, which illustrate my invention, and form a part of this specification, Figure 1 is a perspective view of an engine in dotted lines, showing the parts thereof, intimately associated with my invention, in full lines, and also the movable track-carried contact arm. Fig. 2 is a diagrammatic plan of the parts of my invention employed in Fig. 1. Fig. 3 is a similar view to Fig. 2, illustrating those parts which are employed in connection with electric street railway cars, and, Figs. 4 and 5 are enlarged detail views respectively in elevation and section of the frangible anchor arm.

In the broad embodiment of my invention, I provide a track-carried contact arm comprising an upright 1, having an angular upper end 2 provided with a downturned extremity 3, which upright may be revolvably mounted and provided with suitable means whereby to control, from the adjacent stations or despatchers' or signalmen's boxes, such movement, either to a position in which its arm 2 extends parallel with the tracks and is inoperative or to a position in which its arm 2 extends transversely over the track and is operative to strike and actuate the car-carried mechanism, or more particularly the frangible anchor arm, which when broken, releases suitably actuated means for

releasing or shutting off the car-controlling element.

Referring specifically to Figs. 1 and 2, a rock arm 4 is intermediately pivotally supported upon a bracket arm 5, extending forwardly from the cab, the lower end of which is offset and connected by elongated forwardly extending links 6, and 7 respectively, to turning plugs 8 and 9, mounted within the steam and air pipes 10 and 11. Above the upper end of rock arm 4, forwardly extends from the cab, a bracket arm 12, to the outer end of which is connected a roller 13, in a vertical plane forwardly of the plane of said arm 4. An operating cable 14 secured to the upper end of arm 4, and drawn upwardly and rearwardly over roller 13, and tightly secured to the frangible anchor arm 15, serves to draw and hold the upper end of arm 4 forwardly of its pivot, and its lower end rearwardly thereof, in which position links 6 and 7 maintain plugs or valves 8 and 9 in the proper positions, that is, brakes withdrawn and steam pipe open. A throttle bar 16 extends rearwardly from the lower end of rock arm 4, and has a longitudinal slot 17 therein permitting throttle arm 18 which extends therethrough, to be manually operated, while upon the rocking movement of said arm 4, it causes the forward closing movement of said throttle arm as will be seen. Cables 19, passing downwardly over pulleys 20, from the ends of links 6 and 7, and provided with weights 21 upon their lower ends, serve to rock arm 4, when the same is released, to shut off the throttle, cut off steam in the steam pipe, and to release the air to apply the brakes.

Referring now specifically to Fig. 3, which shows the connections to be used on electric street railway cars, I do away with the throttle bar 16, shown in Figs. 1 and 2, and also the turning plug 8, as they are not needed. Beyond this, however, I merely connect link 6 to the knife-switch or circuit-breaker 22, on the car so that when arm 4 is rocked, the switch will be released and the motive current broken, at the same time the air is released to apply the brakes, the same as in the foregoing.

The anchor arm 15 may be formed of a single piece of glass or like frangible material, or may, as shown in Fig. 4, be formed of a central section 23, of metal or wood having means to attach the rear end of the

cable 14, and end sections 24 of glass or like frangible material, the arm as a whole being held in a horizontal position, transversely upon the top of the moving car, between upstanding brackets 24^a, having inwardly spring pressed plungers 25, which grip the ends of said bar. In either form, the frangible parts may be inclosed in a wrapper of fabric or other material to prevent the broken parts from flying about.

Having thus described my invention, I claim:

1. In a device of the character described, the combination with a car, its air brake pipe, and controlling element, of a mechanism carried thereby comprising a rock arm, connections between one end of said rock arm and said air brake pipe and said controlling element for actuating the same upon its rocking movement, a frangible anchor arm, and connections between the opposite end of said rock arm and said anchor arm to hold the former, and a track carried arm for contact with, and to break said anchor arm, and release said rock arm.

2. In a device of the character described, the combination with a car, its air brake pipe, and controlling element, of a mechanism carried thereby comprising a rock arm, connections between one end of said rock arm and said air brake pipe and said controlling element, for actuating the same

upon its rocking movement, an anchor for said rock arm comprising an arm composed of frangible material, and connections between the opposite end of said rock arm and said anchor arm to hold the former, and a track carried arm for contact with, and to break said anchor arm, and release said rock arm.

3. In a device of the character described, the combination with a locomotive, its air brake pipe provided with a valve, its steam pipe provided also with a valve, and its throttle arm, of a mechanism carried thereby comprising a rock arm, connections between one end of said steam and air pipe valves and throttle arms for actuating the same upon the rocking movement thereof, said throttle arm connection embodying a bar having an elongated slot through which said throttle arm projects, a frangible anchor arm, connections between the opposite end of said rock arm and said anchor arm to hold the former, and means for rocking said rock arm when said anchor arm is broken, and a track carried arm for contact with, and to break, said anchor arm.

In testimony whereof I affix my signature, in presence of two witnesses.

JOHN G. HENZEL.

Witnesses:

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