T. P. CRAWFORD.

RAILROAD SAFETY DEVICE.

APPLICATION FILED JULY 25, 1917.

1,279,662.

Patented Sept. 24, 1918.

2 SHEETS—SHEET 1.

Fig. 1.

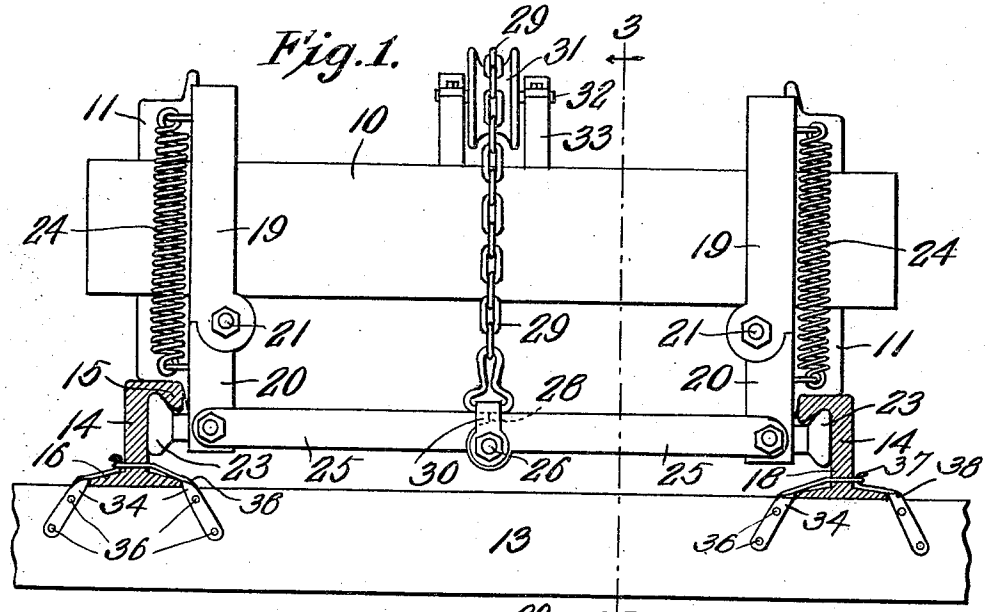
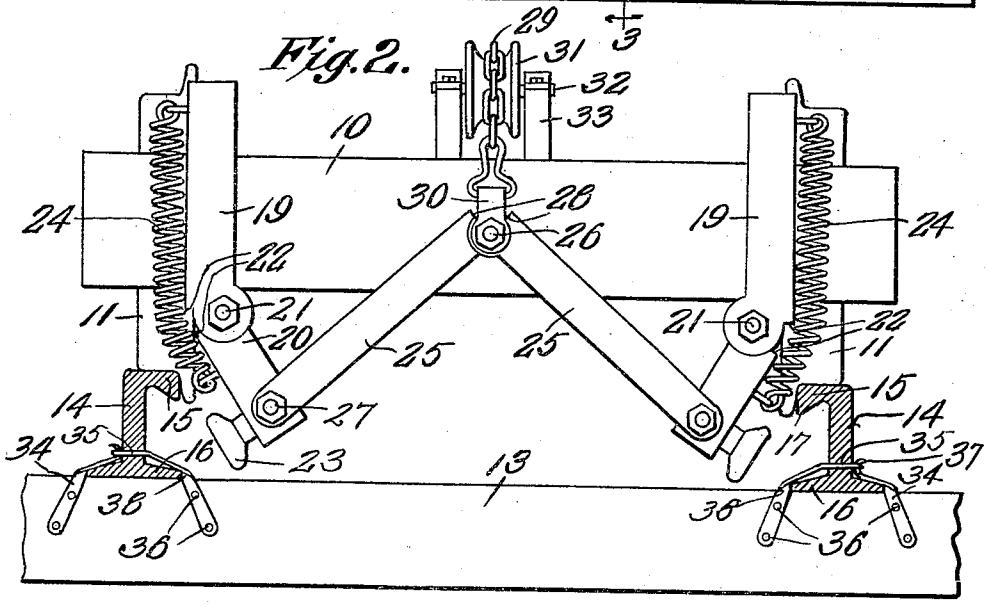


Fig. 2.



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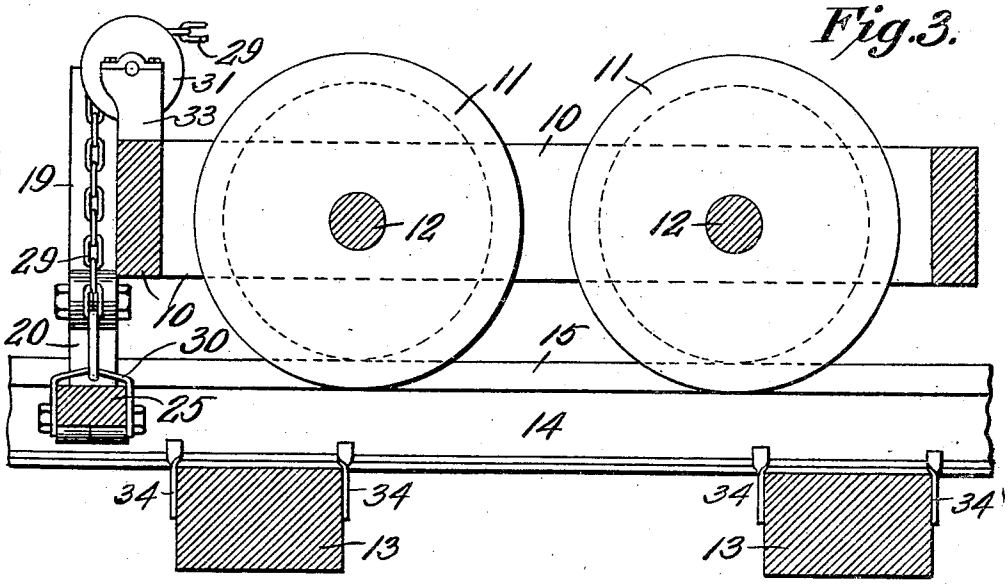
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2 SHEETS—SHEET 2.

Fig. 3.



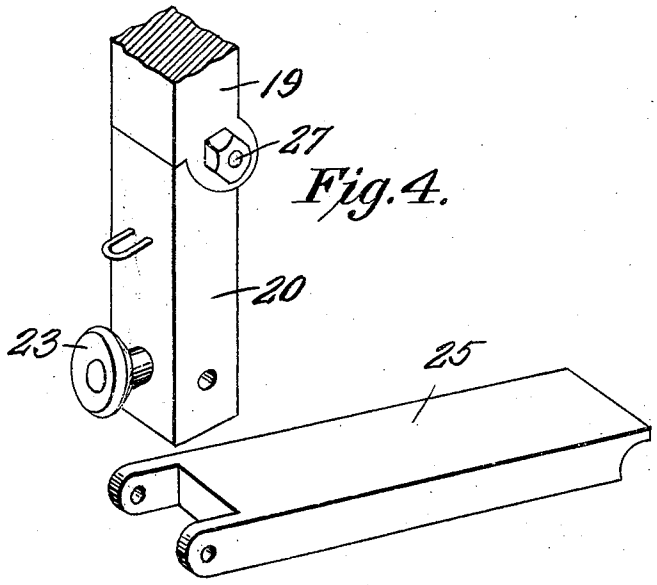
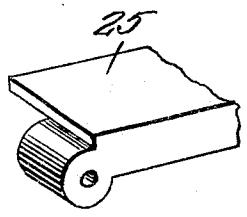


Fig. 4.



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RAILROAD SAFETY DEVICE.

1,279,662. Specification of Letters Patent. Patented Sept. 24, 1918.

Application filed July 25, 1917. Serial No. 182,734.

To all whom it may concern:

Be it known that I, THOMAS P. CRAWFORD, a citizen of the United States, residing at Paris, in the county of Logan and State of Arkansas, have invented certain new and useful Improvements in Railroad Safety Devices, of which the following is a specification.

This invention relates to safety devices, and more particularly to an improved means for preventing heavily loaded cars and locomotives from spreading the rails of the track.

One of the objects of my invention is to provide an improved means for securing railroad rails to the ties, and thereby hold the rails securely under normal conditions.

Another object of the invention is to provide an improved means for preventing the wheels of a truck from leaving the rails of the railway.

Another object is to provide a device of this character which may be applied to railway trucks of ordinary construction so that these devices may be universally used on all forms of railway rolling stock.

Another object is to provide a device of this character which is so simple of construction that the cost of manufacturing is reduced to the minimum.

Other objects and advantages may become apparent to persons who read the following description in connection with the appended drawings in which;

Figure 1 is an elevation view of the device in its operative relation to the railroad track rails.

Fig. 2 is a view similar to Fig. 1, but showing the device in a position between its operative position and its fully retracted position.

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a detailed perspective view illustrating some of the parts in position to be assembled.

Referring to the drawing in detail, in which similar reference characters correspond with similar parts throughout the several views, the truck frame 10, wheels 11 axles 12 and ties 13, being of ordinary construction, are not described in detail. The rails 14, are of special construction each being provided with a flange 15 which overhangs the inner base flange 16 and is provided with downwardly extending outer portion 17, so that the inner wall 18 of each rail web and the under side of the adjacent flange 15 provides a groove which is substantially in the shape of an acute angle, when viewed in cross section.

Upon each frame 10 is mounted a pair of vertically disposed bars or supports 19, each of which has pivotally mounted thereon a bearing member 20, the pivots thereof being indicated at 21. Each of the members 19 and 20 is provided with a shoulder 22, and the shoulder 22 of each member 20 abuts against the similar shoulder of the adjacent member 19, so as to limit movement of each member 20 in one direction.

Each member 20 has a roller 23 mounted to rotate thereon and to engage with the longitudinal groove under the adjacent rail flange or head 15. Each member 19 and the corresponding members 20 and 21 may be considered as a carrier for the corresponding roller 23, and each of these carriers is provided with a retractile spring 24 having one end secured to the member 19, while its other end is secured to the adjacent member 20. It will be seen, therefore, that the springs 24 each tends to move the adjacent members 20 into the position shown in Fig. 1, so that the rollers 23 are engaged with the respective flanges 15 when it is desirable to have them in such engagement. However, for the purpose of moving the rollers 23 out of engagement with the rails 14 and out of the way of switch rails, frogs, and other impediments, I have provided a pair of links 25 which are pivotally connected together at 26 and are each connected with one of the members 20 by means of a pivot 27. Each of the links 25 may be provided with a shoulder 28 and these shoulders engage with one another when in normal position, as shown in Fig. 1. However, the links 25 may be moved upward into and beyond the position shown in Fig. 2 when it is desirable to avoid collision with switch rails and other impediments. Any appropriate means may be employed for moving the links 25 upward, but the means shown in the present embodiment of my invention consists of a chain 29 which is secured to the links 25 by means of their pivot 26 and a substantially U-shaped member 30 which is apertured for reception of the bolt or pivot 26. In order that the chain 29 may be

extended forward or rearward to engage with any appropriate means for drawing the same, I provide a roller or sheave wheel 31, which rotates on an axle 32 supported by bearings 33 which latter are supported by the frame 10.

It is well known that centrifugal force sometimes causes a locomotive or car to leave the track when it is attempting to move around a curved track at high speed. It will be readily seen this device effectually prevents the car or locomotive from leaving the track while the device is in the operative position shown in Fig. 1.

In order to improve this device so as to prevent the rails from being unseated thereby, I provide improved devices for fastening the rails 14 to the ties 13, each of these devices consisting of a hooked member 34 and an apertured member 35. Each rail 14 is apertured at 36 for the reception of one end of the member 35, which latter is apertured at one end to receive the adjacent hook 37 of the member 34. The members 34 and 35 are each preferably formed of heavy strap iron, and each is provided with a quarter turn at 38, at the edge of the adjacent rail flange 16; and at this point each member 34 and 35 is bent downward from the base flange 16 and lies flat against the adjacent vertical side of the tie 13.

Spikes, bolts or other appropriate means 36 may be employed for securing the straps or fasteners 34 and 35 to the tie 13.

The rails 14 are much more securely fixed to the ties than if the ordinary securing means were employed. This is true because the members 34 and 35 exert a lateral pull upon the fastening means 36, whereas, the ordinary rail spikes are pulled longitudinally when the rail tends to move away from the ties 13. Therefore, it is impossible for the rolling stock which is equipped with this improved securing device to move from its intended course without carrying with it the rail and ties of the railroad, so that the accidents by centrifugal force are effectually prevented.

My invention is not limited to the exact details of construction and arrangement of parts described in the foregoing, but I am entitled to make such changes that do not amount to a departure from the inventive idea disclosed in the appended claims.

What I claim is:

1. The combination with railway rails and a truck thereon, of a support on said truck, a roller movable into engagement with one of the rails, a member pivotally mounted on said support and carrying said roller, a spring secured to said member and operable to cause the latter to move its roller into engagement with said rail, and means coöperating with the said spring for securing said roller in engagement with the rail.

2. The combination with railway rails and a truck thereon, of a support on said truck, a roller movable into engagement with one of the rails, a member pivotally mounted on said support and carrying said roller, a spring secured to said member and operable to cause the latter to move its roller into engagement with said rail, and means coöperating with the said spring for securing said roller in engagement with the rail, said means being operable to move said roller against the tension of the spring and out of engagement with the rail.

3. In combination, a rail having a lateral flange, a truck, a member pivoted to the truck and limited in its outward movement, a spring extending across the pivotal joint of said member and normally tending to move the same outward, an element mounted on the pivoted member and adapted to engage under the flange of the rail, and means associated with the pivoted member to move the same against the action of the coöperating spring and also serving as locking means to hold the rail engaging element in contact with the flange thereof.

4. In combination, track rails having inner flanges, a truck on the track rails, laterally swinging members pivoted to the truck and provided with elements to engage under flanges of the track rails, springs extending across the pivoted points of the laterally swinging members and normally tending to swing them outward, rule-jointed links connecting the laterally swinging members and constituting operating and locking means therefor, and means for breaking the joint of the links upward.

THOMAS P. CRAWFORD.

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