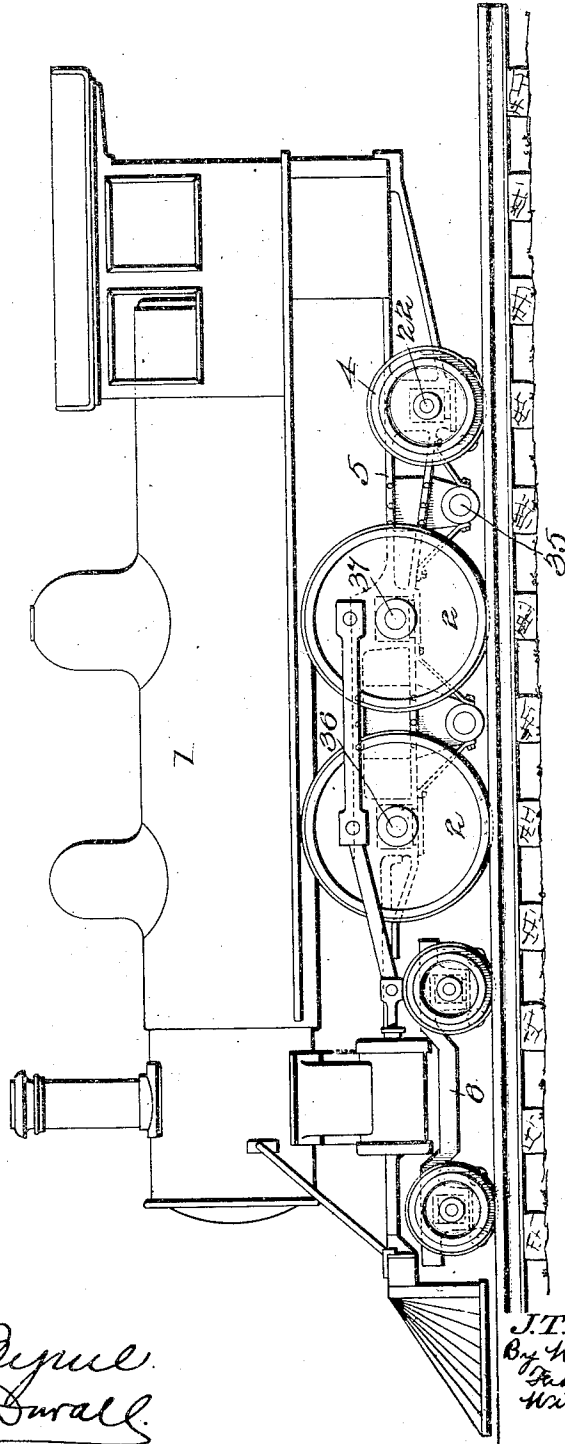


J. T. ANDREW.
RAILROAD SAFETY APPLIANCE.
APPLICATION FILED FEB. 19, 1909.

Patented Nov. 23, 1909.
3 SHEETS—SHEET 1.

941,222.

Fig. 1.



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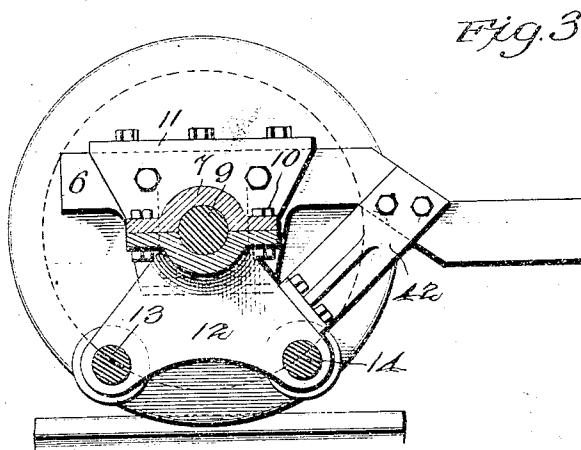
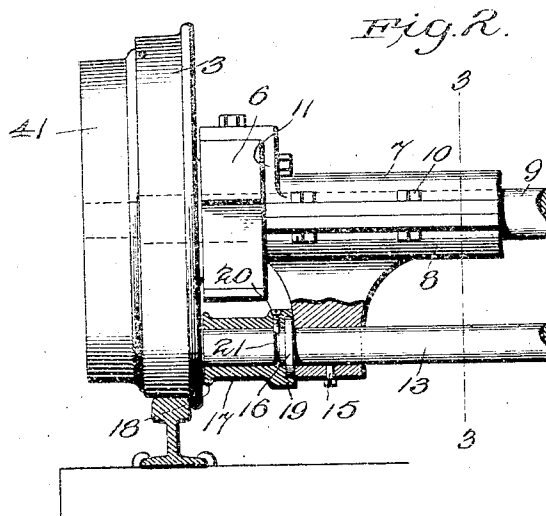
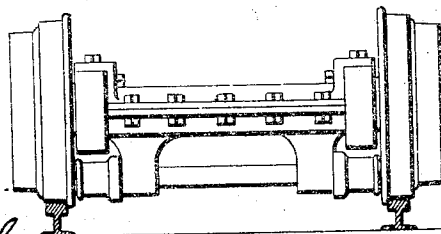


Fig. 4.



Witnesses
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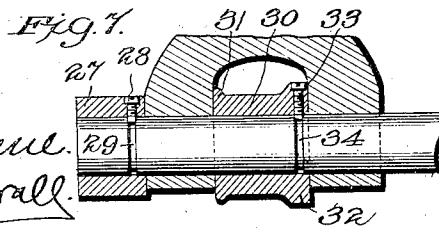
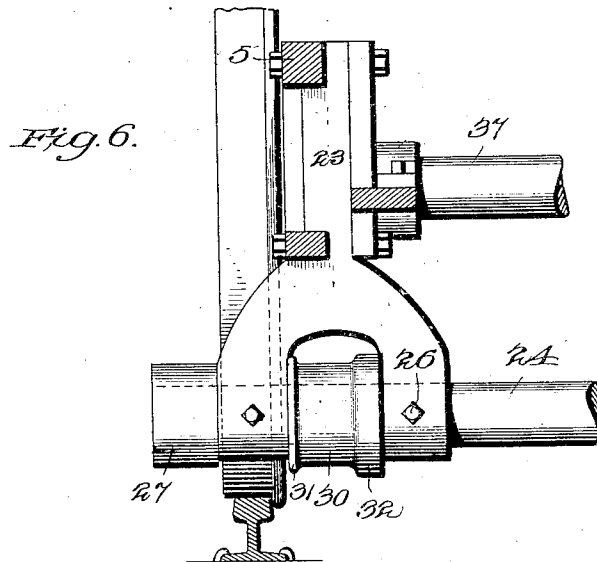
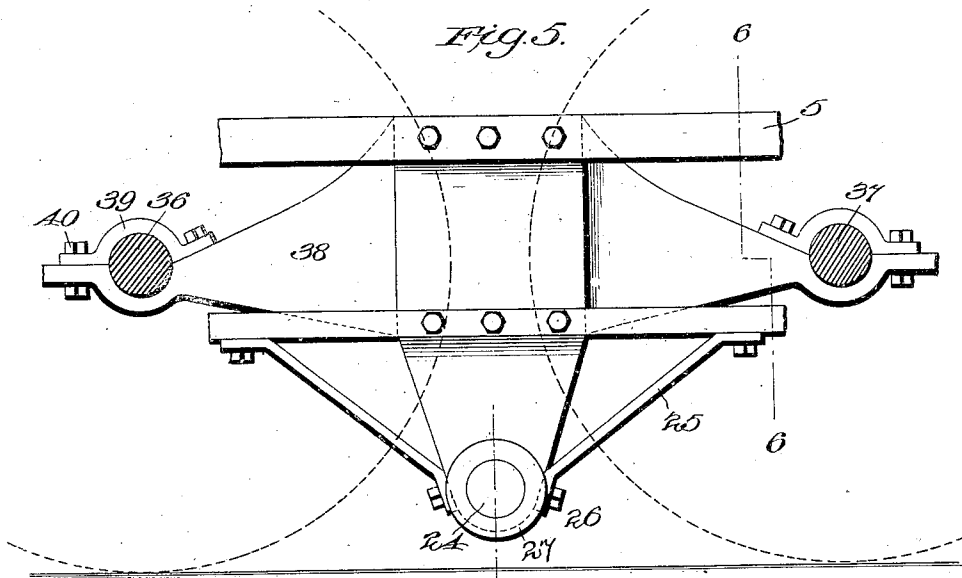
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UNITED STATES PATENT OFFICE.

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RAILROAD SAFETY APPLIANCE.

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To all whom it may concern:

Be it known that I, JAMES T. ANDREW, a citizen of the United States, residing at Montgomery, in the county of Montgomery and State of Alabama, have invented certain new and useful Improvements in Railroad Safety Appliances; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to railroad safety appliances and is designed to prevent derailment of locomotives and railroad cars with the accompanying injurious effects.

The form of invention illustrated in the present application is particularly applicable to locomotives, but it is not restricted to this use, as it may be used upon railroad cars, especially some parts of said invention.

With the objects stated in view, my invention consists in the construction and combinations of parts as hereinafter described and claimed.

In the accompanying drawings—Figure 1 is a side view of a locomotive with my invention applied thereto. Fig. 2 is a perspective view on a larger scale of a part of the pilot truck, parts being shown in section. Fig. 3 is a cross section on the line 3—3 of Fig. 2. Fig. 4 is an end view of the pilot truck. Fig. 5 is a side view of the supporting means, the driving wheels being shown in dotted lines and the axles thereof in cross section. Fig. 6 is a cross section on the line 6—6 of Fig. 5, the brace being omitted, and Fig. 7 is a cross section of the parts shown in the lower front portion of Fig. 6.

1 represents a locomotive of an ordinary type provided with driving wheels 2, pilot wheels 3, and trailer wheels 4. The superstructure of the locomotive is supported on the usual strong frame 5, firmly braced in the well known manner. 6 represents the equalizer beams of the pilot truck, supported on the main frame in the usual way. All these parts are of the usual construction.

Referring especially to Figs. 2, 3, and 4, a sleeve composed of two parts, 7 and 8, is arranged around one of the axles 9 of the pilot truck. These sleeves are provided with projecting lips fastened together by bolts 10, and the upper sleeve 7 is provided with a right angled extension 11, which projects over the top of the equalizer beam 6, the

whole structure forming a guard for the journal box and the axle 9. The lower sleeve is provided with a hanger 12, made approximately triangular in form, and in its two lower corners are journaled shafts 13 and 14, which are fastened in the hangers by set screws 15, or equivalent devices. Braces 42 are bolted to the equalizer bars and the hangers to support the latter firmly. Each of the shafts 13 and 14 is provided with a collar 16 on the outside of the hanger, which collar is secured to the shaft in any suitable manner. 17 represents a roller, one of said rollers being pivotally mounted on the projecting end of the shafts 13 and 14. This roller is provided with an outer flange 18 and an inner flange 19, which is made of considerable width, to afford space for the reception of the set screw 20, which is screwed therein, and the end of which engages in a groove 21 in the end of the shaft, thus permitting the roller to revolve freely upon the shaft, but preventing it from slipping thereon. On the outer end of the shaft 9 is secured in any suitable manner a wheel 41, made substantially like the wheel 3, but of smaller diameter. The construction at each side of the truck is substantially the same, as shown in Fig. 4, and each of the axles of the pilot truck is similarly equipped. The axle 22 of the trailer wheel is also similarly equipped. Firmly bolted on the main frame 5 is a hanger 23, the lower end of which terminates in a fork, as shown in Fig. 6. Both ends of this fork are perforated, and through them passes the safety shaft 24. Braces 25 connect the main frame with the ends of the fork, and bolts 26 pass through said braces and the lower ends of said fork and engage the shaft 24, preventing its rotation. The outer end of the shaft 24 projects beyond the driving wheels, and on this projecting end is mounted a roller 27. 28 represents a set screw fixed in said roller, with its lower end projecting into a groove 29 on the shaft 24, preventing the sidewise movement of said roller on said shaft, although the free rotation of the roller is not prevented. Of course the roller 27 must be located low enough so as to afford sufficient space for the play of the crank shafts. Between the two lower ends of the fork is journaled another roller 30, having an outer flange 31 and an inner flange 32. 33 represents a set screw passing

through the flange 32 and entering a groove 34 in the shaft 24, whereby the roller 30 is permitted to revolve freely on the shaft 24, but is prevented from sidewise movement thereon by the shaft 33, and also by the downwardly extending ends of the fork. This construction is the same on each end of the shaft 24, which is located between the driving wheels and a similarly equipped shaft 35 is located between the trailer wheels and the rear driving wheels. Surrounding the shafts 36 and 37 of the driving wheels, are devices to prevent the dropping of the journal boxes in case the driving wheels should become derailed, each consisting of a bracket 38, supported on the hanger 23 at one end, and extending down under the corresponding shaft, it being hollowed out to receive it, as shown in Fig. 5. 39 represents a bearing portion, arranged to fit over the shaft 36, secured by screws 40 to the bracket 38, the construction on each of the driving shafts being the same.

As in my former patents, I design to provide means whereby if any of the wheels of a locomotive should become derailed, a signal will be given and at the same time the air brakes set; but this means is not shown in the drawings.

While the apparatus shown is especially designed for locomotives, it is not restricted to this use, as it might be used on cars, and more especially the form shown in Figs. 2, 3 and 4.

The operation is as follows: If the pilot wheels or trailer wheels run off the track for any reason, the wheels 41 on one side will engage one of the rails, and the rollers 17 on the parallel, horizontal shafts 13 and 14 will engage the opposite rail. The flanges on said rollers will keep the same from running off the track and the main wheels will be supported so that they will not shear the spike heads or the bolts and plates supporting the rails, this being a feature of great importance. In case the driving wheels should become derailed, the rollers 27 on one side, will engage one of the rails, and the corresponding flanged rollers, such as 30, will engage the opposite rails, the flanges of the rollers maintaining the locomotive in the proper position upon the track.

Having thus described my invention, I claim:—

1. In a safety railroad appliance, the combination of a truck provided with axles and wheels thereon, sleeves surrounding said axles and provided with downwardly projecting hangers, horizontal parallel shafts fixed in said hangers, a roller revolvably mounted on the end of each of said shafts, and safety wheels carried on said axles outside of said main wheels, said safety wheels being of smaller diameter than the main wheels, substantially as described.

2. In a railroad safety appliance, the combination of a truck provided with axles and wheels thereon, sleeves surrounding said axles and secured to said truck, said sleeves being provided with downwardly projecting hangers, and said axles being provided with safety wheels mounted outside of said main wheels on said axles and of smaller diameter than said main wheels, horizontal parallel shafts journaled in said hangers, and a flanged roller revolvably mounted on the end of each of said shafts, substantially as described.

3. In a safety railroad appliance, the combination of a truck provided with equalizer beams, with axles, and with supporting wheels, of two-part sleeves surrounding said axles, said sleeves being fastened together and the upper sleeve being fastened to the equalizer beams, the lower part of said sleeves being provided with downwardly projecting hangers, braces connected to said hangers and the corresponding equalizer beams, safety wheels mounted on said axles outside of said supporting wheels, parallel horizontal shafts fixed in said hangers, and a flanged roller on each of the outer ends of each of said shafts, and revolvably mounted thereon, substantially as described.

4. In a railroad safety appliance, the combination of a truck provided with the usual equalizer beams, journal box, axles, and supporting wheels, two-part sleeves surrounding each of said axles, the parts of said sleeves being secured together, and the upper sleeve having a projecting portion passing over the corresponding equalizer beams and fastened thereto, and the lower part of said sleeves being provided with downwardly projecting, triangular hangers, braces running from each of said hangers to the corresponding equalizer beams and attached thereto, parallel horizontal shafts supported in the lower corners of said hangers, each of said shafts being provided with a groove in its outer end, and a flanged roller mounted on each of the outer ends of each of said shafts and provided with a pin entering the groove in said shaft, substantially as described.

5. In a railroad safety appliance, the combination of the main frame of a locomotive, hangers bolted thereto and projecting downwardly, each terminating at its lower end in a fork, a shaft fixed in the forks of oppositely located hangers, and two rollers on each end of said shaft and revolvably mounted thereon, the outer roller being plain and the inner roller being flanged, substantially as described.

6. In a railroad safety appliance, the combination of the main frame of a locomotive, a hanger depending from each side thereof and terminating at its lower end in a fork, brackets extending from said hanger and serving for supports for the driving shafts,

a horizontal, grooved shaft fixed in the lower parts of the forks of said hangers, and provided with grooves, and two rollers mounted on each end of said shaft; each of said rollers being provided with a pin entering a corresponding groove in said shaft, the outer roller being smooth and the inner roller being provided with flanges at each end, and braces connecting the lower ends of said

hangers with the main frame, substantially as described.

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

JAMES T. ANDREW.

Witnesses:

R. M. PARKER,

A. W. NEALE, Jr.