Jan. 23, 1923. 1,442,890

P. LAVERDIÈRE.
RAILWAY BRAKE.
FILED JAN. 19, 1921.

4 SHEETS-SHEET 1

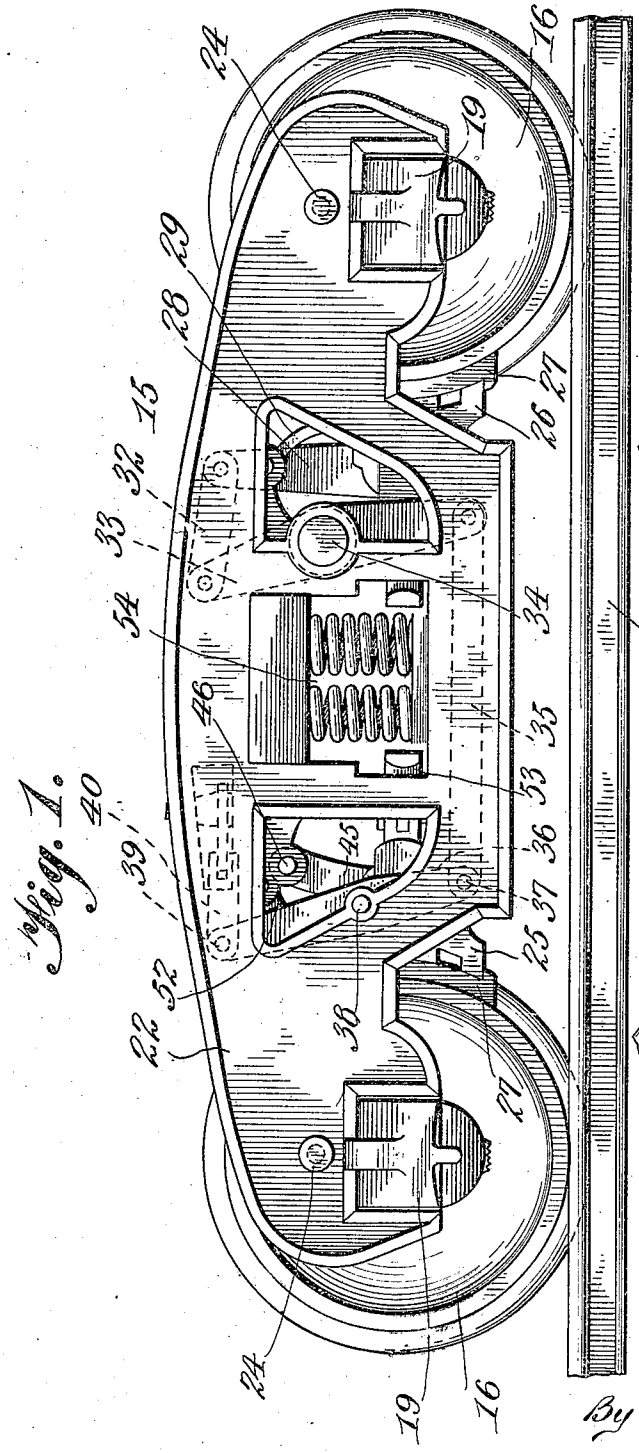



Fig. 1.

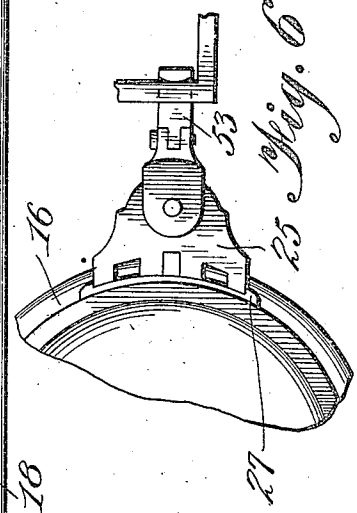



Fig. 6.

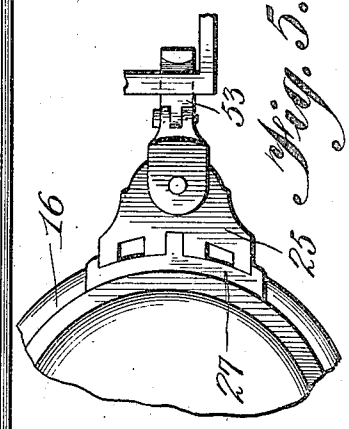



Fig. 5.

Inventor
Patrick Laverdière

By William Colinton
Attorney

Jan. 23, 1923.

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4 SHEETS-SHEET 2

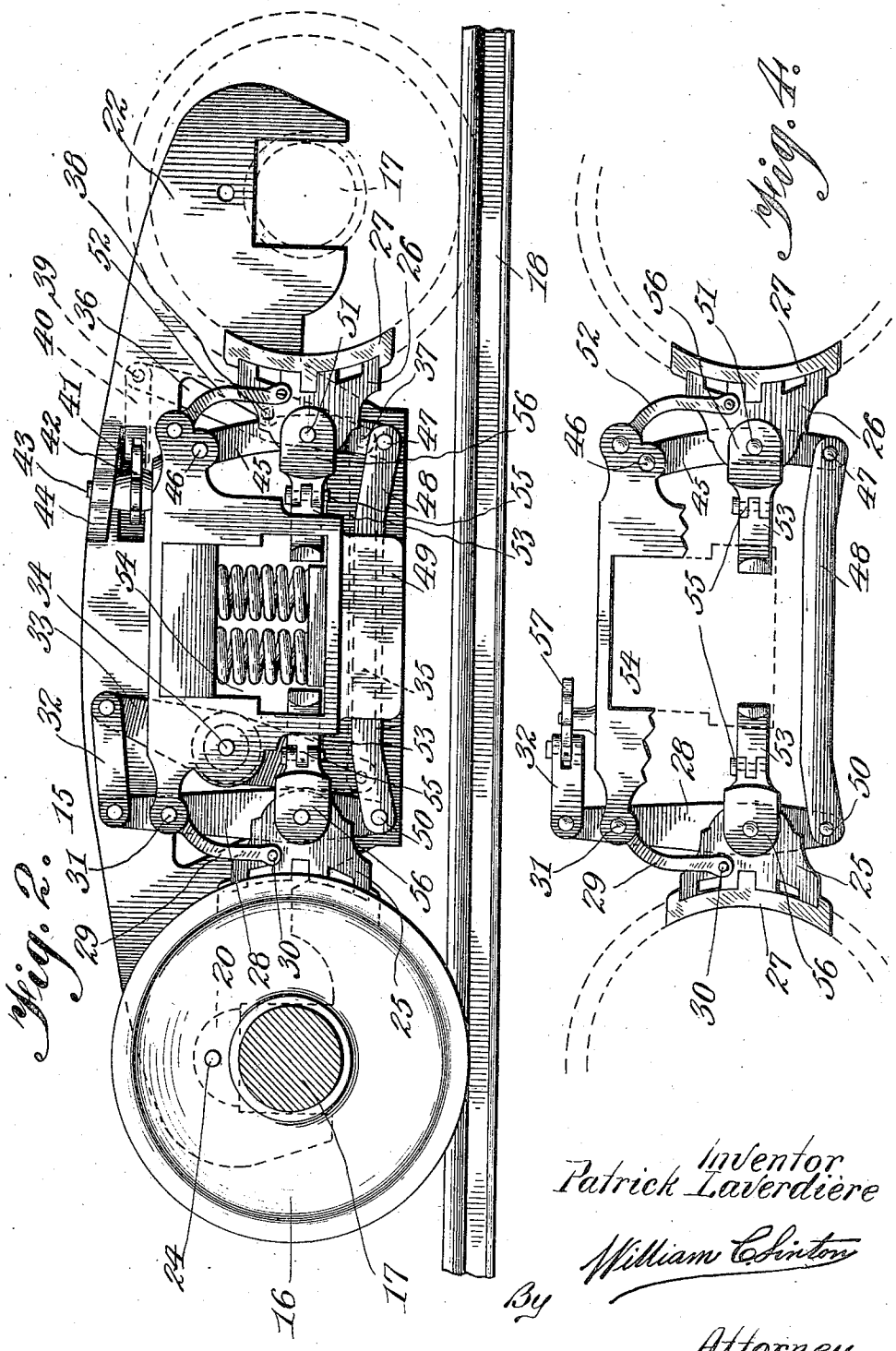


Fig. 2.



Fig. 4.

Inventor
Patrick Laverdière

By William C. Linton

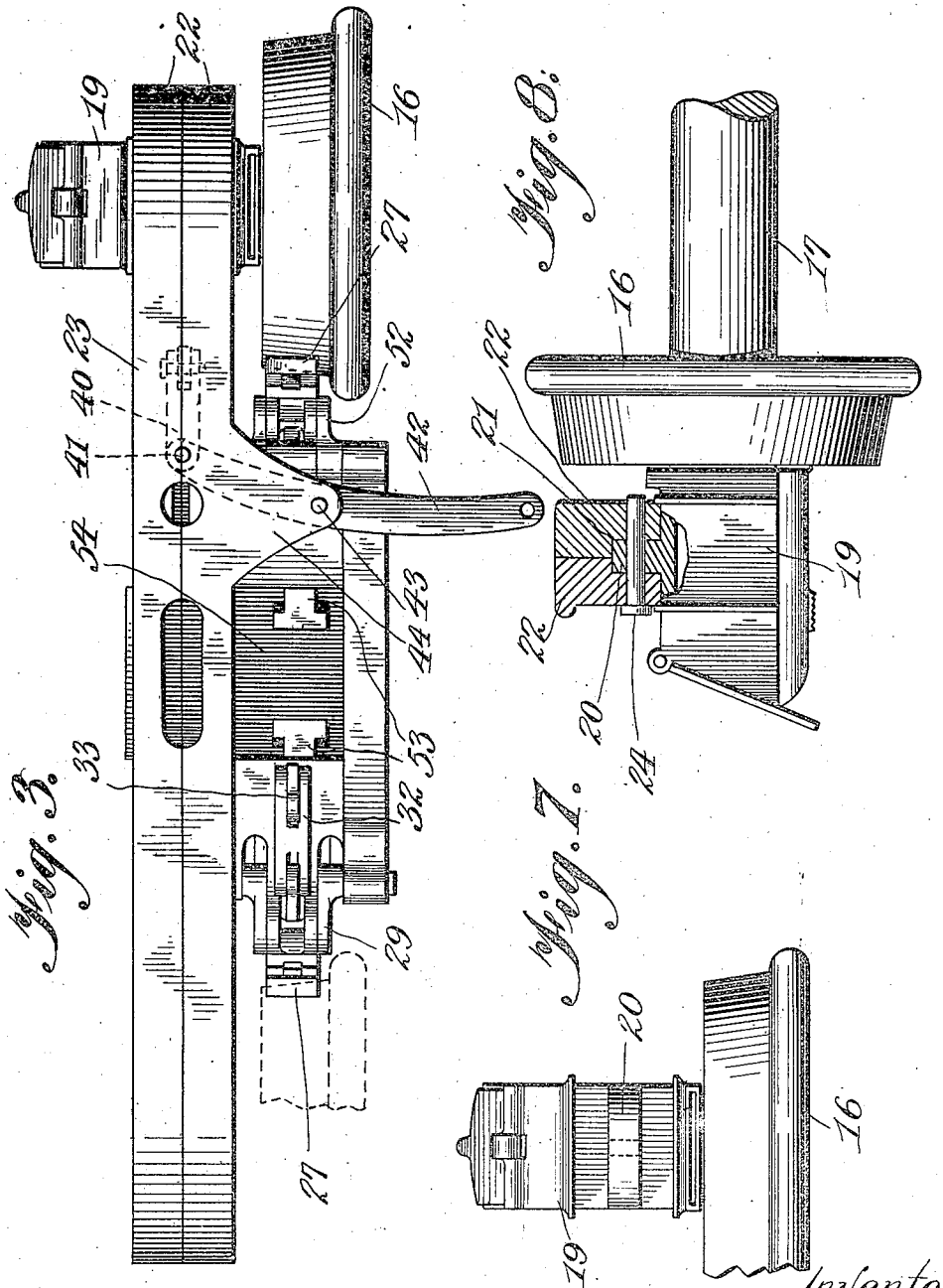
Attorney

Jan. 23, 1923.

1,442,890

P. LAVERDIÈRE.
RAILWAY BRAKE.
FILED JAN. 19, 1921.

4 SHEETS-SHEET 3




Inventor
Patrick Laverdiere

By William Clinton
Attorney

Jan. 23, 1923.

1,442,890

P. LAVERDIÈRE.
RAILWAY BRAKE.
FILED JAN. 19, 1921.

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Fig. 10.

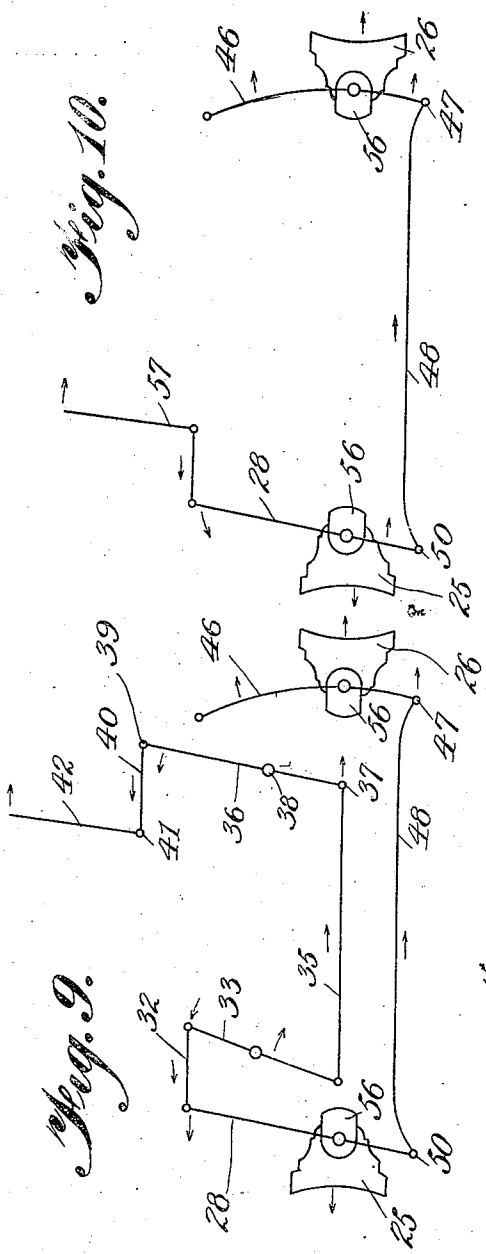



Fig. 11.

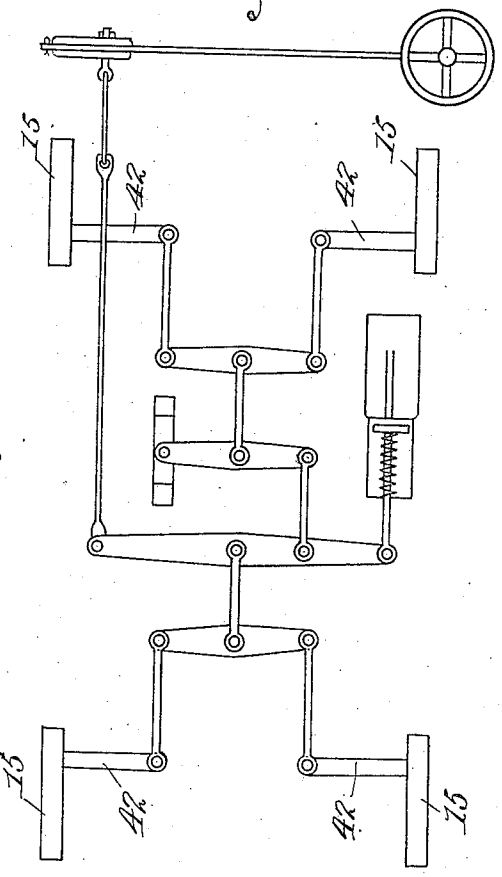



Fig. 9.

Inventor
Patrick Laverdière

By William C. Linton

Attorney

Patented Jan. 23, 1923. 1,442,890

# UNITED STATES PATENT OFFICE.

PATRICK LAVERDIÈRE, OF LAC MEGANTIC, QUEBEC, CANADA.

## RAILWAY BRAKE.

Application filed January 19, 1921. Serial No. 438,320.

*To all whom it may concern:*

Be it known that I, PATRICK LAVERDIÈRE, a subject of the King of Great Britain, residing at Lac Megantic, Province of Quebec, Canada, have invented certain new and useful Improvements in Railway Brakes, and do hereby declare that the following is 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.

The present invention relates to new and useful Improvements in railway brakes for trucks.

The primary object of the invention is the provision of brake mechanism which is applicable to railway cars and so positioned that the various parts thereof will be prevented from falling on the track in the event of their becoming separated from the remaining elements of the mechanism.

An object of the invention is to do away with brake beams, bottom rods, etc., positioned in the under portion of the truck.

Another object of this invention is to prevent the large actual percentage of cars running without brakes, caused by worn out brake shoes, or missing connection pins and also by brake beams broken, due to worn out brake shoes, causing to wear brake heads, and resulting in brake beams falling upon the track and causing serious and costly derailments. With this invention, no cars will be without air brakes working, as in case one or more of the brake shoes being worn out, the defective one or more will stop automatically working and the balance of good brake shoes will perform their usual duties, as it works independently. The air will not have to be cut off of car in question, unless in case of bursted air pipe. No other case. Therefore necessitating no attention from car-men.

Another object of this invention is the considerable saving effected in changing wheels or for any other repairs. No nuts. No bolts enter in the construction of this truck and air brake equipment. Wheels and brake equipment can be repaired and removed in 30 minutes. The only tool required to remove brake equipment is an ordinary tommy bar.

Another object of this invention is to provide that no wreck could possibly be caused by falling equipment of brakes upon the track.

Another object of this invention is the provision of a brake equipment for trucks which can be applied to any class of railroad cars.

Still another object of the invention is the provision of means whereby a car inspector can readily ascertain the condition of the brake gear without necessitating his looking under the trucks in the usual manner.

A further object of the invention is the provision of a brake mechanism which is mounted in a suitable truck frame including detachable sections which can be readily removed for the purposes of repairing or examining the several parts thereof.

A still further object of the invention is the provision of a brake mechanism such as above referred to, which will be comparatively simple and inexpensive to manufacture, reliable and efficient in use, and readily operated.

With the above and other objects in view, the present invention resides in the novel features of construction formations, combinations and arrangements of parts to be hereinafter more fully described, claimed, and illustrated in the accompanying drawings, forming a part of the present application, and in which;

Figure 1 is a side elevation of a truck showing the invention applied thereto;

Figure 2 is a similar view looking at the opposite side thereof;

Figure 3 is a top plan view thereof;

Figure 4 is a side elevation with parts of the truck broken away showing the brake mechanism;

Figure 5 is a detail view of one of the brake shoes showing the indicating means for designating whether the shoe is worn or not;

Figure 6 is a similar view showing the shoe after it has become worn;

Figure 7 is a plan view of one of the journal boxes showing the attaching flange formed thereon;

Figure 8 is a side view showing the method of attaching the casing to the journal box;

Figure 9 is a diagrammatic view illustrating the lever mechanism;

Figure 10 is a similar view showing the modified form in which certain levers are admitted when the invention is shown applied to similar trucks; and,

Figure 11 is a plan view in diagram illus-

trating the method of operating the levers.

Referring now to the accompanying drawings by corresponding characters of reference throughout the several views, the numeral 15 designates in general a truck adapted particularly for railway trains and the like, the same comprising the usual wheels 16 carried by the axles 17 and mounted upon a track 18.

The wheels 16 are equipped with the customary journal boxes 19 which are provided at their upper sides with transversely disposed attaching lugs 20 which are adapted to receive the cut-away portions 21 of the opposite side plates 22 comprising a frame 23 which is held in position upon the journal boxes 19 by a pin 24.

The plates 22 have their inner sides channeled to receive the usual brake actuating mechanism which will hereinafter be referred to.

The brake heads are indicated by the numerals 25 and 26 and are provided with the usual renewable shoes 27 which are secured to the outer edges of the heads 25 and 26 and are positioned between the heads and the before described wheels 16.

The brake head 25 is pivotally connected to a lever 28 and is held against any undesired displacement by a similar lever 29, which is pivoted at 30 to the said head and at 31 to a convenient point upon the frame 23.

The upper end of this lever 31 has a link 32 connected thereto which is in turn pivotally connected to a suplemental lever 33 fulcrumed intermediate its ends as at 34 to the before described frame 23 consisting of the plates 22 thereof.

A horizontal link 35 is pivotally connected to the lower end of the lever 33 and leads to the opposite ends of the truck at which point it is connected to an upright lever 36 at the point 37.

This lever 36 is pivoted intermediate its ends at 38 to the frame 23 and is pivoted at its upper end as at 39 to a link 40 which is in turn pivoted at 41 to a horizontal and transversely disposed lever 42, which is pivoted as at 43 to a bracket 44 which extends from the upper edge of the inner side plate 22.

Any suitable means may be employed for actuating the lever 42 such as the usual air brake mechanism.

A depending lever 45 is pivoted as at 46 to one of the plates 22 and is pivoted also at its lower end as at 47 to the horizontally disposed actuating rod 48 which is mounted in a slot 49 formed in the frame. The opposite end of this rod 48 is pivoted as at 50 to the lower end of the lever 28.

The brake head 26 is pivotally connected as at 51 to the intermediate portion of the lever 45 and is likewise held by a supplemental link 52 to the frame 23. The links 29 and 52 retain the brake heads in natural position in case any of the said pivotal members become displaced, so that the brake shoe shall be worn out evenly.

Obviously when the lever 42 is actuated in either direction, the brake heads 25 and 26 will be thrown either inwardly or outwardly into engagement with the wheels 16, thus either applying or disengaging the brakes.

Horizontally disposed T-members 53 are slidably mounted in the frame 23 and are exposed through the central openings 54 provided therein. These T-members 53 are pivotally connected as at 55 to the yokes 56 which are attached to the brake heads 25 and 26.

Obviously when the brake shoes 27 and the brake heads 25 and 26 are new, the T-heads will be spaced from the sides of the openings 54, as shown in Figure 5, but when the latter become worn, these T-members will engage the sides of the openings 54 as shown in Figure 6, so that an inspector can readily see by looking at the side of the truck the condition of the brake shoes.

As shown in Figures 4 and 10 of the drawings, a simpler form of lever mechanism is provided for wherein the link 32 is connected directly to a horizontal operating lever 57 eliminating the levers 33 and 36 and the link 35.

It will be noted from the foregoing description that the construction of the frame 23 prevents the falling of the several levers and links upon the track in case the connecting pins thereof should become loose and be displaced, and further, that a brake mechanism for railway trains and the like is provided which will fulfil all of the necessary requirements of such a device.

It should be understood in this connection that various minor changes in the specific details of construction can be resorted to within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

1. In a brake mechanism for trucks for use in connection with railway cars, a pair of brake heads, levers pivotally connected to said brake heads, a link connecting said levers upon one side of said brake heads, a pair of supplemental levers, a link connecting the same a link connecting one of the supplemental levers and one of the levers supporting the brake heads, an operating lever and a link connecting the operating lever with the other of the supplemental levers.

2. A brake mechanism for trucks for railway cars including a plurality of brake

heads, levers operatively connected thereto, a link connecting said levers, an operating lever, an operative connection between the operating lever, and one of the first mentioned levers and a frame by which said levers and heads are supported as and for the purposes set forth.

3. A brake mechanism for trucks for railway cars, including a pair of brake heads, levers pivotally connected thereto, a link connecting said levers, an operating lever, an operative connection between the operating lever and one of the before mentioned levers, and a frame including two sections receiving said brake mechanism and by means of which sections said brake mechanism is supported, substantially as and for the purposes set forth.

4. A brake mechanism and trucks such as described including a plurality of brake heads, a frame in which said brake heads are mounted having an opening extending therethrough, means for actuating said brake heads, brake shoes for said brake heads, and T-heads attached to the brake heads extending through the frame and cooperating with the opening in the frame for indicating the extent of wear to the brake shoes.

5. A brake mechanism for trucks such as described for railway cars, comprising a plurality of brake heads, levers operatively connected to said heads, a link connecting said levers, supplemental levers, links connecting the supplemental levers and the first mentioned levers, an operating lever connected to the supplemental levers for operating the brake heads, and a frame enclosing said lever mechanism for preventing loss of parts.

In witness whereof I have hereunto set my hand.

PATRICK LAVERDIÈRE.