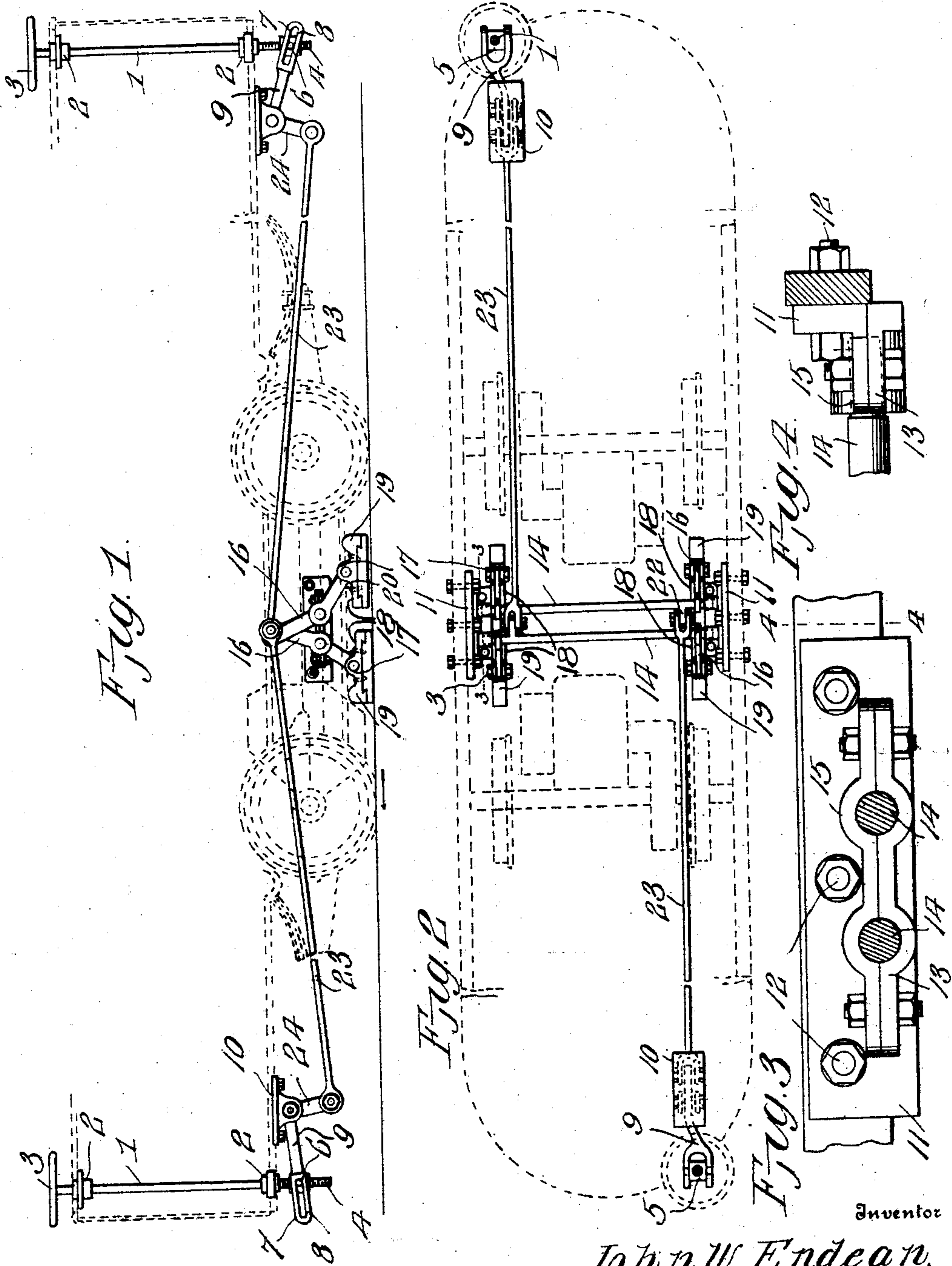


907,019.

Patented Dec. 15, 1908.



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UNITED STATES PATENT OFFICE.

JOHN WILLIAM ENDEAN, OF SMYRNA, DELAWARE.

BRAKE.

No. 907,019.

Specification of Letters Patent.

Patented Dec. 15, 1908.

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To all whom it may concern:

Be it known that I, JOHN WILLIAM ENDEAN, a citizen of the United States, residing at Smyrna, in the county of Kent and State of Delaware, have invented new and useful Improvements in Brakes, of which the following is a specification.

This invention relates to emergency brakes for street railway cars, and the object of the invention is to provide a rail brake for street cars which is adapted to be held in reserve for emergency purposes and to be brought into use to effectively bring a car to a standstill when the regular wheel brakes have failed.

To these ends the invention resides in the novel construction of elements and their arrangement in operative combination as will hereinafter be fully described and claimed.

In the drawing, Figure 1 is a side elevation of my improved emergency brake, showing the same in applied position upon a street railway car, the car being shown in dotted lines. Fig. 2 is a top plan view of the same. Fig. 3 is an enlarged longitudinal section upon the line 3—3 of Fig. 2, and Fig. 4 is a transverse vertical section upon the line 4—4 of Fig. 3.

The operating mechanism controlling my improved emergency brakes is adapted to be placed upon each end of the street railway car, and the description of one of the brakes and the mechanism for operating the brake is to be understood as also applying to the opposite brake.

Conveniently within reach of a motorman or driver, and conductor of a street railway car, and upon the platforms thereof, is located a spindle 1 positioned within upper and lower bearings 2 upon the car, and provided with an operating wheel 3 at its upper end and having its lower free end provided with screw threads 4 adapted for the reception of a screw threaded nut or bearing 5. The bearing 5 is provided upon diametrically opposite sides with a pair of pins 6 adapted for engagement with the slots 7 arranged upon each face of the bifurcated arms 8 of a bell crank lever 9 pivotally connected with a bracket 10 secured upon the underside of the car body.

Centrally located upon the truck frame of the car wheels, and preferably in a central position in regard to the length of the car body, is a pair of castings 11, secured upon the truck frame by a series of bolts 12. Each

casting 11 is provided with an integrally formed bearing plate 15 adapted for the reception of the reduced ends of a pair of rocking arms 14, which are adapted to lie normally within the bearing plates of each of the castings and to be held securely positioned therein by the retaining plates 13, bolted or otherwise secured upon each of the bearing plates or boxes 15.

The rocking shafts 14 are provided near each of their ends, and at a position directly above the track rails, with a pair of depending arms 16, integrally formed upon or otherwise rigidly secured to the transverse rocking shafts 14.

The depending arms 16 of the rocking shaft 14 are provided at their free ends with a suitable perforation adapted for engagement with a retaining bolt or element by which it is secured between a pair of ears 17 integrally formed upon the rail brake shoes 18. The brake shoes 18 are provided upon one end with a weighted portion 19, adapted to swing the end of the brake shoe to which it is attached in a downward position, and to counteract this effect, when the brake is in its normal position above the track rail, the brake shoe is provided with a suitable stop adapted to lie normally beneath the edge of the arms 16 opposite the weighted portion 19 of the brake shoe, and hold the shoe in a normal horizontal position. The shoe 18 is provided with the usual wooden brake blocks 21 secured within suitable recesses upon the faces of the shoe and retained thereon by the bolts or screws 22.

The rocking shafts 14 are provided upon one of their ends with an upstanding arm 22 adapted for engagement with a rod which has its opposite end connecting with the depending arm 24 of the bell crank lever 9.

From the above description it will be seen that I have constructed an emergency brake for street railway cars which is located upon the trucks of the car in such a position as to be out of the path of the ordinary wheel brakes and which will in no wise interfere with the working of the wheel brake. It will be also observed that I have provided an emergency brake adapted for contacting with the rails of the track, which can be quickly and easily put into operation, which will bring the car to a quick standstill without weakening any part of the truck frame upon which it is positioned, the sudden jar

and shock which would ordinarily occur in the application of a flat brake upon a railway rail being entirely obviated by the peculiar construction of the brake shoes described. It being understood that the weighted portion 19 of the shoe has always a tendency to force that part of the brake into contact with the rail, and when the brake is lowered by the revolving of the rock shaft, the brake shoe turns slightly upon its pivotal connection with the depending arms 16 of the rock shaft and the weighted portion of the shoe will first contact with the rails and a sliding or gliding movement is given to the brake shoe before the entire face of the brake shoe engaging with the rail, thus effectively preventing a sudden jar or shock upon the truck frame and the car.

I do not wish to restrict myself to the details of constructions and arrangement as herein described, as it is possible that various modifications may be made in the features of construction and arrangement in the adaptation of the device to various conditions of use, without departing from the spirit of my invention. I therefore reserve the right to all such variations and modifications as properly fall within the scope of the invention of the following claims.

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

1. An emergency brake for street cars comprising brake shoes having a weighted end and a stop, a rocker arm mounted in bearings upon the truck of the car, and hav-

ing arms pivotally secured to the brake shoe between the weighted portion and the stop provided upon the shoes, and means for rotating the rocker arm to force the brake shoes into contact with the rails of the car track.

2. A street railway car having wheel trucks, bearings upon the trucks, shafts within the bearings, arms upon the shafts, brake shoes having a weighted end and a stop pivoted to said arms, a bell crank lever upon the end of the car, a connection between the bell crank lever and the shaft, and means for rocking the bell crank lever to rotate the shaft and force the brake shoes into contact with the rails of the car track.

3. A street railway car having wheel trucks, bearings secured upon the trucks, a rocker shaft mounted within the bearings, arms upon the rocker shaft, brake shoes having a weighted end and a stop pivoted to the arms, a bell crank lever having a bifurcated end having longitudinal slots therein, a bolt having projections upon two of its sides adapted for engagement by the slots within the arms of the bell crank lever, a threaded spindle for the bolt, an operating wheel upon the spindle, and a connection between the bell crank lever and the rocker arm.

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

JOHN WILLIAM ENDEAN.

Witnesses:

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ALFRED TILGHMAN.