(No Model.)

G. D. BALDWIN.

RAILWAY SYSTEM.

No. 570,447. Patented Nov. 3, 1896.

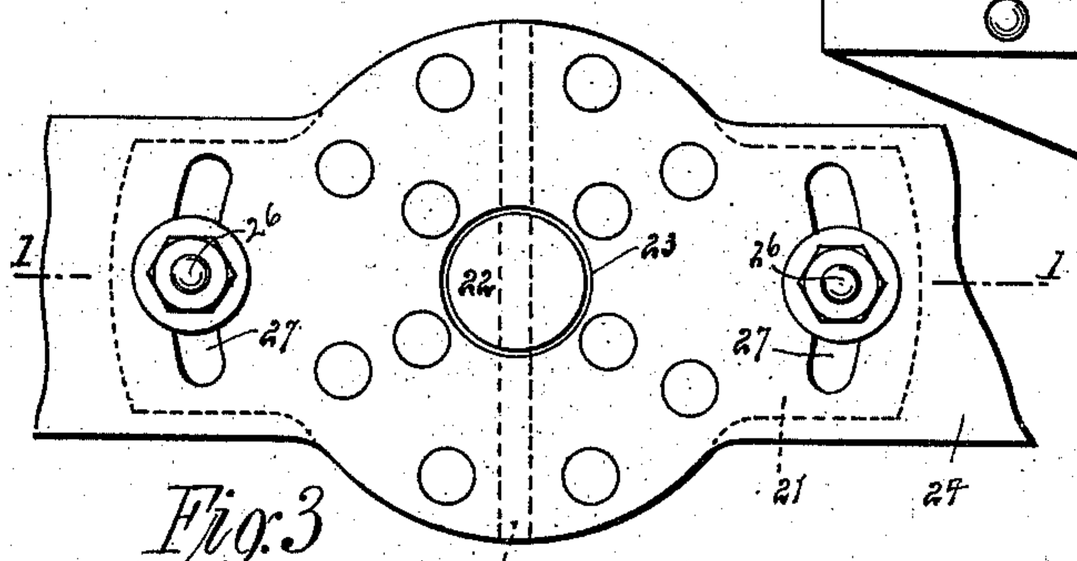

Fig. 3

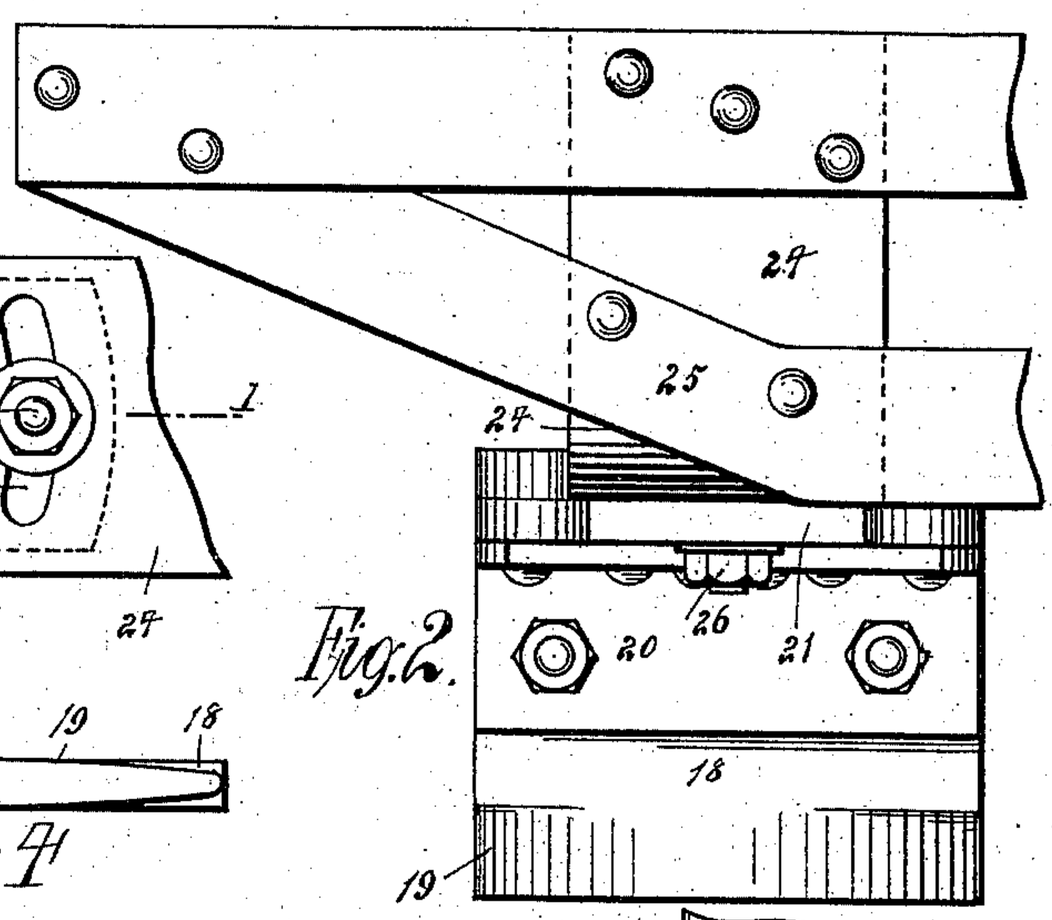

Fig. 2.

Fig. 4

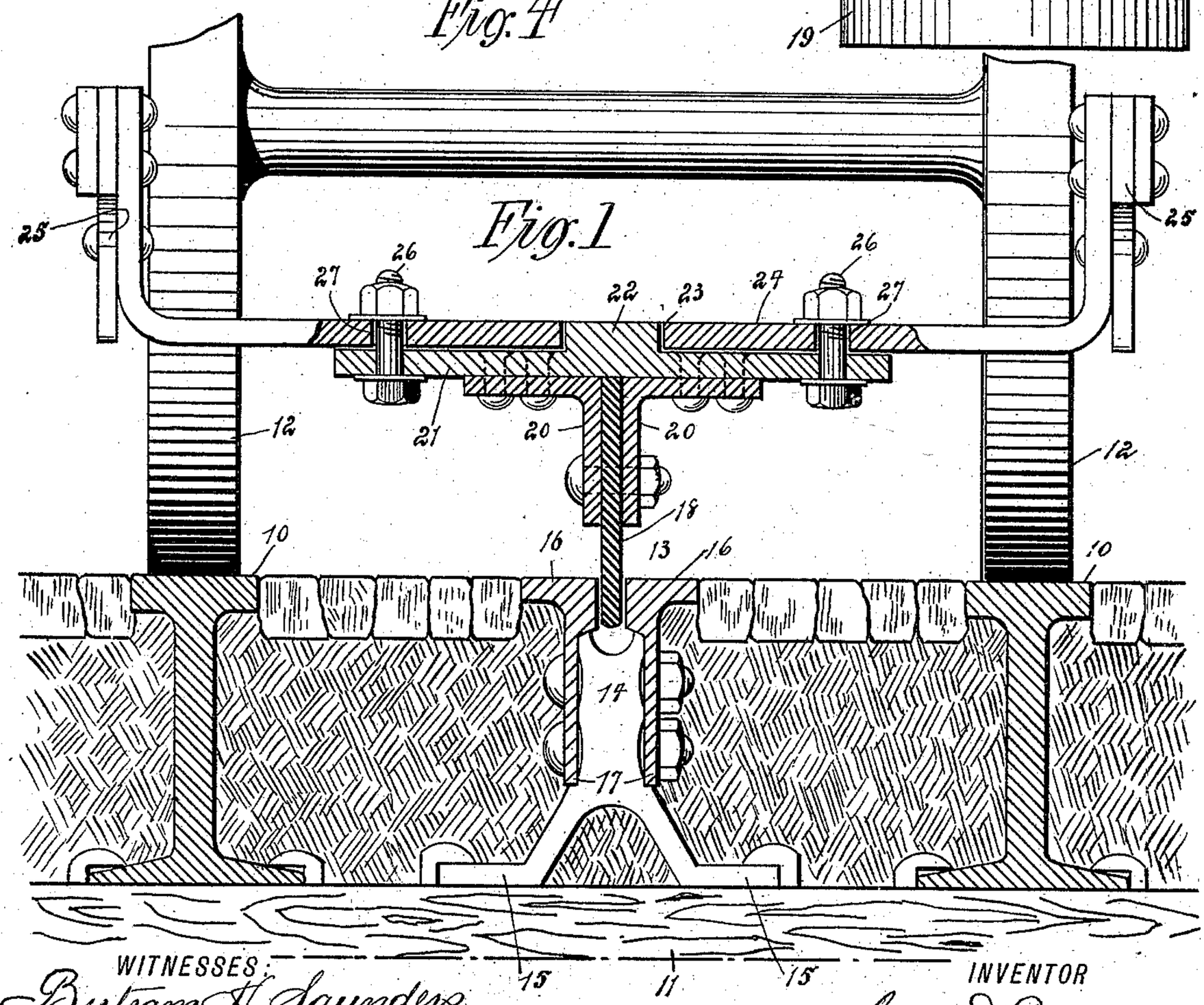

Fig. 1

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GEORGE D. BALDWIN, OF PASSAIC, NEW JERSEY.

RAILWAY SYSTEM.

SPECIFICATION forming part of Letters Patent No. 570,447, dated November 3, 1896.

Application filed January 17, 1896. Serial No. 575,821. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. BALDWIN, of Passaic, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Railway Systems, of which the following is a full, clear, and exact description.

My invention relates to improvements in railway systems, and especially to improvements in street-railway construction. It is well known that a serious objection to ordinary street-railways lies in the fact that the construction of the road-bed practically ruins the street for driving purposes, as the rails are grooved or form ruts, and carriage-wheels are likely to be caught in the grooves or ruts and the carriage badly wrenched and damaged when an attempt is made to dislodge the wheels from the grooves. The particular object of my invention is to obviate this difficulty by constructing the track-rails and car-wheels in such a way that the road-bed may be left entirely smooth and also to provide a guide independent of the car-wheels which shall keep the latter on the track-rails.

A further object of my invention is to produce a system of this kind which is as cheap or practically as cheap as the ordinary railway system and which will not necessitate new construction of cars, except as to their wheels and some slight accessories.

Still another object of my invention is to construct the road-bed and car in such a way that the car cannot be made to leave the track.

With these ends in view my invention consists of a railway system the construction and arrangement of which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a cross-sectional elevation on the line 1 1 of Fig. 2, showing the application of the guide mechanism to a car, the construction of the car-wheels, and details of the track. Fig. 2 is a broken side elevation showing how the guide is carried on the truck-frame of the car. Fig. 3 is a broken plan view of the guide-hanger, and Fig. 4 is a detail inverted plan of the guide-arm.

In carrying out my invention rails 10 are used, which are placed on the ordinary supporting-sleepers 11 and are provided with perfectly plain tops, which are preferably flat, although they may be rounded slightly, if preferred, and the rails may be of any usual construction, that is, either made in a single piece or sectional. On these rails run the wheels 12 of the car, which, as shown in Fig. 1, are perfectly plain, that is, have no flanges, and the wheels are otherwise secured to the car in precisely the ordinary manner.

It will be seen at once that where plain wheels and track-rails are used an independent guide is necessary to prevent the wheels from running off the track. It is not essential that the guide be located in any particular place, but I prefer to arrange it practically beneath the center of the car, and I arrange a guide at each end of the truck-frame, so as to properly guide both ends of the car and arrange the guide, so that there will be as little strain as possible on it.

To provide for the guide, a guide-rail 13 is used, which can be either in a single piece or sectional, as shown, the latter being preferable, and, as illustrated, the rail is provided with numerous chairs 14, which have supporting-feet 15, adapted to be spiked to the sleepers 11, and to the chairs are bolted the cheek-pieces 16, the lower edges of which rest on shoulders 17. The space between the two cheek-pieces 16 corresponds to the ordinary cable-slot and is adapted to receive the guide-arm 18, which hangs from the car and which preferably has its lower edge 19 thinned at the front and rear ends, as shown in Fig. 4, thus enabling it to pass more readily around a curve. There is one of these guide-arms 18 at each end of the truck-frame, and the guide-arm is held rigidly between angle-brackets 20, which are bolted to the hanger-plate 21, which has a central pivot 22 turning in the hole 23 of the hanger 24, which extends transversely beneath the car and is firmly fastened at the ends to the sides of the truck-frame 25, this latter being of the ordinary construction.

To limit the turning of the hanger-plate 21, it is provided with bolts 26, which extend upward through the curved slots 27 in the hanger 24, and the bolts thus serve the double function of holding the hanger-plate 21

in place and limiting its movement. It is necessary that the hanger-plate have a slight oscillating movement and that the arm 18 have a similar movement in order that the car may pass smoothly around a curve. It will be seen that as the car moves along, the guide-arms 18 at opposite ends of the truck-frame prevent it from moving laterally, and it will be understood by reference to Fig. 1 that the road-bed is left entirely smooth. It is obvious that the guide-slot may be provided for by many constructions of guide-rail; that any suitable form of rails 10 may be used, the one thing necessary being that they have smooth tops, and also that the guide-arms may be hung in different ways and at different points on the car without in any way affecting the principle of my invention. I therefore do not limit my invention in any respect to the precise construction illustrated and described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination with the road-bed having a guide-slot therein and the car, of the hanger-plate held to oscillate horizontally beneath the car, and a guide-arm dropped from the hanger-plate to enter the slot, substantially as described.

2. The combination with the road-bed having a guide-slot therein and the car, of the cross-hanger secured to the truck-frame of the car, the hanger-plate having a limited oscillating motion on the hanger, and the guide-arm secured to the hanger-plate and running in the slot, substantially as described.

3. The combination with the road-bed having a guide-slot therein and the car, of the cross-hanger on the car, the hanger-plate pivoted on the hanger, means as the slots in the hanger and the bolts in the hanger-plate to limit the oscillation of the hanger-plate, and a guide-arm rigidly secured to the hanger-plate, substantially as described.

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