No. 670,371. Patented Mar. 19, 1901.

L. M. HOSEA.

RUNNING GEAR FOR SINGLE RAIL RAILWAYS.

(Application filed Aug. 20, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

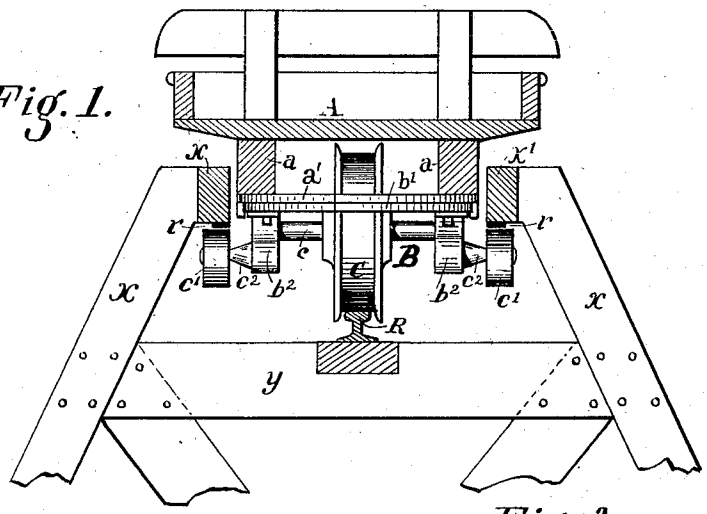


Fig. 2.

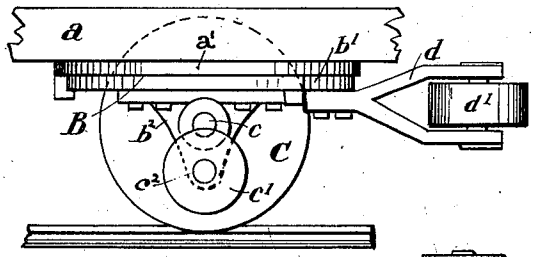


Fig. 3.

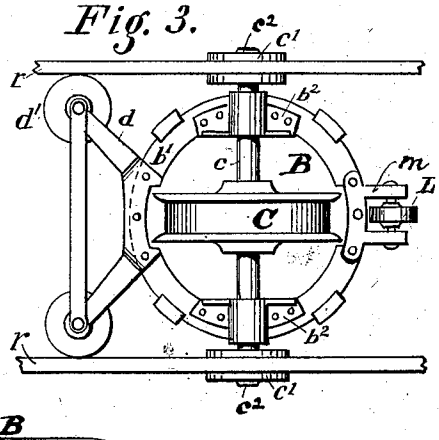
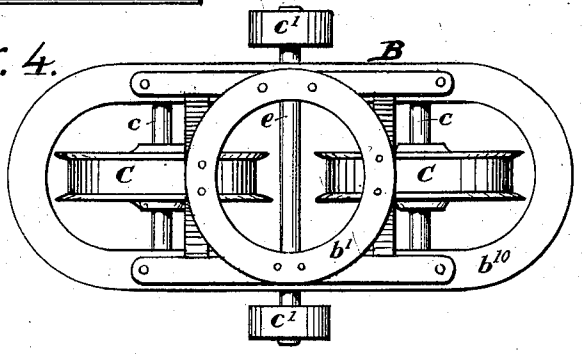


Fig. 4.



Witnesses.

Walter A. Knight.

Chas. Herbert Jones

Inventor.

Lewis M. Hosea

No. 670,371. Patented Mar. 19, 1901.

L. M. HOSEA.

RUNNING GEAR FOR SINGLE RAIL RAILWAYS.

(Application filed Aug. 20, 1900.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 5.

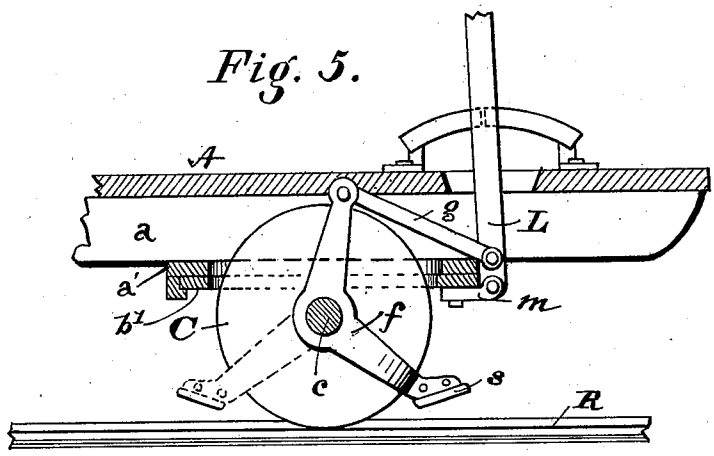


Fig. 6.

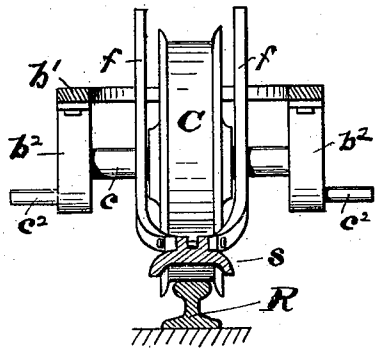


Fig. 7.

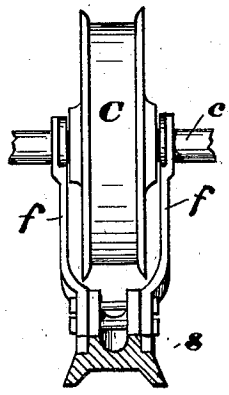
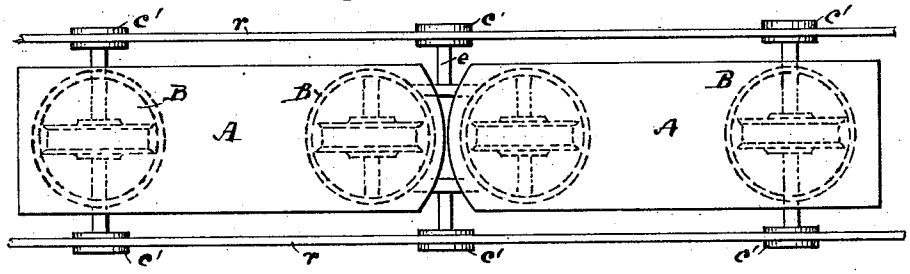


Fig. 8.



Witnesses.

Walter A. Knight

Chas. Herbert Jones

Inventor.

Louis M. Hosea

UNITED STATES PATENT OFFICE.

LEWIS M. HOSEA, OF CINCINNATI, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE CRAWLEY SCENIC AND PLEASURE RAILWAY COMPANY, OF SAME PLACE.

RUNNING-GEAR FOR SINGLE-RAIL RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 670,371, dated March 19, 1901.

Application filed August 20, 1900. Serial No. 27,473. (No model.)

To all whom it may concern:

Be it known that I, LEWIS M. HOSEA, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Running-Gear for Single-Rail Railways, of which the following is a specification.

My invention relates to improvements in the running-gear of cars designed to run upon single-rail trackways having guard-rails at the sides thereof, its object being to provide a running-gear adapted to pass curves with minimum resistance, to operate without possibility of derailment, and be always under safe control as to speed and stoppages.

To this end my invention consists, first, in a swiveling truck containing one or more bearing-wheels having at each side thereof one or more guard-wheels running beneath and bearing upwardly against the guard-rails; second, in the combination, with a truck having a single bearing-wheel, of a projecting frame carrying guide-wheels bearing laterally against the guard-rail structure to guide and adjust the bearing and guard wheels at all times to proper radial relation to curved trackways, and, third, in the special details of construction of the various parts, whereby efficiency of operation and economy of construction and maintenance are secured.

Mechanism embodying my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a cross-section of a track structure and of a car carried thereon, showing one of the trucks in rear elevation, (omitting the track-brake.) Fig. 2 is a detail side elevation of a single-wheel truck, showing the guide-frame. Fig. 3 is an under plan of a single-wheel truck, showing the guide-frame and the mounting-cleat of the track-brake lever. Fig. 4 is a plan of a two-wheel truck. Fig. 5 is a side elevation of a truck with track-brake attached. Fig. 6 is a rear view of the track-brake, (omitting the operating-lever and connections;) Fig. 7, a top view of the truck-wheel, showing the track-brake, (omitting the operating-lever;) and Fig. 8, a diagram view showing two cars provided front and rear with single-wheel trucks and connected to a double-wheel truck at the center.

Referring now to the drawings, x x designate the side supports of stringers x', to the under side of which are secured the guard-rails r r at either side of a main bearing-rail R, carried on cross-ties y.

A designates the car-body, B a truck swiveled thereto, and C a single bearing-wheel journaled in the truck B. The truck consists of a flat annular frame b', of metal, carrying the bearing-wheel C, rigidly mounted within the frame on an axle c, journaled diametrically across the same in journal-blocks b^2 b^2, secured thereto at opposite sides. Guard wheels or rollers c' c' are carried at the outer sides of the frame either upon extensions of the axles c or upon the studs c^2, projecting from the journal-blocks b^2, as shown. The relative positions and proportions of these parts are indicated in Fig. 1, wherein the main bearing-wheel C is shown as resting on the bearing-rail R and the guard-wheels beneath the guard-rails r.

The frame b' has a horizontal rotating bearing against a similar circular frame a', secured to the joists a of the car-body A, being held thereto by undercleats in the manner of ordinary "fifth-wheel" constructions of road-vehicles, permitting a suitable degree of oscillation of the truck in relation to the car-body as required by curvatures of the track.

When but a single bearing-wheel is used in the truck, I provide a guide-frame d, attached rigidly as a projection of the frame b' and carrying plain rollers d', bearing laterally against the guard-rails r r or the stringers x' at their corresponding inner sides. The extension-frame d may project either forward or aft. In either position its rollers d' perform a guiding function in holding the bearing-wheel C in proper relation to the track R at all times, also in holding the guard-wheels c' in similar relations to the guard-rails.

The guard-wheels c' c', as will be readily understood, prevent the bearing-wheel from jumping the track, and incidentally they per-

form a further function in preventing the lifting of the car-body when the safety or "track" brake is used, as will be explained later.

The two-wheel truck is built upon substantially the same constructive principles. The annular wheel-frame is lengthened to accommodate the two bearing-wheels tandem, making a frame b^{10}, (shown in Fig. 4,) upon which a circular bearing-plate b' is mounted by suitable braces, maintaining it at a proper height to clear the bearing-wheels C. These parts are secured together to constitute a stiff rigid frame throughout. The car-body rests upon the circular bearing-plate b', and the bearing-wheels are journaled across the frame b^{10}, in attached journal-blocks b^2, as before described. In this case, however, I prefer to employ but one set of guard-wheels c' for the truck. These instead of being carried on extensions of the axles c or studs projecting from the axle-block b^2 are carried on a central cross-bar e, secured across the frame b^{10}, as shown in Fig. 4. The guide-frame d and guide-rollers d' are in this case unnecessary, as the second bearing-wheel performs their functions.

To control the speed or effect stoppage of the car, I prefer to employ a track-brake of the following construction: Two bell-crank levers f are pivoted, preferably, upon the axle c at opposite sides, respectively, of the main bearing-wheel C. At their lower terminals they are secured to a metallic shoe s, adapted to bear upon the track. The upper terminals of the levers are connected by rods g with a hand-lever L, pivoted to a cleat m, attached to the rear of the frame b'. There is thus formed a "drag," in which the shoe s is hung from the axle of the bearing-wheel and operated by the hand-lever L. It will be seen that the effective limit of the shoe friction would under ordinary circumstances be the weight of the car, but in this case the guard-wheels prevent lifting of the car, and the shoe may therefore be brought to bear against the track with any force desired.

The brake may be made double, as indicated by dotted lines in Fig. 5, so as to operate in either direction.

I may employ both single and double wheel trucks together in trains of two or more cars, as indicated in Fig. 8.

I do not claim in this application the brake mechanism herein shown and described, as the same forms the subject-matter of a separate application filed by me on the 21st day of February, 1901, Serial No. 48,223.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. A car-wheel truck embodying an annular frame, adapted to a swiveling or pivotal action in relation to the car-body, one or more double-flanged bearing-wheels journaled diametrically in the same, and fixed studs extending outwardly at opposite sides carrying guard-wheels adapted to run beneath guard-rails, substantially as set forth.

2. A car-wheel truck embodying in combination, first, a frame adapted to a swiveling or pivoted action in relation to the car-body; second, a bearing-wheel journaled diametrically in said frame, adapted to support the load upon the running-track; third, wheels carried at opposite sides of the truck, and adapted to run beneath guard-rails; fourth, a rigid extension of the truck-frame; and, fifth, guide-wheels carried upon said extension and adapted to bear laterally against the guard-rails.

3. In a single-rail railway system, a truck embodying an annular frame, two bearing-wheels journaled within and across the same at opposite ends, and a central bar secured to the frame centrally between and parallel with the wheel-axles, and carrying the guard-wheels at its extremities, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LEWIS M. HOSEA.

Witnesses:
GEORGE E. PHILIPPS,
WALTER A. KNIGHT.