No. 780,346. PATENTED JAN. 17, 1905.

S. E. JACKMAN.

RAILWAY TRACK AND CAR.

APPLICATION FILED SEPT. 19, 1904.

2 SHEETS—SHEET 1.

Fig. 1,

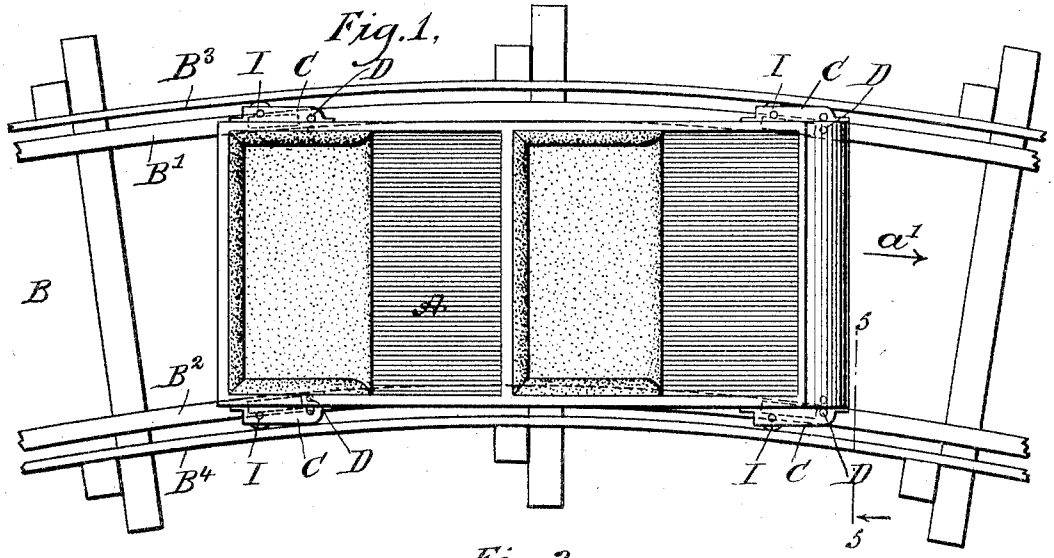


Fig. 2,

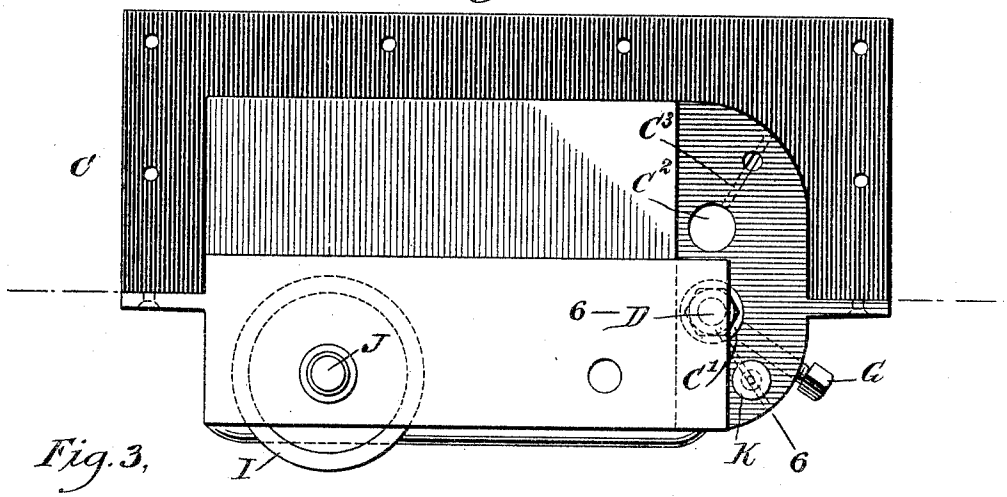
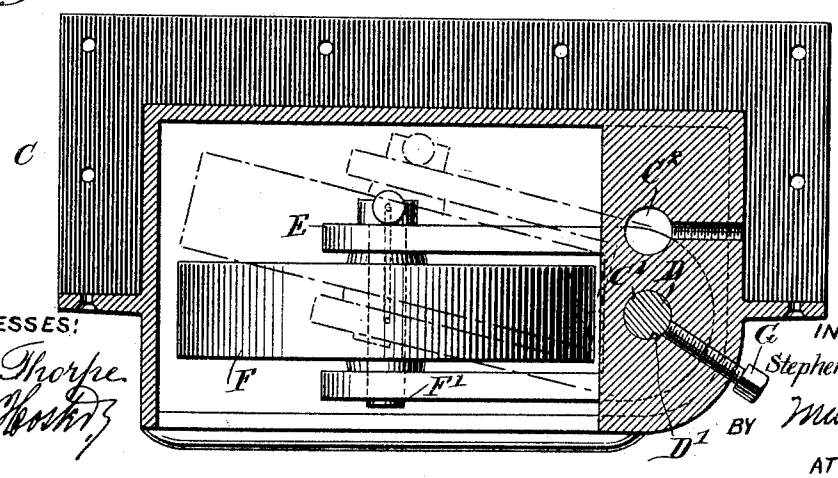


Fig. 3,



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ATTORNEYS

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2 SHEETS—SHEET 2.

Fig. 4.

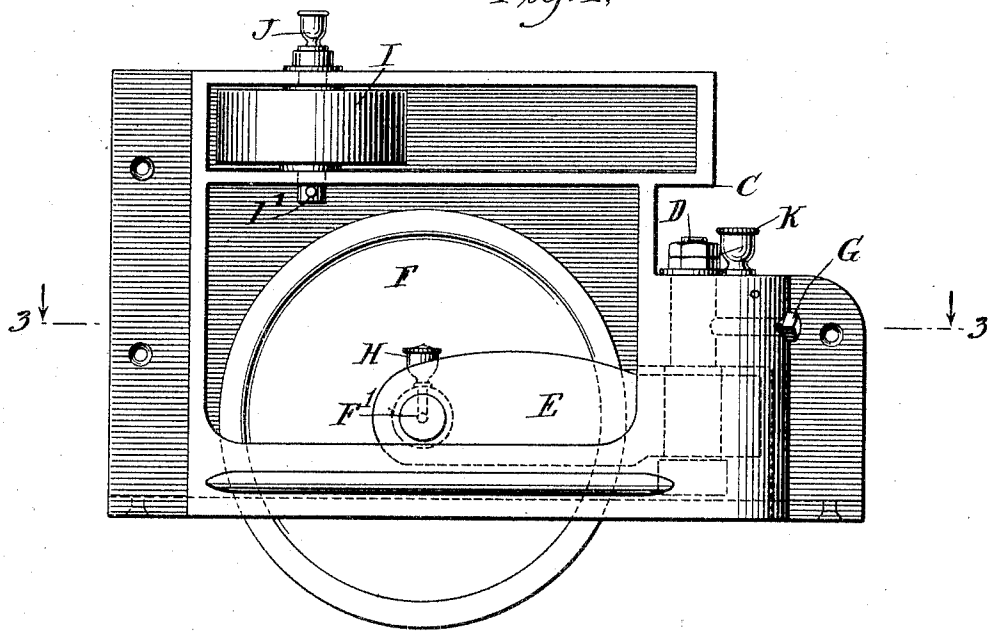


Fig. 5.

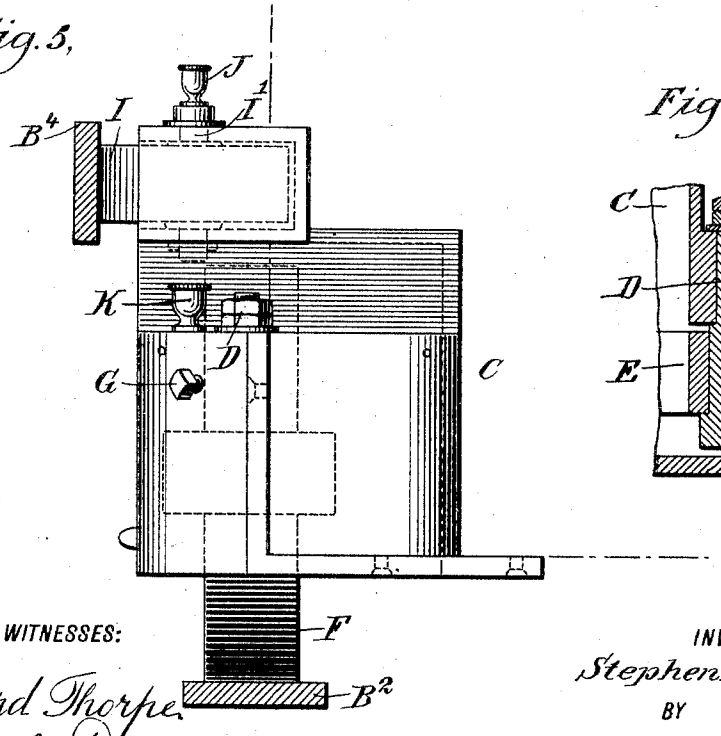
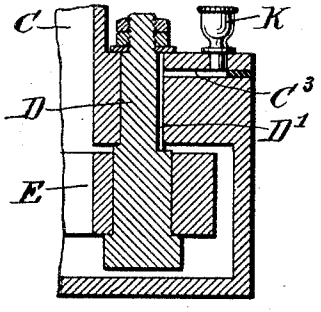


Fig. 6.



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No. 780,346. Patented January 17, 1905.

UNITED STATES PATENT OFFICE.

STEPHEN EDWARD JACKMAN, OF NEW YORK, N. Y.

RAILWAY TRACK AND CAR.

SPECIFICATION forming part of Letters Patent No. 780,346, dated January 17, 1905.

Application filed September 19, 1904. Serial No. 225,047.

To all whom it may concern:

Be it known that I, STEPHEN EDWARD JACKMAN, a citizen of the United States, and a resident of the city of New York, Coney Island, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Railway Track and Car, of which the following is a full, clear, and exact description.

The invention relates to railways, such as switch-back or inclined railways used in pleasure-resorts, exhibitions, and the like.

The object of the invention is to provide a new and improved railway track and car arranged to insure the proper travel of the non-flanged car-wheels of the car on flat rails, especially around curves, without producing undue friction and without danger of the car-wheels leaving the flat rails.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of the track at a curve and the car-wheels in position on the track-rails. Fig. 2 is an enlarged plan view of one of the car-wheel boxes with the car-wheel and guide-wheel mounted thereon. Fig. 3 is a sectional plan view of the same on the line 3 3 of Fig. 4. Fig. 4 is a side elevation of the same. Fig. 5 is an enlarged transverse section of the improvement on the line 5 5 of Fig. 1; and Fig. 6 is a sectional side elevation of part of the car-axle box, the swing-arm, and its pivot, the section being on the line 6 6 of Fig. 2.

The car A is adapted to travel on a track B, consisting, essentially, of track-rails B′ and B^2 and side car-rails B^3 and B^4, following the shape of the track-rails and located a distance above the track-rails and somewhat to the sides thereof, as plainly indicated in Figs. 1 and 5. On the sides of the car A are secured car-wheel boxes or brackets C, each carrying at its forward end a vertically-disposed pivot D, on which is mounted to swing horizontally a forked arm E, in the free end of which is journaled the axle F′ of a car-wheel F, mounted to travel on the upper surface of the corresponding track-rail B′ or B^2. Assuming that the car A is traveling in the direction of the arrow *a*′, (see Fig. 1,) the pivots D for the swing-arms E of the front inner and the rear outer car-wheels F are secured in outer apertures C′, formed in the car-wheel boxes C, (see Figs. 1, 2, and 3,) and the pivots D for the swing-arms E of the front outer and the rear inner car-wheels F are secured in inner apertures C^2, likewise formed in the car-wheel boxes C, but spaced from and arranged transverse to the apertures C′. From the foregoing it will be seen that the diagonally-disposed car-wheels are mounted alike relative to their boxes C to cause the car-wheels F to stand tangentially to the outer and inner track-rail B′ and B^2 and at a curve in the track B. The pivots D are fastened in place in the corresponding apertures C′ or C^2 by set-screws G.

On the head of each axle F′ is secured an oil-cup H, discharging into a transverse bore formed in the axle F′, the bore having one or more openings leading to the hub-bore of the car-wheel F, so as to properly lubricate the same.

On each of the boxes C is held a vertically-disposed axle I′ for a guide-wheel I, mounted to travel on the guide-rail B^3 or B^4, and on the upper end of the axle I′ is arranged an oil-cup J, similar to the oil-cup H and serving to lubricate the guide-wheel I on its axle I′.

By reference to the drawings it will be seen that the pivots D for the several swing-arms E are located in advance of the track-wheels F, and the guide-wheels I are located somewhat rearward of the free ends of the swing-arms, as will be readily understood by reference to Fig. 1. By the arrangement described the swing-arms E are free to swing horizontally and independent of the guide-wheels I, and hence when a car travels around a curve in the track the arms E swing according to the degree of curvature in the track, so that the wheels F assume the correct position relative to the car-body to insure a proper travel

of the car A on the track without creating undue friction and without danger of the car-wheels leaving the track.

It is understood that the weight of the car and that of the occupants therein is transmitted by the swing-arms E to the car-wheels F, traveling on the track-rails B′ and B^2, and as the car travels forward down the inclined track the arms E readily follow the line of movement of the car, and hence the car-wheels F remain in proper relation to the track-rails B′ and B^2 whether the same are straight or curved.

The arms E are mounted to swing horizontally within the boxes C, and the swinging movement of the said arms is limited by the side walls of the boxes to prevent the car-wheels F from leaving the track-rails B′ B^2, the latter being preferably made somewhat wider on top than the width of the flat tread on the car-wheels.

In order to lubricate the arm E at the fixed pivot D, an oil-cup K is provided and attached to the box C, the said oil-cup discharging into a groove C^3, formed in the box C and leading to a groove D′, formed vertically on the pivot-pin, to conduct the lubricant to the contacting surfaces of the pivot D and the arm E, as will be readily understood by reference to Fig. 6.

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

1. The combination with a railway-track having track-rails and guide-rails, of a car having car-wheel boxes fixed to the car-body, a guide-wheel journaled in each box and in contact with a guide-rail, car-wheels mounted to travel on a track-rail, and an arm mounted to swing horizontally on each of the car-wheel boxes and in which a car-wheel is journaled.

2. The combination with a railway-track having track-rails and guide-rails, of a car having car-wheel boxes fixed to the car-body, a guide-wheel journaled in each box and in contact with a guide-rail, car-wheels mounted to travel on a track-rail, and an arm fulcrumed at one end on the said car-wheel box, the said car-wheel being journaled in the free end of the said arm.

3. The combination with a railway-track having track-rails and guide-rails, of a car having car-wheel boxes fixed to the car-body, a guide-wheel journaled in each box and in contact with a guide-rail, car-wheels mounted to travel on a track-rail, a vertical pivot held in each of the said car-wheel boxes, and an arm mounted to swing horizontally on the said pivot and on which a car-wheel is journaled.

4. The combination with a railway-track having track-rails and guide-rails, of a car having car-wheel boxes fixed to the car-body, a guide-wheel journaled in each box and in contact with a guide-rail, car-wheels mounted to travel on a track-rail, and an arm mounted to swing horizontally on each of the car-wheel boxes and in which a car-wheel is journaled, the pivot for the arm being in advance of the axis of the car-wheel.

5. The combination with a railway-track having track-rails and guide-rails, of a car having car-wheel boxes fixed to the car-body, a guide-wheel journaled in each box and in contact with a guide-rail, car-wheels mounted to travel on a track-rail, a vertical pivot held in each of the said car-wheel boxes and in advance of the car-wheel, and an arm mounted to swing horizontally on the said pivot and on which a car-wheel is journaled.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

STEPHEN EDWARD JACKMAN.

Witnesses:
THEO. G. HOSTER,
WILLIAM P. GOEBEL.