J. D. WALSH.

PLEASURE CAR.

APPLICATION FILED MAR. 25, 1908.

905,391. Patented Dec. 1, 1908.

2 SHEETS—SHEET 1.

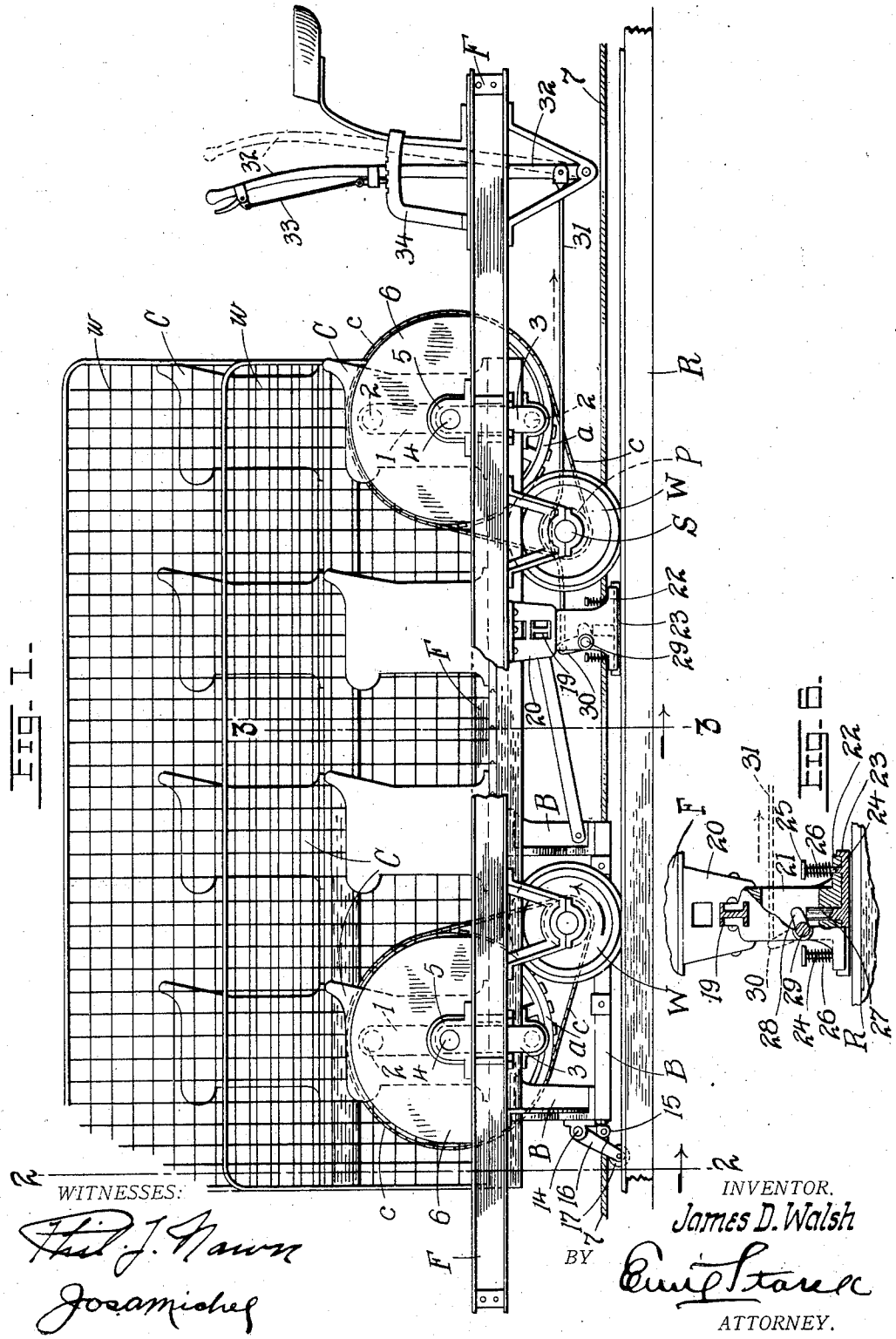

FIG. 1.

FIG. 6.

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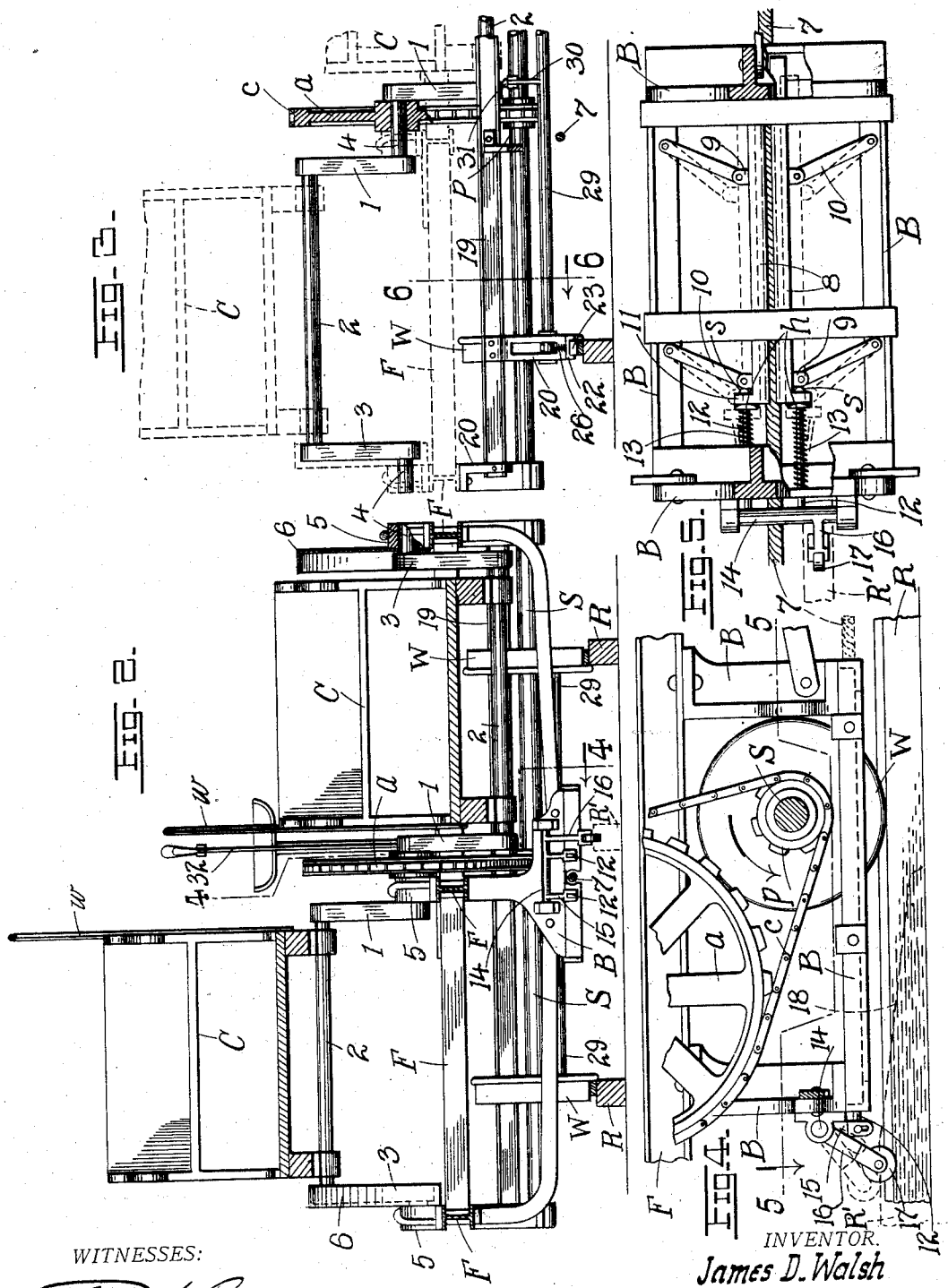

Fig. 3.

Fig. 2.

Fig. 5.

Fig. 4.

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PLEASURE-CAR.

No. 905,391. Specification of Letters Patent. Patented Dec. 1, 1908.

Application filed March 25, 1908. Serial No. 423,225.

To all whom it may concern:

Be it known that I, JAMES D. WALSH, a subject of the King of Great Britain, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Pleasure-Cars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in pleasure-cars; and it consists in the novel construction of car more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a side elevation of the car; Fig. 2 is a vertical transverse section on the line 2—2 of Fig. 1; Fig. 3 is a vertical transverse section on the line 3—3 of Fig. 1; Fig. 4 is a vertical longitudinal section on the line 4—4 of Fig. 2; Fig. 5 is a horizontal section on the line 5—5 of Fig. 4; and Fig. 6 is a longitudinal vertical section on the line 6—6 of Fig. 3.

The present invention is an improvement on the construction of pleasure car forming the subject-matter of U. S. Letters Patent 820,453 issued to me under date of May 15, 1906, and has for its object the introduction of certain structural details whereby the efficiency and usefulness of the car is considerably enhanced. Among these new features may be mentioned the truck on which the vertically and longitudinally reciprocating cars are mounted; the automatic cable-grip; the brake-mechanism, the shield for the gearing; screens for the passengers, and other details the advantages of which will become apparent from a detailed description of the invention which is as follows:—

Referring to the drawings, C, C, represent two cars of any approved design or pattern, the cars being disposed parallel to one another and on opposite sides of the central pair of driving sprocket-wheels *a*, *a*. The latter are mounted in bearings on the central longitudinal member of the car-truck F, and have sprocket-chains *c*, *c* leading therefrom to the sprocket-pinions *p* on the shaft S of the truck-wheels W running on the rails R. The shaft of the wheel *a* terminates in crank-arms 1, 1 set one hundred and eighty degrees apart, the crank-pins 2, 2 of said crank-arms being coupled at their outer ends to the outer crank-arms 3, 3, whose studs 4, 4 are mounted in suitable bearings 5 on the sides of the truck F. The cranks 3 are protected by casings or guards 6 so as to protect the passengers against contact with said cranks. From the foregoing, it will be seen that with any advance or travel of the truck F, rotation will be imparted to the truck-wheels W, these in turn imparting rotation through the pinions *p* and chain *c* to the sprocket wheels *a*, *a*, from which the crank arms 1, 1 will take up their rotation, thereby imparting to the cars C loosely coupled to the crank-pins 2, 2, a vertically and horizontally reciprocating motion, the same as in my patent aforesaid. The adjacent sides of each pair of cars are provided with wire screens *w* so as to protect the passengers against accidental contact or rubbing of the opposite car, as the cars are alternately sailing up and down.

The rails R form the track of a scenic railway and have alternately up and down grades as well understood in the art. In going up-grade the cars are drawn by a traveling cable 7 as in ordinary cable-railways and necessarily some sort of cable-grip must be improvised to grasp the cable. That here shown is automatic and is best illustrated in Figs. 4 and 5. The cable passes between a pair of gripping plates 8, 8, at the bottom of a bracket B depending from the front of the car, the plates having lugs or ears 9, 9, from which are pivoted toggle-links 10, 10, the opposite ends of the links being pivotally secured to the side members of the bracket B. The forward ends of the gripping-plates terminate in flanges 11, 11, against which bear the heads *h* of stems 12, 12, the latter being encircled by expansion springs 13, bearing respectively against the heads *h* and the end member of the bracket, and automatically by their expansion driving the plates 8, 8, in a direction to unfold the toggle-links 10, 10, and cause the latter to force the plates 8, 8, into gripping frictional contact with the cable. When the car is going down-grade, it becomes essential or at least desirable to automatically release the grip from the cable so as to utilize to the full extent the force of gravity in driving the car. This release is accomplished by the following mechanism:—At the front of the bracket B is mounted a rock-shaft 14, the same being provided with a pair of terminally forked arms 15, 15, to which the adjacent flattened ends of the stems 12 are pivotally coupled. The shaft 14 is further provided with a tripping arm 16 carrying a

roller 17, which roller in the down grade travel of the car encounters the terminal wedge or inclined end 18 of a middle rail R′, said incline gradually tripping the arm 16 upwardly (see dotted position Fig. 4) and rocking the shaft 14 sufficiently to oscillate the arms 15, 15, in a direction to pull or draw on the stems 12, and thus allow for the release of the gripping-plates 8, 8, from the cable. The latter may now travel loosely between the plates 8, 8. Preferably the heads *h* terminate in stems *s* playing loosely through the flanges 11 of the gripping-plates.

Should it be desirable to stop the truck on a down grade I make suitable provision in the form of the following brake mechanism:—Depending from an I-beam 19 carried by the brackets 20, is a hanger 21, provided with bottom flanges 22, 22, between which loosely plays a brake-shoe or plate 23, the latter being provided with stems 24 passing loosely through the base of the hanger, the stems terminating in heads 25 between which and the base of the hanger are interposed contracting springs 26 which normally draw the brake-shoe away from the rail. The shoe is provided with a central stud 27 in the hollow or chambered portion of the hanger, and is engaged by a lug or cam 28 on a rock-shaft 29 provided with an arm 30 from the outer end of which leads rearward a link 31 to the bottom of a brake-lever 32 within easy reach of the operator. The usual pawl 33 and toothed bar 34 are provided for the lever as well understood in the art.

The intermediate rail R′ is interposed between the rails R, R, at intervals, and only where it is intended that the cars shall go down grade. Of course the moment the roller 17 leaves the top of the rail R′ it drops back to its lowest position, the gripping plates 8, 8, again seizing the cable 7 under the expanding action of the springs 13. The gripping and brake mechanism are not specifically new, but their disposition on the truck F, relatively to the cars and to the position necessarily occupied by the operator on a scenic railway-car is believed to be new. For it will be seen that the operator, stationed as he is in the rear of the car, has the brake mechanism under perfect control through the medium of the link connection 31 as shown. By tripping the lever 32 in proper direction (Fig. 1) the link 31 will rock the shaft 29 in proper direction to force the cam 28 against the stud 27 and thus force the brake-shoe or plate 24 against the rail R. Upon a release of the lever 32 the springs 26 will draw the shoe from the rail, as obvious from the drawing.

Having described my invention, what I claim is:—

1. In a pleasure car, a supporting truck and track therefor, truck-wheels for the truck, a pair of car-bodies disposed on opposite sides of the longitudinal center of the truck, pairs of crank-arms mounted centrally on the truck and disposed one-hundred and eighty degrees apart and having crank-pins coupled to the car-bodies, and intermediate gearing between the truck-wheels and crank-arms for imparting rotation to the latter, substantially as set forth.

2. In a pleasure car, a supporting truck and track therefor, truck-wheels for the truck, a pair of car-bodies disposed on opposite sides of the longitudinal center of the truck, pairs of inner crank-arms mounted centrally on the truck and disposed one-hundred and eighty degrees apart and having crank pins supporting the car-bodies, outer crank arms coupled at one end to the crank-pins and having bearings at the opposite ends in the truck, sprocket wheels between each pair of inner crank-arms, sprocket pinions on the shafts of the truck-wheels, and sprocket chains connecting said sprocket pinions and sprocket wheels, substantially as set forth.

3. In a pleasure car, a supporting truck and track therefor, wheels for the truck, a pair of car-bodies disposed on opposite sides of the longitudinal center of the truck, pairs of inner crank-arms mounted centrally on the truck and disposed one-hundred and eighty degrees apart, and having crank pins supporting the car-bodies, outer crank-arms coupled at one end to the crank-pins and having bearings at the opposite ends in the truck, guards for said outer crank-arms, sprocket chains on the sprocket wheels, and sprocket pinions on the truck-wheel shafts engaging the chains, substantially as set forth.

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

JAMES D. WALSH.

Witnesses:
EMIL STAREK,
JOS. A. MICHEL.