

No. 620,415.

Patented Feb. 28, 1899.

M. C. CAMPBELL.

PLEASURE CAR FOR GRAVITY RAILWAYS, &c.

(Application filed Dec. 12, 1895. Renewed Nov. 25, 1896.)

(No Model.)

2 Sheets—Sheet 1.

No. 620,415.

Patented Feb. 28, 1899.

M. C. CAMPBELL.

PLEASURE CAR FOR GRAVITY RAILWAYS, &c.

(Application filed Dec. 12, 1895. Renewed Nov. 25, 1896.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 3.

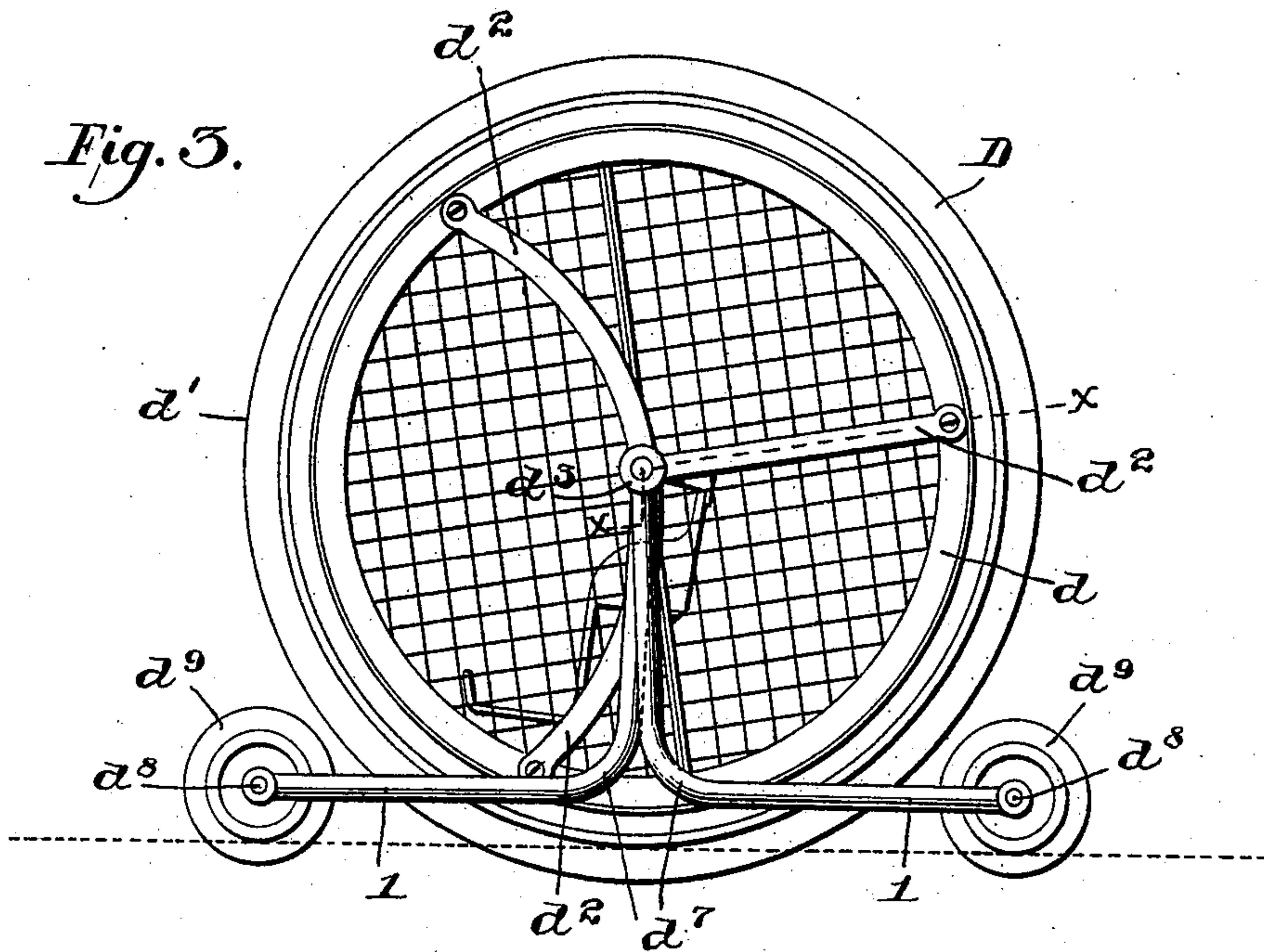
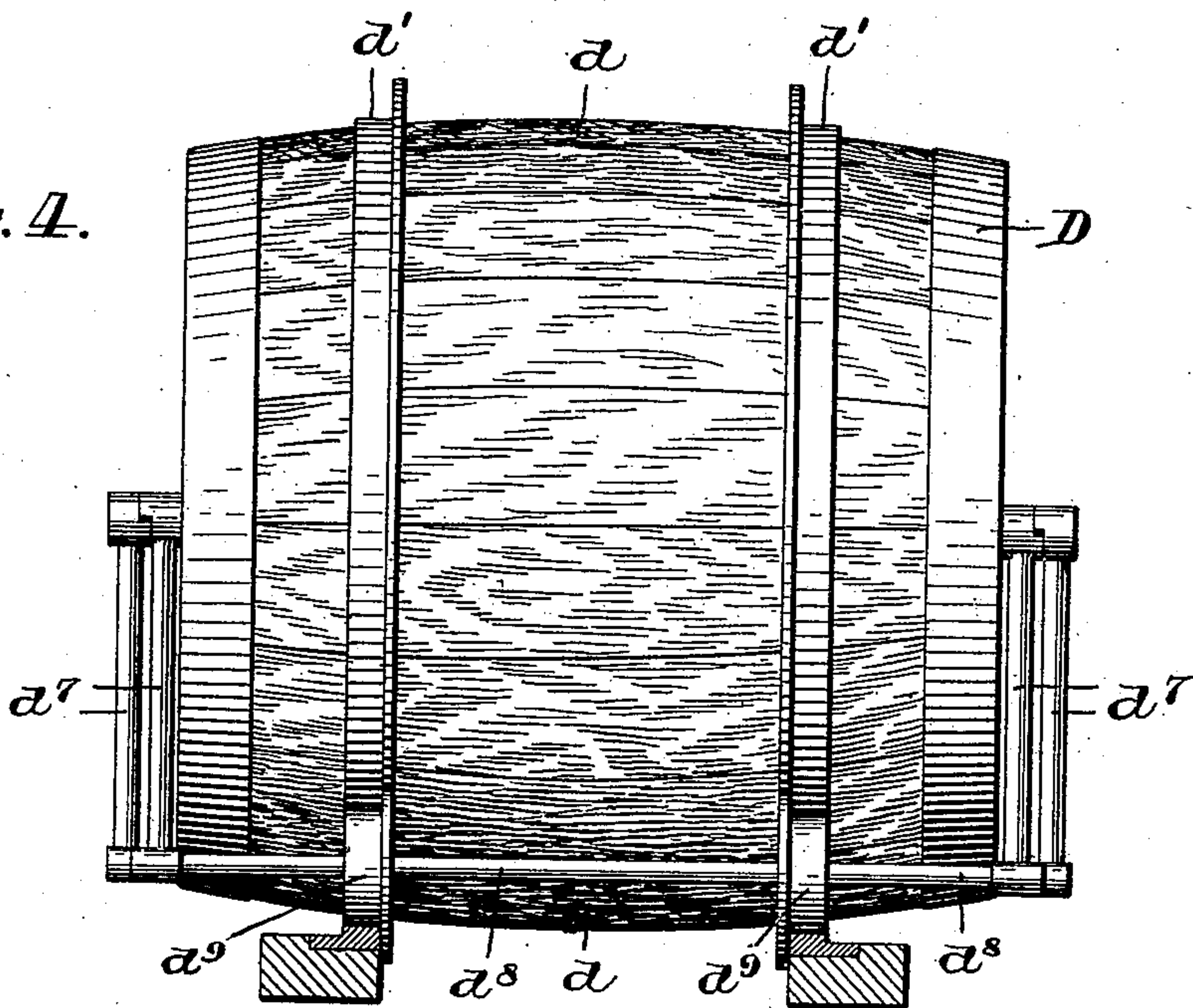


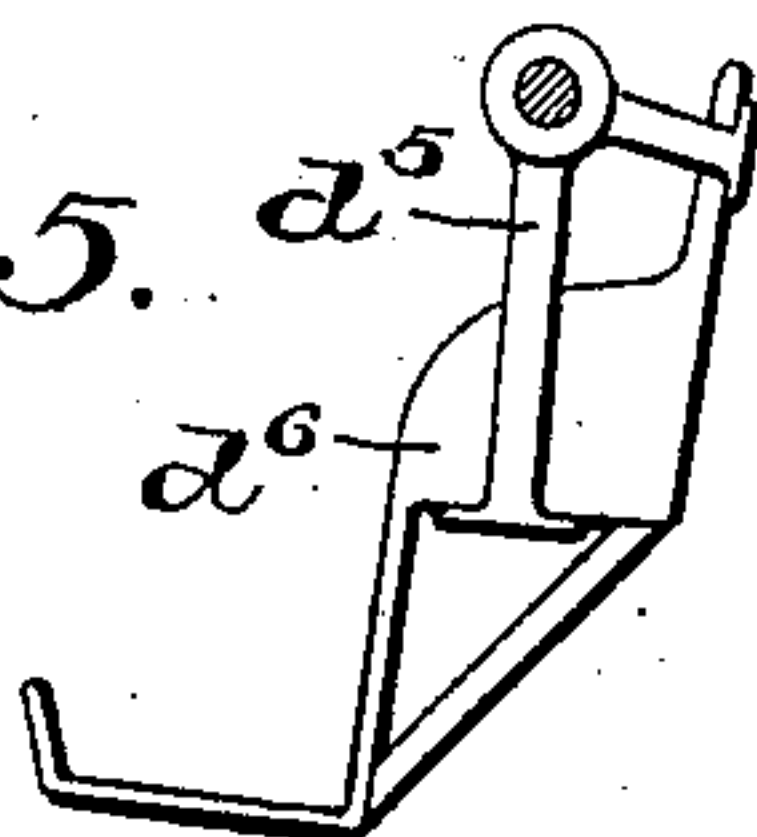
Fig. 4.



Witnesses.

A. V. Groupes
A. V. Groupes

Fig. 5.



Inventor.

Matthew C. Campbell

per John B. Nolan

Attorney.

UNITED STATES PATENT OFFICE.

MATTHEW C. CAMPBELL, OF PHILADELPHIA, PENNSYLVANIA.

PLEASURE-CAR FOR GRAVITY-RAILWAYS, &c.

SPECIFICATION forming part of Letters Patent No. 620,415, dated February 28, 1899.

Application filed December 12, 1895. Renewed November 25, 1896. Serial No. 613,469. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW C. CAMPBELL, a citizen of the United States, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Pleasure-Cars for Gravity-Railways, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

The object of this invention is to provide a car or conveyance of novel, attractive, and efficient construction for use more especially on inclined planes or gravity-railways; and to this end the invention comprehends a hollow or barrel-like body adapted to run upon a trackway, an internally-arranged seat within said body, and externally-arranged devices connected with said seat and adapted to run upon the trackway to maintain the seat positively in position relative to the trackway during the revolution of said body.

The invention also comprehends various features of construction and arrangement of parts, which will be hereinafter particularly described and claimed.

In the drawings, Figure 1 is a side elevation, and Fig. 2 a plan, of a type of gravity-railway upon which my improved pleasure-car is or may be operated. Fig. 3 is an end view of said car. Fig. 4 is a side elevation thereof, showing in transverse section the trackway upon which the car is supported. Fig. 5 is a detail in end view of the seat and one of its supporting-arms. Fig. 6 is a partial vertical section of one end of the car, as on the line $x x$ of Fig. 3. Fig. 7 is a similar section, on a larger scale, through the end of the seat and adjuncts. Fig. 8 is a transverse section through one of the seat-sustaining trunnions and the supporting-arms, as on the line $y y$ of Fig. 7.

In Figs. 1 and 2 of the drawings I have shown for purposes of illustration a type of "gravity-railway," so called, in connection with which my improved car may be used. This railway comprises two platforms A B, of the same height, or substantially so, supported at a suitable distance apart and connected by two longitudinally-arranged trackways a a . Each of the trackways is, generally speak-

ing, double-inclined—that is, it has a descending portion a' and an ascending portion a'' —to the end that when the car is started upon the trackway from the platform A it will descend the portion a' , and in virtue of the momentum acquired in its descent the car will ascend the portion a'' to and come to rest upon a point a^3 near the summit of the latter, whereupon the car may be pushed or drawn up to the platform B preparatory to being returned to the platform A by way of the adjacent trackway.

On each of the platforms is a turn-table C, by means of which the car may be transferred from one trackway to the other in the usual manner.

The trackways are provided at intervals with plane or undulating portions a^4 , which vary the motion of the descending cars, and thus add to the pleasure of the ride.

D designates my improved car, the body d of which is constructed in the form of a large barrel with end heads removed. Surrounding this body at proper intervals apart are two flanged hoops or rings d' , which constitute in effect tires to run upon the rails of the trackway. On the ends of the barrel are radial arms d^2 , which support central hubs d^3 , respectively, for the reception of trunnions d^4 . Depending from the inner ends of the trunnions are arms d^5 , by and between which is supported within the barrel, below the center thereof, a longitudinally-disposed seat d^6 . On the outwardly-extending portions of each of the trunnions are secured two L-shaped arms d^7 , the lower or horizontal limbs 1 of which extend in opposite directions, such limbs of the arms on one end of the barrel being connected by means of shafts or axles d^8 with the corresponding parts of the arms on the opposite end of the barrel, so as to constitute frames which embrace the respective sides and ends of the barrel. On each of the shafts d^8 are mounted at proper intervals apart small flanged wheels d^9 , which are adapted to take upon the rails of the trackway, and thereby positively and effectually to maintain the seat, with its occupants, in proper position during the rotation of the traveling barrel.

In order to insure the engagement of both sets of wheels with the rails while the car is

traversing an irregular or undulating portion of the trackway, I provide for the independent movement within certain limits of the wheel-supporting frames—that is to say, the hubs of one of the frames are loosely mounted on the trunnions, while the hubs of the other frame are keyed or otherwise affixed to the trunnions. The opposing faces of the hubs on each trunnion are oppositely recessed or offset, as at 2, so as to interlock, the offset portions being slightly greater than the projecting portions of the hubs, to the end that the loosely-mounted frame will be axially movable on the trunnions independently of the other frame, while such other frame (together with the seat) will be correspondingly movable in respect to the loosely-mounted frame.

As a means to obviate all liability of the occupants of the traveling carriage accidentally falling therefrom or of their limbs coming into contact with the revolving arms d^2 on the barrel, I provide the ends of the barrel inwardly of said arms with heads of open network or other reticulated material. Each of these heads is made in two halves or sections e e' , one, e , of which is affixed to the barrel, while the other, e' , is fitted to an annular groove e^2 in the latter, to the end that the part e' may be slid around to present an opening for ready access to or exit from the barrel or to close said opening when the barrel is occupied.

I claim—

1. The combination, with an inclined trackway, of a car therefor comprising a hollow or barrel-like body provided with circumferential tires to run upon the trackway, an internally-arranged seat within said body, and externally-arranged devices connected with said seat and adapted to run upon the trackway forwardly and rearwardly of the center of said body to maintain the seat positively in position relative to the trackway during the rotation of the said body, substantially as described.

2. The combination with an inclined trackway, including parallel rails, of a car therefor comprising a hollow or barrel-like body provided with flanged hoops or rings adapted to run upon said rails, an internally-arranged seat within said body, and externally-arranged frames connected with said seat and extending forwardly and rearwardly of the center of said body, flanged wheels arranged on each of said frames in line with the adjacent hoops or rings and adapted to run on said rails, substantially as described.

3. The combination with an inclined trackway, including parallel rails, of a car therefor comprising a hollow or barrel-like body provided with circumferential tires adapted to run upon said rails, centrally-supported bearings on the ends of said body, trunnions in said bearings, an internally-arranged seat suspended from said trunnions, exterior arms connected with said trunnions and extending forwardly and rearwardly of the center of

said body, shafts or axles on said arms, and wheels on said shafts or axles arranged in line with the adjacent tires and adapted to run therewith upon the said rails, substantially as described.

4. A car of the character described, consisting in the combination of a hollow or barrel-like body adapted to roll upon a trackway and provided with centrally-arranged end bearings, trunnions in said bearings, an internally-arranged seat suspended from said trunnions, frames on said trunnions embracing the ends and sides of said body and comprising on each end of said body, oppositely-disposed L-shaped arms whereof the lower limbs are connected by shafts or axles carrying wheels adapted to run on the trackway, forwardly and rearwardly of the center of said body, substantially as set forth.

5. A car of the character described, consisting in the combination of a hollow or barrel-like body adapted to roll upon a trackway and provided with centrally-arranged end bearings, trunnions in said bearings, an internally-arranged seat suspended from said trunnions, frames on said trunnions embracing the ends and sides of said body and carrying wheels adapted to run on the trackway, said frames being movable in respect to each other on the trunnions, substantially as set forth.

6. A car of the character described, consisting in the combination of a hollow or barrel-like body adapted to roll upon a trackway, a seat within said body, means for maintaining said seat below the axis of the body, and a sectional end head on said body, substantially as set forth.

7. A car of the character described, consisting of a hollow or barrel-like body adapted to roll upon a trackway, and provided with centrally-arranged end bearings, trunnions in said bearings, an internally-arranged seat suspended from said trunnions, and forwardly and rearwardly extending frames on said body carrying wheels adapted to run on the trackway, the adjacent hubs of said frames being oppositely offset and interlocked, those of one frame being loosely mounted on the trunnions and those of the other frame being affixed to the trunnions, substantially as set forth.

8. A car of the character described, consisting in the combination of a hollow or barrel-like body adapted to roll upon a trackway, arms on the ends of said body supporting central bearings, trunnions in said bearings, an internally-arranged seat suspended from said trunnions, means to maintain said seat below the axis of the body, and end heads on said body arranged inwardly of the said arms, substantially as set forth.

9. A car of the character described, consisting in the combination of a hollow or barrel-like body adapted to roll upon a trackway, a seat within said body, means to maintain said seat below the axis of the body, and a sectional end head on said body whereof a sec-

tion is fitted to an annular way in the latter so as to be independently movable around therein, substantially as set forth.

10. A car of the character described, consisting in the combination of a hollow or barrel-like body adapted to roll upon a trackway, arms on the ends of said body supporting central bearings, trunnions in said bearings, an internally-arranged seat suspended from said trunnions, forwardly and rearwardly extending frames on said trunnions comprising, on each end of said body, L-shaped arms the

lower limbs whereof are connected by shafts or axles carrying wheels adapted to run on the trackway, and end heads on said body arranged inwardly of the arms first named, substantially as described.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

MATTHEW C. CAMPBELL.

Witnesses:

JOHN R. NOLAN,

ANDREW V. GROUPE.