No. 710,447. Patented Oct. 7, 1902.

H. FUNK.

CAR FOR PLEASURE RAILROADS.

(Application filed Aug. 22, 1902.)

(No Model.)

FIG. 1.

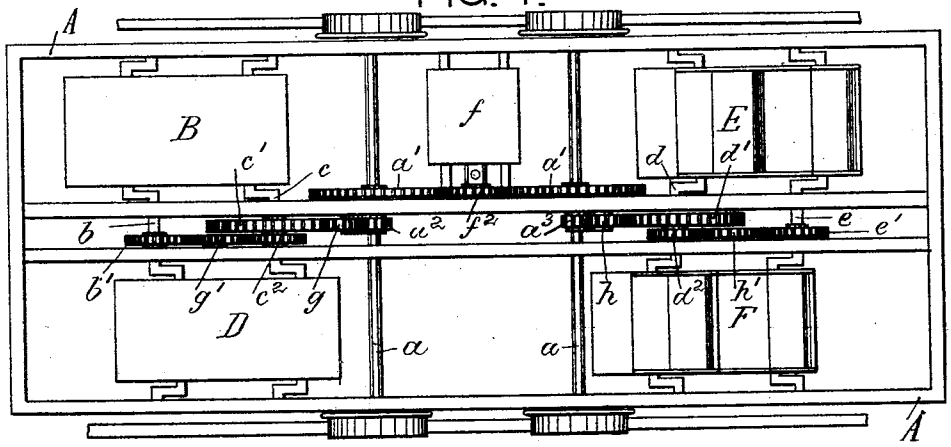


FIG. 2.

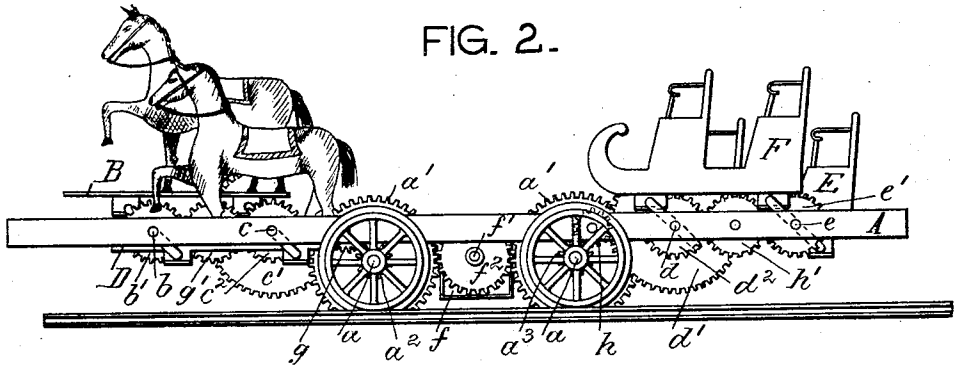


FIG. 3.

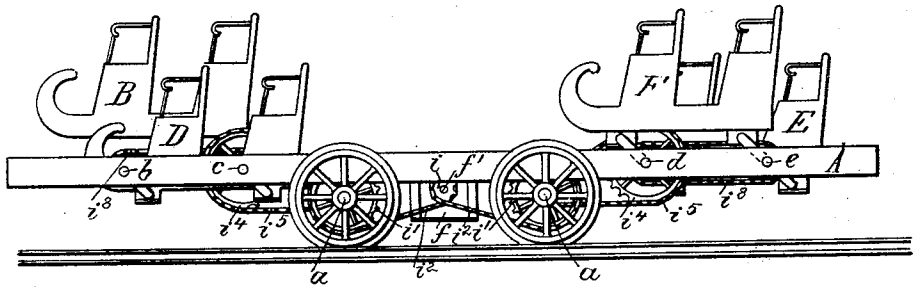


FIG. 4.

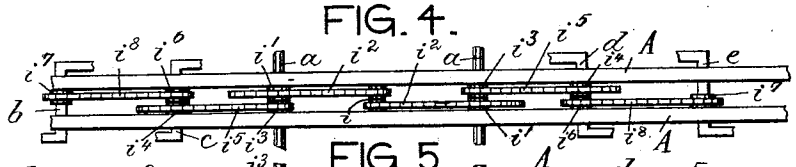
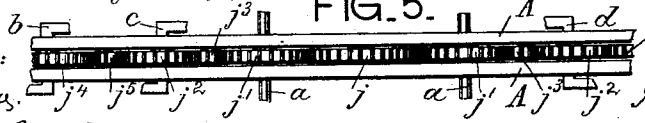


FIG. 5.



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UNITED STATES PATENT OFFICE.

HENRY FUNK, OF BROOKLYN, NEW YORK.

CAR FOR PLEASURE-RAILROADS.

SPECIFICATION forming part of Letters Patent No. 710,447, dated October 7, 1902.

Application filed August 22, 1902. Serial No. 120,633. (No model.)

To all whom it may concern:

Be it known that I, HENRY FUNK, a citizen of the United States, and a resident of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Cars for Pleasure-Railroads, of which the following is a specification.

This invention relates to a pleasure-railroad in which a number of cages or platforms mounted upon the car-truck are adapted to receive cycloidal movement from the car-axles in such a manner that the platforms counterbalance one another and any straining of the driving mechanism is avoided.

In the accompanying drawings, Figure 1 is a plan of my improved car; Fig. 2, a side elevation thereof; Fig. 3, a side elevation of a modification; Fig. 4, a plan of the transmitting mechanism shown in Fig. 3, and Fig. 5 a plan of a further modification of the transmitting mechanism.

The frame A of the car-truck is mounted upon axles *a* and supports a pair of front cages or platforms B D and a pair of rear cages or platforms E F, to which a cycloidal motion is imparted from the axles *a* in manner hereinafter described.

The two forward platforms B D are rotatably mounted upon a common front crank-axle *b* and a common rear crank-axle *c*, which turn in bearings of frame A. In like manner the rear platforms E F are mounted upon the common front and rear crank-axles *d* and *e*. The right cranks of axles *b c* extend in the same direction as the left cranks of the axles *d e* and in a diametrically opposite direction to the left cranks of axles *b c* and right cranks of axles *d e*. The axles *b* and *c* are intergeared in manner hereinafter described with the axles *d* and *e*, and thus each pair of diametrically-arranged platforms moves in unison and in a direction opposite to that of the other pair. The result is that each platform is counterbalanced and that any strain on the driving-gear or on the motor-shaft is avoided.

The car may be constructed either as a motor or as a trailer. In the motor-carriage illustrated in Figs. 1 and 2 the front and rear axles *a* are driven from shaft *f'* of motor *f* by gear-wheels f^2 *a'*. The front axle *a* transmits rotary motion to crank-shaft *c* by gear-wheels a^2 *c'* and intermediate wheel *g*. The axle *c* transmits motion to axle *b* by gear-wheels c^2 *b'* and intermediate wheel *g'*. In like manner the rear axle *a* transmits motion to axle *d* by wheels a^3, *d'*, and *h*, while axle *d* transmits motion to axle *e* by wheels d^2, *h'*, and *e'*.

It will be seen that by the propulsion of the vehicle the desired cycloidal motion is imparted to the platforms and that the pressure upon diametrically opposite points of the motor-shaft *f'* is equalized, so that torsional strain is avoided.

In Figs. 3 and 4 the gear transmission between the motor and the cages is replaced by a sprocket-wheel-and-chain transmission, which operates in precisely the same manner. Here the motor-shaft *f'* transmits motion to axles *a a* by sprocket-wheels *i i'* and chains i^2. Axles *a* transmit motion to axles *c d* by wheels i^3 i^4 and chains i^5. Axles *c d* transmit, respectively, motion to axles *b e* by wheels i^6 i^7 and chains i^8.

Fig. 5 illustrates the arrangement of gearing for a trailer. Here the front and rear axles *a* are intergeared with one another by wheels *j j'*. The axles *c d* are intergeared with wheels *j'* by wheels j^2 and intermediate wheels j^3. In like manner the axles *b e* are intergeared with wheels j^2 by wheels j^4 and intermediate wheels j^5.

The result of all the constructions is that each front platform is intergeared with the rear platform in such a manner that when one of the platforms is raised the other platform is lowered and that the strain on the intermediate transmission-gear is equalized. In this way a minimum power is required to propel the vehicle and to operate the platforms.

What I claim is—

1. In a car for pleasure-railroads, the combination of a front platform with a rear platform, oppositely-placed crank-axles supporting the same, and means for intergearing the axles of the front platform with the axles of the rear platform, substantially as specified.

2. In a car for pleasure-railroads, the combination of a pair of front platforms with a pair of rear platforms, crank-axles support-

ing diagonally-arranged cars in like position, and means for intergearing the axles of the front platforms with the axles of the rear platforms, substantially as specified.

3. In a car for pleasure-railroads, the combination of a front platform with a rear platform, oppositely-placed crank-axles supporting the same, a pair of car-axles, means for intergearing said axles with one another, and means for intergearing said axles with the crank-axles, substantially as specified.

Signed by me at New York city, New York, this 21st day of August, 1902.

HENRY FUNK.

Witnesses:
WILLIAM SCHULZ,
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