B. F. FITCH.

MERRY-GO-ROUND.

APPLICATION FILED OCT. 5, 1908.

924,155.

Patented June 8, 1909.

2 SHEETS—SHEET 1.

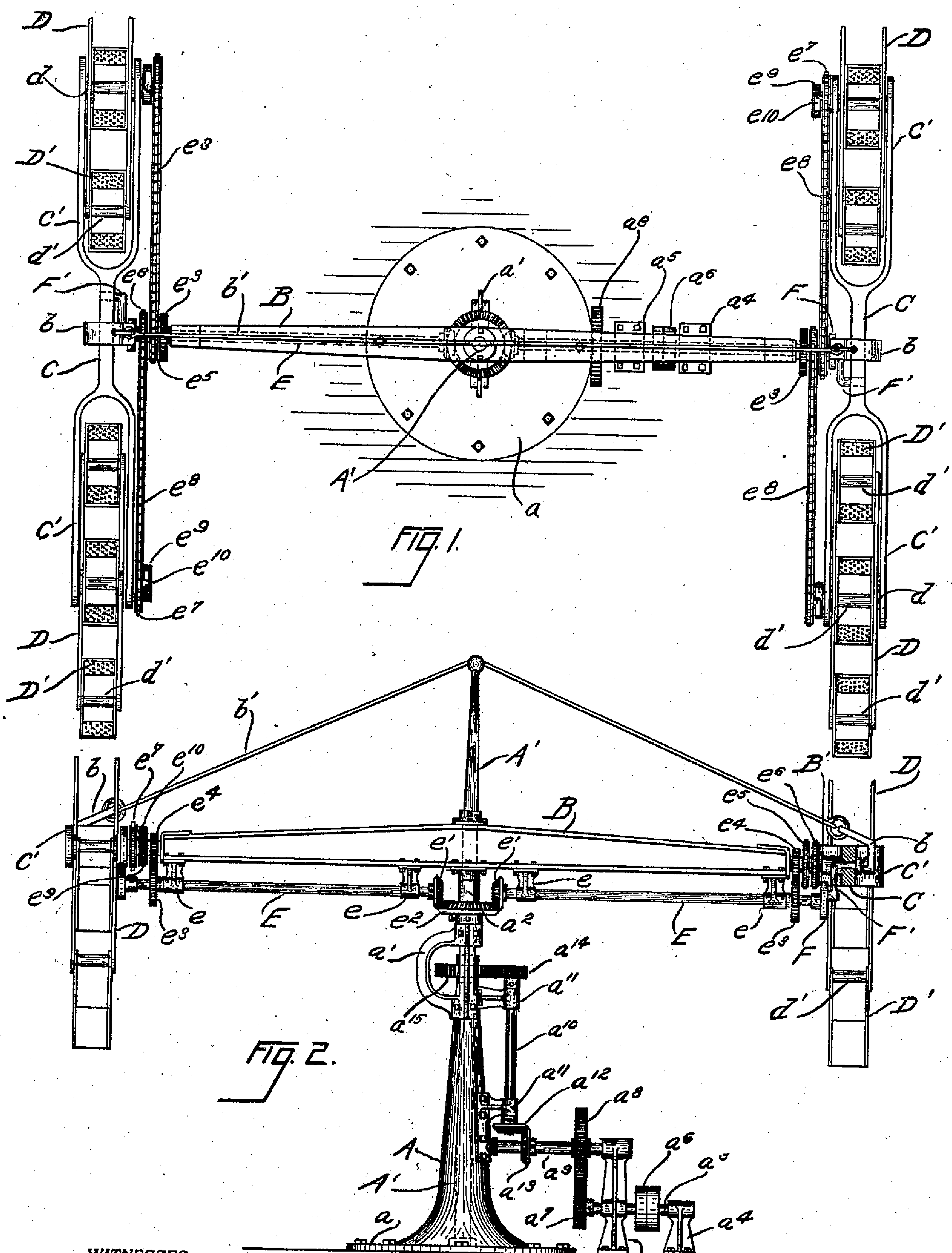

FIG. 1.

FIG. 2.

WITNESSES:

[signature]

Chas. B. Winn

INVENTOR

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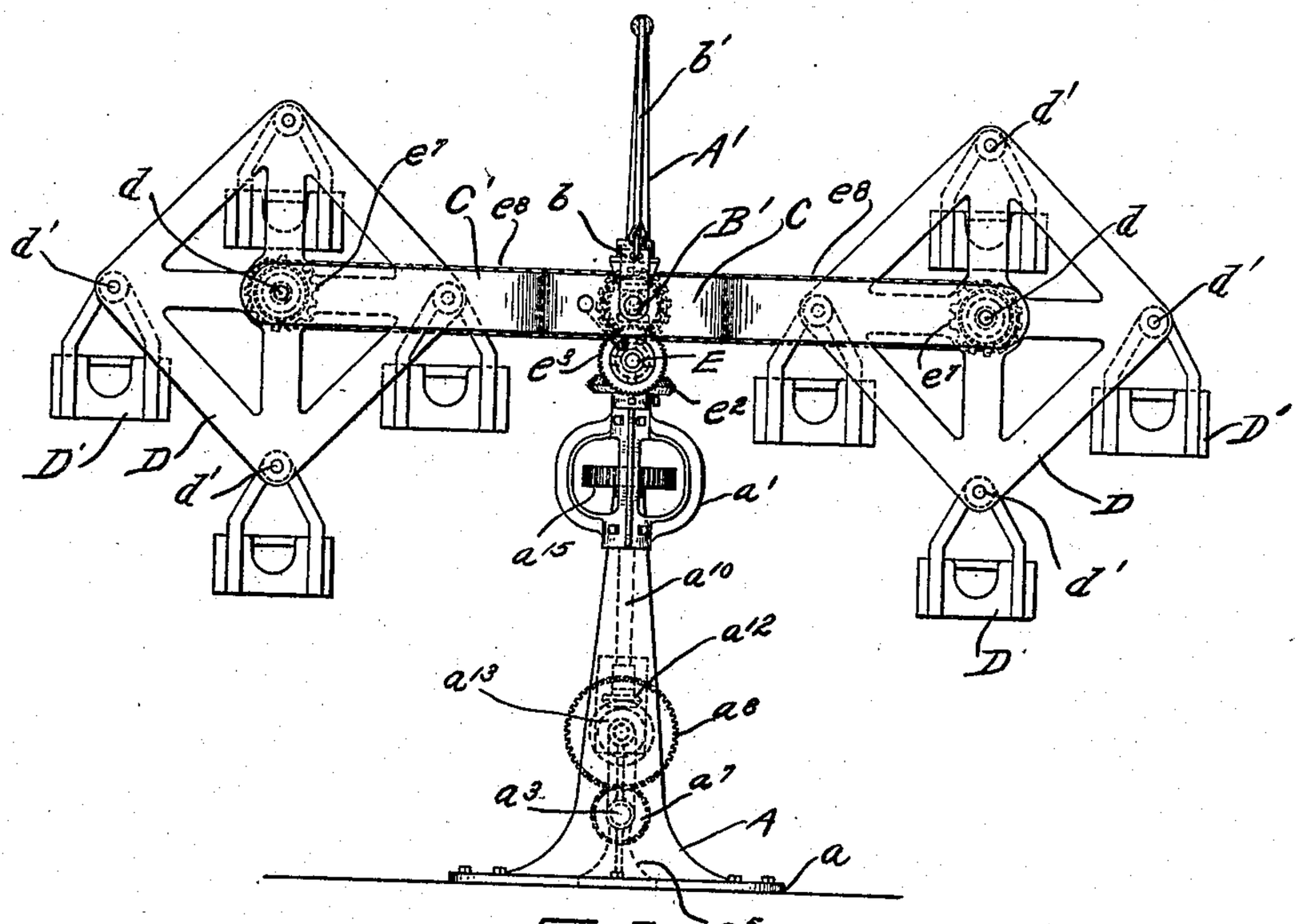

FIG. 3.

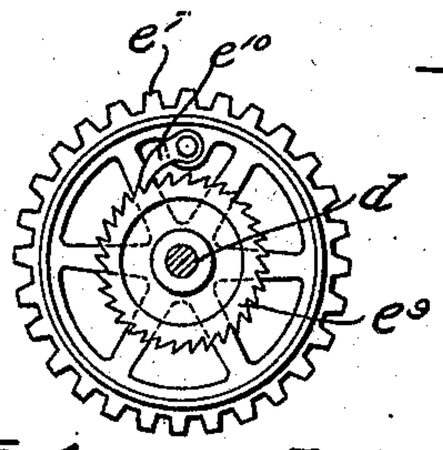

FIG. 4.

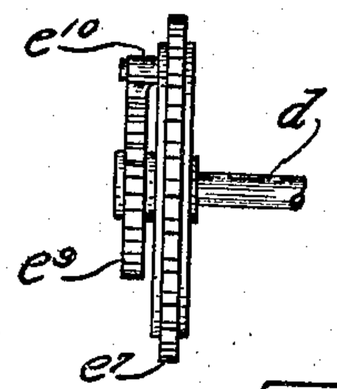

FIG. 5.

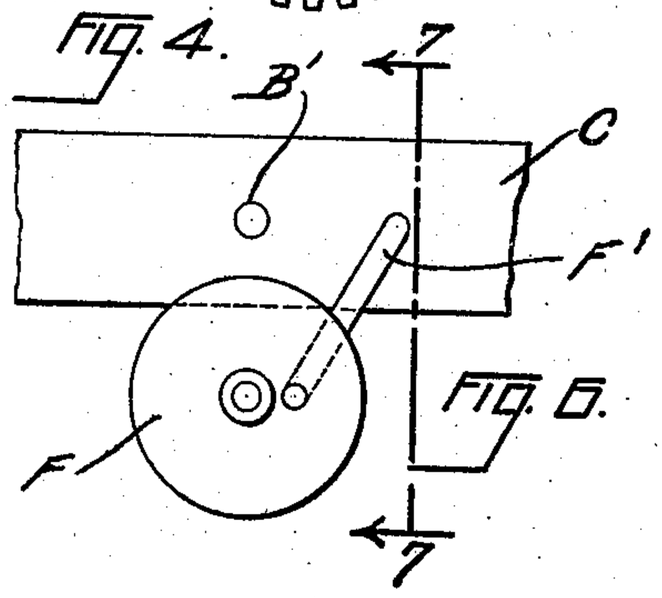

FIG. 6.

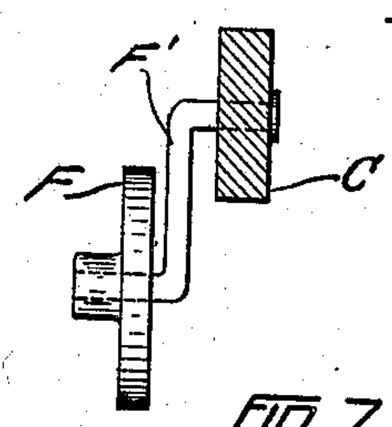

FIG. 7.

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UNITED STATES PATENT OFFICE.

BENJAMIN F. FITCH, OF CHICAGO, ILLINOIS.

MERRY-GO-ROUND.

No. 924,155. Specification of Letters Patent. Patented June 8, 1909.

Application filed October 5, 1908. Serial No. 456,167.

To all whom it may concern:

Be it known that I, BENJAMIN F. FITCH, a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Merry-Go-Rounds, of which the following is a complete specification.

This invention relates to improvements in merry-go-rounds and more particularly to a merry-go-round adapted to carry the passengers with a rocking or teetering motion.

Heretofore merry-go-rounds have usually been so constructed that the passengers are carried around a vertical axis only, or around both a vertical axis and a horizontal axis, but it has not been customary to so construct them that the passengers are not only carried around both vertical and horizontal axes but are also given a vertically reciprocating or wave-like motion.

The object of this invention is to provide a merry-go-round in which the passengers are not only given the ordinary whirling motion but are also given a vertically reciprocating or wave-like motion similar to that produced by an ordinary see-saw or teeter.

It is a further object of the invention to provide a very strong and simple device adapted to carry passengers through a very irregular course but which is so constructed that there is no danger of the passengers being thrown therefrom by reason of the irregularity of the course.

The invention consists of the matters hereinafter described in the specification and more fully pointed out and defined in the appended claims.

In the drawings: Figure 1 is a fragmentary top plan view of a device embodying my invention. Fig. 2 is a side elevation of the same, partly in section. Fig. 3 is an end elevation of the device. Fig. 4 is a section of one of the carrier axles and showing the ratchet connection between the drive and said axle. Fig. 5 is a side elevation of said connection. Fig. 6 is a fragmentary, side elevation of one of the rocking beams and the means for rocking the same. Fig. 7 is a section taken on line 7—7 of Fig. 6.

As shown in said drawings: A indicates a hollow standard which may be of any preferred material, but preferably of cast metal, and which is provided with a base a adapted to be rigidly engaged to a platform or other supporting surface. On the upper end of said standard is a bearing bracket a' in which is rigidly engaged a bearing a^2, as shown more clearly in Fig. 2, and the bore of which is in axial alinement with the bore of the standard. A main shaft A′ is journaled in said standard and in said bearing and projects upwardly beyond the bearing. Any preferred means may be provided for rotating or driving said shaft, but, as shown, a drive shaft a^3 is journaled in suitable bearings on standards a^4—a^5 adjacent the main standard. A belt pulley a^6 and a pinion a^7 are rigidly engaged on said shaft and the latter meshes with a gear a^8 carried on a shaft a^9 which is journaled in bearings on the standards a^5 and A respectively. A vertical shaft a^{10} is journaled in bearings a^{11} on the standard A, and is provided on its lower end with a beveled gear a^{12} adapted to mesh with and be driven by a beveled gear a^{13} on the shaft a^9. On the upper end of the shaft a^{10} is a pinion a^{14} adapted to mesh with and drive a gear a^{15} rigidly engaged on the shaft A′ and thereby drive said shaft. The pinion a^7 is smaller than the gear a^8, and the pinion a^{14} is smaller than the gear a^{15}, so that the speed of the shaft A′ is less than that of the drive shaft a^3.

Rigidly engaged at its center on the shaft A′, above the bearing a^2, is the main beam B, which may be of any preferred length and is of stout material. A stud shaft B′ is rigidly engaged in each end of said beam and projects longitudinally therefrom, and brackets b are rigidly engaged on the outer ends of said stud shafts. Truss rods b' are engaged to said brackets and to the upper end of said shaft A′ and act to prevent the ends of the beam from sagging. Pivoted on each of said stud shafts is a rocking beam C, which, as shown, are each provided with a central hub c affording bearings for said stud shafts, and are each provided with a fork c' at each end in which are journaled the carriers D by means of axles d carried thereon, as shown more clearly in Fig. 3. Said carriers may be of any preferred construction but, as shown, they each comprise a pair of side members of rectangular shape which are secured together at their corners by transverse shafts d'. Loosely suspended on said shafts d', between said side members, are the baskets or seats D′, which may be of any preferred construction, and are adapted to always hang in an upright position irrespective of the position of the carriers.

For the purpose of revolving said carriers, transmission shafts E—E are journaled in suitable bearings *e*—*e* on the under side of the beam B, and each of said shafts is provided with a beveled pinion *e'* on its inner end which meshes with a beveled gear e^2 rigidly engaged on the bearing a^2, so that when the shaft A' is rotated the shafts E will be rotated. Near the outer end of each of said shafts E is rigidly engaged a gear e^3 which meshes with a gear e^4 journaled on the adjacent stud shaft B'. Rigidly engaged on each of the gears e^4 is a pair of sprocket wheels e^5—e^6, which are in alinement with sprocket wheels e^7 rotatively engaged on the axles *d* of the carriers, and sprocket chains e^8 connect said wheels e^5—e^6 with said wheels e^7 and act to drive the carriers. Rigidly engaged on each of the axles *d* adjacent the sprocket wheels e^7 is a ratchet wheel e^9, adapted to be engaged by a pawl e^{10} pivoted on the wheel e^7, so that the carrier will be driven in one direction by the sprocket chain e^8, but when the device is stopped to load or unload passengers said carriers will be free to rotate in the reverse direction to bring the baskets down to their lowest level.

For the purpose of rocking the rocking beams to provide a teetering motion for the carriers, a disk F is rigidly engaged on the outer end of each shaft E, and a crank F' is engaged at one end to said disk eccentric to the shaft, and at the other end is engaged to said rocking beam at one side of its pivotal point, as shown more clearly in Fig. 6.

The operation is as follows: When it is desired to fill or empty the baskets the device is adjusted by rotating the main shaft A' so that the rocking beams will stand at an incline, with the carrier at one end thereof at its lowermost point, in which position one of its baskets may be brought down low enough for passengers to enter or leave. To bring the baskets down to position for the passengers to enter or leave the same the carrier is rotated manually in the reverse direction from which it is rotated while in operation until each basket has been lowered. Such reverse rotation of the basket is permitted by reason of the pawl and ratchet connection between the sprocket chain and the axle *d* on which the carrier is mounted. When the baskets of one carrier have been filled or emptied, the other carriers are then brought into position in the manner before described.

When the shaft A' is driven the carriers are revolved around said shaft and are rotated on their axles, so that they revolve both in vertical and horizontal planes. At the same time the rocking beams are rocked by the cranks F', thereby producing a teetering effect. Obviously a device constructed in accordance with my invention will be simple and strong and the passengers will be carried over a very irregular course, and many details of form and construction may be varied without departing from the principles of my invention.

I claim as my invention:

1. In a device of the class described the combination with a horizontal main beam of means adapted to revolve the same, a rocking beam on each end thereof, and vertically rotatable carriers journaled axially on said rocking beams.

2. In a device of the class described the combination with a horizontal main beam of means adapted to revolve the same, a rocking beam on said main beam, means adapted to rock the same, a horizontal axle on said rocking beam, a rotatable carrier on said axle and means adapted to rotate said carrier.

3. In a device of the class described the combination with a horizontal main beam, of means adapted to revolve said beam in a horizontal plane, a rocking beam pivoted on each end of said beam, revolving carriers supported thereon and adapted to revolve in vertical planes, and seats pivoted on said carriers.

4. In a device of the class described the combination with a vertical main shaft, of a horizontal beam rigidly engaged thereon, means for rotating said shaft, transverse rocking beams on said beam, revolving carriers on said rocking beams adapted to revolve in vertical planes, and seats pivoted in said carriers.

5. In a device of the class described the combination with a standard of a horizontal main beam pivotally supported thereon, means for revolving said beam, a rocking beam pivotally supported on each end of said main beam, revolving carriers pivoted on said rocking beams, means for revolving said carriers in vertical planes, seats pivoted in said carriers, and means for rocking said rocking beams.

6. In a device of the class described the combination with a standard of a vertical shaft journaled therein, means for rotating said shaft, a horizontal main beam rigidly engaged on said shaft, a rocking beam pivoted on each end thereof, means adapted to rock said rocking beams, revolving carriers pivoted on said rocking beams, and means for rotating said carriers in vertical planes.

7. In a device of the class described the combination with a standard of a vertical shaft journaled therein, means adapted to rotate said shaft, a beam rigidly engaged on said shaft, a rocking beam pivoted on each end of said beam, a beveled gear on said standard, shafts journaled on said beam, and adapted to be rotated by said gear, means on said shafts adapted to rock said rocking beams, a carrier pivoted in each end of each rocking beam, means for rotat-

ing said carriers, and seats suspended from said carriers.

8. In a device of the class described the combination with a horizontal main beam, of a transverse beam pivoted on each end thereof, an axle at each end of each transverse beam, basket carriers journaled on said axles and means adapted to impart to said carriers a combined revolving and teetering motion.

9. In a device of the class described the combination with a standard of a main shaft journaled therein, means for rotating said shaft, a beam rigidly engaged on said shaft, longitudinally directed transmission shafts journaled on said beam, means for rotating said transmission shafts, a rocking beam pivoted on each end of said beam, means on said transmission shafts adapted to rock said rocking shafts, an axle journaled in each end of each rocking beam, a carrier on each axle, means adapted to rotate said carriers in one direction when the main shaft is rotated and to permit rotation thereof in the opposite direction when said shaft is idle, and a plurality of baskets suspended from each carrier.

In testimony whereof I have hereunto subscribed my name in the presence of two witnesses.

BENJAMIN F. FITCH.

Witnesses:
ROBT. KLOTZ,
JOS. WALTER.