M. B. BECKER.

AMUSEMENT-RIDING DEVICE.

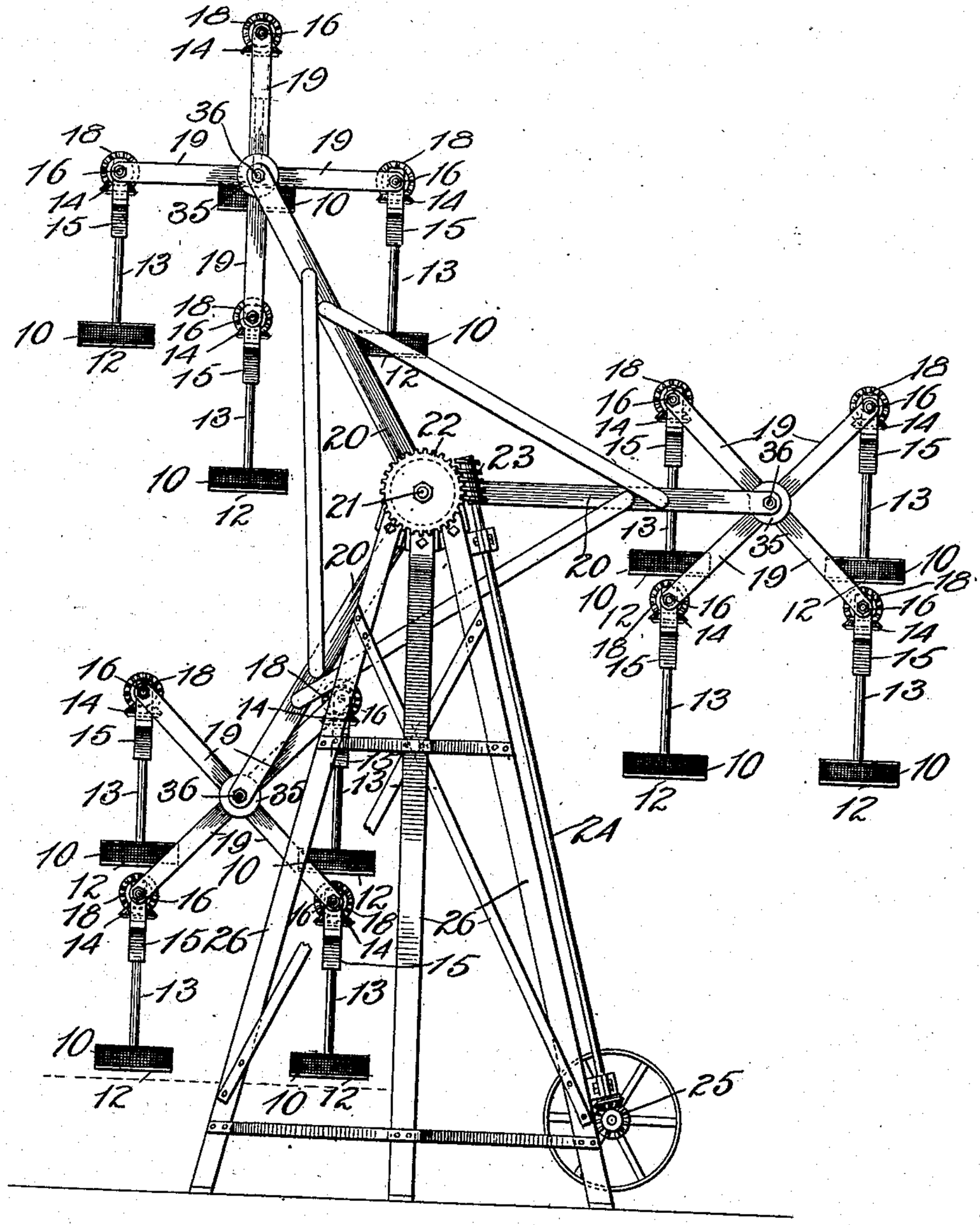
APPLICATION FILED NOV. 19, 1907.

900,820.

Patented Oct. 13, 1908.

3 SHEETS—SHEET 1.

Fig. 1



Witnesses
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Ray White.

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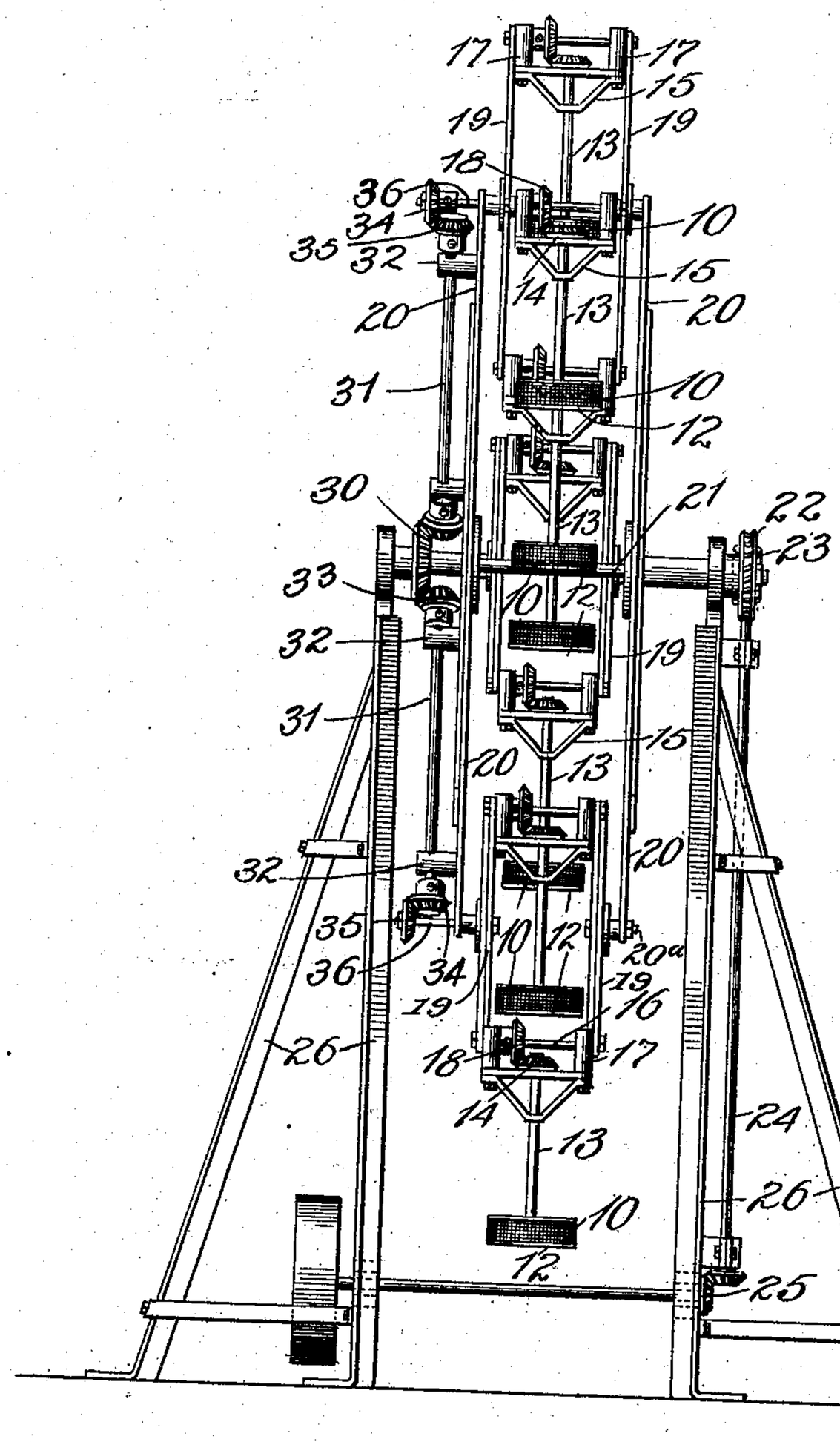
3 SHEETS—SHEET 2.

Fig. 2



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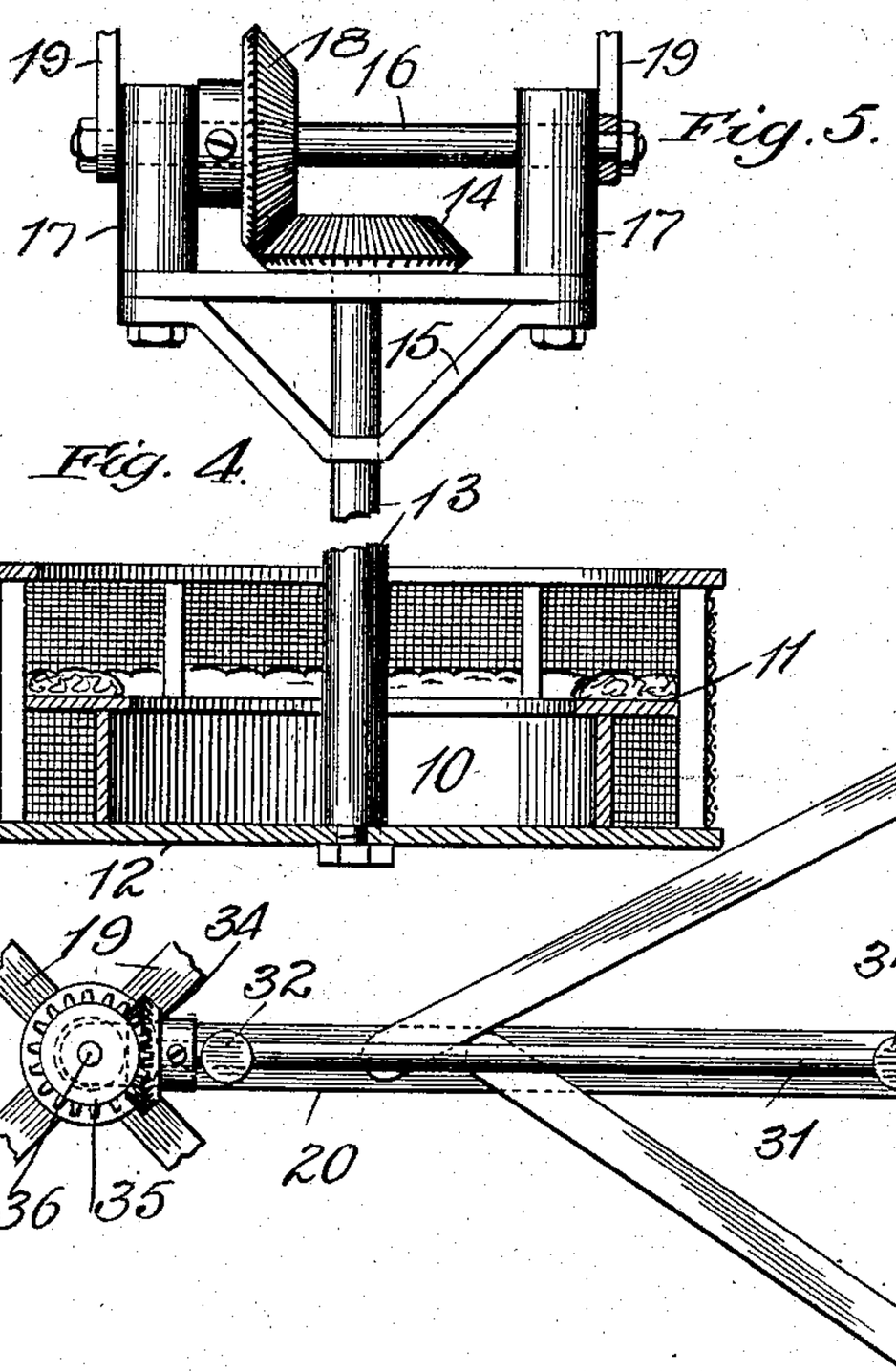

Fig. 5.

Fig. 4.

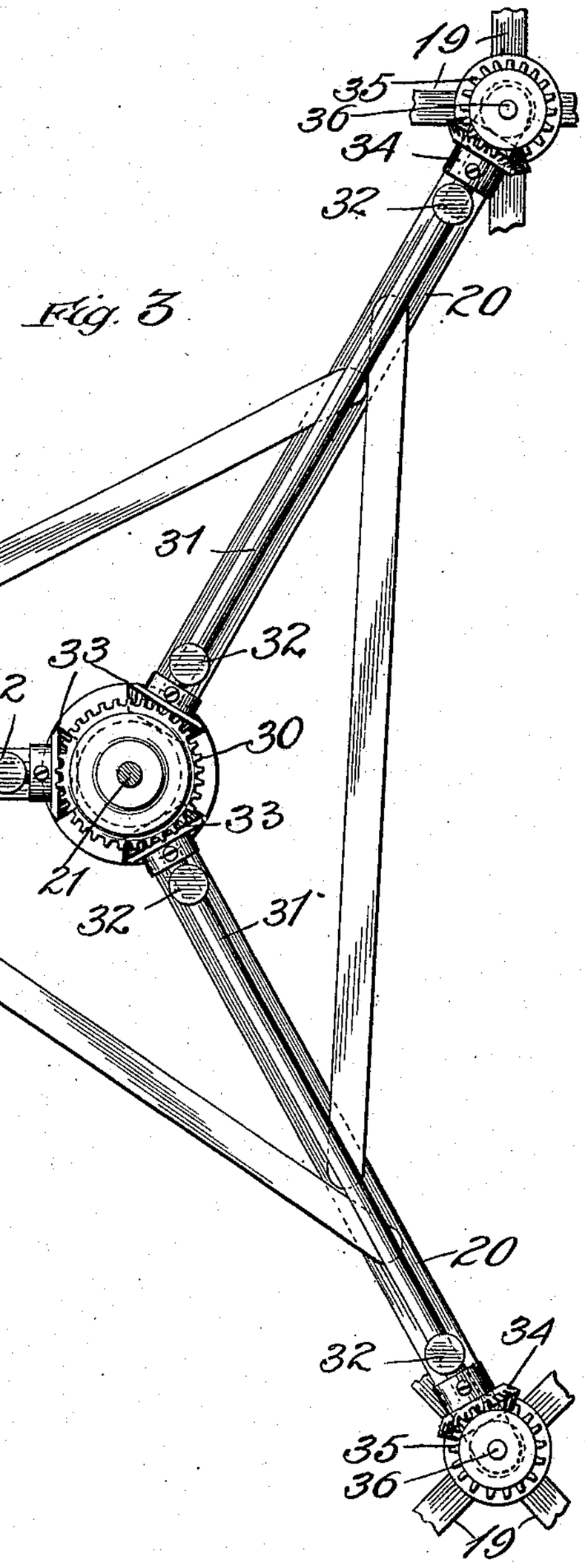

Fig. 3.

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UNITED STATES PATENT OFFICE.

MATHIAS B. BECKER, OF CHICAGO, ILLINOIS.

AMUSEMENT RIDING DEVICE.

No. 900,820. Specification of Letters Patent. Patented Oct. 13, 1908.

Application filed November 19, 1907. Serial No. 402,826.

To all whom it may concern:

Be it known that I, MATHIAS B. BECKER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Amusement Riding Devices, of which the following is a specification.

My invention relates to amusement riding devices and the object of the invention is to provide an apparatus which will give the passengers unusual and complicated motions for the sake of the pleasure and excitement which they may induce.

I obtain my object by the mechanism illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of the device in its preferred form, Fig. 2 is an end elevation thereof, Fig. 3 is a side elevation of part of the transmission gearing, the view being taken from the side opposite to the one shown in Fig. 1. Fig. 4 is a detail of one of the passenger cars, and Fig. 5 represents the means for supporting and rotating the same.

Similar numerals refer to similar parts throughout the several views.

Referring to the drawings, 10 represents a passenger car preferably provided with seats 11 and a floor 12. This car is rigidly secured to a shaft 13 in such manner as to rotate therewith, and yet remain at all times pendent. Shaft 13 is rotatable about its own vertical axis and the preferred means for supporting said shaft is the bevel gear 14 which is secured to said shaft in position to bear upon the frame 15. Said frame is supported from the shaft 16 by means of hangers 17 or other suitable device. A bevel gear 18 is rigidly secured to the shaft 16 in position to mesh with and drive the gear 14. Shaft 16 is rigidly secured to the outer ends of arms 19 which are rigidly secured together so as to constitute two parallel frames. Said arms are revolubly mounted at the outer extremity of the parallel arms 20 extending radially from shaft 21 as clearly shown in Fig. 1. Said arms are revoluble about said shaft as a center, the means for driving them being the gear 22 actuated by the worm 23 upon the shaft 24. Said shaft 24 is driven by any suitable driving mechanism 25. Shaft 21 is mounted upon any suitable framework 26.

Means are provided for revolving the arms 19 about their own centers which are located at the end of the revolving arms 20. The preferred mechanism is best shown in Figs. 2 and 3 and comprises a bevel gear 30 which is rigidly secured to the stationary frame 26 concentric with the main horizontal shaft 21. A connecting gear shaft 31 is rotatably mounted upon each one of the sets of arms 20. The preferred means for mounting said shafts are the journal bearings 32 which are secured to the side of arms 20 as best shown in Fig. 2. The shafts 31 are therefore rotatable about their own longitudinal axes as well as being rotatable about the shaft 21 as a center. At one end of each of the shafts 31 is a bevel gear 33 meshing with the stationary gear 30. At the other end is a gear 34 meshing with the gear 35 rigidly secured to the shaft 36. Each shaft 36 is journaled at the outer extremity of its arms 20 and is rigidly secured to the arms 19 so that when the shaft 36 is rotated the arms 19 will revolve.

As best shown in the lower portion of Fig. 2, the arms 19 are supported upon shaft 36 at one side and a short pin 20^a at the opposite side. These pins do not extend across from one side to the other and the object in making them short is to prevent their interfering with the cars as the latter swing past: for it will be noted that the length from shaft 16 to the bottom of the car is greater than the length of arms 19 measured from shaft 36 to shaft 16.

In operation when the shaft 24 rotates it drives the gear 22 which in turn causes the arms 20 to revolve. The revolving arms 20 carry the arms 19 and parts supported thereby. As the arms 20 revolve they, of course, carry with them the shafts 31. As the gear 30 is stationary, the revolving of the arms 31 will cause the bevel gears 33 to travel around upon the gear 30, and this circular travel sets up rotation of the shafts 31 about their own longitudinal axes. This rotation of the shafts 31 produces a rotation of the shafts 36 about their longitudinal axes in addition to their rotary movement about the main shaft 21 as a center. This produces rotation of the arms 19 to which shafts 36 are rigidly fastened. The arms 19 therefore have a double revolution, one about the shaft 36 as an axis, and the other about shaft 21 as an axis.

The weight of the cars 11, together with the passengers therein maintains the car

shafts 13 pendent so that they maintain at all times an approximately vertical position. As the gears 18 are rigidly fastened to the arms 19 they move therewith and will, of course, make a complete revolution for each complete revolution of the arm to which they are attached. But as the shafts 13 remain pendent the gear wheels 14 which are fastened thereto will travel once around the gear 18 for each complete revolution of an arm 19 about its shaft 36. This sets up a spinning movement of the car that is, rotation about the shaft 13 as an axis. It will thus be seen that when the apparatus is in motion there will be three distinct kinds of motion imparted to the car: to wit the arms 20 will revolve about shaft 21, the arms 19 will revolve about the shafts 36 and the cars will rotate about the shafts 13.

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

1. In an amusement riding device, the combination of primary arms extending in different directions from a common center and rotatable in a vertical plane about said center, a set of secondary arms mounted at the end of each of the primary arms and rotatable in a vertical plane about a center located at the end of each of said primary arms, and a car suspended from the end of each of said secondary arms, each car being adapted to turn about a vertical axis passing through said car.

2. In an amusement riding device, the combination of primary arms extending in different directions from a common center and rotatable in a vertical plane about said center, a set of secondary arms mounted at the end of each of the primary arms and rotatable in a vertical plane about a center located at the end of each of said primary arms, means for simultaneously rotating the primary and secondary arms about their respective centers, and a car suspended from the end of each of said secondary arms, each car being adapted to turn about a vertical axis passing through said car.

3. In an amusement riding device, the combination of two parallel primary arms extending in the same direction from a common horizontal axis, means for rotating said arms in a vertical plane about said axis, two parallel secondary arms each separately pivoted to the end of one of said primary arms so as to rotate in a vertical plane about said end as an axis, means for rotating said secondary arms about their axes at the ends of said primary arms, a car suspended from the end of said secondary arms, the car extending downward from its point of suspension farther than the distance between such point of suspension and the end of the primary arms, and means for rotating said car about a vertical axis.

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

MATHIAS B. BECKER.

Witnesses:
C. J. CHRISTOFFEL,
HOWARD M. COX.