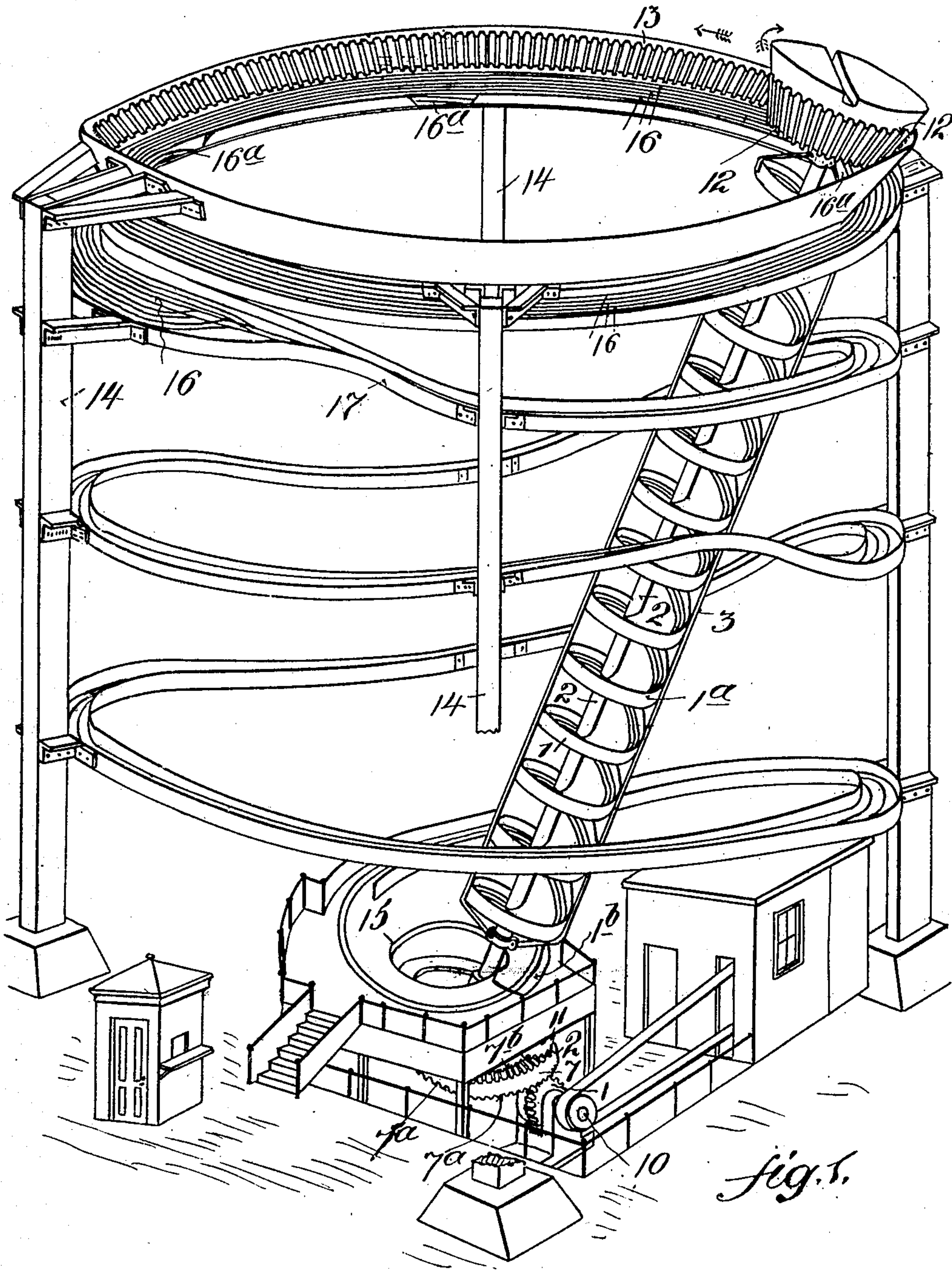


M. R. C. SONNTAG.
AMUSEMENT APPARATUS.
APPLICATION FILED JUNE 9, 1908.

913,243.

Patented Feb. 23, 1909.

3 SHEETS—SHEET 1.



Witnesses:
W. H. Benjamin
Marie F. Fairright

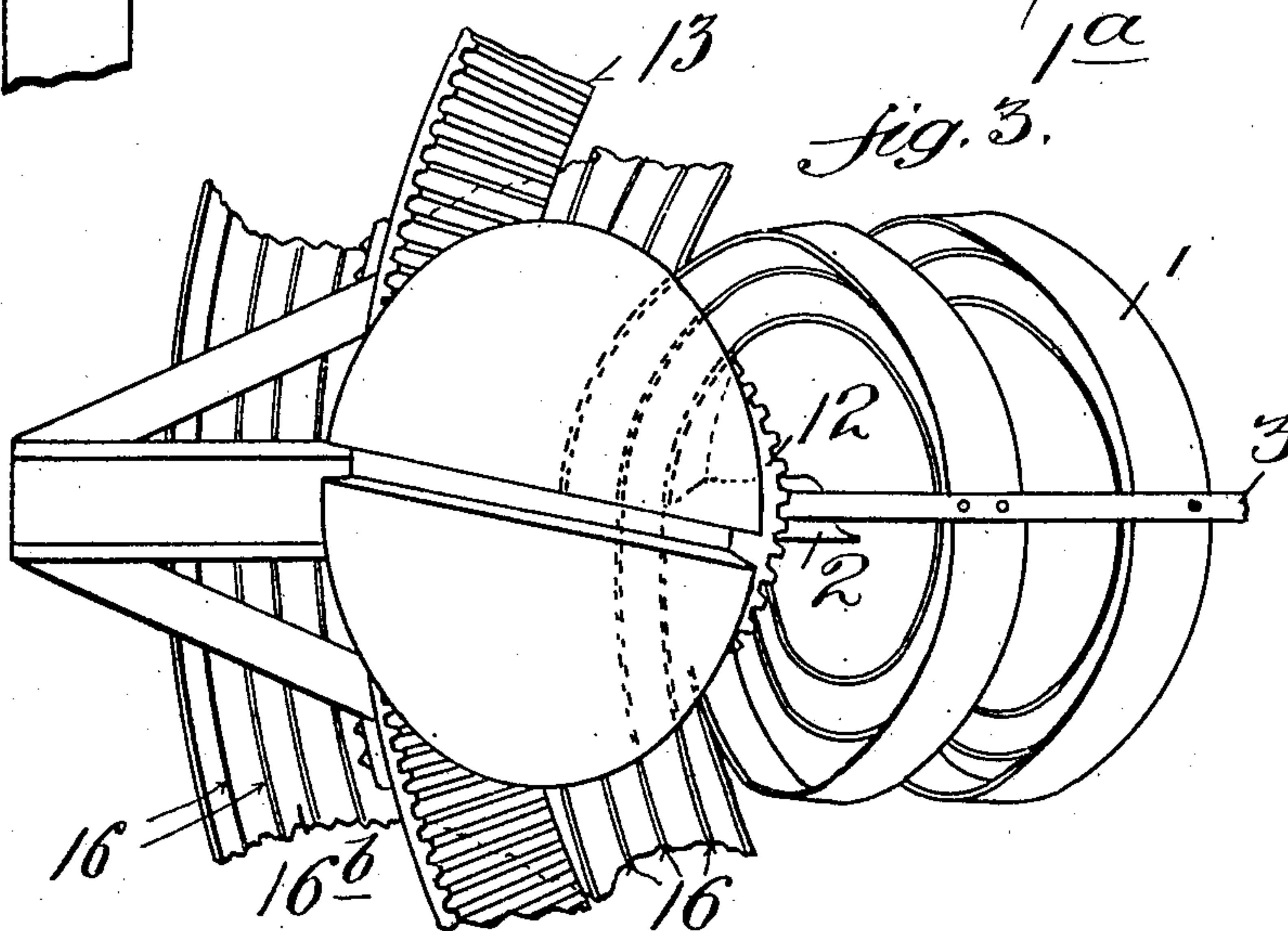
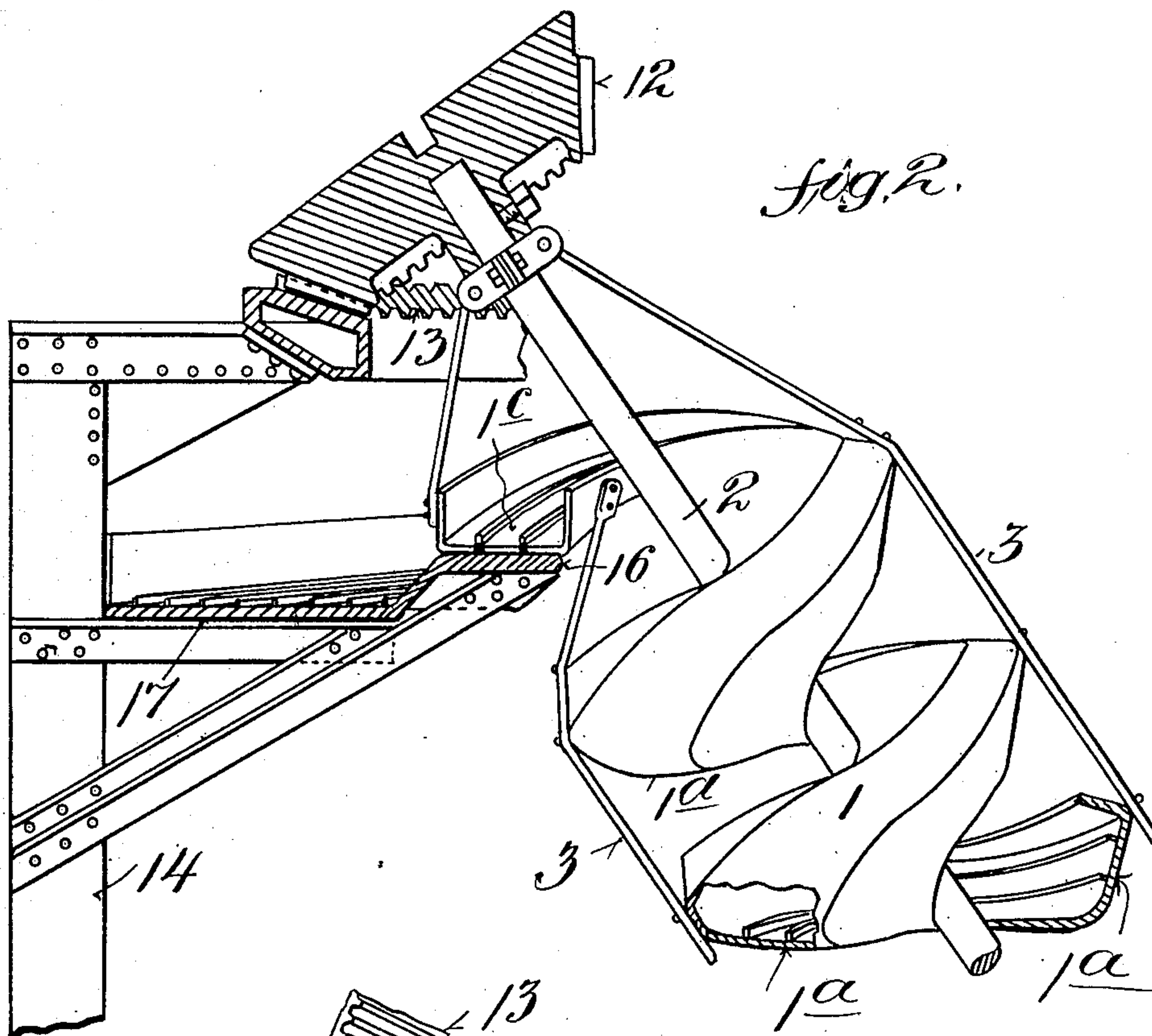
Inventor
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

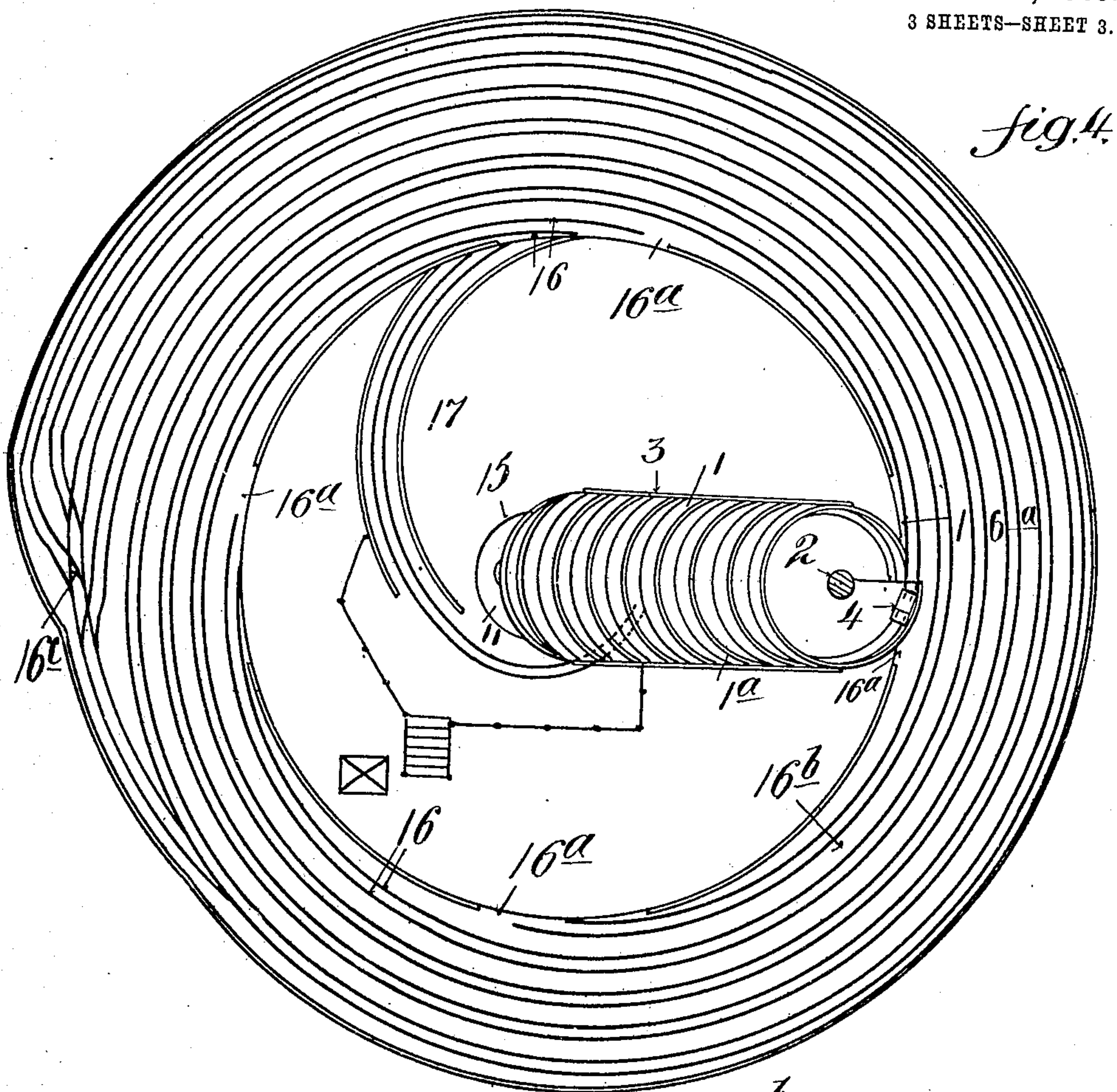


fig. 4.

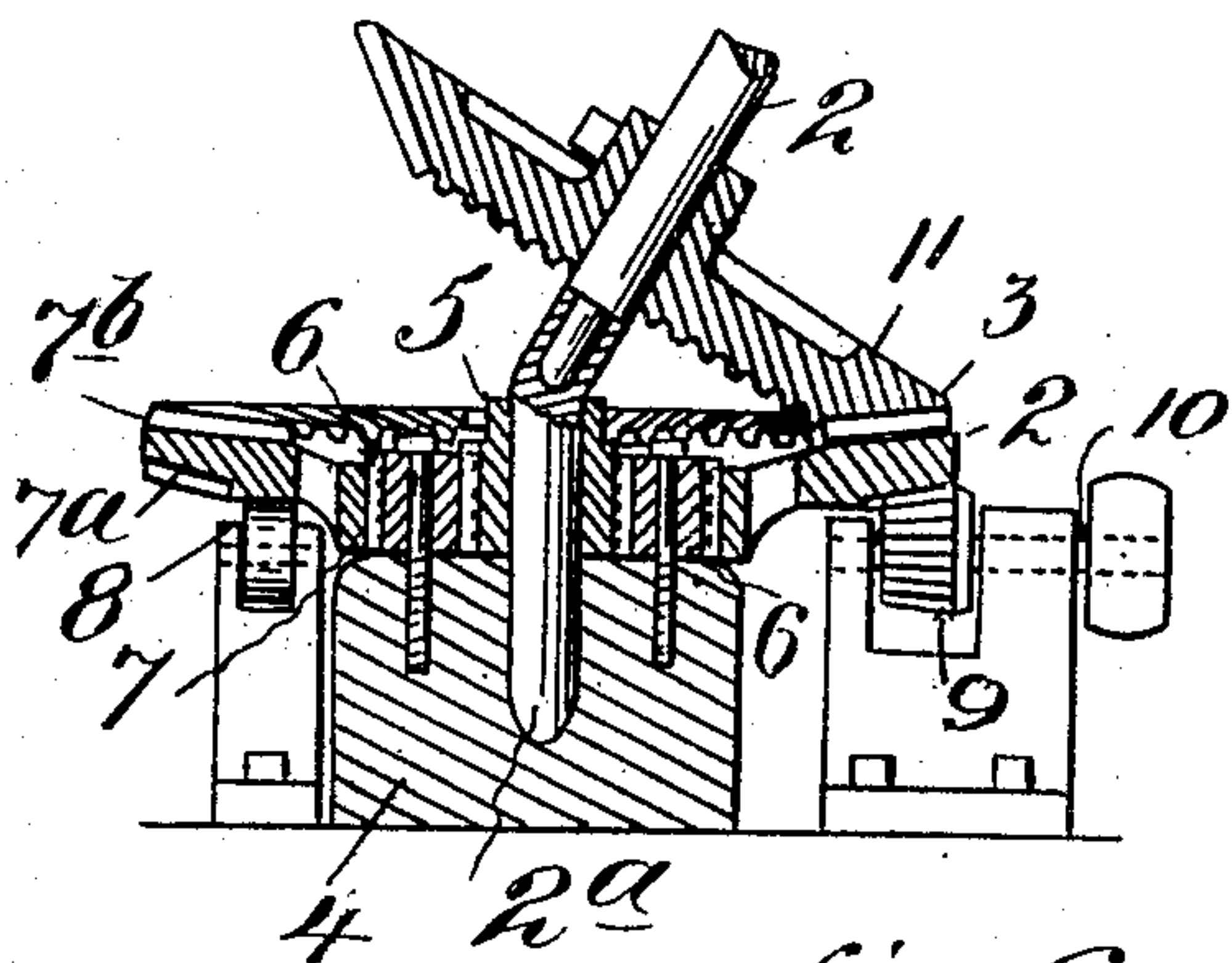


fig. 6.

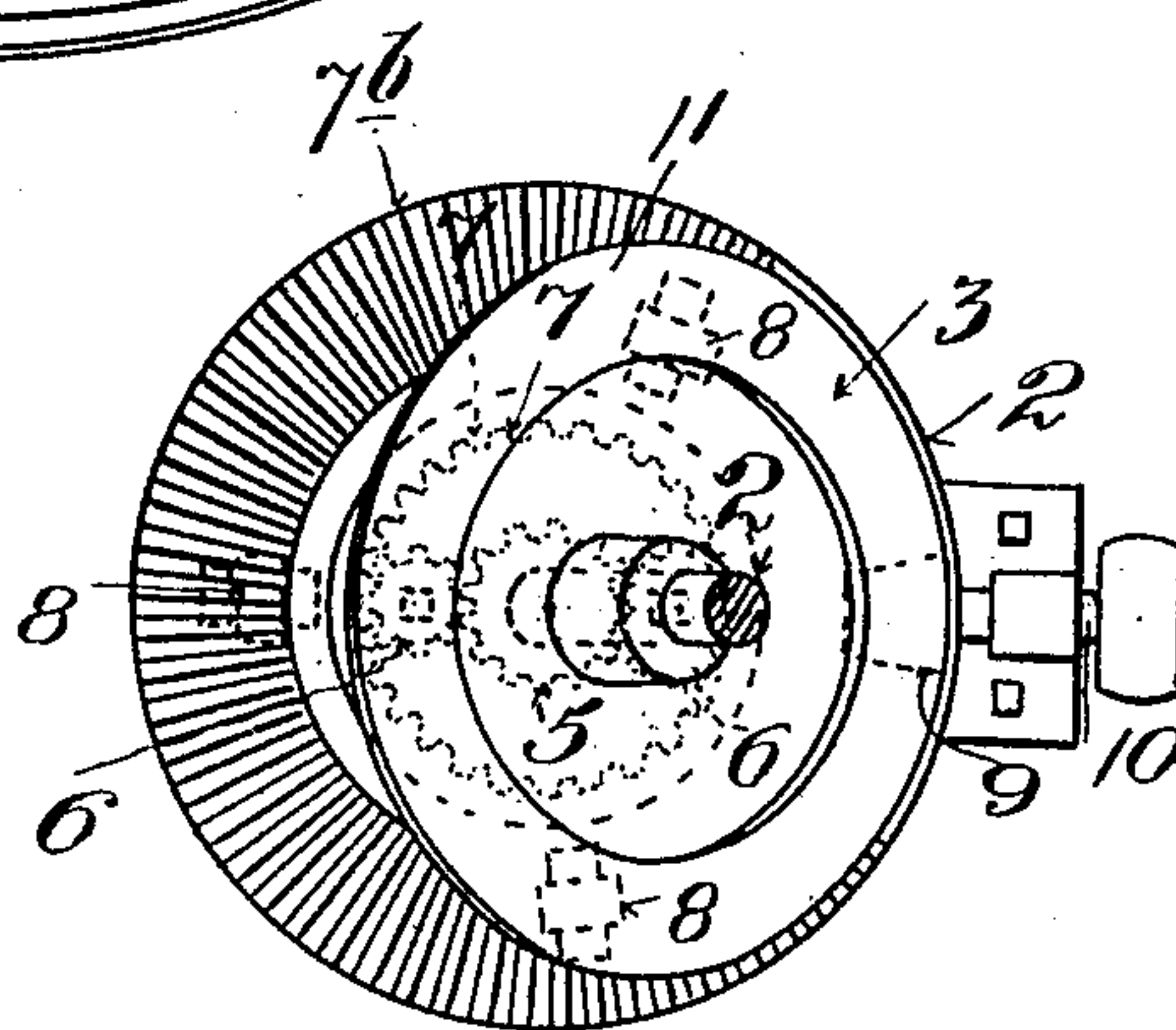


fig. 5.

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UNITED STATES PATENT OFFICE.

MAX R. C. SONNTAG, OF NEW YORK, N. Y.

AMUSEMENT APPARATUS.

No. 913,243.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed June 9, 1908. Serial No. 437,503.

To all whom it may concern:

Be it known that I, MAX R. C. SONNTAG, a citizen of the United States, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a specification.

The object of my invention is to provide a novel apparatus adapted to elevate cars and deliver them in position to descend by means of a suitable track, and the main novelty in my invention resides in the utilization of a spirally disposed track which is inclined to the vertical, adapted to revolve on its longitudinal axis and also to simultaneously swing around a circle, whereby a peculiar and novel effect is produced in that cars that travel up the spiral track are meanwhile given also a movement round about through space. The cars enter the track at the lower point of the spiral and are delivered from the upper point of the spiral upon a suitable platform or track from whence they pass into a descending track guiding them back near their point of admission to the spiral.

My invention also comprises the novel details of improvement and combinations of parts that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein,

Figure 1 is a diagrammatic perspective view illustrating my improvements, Fig. 2 is a partly sectional detail view, enlarged of the upper portion of the apparatus, Fig. 3 is a plan view thereof, Fig. 4 is a partly sectional plan view of the upper portion of the structure, partly diagrammatic, Fig. 5 is a detail plan view of gearing for operating the spiral track, and Fig. 6 is a vertical section thereof.

Similar numerals of reference indicate corresponding parts in the several views.

The numeral 1 indicates, generally, a spirally disposed trackway which is shown constructed around a shaft 2 to which the track may be attached in any suitable manner. I have shown longitudinally extended braces 3 attached to the shaft and to the trackway, there being any suitable number of such braces, which form a sort of tubular inclosure for the trackway. Shaft 2 is pivotally supported at its lower end, but inclines at

a suitable angle to the vertical, and the trackway is so disposed that the under portions 1^a will always be lower than the adjacent portions that are behind and in advance thereof, so that a suitable car 4 will always rest upon the trackway at such low point. I have shown shaft 2 at its lower part journaled in an extension 2^a that is journaled in a seat or bearing 4. Said extension is shown provided with a gear 5 meshing with idle gears 6 journaled on said bearing 4 and engaging an internal gear 7 which has external underlying teeth 7^a and external teeth 7^b on the upper side, and at 8 are suitably journaled rollers upon which gear 7 rests and revolves. The teeth 7^a are shown meshing with and driven by a pinion 9 on a shaft 10 suitably journaled and driven by any suitable means, and the teeth 7^b mesh with a gear 11 secured upon the shaft 2 (see Fig. 6). At the upper end of shaft 2 is a gear 12 which lies in engagement with an internal gear or rack 13 of an annular guide or support, the gears 12 and 13 being suitably beveled in accordance with the inclination of shaft 2. Rack or gear 13 is firmly supported above by any suitable framework 14. The arrangement is such that as shaft 2 and its trackway 1 revolve around the longitudinal axis thereof, the rotation of gear 12 in connection with rack 13 will also cause the shaft and trackway to revolve about bodily, and there will always be at the lower points the portions 1^a of the trackway, whereby a car in said trackway will be caused to roll up the same while also being carried bodily around through space by the bodily or substantially wobbling movement of trackway 1. The cars enter trackway 1 at the low point of the latter and are delivered thereto from a suitable platform 15 over which the low point or entrance end 1^a of trackway 1 swings.

The upper or delivery end 1^c of trackway 1 passes over a platform or the like 16 supported by frame 14 to deliver the cars thereon from the trackway. (See Fig. 2.) The platform 16 communicates with one or more tracks 17 suitably supported by frame 14, which tracks 17 may be in the nature of a roller coaster track, the lower end of which track 17 communicates with platform 15 and delivers the cars thereto. As the illustration in Fig. 1 shows substantially that for each axial revolution of shaft 2 the

upper end 1^c of spiral trackway 1^a will be presented over platform 16 at each quarter passage of the shaft around internal gear 13, I have shown four openings 16^a of platform 16, at each of which openings the upper end of trackway 1^a will come in line to deliver a car, whereby four cars may be delivered to platform 16 for each complete bodily swing or movement of the trackway around and with respect to the internal gear. Suitable trackways 16^b respectively terminate at the openings 16^a, and the trackways 16^b all merge, as at 16^c, with the track 17, whereby cars from trackway 16^b will be delivered to track 17.

In the operation of my improvements the cars upon platform 15 will be delivered successively to the lower end 1^b of trackway 1, and by the revolution of the latter upon its axis the cars will travel along such trackway always remaining at the low point of the corresponding spiral part, and the upward travel of the car is also aided by the swinging movement of the trackway, and when the car arrives at the delivery point above platform 16 it passes from trackway 1 and travels thence through trackway or roller coaster 17 back to platform 15 for delivery to the lower end 1^b of trackway 1. The peculiar rotary and simultaneous bodily swinging or wobbling movement of the trackway will offer a pleasant and novel sensation to the passengers in the car, to which is added the travel down the roller coaster trackway 17.

The particular details of construction, inclination of the spiral trackway, and other relative arrangements of parts illustrated may be varied within the scope of the appended claims without departing from the spirit of my invention.

Having now described my invention what I claim is:

1. An amusement apparatus comprising a rotatable spirally disposed trackway maintained at an angle to the vertical, means for causing said trackway to swing bodily around while rotating, and means to permit a car to enter the trackway at the lower portion and means to receive cars from the trackway at the upper portion.

2. An amusement apparatus comprising a rotatable spirally disposed trackway maintained at an angle to the vertical, means for causing said trackway to swing bodily around while rotating, a platform adjacent the lower end of the trackway, a platform adjacent the upper end of the trackway, and means for conveying the cars from the upper platform.

3. An amusement apparatus comprising a spirally disposed rotatable trackway maintained at an angle to the vertical, an annular guide for controlling the upper end of

the trackway, means for causing said trackway to travel around bodily relatively to said guide while rotating upon its longitudinal axis, and means to admit cars to the lower portion of the trackway and to receive cars from the upper portion of the trackway.

4. An amusement apparatus comprising a rotatable spirally disposed trackway maintained at an angle to the vertical, means for pivotally supporting the lower end of said trackway, an annular rack within which the upper end of the trackway-support travels, and a gear connected with the trackway in mesh with said annular rack for causing bodily swinging movement of the trackway while it rotates upon its longitudinal axis.

5. An amusement apparatus comprising a rotatable spirally disposed trackway maintained at an angle to the vertical, means for pivotally supporting the lower end of said trackway, an annular rack within which the upper end of the trackway support travels, a gear connected with the trackway in mesh with said annular rack for causing bodily swinging movement of the trackway while it rotates upon its longitudinal axis, means to receive cars from the trackway, and a trackway leading from the car-receiving means at the upper part to a point adjacent the lower portion of the spiral trackway.

6. An amusement apparatus comprising a spirally disposed trackway maintained normally at an inclination to the vertical, a pivotal support for the lower part of the trackway, a gear connected with the trackway, a loose gear in mesh therewith, means for rotatably supporting said loose gear, means for operating the same, an annular rack located adjacent the upper part of the trackway, a frame supporting said rack, a gear connected with said trackway and in mesh with said rack, means to admit cars to the lower portion of the trackway, means to receive cars from the upper portion of the trackway, and means to transmit cars therefrom to a lower point.

7. An amusement apparatus comprising a spirally disposed trackway maintained at an angle to the vertical, means for pivotally supporting said trackway at the lower part, means for rotating said trackway upon its axis, a guide adjacent the upper part of the trackway within which the latter is adapted to revolve, means for causing said trackway to have bodily movement around and within said guide, means to admit cars to the lower part of the trackway, means to receive cars from the upper portion of the trackway, and means to deliver cars therefrom to the lower part.

8. An amusement apparatus comprising a spirally disposed trackway maintained at an angle to the vertical, means for pivotally supporting said trackway at the lower part,

means for rotating said trackway upon its axis, a guide adjacent the upper part of the trackway within which the latter is adapted to revolve, means for causing said trackway
5 to have bodily movement around and within said guide, means to admit cars to the lower part of the trackway, a platform at the upper part of the trackway over which the upper end of the trackway is adapted to
10 pass during its axial and bodily movement,

and a track leading from said platform to a lower point.

Signed at New York city, in the county of New York, and State of New York, this 5th day of June, A. D. 1908.

MAX R. C. SONNTAG.

Witnesses:

RALPH H. RAPHAEL,
T. F. BOURNE.