No. 865,584. PATENTED SEPT. 10, 1907.

T. A. & T. H. FULTON.

PORTABLE AMUSEMENT APPARATUS.

APPLICATION FILED JAN. 28, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

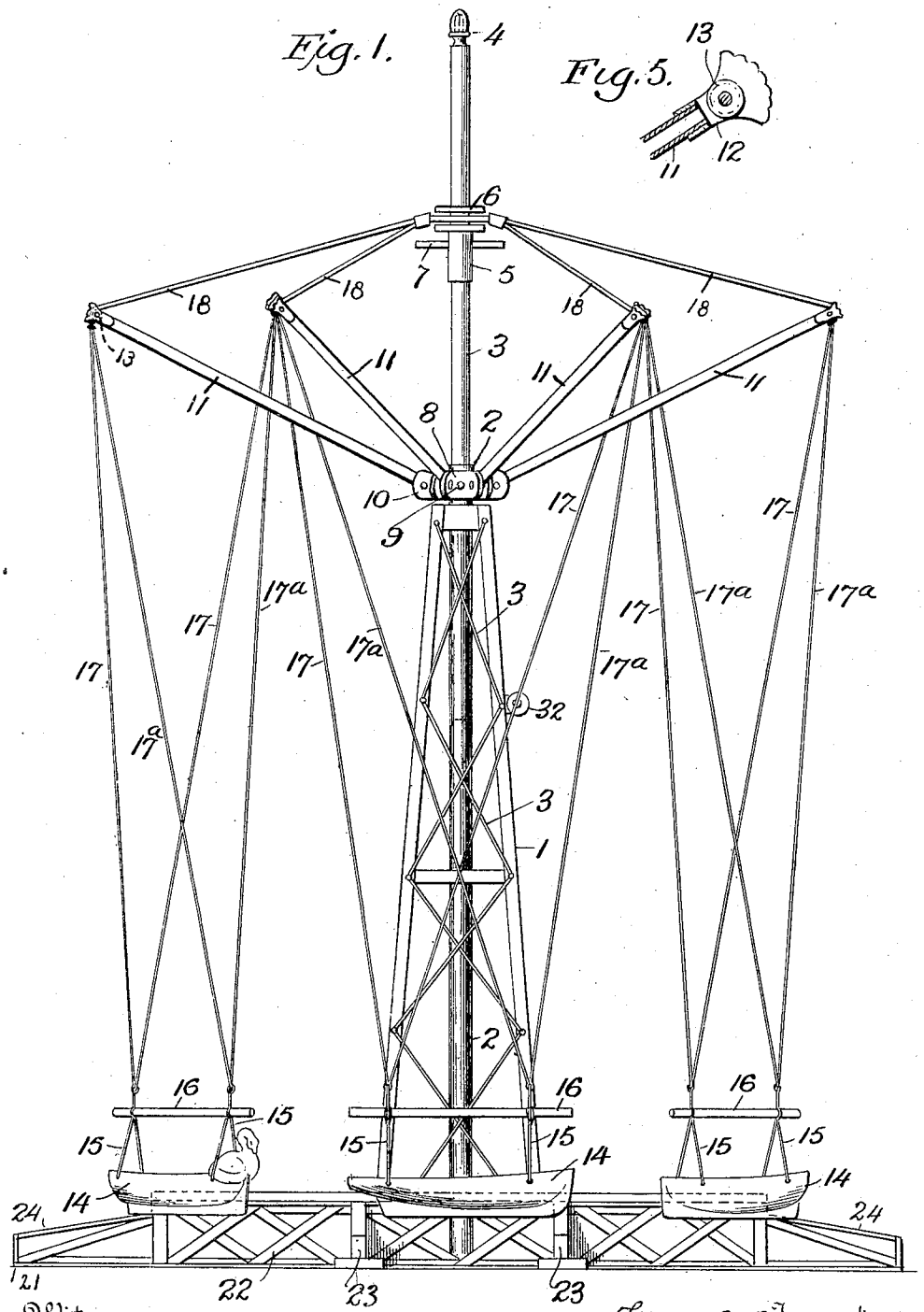


Fig. 5.

Witnesses
James P. Duhamel.
L. Fleisig.

Inventors.
Thomas G. Fulton
Thomas H. Fulton
By their Attorneys
Fred & Fisher.

No. 865,584. PATENTED SEPT. 10, 1907.

T. A. & T. H. FULTON.

PORTABLE AMUSEMENT APPARATUS.

APPLICATION FILED JAN. 28, 1905.

2 SHEETS—SHEET 2.

Fig. 2.

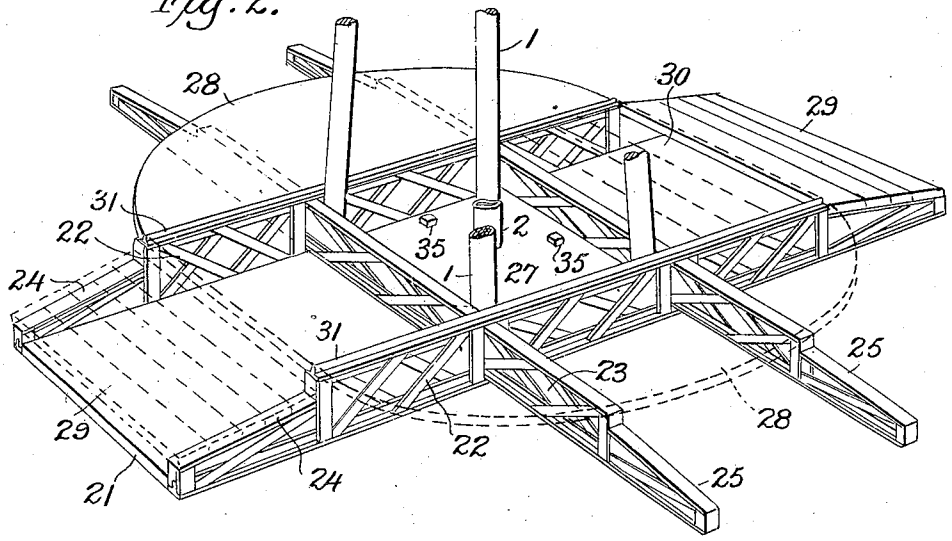


Fig. 3.

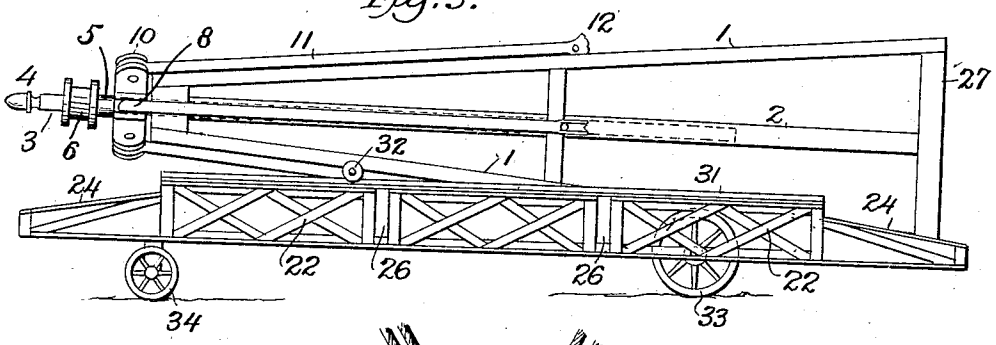


Fig. 4.

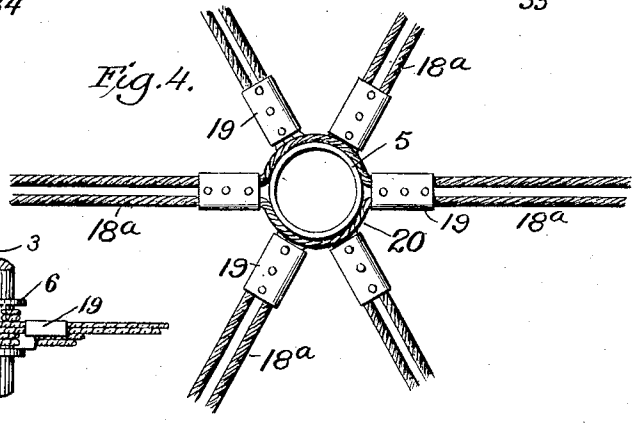
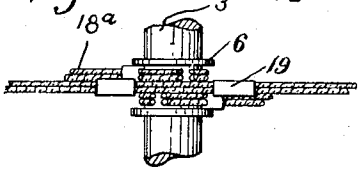


Fig. 6.



Witnesses
James F. Dubanil
A Heiberg

Inventors
Thomas A. Fulton
Thomas H. Fulton,
By their Attorney
Fred B. Fackers.

UNITED STATES PATENT OFFICE.

THOMAS A. FULTON AND THOMAS H. FULTON, OF NEW YORK, N. Y.

PORTABLE AMUSEMENT APPARATUS.

No. 865,584. Specification of Letters Patent. Patented Sept. 10, 1907.

Application filed January 28, 1905. Serial No. 243,049.

To all whom it may concern:

Be it known that we, THOMAS A. FULTON and THOMAS H. FULTON, citizens of the United States of America, and residents of the borough of Richmond, in the city of New York, county of Richmond, State of New York, have invented certain new and useful Improvements in Portable Amusement Apparatus, of which the following is a specification.

Our invention relates to a novel and useful improvement in portable apparatus for amusement purposes, the same being of the roundabout class, and the object thereof being to achieve simplicity of construction with fewness of parts which are easily connected together or detached from each other so that portability of the apparatus is secured and the transportation thereof, from point to point, as well as erection and removal, is facilitated.

The invention, therefore, consists essentially in the construction, arrangement and combination of the various parts, substantially as will be hereinafter more fully described, and then particularly pointed out in the claims.

In the accompanying drawing illustrating our invention; Figure 1 is a front elevation of our improved amusement apparatus. Fig. 2 is a perspective plan view of the basal portion, the tower being broken away and all the upper mechanism removed. Fig. 3 is a side elevation of the apparatus when folded together and mounted in truck form for shipment. Fig. 4 is an enlarged detail plan view of the connections of the car-supporting cables with the central shaft near the upper end of the latter. Fig. 5 is a detail view of the end of one of the cable-guiding and supporting arms. Fig. 6 is a detail view, in elevation, of the parts illustrated in Fig. 4.

Similar numerals of reference designate corresponding parts throughout all the different figures of the drawing.

1 denotes a tower, being an upright frame of greater or less height made of steel or other suitable metal or material, suitably braced by cross braces 3, or otherwise, and having a suitable form and size, it being preferably broader at the bottom than at the top, thus tapering from bottom to top, and in the specific example illustrated we find it convenient to make the base consisting of a flat square piece 27, which can rest easily on a level surface and uphold the tower in a perpendicular position. This tower can easily be raised on end or lowered by methods familiar to persons accustomed to handling structures of a similar kind.

Supported revolubly in suitable bearings in the tower is a vertical shaft 2, which is hollow sufficiently far from the top, so that it can, when desired, easily receive the whole of shaft 3, which shaft extends above the tower 1 and terminates in some ornamental tip, as 4, or otherwise. The shaft 2 is rotated by means of some suitable electrical or other motor properly geared thereto and not shown in drawings, as we lay no claim to the motor, the application of such a driving means to a vertical shaft being common. On the shaft 2, near the upper end, is a casting 8 which is fastened thereto by means of a horizontal pin or bolt 9 passing through the casting and also through the shaft 2 and the shaft 3, which at the time is within shaft 2. Casting 8 is provided with a series of sockets 10, in which are pivoted the inner ends of the arms 11, said arms projecting outwardly in a more or less inclined position, and being foldable down alongside of the tower 1 when the apparatus is dismantled and collapsed into the position for shipment, as shown in Fig. 3. On the shaft 3 is a sliding sleeve 5, which is secured at the desired point in the length of said shaft 3 by means of a pin 7 passing through the sleeve and also through shaft 3, all as clearly indicated in Fig. 1. The sleeve 5 is preferably provided, near its upper end, or elsewhere in its length, with a groove or with a couple of collars, as 6, forming a channel between them, the object thereof being to supply a place at which the car-supporting cables, as 18^a, see Fig. 4, may encircle the sleeve 5.

There may be any number of cars, carriages, or baskets 14, having any design, shape and size and intended to carry passengers who are to ride in the amusement apparatus. These cars, when the shaft 2 rotates, follow a curved path and are caused to travel at greater or less speed depending upon the speed of revolution of the shaft 2, and the sensation to the occupants of the cars, while thus traveling through the air noiselessly and at a high rate of speed, is pleasing and exhilarating. At the end of each car 14 is a pair of ropes or cables 15 fastened at opposite sides of the car and also to a single horizontal bar 16, one of which is employed above each car 14. Connected directly to each bar 16, near the ends thereof, or fastened to ropes or strands that are connected thus directly to bar 16, are two pairs of car supporting cables or ropes, the members of which are designated 17 and 17^a; the members 17 being fastened at one end of the bar 16, while the members 17^a are fastened at the other end. Thus each car is suspended by four cables; one pair of cables runs to the outer end of one arm 11, while the other pair runs to the outer end of the next adjoining arm 11, but it will be seen that there are four cables running to the end of each arm 11, and these cables pass over the end of the arm, in so doing being in contact with the antifriction pulley 13 journaled in a socket 12 with which the end of the arm 11 is provided, or if desired the pulley 13 can be omitted and the cables simply hung over a curved part at the end of the arm, either plan being used, as desired; and these cables pass onward to and around the sleeve 5. It will be obvious that the four cables 17, 17^a and 17, 17^a which reach the end of each of the arms 11 may preserve

their independence as they pass over the end of the arm or they may be so grouped and fastened together as in effect to constitute a single cable, as 18, as shown in Fig. 1. In Figs. 4 and 6, we have indicated the cables 18^a which are really continuations of the cables 17, 17^a, said figures being intended to indicate how the cables pass around the sleeve 5, and it will be seen that by using clamps 19 fastened securely to the cables near the sleeve 5, they are held, or a portion of them, as rings about the sleeve 5 so that thus the cables 18^a on one side of the sleeve 5 are integral with the cables 18^a on the other side of the sleeve. Thus the cables which lead from one car on one side of the apparatus in effect run as substantially the same cables upward over the arm thereabove, then around the sleeve 5, then over the opposite arm and downward to an opposite car, so that great strength is thereby gained.

The removable platform for the mechanism we have just described consists of a broad and ample structure of knockdown parts, which can be easily assembled or disassembled at pleasure. This platform or framework comprises essentially an elongated board or surface 21, on the two parallel longest sides of which are mounted girders 22 of any suitable shape and size, said girders 22 having at certain points therein vertical slots 26 adapted to receive cross girders 23, similar in shape and form to the girders 22. Thus there are two cross girders 23 interlocking, when the parts are in position, with the girders 22 and furnishing within them a square inclosure, suitable to receive the rectangular base part 27 of the tower 1, which part can be temporarily connected to the flooring 21 inside of this square inclosure by means of bolts 35, or other suitable retaining means. The outer end portions of the girders 22 and 23 are provided with inclines 24 and 25 on which inclined floorings 29 may be laid to provide an easy ascent to a horizontal flooring having a general circular form and consisting of boards or floor pieces 28 made in suitable sections if preferred, and resting on the upper horizontal edges of the girders 23 and in contact with the rails 31 which are fastened to the horizontal edges of the girders 22; said flooring consisting furthermore of boards or surfaces 30 which rest between the rails 31 on top of the girders 22 at each side of the tower and contiguous to the inclined floorings 29 just named; it being understood of course that all these parts just described as composing the foundation structure are easily put together or removed from each other. The girders 22 and 23 are of such length, as is also the flooring 21, that their ends rest on the ground at a suitable distance from the axis of rotation of the central shaft 2, and thus a very broad or firm tread or bearing is attained.

When the apparatus is to be dismantled and folded for shipment we utilize a portion of the platform, consisting of the parallel girders 22 and bottom 21, for a sort of flat or platform wagon on which the tower 1 and other parts may be laid, as shown in Fig. 3. The tower 1 is provided with wheels 32 on an axle at the side, which are adapted to engage the rails 31 when the tower is in this horizontal position, said wheels thereby thus facilitating the adjustment of the tower on the truck, back and forth, in order to put it into the proper position. This portion of the platform, consisting of girders 22 and bottom 21, may be called the truck or wagon, and when it is to be used as such it will be supplied with ordinary forward and rear trucks or wheels 33 and 34. First, of course the cross girders 23 will be removed from the slots 26 and they will be placed lengthwise on the truck alongside of the tower 1; then again the shaft 3 will be slid down into the hollow shaft 2, the pin 9 being first taken out, and the pin 7 being removed from the sleeve 5, said sleeve can be slipped along on the shaft 3. The whole affair can be easily collapsed or folded together in the position shown in Fig. 3. An erection of the parts can be accomplished with just as much ease as they can be taken down, and by making use of a portion of the base as the wagon a transfer, from point to point, will be made with little difficulty. In dismantling the structure the cars will be first disconnected, and their supporting cables removed or wound in some convenient manner.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. In a portable amusement apparatus, the combination with a tower, of a telescopic shaft supported rotatably therein and consisting of a lower section and an extensible or adjustable section, arms pivotally connected with the lower section, means connected with the upper adjustable section for holding the arms in outward extending positions, cars supported from the arms, and means for holding the two sections of the shaft in extended relations, substantially as set forth.

2. In a portable amusement apparatus, the combination of a tower, a telescopic shaft supported revolubly therein, a casting secured to the shaft and having sockets, arms pivoted in the sockets, a sleeve on the upper portion of the shaft, and car supporting cables passing over the ends of the arms and connected to the sleeve.

3. In a portable amusement apparatus, the combination with a tower, of a revoluble shaft, consisting of a hollow section, and a second section inserted thereinto, a series of arms hinged to the hollow section, and car-supporting cables passing over the ends of said arms and connected to the upper part of the shaft.

4. The combination of a tower, a revolving shaft and car-supporting arms mounted therein, a base 27 rigidly secured to the tower, and the supporting platform or framework, consisting of parallel girders and cross girders inter-locking with each other and forming a centrally disposed rectangular inclosure in which the base 27 of the tower is arranged to closely fit, substantially as set forth.

5. The combination with a tower, revolving shaft, cars, and means for supporting the cars so that they will revolve with the shaft, of a knockdown framework, consisting essentially of interlocking girders, providing an inclosure for the base of the tower, and a platform supported on said girders around the tower.

6. The combination, in a portable amusement apparatus, of a revolving shaft, consisting of a hollow section and a second section received into and held in the hollow section, sockets on the outside of the hollow section, arms pivoted in said sockets, a sleeve on the upper part of the second section and fastened temporarily thereto, and cables connected to said sleeve and passing over the outer ends of the arms, together with cars hanging on said cables.

7. In a portable amusement device, the combination of a base having parallel girders carrying rails 31, a tower supported on the base and arranged to be let down for transportation, and wheels carried by the tower and arranged to run upon the rails upon the girders, substantially as set forth.

Signed at New York, this 25th day of January, 1905.

THOMAS A. FULTON.
THOMAS H. FULTON.

Witnesses:
JOHN H. HAZELTON,
I. HEIBERG.