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CAPTIVE AEROPLANE.

APPLICATION FILED DEC. 13, 1920.

1,421,683.

Patented July 4, 1922.

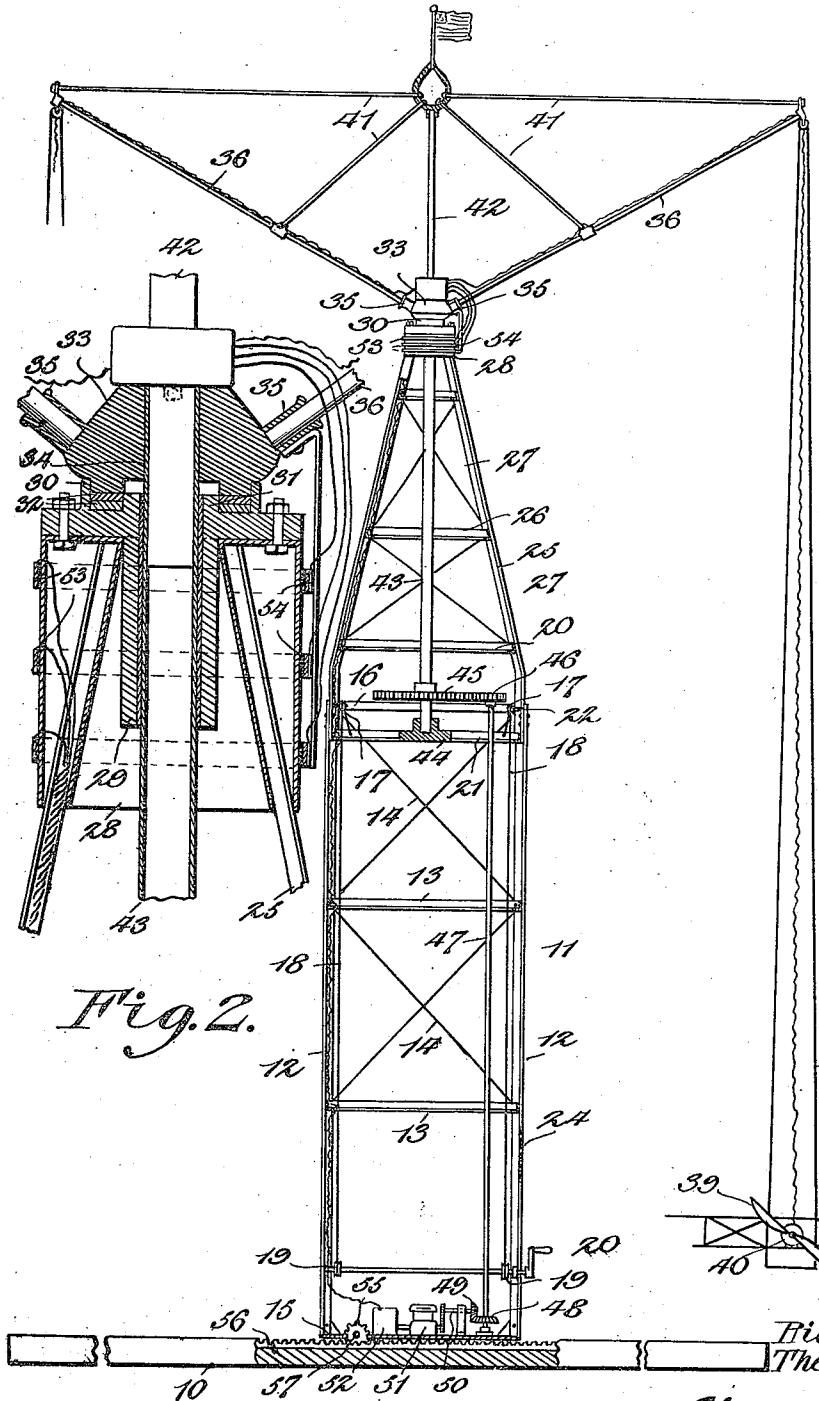

Fig. 1.

Fig. 2.

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Application filed December 13, 1920. Serial No. 430,238.

To all whom it may concern:

Be it known that we, RICHARD GARVEY and THEODORE J. MINER, citizens of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Captive Aeroplanes, of which the following is a specification.

This invention relates to captive aeroplanes or swings for amusement parks, carnivals, fairs, etc.; and the principal object is to produce a device of this nature which may be easily folded up so as to move the same from place to place.

Another object is to construct a device of this nature which shall be simple of construction, cheap to manufacture, and highly efficient for the purpose for which it is designed.

Another object is to construct a device of this nature so as to give the greatest height with the least weight.

With these and other objects in view which will be apparent as the specification proceeds, the invention resides in certain novel construction and combination and arrangement of parts, the essential features of which are hereinafter fully described, are particularly pointed out in the appended claims, and are illustrated in the accompanying drawing, in which:—

Figure 1 is a vertical sectional view of our improved machine.

Figure 2 is a fragmentary vertical sectional view of the crown of the device.

Like characters of reference refer to like parts in both views.

This invention contemplates the providing of a captive aeroplane device or rotary swing for amusement parks and like places, which comprises a collapsible tower mounted on a base along which it may be folded for ready transportation from place to place.

Referring to the drawing more in detail, 10 represents a base frame which may be of any suitable construction so as to be strong enough to support the superstructure and to extend far enough to form a suitable base. Preferably the base is longer than the main section of the superstructure so as to receive the latter for transportation as will be presently explained. Secured to this base by bolts or other suitable means is the base portion of the tower structure, said portion being designated in general by the numeral 11 and comprising the upright corner angles 12, cross braces 13 and guy cables 14. The portion 11 also includes a floor 15 upon which is supported the general operating mechanism for the swings. Top braces are shown at 16 and carry sheaves 17 over which pass cables 18 the lower ends of which are secured to respective winches 19 operable by hand levers 20 or other suitable means.

The other ends of cables 18 are secured to the lower frame members 21 of the upper section of the tower, said upper section comprising short vertical corner angles 22 which are adapted to move up and down in angles 12 as on rails and may be secured in extended condition by bolts 23 passing through the members 22 and the upper portions of angles 12. When the device is telescoped, the bolts pass through lower apertures 24 to maintain the sections in relative positions. Raising and lowering of the upper section is of course accomplished by cables 18 and winches 19. The movable section also includes converging corner angles 25, cross braces 26 and guy wires 27, and mounted at the upper end of the upper section is a crown which is preferably a single casting 28 fitting over the outside of the tower and into which is inserted a bushing 29 which is secured to the member 28 by bolts or other suitable means. An annular rib 30 together with an upstanding portion 31 of the bushing form an oil chamber in which are loosely contained a pair of bronze bearing rings 32.

A spider 33 is provided on its lower face with an annular portion 34 which rests on rings 32; and with a plurality of sockets 35 which are preferably arranged in pairs with the sockets of each pair diametrically opposite each other. Arms 36 fit into sockets 35 and extend upwardly and outwardly, the upward slope tending to increase the height without adding greatly to the weight of the device. From the free ends of arms 36 are aeroplanes 37 suspended by cables 38 and provided with propellers 39 run by small motors 40. Suitable guy wires 41 and standard 42 aid in bracing and supporting arms 36.

The spider 33 has secured to it a downwardly extending shaft 43 which is mounted at its lower end in a bearing 44 supported by the frame members 21, said shaft 43 carrying near its lower end a large gear 45 which when the tower is fully elevated meshes with a gear 46 secured to the upper end of a shaft 47 having bearings supported

by the lower section 11 of the tower. The shaft 47 carries near its lower end a miter gear 48 which may be driven by a miter gear 49 on a shaft 50 adapted to be driven directly from a gasoline or other suitable motor illustrated conventionally at 51.

An electric generator is shown conventionally at 52 and may be connected in any suitable manner with motor 51 for operation thereby and is connected by suitable wires with rings 53 on the member 28. Brushes 54 are suitably supported on the arms 36 and bear against rings 53 and have wires connecting the brushes with the motors 40 so as to effect rotation of the propellers 39.

Secured in bearings in the floor 15 is a gear wheel 55 meshing with a rack 56 secured in the base frame 10. Wheel 55 may be secured on a shaft 57 which may be operated by a hand lever or any suitable means to move the entire tower along the frame 10.

It will thus be seen that the device is admirably suited to use at fairs, circuses and carnivals, as the upper section of the tower may be telescoped into the lower section, arms 36 and the depending parts removed, the entire tower moved to one end of base 10 and then turned down so as to lie lengthwise of the base 10, and the base 10 then jacked up and placed on trucks for ready transportation to a new location.

While we have described what is deemed to be the most desirable embodiment of the invention, it is obvious that many of the details may be varied without in any way departing from the spirit of our invention, and we therefore do not limit ourselves to the exact details of construction herein set forth nor to anything less than the whole of our invention limited only by the appended claims.

What is claimed as new is:—

1. In a device of the class described, a base portion, a pair of telescoping tower portions, arms removably supported by one of said tower portions, cars suspended from said arms, a shaft for each of said tower sections, gearing adapted to connect said shafts, and means supported on said base portion for operating said shafts to effect rotary movement of said arms and cars.

2. In a device of the class described, a base portion, a pair of telescoping tower portions, arms removably supported by one of said tower portions, cars suspended from said arms, a shaft for each of said tower sections, gearing adapted to connect said shafts, means for operating said shafts to effect rotary movement of said arms and cars, and means operable to effect movement of said gearing to effect connecting and disconnecting of said shafts.

3. In a device of the class described, the combination of a base portion, a tower portion movably mounted on said base portion, a second tower portion slidably mounted in the first said tower portion, means for effecting movement of said second tower portion relative to the first said tower portion, arms rotatably mounted on said second tower portion, cars suspended from said arms, and means mounted in said tower portions for effecting rotation of said arms.

In testimony whereof we have affixed our signatures.

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