J. METZGER.

CIRCLE SWING.

APPLICATION FILED JAN. 28, 1920.

1,368,568.

Patented Feb. 15, 1921.

2 SHEETS—SHEET 1.

Fig. 2.

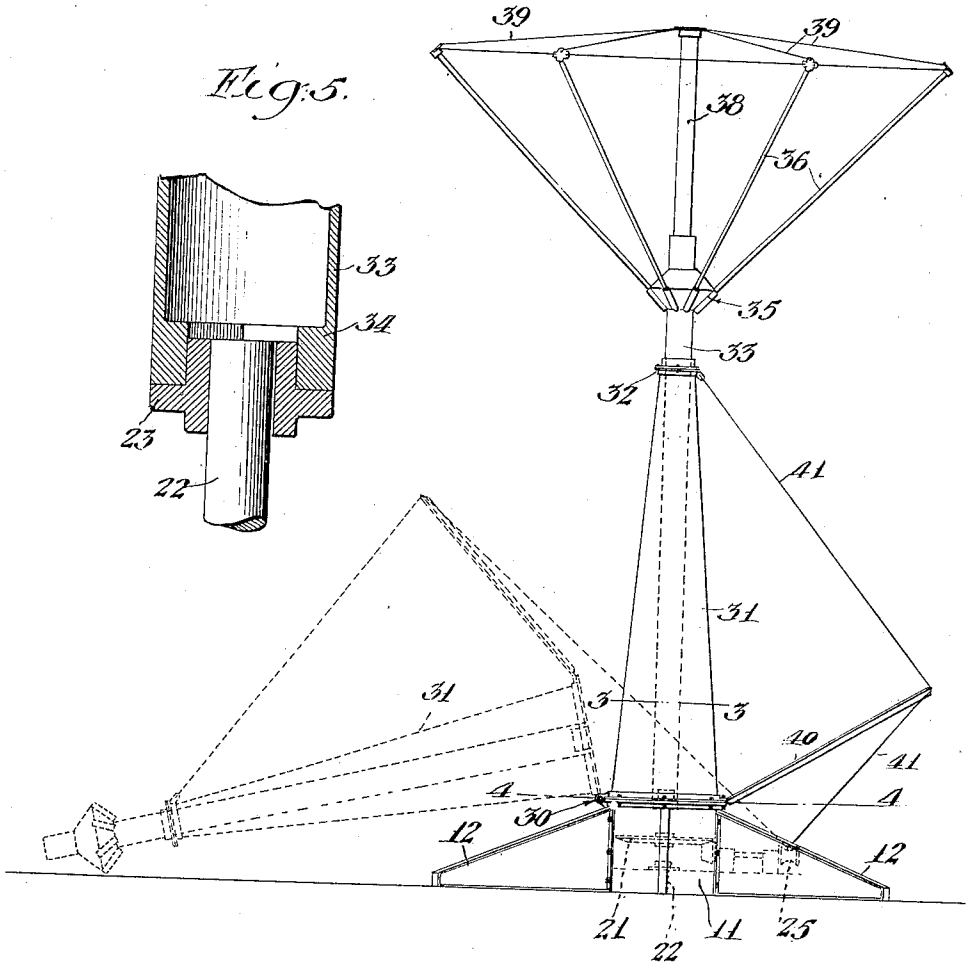
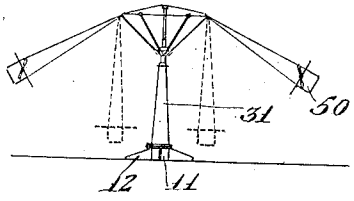


Fig. 5.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 3.

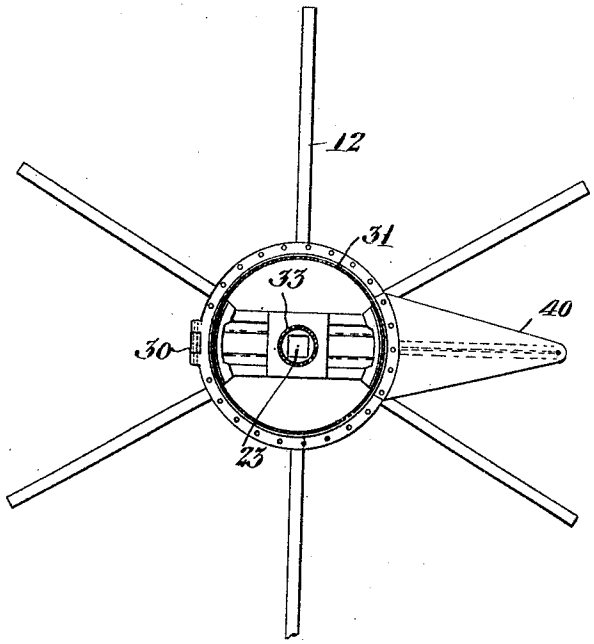
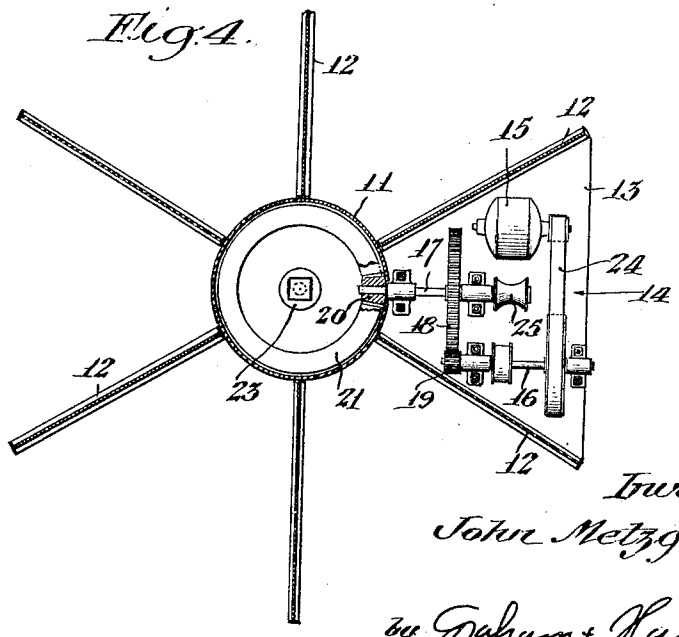


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN METZGER, OF LOS ANGELES, CALIFORNIA, ASSIGNOR TO UNION TANK & PIPE COMPANY, A CORPORATION OF CALIFORNIA.

CIRCLE-SWING.

1,368,568. Specification of Letters Patent. Patented Feb. 15, 1921.

Application filed January 28, 1920. Serial No. 354,651.

To all whom it may concern:

Be it known that I, JOHN METZGER, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented a new and useful Improvement Comprising Circle-Swings, of which the following is a specification.

My invention relates to amusement devices, and more particularly to what is known in the amusement business as circle swings. These swings consist essentially of a vertical rotating shaft having arms to which are attached by chains or cables various types of containers in which the patrons of the devices are carried. These containers may consist of boats, baskets, aeroplanes or the like, and as the shaft is rotated, the containers are thrown out by centrifugal force, swinging in a constantly widening circle until a balance is obtained, the final position of the containers depending upon the speed at which the shaft is rotated.

The principal object of my invention is to provide a circle swing which is portable. So far as I am aware all previous types of circle swings have been constructed more or less permanently so that when once installed in a place they were left for long periods without moving. My invention is designed to be quickly erected so that it can be moved about from place to place, forming a part of fairs or carnivals.

A further object of the invention is to provide a portable circle swing which can be erected and dismantled by its own power, the parts when dismantled, being of such a size as to be easily handled and shipped.

Further objects and advantages will be made evident hereinafter.

Referring to the drawings, which are for illustrative purposes only,

Figure 1 is a diagrammatic view showing the apparatus in operation.

Fig. 2 is a side elevation on a larger scale.

Fig. 3 is a section on a plane represented by the line 3—3 of Fig. 2.

Fig. 4 is a section on a plane represented by the line 4—4 of Fig. 2.

Fig. 5 is an enlarged section showing the joint between the base shaft and the vertical shaft.

In the embodiment of the invention shown I provide a cylindrical base section 11 to which is detachably bolted a series of legs 12, these legs being provided for the purpose of giving greater stability to the apparatus. Mounted on a plate 13 secured between two of the legs 12 is a driving gear 14 which consists of an electric motor 15 which drives a shaft 16 through a belt 24 and suitable pulleys, the shaft 16 driving a shaft 17 through suitable gears 18 and 19, the shaft 17 carrying a beveled pinion 20 which drives a bevel gear 21 carried on a base shaft 22, this base shaft being fixed in suitable bearings inside the base section 11. The upper end of the shaft 22 is provided with a plug 23 which may be of square or other non-circular contour. Secured on the shaft 17 is a winch head 25. Suitable controlling apparatus (not shown) is of course provided by means of which the motor can be started, stopped or reversed.

Secured to one side of the upper end of the base section 11 is a hinge 30, this hinge also being secured to a standard 31 which is preferably formed of sheet metal and which is conical in shape, terminating at its upper end in a flange 32 which forms a thrust bearing on which a vertical shaft 33 is supported. This vertical shaft 33 may be solid but it is preferably formed of pipe, terminating in its lower end in a socket 34 which fits over the plug 23 when the device is fully assembled.

Secured on the vertical shaft 33 above the upper end of the standard 31 is a head 35 which is preferably provided with openings into which arms 36 may be slipped, these arms also being preferably formed of pipe and extending upwardly and outwardly from the vertical shaft 33 as shown in Fig. 2. The outer ends of the arms 36 are secured together by a circumferential cable, each of the arms being secured to an extension 38 of the vertical shaft 33 by means of guy cables 39. The extension 38 may be solid, but it preferably consists of a pipe of somewhat smaller diameter than the pipe 33 secured inside the pipe 33, in such a manner that it cannot rotate with relation thereto. The standard 31 and the base section 11 are provided with flanges by means of which they may be solidly bolted together.

Secured on the lower end of the standard 31 is a strut 40 which extends outwardly and upwardly for the purpose of providing a leverage. A hoisting and lowering cable 41 is secured at one end of the flange 32, extending downwardly over the strut 40 into

a position where it may be passed around the winch head 25.

Any type of container 50 may be used and these containers may be suspended from the arms 36 by any suitable system of cables or the like.

The apparatus is shipped dismantled, that is to say, the various parts are disconnected.

Upon the arrival of the apparatus upon the ground, the legs 12 are bolted to the base section 11 and the plate 13 is bolted in place with the pinion 20 engaging the gear 21. The standard 31 is secured to the base section 11 by means of the hinge 30, the strut 40 having first been secured in place on the standard 31. It is now possible by means of the winch head 25 on the gear 14 and the cable 41 to lift the standard 31 from the ground and to raise it toward the vertical position. As soon as the standard 31 is partially raised the members 36, 37, 38 and 39 are secured in place, the standard then being elevated to the vertical position and solidly bolted to the base section 11. As the standard is pulled up into its vertical position the socket 34 slips over the plug 23. After the standard is fully elevated the strut 40 and the cable 41 may be removed. It is then possible to rotate the shaft 33 and the shaft 38 by means of the gear 17.

The method of dismantling the apparatus is of course the exact reverse to that described in assembling.

It will be seen that my apparatus consists of a number of separate pieces, all of which may be made sufficiently small to be readily handled and shipped.

It will be further seen that by utilizing the gear 14 that the swing can be quickly and easily erected.

I claim as my invention:

1. In a portable circle swing; a base section; legs detachably secured to said base section and projecting radially therefrom; a driving gear carried on structure secured to said legs; a base shaft secured in bearings in said base section; a plug of noncylindrical contour secured on the upper end of said base shaft; a standard bolted to the top of said base section and projecting upwardly therefrom; a hinge connecting one side of said standard with said base section; a vertical shaft turning in bearings in said standard; a socket fixed to the bottom of said shaft and fitting over and engaging said plug; a head fixed to said vertical shaft above said standard said vertical shaft projecting upwardly from said head; a series of arms detachably socketed in said head and projecting outwardly and upwardly therefrom; a circumferential cable passing around and connecting the outer ends of said arms; a series of guy cables each connecting the outer end of one of said arms with the upper end of said vertical shaft; a strut secured to the lower end of said standard; a winch head on said driving gear below said strut; and a hoisting and lowering cable secured near the upper end of said standard and passing over said strut to said winch head.

2. In a portable circle swing; a base section; a driving gear carried on structure secured to said legs; a base shaft secured in bearings in said base section; a plug of noncylindrical contour secured on the upper end of said base shaft; a standard bolted to the top of said base section and projecting upwardly therefrom; a hinge connecting one side of said standard with said base section; a vertical shaft turning in bearings in said standard; a socket fixed to the bottom of said shaft and fitting over and engaging said plug, a head fixed to said vertical shaft above said standard said vertical shaft projecting upwardly from said head; a series of arms detachably socketed in said head and projecting outwardly and upwardly therefrom; a circumferential cable passing around and connecting the outer ends of said arms; a series of guy cables each connecting the outer end of one of said arms with the upper end of said vertical shaft; a strut secured to the lower end of said standard; a winch head on said driving gear below said strut; and a hoisting and lowering cable secured near the upper end of said standard and passing over said strut to said winch head.

3. In a portable circle swing; a base section; legs detachably secured to said base section and projecting radially therefrom; a driving gear; a base shaft secured in bearings in said base section; a plug of noncylindrical contour secured on the upper end of said base shaft; a standard bolted to the top of said base section and projecting upwardly therefrom; a hinge connecting one side of said standard with said base section; a vertical shaft turning in bearings in said standard; a socket fixed to the bottom of said shaft and fitting over and engaging said plug; a head fixed to said vertical shaft above said standard said vertical shaft projecting upwardly from said head; a series of arms detachably socketed in said head and projecting outwardly and upwardly therefrom; a circumferential cable passing around and connecting the outer ends of said arms; a series of guy cables each connecting the outer end of one of said arms with the upper end of said vertical shaft; a strut secured to the lower end of said standard; a winch head on said driving gear below said strut; and a hoisting and lowering cable secured near the upper end of said standard and passing over said strut to said winch head.

4. In a portable circle swing; a base sec-

tion; legs detachably secured to said base section and projecting radially therefrom; a driving gear carried on structure secured to said legs; a base shaft secured in bearings in said base section; a standard bolted to the top of said base section and projecting upwardly therefrom; a hinge connecting one side of said standard with said base section; a vertical shaft turning in bearings in said standard; means for detachably securing said base shaft to said vertical shaft; a head fixed to said vertical shaft above said standard said vertical shaft projecting upwardly from said head; a series of arms detachably socketed in said head and projecting outwardly and upwardly therefrom; a circumferential cable passing around and connecting the outer ends of said arms; a series of guy cables each connecting the outer end of one of said arms with the upper end of said vertical shaft; a strut secured to the lower end of said standard; a winch head on said driving gear below said strut; and a hoisting and lowering cable secured near the upper end of said standard and passing over said strut to said winch head.

5. In a portable circle swing; a base section; legs detachably secured to said base section and projecting radially therefrom; a driving gear carried on structure secured to said legs; a base shaft secured in bearings in said base section; a plug of noncylindrical contour secured on the upper end of said base shaft; a standard bolted to the top of said base section and projecting upwardly therefrom; a hinge connecting one side of said standard with said base section; a vertical shaft turning in bearings in said standard; a socket fixed to the bottom of said shaft and fitting over and engaging said plug; a head fixed to said vertical shaft above said standard said vertical shaft projecting upwardly from said head; a series of arms detachably socketed in said head and projecting outwardly and upwardly therefrom; a circumferential cable passing around and connecting the outer ends of said arms; and a series of guy cables each connecting the outer end of one of said arms with the upper end of said vertical shaft.

6. In a portable circle swing; a base section; legs detachably secured to said base section and projecting radially therefrom; a driving gear carried on structure secured to said legs; a base shaft secured in bearings in said base section; a plug of noncylindrical contour secured on the upper end of said base shaft; a standard bolted to the top of said base section and projecting upwardly therefrom; a hinge connecting one side of said standard with said base section; a vertical shaft turning in bearings in said standard; a socket fixed to the bottom of said shaft and fitting over and engaging said plug; a head fixed to said vertical shaft above said standard said vertical shaft projecting upwardly from said head; and a series of arms detachably socketed in said head and projecting outwardly and upwardly therefrom.

7. In a portable circle swing; a base section; a driving gear carried on structure secured to said legs; a base shaft secured in bearings in said base section; a plug of noncylindrical contour secured on the upper end of said base shaft; a standard bolted to the top of said base section and projecting upwardly therefrom; a hinge connecting one side of said standard with said base section; a vertical shaft turning in bearings in said standard; a socket fixed to the bottom of said shaft and fitting over and engaging said plug; a head fixed to said vertical shaft above said standard said vertical shaft projecting upwardly from said head; and a series of arms detachably socketed in said head and projecting outwardly and upwardly therefrom.

8. In a portable circle swing; a base section; legs detachably secured to said base section and projecting radially therefrom; a driving gear; a base shaft secured in bearings in said base section; a plug of noncylindrical contour secured on the upper end of said base shaft; a standard bolted to the top of said base section and projecting upwardly therefrom; a hinge connecting one side of said standard with said base section; a vertical shaft turning in bearings in said standard; a socket fixed to the bottom of said shaft and fitting over and engaging said plug; a head fixed to said vertical shaft above said standard said vertical shaft projecting upwardly from said head; and a series of arms detachably socketed in said head and projecting outwardly and upwardly therefrom.

9. In a portable circle swing; a base section; legs detachably secured to said base section and projecting radially therefrom; a driving gear carried on structure secured to said legs; a base shaft secured in bearings in said base section; a standard bolted to the top of said base section and projecting upwardly therefrom; a hinge connecting one side of said standard with said base section; a vertical shaft turning in bearings in said standard; means for detachably securing said base shaft to said vertical shaft; a head fixed to said vertical shaft above said standard said vertical shaft projecting upwardly from said head; and a series of arms detachably socketed in said head and projecting outwardly and upwardly therefrom.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 20th day of January, 1920.

JOHN METZGER.