H. T. KAHO.

ROTARY SWING.

APPLICATION FILED AUG. 24, 1921.

1,433,285.

Patented Oct. 24, 1922.

2 SHEETS—SHEET 1.

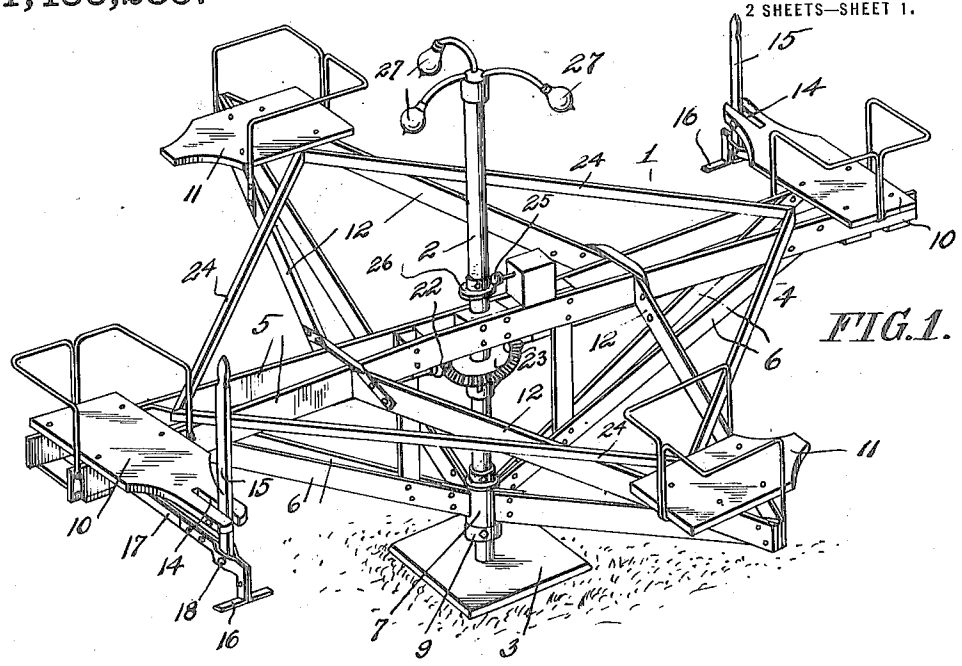
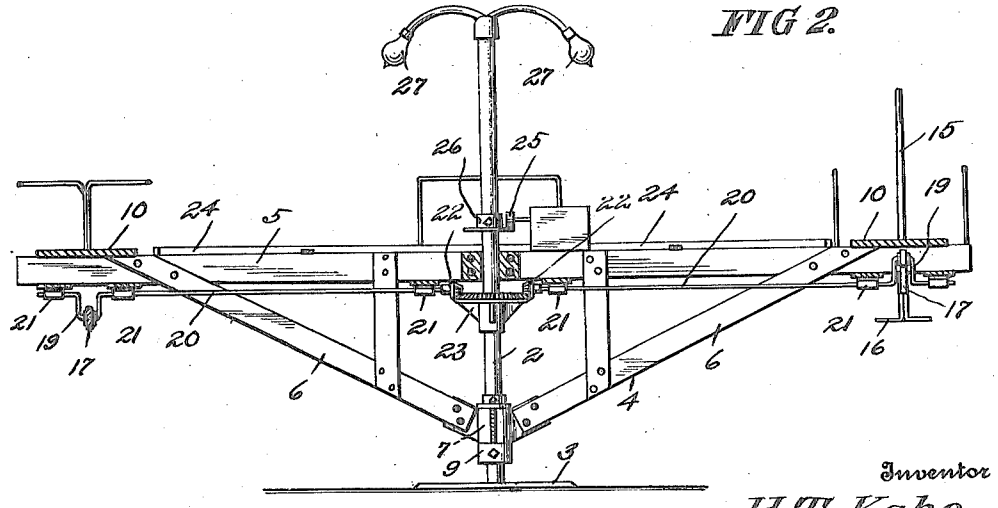


FIG. 1.

FIG 2.



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2 SHEETS—SHEET 2.

FIG. 4.

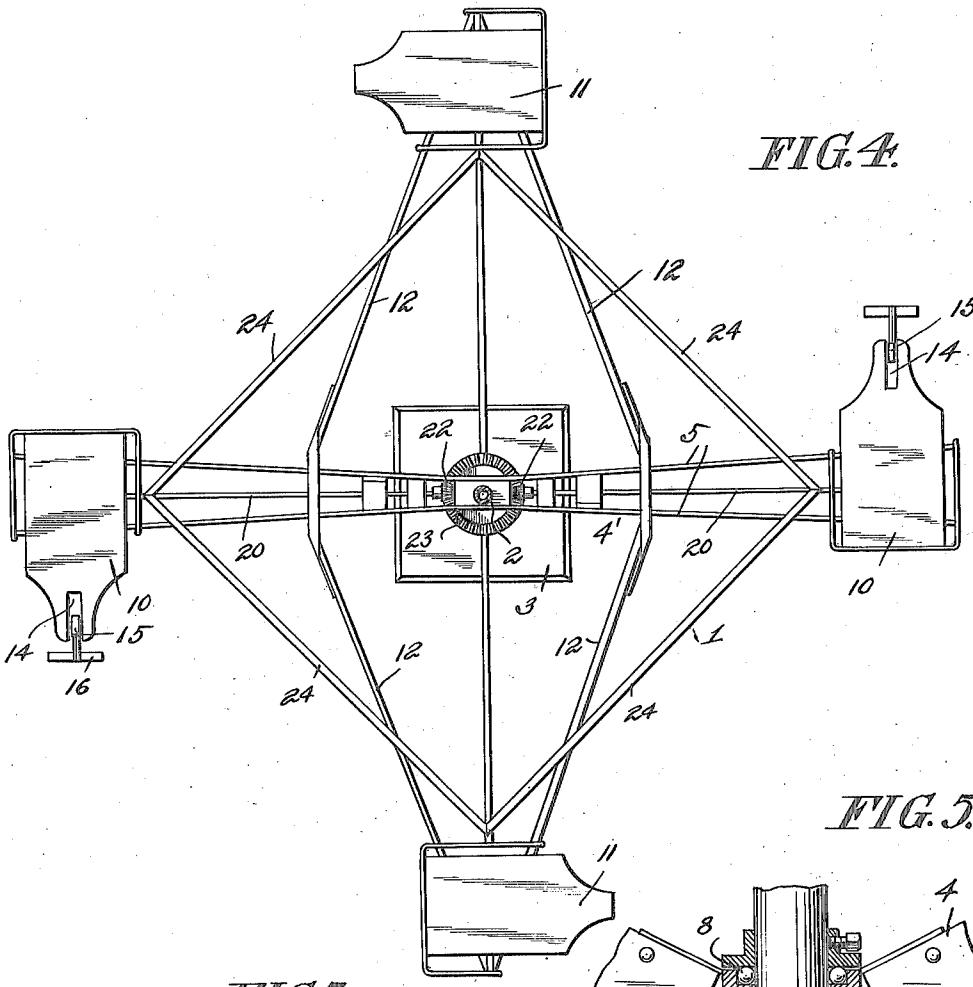


FIG. 5.

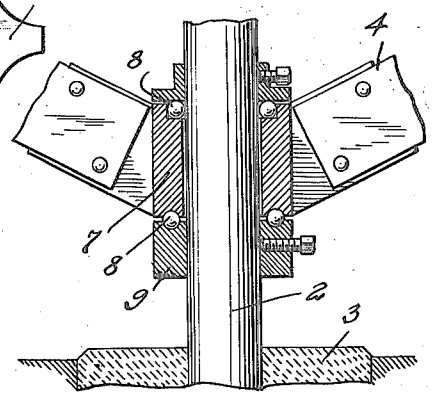
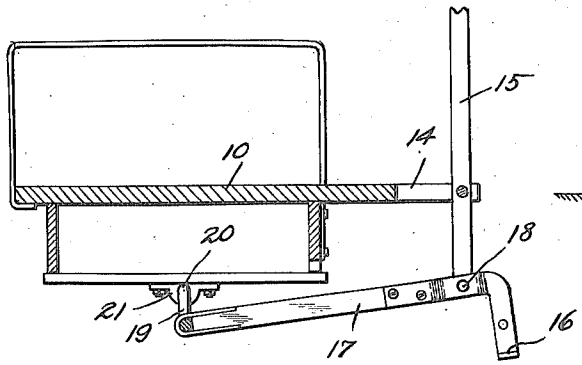


FIG. 3.



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UNITED STATES PATENT OFFICE.

HALLEY T. KAHO, OF WEST JEFFERSON, OHIO.

ROTARY SWING.

Application filed August 24, 1921. Serial No. 495,044.

To all whom it may concern:

Be it known that HALLEY T. KAHO, a citizen of the United States, residing at West Jefferson, in the county of Madison and State of Ohio, has invented certain new and useful Improvements in Rotary Swings, of which the following is a specification.

This invention relates to an improved rotary swing adapted primarily as an amusement furnishing device for children, the general object thereof being to provide a swing capable of supporting a plurality of riders and by means of appropriate mechanism to effect the rotation of the supporting structure for the riders about a stationary vertical axis.

In carrying out my invention, use is made of a vertical standard upon which is mounted a rotary frame, the said frame carrying a plurality of seats, certain of which being equipped with oscillating levers which, upon manipulation, will serve to effect the rotation of shafts, journaled in connection with said frame, which have their inner ends equipped with pinions, and disposed for engagement with a main stationary gear mounted upon the vertical standard, the construction being such that by oscillating the handles or levers rotary motion will be imparted to the frame, another object of the invention resides in providing an anti-friction bearing between the frame and the vertical standard, which will serve to enable the frame to rotate freely about the standard with an absence of undue friction, thus requiring but slight power to effect the rotation of the frame.

Other objects of the invention reside in a rotary swing of substantial construction and simple and economical to erect and maintain; in locating the drive gearing in supporting bearings near the standard or shaft of the swing so as to be close to the center of the structure and to thereby reduce resistance and in providing an improved arrangement of driving parts for effecting the rotation of the operating shafts.

With these and other objects in view, the invention consists in the novel features of construction, combinations of elements and arrangements of parts, hereinafter to be fully described and particularly pointed out in the appended claim.

In the accompanying drawing:

Figure 1 is a perspective view of the improved swing comprising the present invention,

Figure 2 is a vertical sectional view taken therethrough,

Figure 3 is a similar view taken through one of the seats, and

Figure 4 is a horizontal sectional view.

Figure 5 is an enlarged view of a portion of the shaft showing the sleeve and its support in section.

Referring more particularly to the details of the invention, the numeral 1 designates my improved rotary swing in its entirety. This swing in the specific embodiment of the invention illustrated, is formed to include a vertical standard or shaft 2, which is adapted to be stationarily mounted. This may be accomplished by embedding its lower end in a concrete block 3, or by providing any other suitable stabilizing means.

Rotatable about the shaft 2 is a frame 4 which, in this instance, is formed to include a light weight wooden structure, and comprises a pair of spaced horizontally extending bars 5, which are journaled about the shaft 2. The outer ends of the bars 5 are connected with depending braces 6, which extend downwardly and angularly with respect to the bars 5 and have their lower ends connected with a metallic sleeve 7, freely rotatable about the shaft 2. The sleeve 7 is mounted upon an anti-friction bearing 8 which, in turn, rests upon a collar 9 stationarily carried by the shaft or standard 2. By this construction it will be apparent that the frame will be enabled to freely rotate about the shaft, that the same will be light in weight and yet of substantial construction so as to be capable of withstanding all usual weights imposed thereon, the diagonal braces 6 serving materially to strengthen the general construction of the frame. The extreme outer ends of the bars 5 are equipped with riders' seats 10 capable of holding at last one occupant. Also, similar seats 11 are provided upon the outer ends of outwardly converging horizontally disposed bars 12, rigidly connected with the sleeve 7. The swing structure in this instance will thus be capable of supporting four or more occupants.

To effect the rotation of the frame, the seats 10 are provided with bifurcated forward ends 14, in which are pivotally mounted crank levers 15. The upper ends

of these levers may be grasped by the operator's hands so that the said levers may be oscillated, and also, the lower ends of said levers are provided with fixed cross-pins 16, which operate in the capacity of foot pedals for assisting in the rocking of the levers 15. Beneath the pivotal mountings of the levers 15, connecting rods 17 are provided. These rods are pivoted as at 18 to the lower portions of the levers 15, and their opposite ends are suitably mounted within cranks 19 provided in a pair of crank shafts 20. These shafts are suitably mounted for rotation within bearings 21 provided in conjunction with the bars 5, and the inner ends of said shafts are equipped with bevel pinions 22 which are disposed for engagement with a stationary main baffle gear 23, fixed to the shaft or standard 2.

It will be seen that, in operation, the seats 10 and 11 may be filled with riders, and that rotary motion may be imparted to the frame, and the structure associated therewith, by the manual oscillation of the levers 15. The oscillation of these levers results, through the medium of the connecting rods 17, in the rotation of the shafts 20, which causes the beveled pinions 21 thereon to travel around the fixed main gear 23, thus imparting the desired rotation at suitable speeds to the frame. This movement is facilitated by reason of the anti-friction bearing 8, which serves to rotatably support the entire frame and is located centrally thereof so as to minimize friction. The bars 5 and 12 may be connected by means of outer braces 24, which extend diagonally between and are secured to the outer ends of said bars. Also, the frame may be provided with a small inexpensive organ or other musical instrument which may be operated by means of a roller 25, disposed for frictional engagement with the collar 26 fixed to the shaft 2. Also, the upper end of the shaft 2 may be provided with one or more incandescent lamps 27, by means of which the swing may be illuminated or decorated.

It will be apparent from the foregoing that a swing is provided which will be capable of imparting a very considerable degree of amusement to the users thereof, and one wherein a construction is provided which will be substantial and durable so that the danger of breakage or accidents of any nature will be reduced to a minimum. The seats are arranged close to the ground, thus providing a relatively low center of gravity, a feature which tends to insure safety in operation.

From the above it is believed that the operation and construction of the invention will be readily understood by those skilled in the art, and therefore a more detailed explanation has been omitted.

What is claimed is:

A rotary swing comprising a frame consisting of a pair of spaced horizontally disposed bars, a vertical standard engaged between the bars and rotatably connected therewith, seats carried by the outer ends of the bars, convergingly arranged horizontal bars having their inner spaced ends connected with the first named bars, seats mounted on the outer ends of the second named bars, a sleeve rotatably engaged on the standard near its lower end, downwardly and inwardly inclined braces connecting the respective bars with the sleeve, certain of the braces having their upper ends fixed between their outer ends of the convergingly arranged bars, angularly disposed bars connecting the first and second named bars, and manual means for effecting the rotation of the frame.

In testimony whereof I affix my signature.

HALLEY T. KAHO.