H. C. TANABE.

AMUSEMENT APPARATUS.

APPLICATION FILED JUNE 2, 1917.

1,277,272.

Patented Aug. 27, 1918.

3 SHEETS—SHEET 1.

Fig. 1.

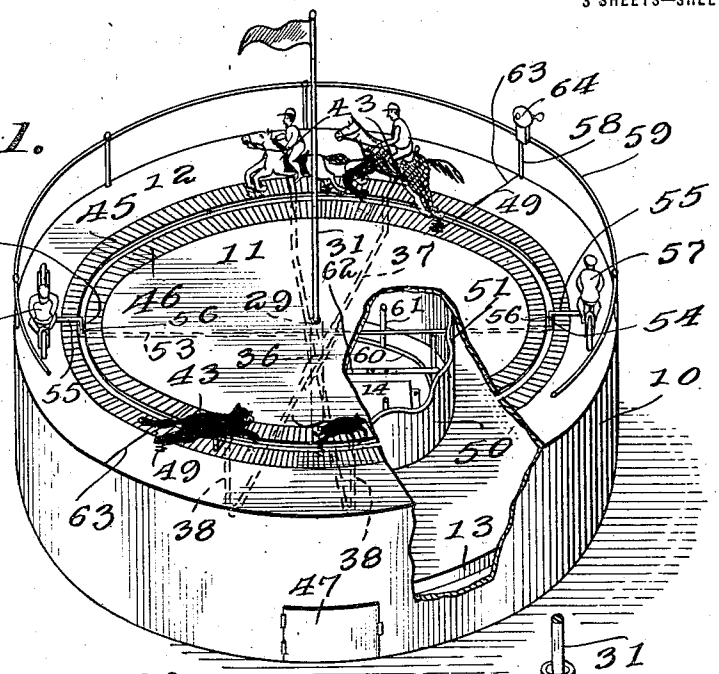


Fig. 4.

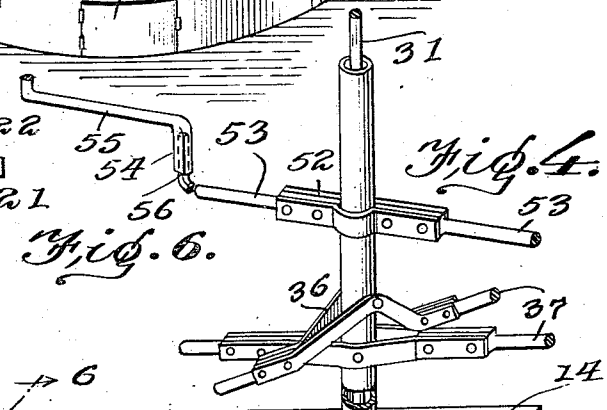


Fig. 6.

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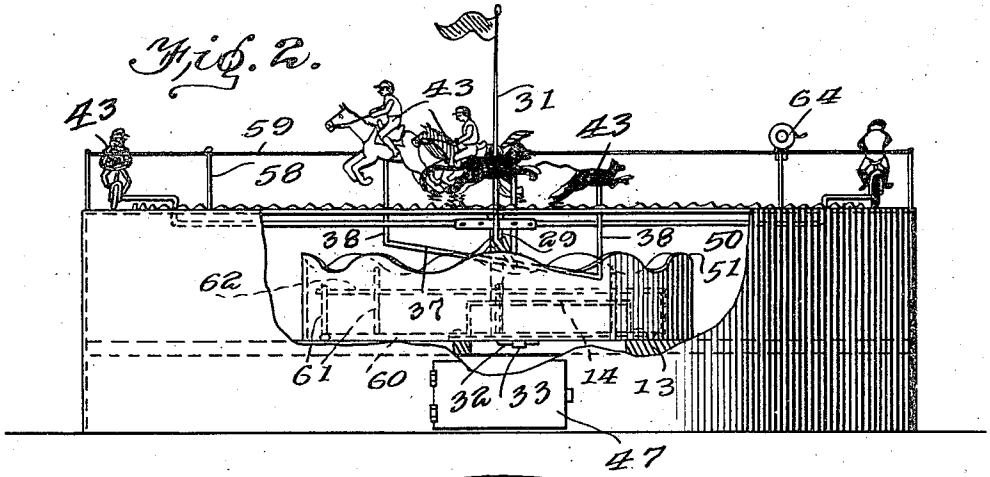
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3 SHEETS—SHEET 2.

Fig. 2.



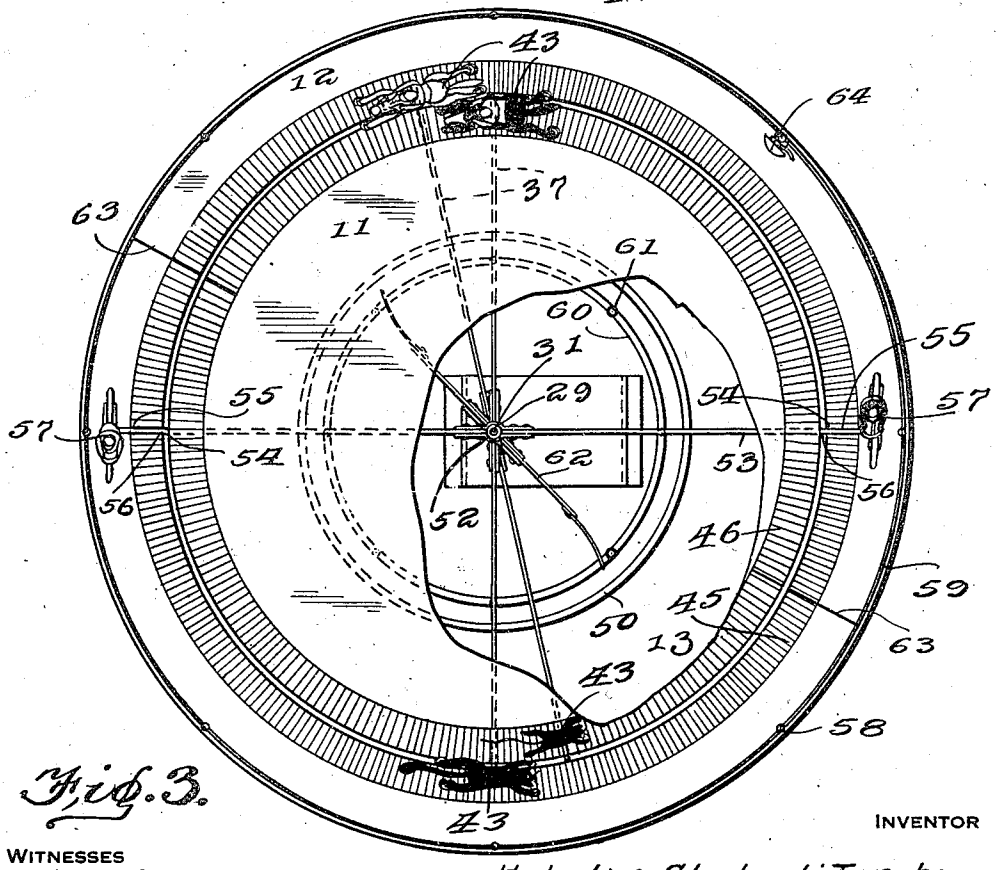


Fig. 3.

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3 SHEETS—SHEET 3.

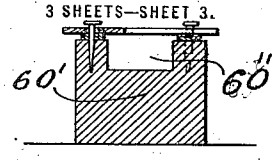
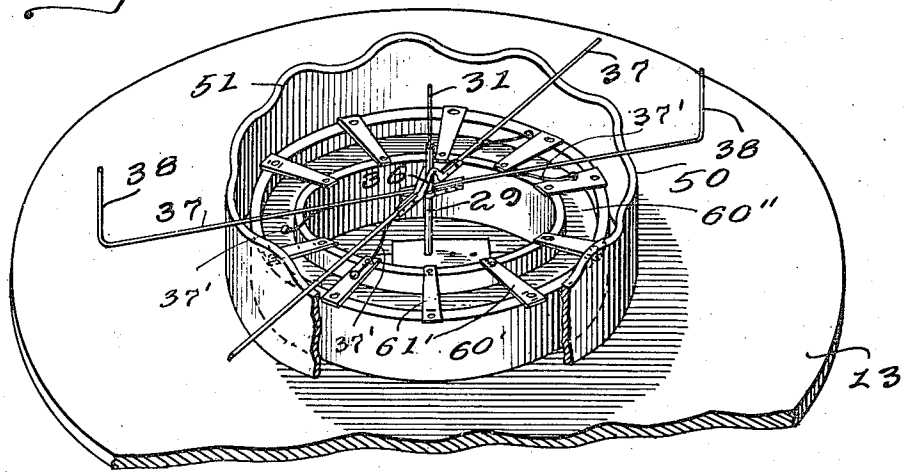


Fig. 10.

Fig. 9.



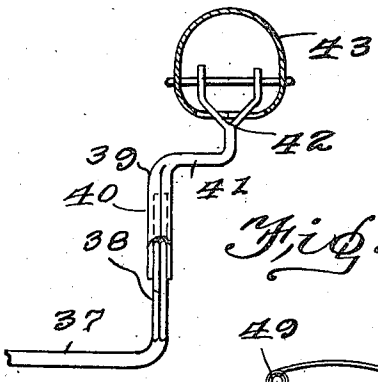


Fig. 5.

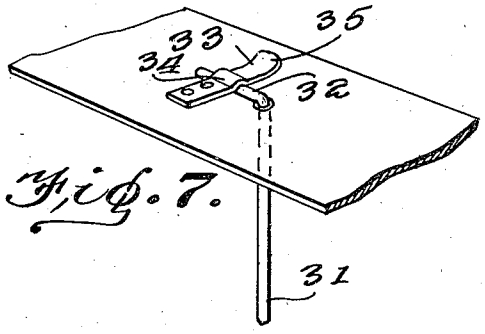


Fig. 7.

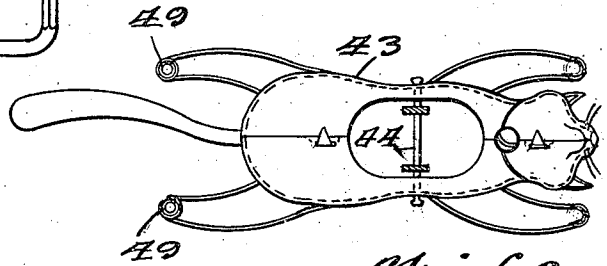


Fig. 8.

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HAKULYO CHUHACHI TANABE, OF MARYSVILLE, CALIFORNIA.

AMUSEMENT APPARATUS.

1,277,272. Specification of Letters Patent. Patented Aug. 27, 1918.

Application filed June 2, 1917. Serial No. 172,445.

To all whom it may concern:

Be it known that I, HAKULYO CHUHACHI TANABE, a subject of the Emperor of Japan, and a resident of the United States, residing at Marysville, in the county of Yuba and State of California, have invented new and useful Improvements in Amusement Apparatus, of which the following is a specification.

This invention relates to amusement apparatus of the type generally known as "merry go rounds."

The invention has for one of its chief characteristics the provision of a novel construction of means for imparting an up and down motion to animal like figures, which are also mounted for vertical pivotal movement with a view of simulating the action of the animals racing.

The invention embodies a number of other important objects and advantages which will appear from the following detail description, when read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this specification like numerals of reference indicate similar parts in the several views and wherein:—

Figure 1 is a perspective view partly in section.

Fig. 2 is a side elevation partly in section.

Fig. 3 is a top plan view partly in section.

Fig. 4 is a view of the operating mechanism, with the casing inclosing the same broken away.

Fig. 5 is a sectional view through one of the figures showing the manner of supporting the same.

Fig. 6 is a sectional view taken on line 6—6 of Fig. 4.

Fig. 7 is a fragmentary detail section showing the manner of supporting the flag staff.

Fig. 8 is a plan view of one of the figures.

Fig. 9 is a perspective view partly in section showing a modified form of musical instrument.

Fig. 10 is a detail sectional view therethrough.

Before entering into a detail description of what is herein shown, I desire to have it understood that the same is merely illustrative of the preferred embodiment of the invention, and is not to be considered restrictive. I also desire to emphasize the fact, that the apparatus in its entirety or any of the component parts thereof may be constructed from any suitable material, and vary in design without departing from the spirit of the invention.

As shown in this particular instance 10 indicates an enlarged cylindrical casing, including spaced inner and outer top wall sections 11 and 12 respectively, while the bottom 13 is arranged an appreciable distance above the lower edge of the casing. The section 12 surrounds the section 11, and is spaced therefrom to provide an annular groove for the supporting arms of the figures, as will be later described. The sections 11 and 12 by reason of this construction provide runways for the animals or other objects which are disposed in the manner to be hereinafter more fully described.

Fixed upon the bottom 13 is a substantially rectangular elongated casing 14 in which is arranged the operating mechanism of the apparatus. Journaled between the top and bottom walls 15 and 16 respectively of the casing is a shaft 17 which projects an appreciable distance below the casing 14 into the space beneath the bottom 13 of the casing 10. Loosely journaled upon the shaft 17 is a horizontally disposed gear wheel 18, while encircling the shaft 17 and interposed between the gear 18 and the bottom of the casing 14 is a sleeve 19 utilized to support the gear 18 in proper position upon the shaft. It is of course understood that the shaft 17 rotates within the sleeve 19. A band spring 20 is coiled about the shaft 17 above the gear 18, the spring having one end fixed to the shaft and its opposite end suitably secured to the adjacent end wall of the casing 14. The spring is provided to rotate the shaft 17 as will be readily apparent. Fixed upon the shaft 17 and interposed between the gear 18 and the adjacent extremity of the sleeve 19 is a disk 21, which together with the gear 18 provides a ratchet to permit the shaft 17 to be rotated to wind the spring, without imparting movement to the gear 18. For this purpose the gear 18 is provided with a circumferential series of upstruck teeth 22, as is also the disk 21, the teeth of the latter being indicated at 23 and disposed in parallelism with the teeth 22 of the gear 18. As above stated the gear 18 is loosely mounted upon the shaft 17, and con-

sequently the shaft can be rotated in the proper direction to wind the spring 17, without imparting movement to the gear 18. However by reason of the fact that the disk 21 is fixed upon the shaft 17, it is manifest that when the shaft is rotated in an opposite direction under the influence of the spring 20, the disk 21 engages the gear 18 to impart rotation thereto. Journaled within the casing 14 and disposed in parallel relation with the shaft 17, is a shaft 24, upon which is fixed a relatively small gear 25 with which the gear 18 meshes, to rotate the shaft 24 simultaneously with the rotation of the gear 18. Fixed upon the same shaft 24 is a relatively large gear 26 which meshes with the small gear 27 as shown. The gears 25 and 26 respectively are prevented from sliding upon their shaft 24 by means of collars 28 which are arranged above and below the gears, the collars being fixed relatively to the shaft 24.

The gear 27 is fixed upon the hollow tubular member 29 which is supported upon the base 16 of the casing 14, but which member is vertically disposed and projects through the top of the casing to a point above the top 12 of the casing 10. Surrounding the tubular member 29 and disposed above and below the gear 27 are collars 30, whose disposition is such that vertical movement of the tubular member 29 is prohibited. A non-rotatable shaft 31 is passed through the tubular member 29 and through an opening in the bottom 16 of the casing 14, the shaft projecting above the tubular member 29 and utilized in the capacity of a flag staff. The shaft 31 is of course spaced from the wall of the tubular member so as not to interfere with the rotation of the latter. The lower extremity of the shaft 31 terminates to provide a right angularly disposed extension 32 which is arranged in contacting engagement with the under surface of the bottom of the casing 14. Secured at one end to the bottom 16 of the casing is a leaf spring 33 provided with an intermediate bulged portion 34 designed to accommodate the extension 32 of the shaft 31, thus holding the latter against rotation or movement otherwise. The free extremity of the spring 33 is flared as at 35 to facilitate the association of the parts.

Pivotally mounted upon the tubular member 29 is a plurality of yokes 36. It might here be stated that any number of these yokes may be employed, but it is essential that the yokes be alternately disposed in angular relation. Projecting horizontally from the opposite extremities of each yoke is a bar 37 which terminates at its outer end to provide a right angularly disposed upwardly extending branch 38. The branches 38 of the respective bars are preferably square to accommodate themselves and the bracket arms 39 which are hollow for a portion of their length to provide a socket 40 of rectangular formation in cross section. It is of course obvious that each branch 38 of the bars 39, is provided with one of these arms, the latter being offset as at 41 and bifurcated at their upper ends as at 42. The arms 39 support the animal like figures indicated at 43, and these figures may vary in design to represent different kinds of animals. The figures may be constructed from any suitable material preferably metal when toy figures are used, in which instance the latter are hollow and provided with a transversely disposed rod 44 which is loosely journaled in the separated portions of the arm 39 defined by the bifurcation thereof. The rod 44 is disposed approximately centrally of the figures, but is arranged so that the latter will be slightly unbalanced, or in other words slightly heavier at the rear end. By reason of this construction and arrangement of parts it is manifest that the animal like figures are mounted for vertical pivotal movement, to simulate the actions of the animals when running or racing. The bars 37 are preferably of such length so as to dispose the figures above the inner top wall 11 of the casing 10. The top 11 is preferably marked off to provide inner and outer concentrically disposed tracks or runways 45 and 46 respectively. As shown in Fig. 1 of the drawings, one of the arms 39 may support a group of figures representing rats, while the next arm in order may support a figure indicative of a cat, the arms being closely associated to give the resemblance of the cat chasing the rats. The opposite extremities of the bars 37 may support figures indicative of horses, dogs or the like to give a resemblance of the latter racing. However the particular design of the figures 43 is an immaterial feature and can be varied at will. It is to be also understood that the bars 37 can be arranged at any suitable angle, and that the offset portions 41 of the bracket arms 39 may vary so that the figures may travel over both the inner and outer tracks 45 and 46 designated on the top wall 11 of the casing 10.

The casing 10 is provided with an outwardly swinging door 47 which controls access to the space beneath the bottom 13 of the casing, to permit winding of the spring 20 as the occasion requires. The shaft 17 is provided with a manipulating portion 48 for this purpose. In practice, one of the bars 37, or figures 43 is held while the shaft 17 is being rotated to wind the spring 20, subsequent to which the bar or figure is released. The train of gearing is then put into operation under the influence of the spring 20 to rotate the tubular member 29, and the figures 43 as will be readily understood. As hereinabove stated the figures are mounted for vertically pivotal move-

ment, and are slightly heavier at the rear end. The animals by reason of this pivotal movement have their front and rear legs alternately brought into contact with the inner top wall 11 of the casing 10. The hind legs are provided with small springs 49 or other yieldable means suitable for the purpose of maintaining the pivotal movement of the animals during their continued rotation, thus simulating the actions of the animals running. As the yieldable means 49 is brought into contact with the inner top wall 11, the animal is tilted upon its pivot in a forward direction until the front legs contact said wall, at which time the rear extremities of the animals, which are the heaviest causes the animals to tilt in an opposite direction, and in this manner pivotal movement to the animals is maintained as long as the apparatus is in operation.

Arranged upon the bottom 13 of the casing 10 and disposed in spaced concentric relation to the wall of the casing, is a wall 50 which houses or incloses the casing 14. The upper edge of the wall 50 is scalloped or given a wavelike shape as at 51, while the bars 37 are arranged to engage this edge of the wall and over which the bars pass to cause the figures 43 to rise and fall during their continued rotation. By preference, it is desired to have one extremity of the bar 37 carried by one of the yokes 36 arranged in the depressed portion of the edge 51 at the same time that the opposite extremity of the bar 37 carried by the adjacent yoke is passing over the highest portion of the edge. The edge 51 is made very smooth with a view of preventing any binding action therebetween and the bars 37.

Fixed upon the tubular member 29 at a point an appreciable distance above the uppermost yoke 36, is a clamp 52, which is arranged transversely with respect to the tubular member. Projecting from the opposite ends of the clamp 52 are bars 53 of a construction similar to the bars 37 above described. The bars 53 project beyond the extremities of the bars 37, being of sufficient length to position the upwardly extending right angularly disposed branches 54 above the outer top wall 12 of the casing. These branches are also provided with squared extremities to accommodate the bracket arms 55 which are hollow to form sockets 56 of rectangular formation in cross section. The arms 56 are designed to support figures such as automobiles, buggies, or bicycle riders and the wheels of these figures travel over the outer top wall 12 of the casing 10. It is to be understood that the bars 53 do not at any time come in contact with the wave shaped edge 51 of the wall 50, and consequently the figures 57 will pursue their course of travel without jumping or leaving the outer top wall 12. Rising from the outer top wall 12 adjacent the periphery thereof is a plurality of posts 58 which has attached thereto the strands 59 of a wire fence.

In conjunction with an apparatus of this character, I also provide an instrument for furnishing music, which is automatically operable while the apparatus is in motion. The instrument preferably embodies an annulus 60 which rests upon the bottom 13 of the casing inwardly of the wall 50. Rising from the annulus at spaced intervals is a plurality of good sounding iron bars 61, although these bars may be constructed from other suitable material. It will be noted that the bars 61 vary in length so as to produce different sounds. Carried by the tubular member 29 is a striking element 62, which may be constructed from any suitable material, having its opposite extremities flexible, and disposed so as to have its extremities successively brought into contact with the sounding bars 61. It will be noted that the musical instrument is most conveniently disposed, and will not in any way interfere with the operation of the apparatus otherwise.

In Fig. 9 I show a modified form of the invention in this respect, in which instance an annulus 60′ is disposed inwardly of the wall 50, and provided with a circumferential groove 60^2 clearly illustrated in Fig. 10. Bridging the groove and secured to the annulus 60′ in any suitable manner, are horizontally disposed musical elements or sounding plates 61′, and it will be observed that these plates are positioned with regard to the depressed portions of the wave-like edge of the wall 50, so that as the bars 37 passing over the depressed portion, bring the tapper or hammer 37′ which are carried by the arms 37 into contact with one of the sounding instruments 61′ for furnishing music for the apparatus.

The tracks 45 and 46 are divided by a line 63 constituting the starting and finishing points of the race, while mounted upon one of the posts 58 is a bell 64 to be sounded for the starting of the race. The children operating the apparatus place their figures 43 on the lines 63, and subsequent to the winding of the spring 20, the bell 64 is sounded, at which time the children release their hold on the figures 43 to start the race. The figures continue to rotate with the tubular member 29 as long as the spring 20 remains under tension, but when the operation ceases the player having his figure on one of the lines 62 at a particular side of the track is the winner of the race. It is obvious that I have provided an apparatus whereby the racing between animal like figures may be accomplished, the representation of cats chasing rats, or a dog running after rabbits etc. may be had, and which

would prove very amusing and interesting to everyone, especially young folks. It is thought that the foregoing description is sufficient to a clear understanding of the construction and operation of the invention, and therefore further explanation has been omitted.

What is claimed is:—

1. An amusement apparatus of the character described comprising a support, a standard rotatably mounted centrally of the support, a plurality of objects arranged to travel on the support, means carried by the standard for supporting said objects for pivotal movement and also for rotation with the standard, means carried by the objects and intermittently contacting with the track for causing such pivotal movement, and means for rotating said standard.

2. An amusement apparatus of the character described comprising a support, a standard rising centrally therefrom and mounted for rotation, arms projecting radially from said standard, means for rotating said standard, animal like figures pivotally mounted on said arm and disposed to travel over said support, said figures being slightly unbalanced for vertical movement, and yieldable means carried by the heaviest portion of the figure and having one end in free engagement with the support to maintain the pivotal movement of the figures during rotation of the standard.

3. An amusement apparatus of the character described comprising a support, a standard rising centrally therefrom and mounted for rotation, arms projecting horizontally of said standard for rotation therewith, each arm including a vertically disposed portion, a bracket, an animal like figure pivotally mounted on said bracket, said brackets being detachably associated with the vertical portions of said arms whereby animals of different characters may be associated with the latter, said figures being disposed to travel over said support as the standard is rotated, and means for rotating said standard.

4. An amusement apparatus of the character described comprising a casing including a top wall formed of inner and outer sections spaced apart, the inner section having a central opening therein, a standard projecting from the bottom of the casing through said opening and mounted for rotation, means for rotating the standard, a plurality of diametrically extending arms pivotally mounted upon the standard for rotation therewith and animal like figures pivotally mounted upon said arms and disposed to travel over said inner top wall.

5. An amusement apparatus of the character described comprising a support, a standard rotatably mounted centrally of the support, means for rotating said standard, a plurality of objects carried by said standard for rotation therewith, said objects being disposed to travel on said support, an annulus arranged on the support and surrounding said standard, musical sounding bars rising from said annulus, and a horizontally rotatable striking element carried by the standard and adapted to be successively brought into engagement with the said bars to produce said musical sounds during the rotation of said standard.

6. An amusement apparatus of the character described comprising a support, a standard rotatably mounted centrally of the support, means for rotating said standard, a plurality of objects carried by the standard for rotation therewith, said objects being disposed to travel on said support, an annulus disposed about said standard and resting upon the support, musical sounding bars rising from the annulus in spaced relation, said bars being of different heights for varying the sound, and a striking element projecting from the standard to successively engage said bars as the standard is rotated, and a flexible extremity carried by the striking element to permit of its passing said bars.

7. An amusement apparatus of the character described comprising a support, a standard rising centrally therefrom and mounted for rotation, arms projecting radially from said standard, means for rotating the standard, animal like figures pivotally mounted on said arms and disposed to travel over said support, said figures being slightly unbalanced for vertical movement and a coiled spring having one end secured to the heaviest portion of the figure and its opposite end adapted to contact with the support to maintain the pivotal movement of the figures during the rotation of the standard.

In testimony whereof I affix my signature.

HAKULYO CHUHACHI TANABE.