April 23, 1957 C. SPROUSE 2,789,395

FIGURED ROUNDABOUT TOY

Filed Dec. 16, 1955 3 Sheets-Sheet 1

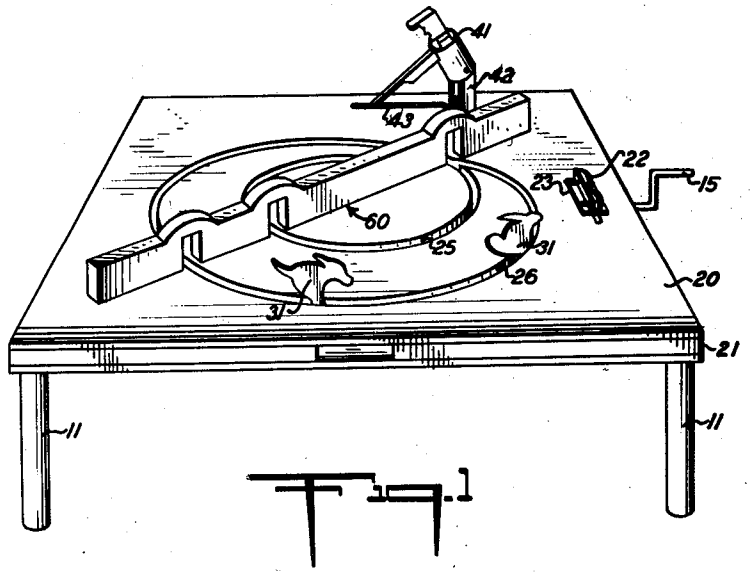


Fig. 1

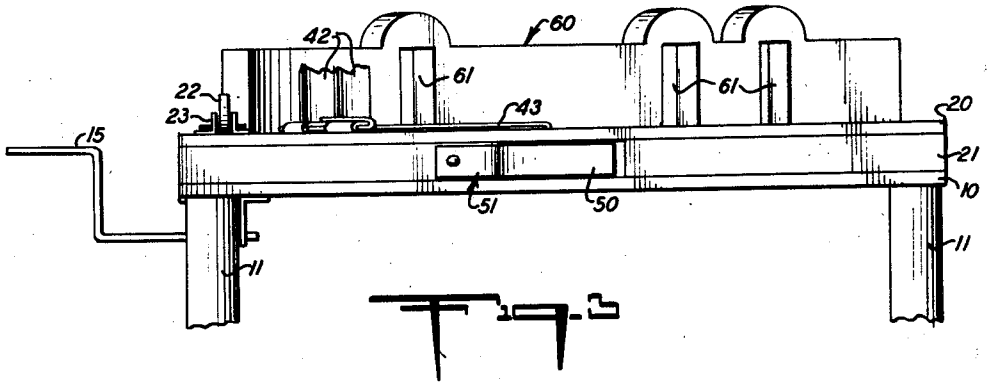


Fig. 2

INVENTOR

CLIFTON SPROUSE

BY Herbert J. Jacobi

ATTORNEY

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FIGURED ROUNDABOUT TOY

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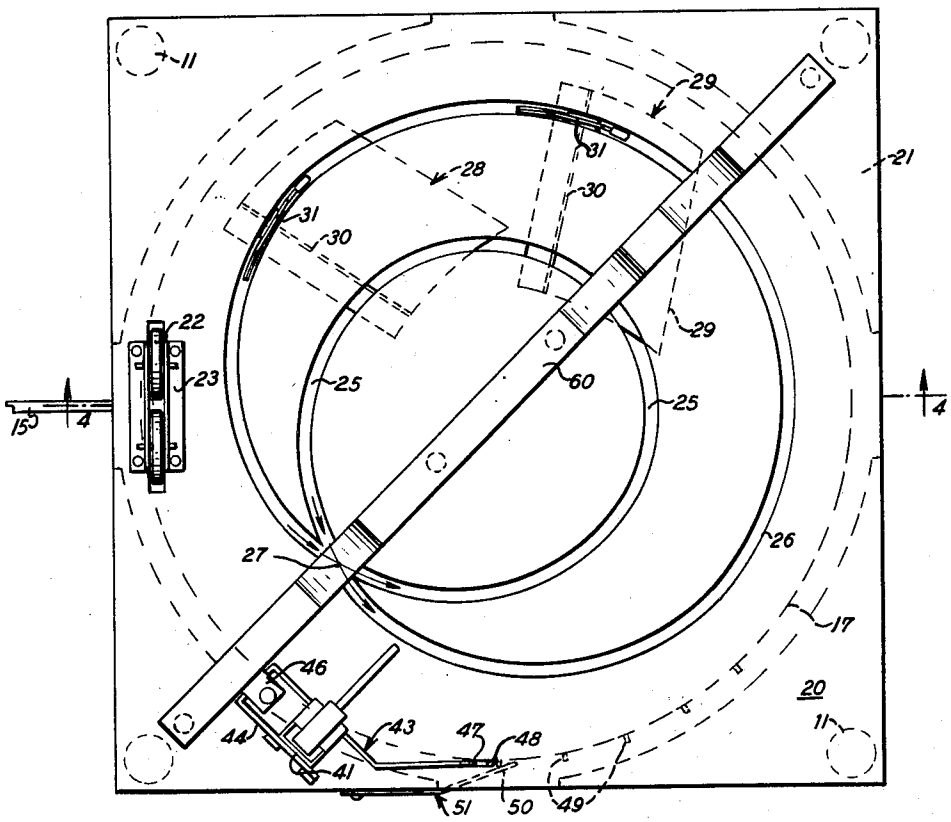


FIG. 2

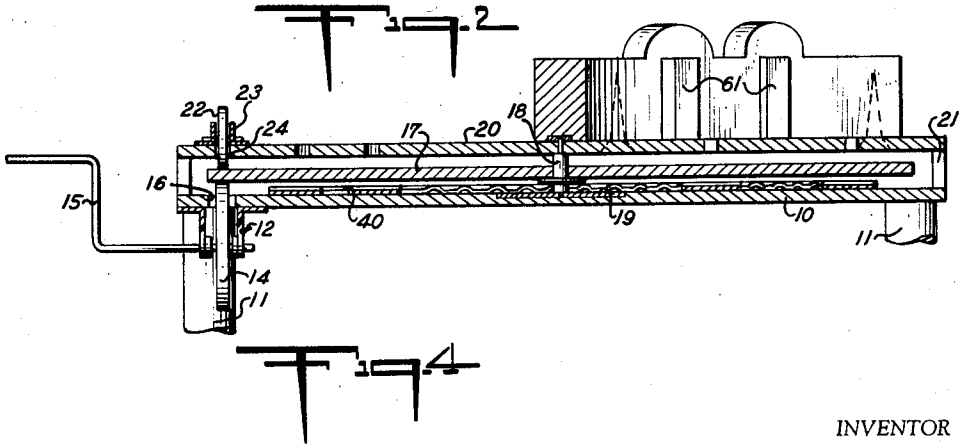


FIG. 4

INVENTOR

CLIFTON SPROUSE

BY Herbert J. Jacobi

ATTORNEY

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FIGURED ROUNDABOUT TOY

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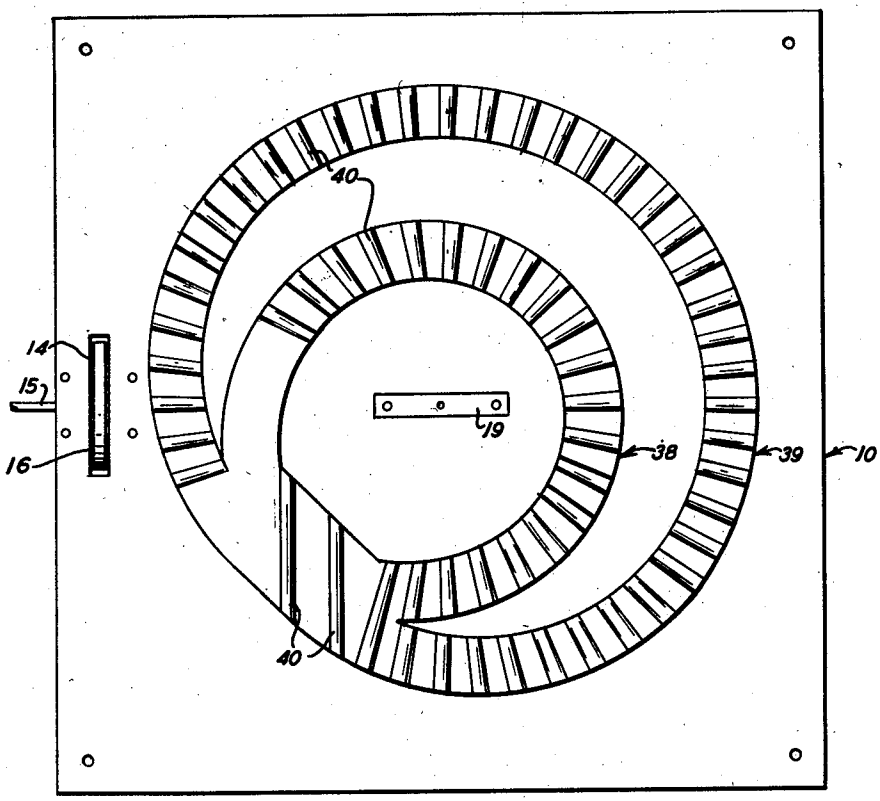


FIG. 5

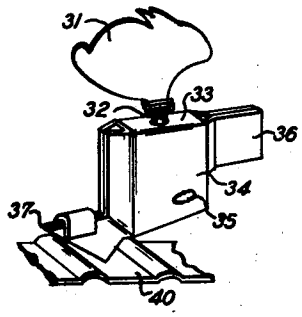


FIG. 6

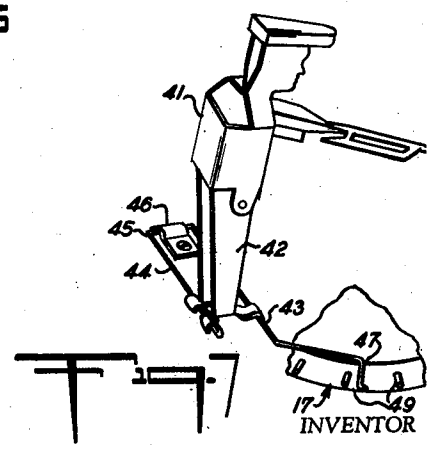


FIG. 7

INVENTOR

CLIFTON SPROUSE

BY Herbert J. Jacobi

ATTORNEY

United States Patent Office

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FIGURED ROUNDABOUT TOY

Clifton Sprouse, Abbeville, S. C.

Application December 16, 1955, Serial No. 553,514

7 Claims. (Cl. 46—118)

This invention relates to amusement devices and is particularly concerned with figured roundabout toys which by turning of a wheel will produce animated movement of figures with respect to a surface of the device.

Roundabout figured toys of the above general description have long been known and pleasurably employed, particularly by children who become fascinated by the travel of the figures in response to concealed motivating means. Such devices, however, are usually limited to a single circular path of travel of the figure and in but few instances, do they provide accompanying figures not traveling in the roundabout circuit. Furthermore, where accompanying figures are provided, such figures are rigid and no means are provided for movement of any parts thereof with any coordinated action with respect to the travel of the other figures. Such prior devices also generally omit any structure above the surface of movement of the figure whereby the figure may be observed to disappear and reappear through such superstructures.

It is therefore among the primary objects of the present invention to provide a novel and improved toy of the character set forth which is rugged, simple and durable and yet provides for complicated and coordinated movements of various figures.

Another object of the present invention is to provide a roundabout figured toy having a plurality of inter-joining paths of figure travel, such that the figure may travel successively in a plurality of paths.

A further object of the invention is to provide for the coordinated animation of a plurality of figures and particularly for dissimilar animations operating in predetermined sequences of movement.

The invention also has as an objective that of providing surface structures extending above the plane of travel of certain figures whereby the figures may be seen to appear and disappear through such structure.

Numerous other objects, features and advantages of the present invention will become apparent from a consideration of the following specification taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a view in perspective showing the amusement device of this invention;

Fig. 2 is a top plan view;

Fig. 3 is a front elevational view;

Fig. 4 is a vertical sectional view taken on the line 4—4 of Fig. 2;

Fig. 5 is a top plan view of the base plate of the device of Figs. 1 and 2;

Fig. 6 is a detailed perspective view of one of the rotating figures of the device; and

Fig. 7 is a detailed perspective view of the non-rotating figure of the device.

It will, of course, be understood that the various inventive concepts herein set forth may be variously arranged and combined and that the figuration may alter and the types of relative movement be modified to conform the depicted animation to different subject matters. However, by way of illustration, the present form of the invention provides for the travel of figures representing rabbits in a circuituous path past a hunter representation. The animal figures are pivotally mounted and travel over a corrugated surface to give a loping action to their travel and the hunter is so constructed and arranged as to be moved periodically in representation of raising and firing a gun in the direction of the rabbits. Means are also provided for producing a percussive sound as the gun is raised, suggestive of the report of a firearm. The device also provides a superstructure through which the animal figures pass, so as to cause them to disappear and reappear at one side of the toy.

An important feature of the invention is the provision of intersecting guide slots for the traveling figures, together with a slidable mounting for the figures and guide pieces thereon by which they are caused to leave one path of travel at the end of one circuit and enter the other for a complete circuit before re-entering the original path of travel. While the slidable mounting of the figures on their rotating carrier permits the paths of travel to be irregular, they are here shown as generally circular, one path merging into the other, the arrangement being such that the figures automatically switch from one path to the other at the point of merging.

Referring now to the structure of the present form of the invention as presented in the drawings, it will be seen that the device is generally rectangular in plan and includes a rectangular base board **10** which may be supported in elevated position upon corner legs **11**. Suitably supported between depending bearing brackets **12** on the lower surface of the base **10**, is a driving disk **14**, preferably rubber treaded and mounted upon a crank handle **15**, by which the apparatus may be easily driven through manual power of a child operator. The disk **14** extends upwardly through an elongate aperture **16** of the base **10**, so as to dispose its upper peripheral surface in driving contact with the underface of the outer edge of figure propelling wheel **17**.

The wheel **17** is mounted upon a centrally disposed vertical pintle **18**, the lower end of which has a bearing within a base bearing plate **19** recessed into the central upper surface of the base **10**. The upper end of the pintle **18** has a bearing through the center of an upper surface plate **20**. The base plate **10** and the upper surface plate **20** are mounted in vertically spaced parallel relation by internally rounded corner blocks **21** more clearly shown by the dotted lines of Fig. 2. It will thus be seen that this arrangement is such as to provide for the free rotation of the wheel **17** in equally spaced relation between the base and surface plates. In order to insure adequate traction of the disk **14** against the lower surface of the wheel **17** a pair of backing rollers **22** are mounted between spaced bearing plates **23** extending upwardly from the upper face of surface plate **20**. The backing rollers extend downwardly through an elongate aperture **24** of the surface plate to freely engage and rotate with the wheel **17** their disposition being directly over the driving disk **14** which is thus assured adequate contact with the wheel without danger of tilting the same and unduly straining the bearings for the pintle **18**.

As shown most clearly in Fig. 2, the surface plate **20** is formed with an inner and an outer circular figure guide slot **25** and **26** respectively. As indicated at **27**, the slots merge and at the point of merging, the outer slot **26** may turn slightly inward, while the inner slot **25** may point slightly outward. As will be hereinafter pointed out, such departure of the slots from true curvature at their intersection will facilitate the switching of figures traveling from one slot to the other. Below the guide slots **25** and **26**, the wheel **17** is provided with a pair of spaced generally radial openings **28** and **29**, each being of such radial length and disposition as to have some portion thereof

at all times registering with both the guide slots 25 and 26 thereabove. Radially mounted with respect to the wheel 17 and extending across the openings 28 and 29 there is disposed fixed figure bars 30 upon which the traveling figures may radially slide in the course of their circular motion.

As shown in Fig. 6, each traveling figure includes an upwardly extending body 31, the lead figure formed to represent a rabbit, the following figure formed to represent a dog, either body 31 may be of flat sheet metal, formed with a depending supporting stem 32 adapted to extend through a receiving aperture in the transverse top 33 of a generally rectangular figure base 34. At the lower forward corner of the figure base 34 an elongated aperture 35 is formed in the outer wall for the reception of one of the figure bars 30. A circular aperture, not shown, is provided in the inner wall of the base 34 opposite the elongated aperture and this arrangement permits sufficient movement of the base 34 and figure 31 when following the curved slots 25 and 26. In this manner, each traveling figure is slidably mounted upon its bar and within its opening in the wheel 17. At the forward edge of each figure base there is formed an extending guide finger 36 which is adapted to engage the slot walls in advance of the figure. Thus, as a figure traveling in the outer slot approaches the intersection 27, the finger 36 will be turned inwardly to direct the figure to the inner slot. Upon leaving the inner slot, however, the finger will engage the outwardly inclined wall of the intersection 27 so that the figure will travel into the outer slot.

In order to add a loping gesticulation to the traveling rabbit figures in simulation of successive hops, the trailing lower edge of the base 34 is formed with a downwardly inclined tail piece 37. For cooperation with the tail pieces 37, the upper surface of the base plate 10 is provided with circularly arranged corrugations 38 and 39 registering with the slots 25 and 26 respectively. By this arrangement, it will be seen that, as the wheel 17 is rotated by rotation of the disk 14, the figures mounted on the rods 30 will travel through the slots 25 and 26 slidably accommodating themselves to the change in radial distance of the slots from the center of the device. In so traveling, it will be seen that the tail pieces of the figures will bump over the corrugations so as to oscillate the figures with respect to the rod and simulate a hopping type of propulsion. While the undulations of the corrugations 38 and 39 are here shown as of generally regular in degree and radially disposed with respect to the center of rotation of the wheel 17, they may be varied to suggest a change in pace as the figures reach certain phases in their cycle of travel. Thus, at the juncture of the guide slots, the corrugations 40 are more widely spaced and are at an angle to the radial, being inclined in the direction of travel of the figure. This change in formation not only provides a change in loping motion as the rabbit approaches the hunter figure, about to be described, but the change in angularity will assist in inclining the figure towards the outer guide slot as it emerges from the inner guide slot.

A non-traveling figure representative of a hunter is arranged adjacent the path of travel of the rabbit figures, preferably near the intersection of the inner and outer guide slots. As shown in Fig. 7, the hunter figure is formed of an upper head, shoulders, arm and gun portion 41 pivotally mounted for slight motion with respect to a lower leg and foot portion 42. The toe and heel of the lower section of the hunter figure are secured respectively to an actuating wire 43 and its parallel return bent end 44. The bight 45 of the wire between the sections 43 and 44 is pivotally mounted within a securing bracket 46 secured to the upper face of the surface plate 20. The forward free end 47 of the actuating wire 43 is turned downwardly to pass freely through the surface plate as at 48, to lie in the path of radially extending pins 49 protruding from the wheel 17 at an area corresponding to the angle of

rotation at which the rabbit figures emerge from the inner path of travel. By this construction, it will be seen that the hunter figure whose torso upper portion is normally tilted slightly forward, as though looking to the ground, will upon striking of the pins against the wire end 47, be snapped upwardly as though raising and firing the gun. At the same time, the pins will engage the inturned end 50 of a spring percussive blade 51. The spring blade will thus be moved outwardly, but upon passage of the pins, it will snap inward striking the edge of the structure to give out a series of repeated shot-like sounds as the hunter is jolted to his upright position as though taking aim at the passing rabbits.

The structure of the present form of the invention also features the mounting of a super-structure over the upper surface of the device. The super-structure here shown, comprises a diagonally disposed piece 60 providing a wall having spaced apertures forming tunnels 61 over the spaced portions of the guide slots and a single aperture forming a tunnel over the juncture between the slots. The super-structure, as well as the surface of the top of the device may be suitably decorated to resemble a woodland scene. Thus, upon viewing the device in operation from one side, it will seem that the rabbits disappear into the superstructure at one side and reappear again at the other side.

From the foregoing, it is believed that the structure and operation of the device will be fully understood. Suffice it therefore, to recapitulate, by stating that, as the crank 15 is turned, the wheel 17 will be rotated carrying with it the traveling figures successively through the guide slots. Since, the figures slide radially on the bars 30, there will be no hindrance to their travel in slots of varying radial distance from the center of rotation of the wheel. As the figures thus travel, the contact of their tail pieces with the corrugations of the upper surface of the base will cause an oscillation thereof on the rods 30, thus simulating the loping of a rabbit. In timed relation with the emergence of the rabbit figures from the tunnel formed over the intersection of the slots, the hunter figure will be vibrated to appear to see the figures raise his gun and the percussive blade will synchronously strike to indicate the firing of the gun. The rabbits, however, continue their travel and disappear under the further tunnel.

While this form of the invention is intriguing and entertaining to children, it will be understood that from a mechanical standpoint, the invention is in no way limited to any such type of depiction. A wide variety of other depictions may be carried out, the animations may be characteristic of other figures and the arrangement and sequence of operations may be widely varied. Thus, in the practice of the invention numerous changes, modifications and the full use of equivalents may be resorted to without departure from the spirit or scope of the invention as outlined in the appended claims.

What is claimed is:

1. In a device of the character described, a generally rectangular base including a bottom wall, a top wall spaced above said bottom wall and means for supporting said base, a disk wheel rotatably mounted on a vertical axis between said top and bottom walls, means for driving said wheel, inner and outer arcuate radially offset slots in said top wall forming inner and outer loops, one end of said outer slot merging into one end of said inner slot and the opposite end of said inner slot merging into the opposite end of said outer slot to provide a continuous trackway, said wheel having angularly spaced generally rectangular openings therein, the length of said openings in a generally radial direction being greater than the maximum distance between said inner and outer slots, a bar fixed to said wheel and disposed longitudinally of each opening, a figure pivotally and slidably mounted on each bar and extending upwardly through said trackway whereby upon rotation of said wheel said figures will be carried thereby around said outer loop to said inner

loop, around said inner loop and return to said outer loop, an upstanding wall mounted on said base and extending across said inner and outer loops, said upstanding wall having a plurality of openings disposed above said inner and outer loops and providing tunnels for passage of said figures, a fixed corrugated surface below said wheel, a downwardly extending projection on each figure slidably engaging said surface to pivotally move said figures on said bars upon movement of said projections over said corrugated surface, a figure pivotally mounted on said top wall adjacent said outer loop, an actuating finger fixed to said last named figure and extending downwardly adjacent the periphery of said wheel, a plurality of spaced pins projecting from said wheel for engaging said finger to pivotally move said last named figure and a resilient blade disposed in the path of movement of said pins to produce a percussive sound upon rotation of said wheel.

2. In a device of the character described, a generally rectangular base including a top wall, a disk wheel rotatably mounted on a vertical axis below said top wall, means for driving said wheel, inner and outer arcuate radially offset slots in said top wall forming inner and outer loops, one end of said outer slot merging into one end of said inner slot and the opposite end of said inner slot merging into the opposite end of said outer slot to provide a continuous trackway, said wheel having angularly spaced generally rectangular openings therein, the length of said openings in a generally radial direction being greater than the maximum distance between said inner and outer slots, a bax fixed to said wheel and disposed longitudinally of each opening, a figure pivotally and slidably mounted on each bar and extending upwardly through said trackway whereby upon rotation of said wheel said figures will be carried thereby around said outer loop to said inner loop, around said inner loop and returned to said outer loop, an upstanding wall mounted on said base and extending across said inner and outer loops, said upstanding wall having a plurality of openings disposed above said inner and outer loops and providing tunnels for passage of said figures, a fixed corrugated surface below said wheel, a downwardly extending projection on each figure slidably engaging said surface to pivotally move said figures on said bars upon movement of said projections over said corrugated surface, a figure pivotally mounted on said top wall adjacent said outer loop, an actuating finger fixed to said last named figure and extending downwardly adjacent the periphery of said wheel, a plurality of spaced pins projecting from said wheel for engaging said finger to pivotally move said last named figure and a resilient blade disposed in the path of movement of said pins to produce a percussive sound upon rotation of said wheel.

3. In a device of the character described, a generally rectangular base including a top wall, a disk wheel rotatably mounted on a vertical axis below said top wall, means for driving said wheel, inner and outer arcuate radially offset slots in said top wall forming inner and outer loops, one end of said outer slot merging into one end of said inner slot and the opposite end of said inner slot merging into the opposite end of said outer slot to provide a continuous trackway, said wheel having angularly spaced generally rectangular openings therein, the length of said openings in a generally radial direction being greater than the maximum distance between said inner and outer slots, a bar fixed to said wheel and disposed longitudinally of each opening, a figure pivotally and slidably mounted on each bar and extending upwardly through said trackway whereby upon rotation of said wheel said figures will be carried thereby around said outer loop to said inner loop, around said inner loop and returned to said outer loop, an upstanding wall mounted on said base and extending across said inner and outer loops, said upstanding wall having a plurality of openings disposed above said inner and outer loops and

providing tunnels for the passage of said figures, a fixed corrugated surface below said wheel, a downwardly extending projection on each figure slidably engaging said surface to pivotally move said figures on said bars upon movement of said projections over said corrugated surface, a figure pivotally mounted on said top wall adjacent said outer loop, an actuating finger fixed to said last named figure and extending downwardly adjacent the periphery of said wheel and a plurality of spaced pins projecting from said wheel for engaging said finger to pivotally move said last named figure.

4. In a device of the character described, a generally rectangular base including a top wall, a disk wheel rotatably mounted on a vertical axis below said top wall, means for driving said wheel, inner and outer arcuate radially offset slots in said top wall forming inner and outer loops, one end of said outer slot merging into one end of said inner slot and the opposite end of said inner slot merging into the opposite end of said outer slot to provide a continuous trackway, said wheel having angularly spaced generally rectangular openings therein, the length of said openings in a generally radial direction greater than the maximum distance between said inner and outer slots, a bar fixed to said wheel and disposed longitudinally of each opening, a figure pivotally and slidably mounted on each bar and extending upwardly through said trackway whereby upon rotation of said wheel said figures will be carried thereby around said outer loop to said inner loop, around said inner loop and returned to said outer loop, an upstanding wall mounted on said base and extending across said inner and outer loops, said upstanding wall having a plurality of openings disposed above said inner and outer loops and providing tunnels for passage of said figures, a fixed corrugated surface below said wheel and a downwardly extending projection on each figure slidably engaging said surface to pivotally move said figures on said bars upon movement of said projections over said corrugated surface.

5. In a device of the character described, a generally rectangular base including a top wall, a wheel rotatably mounted on a vertical axis below said top wall, means for driving said wheel, inner and outer arcuate radially offset slots in said top wall forming inner and outer loops, one end of said outer slot merging into one end of said inner slot and the opposite end of said inner slot merging into the opposite end of said outer slot to provide a continuous trackway, said wheel having angularly spaced openings therein, the length of said openings in a generally radial direction being greater than the maximum distance between said inner and outer slots, a bar fixed to said wheel and disposed longitudinally of each opening, a figure pivotally and slidably mounted on each bar and extending upwardly through said trackway whereby upon rotation of said wheel said figures will be carried thereby around said outer loop to said inner loop, around said inner loop and returned to said outer loop, a fixed corrugated surface below said wheel and a downwardly extending projection on each figure slidably engaging said surface to pivotally move said figures on said bars upon movement of said projections over said corrugated surface.

6. In a device of the character described, a generally rectangular base including a top wall, a wheel rotatably mounted on a vertical axis below said top wall, means for driving said wheel, inner and outer arcuate radially offset slots in said top wall forming inner and outer loops, one end of said outer slot merging into one end of said inner slot and the opposite end of said inner slot merging into the opposite end of said outer slot to provide a continuous trackway, said wheel having angularly spaced radially disposed bars fixed thereto, the length of said bars in a generally radial direction being greater than the maximum distance between said inner and outer slides, and a figure slidably mounted on each bar and extending upwardly through said trackway whereby upon rotation of said wheel said figures will be carried thereby

around said outer loop to said inner loop, around said inner loop and returned to said outer loop.

7. In a device of the character described, a base including a top wall, a wheel rotatably mounted on a vertical axis below said top wall, means for driving said wheel, inner and outer arcuate radially offset slots in said top wall forming inner and outer loops, one end of said outer slot merging into one end of said inner slot and the opposite end of said inner slot merging into the opposite end of said outer slot to provide a continuous trackway and a plurality of angularly spaced figures carried by said wheel for movement therewith and for radial movement, said figures extending upwardly through said trackway whereby upon rotation of said wheel said figures will be carried thereby around said outer loop to said inner loop, around said inner loop and returned to said outer loop.

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