March 31, 1959 G. L. PAULOS ET AL 2,879,998

HORSE RACING GAME

Filed Sept. 4, 1957 4 Sheets-Sheet 1

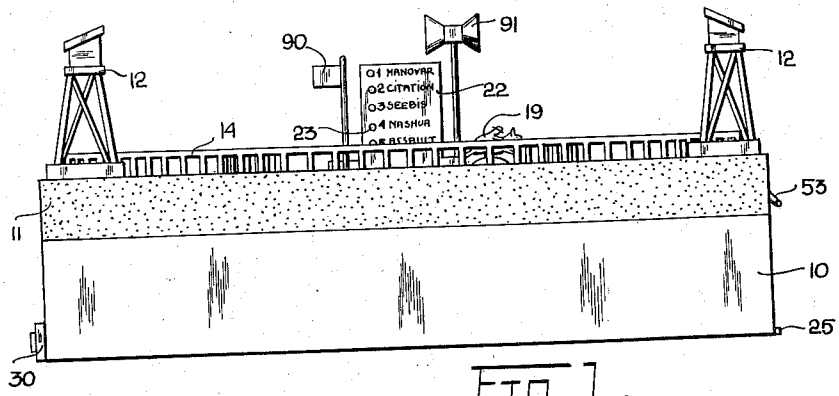


Fig. 1.

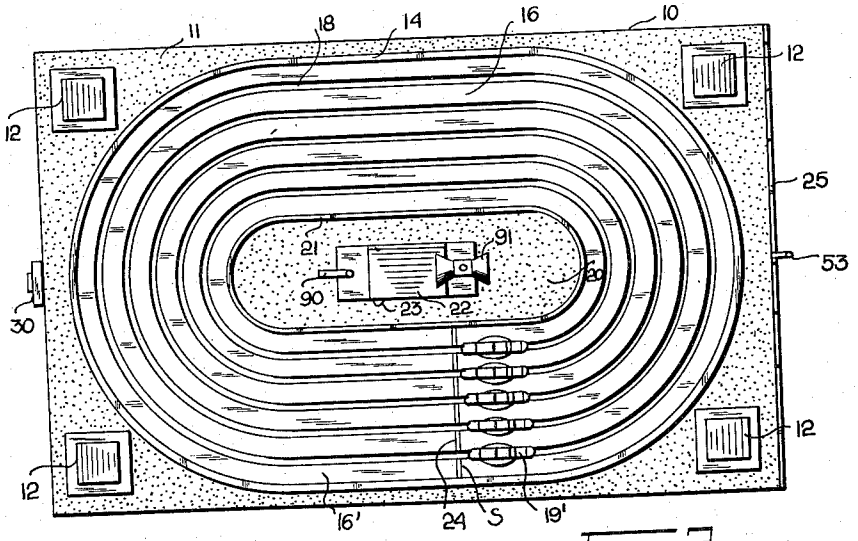


Fig. 2.

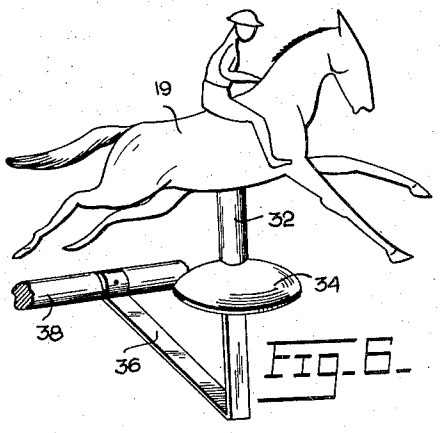


Fig. 6.

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HORSE RACING GAME

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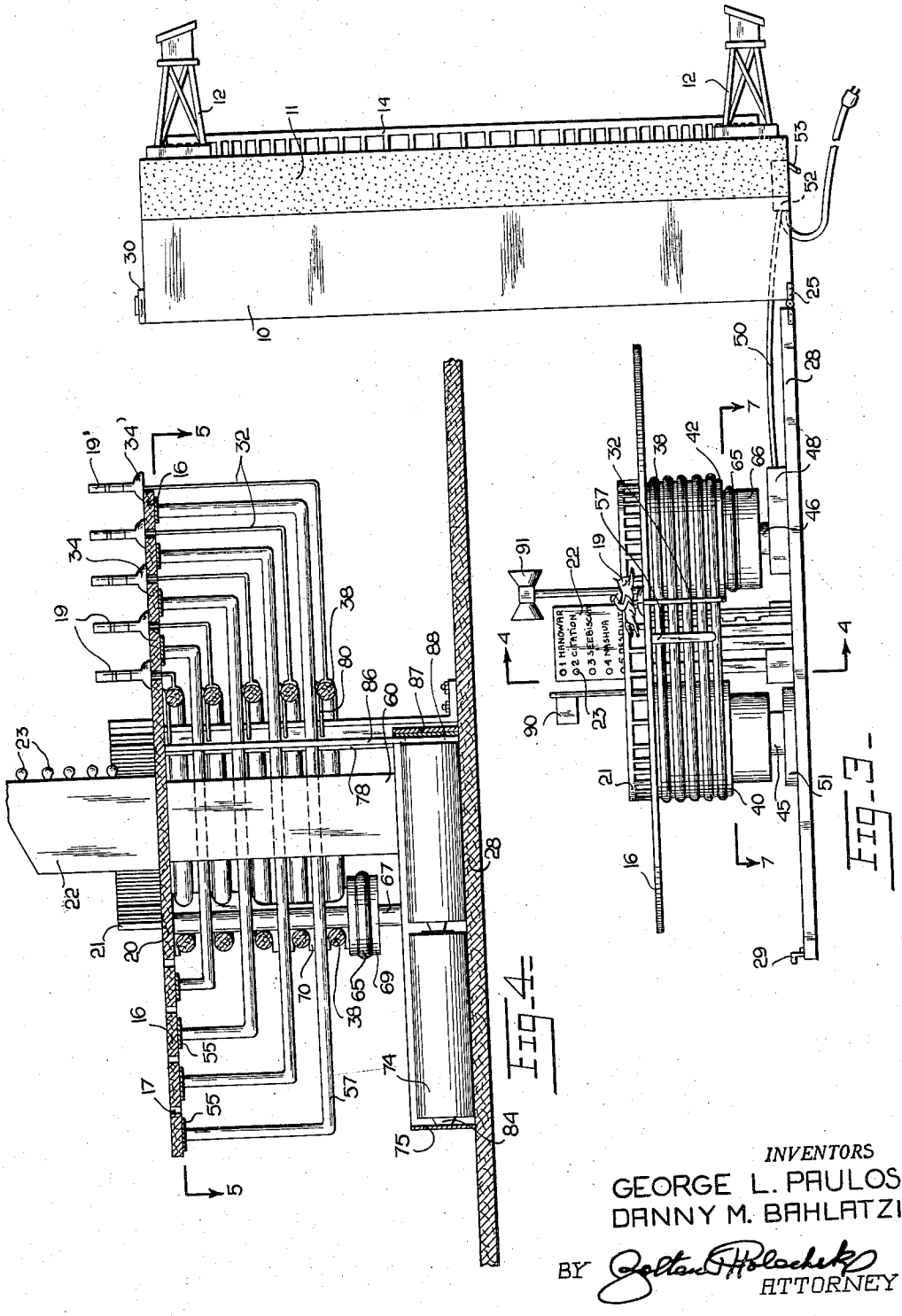


FIG-3

FIG-4

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HORSE RACING GAME

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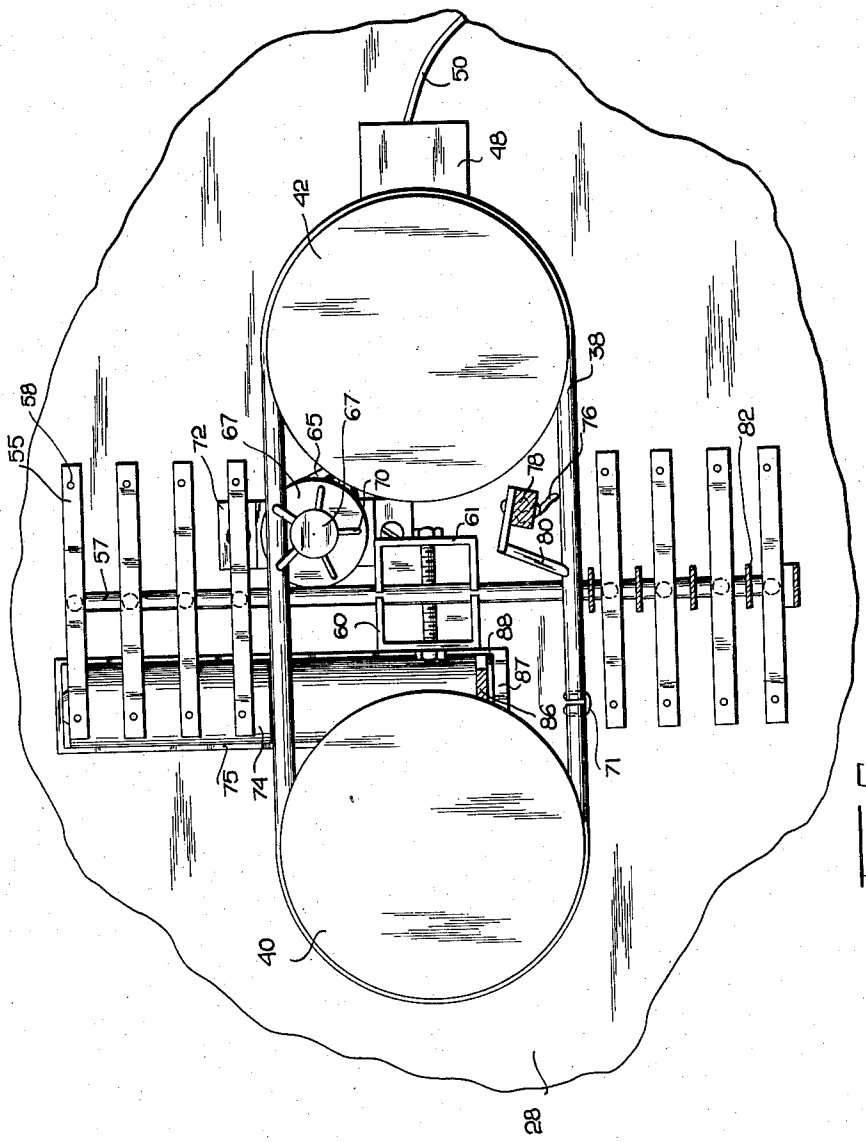


Fig. 5.

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HORSE RACING GAME

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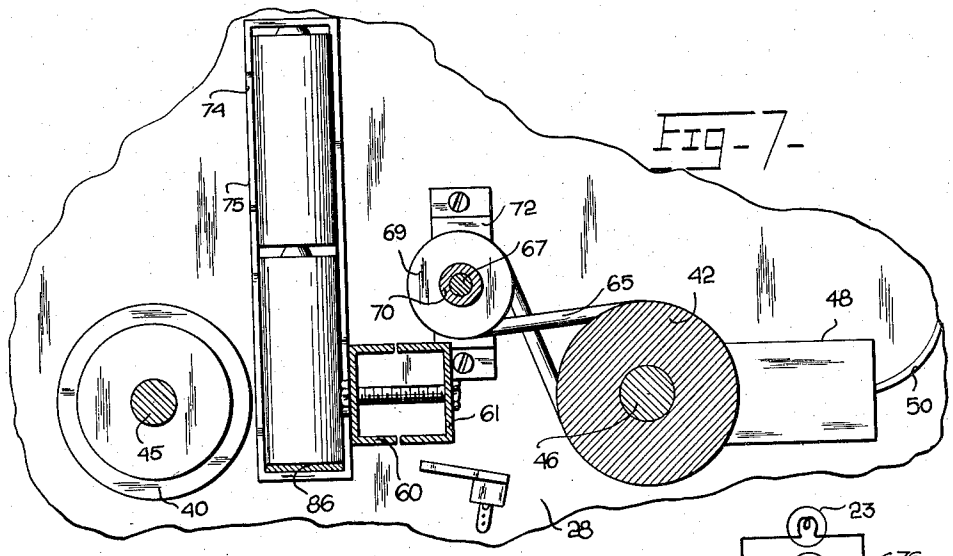


Fig-7-

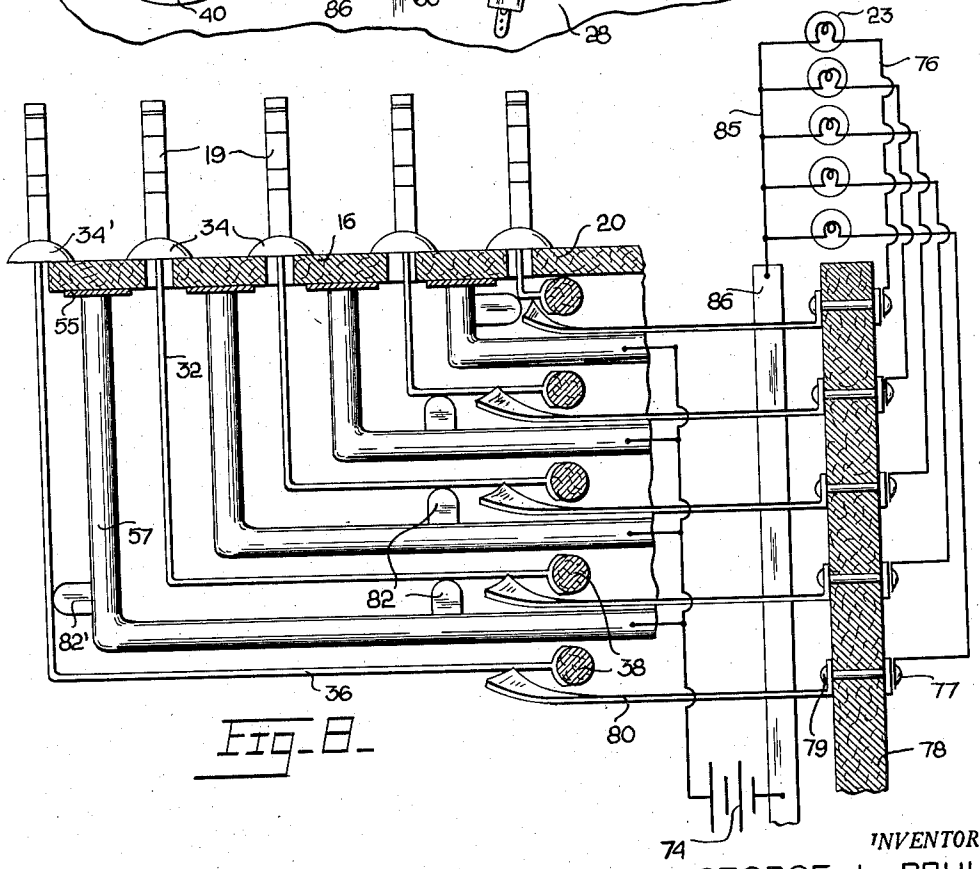


Fig-8-

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2,879,998

HORSE RACING GAME

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Application September 4, 1957, Serial No. 682,031

3 Claims. (Cl. 273—86)

This invention concerns a horse race game. The game is one in which a number of figures, such as miniature simulated race horse figures are carried around a plurality of tracks in such manner that they are placed in competition with one another. The invention relates more particularly to certain improvements in devices of this character for controlling by chance the winner of the race among the race horse figures.

One of the objects of the invention is to provide a race horse game which operates automatically by electrical means for racing the figures.

A further object is to provide mechanical means for interrupting the movements of the several race horse figures at random so that the winner of a heat or race is not predeterminable.

A further object is to provide an electrical means for automatically posting the names of the winning race horse figures.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is an elevational view of a game device embodying the invention.

Fig. 2 is a top plan view of the device.

Fig. 3 is an elevational view of the game device in an open position to show an internal arrangement of parts.

Fig. 4 is an enlarged sectional view taken on lines 4—4 of Fig. 3.

Fig. 5 is a plan sectional view taken on lines 5—5 of Fig. 4.

Fig. 6 is a perspective view of a miniature race horse figure employed in the device.

Fig. 7 is an enlarged plan sectional view taken on lines 7—7 of Fig. 3.

Fig. 8 is a sectional view on an enlarged scale of the race track with electrical circuitry shown schematically in part.

In Figs. 1 and 2 is shown a rectangular hollow casing **10** which serves as the outer field and game cover. The top and parts of the sides of the casing are lined with imitation grass paper **11** to simulate a field. In the four corners of the casing at the top thereof are located field towers **12** which simulate observation platforms. An endless fence railing **14** is secured near the rim of a generally oval opening in the top of the casing. Within the opening and coplanar with the top of the casing are disposed a plurality of endless flat track spacers **16**. Each

of these spacers is a generally oval member formed of insulation board or similar composition material. Each of the spacers is separated from the adjacent spacer by a space **18** of predetermined width. These spaces **18** constitute the several concentric tracks of the game. The miniature horse race figures **19** are carried around these tracks in endless paths. In the smaller fixed center field **20** is located a vertically disposed tote board **22** on which is listed the several names of the "horses" of the game. Lamps **23** on the board **22** are located adjacent the respective names of the figures **19**. These lamps are arranged to light up as each figure crosses the finish position or line **24** marked on the track spacers **16**. An inner endless fence railing **21** surrounds the center field **20**.

In Fig. 3, the game device is shown in an open position. The casing **10** pivots on hinge **25** with respect to the baseboard **28**. A snap catch **29** is provided on the end of the baseboard to engage a releasable catch element **30** located on the bottom edge of the cover.

In Fig. 6 is shown on an enlarged scale a horse and rider figure **19** as employed in the game device. The figure is supported on a flat post **32** which carries a shoe **34**. This shoe is wider than the space **18** so that the shoe rides on the two adjacent endless spacers **16**, as clearly shown in Fig. 4. The outermost shoe **34'** of the outer horse and rider **19'** rides on spacer **16'** and adjacent spacer **16**. Spacer **16'** is formed integrally with the top of the casing at the rim of the opening therein and is surrounded by fence **14**, as shown in Fig. 2. Post **32** has an inwardly bent base portion **36** which is secured to the flexible leather or rubber belt **38**. A plurality of belts **38** are carried in two spaced drums or pulleys **40**, **42** having grooves in which the belts are carried. The drums are mounted on shafts or spindles **45**, **46** as shown in Figs. 3 and 7. A motor **48** energized via an electric cable **50** is geared to turn drum **42** which in turn rotates the idler spindle **45** in its friction bearing **51**. A switch **52** is provided for controlling the motor power supply circuit. The switch is connected in the circuit of cable **50** and has an operating handle **53** accessible at one end of the casing **10**.

In Figs. 3, 4 and 5 is shown the means by which the track spacers **16** are supported. A flat plate strip **55** is carried in a horizontal position at the free end of each of the rectangularly U-shaped arms **57**. Spacers **16** are secured to the flat strips by pins **58** and are held in spaced positions thereby. The arms **57** are supported in channel plates **60** and **61**. These plates have abutting edges with opposing recesses defining aligned apertures through which the arms **57** are passed.

In Figs. 3, 4, 5 and 7 is shown the arrangement of the obstacle means for interrupting the movements of the several figures **19** in their movements around the track. An auxiliary endless crossed strap **65** is mounted on a drum portion **66** having a smaller diameter than drum **42**. This strap **65** is engaged on hub **69**. The hub rotates spindle **67** on which are mounted vanes **70**. The straps **38** are formed by lengths of round material joined at the ends by staples or clips **71**. The staples and the spaced ends of the straps provide discontinuities in the smooth surfaces of the straps which catch momentarily in the V-shaped notches of the vanes **70** as the vanes rotate on spindle **67**. The straps **38** are caused to slip in the grooves in drums **40** and **42** so that the movements of the figures **19** are interrupted in a rather irregular and

generally unpredictable fashion. Spindle 67 is supported in the friction bearing 72 and is an idler member for which motor 48 is the drive member.

In order to light the lamps 23 on board 22 there is provided a pair of batteries 74 disposed in a case 75 on the baseboard 28. The arrangement of the lamp circuits is shown in Fig. 8. Each of the lamps 23 has one terminal connected via a wire 76 to a separate terminal 77 on an insulated post 78. Terminals 77 are respectively connected to terminals 79 to which are secured the spring leaf wiper contacts 80. These contacts extend outwardly from post 78 and have twisted free ends which touch the metal arms portions 36 of arms 32 supporting figures 19 at the finish marks or positions 24. Track support arms 57 each carry fixed wiper contacts 82 arranged to touch the arm portions 36 simultaneously with the touching of the arm portions by spring contacts 80. Each of arms 57 is connected electrically to the positive terminal of the battery assembly 74. The electrical path is from the positive terminal 84 of the battery assembly as shown in Fig. 4 to the metal case 75, through channel plate 60 which is in contact with case 75, to all the arms 57 in parallel. Contacts 80 and 82 are bridged by portions of arms 57 at the finish positions 24 of the figures 19. The electrical path continues through contacts 80, terminals 79 and 77 and wires 76, to lamps 23. The return circuit continues from lamps 23 through wires 85 in common to the upright metal bus bar 86. This bus bar is in contact with the negative terminal or casing of the batteries 74. Bar 86 is inserted into case 75 and is separated from the metal end 87 by an insulator wafer 88 as clearly shown in Figs. 4 and 5. Contact 82' located on the outer arm 57 is arranged to touch arm 32 of the outer figure 19'.

In operation of the device, the several figures 19 are lined up at the starting position S indicated in Fig. 2. The belts 38 are slipped on the pulleys or drums 40, 42 until the figures 19 are lined up. When switch 53 is thrown the motor causes the belts 38 to move the racing figures which are continuously interrupted by the vanes 70 rotating in a direction opposite to drums 40, 42. The vanes catch in the belt ends momentarily as described above. As each figure completes its traverse of the track the lamp circuit associated with that figure is closed in the finish position to light the corresponding lamp. The switch 53 can be thrown when the first lamp lights to stop the race and indicate the winner. If desired, a more realistic effect can be given to the simulated race track by providing a flag 90 and loud-speaker public address assembly 91 adjacent the tote board 22 on the center field 20. If desired, the figures 19 may be those of automobiles, dogs, or other racing models.

While we have illustrated and described the preferred embodiment of our invention, it is to be understood that we do not limit ourselves to the precise construction herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described our invention, what we claim as new, and desire to secure by United States Letters Patent is:

1. A racing game, comprising a hollow casing having a flat top, said top having a generally oval opening therein, a plurality of generally oval endless spaced tracks formed of insulation material disposed concentrically within said opening and coplanar with said flat top, each of said tracks being supported by a U-shaped arm, a support holding said arms in a coplanar array, a fixed contact secured to each of the arms, an insulated post spaced from said arms and carrying a plurality of spring contacts extending therefrom toward said arms, a plurality of racing figures disposed above said flat top, each of said figures being supported by a movable L-shaped arm extending through a space between two adjacent tracks, said movable arms forming parts of electrical circuits with said spring and fixed contacts at one position of the figures on the tracks, a battery and a plurality of lamps in circuit with said contacts so that the lamps light when the figures are in said position on the tracks, each of the movable arms being secured respectively to a flexible smooth belt, said belts being carried on a plurality of spaced drums driven rotatably by a motor to move the arms and figures around the tracks, each of the belts having a discontinuity in the smooth surface thereof, another belt mounted on one of the drums and a hub spaced therefrom, and a plurality of vanes having notches therein carried on said hub, said vanes being disposed to catch said endless belts momentarily at the discontinuities therein to cause slippage and arrest the movements of the figures driven by the arrested belts.

2. A racing game, comprising a hollow casing having a flat top, said top having a generally oval opening therein, said opening having an endless track formed of insulation material at the rim thereof, a plurality of generally oval endless spaced tracks formed of insulation material and disposed concentrically within said opening and coplanar with said flat top, each of said tracks being supported by an arm, a support holding said arms in a fixed coplanar array, a fixed contact secured to each of the arms, an insulated post spaced from said arms and carrying a plurality of leaf spring contacts extending therefrom toward said arms, a plurality of racing figures disposed above said flat top, each of said figures being supported by a movable metal L-shaped arm extending through a space between two adjacent tracks, each of the movable arms carrying a shoe to stabilize the figure on the adjacent tracks, said movable arms forming parts of electrical circuits with said spring and fixed contacts at one position of the figures on the tracks, a battery and a plurality of lamps in circuit with said contacts so that the lamps light when the figures are in said position on the tracks, each of the movable arms being secured respectively to a flexible, smooth, endless belt, said belts being carried on a plurality of spaced drums driven rotatably by a motor to move the movable arms and figures around the tracks, each of the belts having a discontinuity in the smooth surface thereof, another belt mounted on one of the drums and a hub spaced therefrom, said belt being crossed to rotate the hub in a direction opposite to the direction of rotation of said one drum, and a plurality of vanes having notches therein carried on said hub, said vanes being disposed to catch said endless belts momentarily at the discontinuities therein to cause slippage and arrest the movements of the figures driven by the arrested belts.

3. A racing game, comprising a hollow casing having a pivotally attached hinged bottom baseboard and a flat top, said top having a generally oval opening therein, said opening having an endless track formed of insulation material at the rim thereof, a plurality of generally oval endless spaced tracks formed of insulation material and disposed concentrically within said opening and coplanar with said flat top, each of said tracks being supported by a U-shaped metal arm, an electrically conductive support holding said arms in a coplanar array, a fixed contact secured to each of the arms, an insulated post spaced from said arms and carrying a plurality of leaf spring contacts extending therefrom toward said arms, a plurality of racing figures disposed above said flat top, each of said figures being supported by a movable L-shaped arm extending through a space between two adjacent tracks, each of the movable arms carrying a shoe to stabilize the figure on the adjacent tracks, said movable arms forming parts of electrical circuits with said spring and fixed contacts at one position of the figures on the tracks, a battery and a plurality of lamps in circuit with said contacts, arms and support so that the lamps light when the figures are in said one position on the tracks, each

of the movable arms being secured respectively to a flexible smooth, endless belt, said belts being carried on a plurality of spaced drums driven rotatably by a motor to move the movable arms and figures around the tracks, said belts being disposed in grooves in the drums, each of the belts having a discontinuity in the smooth surface thereof, another belt mounted on one of the drums and a hub spaced therefrom, said belt being crossed to rotate the hub in a direction opposite to the direction of rotation of said one drum, and a plurality of vanes having notches therein carried on said hub, said vanes being disposed to catch said endless belts momentarily at the discontinuities therein to cause slippage and arrest the movements of the figures driven by the arrested belts.

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