United States Patent

Carcel

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[54] GRAVITY OPERATED HORSE RACING GAME

[72] Inventor: **John Carcel,** 157 Stroud Avenue, Ettingville, N.Y. 10312

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[21] Appl. No.: **127,703**

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 20,702, Sept. 28, 1970, abandoned.

[52] **U.S. Cl.** ..... **273/86 C**
[51] **Int. Cl.** **A63f 9/00**
[58] **Field of Search** ..... 273/86 C; 46/43

[56] **References Cited**

UNITED STATES PATENTS

3,343,793 9/1967 Waser ..... 46/43 UX

2,814,492 11/1957 Mohlenbrock ..... 273/86 C

FOREIGN PATENTS OR APPLICATIONS

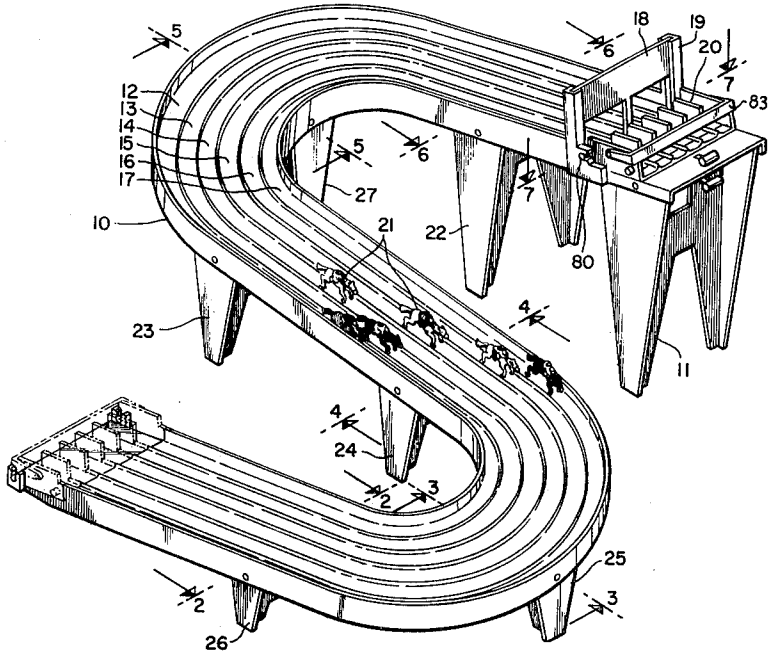
470,716 8/1937 Great Britain ..... 273/86 C
828,157 2/1960 Great Britain ..... 273/86 C

Primary Examiner—Anton O. Oechsle
Attorney—Allison C. Collard

[57] **ABSTRACT**

A horse racing game consisting of a plurality of parallel race tracks which are inclined slightly downhill to permit simulated race horses housed in a starting gate to be simultaneously released, and slide downhill on the tracks to a finish line at the end of the track. A pair of handles mounted adjacent to the starting gate allows the game operator to both open the starting gate and release the horses with a loud audible sound so that they will simultaneously begin sliding down the inclined guided tracks to the finish line.

8 Claims, 14 Drawing Figures



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SHEET 1 OF 3

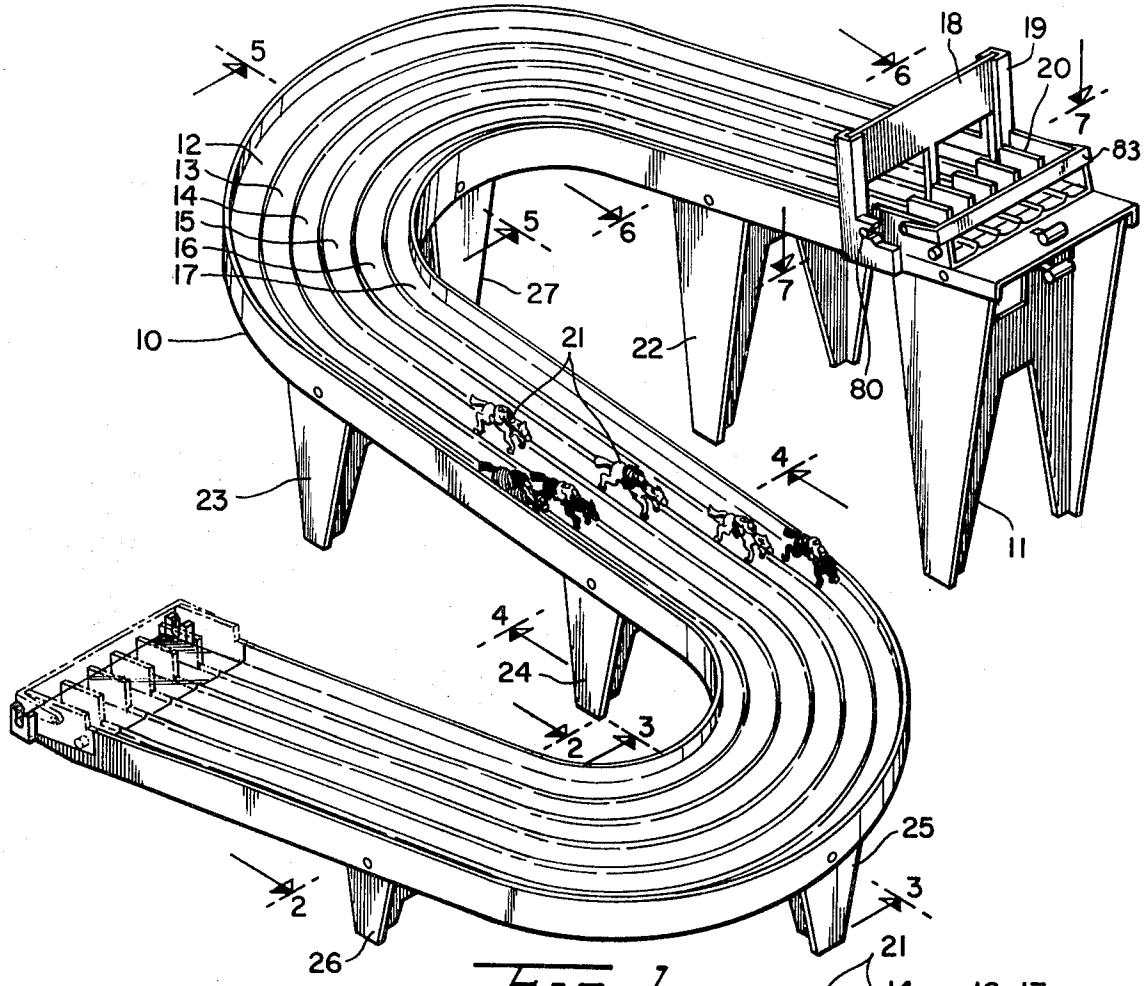


Fig. 1.

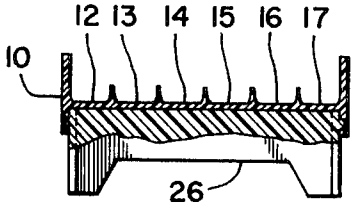


Fig. 2.

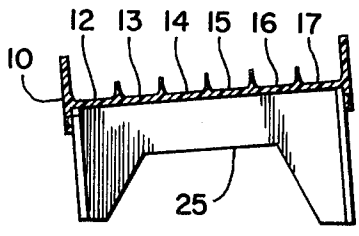


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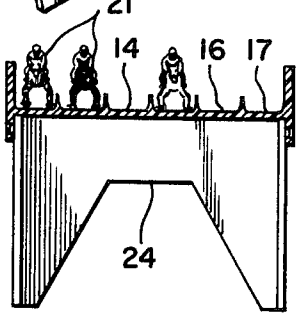


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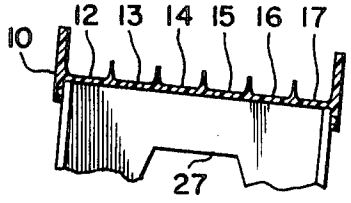


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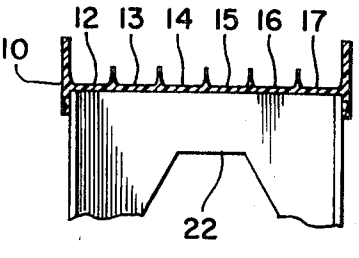


Fig. 6.

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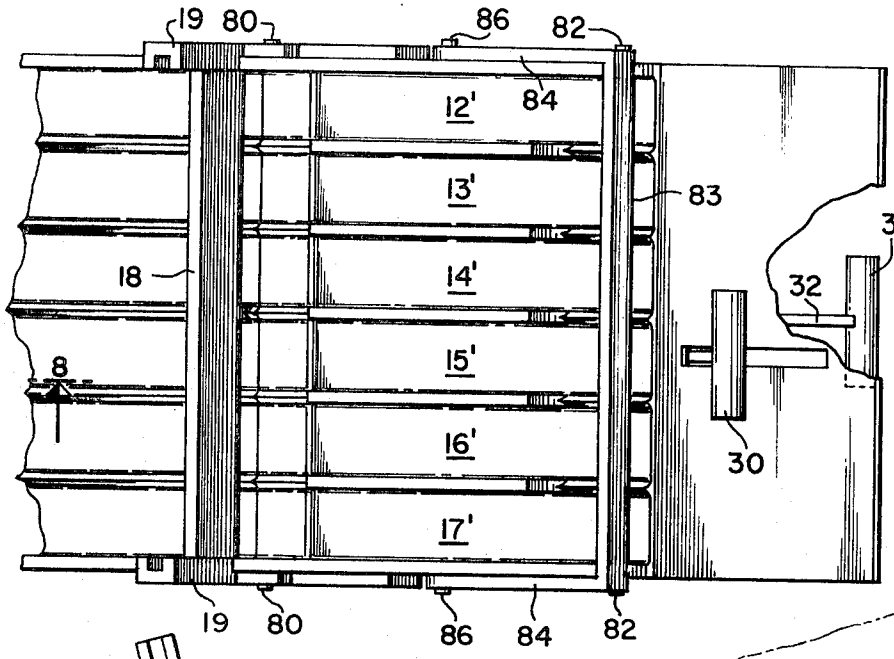


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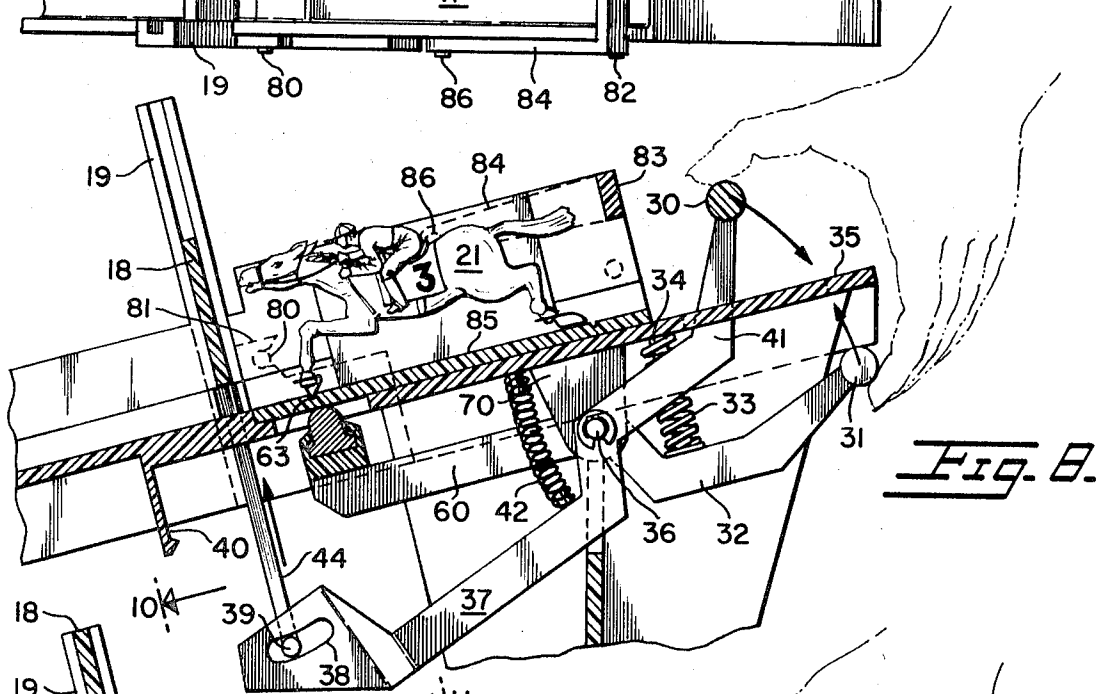


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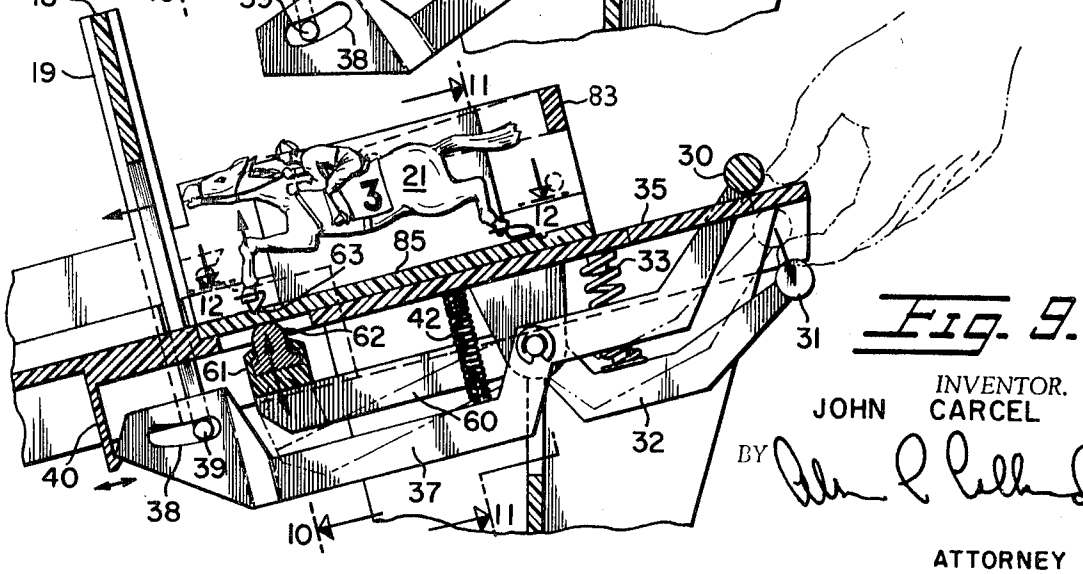


Fig. 9.

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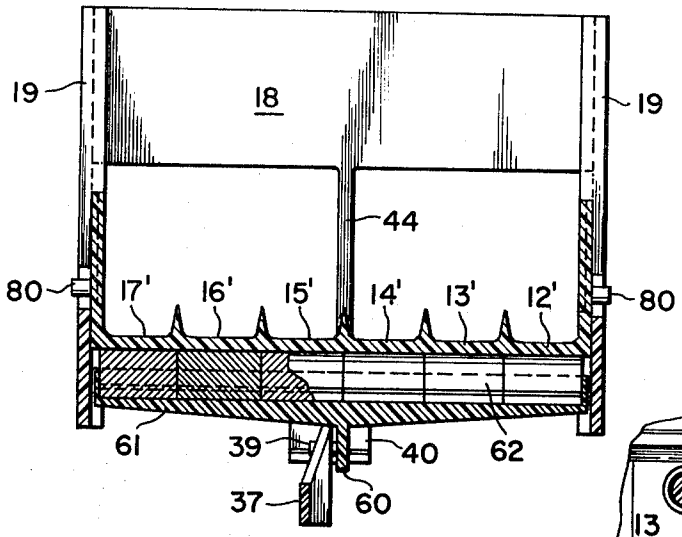


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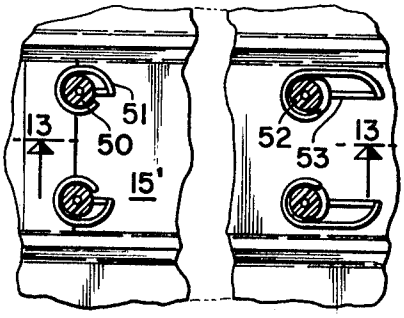


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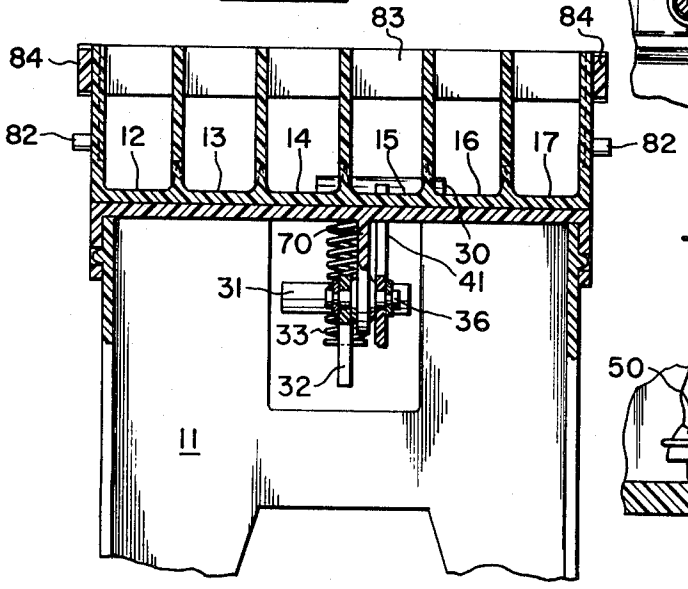


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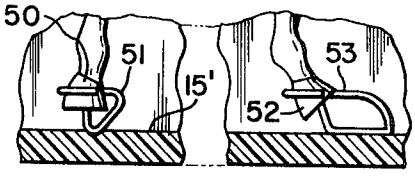


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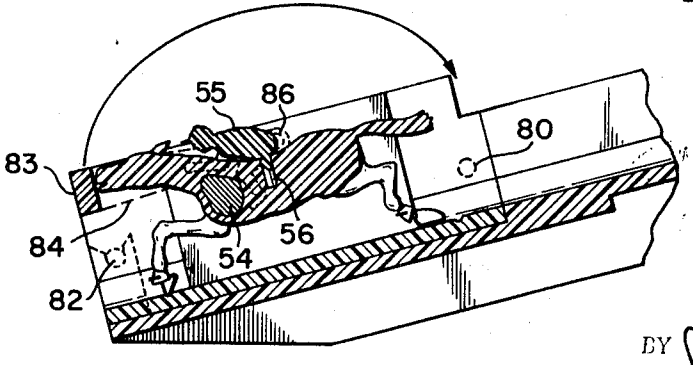


Fig. 14.

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GRAVITY OPERATED HORSE RACING GAME

This is a continuation-in-part application of application Ser. No. 20702 filed on Sept. 28, 1970, and now abandoned.

This invention relates to an improved horse racing game utilizing an inclined raceway having a plurality of parallel tracks.

In conventional horse racing games, toy horses are generally placed upon parallel tracks and moved by either mechanical means or by a game of chance. In games where mechanical means are utilized to move the horses, difficulty is often experienced with the mechanism which connects to each horse, and advances the horses along the track. Conventional horse racing games which utilize motors, levers or gears suffer from the disadvantage in that they are unreliable to operate, and expensive to maintain.

Accordingly, the present invention provides a simplified horse racing game, including an inclined raceway having a plurality of parallel tracks which are preferably shaped in the form of an "S". A plurality of horses are placed in the starting gate at the top of the raceway, and a pair of levers are provided for opening the starting gate and releasing the horses with an audible sound. The feet of the horses are spaced so that the horses are balanced in the track and slide down the raceway while maintaining their separation between adjacent horses. When the horses reach the finish line, they are gathered in a second starting gate so that all of the horses can then be simultaneously picked up and transferred to the starting point at the top of the raceway. Each of the horses are equipped with wire-type sliders attached to their feet which not only permit the horses to slide down each of the inclined tracks, but also maintain their spacings between adjacent tracks. The horses may or may not include a rider attached to the saddle of the horse and may also include a weight disposed within the body of the horse to aid the horse in sliding down the inclined track.

It is therefore an object according to the present invention to provide a horse racing game consisting of a plurality of parallel inclined race tracks which permit horses disposed in each of these tracks to slide toward a finish line after being simultaneously released.

It is another object according to the present invention to provide a horse racing game which is simple in design, easy to manufacture and reliable in operation.

Other objects and features of the present invention will become apparent from the following detailed description considered in connection with the accompanying drawings which disclose the embodiments of the invention. It is to be understood, however, that the drawings are designed for the purpose of illustration only and not as a definition of the limits of the invention.

In the drawings, wherein similar reference characters denote similar elements throughout the several views:

FIG. 1 is a perspective view of the race track according to the invention;

FIG. 2 is a cross-sectional view taken through section 2—2 of FIG. 1;

FIG. 3 is a cross-sectional view taken along section 3—3 of FIG. 1;

FIG. 4 is a cross-sectional view taken along section 4—4 of FIG. 1;

FIG. 5 is a cross-sectional view taken along section 5—5 of FIG. 1;

FIG. 6 is a cross-sectional view taken along section 6—6 of FIG. 1;

FIG. 7 is a cross-sectional view taken along section 7—7 of FIG. 1;

FIG. 8 is a cross-sectional view taken along section 8—8 of FIG. 7;

FIG. 9 is a cross-sectional view similar to the cross-sectional view of FIG. 8 showing another position of the starting mechanism of the invention;

FIG. 10 is a cross-sectional view taken along section 10—10 of FIG. 9;

FIG. 11 is a cross-sectional view taken along section 11—11 of FIG. 9;

FIG. 12 is a cross-sectional view taken along section 12—12 of FIG. 9;

FIG. 13 is a cross-sectional view taken along section 13—13 of FIG. 12; and

FIG. 14 is a vertical cross-sectional view of a horse and jockey in stall at the finish line of the raceway.

Referring to FIG. 1, there is shown an inclined raceway 10 supported on legs 11, 22, 27, 23, 24, 25, and 26. Legs 11 and 22 at the beginning of the raceway have a longer length than legs 25 and 26 at the end of the raceway in order to provide a sufficient incline so that horses 21 will slide down raceways 12, 13, 14, 15, 16 and 17. Raceways 12–17 are separated from each other as shown in detail in FIG. 2 by means of vertical flanges, and the sidewalls of the raceway. Inclined raceway 10 may take any particular shape as desired, an is shown in the form of an "S" in FIG. 1. It is obvious that the raceway may also extend along a straight line.

The S-shaped raceway as shown in FIG. 1 includes curves which are slightly inclined as shown in FIGS. 3 and 5 in order to aid the horses in their travel around the curves of the raceway, and prevent them from becoming disengaged from tracks 12–17.

Referring to FIG. 7, there is shown a top view of the starting gate mechanism taken through section 7—7 of FIG. 1. Starting gate 18 is slidably mounted in grooves along vertical channels 19 so that it may be raised and lowered by means of handle 30. As shown in detail in FIG. 8, horses 21 are placed in troughs 12'–17' which open to tracks 12–17 respectively. Initially, starting gate 18 is in its closed position. Handle 30, which is connected at the end of lever 37 is pivoted about axis 36 on support 70 secured below platform 35. A lever 37 integrally formed with lever 41 terminates in a slot 38 for receiving the end pin 39 of post 44. Post 44 is connected at its top to shutter 18 so that when handle 30 is moved downward in the direction of the arrow shown, post 44 is urged upward in the direction of the arrow shown so as to open the starting gates as shown in FIGS, 9, 10 and 11. A resilient latch 40 disposed below the track, latches the starting gate in an open position by demountably capturing the leading edge of lever 37.

Horses 21 include front legs 50, having wire-type rails 51 which form a skate to permit the horse to slide down an inclined track. These rails also have side fenders to maintain the horses between the flanges in each of tracks 12–17, as shown in FIGS. 12 and 13. In a similar manner, rear feet 52 also include wire-type rails 53 which form a skate for contact with tracks 12–17, and include side rails to maintain the horses between the flanges of tracks 12–17. The toe of skates 51, mounted on front feet 50 are initially retained in a groove 63 formed in the floor of a removal set of stalls 12'–17' behind starting gate 18. Removable stalls 12'–17' are demountably placed on platform 35 so that a similar type stall can be located at the finish line at the opposite end of the track and all horses then be simultaneously transferred back to the starting line by substituting a new set of stalls. Stalls 12'–17' include front pins 80 which are slidably inserted into corresponding catches 81 which are formed along flanges in starting gate rails 19.

A second handle 31 is provided connected to the end of lever 32 and also pivoted about axis 36. The other end of lever 32 extends in an integrally formed lever 60 which terminates with a resilient block 61 mounted on its actuating end. Disposed within resilient block 61 is a hammer 62 which communicates with the bottom of floor 85 of stalls 12'–17' immediately below groove 63. A first compression spring 33 retained by pin 34 below floor 35 urges against lever 32 in order to maintain hammer 62 against floor surface 85. In a similar manner, compression spring 42 retained by pin 70 below floor surface 35 urges against lever 37 to maintain starting gate 18 in a normally closed position.

After gate 18 is raised and latched in place, the user may grasp handle 31 as shown in detail in FIG. 9 and lift handle 31,

in the direction of the arrow shown, into the position illustrated in broken line. By releasing handle **31**, hammer **62** is urged by spring **33** to strike against floor surface **85** so that all of the skates **51** on front hooves **50** of horses **21** will be raised out of groove **63** and the horses will proceed through the starting gate and down tracks **12–17** respectively.

FIG. **14** shows a detailed cross-sectional view of another embodiment of the invention, whereby each of horses **21** include a weighted member **54** which preferably consists of a lead weight concealed within the forward portion of the horse to aid in its downward path through tracks **12–17**. A rider **55** may also be included on each of the horses and fitted into a peg hole **56** at the top of the horses as desired.

FIG. **14** also shows another interesting feature of the invention in that the starting gate includes a handle **83** having side wall flanges **84** which are pivoted on axle **86** connected to the sidewalls of the starting gate. When the starting gate is mounted at the top of the raceway, handle **83** is pivoted in the direction of the arrow shown so that it comes to rest at the rear of all the horses in the raceway. A second starting gate can also be mounted, as shown, in dotted line in FIG. **1** at the end of the raceway, whereby handle **83** will be pivoted into the position as shown in FIG. **14**. When all of the horses reach the end of the raceway, the user can pick up and remove all of the horses simultaneously and transfer them back to the starting position at the beginning of the raceway and rotate the handle to the rear of the horses. Handle **83** serves not only as a support for carrying the removable starting gate, but also to block the horses from escaping at the finish line when it is placed into a position as shown in FIG. **14**.

While only a few embodiments of the present invention have been shown and described, it is obvious that many changes and modifications may be made thereunto without departing from the spirit and scope of the invention.

What is claimed is:

1. An apparatus for racing toy horses, comprising:

an inclined raceway having a plurality of parallel, spaced-apart racetracks;

a starting gate, mounted at the highest portion of said inclined raceway;

a plurality of horses, each disposed in each track of said raceway;

sliding skates secured to the feet of each of said horses;

means for releasing said horses for travel in the tracks of said inclined raceway;

means for opening said starting gate to permit said horses to traverse the length of said inclined raceway;

a detachable tray, including a handle pivotably secured to said tray for disposal in front of and to the rear of said tray; and

means for receiving said tray at the starting gate and at the finish of said raceway.

2. The apparatus as recited in claim **1**, wherein said releasing means comprises a groove formed along the edge of said tray for receiving and demountably securing the front skates of said horses, a hammer disposed below said groove and pivotably coupled to said raceway, and a handle coupled to said hammer so that the movement of said handle will cause said hammer to strike the bottom of said tray to permit the front feet of said horses to release from said groove.

3. The apparatus as recited in claim **2**, wherein said means for opening starting gate comprises a second handle, a lever pivoted to said raceway and coupled to said second handle and engaging said starting gate, and a latch engaging said lever when said starting gate is moved to its fully open position.

4. The apparatus as recited in claim **3**, wherein said hammer handle and said second handle are pivotably coupled to the same pivot and are disposed adjacent to each other for simultaneous movement.

5. The apparatus as recited in claim **4**, wherein each of said horses includes a weighted member disposed within the body of said horse over the front feet.

6. The apparatus as recited in claim **5**, wherein said horse additionally comprises a rider demountably secured to the saddle of said horse.

7. The apparatus as recited in claim **6**, wherein said raceway forms an S curve, and said tracks are inclined on the curved portions of said track.

8. The apparatus as recited in claim **1**, wherein said tray comprises a forward pair of extending pins for engagement within a corresponding slot formed adjacent to said starting gage for demountably securing said tray at the beginning of said raceway.

* * * * *