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L. BALANYI
SLALOM RACE GAME

3,266,802

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2 Sheets-Sheet 1

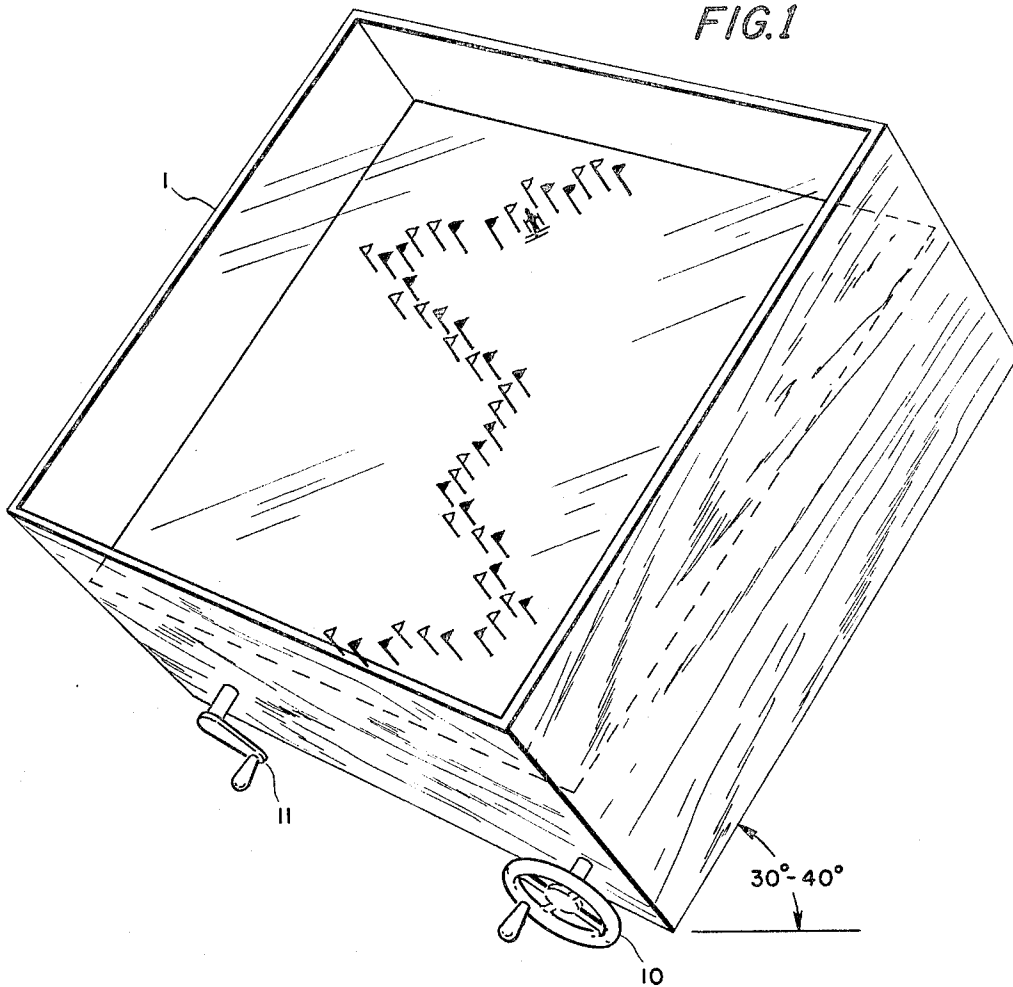
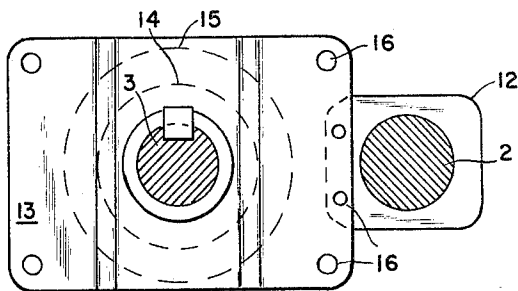


FIG. 4

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2 Sheets-Sheet 2

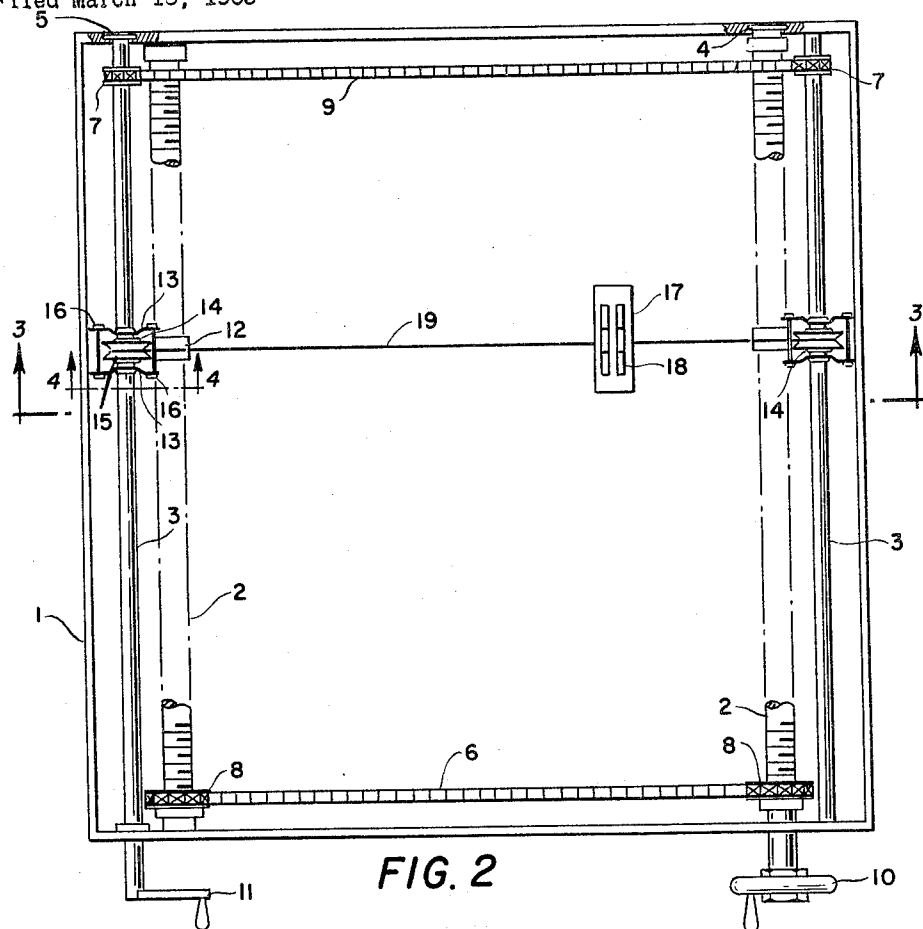


FIG. 2

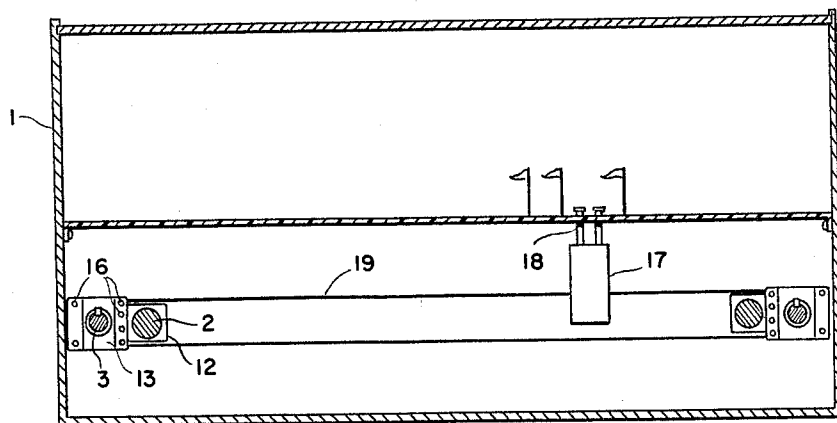


FIG. 3

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SLALOM RACE GAME

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1 Claim. (Cl. 273-1)

This invention relates to an amusement and educational game. It is a replica of one of the most important contests of the Winter Olympic Games: the Slalom. The rules of the game are fixed in the Olympic Games Statutes. The competitors race down on their skis from the hilltop, from the start line, on a given signal one after the other in $\frac{1}{2}$ or 1 minute intervals to the end line at the bottom of the hill. From the start line to the end line the number of gates (that means pairs of flags) are set, which the skier must enter some from the right, some from the left side. This way any time he leaves one gate he must be prepared to enter the next gate, all the way to the end line. The time of each skier is separately and to $\frac{1}{10}$ of a second computed. Each competitor must run twice and the time of the two runs is added. The skier who passes all the gates and whose added time of the two runs is the shortest is the winner.

This invention follows the same pattern. A fantasy figure skies down on a surface at about a 30-45° angle to the floor through several gates to the bottom of the surface (representing the snow covered hill). This is the first run, and from the bottom to the top is the second run. The movement and the speed of the skiing figure are directed by a mechanical device, which enables the player of the game to direct the skiing figure any place on the surface.

The slalom race is a very interesting and challenging sport. Although there is not a bodily contact among the contestants, there is a very keen and exciting competition. The object of this game is to give to this challenging and spectacular competition a real publicity. As there is a presidential program for physical fitness, it is very important to win more and more fans to this relatively neglected sport. The player of the game would try sooner or later the real slalom race and anybody who tried this amusement game would be already familiar with the rules of the sport.

But there would be a very grave error to pretend that the substance of the game would be only an imitation of the movement or only to pass through the gates. The real game requires skill and keen contest. If there is no possibility to use skill and different speed, there would be no race. To pass through the gates is only a condition to qualify as a contestant; the real winner of the game is the skier who passes through all the gates in the shortest time. This is not only a slalom game but a slalom race, where time is most important and the race is the heart and essence of the game.

Parts of the game:

(1) Any stand of wood, iron or any other material, to hold the flat box of the game (about the size of 3'x3'x1 $\frac{1}{2}$ ') which includes the game. The front cover of the box is a glass plate and under this glass plate moves the skiing figure. The back of the box (plywood or any other material) is fixed by screws or by any other way to the stand at a 30-40° angle (or any angle) to the floor. The four sidewalls of the box may be made of wood or any other material. The bottom sidewall should be about the height of the elbows of an average height man, to permit operating easily with the left hand the lever and with the right hand the wheel with a handle, which are set on the bottom sidewall of the box.

(2) The flat box of the game is divided (parallel with its glass front and plywood back) by a screen (fine woven silk, woven plastic or any other material fixed on a wooden

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frame). The dimensions of the screen must be slightly smaller than the box, because the screen must be put inside the box and is secured by screws or by any other way to all four sidewalls of the box. This way the box will be divided in two parallel parts of the same size.

(a) The upper area between the glass front and screen represents the playing ground. That means the snow covered side of the hill. On that screen are set, by several pairs of flags, the gates in any appropriate pattern, through which the player of the game moves the skiing figure by the use of the mechanical device.

(b) The lower area under the screen houses the mechanical device.

(3) The skiing figure. This could be of wood, plastic, or any other material. This is a fantasy figure with the same appearance in front view as in back view. That way the skiing figure, after reaching the end line downhill, can be moved uphill without turning. It will be moved upwards backwards, but as the back has the same appearance as the front, this does not matter. This figure will be moved by two pairs of flat magnets inserted on the bottom of the two skis touching the screen. On the other side of the screen are two pairs of magnets touching the screen from the lower area and directed by the mechanical device. The magnets of the mechanical device could be replaced by electromagnets.

(4) In the lower half of the box under the silk screen is placed the mechanical device, which enables the player to direct the figure to any point on the screen representing the snow covered hill.

For better understanding of this part of the invention, it is illustrated by the accompanying drawing. FIG. 2 of the drawing is a front view of the mechanical device as it appears under the silk screen, inside of the four side walls of the box. The frames or side walls 1 include bottom, top and side walls. There are two threaded rods 2 for the vertical movement and two slotted rods 3 for the horizontal movement, secured to the top and bottom walls of the wooden box. The threaded rods and the slotted rods are supported by ball bearings 4 and 5, respectively. To connect the threaded rods there are two sprockets 8 and to connect the slotted rods two sprockets 7. Each sprocket is secured to its rod by a screw. A chain 6 connects the sprockets 8 and chain 9 connects the sprockets 7. The right threaded rod is extended beyond the bottom wall and on this extension is secured the turning wheel 10 with a handle. On the extension beyond the bottom wall of the slotted rod is secured a lever 11. On the two threaded rods are two nuts 12 secured each to a pair of plates 13 which enclose a hubless pulley 15 placed between two plates on the slotted rod. One key on each pulley enables the two pulleys 15 to glide in the slots used as keyways. To avoid friction between the plates 13 and the pulleys 15, two pair of rings 14 are placed between the plates and the pulleys, in the channels of which are placed 4x14 steel balls (not visible on the drawing) which serve as thrust bearings. Screws 16 secure the plates to the nuts on the threaded rods and to each other. Cord 19 connects the two pulleys 15, and on this cord is secured by a knob one wooden plate 17 for the skis under the screen and opposite the skis of the moving figure. On these skis are mounted magnets 18 to attract the magnets of the skiing figure.

The horizontal movement under the screen is directed by a pair of parallel slotted rods 3 secured to the bottom and top sides of the box. These slotted rods 3 are connected each to the other by a pair of sprockets 7 fixed each by one screw to a slotted rod and by a chain 9. Consequently if the lever secured to the end of the left slotted rod, the extension of which protrudes from the left part of the bottom wall, is moved, both slotted rods 3 turn in the same direction. With the slotted rods 3 turn

the two pulleys 15, which are set on the rods, because the keys in the keyways of the pulleys 15 are placed in the slots as the other part of the keyway. These pulleys 15 can glide up and down. The lever is marked 11.

On the pulleys 15 is a cord 19 which connects them. On this cord is secured by a knob a wooden plate 17 with a pair of skis in which are inserted the magnets 18 touching the lower side of the screen and in this way attracting the magnets in the skis of the figure in the upper area of the box.

The vertical movement is directed by a pair of threaded rods 2 secured parallel with the slotted rods 3 to the bottom and top walls 1 of the box. These threaded rods 2 are connected each to the other by a pair of sprockets 8 fixed each by one screw to a threaded rod 2 and by a chain 9 on the sprockets 8. Consequently, if the wheel 10 with the handle secured to the end of the right threaded rod 2, the extension of which protrudes from the right part of the bottom side of the box, is turned, both threaded rods 2 turn in the same direction. By turning the wheel 10 with the handle from right to left the two nuts 12 on the threaded rods 2 move upwards. They move downwards if the wheel 10 is turned from left to right. These two nuts are connected by screws 16 each to a pair of plates 13 connected by other screws 16 each to the other. In the centre of the plates is a round hole for the slotted rods 3. These plates 13 enclose the pulleys 15. This way the nuts 12 on the threaded rods 2 move upwards and downwards by turning the wheel 10 with the handle, and the plates 13 and the enclosed pulleys 15 move upwards and downwards in the slots as in a keyway.

To avoid friction between the plates 13 and the pulleys 15, on the inside surface of the plates 13 there is a concavity in circular form, forming a channel for steel balls. Between the plates 13 and the pulleys 15 are two rings 14, which have on the side of the plates 13 a similar concavity in circular form, forming the other side of the channel for the steel balls. These steel balls in each channel form a thrust bearing to avoid friction. These steel balls are not visible on the drawing.

This way the horizontal movement can be performed without friction through the thrust bearings by rotating the pulleys 15 between the two plates 13 attached by screws 16 to the nut 12 on the threaded rod 2 by means of the lever 11 on the end of the slotted rod 3 and the vertical movement can be performed by moving the nut 12, and with the nut the pulley 15 in the keyway of the slotted rod 3, up and down by turning the wheel 10 on the threaded rod 2.

To avoid other friction with the bottom and top walls 1 of the box and the rods 2, 3, both pairs of rods secured to the bottom and top sides of the box, pass through ball bearings. The threaded rods 2 turn in ball bearings 4, and the slotted rods turn in ball bearings 5 inserted in the bottom and top walls of the box.

5. To complete the game, there is an electrical clock applied outside on the top side of the box, capable to compute $\frac{1}{10}$ of a second. The clock starts when the skiing figure passes the start line and stops when it passes the end line.

What is claimed is:

A sport game in imitation of the Slalom-race of the Winter Olympics, where the competitors race twice against the clock passing gates from the right and the next from the left and so on all the way, comprising a continuous rectangular surface simulating a ski slope, a plurality of gates being disposed alternately at right and left sides of the rectangular surface to provide a continuous series of gates, only one movable figure mounted on the said surface for motion thereon in simulation of competition in a Slalom race between the gates, a magnet positioned in this moving figure, and manually operable figure-controlling mechanism positioned under the said surface causing the movable figure to travel a course on the surface passing the gates from the right and the next from the left, changing direction all the way depending on the operator's free determination; this mechanism comprising a pair of generally vertical parallel threaded rods at the right and left sides of said surface and connected each to the other by a first endless belt on two sprockets mounted each on a threaded rod and a pair of generally vertical parallel slotted rods connected each to the other by a second endless belt; a wheel with a handle mounted on the extending part of the right threaded rod to be rotated by the operator's right hand for the control of the figure's vertical movement, a lever mounted on the extending part of the left slotted rod to be manipulated by the operator's left hand for the control of the figure's horizontal movements; a third endless belt on two pulleys placed each on one slotted rod and connected each to one nut placed on the closest threaded rod; two keys inserted each between one pulley and one slotted rod in the slot of the rod permitting the pulleys together with the endless belt to glide in the slots of the slotted rods in response to movement of the connected nuts on the threaded rods; a magnet positioned on the said second endless belt, by which the magnet in the figure is attracted and moved vertically and horizontally through the gates on the surface.

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