

[54] AMUSEMENT WATER SLIDE AND METHOD

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[51] Int. Cl.<sup>2</sup> .... A63G 21/18

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[56] References Cited

UNITED STATES PATENTS

419,860 1/1890 Libbey ..... 104/73

640,439	1/1900	Boyton.....	104/73 X
757,286	4/1904	DuClos.....	104/73
1,648,196	11/1927	Rohmer.....	272/56.5 R UX
1,698,093	1/1929	Hargrave.....	104/69
2,982,547	5/1961	Carrier.....	272/56.5 R
3,343,793	9/1967	Waser.....	104/69 X
3,385,599	5/1968	Davis.....	272/56.5 R
3,473,483	10/1969	York.....	272/56.5 SS X

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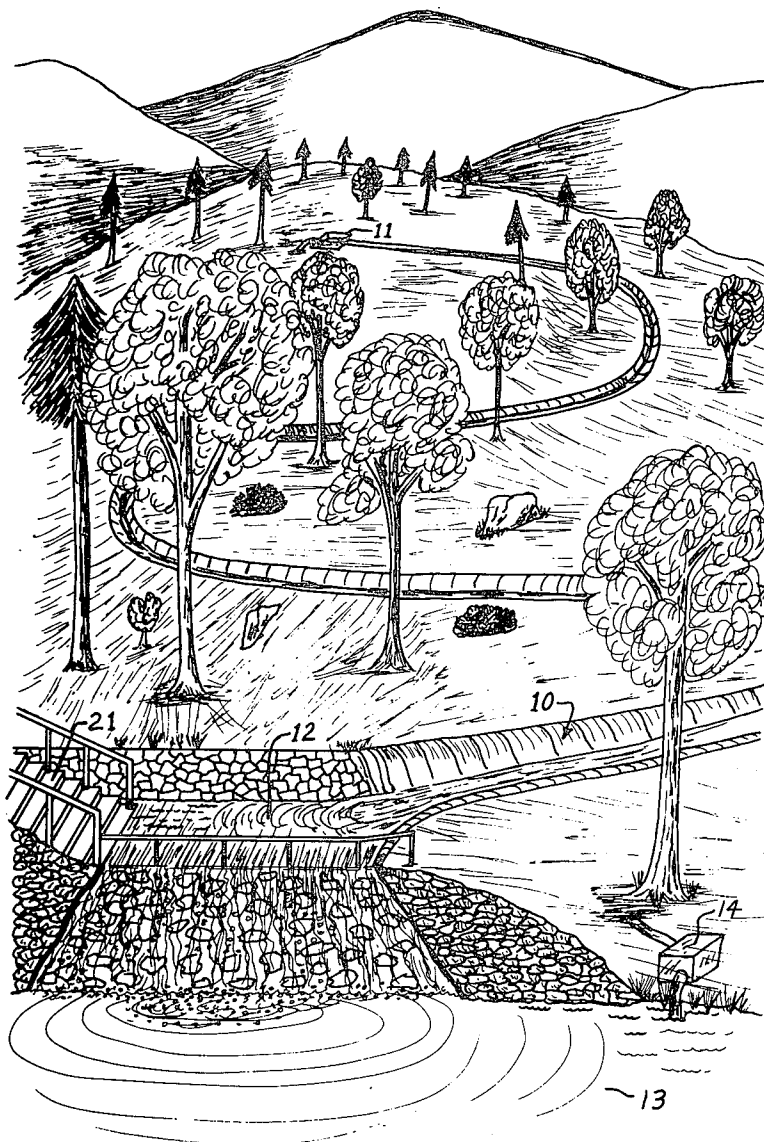
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[57]

ABSTRACT

A method of adapting a hill to provide an amusement device comprising a water slide dug into the ground having predetermined optional length, rate of descent and curvature.

9 Claims, 3 Drawing Figures



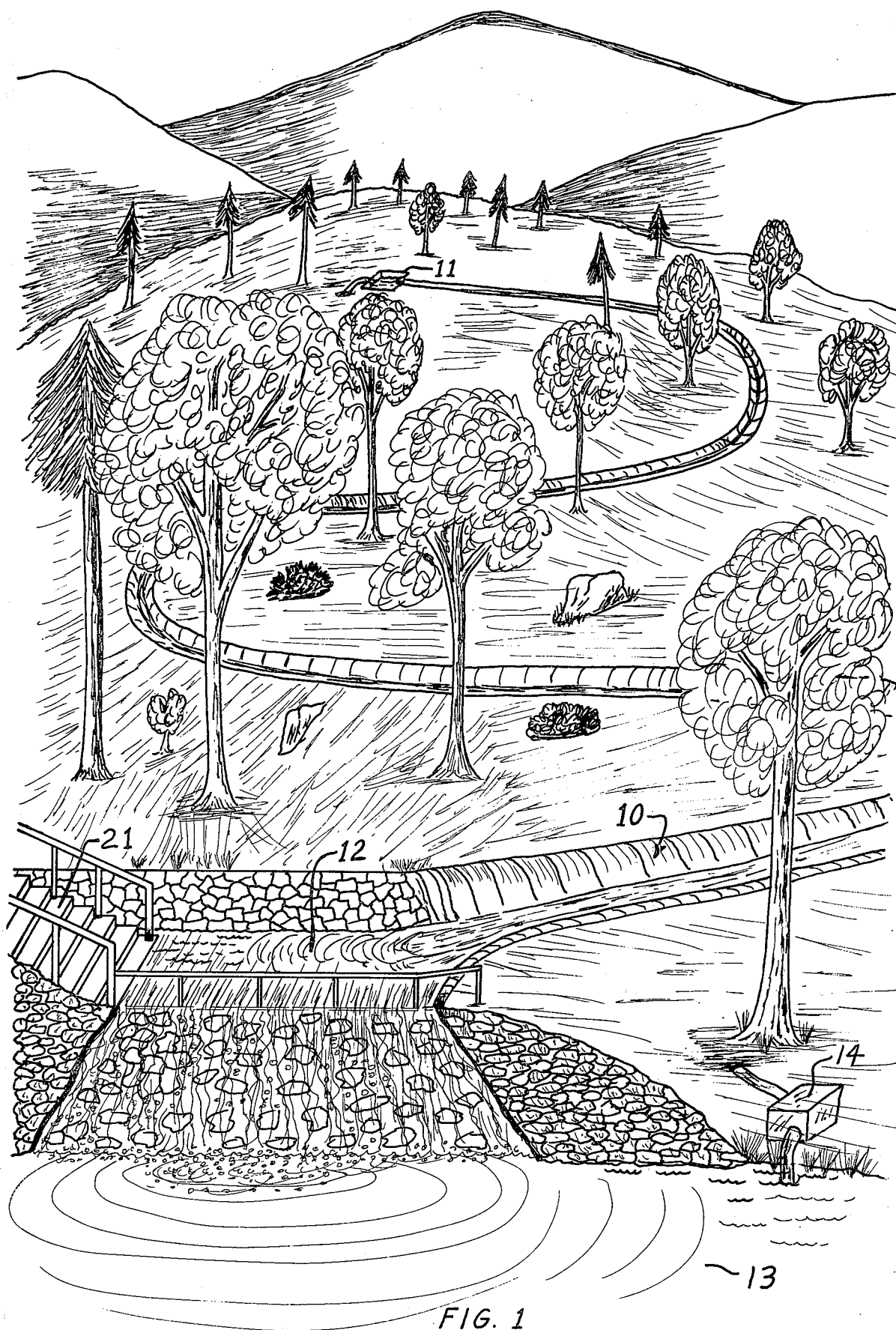
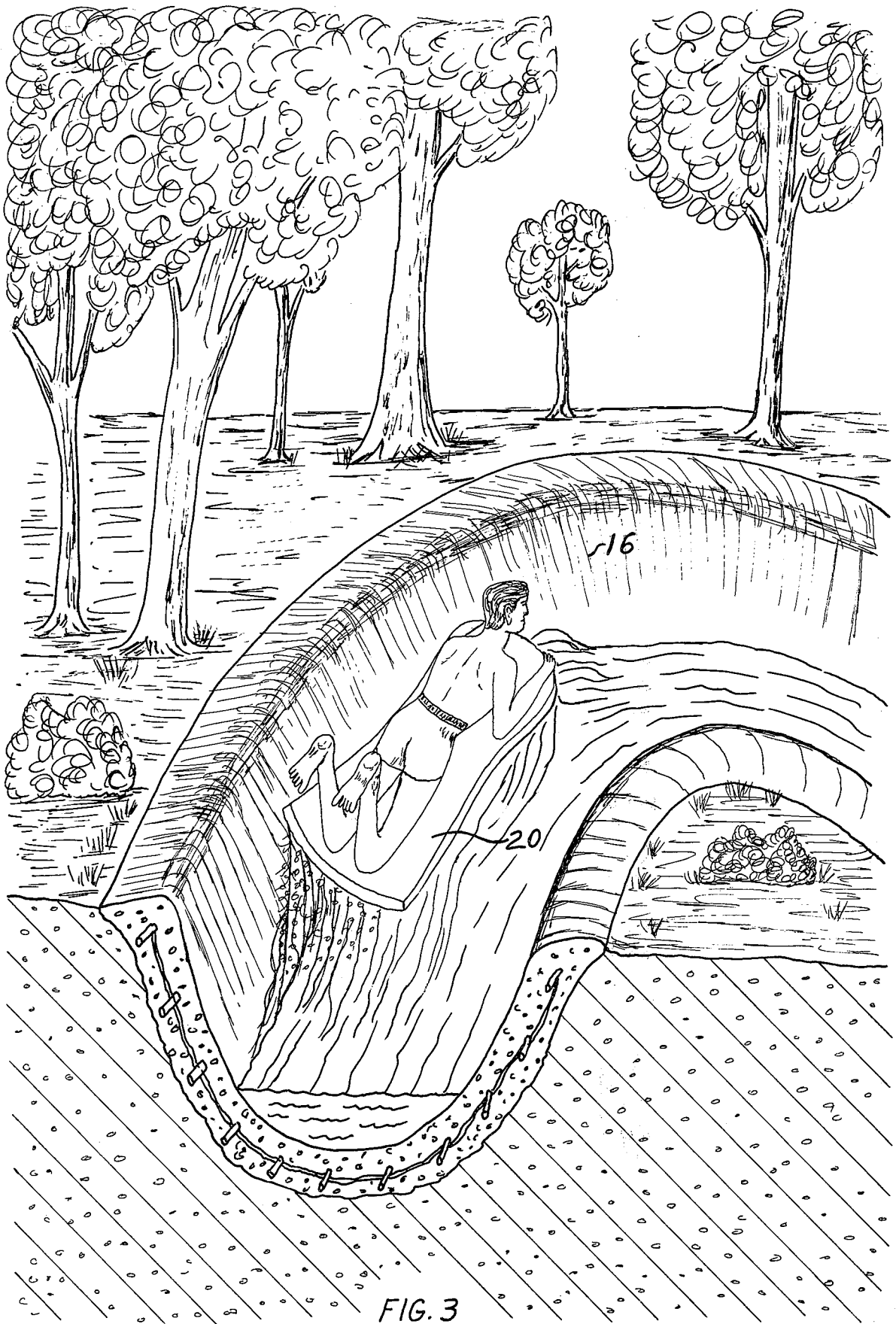


FIG. 1





## AMUSEMENT WATER SLIDE AND METHOD

## BACKGROUND OF THE INVENTION

Water slides have long been known. See, for example, U.S. Pat. No. 824,436 to Pester issued June 26, 1906. Pester teaches an elevated slideway supported by scaffolding and extending between an artificial tower at its upper end and a lake at its lower end. Water is pumped to the top of the tower and allowed to flow down the slideway. Boats are elevated to the top of the tower for carrying passengers from the tower down the slideway and into the lake. See also U.S. Pat. Nos. 1,441,126 issued Jan. 22, 1923, to Sherman et al; 3,246,892 issued Apr. 19, 1966, to Grudowski; and 3,690,265 issued Sept. 12, 1972, to Horibata.

It is also known to adapt the surface of hilly terrain to a water slide for amusement purposes. See U.S. Pat. Nos. 2,982,547 issued May 2, 1961, to Carrier and 3,715,120 issued Feb. 6, 1973, to Peltola, but in each of these instances the slide member is formed of flat flexible sheet material lying on the surface of the ground when in use and readily removable from the ground when not in use. The slides are fragile and not suitable for commercial use. U.S. Pat. No. 3,385,599 issued May 28, 1968, to Davis shows in FIG. 5 the application of the Davis roller ride invention to a natural downwardly sloping contour. The Davis ride, however, is supported above the ground, does not use water or a separate supporting surface for each passenger; and Column 3, lines 62-66 of said U.S. Pat. No. 3,385,599 explain that the height of Davis' supporting posts 78 "may be varied in accordance with the ground contour so that the downward slope of the ride is appropriate and is only generally related to ground contour rather than exactly related to it."

## SUMMARY OF THE INVENTION

According to the invention, maximum utility is made of the contours or topography of hilly land bordering any body of water including, without limitation a lake reservoir, stream, ocean, pool, pond or artificial body of water by forming a trench or slideway in the ground of sufficient depth to contain and guide a person in prone or sitting position on a mat within the slideway. The slideway is of substantially uniform depth and follows the contour of the hill along a sinuous path from near or at the top of a hill bordering a lake which will result in the slideway having a predetermined rate of descent. Preferably, the natural slope of the hill is steep enough to provide a faster rate of descent than desired in a straight line. In such case, the trench follows a zig-zag path down the hill to obtain the desired rate of descent in much the same manner as a highway built across a steep mountain. Water is delivered to the starting point at the top of the slideway by any suitable means such as gravity feed from a higher elevation or pumping upwardly from the body of water at the lower end of the slideway. In either event water is allowed to flow through the slideway in a predetermined volume which may be varied as desired to provide the requisite coefficient of friction for a person to traverse the slideway on a mat at a predetermined safe rate of speed. The path of the slideway is arranged so that curves in the path have a desired effect on the speed of descent.

A landing pool is preferably provided at the bottom of the slideway to provide safe deacceleration for suc-

cessive riders, although the lake or other body of water will provide equally safe deacceleration and the slideway may communicate directly with the lake. In the described embodiment, the landing pool is preferably spaced above the surface of the lake to provide a water fall from the landing pool to the lake for the dual purpose of aerating the water in the lake and providing a pleasing aesthetic appearance.

The slideway is lined with reinforced concrete or other suitable material to provide a rigid, sturdy and durable slide conforming to the topography of the ground throughout its longitudinal extent.

## BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be more fully understood by reference to the following detailed description when read in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of the water slide and its landing pool; and

FIG. 2 is a fragmentary plan view of a typical curve in the path of the water slide; and

FIG. 3 is a vertical sectional view taken substantially along line 3-3 in FIG. 2.

## DETAILED DESCRIPTION

Referring more specifically to the drawings, the numeral 10 broadly indicates a trench or slideway dug into the ground and conforming thereto. The slideway 10 extends downwardly from a starting point 11 near the top of a hill to a landing pool 12 near the bottom of the hill. The landing pool 12 is spaced above a lake 13.

Water is pumped from the lake to the starting point 11 by a pump 14 which empties into a shallow pool at the starting point 11. The starting point or pool 11 communicates with the slideway 10 and water from the pool 11 flows into the slideway 10, down the slideway to the landing pool 12 and back into the lake 13 from which it came.

The slideway may follow any desired path from the starting point to the landing pool commensurate with the desired rate of descent, the desired degree of curvature, and the desired length of slideway. By way of example only and without limitation, the overall length of the slideway may be 400 feet with a vertical fall or drop of 35 feet. The landing pool 12 may be 20 feet long, 8 feet wide, and 3 feet deep. In one actual embodiment, the landing pool overflows into a 2 acre lake which supplies water to the pump 14 for elevation to the starting pool 11. The lake 13 receives waste water from the slide where it settles and is recycled. In the described embodiment, the slideway 10 is on an average slope of approximately 10° varied at selected points to control the desired rate of descent. The pump is operated by a 40 h.p. motor and raises the water 35 feet from the lake to the starting pool 11, but has sufficient capacity to lift 1800 gallons per minute 60 feet. The slideway 10 is lined with concrete 4 to 6 inches thick and reinforced with steel rods. The concrete is finished smooth and rounded at the bottom on a 2 foot radius. The overall width of the slideway is 4 feet. The foregoing specific statements are illustrative only and are not critical to the successful operation of the invention. All dimensions, ratings and values can be varied as desired. The depth of water in the slideway is about 2 inches but again, can be more or less as desired. The more water,

the faster a small person will go, but the amount of water does not affect the speed of a larger person because he goes faster than the water and builds up a wall of water in front of him.

As most clearly seen in FIGS. 2 and 3, the curved path of the slideway 10 includes at least one major curve 14 (about 180°) which is intentionally preceeded by a slight reverse curve 15 of about 10° for the purpose of positioning the rider for entry into the larger curve. The major curve 14 has a four foot wall 16 on the outside of the curve to assist in retaining the riders within the slideway. The heavier the rider, the higher he goes up the wall.

A mat 20 is provided for each rider to protect the rider from abrasions. The mat may be of any desired material including rubber, fiber, or plastic. The depth and speed of the water are sufficient to require only a minimum frictional contact between the mat and the concrete slideway.

It has been found that a 400 foot slide is of sufficient length to accommodate about 40 people at one time. As each rider enters the landing pool, he retrieves his mat and exits by way of the steps 21, after which he may return to the starting point 11 and resume his ride. It has also been found preferable to paint or otherwise coat the slideway to improve its smoothness, and to reduce as much as possible its abrasiveness on the mats and riders.

Although specific terms have been employed in describing the invention, they are by way of illustration only and not for purposes of limitation; the scope of the invention being defined in the claims.

I claim:

1. The method of adapting the topography of a hill to a water slide amusement device, which method comprises:
  - a. providing a landing pool of water;
  - b. providing a starting point on the hill at a higher elevation than said landing pool;
  - c. providing a slideway dug into the hill and extending between the starting point and said landing pool;

1. conforming the slideway to the contour of the land to provide the desired rate of descent and curvature,
2. introducing water into the slideway at said starting point, and
- d. providing a mat for each rider.
2. A method according to claim 1 which includes the step of providing at least one major curve preceded by a slight reverse curve for the purpose of positioning the rider for entry into the major curve.
3. A method according to claim 1 wherein water is pumped from the landing pool to the starting point and flows through the slideway back into the landing pool.
4. A method according to claim 3 wherein the landing pool at the lower end of the slideway borders and is in communication with a natural body of water.
5. A water slide amusement device comprising a slideway dug into the side of a hill and conforming in a sinuous path to the contour of the hill, to define a predetermined rate of descent, a starting pool at the top of said slideway and communicating therewith, a landing pool at the lower end of said slideway and communicating therewith, said slideway extending from said starting pool to said landing pool, said starting pool and said landing pool each being at a lower elevation than their respective junctures with said slideway, and means for introducing water into the starting pool to flow down the slideway into the landing pool.
6. A structure according to claim 5 which includes at least one major curve preceded by a slight reverse curve for positioning successive persons for entry into the major curve.
7. A structure according to claim 6 wherein the major curve is about 180° and the reverse curve is about 10°.
8. A structure according to claim 6 wherein the outside wall of the major curve is higher than the inside wall of the major curve.
9. A structure according to claim 5 wherein means are provided for recycling the water.

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