Sept. 10, 1968 D. HOLLEY 3,400,643

PLASTIC SKI SURFACE STRUCTURE

Filed Feb. 14, 1966

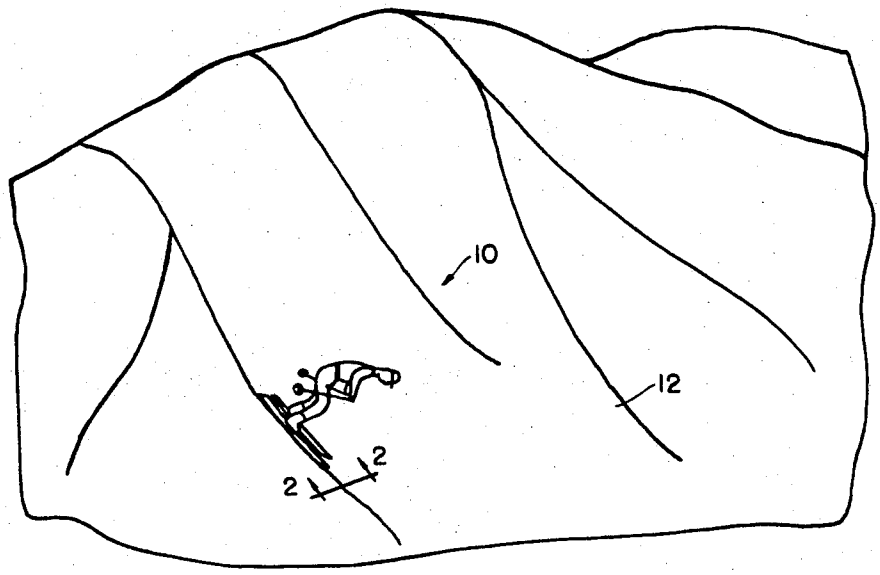


FIG. 1

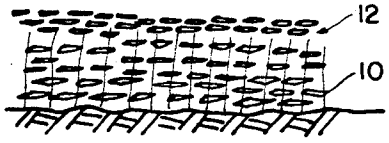


FIG. 2

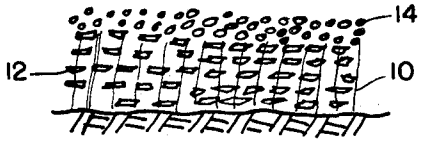


FIG. 3

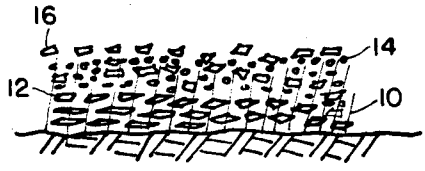


FIG. 4

INVENTOR.
DANFORTH HOLLEY
BY Whittemore, Hulbert & Belknap
ATTORNEYS

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PLASTIC SKI SURFACE STRUCTURE

Danforth Holley, Grosse Pointe Shores, Mich., assignor to Holley Plastics Company, Warren, Mich., a corporation of Michigan

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ABSTRACT OF THE DISCLOSURE

An artificial surface for skiing or the like comprising a sloping surface covered with grass and or straw, a layer of small flat flakes of approximately ¼" maximum dimension of for example 3 inches in thickness which may be an acetate or butyrate plastic and a layer of polyethylene or polystyrene plastic pellets of approximately 3/32" diameter over the flat flakes. An additional layer of crushed ice or natural or artificial snow may be placed over the plastic pellets to increase the speed of skiing on the artificial surface if desired. The speed of skiing on the artificial surface may also be increased by spraying the plastic flakes and or pellets with liquid silicon or tumbling them in liquid Teflon.

In the past, skiing has been limited primarily to cold regions having sufficient snowfall to maintain a considerable depth of snow on the ground for extended periods. Thus skiing is seasonal in most populated areas and in the past has been dependent upon proper weather conditions.

Skiing events such as ski meets and olympic games and even the planning of casual ski week ends or a vacation are of necessity planned considerably before the actual event. Such events are therefore often ruined by adverse weather conditions on the dates planned.

In the past it has been known to make artificial snow during cold weather with a fine water spray to extend skiing into cold days when there has been little or no natural snowfall. This method of artificial snow making is, however, expensive and again is dependent on weather and wind conditions. Also, the equipment necessary for artificial snow making is complicated, expensive and permanent in location.

It is therefore one of the purposes of the present invention to provide an improved artificial surface for skiing or the like.

Another object is to provide an improved method for producing an artificial surface for skiing or the like.

Another object is to provide an artificial ski surface comprising a grassy slope having a layer of small particles of plastic spread thereover.

Another object is to provide an artificial ski surface as set forth above wherein the layer of plastic particles includes a base portion of flat plastic flakes and a surface portion of rounded plastic pellets.

Another object is to provide an artificial ski surface as set forth above wherein the plastic particles are sprayed with a material to make the plastic slippery.

Another object is to provide an artificial ski surface as set forth above and further including crushed ice spread over the top of the plastic layer.

Another object is to provide a method of producing an artificial ski surface comprising finely dividing plastic material to produce small plastic particles, treating the plastic particles with a substance to make the plastic slippery, and spreading the treated plastic particles on a grassy slope to form a plastic layer thereover.

Another object is to provide a method as set forth above and further including spreading crushed ice on the layer of treated plastic particles on the grassy slope.

Other objects and features of the invention will become apparent as the description proceeds especially when taken in conjunction with the accompanying drawing illustrating a preferred embodiment of the invention wherein:

FIGURE 1 is a pictorial view of a ski slope including the artificial skiing surface of the invention provided by the method of the invention.

FIGURE 2 is an enlarged partial section view of the artificial skiing surface provided in FIGURE 1 taken substantially on the line 2—2 in FIGURE 1.

FIGURE 3 is a section view similar to the section view of FIGURE 2 of a modification of the skiing surface illustrated in FIGURE 2.

FIGURE 4 is a section view similar to the section view of FIGURE 2 of another modification of the skiing surface illustrated in FIGURE 2.

With particular reference to the figures of the drawing one embodiment of the present invention will now be considered in detail.

As shown best in FIGURE 1 the grassy ski slope **10** is prepared for skiing by placing small, flat flakes **12** of plastic material on the slope **10** to provide an artificial skiing surface of a depth of three inches or more. In a first modification of the invention round plastic pellets **14** are placed over the flat plastic flakes **12** to provide a relatively thin top portion of the skiing surface which may in a further modification of the invention, be covered or mixed with a thin layer of crushed ice **16**. The plastic flakes **12** and pellets **14** may be sprayed before or after placing on the slope **10** with a material to make the plastic slippery.

More specifically, the slope **10** should have a thick growth of grass between two and four inches long. The plastic particles are reinforced by the grass which prevents the plastic from moving to the bottom of the hill with continued use. Where the slope **10** is not grassy, it may be covered with straw or the like to aid in maintaining the plastic on the hill, or can otherwise be treated such as by disking and the like to prevent rapid sliding of the plastic to the bottom of the hill.

The layer of flat plastic flakes **12** as shown in FIGURE 2 may be three inches thick or more and may be sufficient in itself to provide the desired skiing surface where the slope is steep or great speed is not desired as on beginner slopes. The flat plastic flakes may be minute particles of flat plastic such as butyrate or acetate in varying thicknesses and of a size ranging up to flakes having a dimension of a quarter of an inch or more. The flat plastic flakes pack something like snow and as previously indicated, provide a base in conjunction with grass on a grassy slope over which natural snow, artificial snow, crushed ice or the round plastic pellets may be placed to increase the skiing speed of the artificial skiing surface.

As shown in FIGURE 3, the round plastic pellets **14** form a top portion on the skiing surface and act as roller bearings to increase the speed of the skiing surface. The pellets **14** may be polyethylene or polystyrene beads of approximately three thirty seconds of an inch in diameter.

As mentioned above and as shown in the modified skiing surface illustrated in FIGURE 4, crushed ice may be placed on top of the plastic layer on the ski slope **10** if more speed is desired. The crushed ice, artificial snow and natural snow has been found to last longer on ski slopes having an artificial plastic base than on an uncoated ski slope due to the insulating properties of the plastic base.

If an even more slippery ski surface is desired, the plastic layers **12** and **14** may be sprayed with material to make them more slippery, such as a liquid silicon. Tumbling the plastic flakes and pellets in liquid Teflon to coat the flakes with Teflon for lubricating purposes to

make the slope slicker for faster skiing, is also possible in accordance with the invention.

While the plastic snow of the invention has been illustrated in conjunction with a full ski slope **10**, it will be understood that due to the expense of the plastic snow, its use may initially be restricted to such things as fall ski schools, sports shows and for worn spots or severely used spots in ski areas such as ski lifts and the like where the natural snow is too quickly worn away or melted on warm days. As the use of the plastic ski surface increases, the cost will no doubt come down to permit the use of the plastic ski surface on full ski slopes so that summer skiing and skiing in southern areas will be commonplace.

While one embodiment of the present invention has been considered in detail, it will be understood that other embodiments and modifications thereof are contemplated. It is the intention to include all embodiments and modifications as are defined by the appended claims within the scope of the invention.

What I claim as my invention is:

1. An artificial surface for skiing or the like comprising a sloping surface covered with grass from 2 to 4 inches long, straw placed on the grass, small flat plastic flakes such as butyrate and acetate of a maximum dimension of ¼" spread over the grass and straw to a depth of not less than three inches coated with Teflon and sprayed with liquid silicon, a layer of generally rounded plastic pellets such as polyethylene and polystyrene having a dimension of approximately 3/32" in diameter also coated with Teflon and sprayed with liquid silicon to make them more slippery and a layer of crushed ice over the rounded plastic pellets.

2. An artificial surface for skiing or the like comprising a sloping surface covered with grass from 2 to 4 inches long for rienforcing plastic particles placed thereon and

for maintaining plastic particles in place on the sloping surface and a cover layer of plastic particles, such as butyrate and acetate having varying thickness and a maximum dimension perpendicular to the thickness of approximately ¼" covered with a layer of generally rounded plastic particles, such as polyethylene and polystyrene of approximately 3/32" in diameter which act as rollers.

3. Structure as set forth in claim **2** wherein the plastic particles are coated with liquid silicon to make them more slippery.

4. Structure as set forth in claim **2** and further including silicon applied between the surface of the plastic pellets and the surface of skis used thereon to make the skiing surface more slippery.

5. Structure as set forth in claim **2** wherein the plastic particles are coated with Teflon to make them more slippery.

6. Structure as set forth in claim **2** and further including a layer of crushed ice over the rounded plastic particles.

7. Structure as set forth in claim **2** and further including straw placed on the grass and mixed with the plastic particles tending to prevent the plastic particles from moving down the slope.

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JACOB L. NACKENOFF, *Primary Examiner.*