

Jan. 16, 1968

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3,363,583

ASSEMBLY OF TRACK MEMBERS FOR SKI LIFTS AND THE LIKE

Filed Oct. 22, 1965

FIG. 1

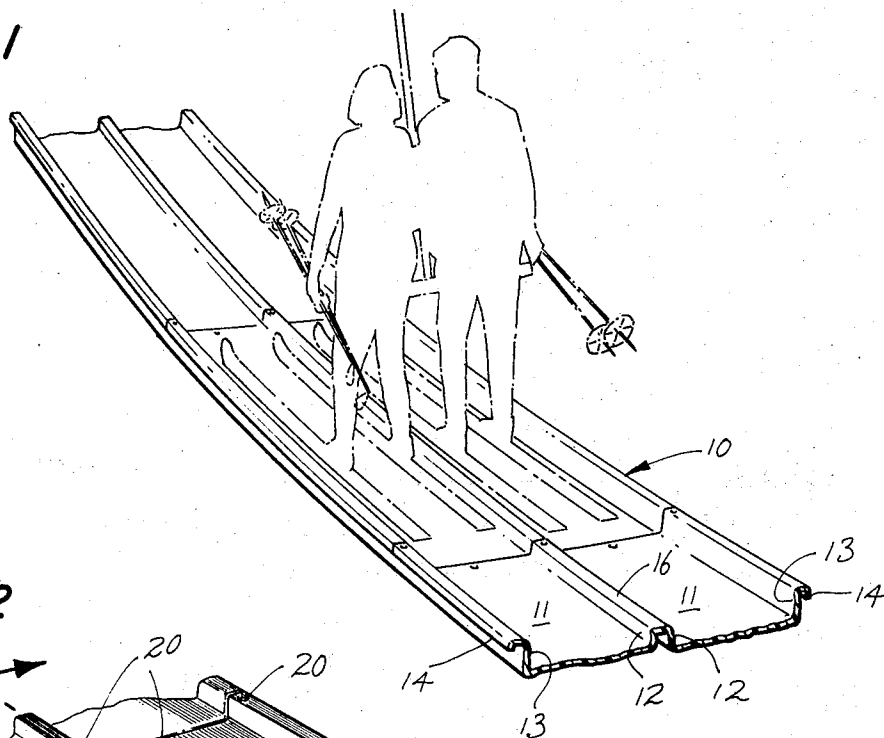


FIG. 2

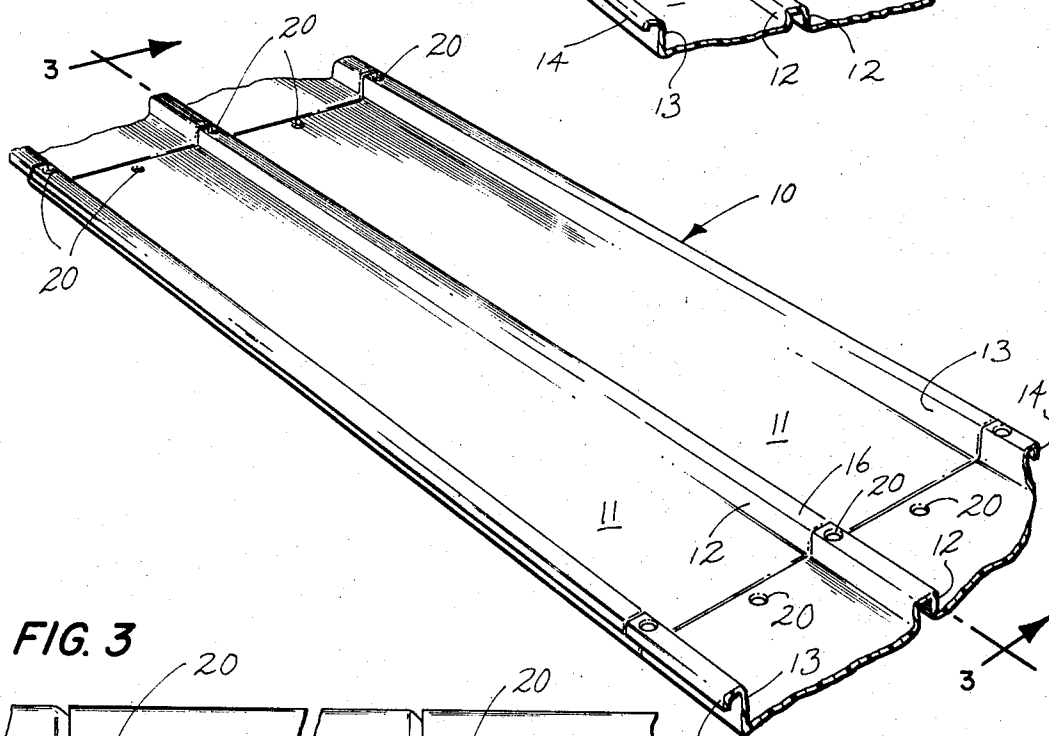
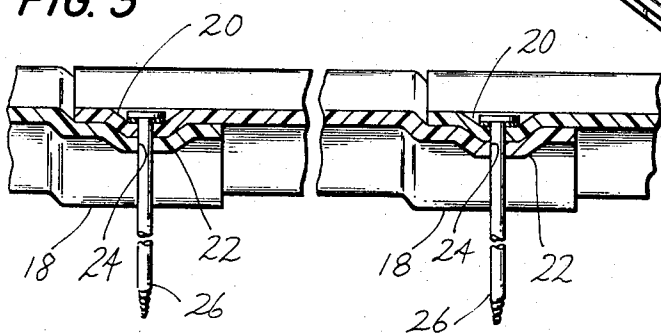


FIG. 3



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Filed Oct. 22, 1965, Ser. No. 502,222
6 Claims. (Cl. 104-134)

ABSTRACT OF THE DISCLOSURE

There is disclosed a novel track for use under ski lifts and the like provided by a plurality of integrally formed track members of synthetic plastic secured together in end-to-end relationship by retaining means which also secure the track members to the ground. The track members have transversely spaced, longitudinally and upwardly extending shoulder portions adjacent the side margins to provide curbs and a longitudinally and upwardly extending separator rib intermediate the width thereof so as to provide a pair of lift line paths each accommodating a pair of skis of a skier on a ski lift.

The present invention relates to ski lifts and the like and, more particularly, to track members of synthetic plastic material for use under ski lifts and the like.

Due to the vagaries of the weather, it is difficult to keep ski lifts operating throughout the entire ski season, particularly when snow conditions are limited or when there has been a thaw. This difficulty is accentuated by the fact that continuous heavy use of ski lifts tends to wear away the snow in the lift line path under the lifts. When the snow does not cover the entire path along the lift line, use of ski lifts is seriously hampered since the bare ground limits ease of movement thereover and may cause wear upon the skis. Because much time and money is invested in ski areas, it is highly desirable to be able to keep the lifts operating during adverse weather conditions or during heavy use of the lifts when the snow in the lift line path has a tendency to wear away.

It is an object of the present invention to provide a novel track member of synthetic plastic material having an upper surface with a relatively low coefficient of friction for use under ski lifts and the like to form a path for the facile passage of skis on persons using the ski lift.

It is also an object to provide such a track member which is relatively flexible in order to conform substantially to the contour of the ground under loading and which has a relatively high degree of impact resistance at temperatures below 0° centigrade.

Another object is to provide such track members that may be readily joined in end-to-end relationship to form a continuous path along the lift line of a ski lift.

Still another object is to provide a track assembly for ski lifts and the like which is relatively light in weight for portage and readily disassemblable for convenient storage, and which may be quickly placed in operative position.

Other objects and advantages will be readily apparent from the following detailed specification and the attached drawing wherein:

FIGURE 1 is a perspective view partially in section of the ski track assembly embodying the present invention and providing a continuous lift line path for skiers shown in phantom line;

FIGURE 2 is a fragmentary perspective view to an enlarged scale of a portion of the ski track assembly of FIGURE 1; and

FIGURE 3 is a sectional view thereof along the line 3-3 of FIGURE 2.

It has now been found that the foregoing and related objects may be readily attained by a novel track for use

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under ski lifts and the like having an integrally formed, generally elongated track member of synthetic plastic sheet material having an upper surface with a relatively low coefficient of friction. The plastic sheet material track member is relatively flexible and has a relatively high degree of impact resistance at temperatures below 0° centigrade so as to accommodate usual stresses and impacts and to conform to the ground under load. Transversely spaced, longitudinally and upwardly extending shoulder portions form a lift line path for a pair of skis of a skier on an associated ski lift or the like, and a connecting portion extends transversely at one end thereof and is spaced below the longitudinally adjacent portion to provide a configuration adapted to form a joint with a flush upper surface when assembled with another track member. Elongated retaining means are provided in the connecting portion for securing the track member to the ground and for securing the connecting portion to another track member.

Although the track members may provide a single lift line path for use with ski lifts such as the type known as J-bars and poma-lifts, they are preferably configured to provide two lift line paths by providing a longitudinally extending rib intermediate the width thereof providing upstanding shoulder portions for the two paths so that the ski track may be used for T-bar or similar lifts.

The track member may be used singly as an elongated member at places such as at the start of a ski lift or along the ski line where the snow has worn thin. The track members are configured so that they may be connected together in end-to-end relationship to provide a continuous path along the entire lift line of a ski lift is so required, conveniently by use of a depending, generally L-shaped configuration on one end for the connecting portion so as to provide a lapped joint connection with the end portion which extends in the plane of the body of another cooperating track member furnishing a flush upper surface for smooth and facile passage of skis thereover. Spike members or rods conveniently are inserted in apertures in the connecting portion and in the opposite end portion of an adjacent track member for joining the two adjacent track members and for insertion into the earth to retain the track members in the predetermined path of the ski lift. Cooperating depressions about the apertures are provided in the connecting portion and the opposite end portion of the track members for properly aligning the ends of the adjacent track members and permit recessing the head of the spike below the upper surface of the track member so that skis may pass thereover without being scratched by the spikes.

The synthetic thermoplastic sheet material is readily thermoformed into the desired configuration of the track members by use of heat and pressure. Although the upper surface of the track members may be provided by a laminate or coating to exhibit a relatively low coefficient of friction to provide a smooth, constant-slip running surface whether the surface is wet or dry, use of proper synthetic plastics enables all properties to be obtained from a homogeneous material.

The synthetic plastic material most desirably utilized in the present invention is relatively flexible at temperatures below 0° centigrade, and preferably below -20° centigrade, and also has a relatively high degree of impact resistance at temperatures below 0° centigrade, and preferably below -20° centigrade, to provide a tough track member which will resist injury during normal usage. The sheet material should also possess a high degree of abrasion resistance and dimensional stability. Generally, the synthetic plastic material may be about 1/16 to 1/2 inch in thickness with about 1/8 to 1/4 inch in thickness being the preferred dimension, and the shoulders are formed to about 3/4 inch to 4 inches in height. Of the presently

available synthetic resins, polycarbonates and high impact, high density linear polyethylene are most advantageously employed because of excellent flexibility and toughness at low temperatures, with polycarbonates having optimum physical properties. However, polyethylene is economically preferred because of its substantially lower cost while still providing satisfactory properties.

Thus, the ski track members may be used to provide a path along the entire lift line of a ski lift which is not in need of constant repair and increases the capacity of the lift line by helping to prevent fails as the shoulders of the track members aid the skiers in being pulled up the hill. The track eliminates the damage to the bottom surface of the skis by rocks and ice in the lift line path and may be used with or without snow cover allowing snow makers to be concentrated on the ski trails. Since the synthetic plastic material is relatively flexible, it conforms substantially to the ground contour under loading by a skier so as to obtain support therefrom, and the relatively lightweight sections may be easily handled and installed.

Referring now in detail to the attached drawing, an elongated track member generally designated by the numeral 10 has a pair of tracks each comprised of a base portion 11 and longitudinally and upwardly extending shoulder portions 12, 13 on either side of the base portions 11. Intermediate the track member 10 is a longitudinally extending inverted, generally U-shaped rib portion 16, the sides of which provide shoulder portions 12 for the tracks to either side thereof. On the outer shoulder portions 13 are outwardly and downwardly extending L-shaped lip portions 14 thereon which serve to strengthen the track member 10.

In order to provide a continuous lift line path by joining a plurality of track members together in end-to-end relationship, a depending, generally L-shaped connecting portion 18 extends transversely at one end of each track member 10 which provides an offset of about the thickness of the sheet material of the track member to provide a flush surfaced joint with the end of an adjacent track member. The opposite end portion of the track member 10 extends in the plane of the body portion thereof to provide a lapped joint with the offset L-shaped connecting portion 18 of the adjacent track member 10.

Depressed portions 20, 22 are provided in the connecting portion 18 and at the opposite end portion of each of the track members 10 and have apertures 24 therein in which elongated spike members 26 are inserted to retain adjacent cooperating track members 10 in aligned and assembled relationship and to secure the track members 10 to the ground. The depressed portions 20 on the ends of the track members 10 opposite to the connecting portions 18 depend from the plane and are dimensioned and configured to fit snugly into the depressed portions 22 of the connecting portions 18 to align the two adjacent members and provide the flush-surfaced joint. In addition, the depressed portions 20 provide a countersunk seat for the head of the spikes 26 to avoid possible injury to the skis.

Thus, it can be seen that the present invention provides a novel track member of synthetic plastic material having an upper surface with a relatively low coefficient of friction for use under ski lifts and the like to form a path for the passage of skis of skiers using ski lifts. The track members may be readily joined together with retaining means for quickly placing the ski track assembly in operative position to form a continuous path along the lift line of the ski lift and are relatively lightweight for portage and storage. The relatively flexible material of the track members enables them to conform substantially to the contour of the ground and provides a relatively high degree of impact resistance at temperatures below 0° centigrade to ensure relatively long and trouble-free life. In this manner, operators of ski areas can extend the usefulness of their equipment and provide greater safety to the skiers by providing a track for the skis and avoiding possible jerky motion due to rough spots.

Having thus described the invention, I claim:

1. A track for use under ski lifts and the like comprising a plurality of integrally formed, generally elongated track members of synthetic plastic material having an upper surface with a relatively low coefficient of friction, said synthetic plastic material being selected from the group consisting of high density linear polyethylene and polycarbonate, said plastic material being relatively flexible and having a relatively high degree of impact resistance at temperatures below 0° centigrade, said track members having transversely spaced longitudinally and upwardly extending shoulder portions adjacent the side margins thereof to provide outside curbs and a longitudinally and upwardly extending separator rib portion of inverted, generally U-shaped cross section providing a pair of shoulder portions on the side surface thereof, the shoulders of the separator rib portion and outside curbs being spaced apart a distance greater than the width of a pair of skis to provide a track surface therebetween and to form therebetween a lift line path for a pair of skis of a skier on an associated ski lift and the like, said track members also having a connecting portion extending transversely at one end thereof spaced below the longitudinally adjacent portion and configured to form a joint with a flush upper surface with the opposite end portion of an adjacent track member; and elongated retaining means simultaneously securing said connecting portions of the adjacent track members and securing said track members to the ground.

2. The track of claim 1 wherein said connecting portion is generally L-shaped and offset a distance substantially equal to the thickness of the sheet material to form a flush-surfaced joint with the unoffset end portion of the adjacent track member.

3. The track of claim 1 wherein said synthetic plastic material is high density linear polyethylene.

4. The track of claim 1 wherein said connecting portion has a plurality of depressions spaced transversely thereof and apertures in said depressions and wherein said retaining means are spikes disposed in said apertures securing said track member to the adjacent track member and securing said track member to the ground.

5. A track for use under ski lifts and the like comprising a plurality of integrally formed, generally elongated track members of synthetic plastic material having an upper surface with a relatively low coefficient of friction, said synthetic plastic material being selected from the group consisting of high density linear polyethylene and polycarbonate, said plastic material being relatively flexible and having a relatively high degree of impact resistance at temperatures below 0° centigrade, said track members having transversely spaced longitudinally and upwardly extending shoulder portions adjacent the side margins thereof to provide outside curbs and a longitudinally and upwardly extending separator rib portion of inverted, generally U-shaped cross section providing a pair of shoulder portions on the side surface thereof, the shoulders of the separator rib portion and outside curbs being spaced apart a distance greater than the width of a pair of skis to provide a track surface therebetween and to form therebetween a lift line path for a pair of skis of a skier on an associated ski lift and the like, said track members also having a connecting portion extending transversely at one end thereof spaced below the longitudinally adjacent portion of the track member, said connecting portion being generally L-shaped and offset a distance substantially equal to the thickness of the sheet material to form a flush-surfaced joint with the unoffset end portion of the adjacent track member, the leg of said L-shaped connecting portion extending parallel to the body of the track member and the opposite end portion of the track member having a plurality of depressions spaced transversely thereof and apertures in said depressions; and elongated retaining members seated in said apertures simultaneously securing said connecting por-

tions to the adjacent track members and securing said track members to the ground.

6. A track assembly for use under ski lifts and the like having a plurality of integrally formed, generally elongated track members of synthetic plastic material having an upper surface with a relatively low coefficient of friction, said synthetic plastic material being selected from the group consisting of high density linear polyethylene and polycarbonate, said plastic material being relatively flexible and having a relatively high degree of impact resistance at temperatures below 0° centigrade, said track members having transversely spaced longitudinally and upwardly extending shoulder portions adjacent the side margins thereof to provide outside curbs and a longitudinally and upwardly extending separator rib portion of inverted, generally U-shaped cross section providing a pair of shoulder portions on the side surface thereof, the shoulders of the separator rib portion and outside curbs being spaced apart a distance greater than the width of a pair of skis to provide a track surface therebetween and to form therebetween a lift line path for a pair of skis of a skier or an associated ski lift and the like, said track members each having at one end thereof a connecting portion extending transversely spaced below the longitudinally adjacent portion of the track members, said

connecting portions being generally L-shaped and offset a distance substantially equal to the thickness of the sheet material to form a flush-surfaced lapped joint with the unoffset end portion of the adjacent track members, the legs of said L-shaped connecting portions extending parallel to the body of the track members and the opposite end portions thereof having a plurality of depressions spaced transversely thereof and apertures in said depressions, the depressions in the opposite end portions of adjacent track members fitting within the depressions of the L-shaped connecting portions; and elongated retaining members extending through the apertures in the lapped end portions simultaneously securing said end portions in assembly and for securing said track members to the ground.

References Cited

UNITED STATES PATENTS

1,257,768	2/1918	Turner et al.	
1,988,115	1/1935	Elphinstone	193—5 X
2,841,396	7/1958	Foss	272—56.5
2,942,535	6/1960	Spangler	94—13
3,083,015	3/1963	Barenholtz et al.	272—56.5
3,141,670	7/1964	Smyrni et al.	272—56.5

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