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Ling

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[54] **STRADDLE-FORM SKI LIFT**

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[51] **Int. Cl.**..... **B61b 11/00,** B66b 9/12, B65g 17/00

[58] **Field of Search**..... 104/173 ST, 173 R, 165, 104/25; 198/193, 197, 165, 181, 16 R

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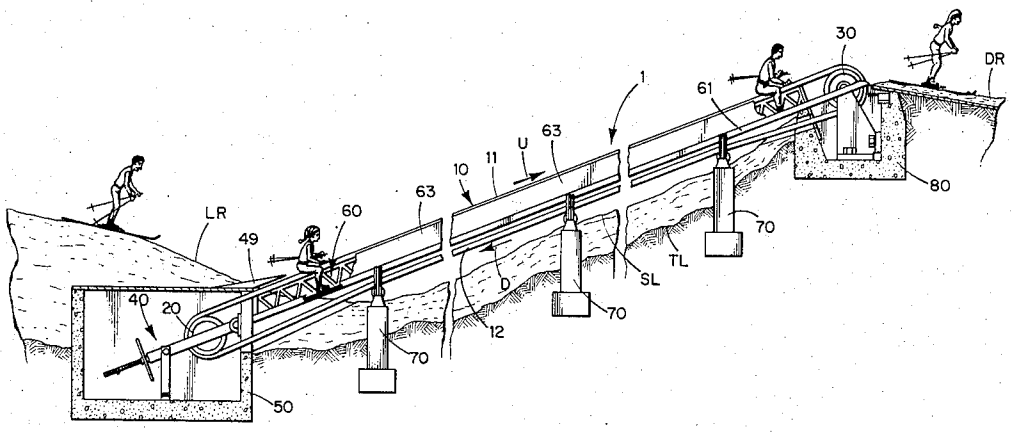
[57] **ABSTRACT**

A ski lift for moving skiiers up a hill comprises a conveyor belt on which the skiiers are seated in straddle-fashion with their skiis sliding along in fixed tracks. The lift arrangement is supported on a truss frame which is supported from the hill by low posts spaced along its length. The skiiers are kept close to the ground and little effort on the part of the skiier is required to use the lift.

10 Claims, 9 Drawing Figures



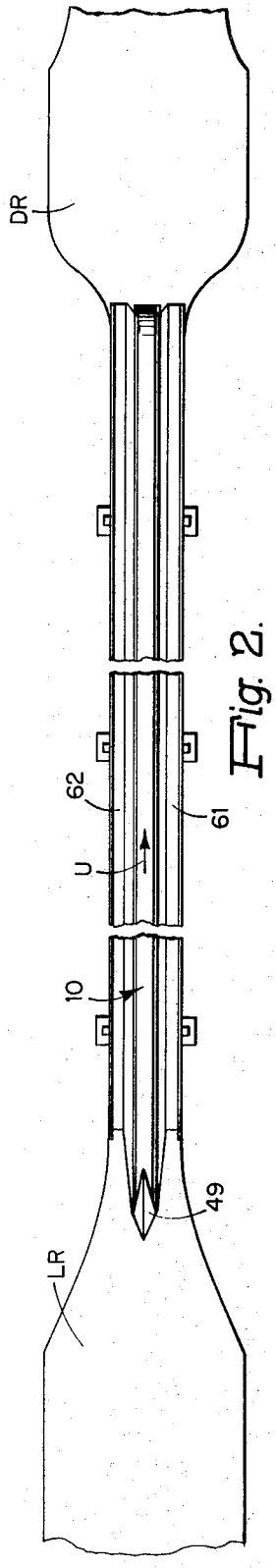


Fig. 2.

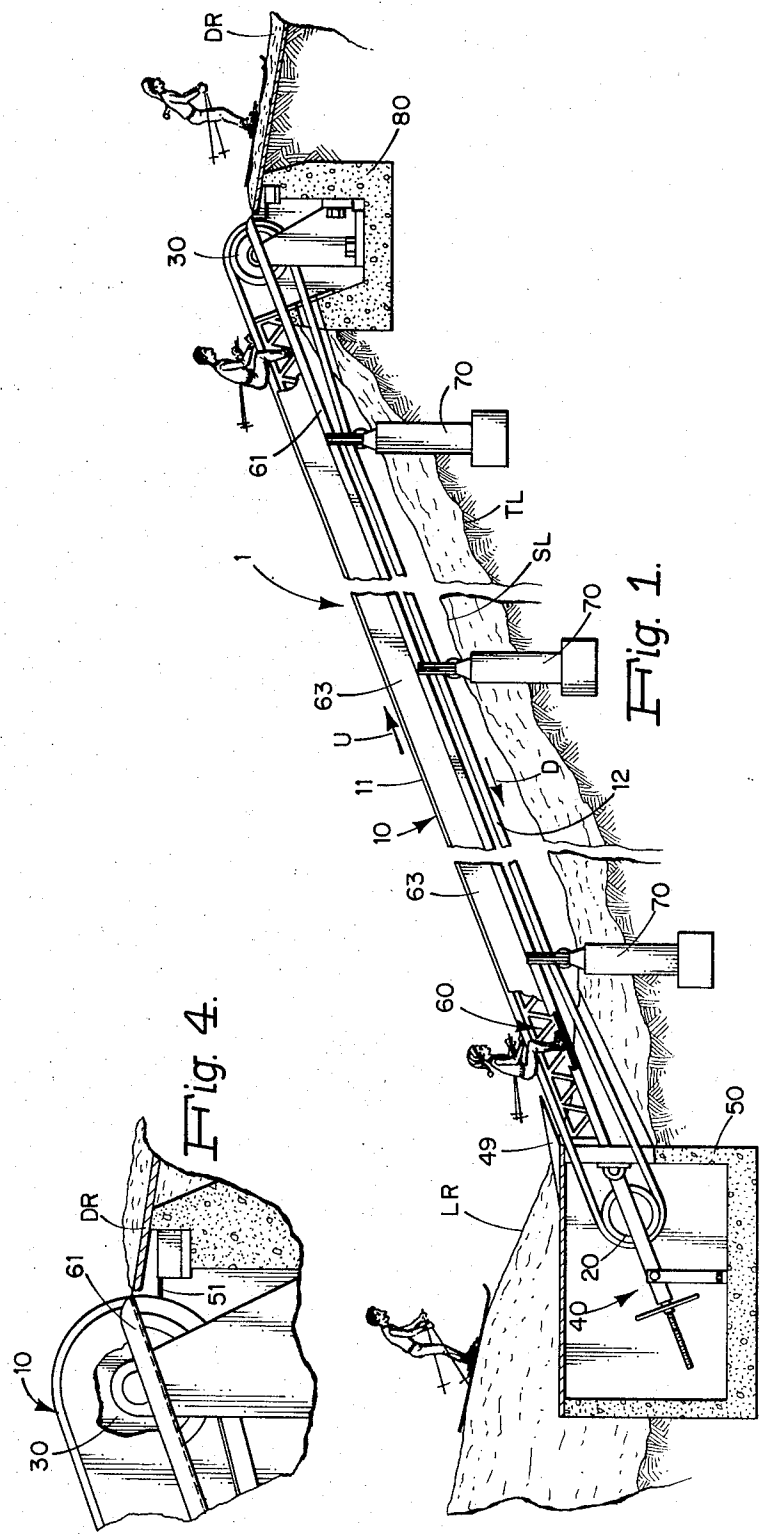


Fig. 1.

Fig. 4.

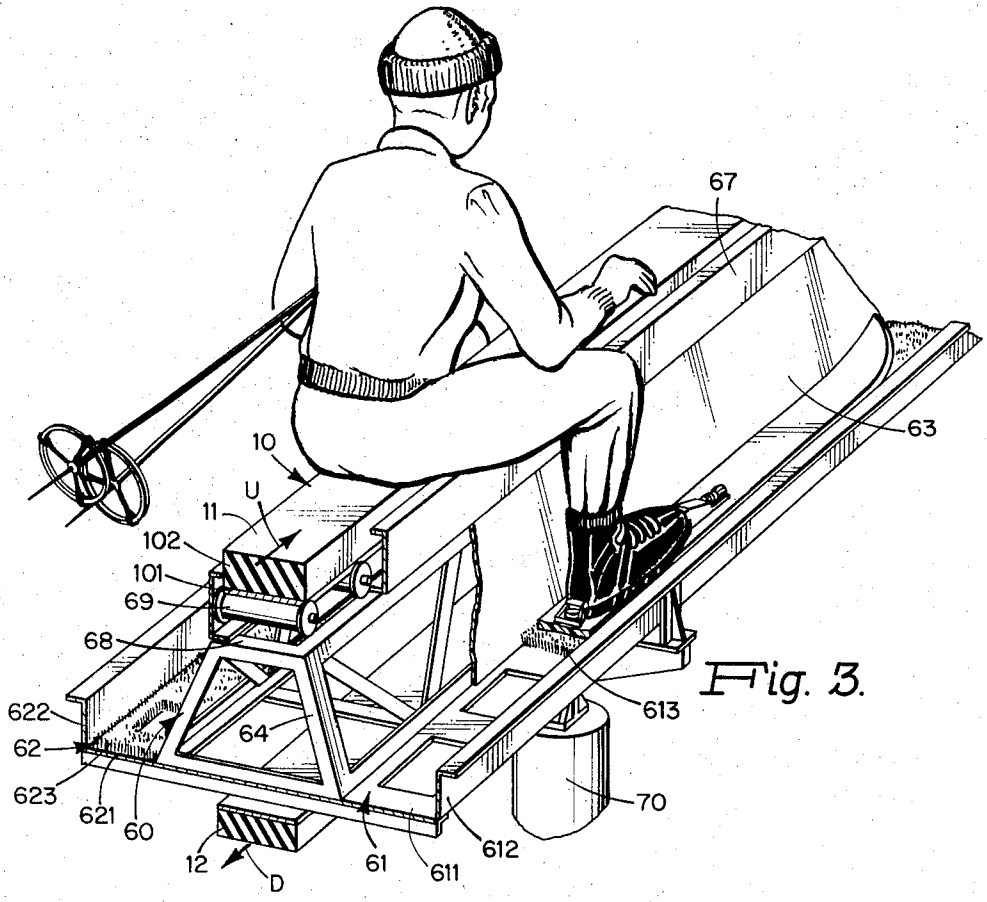


Fig. 3.

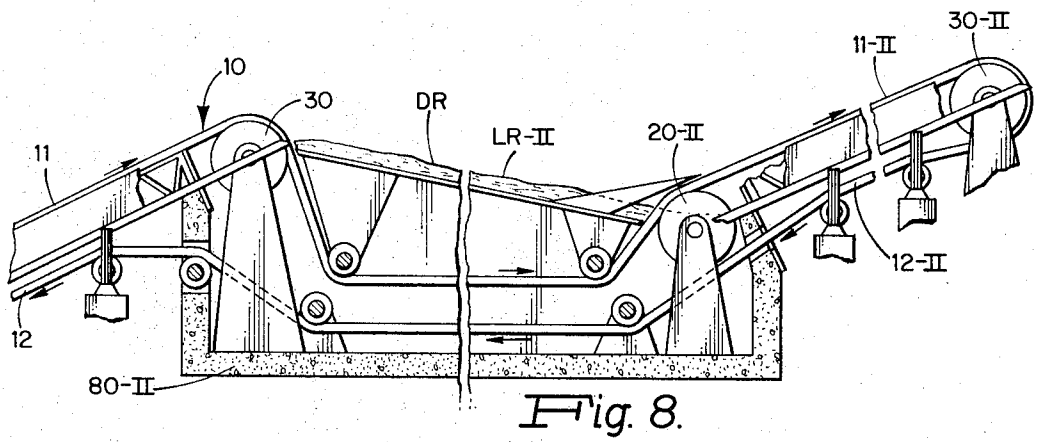


Fig. 8.

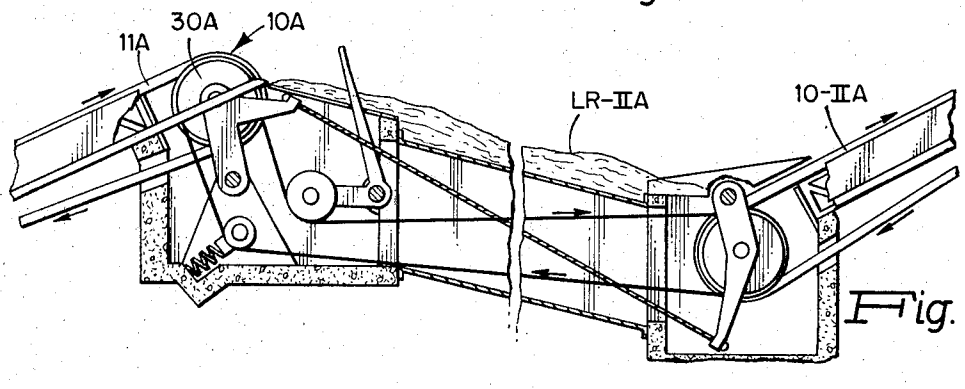


Fig. 8A.

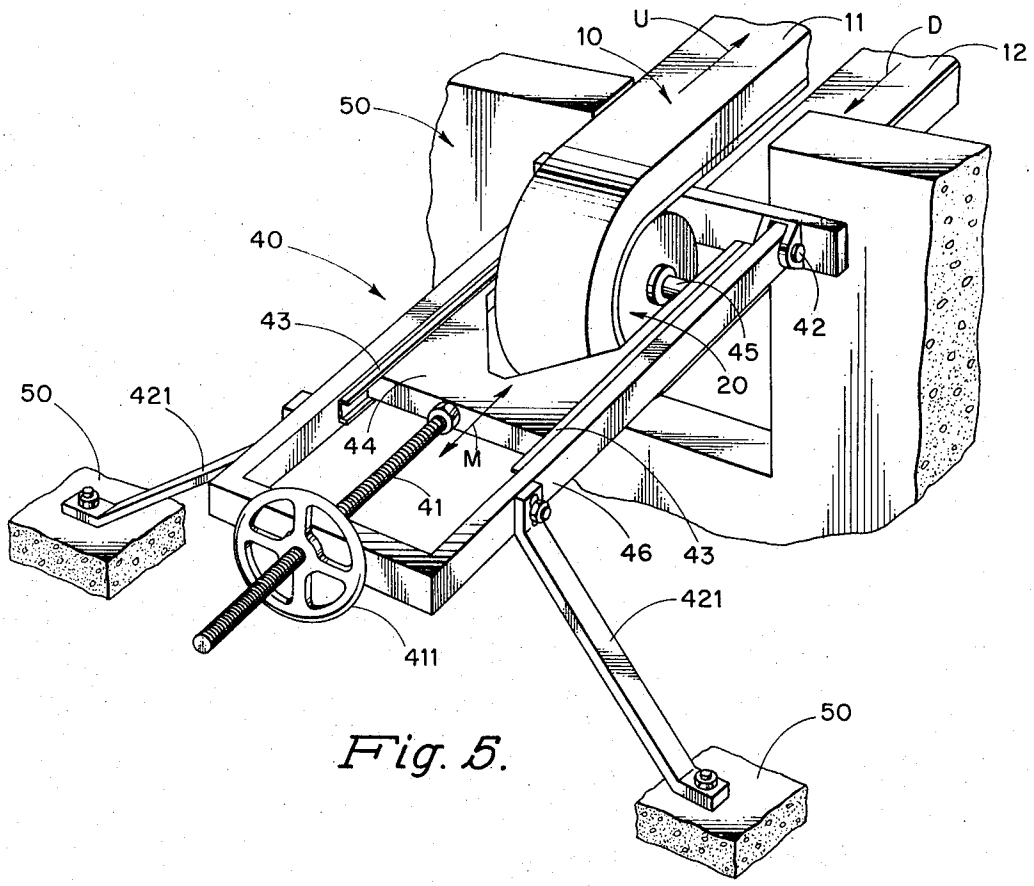


Fig. 5.

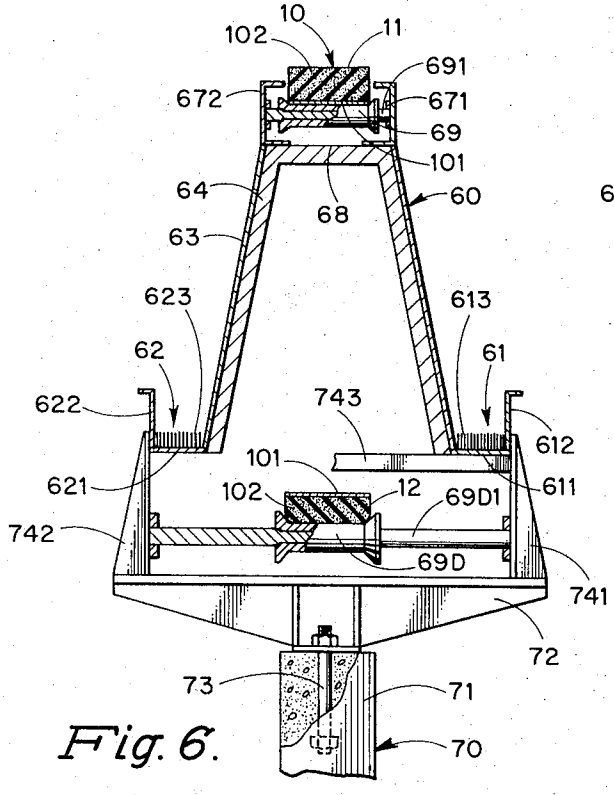


Fig. 6.

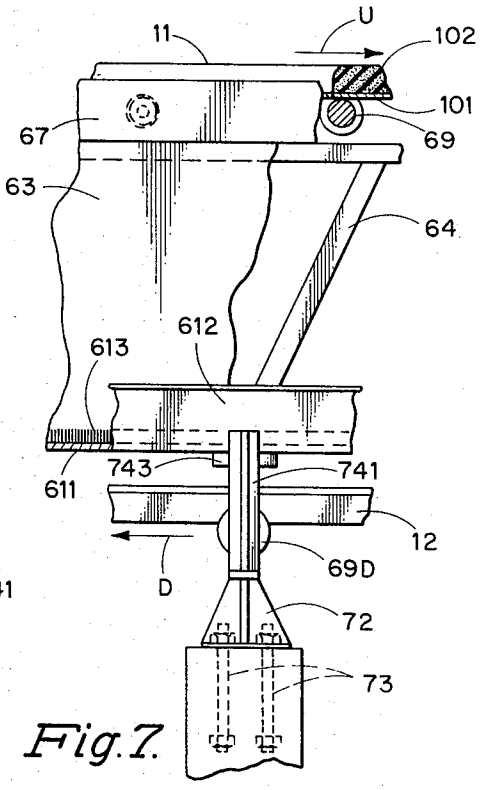


Fig. 7.

STRADDLE-FORM SKI LIFT

BACKGROUND OF THE INVENTION

Ski lifts are divided into two basic groups. These are ground-level (or on-grade) systems and suspended systems. The ground-level systems are the rope or cable tow, J-Bar, T-Bar, and Poma lift. All ground level types require the skiier to hold fast to the line, either directly as in the rope tow, or by means of curved pipe, pipe and wood handles or round discs. The skiier must steer in existing tracks in the snow and considerable agility is required when on-loading and off-loading from these types of lift. All ground level systems are fatiguing to the skiier.

The suspended systems employ chairs, enclosed capsules or portions of both and suspend same from overhead cable at heights as low as 2 feet at on-loading and off-loading points to heights of 200 feet enroute. Intermittent loading problems plus the ever present danger of cable breaking or stalling enroute provide a low safety factor.

Occasional other types are in use such as the skimobile at Mount Cranmore in North Conway, New Hampshire. In that design individual cars are pulled up an incline track with each car fastened to the cable. As in other suspended systems, safety is tied to the cable itself with no easy egress for passengers in the event of cable failure.

OBJECTS OF THE INVENTION

It is a principal object of the invention to provide a new form of safe, economical, high capacity ski lift, avoiding the pitfalls of the prior art devices.

Specifically, it is a principal object of the invention to provide a reliable high capacity ski lift.

It is a further object of the invention to provide a ground level ski lift consistent with the foregoing objects.

It is a further object of the invention to provide a long length ski lift consistent with the foregoing objects.

It is a further object of the invention to provide a ski lift of high safety factor consistent with the foregoing objects.

It is a further object of the invention to provide a ski lift affording low capital and maintenance costs consistent with the foregoing objects.

GENERAL DESCRIPTION OF THE INVENTION

According to the present invention, a ski lift is provided in the form of a conveyor which accommodates skiiers sitting astride it. The conveyor runs close to the ground so that the seated skiiers can stand down or step off in case of a stop and so that skiiers are not exposed to wind chill as is common with suspended systems. The skiier is seated requiring little effort and less chance of accidental falling.

The skiier comes down a low starting ramp to get on the conveyor, sits down and rides along the conveyor belt until it reaches the top of the belt run where the skiier meets a local unloading ramp and moves off out of the way. No intermittent loading problem is encounted. Traffic onloads and offloads in-line with the conveyor and no side-stepping is required.

Very high capacities of skiiers can be handled with the apparatus of the invention.

If a stop is made the rider is in a comfortable situation for awaiting restart and there is no danger of getting spilled on a restart.

Maintenance is expedited by the fact that the entire apparatus is close to the ground.

The belt in a preferred, and distinctly advantageous, embodiment of the invention has the form of a single up-hill run and a return. Preferably the return is superposed under the up-hill run in a lower portion of a supporting frame. The up-hill run of the belt is supported on a supporting assembly comprising a stiff supporting frame which is contained within the transverse dimension of the belt so that a skiier straddling the belt also straddles the supporting frame which is enveloped so that there is no interference between the frame and the skiier. Tracks are provided in the frame parallel to and 1–3 feet below the belt and covered with synthetic low friction mats to accommodate the skiis with low friction rather than relying on the naturally piled snow for this purpose. The sitting position and lack of need for the skiier to define the path makes it easy for him to keep his skiis straight, thereby avoiding the common pitfall of poma lifts, T and J-Bars, and rope tows in this respect.

The supporting frame is supported from the hill by a longitudinal series of ground supports (posts) arranged along the length at sufficient intervals to stiffen the open truss-work frame and avoid sagging or breakage due to overload. End rollers are provided for the belt at the top and bottom of the lift and intermediate slide rollers are spaced along the lift length to support the belt. The slide rollers are sized and spaced to avoid bumpiness of the ride. Tension of the belt is adjustable via movement of one of the end rollers.

The lift moves at a speed of preferrably, 6 feet per second and carries skiiers at a recommended distance of ten feet apart. With full usage this would accommodate 1,800 skiiers per hour (compared to 1,200 skiiers accommodated by a double chair-lift moving at 9 feet per second in the 60 foot spacing between chairs). In the lift of the present invention a higher percentage of potential capacity will be used because of the avoidance of side-stepping and closer spacing in on-loading.

An important aspect of the lift system of the invention is that it can be left in-place year round and does not require a complete dismantling. Another important aspect of maintenance is that the system is close to the ground and accessible without the need for ladders, cranes or the like. The system is covered with a sheet of plastic and the belt tension is released. Except for painting, this is complete shutdown maintenance. In the prior art case of cable lifts, chairs must be removed from the wire, inspected and clamps and pivots must be greased, painted and then rehung in their ball joint carriers.

In setting the lift system of the invention into a ski area, a lane of as little as 14 to 18 feet is cleared through the woods. In contrast, much wider clearances are required of aerial cable systems to avoid a falling tree's snapping the cable. In the ski lift of the present invention, a falling tree's breaking the belt will not cause a catastrophe to all skiiers on the belt (except, possibly one skiier under the tree). The broken belt will stop and skiiers can dismount easily.

The narrow lane gives protection of the surrounding woods to skiiers on the lift and in case of prolonged

stoppage dismounting or "rescue" can be quicker and easier than it was with prior art cable systems.

The above stated advantages of safety also accrue to rope tows and some other ground level systems, but the present invention combines the safety features of ground level systems with higher capacity, speed and greater feasible lift length.

Other objects, features and advantages of the invention (in addition to those described here) will be apparent from the foregoing general description and the following specific description, which is to be read in connection with the accompanying drawings, now briefly characterized.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a side view of a ski lift conveyor made according to a preferred embodiment of the invention.

FIG. **2** is a top view of the same apparatus.

FIG. **3** is an isometric sketch of a small portion of the same apparatus, partly sectioned.

FIG. **4** is a side view of a detail from FIG. **1.**

FIG. **5** is an isometric sketch of the belt tension and left angle control means of the FIG. **1** apparatus.

FIGS. **6** and **7** are end and side views, respectively, both partly sectioned of an intermediate section of the FIG. **1** apparatus showing support means.

FIGS. **8** and **8A** are side views of two further embodiments of the invention, illustrating only portions as necessary to show distinctions from the FIG. **1** embodiment.

DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

Referring to FIG. **1,** there is shown a side view of a ski lift made according to a preferred embodiment of the invention. The ski lift conveyor **1** comprises a modified conveyor belt of 6–12 inches width (preferably 8 inches) with an up-hill run **11** moving as shown by arrow U and a return down-hill run **12** moving as shown by arrow D, the belt being of endless, continuous form. The support comprises a stiff supporting frame **60** and rollers **20** and **30** at the longitudinal ends of the belt run and additional slide rollers (not shown in FIG. **1**) along its course for allowing belt sliding. Either or both of end rollers **20** or **30** may be driven. Preferably, the upper roller **30** is driven by a motor (not shown) via a variable speed drive — typically, a 20 horsepower electric motor will drive roller **20** via a variable speed (e.g., Link-Belt P.V.I.) geardrive to move a 2,000 foot lift, with skiiers 10 feet apart, at 5 feet per second. The lower roller **20** is an idler. A tensioning device **40** is shown at the lower end of the belt and described in detail in connection with FIG. **5** below. The conveyor is arranged above the terrain or grade line TL of the slope at a distance greater than the mean average snow level SL for the specific location and preferably less than five feet. Another constraint on height of the lift is that the lift should preferably be straight and of constant slope despite natural variations of the grade line and that it should bridge over gulleys or deliberately formed ski-trail cross-overs. Where the mountain has portions of distinctly different slopes which are to be ascended, a plurality of lifts can be used with each lift set to the region's different slopes.

The maximum slope which would be attempted with the lift is thirty degrees. Most lower mountain areas afford an average slope access of about 16°, particularly adjacent or on the novice and intermediate trails. Where a slope greater than 30° is to be ascended, multiple lifts can be provided at lower angulations in a zig-zag or dog-leg arrangement. The direct-on, direct-off, on-loading and off-loading arrangements of each lift in the array — with possibly no stops for the skiiers — eliminates the likelihood that any transfer points will be a bottle-neck. A foundation housing **50** is provided for the lower roller **20** and a foundation **60** is provided for the upper roller **30.**

Ground supports **70** are provided along the length of the conveyor run at **20** foot intervals along the longitudinal length of the conveyor to stiffen the frame **60.** It can be seen in FIG. **1** that the skiiers approach the lift by the way of a snow-covered on-loading ramp LR and ski directly onto the lift in an in-line path without side-stepping. The skiier sits down on the lift conveyor and rides it to the top of its run. At the top of the ski lift the skiier stands up and skis off on a snow-covered off-load or dismounting ramp DR. Referring still to FIG. **1,** a track **61** is shown and referring to FIG. **2** it can be seen that there are two such tracks **61, 62** on opposite sides of the straddle lift. The tracks are fixed and do not move with the belt. Therefore the skiier who comes on the lift and leans onto the belt or sits on it is towed up the hill with his skiis gliding on, and with longitudinal movement relative to, the fixed tracks **61, 62.**

FIG. **3** is an isometric view of a portion of the ski lift showing some of the components in greater detail. The lift conveyor belt assembly includes a rubber conveyor belt **101,** which, per se, is of the type commonly used in industrial conveyor applications (for example, Goodyear's Plylon brand model **110** belt which is rated for 20 ton tear for an 8 inch belt). Adhered to the belt is a thick belt-form cushion **102** of flexible polyurethane foam of the type which has 1 inch compression per 150 lb/sq. ft. loading. The belt assembly **10** is supported from the frame **60** through end rollers intermediate slide rollers **69.** Rollers **69** are spaced at intervals of 12 inches on center to provide a comfortable ride. The rollers **69** are 2 inch diameter spools. The width of the belt **101** and of cushion **102** is preferably 8 inches and the belt assembly width essentially subtends its supporting rollers **69.**

The supporting frame **60** for the belt comprises a steel or wood truss which may be a conventional Pratt roof truss using legs **64** (angle irons, poles or channels, etc.) sheathed in a steel or marine-grade plywood housing **63** to guard against entanglement of any skiier paraphenalia with the frame. The frame is subtended by the belt to leave both sides clear for the skiier's legs and skis. Each of the tracks has a bottom portion (**611** and **621**) and side portions **621** and **622** defining guards for tracks **61, 62** to prevent the ski from slipping out from the track. The bottom portions **611, 621** have square holes preferably 4 inches by 4 inches and are overlayed with a low friction matting **613, 623** which may be artificial grass such as Monsanto's Astroturf brand artificial grass. The matting is sprayed with a silicone anti-sticking agent, or the like, to make it very slippery. The mat should have holes punched through of a smaller area than the holes in the bottom plates **611, 621** of the tracks. The holes in the matting are preferably 2 inch diameter circular holes spaced at a distance of 4 inches on centers in a staggered array. The holes in the mat and in the channel allow snow (from falling snow, snow accumulation and from skiis

and skiiers) to easily move through so that it does not pile up in the tracks.

Referring back to FIGS. **1** and **2** and **3** and **4**, some safety features of the apparatus are shown.

FIG. **1** shows a guide **49** which is used to protect the skiier from putting a ski directly on the belt; it is a side view of such a guide. The guide has an essentially frustoconical form with flattened sides. A top view of the guide **49** is shown in FIG. **2**.

The several rollers **69** (FIG. **3**) can be utilized for braking purposes in case of a break of the belt **10**. Several of the rollers **69** at spaced intervals (though not necessarily all the rollers) are equipped with ratchet brakes (not shown). In normal running the brake is overdriven. In case of a break of the belt, the ratchet brakes are engaged by the uphill run **11** portion of the belt below the break running backwards. Skiiers can then backslide or go forward in tracks **61** or **62** or in most instances step off the lift and ski down the mountain.

In case of a stop other than belt breaking, the braking job can also be done through rollers **20** or **30** or the motor drive of belt **20** where the principal brake system is integral with the drive motor.

FIG. **4** shows a safety device at the top end of the lift. The device is a switch **51** running very close to the belt assembly **10** as it passes over roller **30**. The switch is in the power curcuit for the motor which drives the belt. If any article of the skiier's clothing or boots, skiis or poles falls beyond the dismounting ramp, DR, it will trip the switch. The switch is opened, the motor stops. The belt stops.

FIG. **5** shows the tensioning device **40** which supports roller **20**. The principal elements of this supporting and tensioning device **40** are a wheel supporting frame **41**, which is mounted to the foundation housing **50** via a pivotal connection **42**. The frame has two sled tracks **43** which carry a wheel sled **44**. The wheel **20** is mounted on axle **45** which is mounted on the sled. A threaded rod **41** extends from the wheel sled through a support frame **46** and a tensioning wheel **411** is mounted on the rod and constructed and arranged to cause translating movement of the rod **41**, hence of the sled **44**, when the wheel is turned. This leadscrew type arrangement allows the wheel sled to be moved back or forth as indicated by the arrow M to adjust the tension of the belt.

In setting up the lift the wheel supporting frame **41** is pivoted about the connection **42** until the belt has a desired angulation and straight-line alignment up the hill. Then additional braces **421**, secured to foundation **50**, are added to fix the angular orientation of the frame.

This tensioning device avoids the pitfall of the conventional technique for tensioning which is based on a roller fitting on top of a belt and weighing down. The conventional technique if applied here would lead to abrasion and excessive compression of the cushion and reduce its useful life. FIGS. **6** and **7** show an intermediate region of the conveyor in end (multiply sectioned) and side (half-sectioned) views, respectively. The region is one in the vicinity of a frame support **70**. As in previously described figures, one sees the belt assembly **10** with its uphill run **11** and down-hill run **12**, the belt assembly comprising a conveyor belt **101** and cushion **102**. The belt assembly is riding on closely spaced rollers **69** in the uphill run and on less closely spaced rollers **69D** on the down-hill run. The section view(s) of FIG. **6** is taken looking up-hill; so track **61** (including bottom **611**, side **612** and mat **613**) is to the right and track **62** (including similar components) is to the left. The spaced frame supports **70** each include a post **71** and a beam secured to the post by bolts **73**. Side beams **741, 742** are mounted on the horizontal beam **72** and support (*a*) the frame **64** via bridging beams **743** and (*b*) the rollers **69D** via axles **69D1**. The frame **60** made up of legs **64**, is enclosed in sheathing **63** and mounts, at its top surface **68**, the rollers **69** via axles **691** which are supported from side channels **671, 672**.

It is seen in FIGS. **6–7** that the cushion seating surface is on the bottom in return downhill run **12** of the belt assembly and passes over the slide rollers **69D**. This tends to remove snow accumulated on the seat. Yet the cushion is not compressed or abraded by this snow removal process.

FIG. **8** shows a second species of the invention wherein the conveyor is subdivided (for such purposes as allowing an intermediate exit and/or accommodating a slope change). A common belt **10** is used. The uphill run **11** passes over upper roller **30** and instead of going into downhill run **12**, goes on to the second uphill run **11-II** to a second uphill roller **30-II** where it turns around into downhill run **12-II** and then back to original downhill run **12**. The transition is facilitated by intermediate belt guides and, if desired, belt tension adjusting means can be provided at the intermediate station **80-II**.

FIG. **8A** shows another double lift conveyor with separate belts for each conveyor and common drive through linking the upper roller of the lower lift with the lower roller of the upper lift via a chain drive connected therebetween.

As between the FIG. **8** and FIG. **8A** embodiments, the latter is preferred since it, like the FIGS. **1–7** embodiment, applies tension to the belt(s), per se (i.e., to the inside of the belt loop assembly) and not to the outer cushion and limits compression of the cushion essentially to the loading by seated skiiers thereon on its uphill run.

The support rollers **69** are preferably made of injection-molded plastic with blind center holes to accommodate supporting stub shafts **691**. The stub shafts are mounted in journals which are secured to the support rails **671, 672**. Preferably, the journals accommodate the shafts in a shaft trough with felt pads set in the journal mounts over the shafts and soaked with oil to produce the lubrication and yet allow removal of the spools for easy maintenance.

The rollers have side flanges which provide a centering action to the belt **10**, and therefore, avoid the need for any other kind of side guides to the belt since the spools are spaced at one foot intervals.

The above mentioned ratchet-braking action can be implemented by putting gear teeth on the side flanges and using a spring loaded ratchet-key.

OTHER VARIATIONS FROM THE PREFERRED EMBODIMENT OF THE INVENTION

It is also possible to make several variations, departures and other methods of use, compared to the preferred embodiment described above in connection with FIGS. **1–7** or the additional embodiments described in connection with FIGS. **8** or **8A**. For instance, a single ski track could be used instead of two ski tracks and the

rider could ride side-saddle. This would omit some of the basic advantages of the invention in narrower scope, but would retain some of the advantages described above. Another variation would be the use of spaced cushion sections along the conveyor belt instead of a completely contiguous cushion belt covering the conveyor belt.

Many variations of supporting and belt driving and braking means will be apparent to those skilled in the art once given the benefit of this disclosure. It is also feasible to depart from the distinctly advantageous preferred embodiment and use a ski lift conveyor with changes in angulation within the length of the conveyor; but this is substantially less preferred because of bumpiness induced thereby and possible safety hazard if the change in angulation is too great. The conveyor can be convexly curved rather than linear; but concave curvature is less practical. Other variations would include movable tracks instead of the fixed tracks described above, snow accumulators in the tracks, and trackless ski lifts with the skiis riding in the air or on the snow covered ground.

It is, therefore, evident that those skilled in the art may make numerous modifications and uses of and departures from the specific embodiments described above without departing from the inventive concepts hereof. Accordingly, it is intended that the invention shall be construed as embracing each and every novel features and novel combination of features present in or possessed by the apparatus herein described and that the foregoing disclosure shall be read as illustrative and not as limiting except to the extent set forth in the claims appended hereto.

What is claimed is:

1. Ski lift apparatus for conveying skiiers up a hill comprising, in combination:

Means forming a conveyor belt sized for straddle seating thereon by skiiers,

Belt support means supporting the belt to provide an uphill run thereof,

Belt driving means for driving the uphill run of the belt in an uphill direction,

Means for braking the uphill run of the belt against downhill motion,

Ski track defining means forming ski tracks adjacent to and on opposite sides of the belt and constructed and arranged so that the skiier can sit on the belt in saddle fashion while sliding his skiis in the tracks on both sides thereof, and

on-load and off-load defining means at respective lower and upper ends of the uphill run of the belt arranged in line with said belt so that the skiier can ski directly onto the belt for on-loading and then sit down and stand up and ski directly off the belt at the top of the uphill run.

2. Apparatus in accordance with claim **1**:

The said belt is of endless loop form and is arranged on said supporting means to comprise an uphill run and return downhill run with said uphill run superposed over said downhill run,

The support means being constructed and arranged in combination with the belt so that drive tension is applied at the underside of the belt as defined in the uphill run,

The belt having an upper compressible cushioned upper surface as defined in the uphill run of the belt.

3. Apparatus in accordance with claim **2** wherein

Said supporting means comprise a rigid frame structure and

A longitudinal series of supports spaced along the uphill run of the belt and supporting said frame at intervals effective to stiffen the frame and prevent sagging or overload vunerability thereof,

A longitudinal series of rollers mounted on said frame and spaced there along,

The uphill run of the belt being mounted on said series of rollers and rollers being spaced at intervals effective to smooth the uphill ride of a series of skiiers seated on said belt and avoid bumpiness.

4. Apparatus in accordance with claim **1** wherein

The support means comprise rollers at the top and bottom of the uphill run of the belt with the belt being turned around said rollers and effectively engaged thereby.

One of said rollers being powered and the other of said rollers being arranged as a reaction member,

The reaction member roller being mounted in a supporting frame,

Means forming a roller carrying sled and track means therefor,

The track means being pivotably mounted on and being demountably securable to the said supporting means, and

The said sled being movable along said track means to adjust belt tension.

5. Apparatus in accordance with claim **1** wherein

Said belt supporting means comprise

Means forming a stiff supporting frame with an upper surface running the length of the belt's uphill run,

Means defining a series of ground supports resting on the hill and connected to said frame to support the frame so that its upper surface lies along a plane at a moderate height above the snow level of the surrounding area and at an angle less than 30° with respect to horizontal and which essentially matches the hill slope,

Said supports being placed longitudinally along the uphill run at intervals effective to stiffen the frame and assure against overload breakage,

A series of slide rollers of no greater than 6-inch diameter mounted at less than 2 feet intervals in a longitudinal array along the uphill run of the belt on said planar surface of the frame and supporting the belt from the planar surface with the uphill run of the belt sliding over the rollers,

The rollers being essentially the width of the belt and subtended thereby and supporting the belt,

6. Apparatus in accordance with claim **5** wherein said belt is of endless loop form and comprises a downhill run with the uphill run superposed over the downhill run,

A second series of rollers mounted from said frame from undersaid first series of rollers with the downhill run of the belt being supported atop the said second series of rollers,

The support means further comprising means forming a shielding surface surrounding the support structure in the vicinity of the legs of skiiers seated on the uphill run of the belt.

7. Apparatus in accordance with claim **6** further comprising;

Ski tracks mounted on said frame on opposite sides of said belts,

The support means having an inverted-V form extending from one track up to the belt and down again along the surface protection means to the other track in cross section.

8. Apparatus in accordance with claim **7** further comprising;

Synthetic friction reducing means mounted in said tracks, and

Means for automatically clearing snow from said tracks.

9. Apparatus in accordance with claim **8** further comprising

Side slip guard means on said tracks laterally trapping a ski in each track between the central enveloped support structure and outer guide limits, and

Guide means at the lower end of the belt uphill run forcing a skiier who is on-loading to spread his skiis,

The guide means leading the skiis into the two tracks and causing the skiier to thereby straddle the uphill run of the belt for proper positioning with respect thereto.

10. Ski lift apparatus for conveying skiiers up a hill comprising, in combination (*a*) means forming a conveyor belt sized for straddle seating thereon by skiiers, (*b*) belt support means supporting the belt to provide an uphill run thereof, (*c*) belt driving means for driving the uphill run of the belt in an uphill direction, (*d*) means for braking the uphill run of the belt against downhill motion, (*e*) ski track defining means and (*f*) on-load and off-load means wherein:

a'. said conveyor belt is of endless loop form with an uphill run superposed over a downhill run and said belt has adhered thereto a corresponding cushion belt of a compressible foam;

b'. said belt support means comprise:

b'**1.** a stiff supporting frame with an upper surface running the length of the belt's uphill run

b'**2.** a series of ground supports resting on the hill and connected to said frame to support the frame so that its upper surface lies along a plane at a moderate height above the snow level of the area and at an angle of less than 30°, which essentially matches the hill slope and said supports being spaced longitudinally along the uphill run at intervals effective to stiffen the frame and insure against overload breakage,

b'**3.** a series of slide rollers of no greater than 6-inch diameter mounted at less than 2 feet intervals in a longitudinal array along the uphill run of the belt on said planar surface of the frame and supporting the belt from the planar surface with the uphill run of the belt sliding over the rollers, the rollers being essentially the width of the belt and subtended thereby and supporting the belt,

b'**4.** envelope means covering the support structure in the vicinity of the riding skiiers to prevent interference,

b'**5.** end rollers at the top and bottom of the belt runs with said endless loop belt passing over said end rollers with the cushion facing outwardly and means for adjusting the spacing of said end rollers to set belt tension,

c'. said drive means comprise variable speed means for driving the top end roller to drive said belt,

d'. said means for braking the belt against downhill motion of the uphill run comprise ratchet brakes connected to a multiplicity of said slide rollers,

e'. there are two of said tracks on opposite sides of the belt allowing a skiier to straddle the belt while sitting on it with one ski in each track and they comprise synthetic, low friction mats with sufficient perforation to allow snow and/or deposited snow accumulation to pass through, to keep the tracks clear of snow; and

f'. said on-load and off-load means comprise an on-loading ski run at the bottom of the uphill run of the belt and an off-loading ski run at the top of the belt's up-hill run, both being constructed and arranged so that life on-loading, riding and lift off-loading are all accomplished without requiring that the skiier make any turns or side-stepping maneuvers or stops, the apparatus including guide means for guiding the skiier and his skiis into straddle position in on-loading.

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