Dec. 26, 1961 S. G. HALL 3,014,284

SKI TRAINER

Filed March 4, 1959

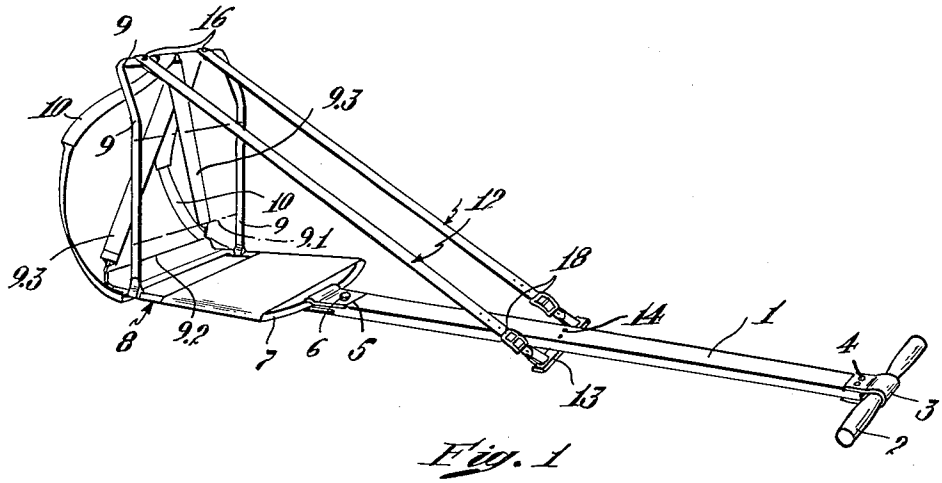

Fig. 1

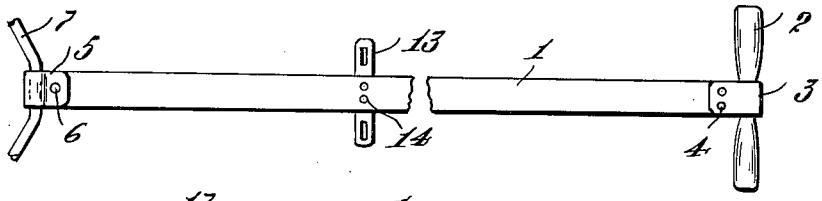

Fig. 2

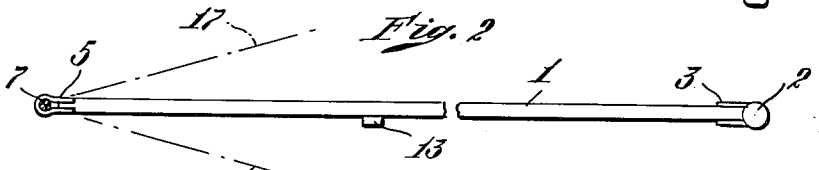

Fig. 3

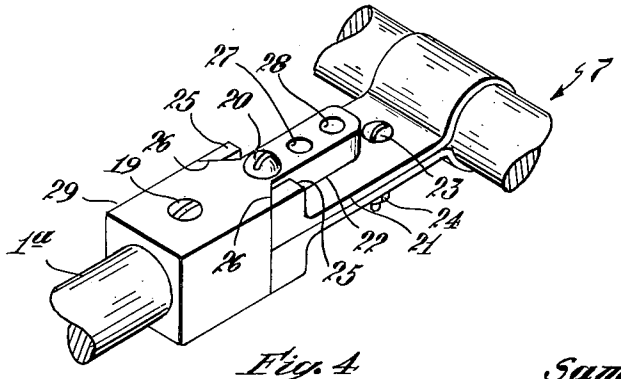

Fig. 4

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SKI TRAINER

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This invention comprises a device useful in ski instruction which is particularly useful in training novice skiers during their first periods of instruction.

Considerable delay is engendered during the initial stages of instruction of the novice skier by the insecurity naturally felt by the novice before and as he learns the fundamentals of skiing technique. This fear or feeling of insecurity is particularly difficult to overcome because skiing control requires a certain degree of speed before the control techniques become effective. Thus the novice, who cannot control either his speed, balance or direction, is naturally slow to attempt the practice skiing necessary to learn the basic control techniques. Furthermore, during this long and difficult awkward stage, which is largely devoted to overcoming this insecurity, the novice derives little pleasure from the sport of skiing. It is the object of this invention to provide a device useful in reducing this insecurity, thereby shortening the novice training period and thereby making the sport of skiing enjoyable to the novice from the beginning of his instruction period.

This invention comprises a rigid shaft having a handle at one end to be grasped by a ski-trainee and means connected to the opposite end of the shaft for attaching the shaft to a ski-trainer's back.

In more specific aspect, the invention comprises a rigid shaft having a cross-member at one end to be grasped as a handle by a ski-trainee; a pack frame comprising a load-spreading member contoured to fit a ski-trainer's back and strapping means for securely attaching the spreading member to a ski-trainer's back; means for pivotally connecting the frame to said rigid shaft opposite the cross-member; and supporting means attached to the shaft intermediate the shaft ends and extending to the shoulder portion of the frame to support the shaft in an horizontal plane rearwardly extending from the ski-trainer's back.

In the preferred embodiment, the pivotal connecting means limits the pivotal motion of the shaft within a vertical plane although, in other aspects, the connecting means may restrict the pivotal motion of the shaft within a horizontal plane, may allow pivotal motion of the shaft in any plane or may hold the shaft rigidly connected to the frame at the ski-trainer's election.

In the preferred embodiment, the support means comprises a flexible strap of adjustable length, by adjustment of which the shaft handle may be lowered or raised to the height desired.

For the purpose of illustration, a typical embodiment of the invention is shown in the accompanying drawing in which:

FIG. 1 is an isometric view;

FIG. 2 is a plan view;

FIG. 3 is a side elevation view; and

FIG. 4 is an isometric view of an alternative connecting means.

Referring to the drawings, 1 indicates a rigid shaft having a cross-member 2 fastened thereto by a bracket 3 and screws 4. Another bracket 5 fastened to the shaft by screw 6 pivotally engages a rearwardly extending member 7 of the pack frame 8. The pack frame comprises load-spreading members 9, 9.1, 9.2 and 9.3 and straps 10 for attaching the device to a ski-trainer's back. Any suitable means for attaching the shaft to the ski-trainer's back would be within the scope of this invention. However, a pack frame is to be preferred as giving the ski-trainer greater control over movement of the shaft. The pack frame herein illustrated is of a type generally available commercially, but any similar frame which would provide a suitably rigid spreading structure for the ski-trainer's back would be satisfactory. Support straps 12 are held by guide 13 which is attached to the shaft by screws 14; the straps are attached at their other ends to the pack frame 8 by screws 16. The straps 12 are threaded through buckles 18 by means of which the length of the supports may be adjusted, thereby to raise or lower the handle 2 relative to the instructor's waist.

FIG. 3 indicates the pivotal motion of the shaft in a vertical plane by dotted lines 17 which illustrate the alternative handle positions.

FIG. 4 illustrates an alternative embodiment of the connecting means 5. In this embodiment, a bracket 29 is fastened to a shaft 1a by screw 19 and is engaged with a pivot screw. The screw 20 passes through the tongue 22 in the bracket 29, which engages another bracket 21 and through bracket 21 to threadably engage a matching tongue of bracket 29 disposed beneath the bracket 21. Bracket 21 engages the rearwardly extending member 7 of the pack frame 8 and is fastened thereto by screws 23 and nuts 24. Tightening of the nuts will restrain pivotal motion of the shaft in a vertical plane at the ski-trainer's election. Similarly, stops 25 on bracket 21 engage the edges 26 of bracket 29, but at the ski trainer's election, alternative holes 27 or 28 in bracket 29 may be used as pivot points thereby allowing pivotal motion of the shaft in a horizontal plane.

A ski instructor can attach the pack frame to his back and can allow a novice skier to grasp the cross-member 2. Then, skiing down a slope of any desired degree, the instructor can control the speed of the novice allowing the novice to concentrate on learning the fundamentals of control without fear of reaching a speed dangerous to him. The instructor is also available for observation and criticism of the novice without distracting or frightening the student skier as would be the case if the trainer were to ski behind or alongside the novice.

Furthermore, since skiing control consists essentially of control of the distribution of the skier's weight on his skis, the ski-trainer, by slowly executing simple turns, can demonstrate this control technique, conveying the shifting of his weight to the novice through the medium of the rigid shaft. That is, when the instructor executes a slow turn to the left, he will shift his weight toward his right ski and will pivot his body slightly to the left around a vertical axis. This turning of the ski-trainer's body, properly controlled and coordinated with verbal instructions to the trainee, causes the shaft and handle to move right relative to the direction of motion of the novice conveying to the novice the degree and direction in which his weight should be shifted and urging him to so shift his weight as to execute a similar slow, left turn.

Similarly, to encourage the proper disposition of the novice's weight forwardly or rearwardly on his skis, the instructor may raise or lower the supporting means controlling the height of the shaft handle. Thus, lowering of the handle will urge the novice to move his weight forward on his skis, while raising the level of the handle will correct any tendency of the novice to place his weight too far forward on his skis.

By adjustment of the degree of pivotal motion of the shaft, the instructor can adjust the manner in which the shaft will urge the novice to redistribute his weight on his skis. Thus, the instructor can minimize whipping action of the shaft as he turns. Also, the adjustment of the degree of pivotal motion of the shaft, allowing progressively more pivotal motion, forces the novice to rely progressively more on his own control ability.

It is, of course, contemplated that the novice will rapidly outgrow this device, for its use is somewhat limited as to speed and degree of turn. However, when the novice is ready to proceed with his training without reliance on this device, he will have progressed in a very short time to a level of ability which otherwise would have required a lengthy period of trial and error on his own initiative. Also, during this short period, he will have derived pleasure from the sport without having endured fear or embarrassment.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. A ski-training device comprising a rigid shaft having a handle at one end to be grasped by a ski-trainee, a frame having means for securely fastening the frame to a ski-trainer's back, said frame having portions extending between the ski trainer's waist and the ski trainer's shoulders, means for pivotally connecting said shaft to the frame at a point on the frame near the ski-trainer's waist, and support means attached to the shaft intermediate the shaft ends and extending to the shoulder portion of the frame for holding the shaft in a horizontal position.

2. A ski-training device, as in claim 1, wherein the support means comprises a flexible strap of adjustable length whereby, by adjustment of the strap length, the shaft handle may be lowered to the height desired by said ski-trainee.

3. A ski-training device comprising a rigid shaft, said shaft having a cross-member at one end to be grasped by a ski-trainee; a frame comprising a load-spreading member and strapping means for securely attaching the spreading member to a ski-trainer's back; said frame having portions extending between the ski-trainer's waist and the ski-trainer's shoulders, means for pivotally connecting the end of said shaft which is opposite said cross-member to the frame at a point on the frame near the ski-trainer's waist, said pivotal connecting means limiting the pivotal motion of the shaft within a vertical plane; and support means attached to the shaft intermediate the shaft ends and extending to the shoulder portion of the frame, said support means comprising a flexible strap of adjustable length by adjustment of which the shaft cross-member may be lowered to the height desired by said ski-trainee.

4. A ski-training device comprising a rigid shaft having a handle at one end to be grasped by a ski-trainee, a frame having means for securely fastening the frame to a ski-trainer's back, said frame having portions extending between the ski-trainer's waist and the ski-trainer's shoulders, means interconnecting said shaft and frame including means pivoting the shaft for vertical movement about a point on the frame near the ski-trainer's waist and means limiting the vertical movement of the shaft, said interconnecting means including means extending from the frame above said pivoting means for yieldingly holding the shaft substantially horizontal.

5. A ski-training device comprising a rigid shaft having a handle at one end to be grasped by a ski-trainee, a frame having means for securely fastening the frame to a ski-trainer's back, said frame having portions extending between the ski-trainer's waist waist and the ski-trainer's shoulders, means interconnecting said shaft and frame including means pivoting the shaft for vertical movement about a point on the frame near the ski-trainer's waist and means limiting the vertical movement of the shaft, said interconnecting means including two straps extending to the shaft from points on the frame near the respective shoulders of the ski-trainer, whereby the body movements of the trainer are conveyed to the shaft.

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