Feb. 4, 1941. H. L. DAVISSON 2,230,235

SKI

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Fig. 1

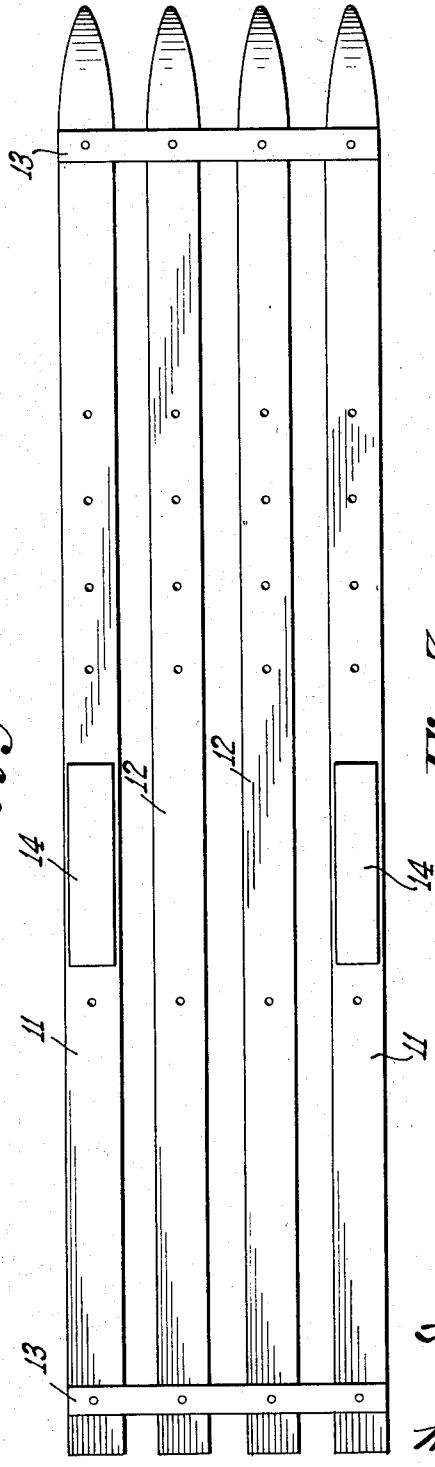


Fig. 2

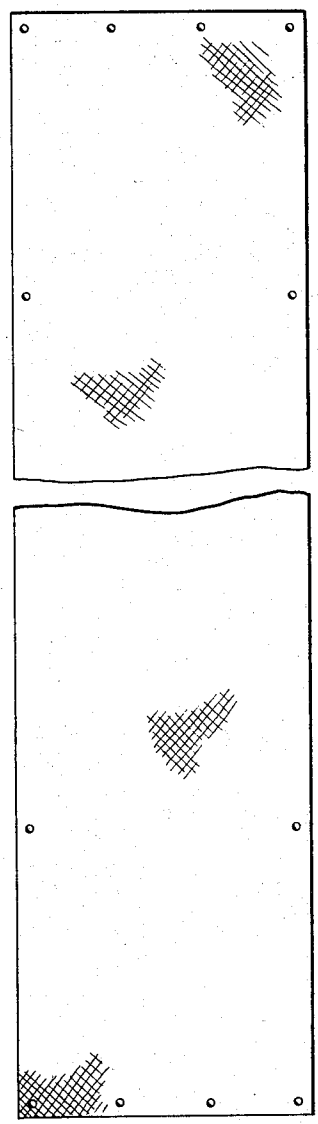


Fig. 3

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Fig. 4.

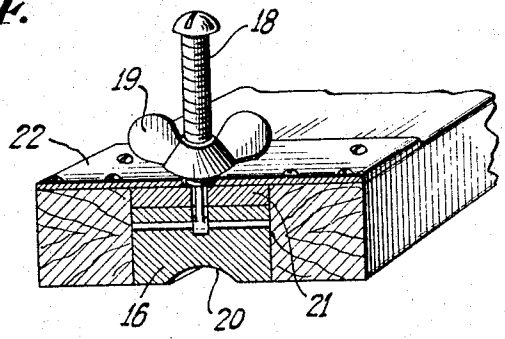


Fig. 5.

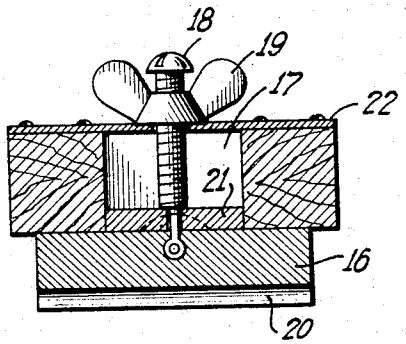


Fig. 6.

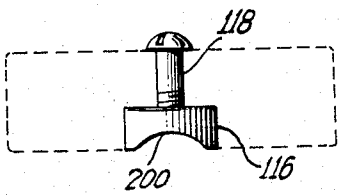
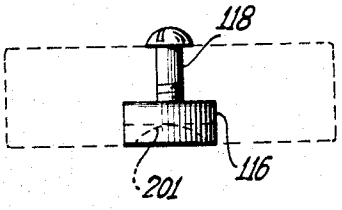


Fig. 7.



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UNITED STATES PATENT OFFICE

2,230,235

SKI

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Application March 22, 1938, Serial No. 197,322

5 Claims. (Cl. 280—11.13)

This invention relates to skis and more particularly to a convertible ski assembly.

A general object of the invention is to provide such a device which is economical of manufacture, sturdy and durable of construction and readily convertible to other forms of ski conveyances with ease and facility.

A specific object of the invention is to provide a ski assembly which normally can be used as an ordinary pair of skis but in case of accident or emergency readily can be dismantled and converted into an emergency conveyance.

More specifically it is an object of the invention to provide such a ski assembly in which essentially all of the necessary equipment for effecting such conversion is carried by the skis when in normal use as ordinary skis.

Another object of the invention is to provide a device cooperatively associated with the ski in a manner which, upon slight adjustment, will check the skiing function of the skis and readily permit walking, particularly up inclined surfaces.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

For a fuller understanding of the nature and objects of the invention reference should be had to the following detailed description taken in connection with the accompanying drawings, in which

Fig. 1 is a side edge elevational view of a preferred form of the invention illustrating a ski assembled for normal skiing use.

Fig. 2 is a plan view of a preferred form of the invention illustrating the ski of Fig. 1 which has been dismantled and reassembled for use as a conveyance.

Fig. 3 is a plan view of a cover shown partly broken away and which is preferably stretched across the upper face of the conveyance.

Fig. 4 is a perspective cross-sectional view through a ski portion partly broken away illustrating a preferred form of an adjustable ski cleat when not in use.

Fig. 5 is a view similar to Fig. 4 illustrating the position of the cleat when adjusted for use.

Fig. 6 is an elevational view of a modified form of an adjustable ski cleat when not in use illustrating the position of the ski in dotted line position.

Fig. 7 is a view similar to Fig. 6 illustrating the cleat adjusted to operating position.

Referring more particularly to the drawings there is shown generally at 10 in Fig. 1 a ski assembled for normal or ordinary use which consists of at least two ski laminations of which the upper one 11 may be said to be the main ski and the lower one 12 the auxiliary ski. Secured to the upper ski by nuts and bolts, or in any other suitable manner, is an end brace 13 and the usual foot tread 14 (harness not shown). These same bolts, together with others, securely hold together the ski sections 11 and 12.

In Fig. 2 there is illustrated the ski assembly shown in Fig. 1 dismantled and reassembled to be used in the form of a conveyance and illustrating the manner in which the end braces 13 are secured to the group of skis to keep them rigid and in proper alignment. It will be noted that there are but two end braces and that in each case the upper ski member or lamination 11 carries one of them.

The purpose in building the skis in two layers (although as many as can conveniently be used are permissible) is to aid any member of a ski patrol or any one of a party to use them as ordinary skis and, in the event of an accident or emergency, remove them from his feet and convert them into an ambulance in which event he removes the skis from the injured party and uses them for himself to carry on.

The cover illustrated in Fig. 3 is preferably made of canvas or other flexible material which preferably may be carried by the skier on his knapsack. It is stretched across the surface of the group of skis and being equipped with suitable eyelets and cross strips is secured in place by the ski bolts and is preferably clamped between the skis and the end braces.

A particular feature of the invention is the fact that the skis are assembled in the form of a single pair of ordinary skis but they are readily convertible into a different type of conveyance without the addition of any devices or contrivances other than those which normally constitute the assembly of each ski. In other words substantially all of the equipment for this emergency conveyance is carried by the main ski itself.

Another feature of the invention, particularly when the skis are used as such is the adjustable ski cleat illustrated generally at 15 (see Fig. 4). It is well known to those skilled in the art that each ski must be equipped with a ski groove in

order properly to have the skis function and carry out the usual ski maneuvers. It is well known also that if any obstructions become lodged within the ski groove the proper functioning thereof is prevented. The present invention takes advantage of this fact. A ski cleat 16 is fitted into a recess or opening 17 in the ski where it is held in place by the bolt or screw 18 and a wing nut 19 (Fig. 4). The ski cleat is provided with a groove 20 which is in alignment with the ski groove of the ski when the cleat is held in the position shown. When the skier decides however to ascend an incline the wing nut is loosened, the cleat is pushed below the bottom surface of the ski and given a quarter turn as illustrated in Fig. 5 where it is securely held by proper fastening of the wing nut 19. It will be noted that the shank of the screw 18 passes through an opening in a rectangularly shaped plate 21 which is so fitted to the screw 18 that it moves with it through the recess in the ski and when the cleat is adjusted to gripping position the rectangularly shaped element which is the same in surface area as that of the cleat takes a position flush with the bottom surface of the ski. With this construction the recess is kept clear of snow and ice or other obstructions which might otherwise impede the proper functioning of the ski cleat when thrown back into the position illustrated in Fig. 4. In order to increase the durability and rigidity of the ski cleat construction at this point of the ski a metallic plate 22 is fitted across that portion of the upper surface of the ski which covers the recess and which is also better fitted to absorb the pressure of the wing nut. The cleat itself is preferably also made of metal as for example brass, aluminum or the like.

Another simple form of cleat is that illustrated in Fig. 6. This comprises a cylindrical form of cleat 116 similarly fitted into a recess in the ski and also having a groove 200 which is in alignment with the ski groove when in normal use for skiing. In order to cause this cleat to function it is but necessary to give the screw 118 a quarter turn so that the ski groove 200 of the cleat assumes a position at right angles to the ski groove 201 of the ski. In this manner the ski groove is obstructed so that skiing is prevented and walking up inclines is readily accomplished. The location of the ski cleat and adjusting means is at any point between the ski point and ski tread of the wearer or wherever it is most conveniently reached.

As heretofore pointed out the object of the ski assembly is well suited for emergency use by a member of the ski patrol but obviously need not be limited to this particular usage. It will at once be obvious that there are many advantages and uses to which the present invention may be put. For example, the skis when fastened together as an ambulatory ski conveyance can also be used as a sled for transporting heavy loads or large game such as bear or deer; it may also be used as a toboggan by placing hand ropes along the sides and a cushion running the full length of the skis. It may be equipped with loops or rings fastened to the skis at one or more places for use as a connection for tow-poles, tow-ropes or for holding a rope in position. Another advantage and use to which the ski assembly may be put is in aquaplaning over water abaft a fast motorboat. A further advantage and use is that half of each ski can be removed or one ski alone may be used to perform the normal and ordinary functions of skiing, and, also the auxiliary ski may be slightly scored or grooved at intervals so that if necessary they can readily be split or broken at predetermined places and used as splints should an emergency or need therefor arise.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A toboggan or the like comprising, in combination, a group of at least four skis spaced in substantially parallel relationship, means for securing said skis in said position and means adapted to secure said skis into paired position to form at least one single pair for normal skiing use.

2. A ski assembly comprising, in combination, a pair of skis each having at least one lamination and means, which when disassembled from the skis are adapted to so interconnect said skis as to produce a unitary conveyance of another kind, said means being carried by said skis when normally used.

3. A ski assembly comprising, in combination, a pair of skis, said skis having an auxiliary ski and means, demountably attached thereto which when disassembled from the skis are adapted to so interconnect said skis as to produce an emergency conveyance, said means being carried by said skis when normally used.

4. A ski assembly comprising, in combination, a pair of skis, said skis having demountably attached thereto auxiliary skis and bracing means, which when otherwise assembled are adapted to so interconnect said skis as to form a toboggan.

5. The combination of a ski having a groove with adjustable means carried by said ski and having an aligning groove, said means being adapted to impede the normal skiing function of said ski when said grooves are moved out of alignment.

HENRY LAWRENCE DAVISSON.