March 7, 1939. C. R. DAWSON 2,149,585

SKI CLIMBER

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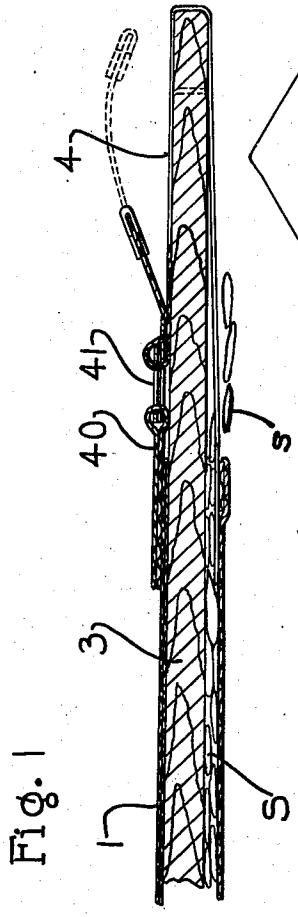


Fig. 1

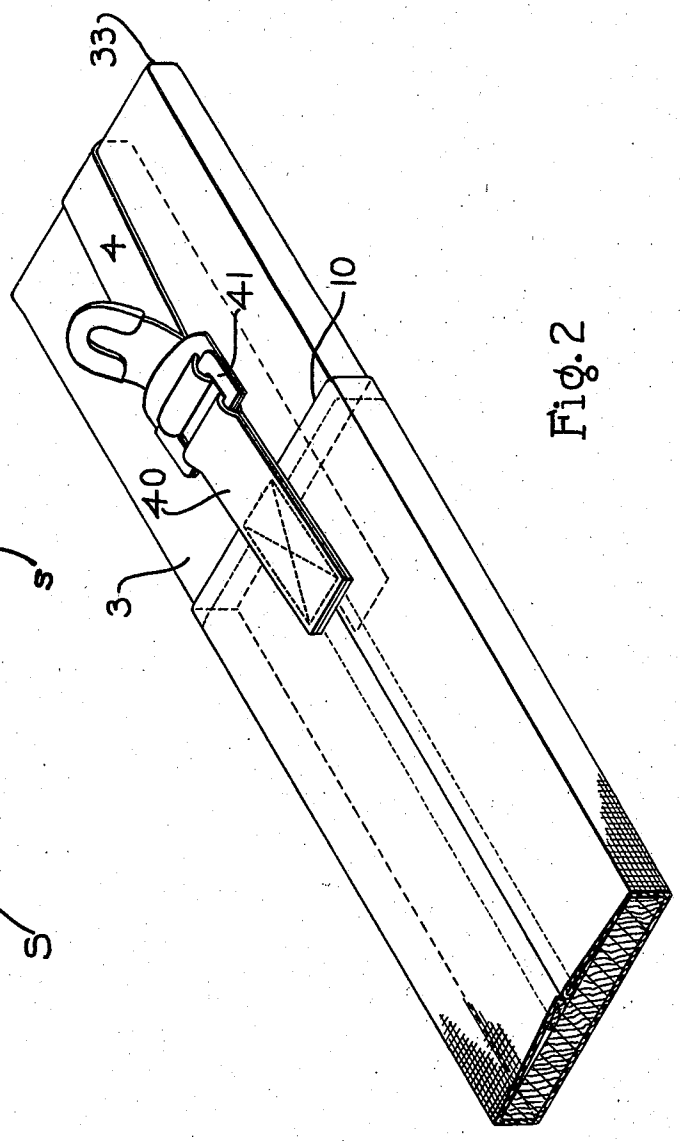


Fig. 2

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Fig. 3

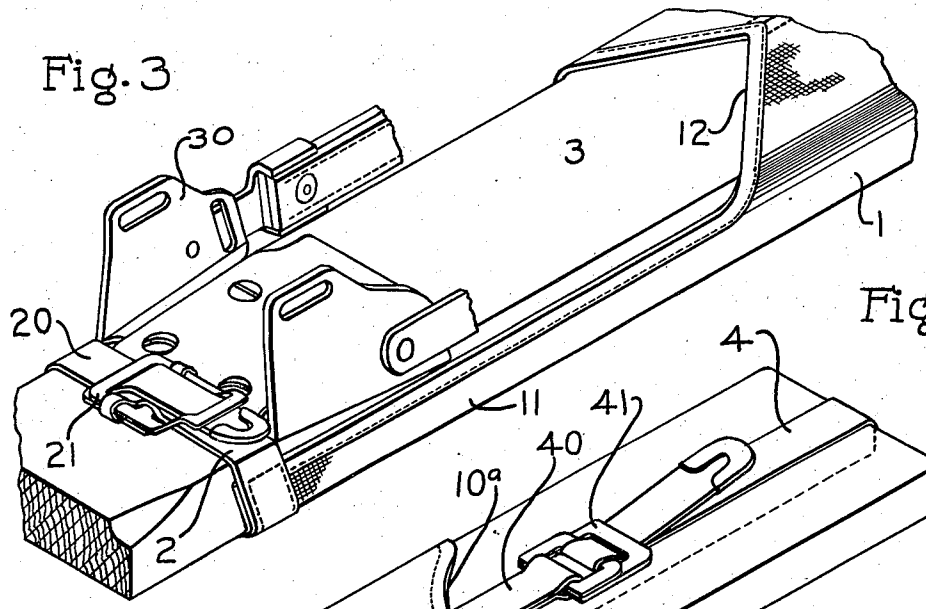
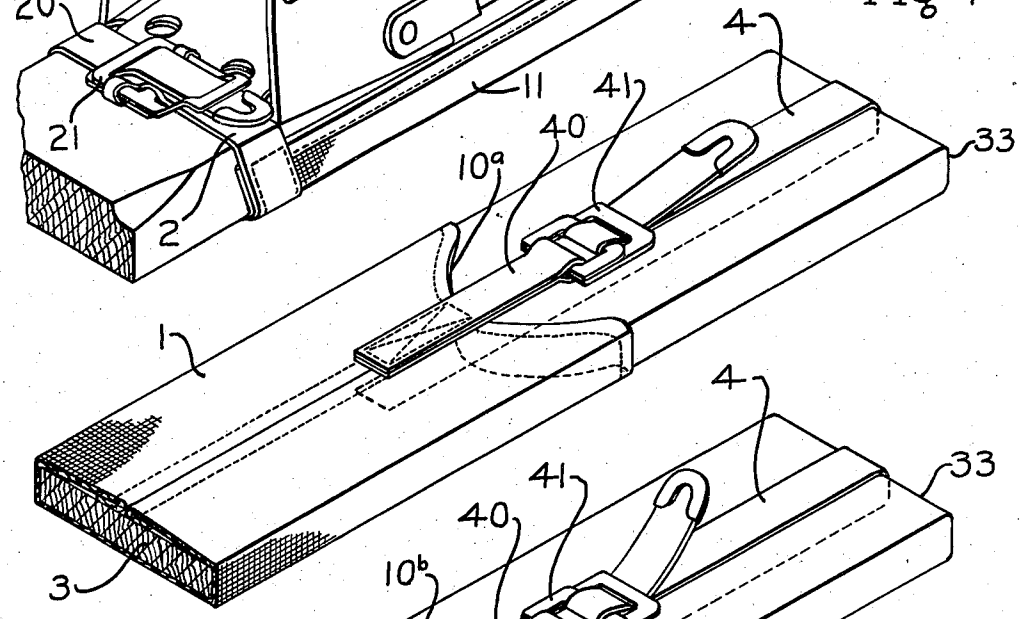


Fig. 4



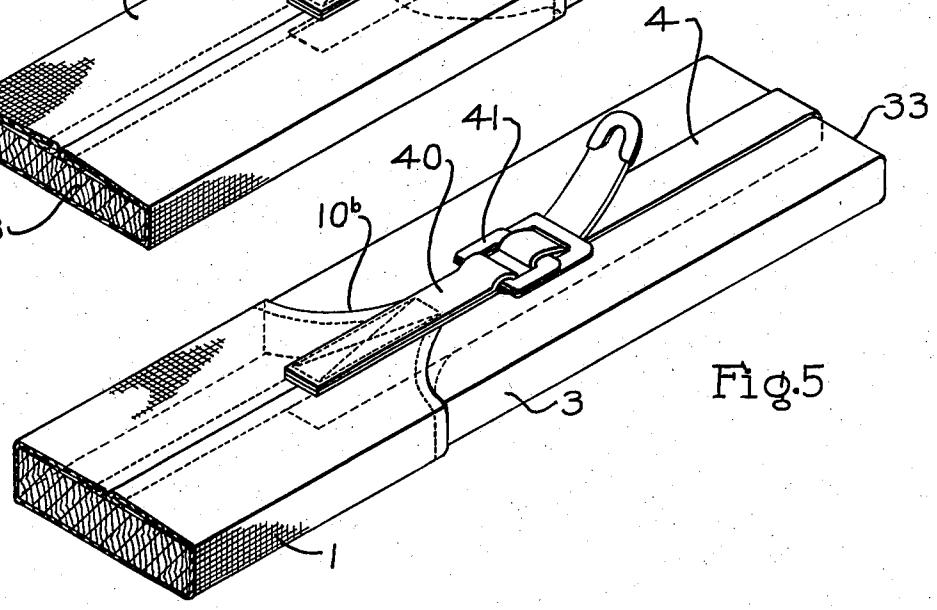


Fig. 5

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UNITED STATES PATENT OFFICE

2,149,585

SKI CLIMBER

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7 Claims. (Cl. 280—11.13)

The present invention relates to ski climbers, which are devices applied to the bottom of a ski to lessen the tendency of the ski to slide backward when climbing, or which in themselves oppose sliding by the nature of their surface which contacts the snow.

Climbers are made of various materials and in various ways. Those made of strips of seal skin and the like are expensive, and are generally used only by experts. For the majority of skiers, having use for climbers but infrequently, yet desiring to possess a pair which can be readily applied, perhaps to rented skis, climbers of less expensive material, such as canvas, are generally supplied, in the form of a sleeve closed at the rear end and open at the forward end to slip onto the rear end of the ski, and to be secured to the ski. Such climbers possess certain disadvantages. They have a tendency to shrink or in some cases to stretch, and a climber which will fit properly on one occasion may not fit properly on another occasion, because of this. Skis are made of different lengths, and a pair of such climbers which will fit upon a short ski will not fit upon a long ski, and while a longer climber will fit upon a short ski, it leaves excess material trailing behind the ski, which is undesirable, and the climber is not tensioned and does not fit snugly to the ski. In addition the merchant must carry a stock of all sizes of climbers, and must take care that the pair sold is the proper length to fit the ski of his customer, yet the customer may not always correctly remember the length of his skis, or may have one pair of skis of a length different from another pair, and then cannot interchange his climbers from one pair to another. A further disadvantage of the climbers mentioned lies in the fact that, being open only at their forward end, as the skier shuffles forward there is a tendency for snow to collect within the climber, beneath its bottom and the bottom of the ski, and to pack therein, since it cannot escape, and this in time builds up a mass of snow beneath the ski which unbalances the ski, both as to its weight and as to its equilibrium or the equilibrium of the skier.

Accordingly it is an object of the present invention to devise climbers which can be made of canvas or similar material, and which are therefore inexpensive; which is open at the rear end to permit escape of snow which may gather between the bottom of the climber and the bottom of the ski; which nevertheless may be kept stretched tightly lengthwise of the ski; which will fit any length of ski, and any normal width of ski; and which is adjustable by small increments to accommodate variations in the length of the climber itself, due to shrinking or stretching.

It is also an object to provide a climber of this type which is simple and readily securable in place upon the ski or removable, under the conditions to be found in skiing.

With such objects in mind my invention comprises the novel climber, and the novel arrangement of the parts thereof, as shown in the accompanying drawings, and as will be hereinafter more particularly described and defined.

In the drawings, showing my invention in various forms, Figure 1 is a vertical longitudinal section through a ski and a climber applied thereto, showing the rear end only, and Figure 2 is a perspective view of the same.

Figure 3 is a perspective view of the front end of the ski, its binding, and the climber.

Figures 4 and 5 are views similar to Figure 2, showing somewhat modified forms of the rear end of the climber.

The ski **3** is of any suitable type, and indeed it is one of the advantages of my invention that the climber is adapted to any type of ski, and to any length and to any normal width of ski. It should fit snugly at its forward end, to avoid collecting snow within it. It may be loose at the sides, provided it is not so loose as to permit it to turn and slide around the ski. The binding shown at **30** in Figure 3 is likewise of any suitable type, and its particular form constitutes no part of this invention. The binding is of importance only in that the climber is secured by engagement of its forward portion with the forward end of the binding.

The climber consists of a sleeve of canvas or like material, indicated at **1**, and open at its front and at its rear end. Its top portion has no function, and except for convenience of manufacture and the necessity for holding the sides adjacent the ski, the top portion might be open, or might be omitted. The climber should be of a length somewhat shorter than the length of the shortest skis to which it is intended to apply it, and in the shortest skis, and naturally in longer skis, its rear end **10** will stop short of the rear end **33** of the ski. Since it is desirable that the climber extend forwardly under the foot and binding it is provided with an integral forwardly extending apron **11**, which is of a length to extend to the forward end of the binding **30**, and of a width to extend upward along the sides of the skis but not over the top thereof. At its forward end this apron is provided with means to secure it to the ski, and in close contact with the ski, and this is conveniently

accomplished by means of straps 2 and 20 secured transversely of its forward end, one of which is provided with a buckle 21, preferably of the type which is readily engageable and disengageable but which will take up by small increments of adjustment, so that the forward end of the climber may be pulled tightly and may be wrapped closely about the bottom of the ski to minimize, so far as possible, the chance for entrance of snow between the bottom of the ski and the climber or its apron 11. The straps, since they engage the front edge of the binding 30, may not be pulled rearwardly, and yet do not interfere with the foot or the binding. The forward opening 12 of the sleeve is of any suitable shape, being shown as V-shaped to better distribute the stress, and is placed far enough back to clear the rear end of the binding. The edges of the material may be suitably taped or bound.

The climber may be applied to the ski in either one of two ways. For instance, it may be slipped over the rear end 33 of the ski and forwardly, until its apron 11 is in position, and the straps 2 and 20 are secured by the buckle 21. If the climber has not previously been adjusted to this particular ski, it is then stretched rearwardly by means of straps 4 and 40, the one strap being secured to the rear end of the sleve at the lower side of its rear opening 10, extending around the rear end 33 of the ski and over its top, and the other strap being secured to the upper side of the rear opening of the sleeve. These straps are engageable by a buckle 41 or a similar means, and here again the arrangement should be such that it is easily engageable and disengageable, and adjustable by small increments. Alternatively, the straps 4 and 40 may first be adjusted to a length to bring the straps 2 and 20 just behind the forward end of the binding, the climber then is slipped upon the ski, and it is tensioned lengthwise by pulling up on the straps 2 and 20, and at the same time this pulls its forward end closely about the ski. If the climber has been previously applied to the particular ski, but has shrunk or stretched, suitable adjustment can be made through the buckle 41, and the same adjustment will accommodate the climber to skis of different lengths, as is indicated in Figure 1. Usually, however, once the climber has been adjusted to a particular ski it is not necessary to accomplish any adjustment through the straps 4 and 40, except possibly to accommodate stretching or shrinkage of the climber itself. It may be simply pulled into place over the rear end of the ski, the straps 2 and 20 connected through the buckle 21, and the climber is ready for use. Thus the application of the climber becomes a simple matter. The straps 4 and 40 serve as a convenient handle to grasp, in removing the climber, which is sometimes difficult if the climber has frozen to the ski.

As shown in Figure 1, snow will tend to collect beneath the bottom of the ski and between the ski and the under side of the climber. Here it will tend to pack, and flattened masses of snow S are shown in Figure 1. Due to pressure of additional masses entering at the front, and due to the normal action of the ski in use, these will tend to work rearwardly, and the climber being completely and freely open at its rear end 10, these masses will eventually work out rather than collect in the rear end of the climber, and such masses, in the act of being released, are indicated at *s*. This lessens the likelihood of the climber freezing to the ski, although under some conditions this can not be avoided.

The formation of the rear end of the climber is largely a matter of choice. In Figure 2 its rear end is shown as square to the length of the climber and ski, which is a simple form for manufacture. In Figure 4 the rear end 10*a* is shown as curved. This places the least stress on the width of the rear end, and on the sides thereof, and will probably facilitate the discharge of snow masses from between the ski and the climber. In Figure 5 the rear end 10*b* is shown as pointed. This better distributes the stress from the strap 40 and strengthens the entire device, particularly the point of attachment of the straps to the rear end of the climber.

What I claim as my invention is:

1. A ski climber comprising a sleeve of flexible material open at its front and rear ends to fit over the rear end of a ski, releasable means to secure its forward end to the ski, and means associated with the rear end of the sleeve and engageable with the ski to tension the sleeve lengthwise of the ski.

2. A ski climber comprising a sleeve open at its front and rear ends, of a size to fit about the ski behind the binding, releasable means secured thereto and extending over the top of the ski and in front of the binding, to secure it to the ski, and releasable means extending from its rear end beneath the ski over the rear end of the ski and to its rear end on top of the ski, whereby to tension the sleeve lengthwise of the ski.

3. A ski climber comprising a sleeve of canvas or the like, open at its front and rear ends, and of a size to fit about the ski behind the binding, an apron extending forwardly from its forward end, beneath the ski, to the vicinity of the forward end of the binding, releasable means extending from said apron at each side over the top of the ski and in front of the binding, and releasable means, variable in length to accommodate different lengths of skis, extending from the rear end of the sleeve beneath the ski, over the rear end of the ski and to the rear end of the sleeve on top of the ski.

4. A ski climber comprising a sleeve open at its front and rear ends, of a size to fit about a ski behind the binding, means to secure its forward end releasably to the ski, and a strap adjustable in length to accommodate different lengths of skis, extending from the rear end of the sleeve beneath the ski, over the rear end of the ski and to the rear end of the sleeve on top of the ski, whereby to tension the sleeve lengthwise of the ski.

5. A ski climber comprising a sleeve of canvas or the like open at its front and rear ends, and of a size to fit about a ski behind the binding, an apron integral with the sleeve and extending forwardly, beneath the ski, to the vicinity of the front end of the binding, a pair of straps secured to the edges of the apron and extending over the ski, in advance of the binding, a buckle to secure said straps together, a further strap secured to the rear end of the sleeve, beneath the ski, and extending thence over the rear end of the ski and forwardly to the rear end of the sleeve, on top of the ski, and a buckle to secure said latter strap at that point to the sleeve, of a type permitting minute increments of adjustment, to accommodate the sleeve to variations in length of the ski or sleeve.

6. A ski climber comprising a sleeve of flexible material open at its front and rear ends to fit

over the rear end of a ski, means extending rearwardly from the rear end of the sleeve and about the rear end of the ski, and adjustable in length to position the front end of the climber slightly to the rear of the forward end of the binding, and straps secured to the opposite sides of the forward end of the climber, and a buckle associated with the straps, whereby they may be adjusted by small increments to pull the climber closely to the ski at the front end of the climber, and to tension the climber lengthwise, reacting against the forward end of the binding.

7. A ski climber comprising a sleeve of flexible material open at its front end to receive the rear end of a ski, means extending from the body of the sleeve rearwardly, to pass about the rear end of the ski, from its under side to its upper side, and to be there secured adjustably, to accommodate the sleeve to skis of various lengths, and means at the forward end of the sleeve, engageable with the ski to tension the under side of the sleeve against the resistance of said first means.

CHESTER R. DAWSON.