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ICE-FISHING SHELTER

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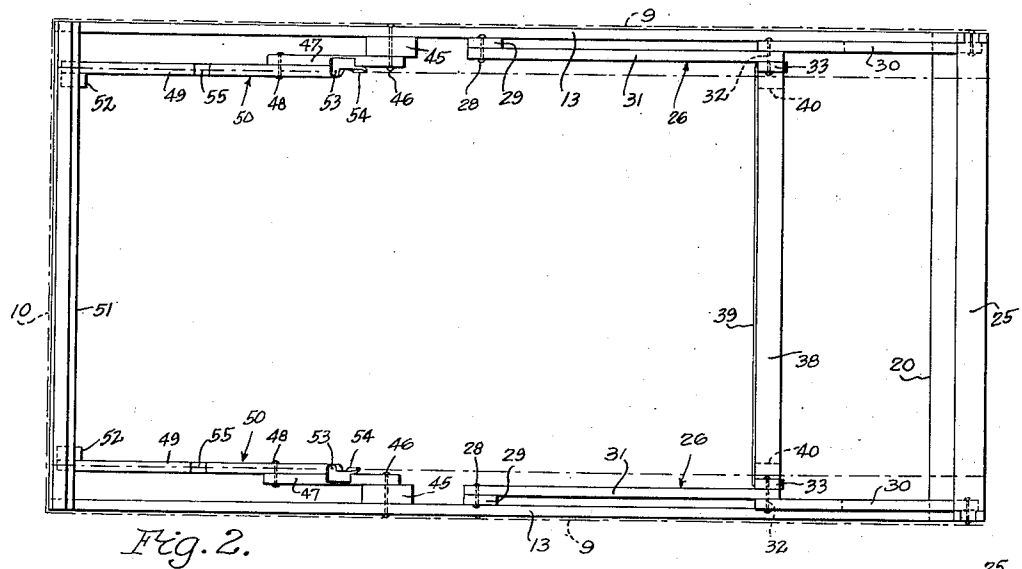


Fig. 2.

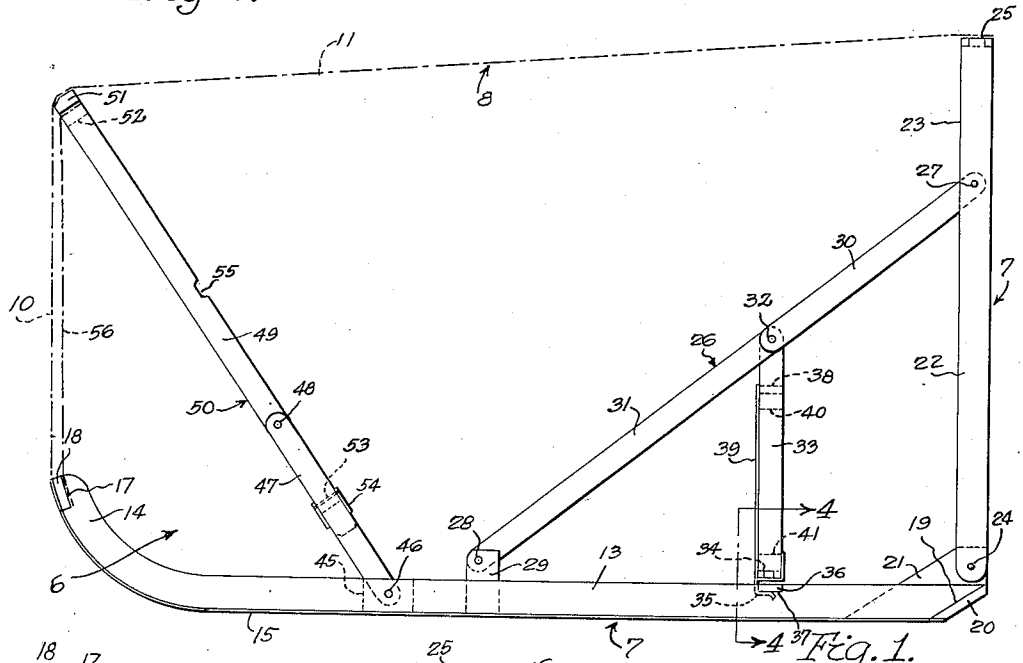


Fig. 1.

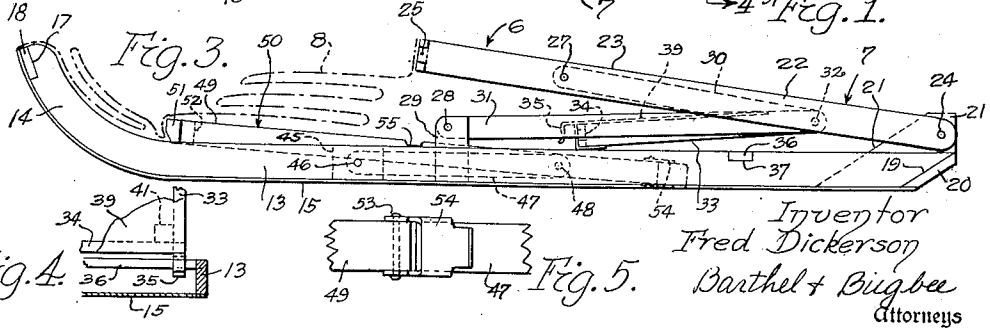


Fig. 3.

Fig. 4.

Fig. 5.

Inventor
Fred Dickerson
Barthel & Bigbee
Attorneys

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ICE-FISHING SHELTER

Fred Dickerson, Bellaire, Mich.

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2 Claims. (Cl. 135—4)

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This invention relates to portable shelters and, in particular, to ice-fishing shelters.

One object of this invention is to provide an ice-fishing shelter which is collapsible into small space for transportation or storage, yet which is also quickly and easily unfolded into a shelter of ample size for the protection of the fisherman against exposure to the weather.

Another object is to provide an ice-fishing shelter which is supported by collapsible bows rising from a framework having runners for transporting the shelter across the snow or ice.

Another object is to provide an ice-fishing shelter having a collapsible framework for supporting a tent which gives ample protection to the fisherman, the framework which supports the tent also serving to provide a seat for the fisherman.

Another object is to provide an ice-fishing shelter consisting of a toboggan or sled-like structure having runners from which foldable bows rise and against which these bows may be folded down in order to provide a flat, compact and light-weight bundle.

In the drawings:

Figure 1 is a side elevation of an ice-fishing shelter, according to a preferred form of the invention, with the tent omitted and with the supporting structure shown in its unfolded position just prior to lifting the shelter up on end into its position of use;

Figure 2 is a top plan view of the ice-fishing shelter shown in Figure 1;

Figure 3 is a side elevation of the ice-fishing shelter shown in Figures 1 and 2 in its nearly collapsed position, ready for transportation or storage;

Figure 4 is a fragmentary vertical section along the line 4—4 in Figure 1, showing a portion of the tent-supporting structure; and

Figure 5 is a fragmentary side elevation of the locking connection for the forward top bow.

Referring to the drawings in detail, Figure 1 shows an ice-fishing shelter, generally designated 6 and consisting generally of a sled or toboggan-like supporting structure 7 which supports a tent 8 in its unfolded position. The tent 8 is omitted in order not to conceal the details of the supporting structure 7, but its walls are indicated by chain lines. These show the tent 8 as having sides 9, an end wall 10 which becomes the top when the shelter as shown in Figure 1 is set up on its right-hand end in order to be used, and an upper wall 11 which becomes a front wall in the position of use, as explained below in connection with the operation and use of the shelter. The tent 8 is preferably made of canvas or other suitable flexible material which is waterproof and windproof. The right-hand end (Figure 1) of the shelter is left open and without canvas since, as explained below, it becomes the bottom of the shelter and rests on the ice or ground during use, when the shelter is swung up on end into its position of use.

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The supporting structure 7 includes a pair of runners 13 having upwardly turned forward ends 14 and provided with a bottom surface 15 of sheet metal or other suitable wear- and friction-reducing material. The upper ends of the upturned portions 14 are notched as at 17 to receive a forward cross member 18 interconnecting the runners 13 at their forward ends. The runners 13 at their rearward ends 19 are cut off at an inclination to the vertical and are there interconnected by a cross member 20. Secured to the runners 13 and cross member 20 adjacent the rearward ends 19 are upwardly-inclined brackets 21 upon which the side members 22 of a rearward top bow 23 are pivoted, as at 24. The upper ends of the side members 22 are interconnected by an upper cross member 25.

The rearward top bow 23 is provided with inclined foldable braces 26 at its opposite sides pivoted thereto as at 27. The lower ends of the inclined braces 26 are pivoted as at 28 to a pair of vertical brackets 29 secured to the runners 13 at approximately their midportions. The inclined braces 26 consist of upper and lower links 30 and 31 pivoted together as at 32. The pivots 32 also have vertical struts 33 connected thereto, the bottom ends of these vertical struts 33 being interconnected by an intermediate cross member 34 (Figures 1, 3 and 4). Secured to these members are spring clips 35 which yieldingly engage a horizontal lower cross-member 36 mounted in notches 37 in the upper edges of the runners 13 and extending between the runners 13 from one side to another. The struts 33 near their upper ends are interconnected by an upper cross member 38 to which a vertical plate 39 of sheet material is attached at its upper edge, the side and lower edges being attached to the struts 33 and lower cross members 38 respectively. The foregoing structure is further braced by the blocks 40 and 41 secured to the struts 33 and upper and lower cross members 38 (Figure 4). The plate 39 forms a seat for the fisherman when the structure is set up on end into its position of use, as explained below.

Secured to the runners 13 forwardly of the brackets 29 are blocks 45 (Figure 2) through which pass pivot pins 46. The latter pass through and pivotally support the lower ends of lower links 47 which at their upper ends are pivoted as

at 48 to upper links 49, the links 48 and 49 collectively forming the forward top bow 50. The upper links 49 at their upper ends are interconnected by a cross member 51 having blocks 52 mounted in the corner angles thereof. The lower ends of the upper links 49 extend downward along the lower links 47 and are provided with pivot pins 53 to which are pivoted locking members 54 (Figure 5) of approximately U-shaped form having their side portions spanning across the adjacent edges of the links 47 and 49 at the locations where they overlap, so as to prevent them from accidentally folding up. The upper links 49 are provided with notches 55 positioned at the proper location to receive the forward edge of the cross member 25 when the rearward top bow 22 is swung downward into its collapsed position, which it is nearing in Figure 3.

Two straps 56 attached between the cross members 18 and 51 serve to hold the forward top bow 50 in position when the shelter is raised to its position of use, so that the canvas of the tent 8 has no part in supporting the framework. Access to the tent 8 is gained by a slide-back curtain (not shown) across the front wall 11 of the tent 8.

In the use of the invention, let it be assumed that the shelter is in the collapsed position shown in Figure 3, with the tent 8 folded as shown in the zigzag chain lines in Figure 3. To raise the tent, the operator grasps the cross member 25 and swings it upward and rearward from the position of Figure 3 to that of Figure 1, at the same time assisting the unfolding of the braces 26 by grasping them at the junctions of the links 39 and 31 and pulling upward thereon. The struts 33 are then swung downward and rearward and the clips 35 snapped over the cross member 36 (Figures 1 and 4).

The operator now grasps the upper cross member 51 of the forward top bow 50 and swings it upward and forward, causing the lower portions of the links 49 to extend along the upper portions of the links 47. When these are in alignment, he swings the locking members 54 sidewise in an outward direction until their side portions span the edges of the links 47 and 49 and lock them in the positions shown in Figures 1 and 2. When this is done, the straps 56 serve to hold the top bow 50 in its proper position, taking any strain off of the canvas tent 12. The latter has, of course, unfolded at the same time that the foregoing operations were being performed and now occupies the position shown by the chain line in Figure 1, along with the straps 56. The user now swings the shelter 6 from the horizontal position shown in Figure 1 to a vertical position with the rear top bow 23 resting on the ground or ice.

To collapse the structure, the operator reverses the foregoing procedure. He first swings the locking members 54 inward toward one another from their positions spanning the links 47 and 49, after which he breaks the toggle-like or elbow connection at the pivots 48 and swings the lower links 47 toward the rearward ends of runners 13. As this occurs, the links 47 swing rearwardly and downwardly until they lie alongside the runners 13, at which time the cross member 51 at the upper end of the forward top bow 50 comes to rest upon the upper edges of the runners 13 (Figure 3).

The operator then grasps the lower ends of the struts 33 and swings the clips 35 out of engagement with the cross member 36, swinging the struts 33 forward and at the same time, breaking the elbow joint formed by the links 30 and 31 at the pivots 32 by pushing the latter downward and rearward. When this is done, the operator has terminated the rigidity of the braces 26 so that the rearward top bow 23 can be swung forward and downward by grasping the top cross member 25 and swinging it downward and forward into the position shown in Figure 3, continuing it beyond this position until the cross member 25 comes to rest in the notches 55. The straps 56 and tent 12 fold naturally downward while these operations are being carried out. The device is now ready for transportation or stowage or is in position to be drawn over the ice to another location.

While the invention has been described as embodied in an ice-fishing shelter, it will also be apparent that the device is also well-adapted for use by hunters, trappers, timber cruisers or other outdoorsmen who travel long distances over snow or ice and who require or are greatly benefitted by shelter without having to take time to erect a tent or hut.

In the following claims, where the term "sled" is used, the word "toboggan" is to be considered as interchangeable therewith.

What I claim is:

1. A foldable ice-fishing shelter comprising a sled, a pair of approximately U-shaped supports spaced longitudinally from one another along said sled and having their free ends pivotally connected to said sled and swingable selectively from folded positions alongside said sled to extended positions projecting outward from said sled, a tent-like cover of flexible material disposed over said supports and connected to said sled, one of said supports being pivotally connected to said sled near one end thereof, a bracing structure foldably connecting said last-mentioned support to said sled at a location remote from said one end of said sled, and a cross member disposed transversely to said sled and secured at its opposite ends to said bracing structure.

2. A foldable ice-fishing shelter comprising a sled, a pair of approximately U-shaped supports spaced longitudinally from one another along said sled and having their free ends pivotally connected to said sled and swingable selectively from folded positions alongside said sled to extended positions projecting outward from said sled, a tent-like cover of flexible material disposed over said supports and connected to said sled, one of said supports being pivotally connected to said sled near one end thereof and extending substantially perpendicular to said sled whereby to serve as a base for said shelter when said sled is raised to an upright position with said sled forming a side wall of said shelter, a bracing structure foldably connecting said last-mentioned support to said sled, and a cross member disposed transversely to said sled and secured at its opposite ends to said bracing structure.

FRED DICKERSON.

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