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2,465,147

WINDBREAK

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2 Sheets-Sheet 1

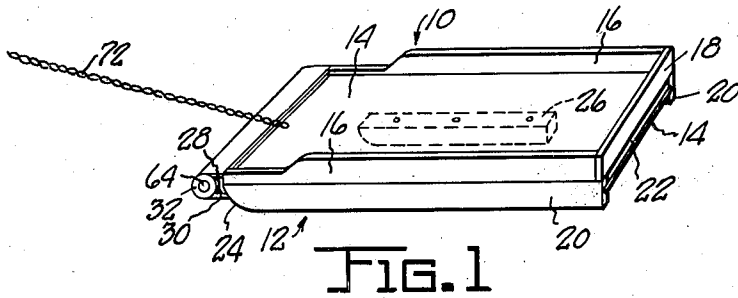


FIG. 1

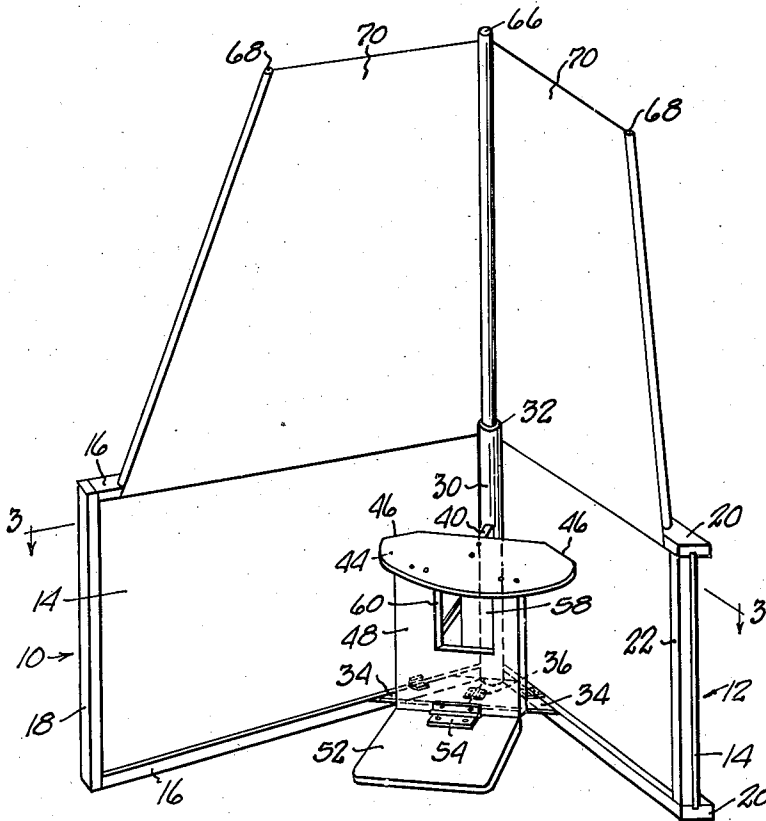


FIG. 2

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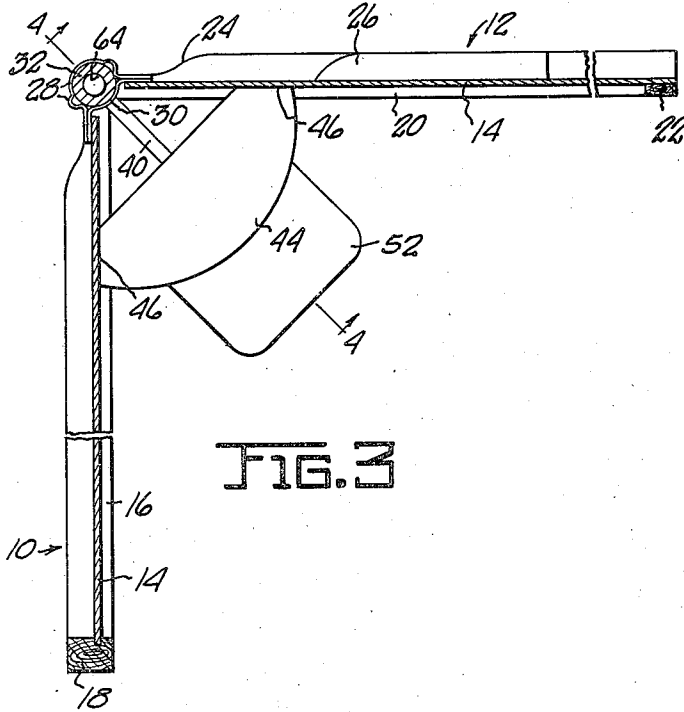


FIG. 3

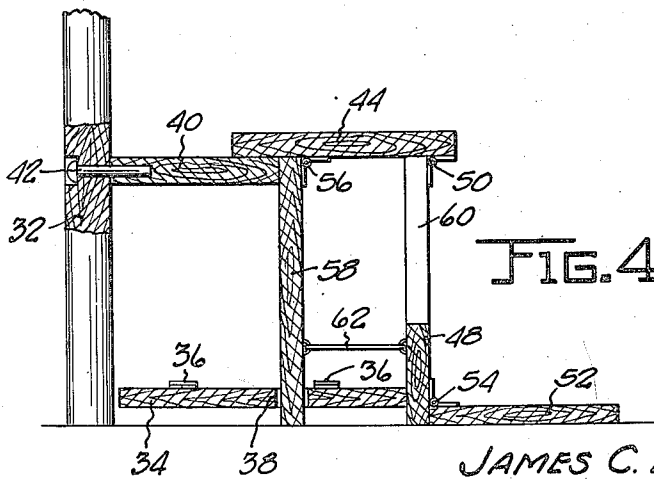


FIG. 4

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WINDBREAK

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11 Claims. (Cl. 160—127)

1

This invention relates to improvements in windbreaks, and more particularly to a windbreak for use by sportsmen during cold or windy weather as for ice fishing, or for use as a hunting blind.

The primary object of this invention is to provide a windbreak which is novel and simple in construction and inexpensive.

A further object is to provide a windbreak which may be collapsed to compact form to facilitate its storage in a small space and which is easy to erect and firm and rigid when erected.

A further object is to provide a windbreak which is collapsible to form a compartment therein and which is provided with removable extension portions adapted to be stored within the container when the device is collapsed.

A further object is to provide a windbreak of this character with means which serve to brace the device when in its extended position and to provide a seat in conjunction therewith, said bracing means being collapsible into flat form within the overall outline of the device when collapsed.

A further object is to provide a device of this character having side panels which are shiftable between collapsed flat compact form and angularly related extended form, wherein at least one of the panels is reinforced by means which forms runners permitting the device to slide over snow and ice for easy transport thereof.

Other objects will be apparent from the following specification.

In the drawings:

Fig. 1 is a perspective view of the device in collapsed form.

Fig. 2 is a perspective view of the device in its extended form.

Fig. 3 is a horizontal sectional view taken on line 3—3 of Fig. 2.

Fig. 4 is a vertical sectional view taken on line 4—4 of Fig. 3.

Referring to the drawings, which illustrate the preferred embodiment of the invention, the numerals 10 and 12 designate panel units which are preferably rigid and are of generally rectangular shape and somewhat elongated. Each of the units 10 and 12 is provided with a panel 14 which may be formed of plywood or any other suitable material having light weight and strength adequate for its intended purpose. The unit 10 has side rails 16 which are preferably grooved longitudinally at their inner faces to receive the side edges of the panel 14. An end rail 18 of the same transverse dimensions as the rail 16 rein-

2

forces the outer end of the panel 10. As will best be seen from Fig. 3, the panel 14 is positioned intermediate the frame members 16 and 18 and is rigidly reinforced and strengthened thereby.

The opposite panel unit 12 has rails 20 at its longitudinal edges grooved to receive the panel 14 and a cleat 22 extending across the outer end of the unit at the inner face only thereof. The forward end edge of the rails 20 of the unit 12 are tapered at 24 to facilitate the use of the rails 20 as runners. Intermediate opposite rails 20 and parallel thereto is provided a longitudinally extending retainer portion 26 of shorter length than the rails 20.

The ends of the units 10 and 12 opposite those spanned by the frame braces 18 and 22 have a pair of fabric sheets secured thereto, the same being an outer sheet 28 and an inner sheet 30 which are of different lengths and serve to provide a socket therebetween in which is mounted a rigid cylindrical member or dowel 32. The dowel 32 is preferably tacked or otherwise secured to the two fabric members 28 and 30 at the central portions of said fabric sheets, and the socket for receiving the dowel is preferably somewhat larger than the dowel. The sheets 28 and 30 and the dowel 32 cooperate with the frame units 10 and 12 to form a hinge therebetween so that the units 10 and 12 may be collapsed to superimposed position as illustrated in Fig. 1, in which event the outer fabric sheet 28 fits snugly around the dowel 32 and the inner fabric sheet 30 has slack therein, and the extended position illustrated in Fig. 3 wherein the inner fabric member 30 is substantially taut and the outer fabric member 28 is slack. The fabric sheets and the dowel preferably extend from side to side or frame to frame of the device to form a strong interconnection of the parts and also to prevent passage of air between the panels 10 and 12 when the same are erected in extended vertical position as illustrated in Figs. 2 and 3.

Each of the frame units 10 and 12 has pivotally connected thereto at the lower rails 16 and 20, as illustrated in Fig. 2, a bracket member 34, said bracket members being pivotally connected at their center at 36. These bracket parts 34 are collapsible to lie flat against the panels 14 when the device is in the collapsed position shown in Fig. 1. The bracket assembly is preferably provided with an opening 38 therein, as best illustrated in Fig. 4.

A bar 40 extends perpendicularly from the cleat 22 and is secured thereto by means of a bolt 42 which is rotatable in the cleat 22 as best seen

in Fig. 4. At its outer end the bar 40 mounts a seat portion 44 having edges 46 extending in angular relation to each other and adapted to abut the panels 14 when the bracket 34 is extended as shown in Fig. 2. A rigid panel 48 is pivoted at 50 to the forward under side of the seat 44 at a position adapted to abut the front edge of the bracket 34. A foot board 52 is pivoted at 54 to the free end of the plate 48. In rearwardly spaced relation to the plate 48 and preferably vertically aligned with the opening 38 is pivoted at 56 to the seat 44 a narrow rigid cleat 58 of the same length as the panel 48 and of a size and dimension to fit in the opening 38 in the bracket 34. An opening 60 is formed in the upper part of the panel 48 and is of a width to permit the part 58 to fit therein when the panel 48 and the member 58 are swung into parallel relation with the panel 44. Any suitable fastener 62 serves to connect the lower free ends of the members 48 and 58 and may constitute a hook secured to one of said members and detachably engaging a hasp or staple carried by the other of said members.

In the erected condition of the device as illustrated in Figs. 2, 3, and 4, it will be observed that the seat 44 is supported in a horizontal position upon the member 48, and the member 48 is anchored firmly by virtue of the fastener 62 which connects it with the upright 58, which latter upright is held against sliding movement upon the supporting surface, such as ice, by virtue of its reception within the opening 38 of the bracket 34. Note in this connection that the seat, by virtue of its engagement with the panels 14 at its edges 46, serves with the bracket 34 to hold the assembly in operative angular extended form as illustrated in Figs. 2 and 3, thereby assuring against collapse of the windbreak incident to the pressure of the wind. When the device is to be collapsed to the Fig. 1 condition, the fastener 62 is disconnected, thereby releasing the parts 58 and 48. The seat 44 is then swung to a plane parallel to the axis of the cleat 32, thereby releasing the member 58 from the opening 38 in the bracket 34 and permitting the same to fold flat against the bottom of the seat 44 passing through the opening 60 in the panel 48. The panel 48 is likewise folded flat against the bottom of the seat, and the foot board at the free end thereof is folded back upon the panel 48 in substantially the plane of the seat 44. Thereupon the bracket 34 may be folded and the panel units 10 and 12 folded inwardly upon themselves to collapsed position with the seat and panel construction confined between the panels 14 of the units 10 and 12.

The cleat 32 has a central bore 64 formed in the end thereof which is adapted to be positioned uppermost when the unit is erected and the rigid rod 66 is adapted to fit in said bore 64. The uppermost of the rails 16 and 20 of the frame units 10 and 12 are provided with bores preferably extending vertically or at an angle to the vertical and rigid rods 68 are adapted to be received and supported in such rail bores. A fabric 70 is preferably secured at its inner or lower end to the inner face of the uppermost rails 16 and 20 and has provided therein at its side edges sockets receiving the rods 66 and 68 for the purpose of tensioning the fabric sheet 70. The rods 66 and 68 are preferably of a length no greater than the lengths of the panels 14, so that when the same are detached from the device and the device is collapsed, the rods may fit within the

collapsed device and the fabric 70 be folded therein. Thus the device provides the necessary vertical dimension to protect a person seated upon the support 44 against the wind, and at the same time is collapsible into a small compact form.

It will be observed that, by virtue of the arrangement of the device, it is small enough to facilitate compact storage thereof and to render handling thereof easy. For example, the device is small enough in its collapsed form, as shown in Fig. 1, to fit within the trunk portion of the average automobile. When collapsed as explained above with the seat and other supporting means flat therein, and with the rods 66 and 68 and the fabric sheet 70 also confined therein, the device provides a self-container unit. In instances where the device must be moved a substantial distance from the point of transport, such as a road, to a point of use, such as a location in the middle of a lake, the runners 20, 26 obviate the necessity of carrying the device and permit it to be towed as by means of a rope 72. In other words, the device forms a sled in its collapsed form, thereby facilitating its transport and eliminating the necessity that it be carried. Additionally, it will be apparent that fishing equipment and other items may be positioned upon the top of the collapsed unit so that the device forms handy means for supporting other items in addition to its own parts. Note that the portions of the frame members 16 and 18, which project above the panel 14, serve as retainers to prevent the items being transported by the device from falling therefrom.

When the unit has been towed to the point of use selected, the erection of the device is quick and simple. Note that there are no securing means except the member 62 which need be manipulated and that the device can be erected rapidly by turning it on edge, opening the unit, then turning the seat portion 44 into a plane at right angles to the cleat 32. In conjunction with this operation, of course, the seat supports 48 and 58 are moved to operative position, the latter engaging in the socket 38 of the bracket 34, and the former being held to the latter by the fastener 62. Thereupon the rods 66 and 68 can be threaded into the sockets of the sheet member 70 and then inserted in the bores of the frame units and the dowel 32 which are adapted to receive the same, and this completes the operation of erecting the unit.

While the embodiment of the invention which has been illustrated and described herein is preferred, it will be understood that other embodiments of the invention may be made within the spirit of the invention and within the scope of the appended claims.

We claim:

1. A windbreak comprising a pair of rigid panels, means pivotally interconnecting said panels, collapsible means for bracing said panels in predetermined angular relation and including a seat portion, said bracing means being collapsible to accommodate positioning of said panels in substantially parallel abutting relation.

2. A windbreak comprising a pair of rigid panels, means pivotally interconnecting said panels, a collapsible seat shiftable relative to said panels, and a collapsible brace between said panels and detachably interlocked with said seat to fixedly anchor said seat relative to said panels.

3. A windbreak comprising a pair of rigid panel units, means interconnecting said panels for

5

pivotal movement between collapsed substantially parallel juxtaposed relation and extended predetermined angular relation, each panel unit including a marginal reinforcing frame projecting from its inner surface whereby said panel units define a compartment therebetween when collapsed, and means for bracing said panel units in extended relation and collapsible into said compartment.

4. A windbreak comprising a pair of rigid panel units, means interconnecting said panels for pivotal movement between collapsed substantially parallel juxtaposed relation and extended predetermined angular relation, each panel unit including a marginal reinforcing frame projecting from its inner surface whereby said panel units define a compartment therebetween when collapsed, and means for bracing said panel units in extended relation and collapsible into said compartment, the frame of at least one panel unit including a plurality of parallel runners projecting from its outer surface.

5. A windbreak comprising a pair of rigid panel units, means interconnecting said panels for pivotal movement between collapsed substantially parallel juxtaposed relation and extended predetermined angular relation, each panel unit including a marginal reinforcing frame projecting from its inner surface whereby said panel units define a compartment therebetween when collapsed, and means for bracing said panel units in extended relation and collapsible into said compartment, and a seat collapsible within said compartment and held in operative position by detachable interlocking engagement with said brace.

6. A windbreak comprising a pair of panel units, each including a rigid panel and a marginal frame projecting from one face of said panel, means pivotally connecting said panels for movement between collapsed position with said frames abutting to define a chamber and extended angularly diverging position, brace means collapsible into said chamber and extensible to limit divergence of said panel units, and a seat unit swiveled to said connecting means and adapted to interlock with said brace means.

7. A windbreak comprising a pair of rigid panels, flexible sheet material spanning and interconnecting adjacent ends of said panels and defining a socket therebetween, and a rigid member fitting in said socket, said panels being shiftable angularly relative to said member between collapsed parallel relation and diverging angular relation.

8. A windbreak comprising a pair of rigid

6

panels, flexible sheet material spanning and interconnecting adjacent ends of said panels and defining a socket therebetween, and a rigid member fitting in said socket, said panels being shiftable angularly relative to said member between collapsed parallel relation and diverging angular relation, at least one of said panels having a plurality of parallel outwardly projecting portions defining runners.

9. A windbreak comprising a pair of rigid panels, flexible sheet material spanning and interconnecting adjacent ends of said panels and defining a socket therebetween, and a rigid member fitting in said socket, said panels being shiftable angularly relative to said member between collapsed parallel relation and diverging angular relation, a seat swiveled to said rigid member, a sectional hinged unit pivoted to said seat, and means for anchoring said unit with one section thereof vertical to support said seat and another section projecting horizontally to define a foot board.

10. A windbreak comprising a pair of rigid elongated panels, means pivotally connecting said panels at an end thereof, reinforcing members at the margins of said panels adapted to engage to define a chamber between said panels when swung together, rigid members detachably supported by said reinforcing members and projecting outwardly from and substantially parallel to said panels, and a flexible member detachably supported by said rigid members.

11. A windbreak comprising a pair of rigid elongated panel units including marginal reinforcing members, a flexible web interconnecting and spanning adjacent ends of said panels and defining a pocket parallel to and between said panel ends, a rigid member fitting in said pocket and having a longitudinal socket in one end, said reinforcing members have sockets therein, rigid members detachably mounted in said respective sockets, and a flexible sheet supported by said last named members.

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