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COLLAPSIBLE AND PORTABLE CABANA

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2 Sheets-Sheet 1

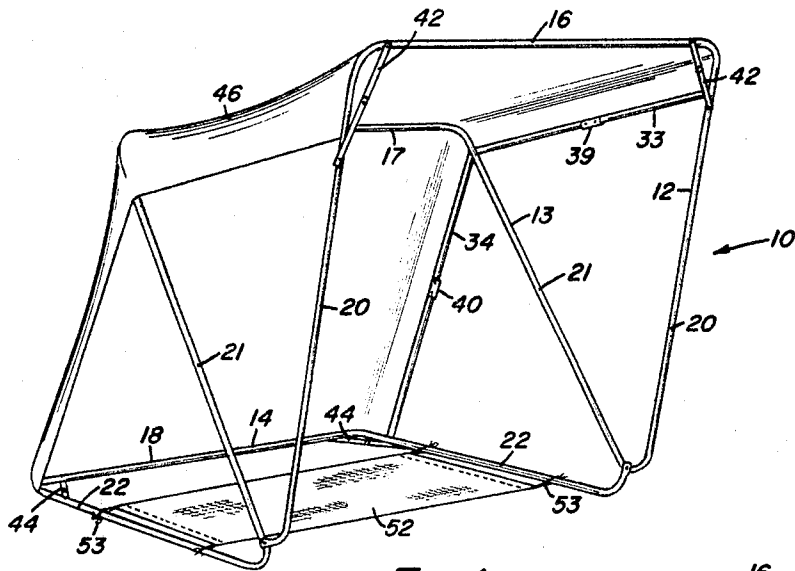


FIG. 1.

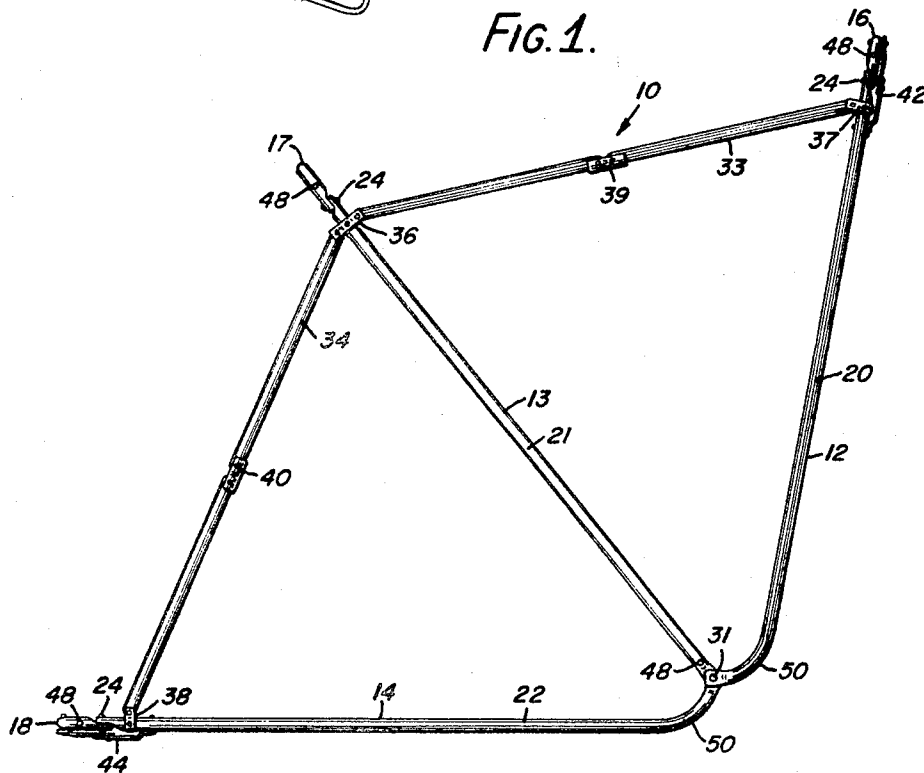


FIG. 2.

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2 Sheets-Sheet 2

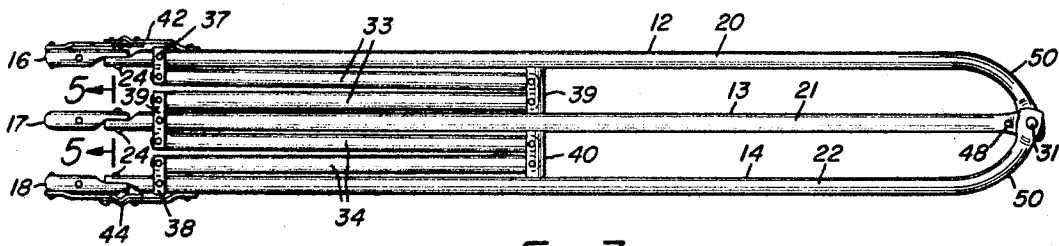


FIG. 3.

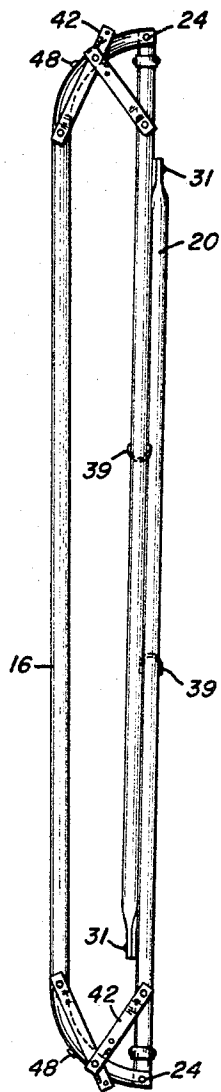


FIG. 4.

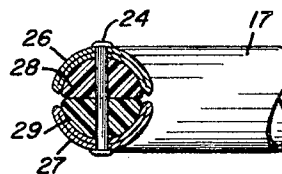


FIG. 5.

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COLLAPSIBLE AND PORTABLE CABANA

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6 Claims. (Cl. 135—7.1)

ABSTRACT OF THE DISCLOSURE

The cabana comprises U-shaped frame members whose legs are connected at their extremities to pivot about a common axis between a collapsed position, and an erected position in which the two outer members are angularly spaced about said axis slightly greater than 90° from one another. The two legs of each frame member are foldable about spaced axes that extend at right angles to the first-named axis; and two collapsible links extend between the legs of adjacent frame members rigidly to hold the members in their erected positions.

This invention relates to portable shelters and more particularly to a portable cabana or beach shelter.

Heretofore efforts have been made to provide a portable, collapsible beach cabana which could serve as a satisfactory shelter from the sun, wind and rain. A major disadvantage of prior, collapsible cabanas of the type described, is that each usually includes a cumbersome frame for supporting the cabana in its erected position. Moreover, even when collapsed, such a cabana has an overall bulk so great that it cannot be conveniently transported or stored.

One object of this invention is to provide a light-weight, portable shelter, which is relatively inexpensive, and substantially easier to manufacture than prior, like shelters.

A further object of this invention is to provide an improved portable cabana having a collapsible frame, which is extremely simple and easy to manipulate in order either to erect or collapse the cabana.

An additional object of this invention is to provide an improved cabana which can be collapsed into a relatively small, compact form, and which can be easily carried about or stored.

Another object of this invention is to provide a collapsible cabana, and a flexible container therefor in which the cabana may be stored when not in use, and which may be used to help anchor the cabana when the latter is erected.

Other objects of the invention will be apparent hereinafter from the specification and from the recital of the appended claims, particularly when read in conjunction with the accompanying drawings.

In the drawings:

FIG. 1 is a perspective view of a collapsible cabana made in accordance with one embodiment of this invention, the cabana being illustrated in its erected position;

FIG. 2 is a side elevational view of the collapsible frame, which forms part of the cabana, the frame being illustrated in its erected position;

FIG. 3 is a slightly enlarged side elevational view similar to FIG. 2, but showing the frame partially collapsed;

FIG. 4 is a slightly enlarged plan view of this frame showing it in its completely collapsed position; and

FIG. 5 is a greatly enlarged, fragmentary sectional view taken along the line 5—5 in FIG. 3 looking in the direction of the arrows.

The shelter or cabana disclosed herein comprises a flexible, waterproof cover, which is secured to a collapsi-

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ble frame constructed of light-weight, tubular aluminum. Three, similar, generally U-shaped frame members are pivotally connected to one another at their free ends for movement about a common horizontal axis between collapsed positions in which they are disposed in registry with one another, and erected position in which collapsible links between the members hold the latter releasably in equi-angularly spaced positions about the common horizontal axis. When the cabana is erected, one of the outer frame members is disposed horizontally on the ground, and the other outer member is inclined diagonally upwardly and forwardly at an obtuse angle to the horizontal member. The flexible cover is stretched tautly at this time over the erected frame members; and the entrance to the cabana is framed by the outer member that extends diagonally upwardly.

When the cabana is collapsed, the legs of its U-shaped members fold inwardly toward one another about a further pair of spaced, parallel axes, which extend at right angles to the horizontal pivotal axis of the members, so that the folded legs overlap one another and the central, transverse sections of each frame member.

Referring now to the drawings by numerals of reference, the frame 10 of the cabana comprises three, generally U-shaped members 12, 13 and 14. Each member 12, 13, and 14 comprises a tubular cross bar 16, 17 and 18, respectively, and a pair of spaced, parallel tubular legs 20, 21 and 22, respectively, which are pivotally connected to opposite ends of their respective cross bars by pins or rivets 24. Opposite ends of each cross bar 16, 17 and 18 are stamped or pressed closed as at 26 (FIG. 5) to form thereon semi-circular projections, which, when the cabana is erected, are disposed in shaped relation to like projections 27 formed on the adjacent, inner ends of the associated legs 20, 21 and 22. Secured by each pin 24 in the confronting, semi-circular recesses formed between each pair of projections 26 and 27, are two, semi-cylindrical, plastic plugs or bearings 28 and 29, which have sliding contact with one another when the legs 20, 21 and 22 are pivoted relative to their cross bars 16, 17 and 18.

The frame members 12, 13 and 14 are mounted for pivotal movement relative to one another about rivets or pins 31, which pivotally connect together the free or outer ends of the legs 20, 21 and 22 at opposite sides, respectively, of the frame 10. These pins 31 are disposed in laterally spaced, coaxial relation with one another when the frame 10 is erected as illustrated in FIGS. 1 and 2. The intermediate frame member 13 is collapsibly supported in a diagonal plane, which is equiangularly spaced between the outer frame members 12 and 14, by a pair of tubular, collapsible links 33 a pair of tubular collapsible links 34, each of which is connected at one end to a bracket 36 that is secured to each leg 21 of member 13 adjacent opposite ends of the cross bar 17. The opposite ends of the links 33 and 34 are pivotally connected to brackets 37 and 38, respectively, which are secured on the frame legs 20 and 22, respectively, adjacent opposite ends of the cross bars 16 and 18. The two tubular sections of each collapsible link 33 and 34 are pivotally connected at their inner ends to opposite ends of U-shaped hinge plates 39 and 40, respectively.

Each of two, conventional, collapsible braces 42 is pivotally connected at one end to one end of the cross bar 16 of frame 12, and at its opposite end to one of the legs 20 adjacent the associated bracket 37. Each of two further collapsible braces 44, which are similar to braces 42, is pivotally connected at one end thereof to one end of the cross bar 18 of the frame member 14, and at its opposite end to one of the legs 22 adjacent the associated bracket 38. Each of these braces 42 and 44 is similar to those employed on certain conventional cardtables of the type having foldable legs, and com-

prises two separate sections having overlapping inner ends that are pivotally connected to one another so as releasably to hold the legs 20 and 22 of the associated frame members 12 and 14 in spaced, parallel relation to one another, when the cabana is erected as illustrated in FIGS. 1 and 2.

Secured at opposite ends thereof to the cross bars 16 and 18 to extend tautly between these bars, and over the bar 17, when the cabana is erected as illustrated in FIG. 1, is a flexible, waterproof, plastic cover 46 such as nylon, or the like. Conventional male snaps 48 are secured to opposite ends of the cross bar sections 16, 17 and 18, and to the outside of each leg 27 adjacent the associated pivot pin 31, so that flexible side flaps or covers (not illustrated) may be removably secured to opposite sides of the frame 10 by means of cooperating female snaps.

To collapse the cabana, the U-shaped plates 39 and 40, the open sides of which face upwardly as shown in FIG. 2, are pulled manually downwardly so that the frame members 12 and 13 pivot about the pins 31 (counterclockwise in FIG. 2) downwardly into the collapsed positions illustrated in FIG. 3. Each leg 20 and 22 is curved as at 50 (FIGS. 2 and 3) adjacent the associated pivot pin 31 so that when the members 12, 13 and 14 are collapsed, they are supported in spaced, parallel registering relation with one another. Also at this time, the now-collapsed links 33 and 34, and the associated plates 39 and 40, respectively, fold into the spaces provided therefor at opposite sides of the frame between the now-parallel legs 20, 21 and 22 of the collapsed frame members. The braces 42 and 44 are then collapsed manually, and the superposed legs 20, 21 and 22 at opposite sides of the frame are pivoted about the pins 24 inwardly toward the undersides of the cross bars 16, 17 and 18 and into overlapping, folded relation to one another as illustrated in FIG. 4.

At this time the flexible cover 46, and the side flaps if used, are collapsed, and together with the now-folded frame 10, may be enclosed or wrapped in a relatively small, rectangular canvas jacket 52 (FIG. 1). Jacket 52 has a length slightly less than the overall width of the frame 10, when the latter is erected as illustrated in FIG. 1, so that conventional lacings or ropes 53, which extend from the corners of the jacket 52, may be releasably tied to the legs 22 of the frame, when the latter is erected as illustrated in FIG. 1. This stretches the jacket 52 rather tautly between opposite sides of the frame, so that the person using the erected cabana may sit upon the jacket 52, or pile sand or the like on the jacket, so as to anchor the cabana to the ground.

From the foregoing it will be apparent that the collapsible cabana or shelter disclosed herein is relatively simple, and inexpensive to manufacture; is very easy to erect or collapse; and is extremely compact when folded. Preferably the frame members 12, 13 and 14, and the links 33 and 34, are made from tubular aluminum so that the complete cabana will weigh less than five pounds. The outer frame members 12 and 14 are positioned, when the cabana is erected, concentrically with respect to the intermediate frame member 13 so that the cabana may be positioned with either the legs 20 or 22 of the frame members 12 and 14, respectively, disposed horizontally along the ground. In either of these positions, the center of gravity of the cabana is positioned rearwardly of the axial centerline of the pins 31 so that the cabana will tend to remain in either of such positions, and will not roll forwardly on the curved ends 50 of the then horizontally disposed legs 20 or 22, except as the result, perhaps, of a heavy gust of wind. To prevent the cabana from accidentally pitching forward, however, the jacket 52 may be employed to anchor the cabana as above described. The plastic inserts 28 and 29, which surround each pin 24, pivot with the respective projections 26 or 27 in which they are seated, and provide ex-

cellent bearing surfaces which contribute to the useful life of the frame.

While the invention has been described in connection with a specific embodiment thereof, it will be understood that it is capable of further modification, and this application is intended to cover any variations, uses, or adaptations of the invention following, in general, the principles of the invention and including such departures from the present disclosure as come within known or customary practice in the art to which the invention pertains and as may be applied to the essential features hereinbefore set forth, and as fall within the scope of the invention or the limits of the appended claims.

Having thus described our invention, what we claim is:

1. A portable shelter, comprising:

- (a) a plurality of generally similar U-shaped members, each comprising a cross bar and a pair of spaced legs, each cross bar having its opposite ends disposed at right angles to the remainder of the cross bar, and each leg being pivotally connected at one end to one end of the associated cross bar to be swung from a collapsed position parallel to its cross bar to an extended position at right angles thereto and vice versa,
- (b) pivots connecting the corresponding opposite ends of all said legs together, for movement about an axis at right angles to the axis about which each leg is pivoted to its cross bar,
- (c) said pivots being axially aligned whereby said members are connected together for pivotal movement about a common axis between a collapsed position and an erected position,
- (d) a pair of collapsible links pivotally connected at opposite ends to each pair of adjacent legs adjacent the points of pivotal connection of said legs to their respective cross bars and operable releasably to hold said members in erected position, and
- (e) a flexible cover removably securable to said members to extend tautly therebetween and thereover when said members are in their erected position.

2. A portable shelter as defined in claim 1, having collapsible braces interposed between each of the legs and the cross bars of certain of said members, and movable manually to operative position releasably to hold said legs substantially at right angles to the cross bars of said members.

3. A portable shelter as defined in claim 2, wherein:

- (a) in their erected positions the outermost members are disposed at equal acute angles relative to the intermediate member about the first-named axis, and
- (b) the center of gravity of the shelter is radially offset from said first-named axis so that either of said outermost members may be disposed horizontally when the shelter is in use.

4. A portable shelter as defined in claim 2, wherein:

- (a) the collapsible links are substantially longer than said braces, and
- (b) said links are operative, when said braces are in said operative positions, releasably to hold the two outermost of said members at an obtuse angle relative to one another, said angle being slightly greater than 90° and substantially less than 180°.

5. A portable shelter as defined in claim 1, wherein:

- (a) there are three said members, and
- (b) the legs of the outermost members are curved slightly adjacent said pivots to support said outermost members in spaced parallelism with the intermediate member, when said members are collapsed.

6. A portable shelter as defined in claim 5, having:

- (a) releasable snap means on said cover, and
- (b) cooperating snap means secured to opposite ends of said cross bars, and to the said opposite ends of the legs of at least one of said members, and adapted to register with the snap means on said cover, when

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said members are in their erected positions, releasably to secure said cover to said members.

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