Oct. 10, 1961 D. KRONHAUS ET AL 3,003,198

PORTABLE COLLAPSIBLE PATIO STRUCTURE

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FIG. 1.

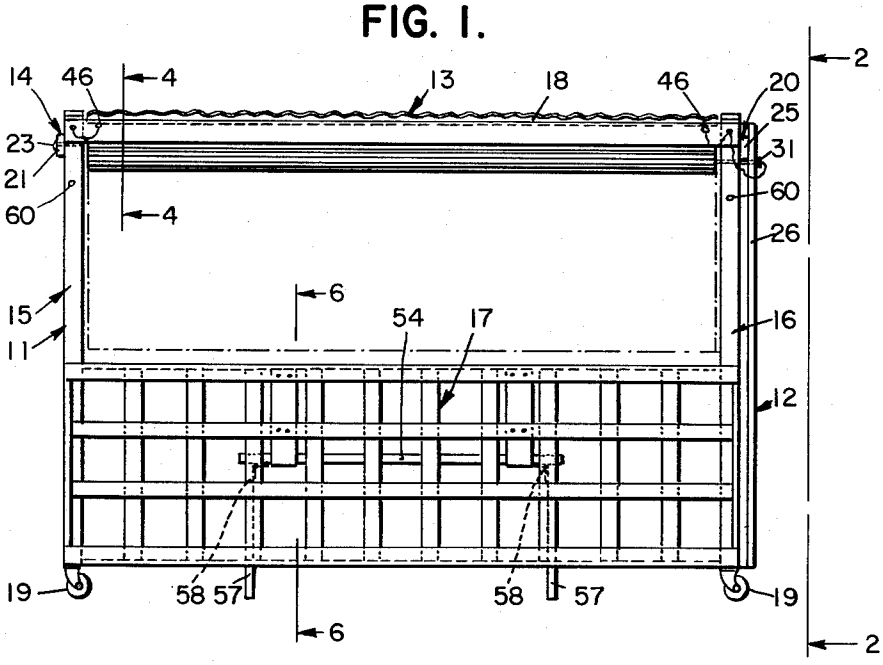


FIG. 2.

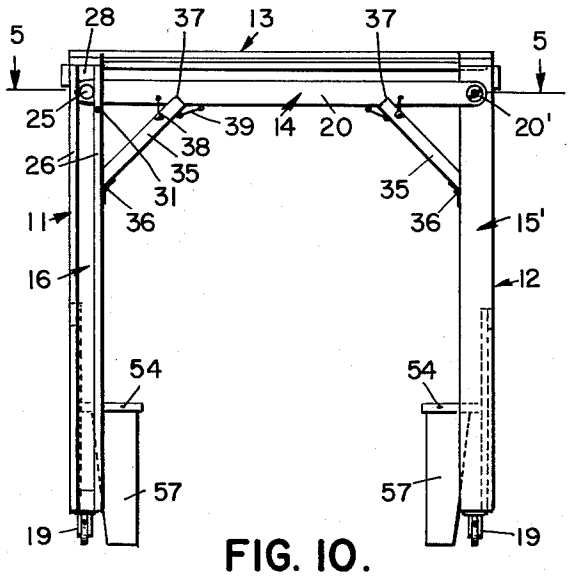


FIG. 8.

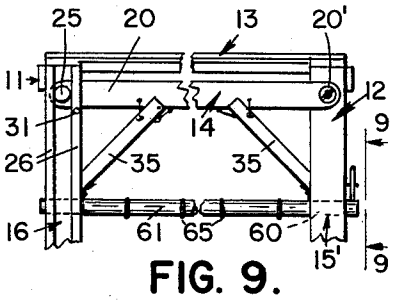


FIG. 9.

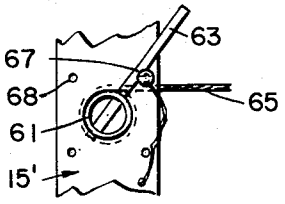
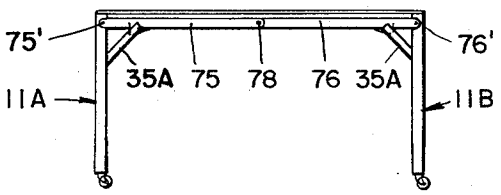


FIG. 10.



INVENTORS

DINA KRONHAUS

LUBA M. LIFSCHUTZ

BY

Mason & Graham

ATTORNEYS

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FIG. 3.

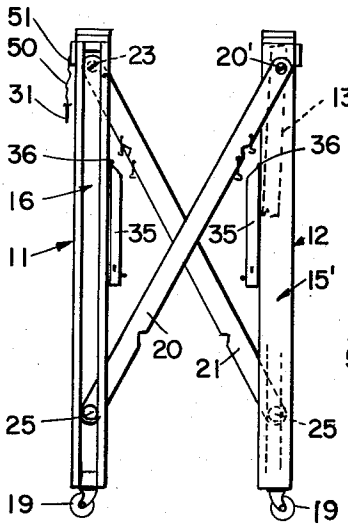


FIG. 4.

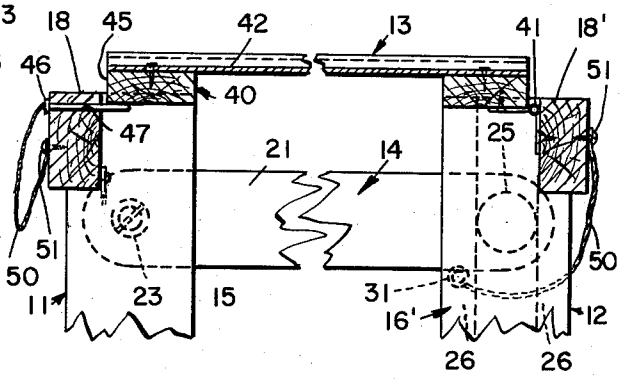


FIG. 6.

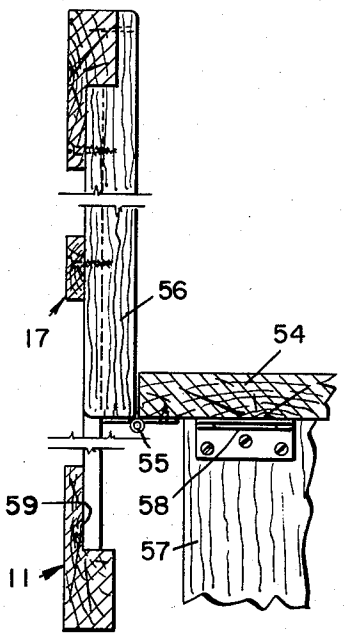


FIG. 5.

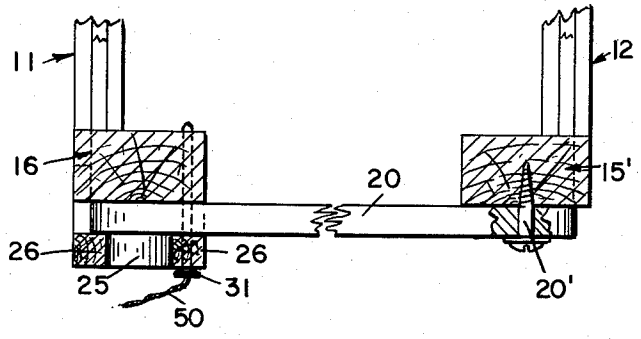
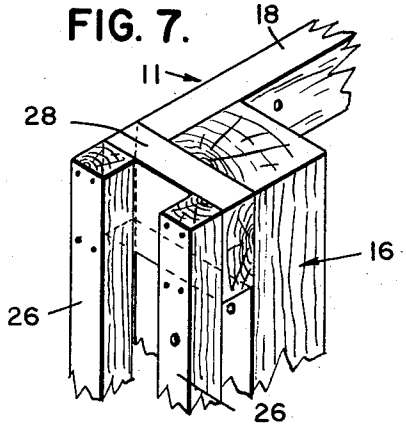


FIG. 7.



INVENTORS

DINA KRONHAUS

LUBA M. LIFSCHUTZ

BY

Mason & Graham

ATTORNEYS

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PORTABLE COLLAPSIBLE PATIO STRUCTURE

Dina Kronhaus, 4012 Shelburn Court, and Luba M. Lifschutz, 2351 Coral St., both of Los Angeles, Calif.

Filed Nov. 18, 1955, Ser. No. 547,655
1 Claim. (Cl. 20—2)

This invention has to do with structures for providing shelter, particularly of a type designed for persons seeking protection from the sun.

An object of the invention is to provide a novel and improved type of collapsible shelter of a portable nature which is particularly suitable for use in the patio area of a home to shade occupants from the sun.

A further object is to provide a portable shelter which is of simple construction and can be readily collapsed for storage in a garage or other available place when not in use.

Another object is to provide a device of the type indicated which can also be used as a clothesline support and as a means of shielding the clothesline and garments thereon from view.

These and other objects will be apparent from the drawings and the following description.

Referring to the drawings:

FIG. 1 is a side elevational view showing a device embodying the invention, the device being shown extended or expanded for use;

FIG. 2 is an end elevational view of the structure of FIG. 1 as on line 2—2 of FIG. 1;

FIG. 3 is an end elevational view of the structure partially collapsed;

FIG. 4 is an enlarged fragmentary sectional view on line 4—4 of FIG. 1;

FIG. 5 is an enlarged fragmentary sectional plan view of one end of the structure as on line 5—5 of FIG. 2;

FIG. 6 is an enlarged sectional view on line 6—6 of FIG. 1;

FIG. 7 is an enlarged fragmentary perspective view of an upper end of a post construction at one end of a side frame;

FIG. 8 is an end elevational view, partially broken away, showing the device in use as a clothesline support;

FIG. 9 is a fragmentary elevational view on line 9—9 of FIG. 8; and

FIG. 10 is an end elevational view of a modified structure.

More particularly describing the invention, we provide a structure which, in general, includes a pair of side frames, designated 11 and 12, a roof, designated 13, and side frame connecting means, designated 14 (in FIG. 3). Each side frame includes a post at each end disposed vertically. The posts on frame 11 are marked 15 and 16, respectively, and those on the other side frame, marked 15′ and 16′, respectively. The posts are connected by any suitable type of longitudinally extending frame structure, and we show at the bottom portion of each side frame a latticework, designated 17. At the upper end of each side frame is a beam, numbered 18 on frame 11, and numbered 18′ on the other side frame. To make the structure easily portable, a large caster 19 is provided at each end of each side frame.

The two side frames are adapted to be connected by means of a pair of bridging levers, designated 20 and 21. Bridging lever 20 is pivotally mounted at 20′ on the post 15′. The other bridging lever is pivotally mounted upon the post 15 at 23. Each of the bridging levers carries a circular projection or stud 25 for reception slidably between guide rails 26 mounted on each of the posts 16, 16′, the guide rails being spaced outwardly and parallel to the outer sides of the posts by means of the mounting

blocks 28. The free ends of the levers are slidably received between the guide rails and the posts and are retained for movement along the guide rails by their studs 25.

With the construction described, it will be apparent that the two side frames may be collapsed to lie parallel substantially in engagement with each other or they may be expanded or extended to the position in which they are shown in FIGS. 1 and 2. FIG. 3 shows the parts in an intermediate or semi-collapsed position. In order to secure the bridging levers 20 and 21 in the position shown in FIGS. 1 and 2, we provide a removable stop pin 31 in each post 16, 16′. For the purpose of bracing the structure in the extended or expanded position, we provide a pair of diagonal braces 35 at each end of the structure. These are individually hingedly mounted at 36 on the posts as best shown in FIG. 2, and when in use fit into notches 37 in the bridging levers. Suitable hook and eye means 38 and 39 can be provided for detachably securing the parts.

We provide the aforementioned roof 13 which may comprise a rectangular panel 40 hingedly mounted along one margin at 41 to the longitudinal beam 19. The body 42 of the panel may be of Fiberglas reinforced plastic or other suitable material. When not in use and with the parts collapsed, the roof panel is allowed to hang from the hinges between the side frames, as shown in FIG. 3. However, with the parts extended or expanded for use, the edge portion 45 of the roof panel is supported on the beam 18 by means of two or more roof support pins 46, received and movable in bores 47 in member 18.

The stop or securing pins 31 and the roof support pins 46 may each be retained by keepers in the form of a string or chain 50 attached thereto and secured to an adjacent portion of the frame by a tack or nail 51.

For convenience in seating occupants we show each side frame provided with a bench-type folding seat. Referring particularly to FIGS. 1, 2, and 6, this comprises a seat member 54 which is hingedly supported at its rear margin by hinges 55 for downwardly swinging movement. The hinges are secured to a frame member 56. One or more legs 57 are hingedly secured at 58 to the under side of the seat member 54 and, when the parts are collapsed, the legs lie against the under surface of member 54 and when the latter is swung down to lie adjacent beside the frame the leg or legs are received in a recess 58 in the side frame.

We also contemplate that the patio support structure can serve as a clothesline and for this purpose we provide each of the posts at each end of the frame with a horizontal bore 60 to receive a clothesline support bar 61 which is removably mounted in the bores as shown in FIGS. 8 and 9. One of the bars may be provided with a radially projecting handle 63 to provide leverage for turning the bar and tightening clotheslines 65 extending between the two bars. The handle 63 is retained in tightened position by a pin 67 receivable in any one of selected pin-receiving bores 68.

When the structure is used for the drying of the clothes, the roof panel may be swung down and it thus acts as a shield on one side to hide clothes on the line from view on one side.

Although we have shown and described a preferred form of our invention, we contemplate that various changes and modifications may be made therein without departing from the invention, the scope of which is indicated by the annexed claims. For example, in FIG. 10 we show a modification wherein the two side frames, designated 11A and 11B, are connected at each end by a pair of bridging levers, designated individually 75 and 76. These are pivotally connected at their inner ends at

78 and are each pivotally mounted at their outer ends on the frames, at 75' and 76', respectively. Suitable braces 35A can be provided. By detaching the braces 35A the structure can be collapsed, the levers 75 and 76 pivoting downwardly.

We claim:

In a collapsible patio shelter, a pair of side frames each including a vertical post at each end, a first bridging lever pivotally mounted at one end at the upper end of the post of one frame for movement about a horizontal axis, a second bridging lever similarly mounted on a post at the opposite end of the other frame, vertical guideway means on each of the other posts at the other ends of said side frames, said guideway means comprising a pair of rails in parallel spaced relation mounted on the post spaced outwardly of the surface thereof, each of said levers having its other end mounted in and for movement along the guideway means of a post on the other side frame whereby said structure may be collapsible to have said side frames lie adjacent each other or extended to have the same laterally spaced by the length of the said levers, said bridging levers each having its said other end received between said rails and the post and having a projection slideably received between the rails, and means at the upper ends of said guideway means for releasably anchoring said levers against pivotal movement.

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