July 10, 1962 C. W. MOSS 3,043,320

PORTABLE SHELTER

Filed Sept. 4, 1959 2 Sheets-Sheet 1

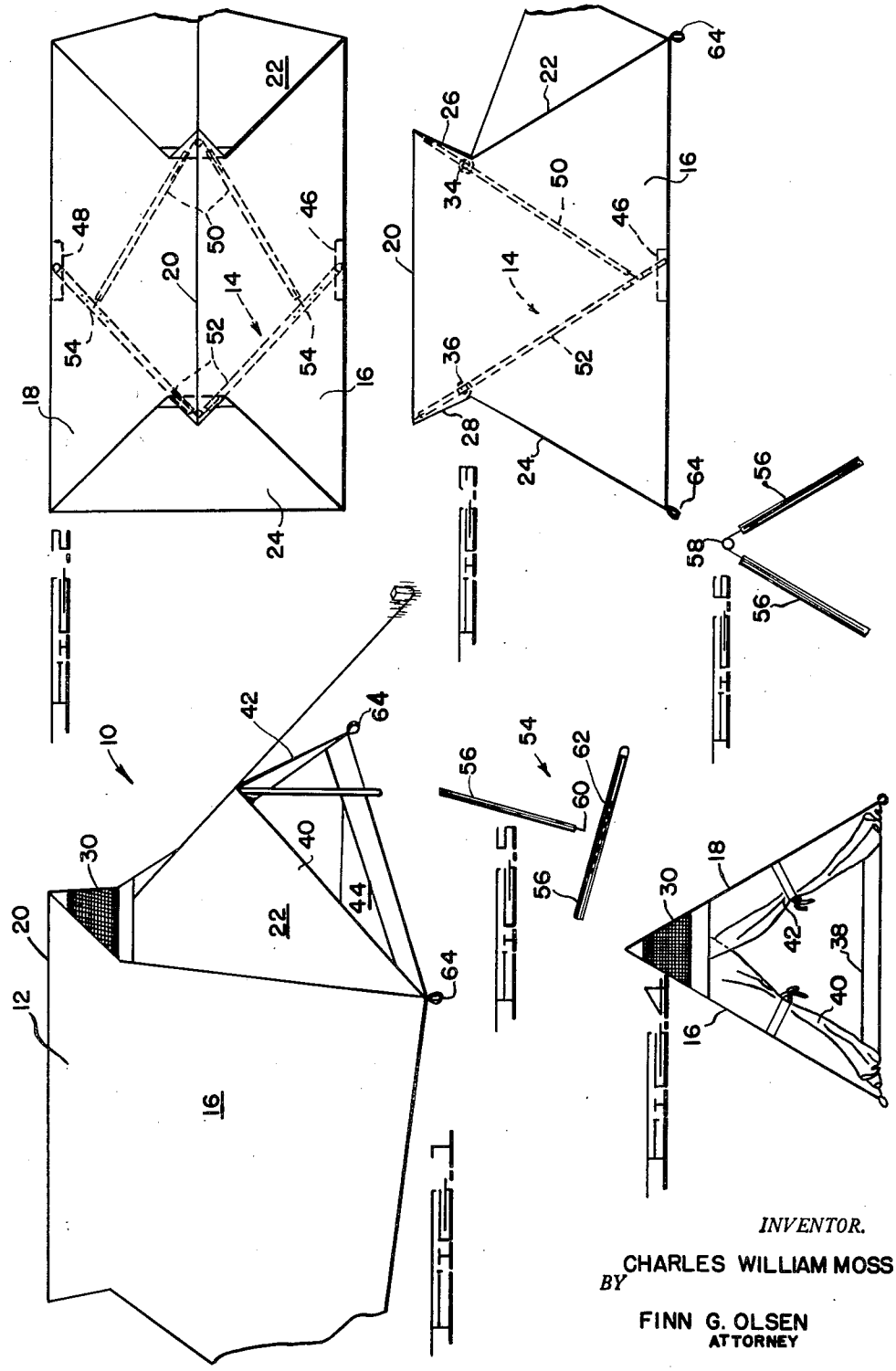

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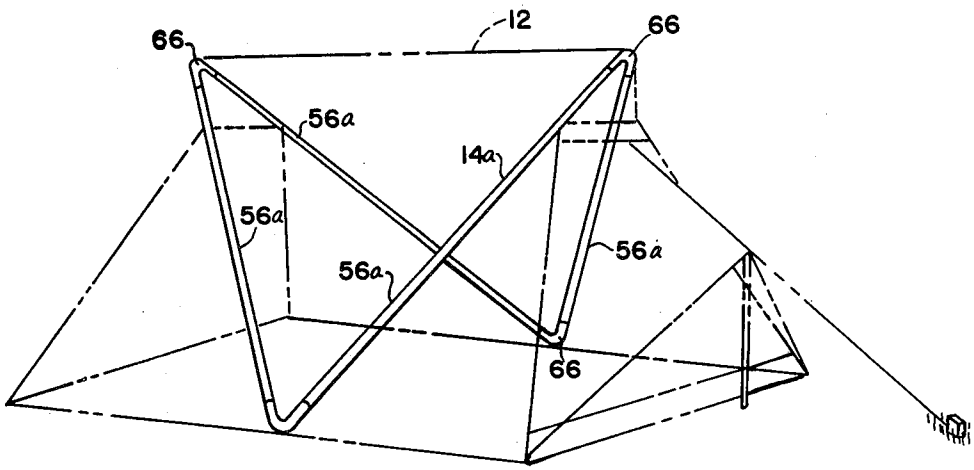
FIG. 7



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PORTABLE SHELTER

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The present invention relates to portable shelters such as tents and the like which can be easily erected and collapsed.

It is an object of the present invention to provide a portable shelter which is constructed and arranged so that it has a simple, low cost frame assembly and cover.

It is another object of the present invention to provide a portable shelter of the foregoing character wherein the frame assembly is of a simple design, easy to assemble, and which when assembled within a cover is held in its assembled position by the cover thereby eliminating the need for additional fastening means.

It is still another object of the present invention to provide a frame assembly of the foregoing character which when assembled within its associated cover has no internal obstructions to limit the use of the shelter to its occupants.

It is still another object of the present invention to provide an elongated tent-like structure which does not require lines attached to the upper portions of the cover in order to maintain the structure in its erected and distended position.

It is still another object to provide a portable shelter which has ventilation openings arranged in the cover so that rain and the like normally cannot enter the structure when in its erected position.

It is still another object of the present invention to provide a portable shelter having a frame assembly supporting a fabric cover wherein the component parts of the frame assembly can be adjusted relative to one another to assure the most satisfactory fitting of the frame assembly with respect to the cover.

It is still another object of the present invention to provide an elongated portable shelter which is characterized by the rigid construction provided by a relatively simple frame assembly.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

In the drawings:

FIGURE 1 is a fragmentary perspective view of a portable shelter embodying the present invention and showing the opening flaps in foul weather position;

FIGURE 2 is a fragmentary top plan view drawn to a reduced scale of the embodiment illustrated in FIGURE 1 with the frame assembly shown in broken lines;

FIGURE 3 is a similar fragmentary side elevation of the embodiment illustrated in FIGURE 1;

FIGURE 4 is a front elevation of the embodiment of FIGURE 1 with the flaps tied open;

FIGURE 5 is a fragmentary enlarged view showing the arrangement for adjustably connecting the frame members together;

FIGURE 6 is another fragmentary view of the frame assembly showing the manner in which the frame members are connected at their upper ends; and

FIGURE 7 is a perspective view of a portable shelter with a modified frame assembly, and with the cover being shown in phantom for the purposes of better illustrating the frame assembly.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its

application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

Referring now to the drawings, the invention will be described in greater detail. The portable shelter **10** has a cover **12** and a frame assembly **14**. The cover **12** has opposite side walls **16** and **18** which converge and are joined at the upper edge **20**. Front and rear end walls **22** and **24** are connected to the side walls **16** and **18** and converge toward one another for a limited distance and then diverge as at **26** and **28** until reaching the upper edge **20**. Thus, an overhang or an outwardly extending pocket-like formation is provided at the opposite ends of the upper edge **20**, and these overhangs have triangular shaped lower portions which have screens **30** therein to provide ventilation through the upper regions of the portable shelter **10**. For the purposes of closing these ventilation openings, interior installed rain flaps **34** and **36** shaped to cover the screens are stored on rollers, as shown. These flaps **34** and **36** can be unrolled and attached to conventional snap buttons (not shown) at the inner upper edges of the screens **30**.

The front end wall **22** has an opening **38** adapted to be covered by the flaps **40** and **42**. These flaps **40** and **42** can be tied in an open position as shown in FIGURE 4, or can be positioned in the foul weather position shown in FIGURE 1.

A bottom wall **44** is also provided which is connected to the lower edges of the side walls **16** and **18** and the end walls **22** and **24**. For purposes to be explained, material of multiple thickness may be used at **46** and **48** as shown.

The material of the cover **12** may be a woven fabric, or a nonwoven bonded fabric having a cross-laid web of threads held together by an adhesive with a cellulose coating on opposite sides of the web.

The frame assembly **14** has two inverted V-shaped frame members **50** which are adjustably connected as at **54** at their lower end portions and which have their upper ends extending into the overhangs at the opposite ends of the upper edge **20**. As can be seen bset in FIGURE 3, the inverted V-shaped frame members **50** and **52** are substantially in the planes of the lower walls of the overhangs. These planes are at an angle of approximately 60° with respect to one another and also with respect to the supporting surface.

The frame members **50** and **52** are each formed from two rigid elements, such as shown fragmentarily in FIGURE 6 at **56**, and are connected by a suitable looped wire element **58**. Thus, in effect the four rigid elements **56** form with the upper edge **20** a pair of triangles with the edge **20** forming a common base and the apexes of the triangles resting on the multilayer pads **48**. For the purpose of fitting these rigid members **56** more tightly in the pocket-like formations or overhangs at the opposite ends of the upper edge **20**, the adjustable connections **54** are provided. As seen in FIGURE 5, one of the rigid members has a pin **60** in its lower end and the other rigid member has a series of longitudinally spaced holes **62** adapted to receive the pin **60**. Moving the pin **60** upward to a higher hole **62** will have the effect of urging the upper ends of the rigid members **56** more tightly into the pocket-like formations.

As is believed understood, the frame assembly **14** does not entirely distend the cover **12**. In order to completely distend the cover **12** loops **64** are provided at each of

the corners to which stakes or other securing means can be fitted or connected.

As can be seen, the frame assembly **14** is a very simple construction which can easily be erected within the cover **12**. Furthermore, when erected there are no obstructions within the portable shelter **10** to limit the use by the occupants.

It is not essential that adjustment means **54** be used with the frame assembly **14**. A modified frame assembly **14***a* is shown in FIGURE 7 wherein the rigid members **56***a* can be held together by the small V-shaped elements **66** which fit over the ends of the rigid members **56***a*. In other respects this modification of the invention is the same as the one illustrated in FIGURES 1–6, inclusive.

Having thus described my invention, I claim:

1. A portable shelter comprising a fabric cover having a pair of side walls inclined toward one another and joined together to form an upper edge, and a pair of end walls joined to said side walls and inclined upwardly toward one another a limited distance below said upper edge and thereafter diverging from one another until reaching said upper edge so that a generally triangular shaped downwardly and outwardly facing overhang is provided at each end of said cover, and a frame assembly for supporting said cover, said frame assembly having two inverted V-shaped frame members connected together at lower portions thereof and diverging upwardly from one another at substantially the same degree that the upper portions of said end walls diverge from one another, the apexes of said inverted V-shaped frame members fitting into the corners of said cover defined by said upper edge and the triangular shaped overhangs, and means to secure to a supporting surface the four lower corners defined by the side and end walls of the cover.

2. A portable shelter as claimed in claim 1 wherein said two inverted V-shaped frame members are connected together at their respective ends.

3. A portable shelter as claimed in claim 1 wherein one of said two inverted V-shaped frame members is connected for adjustable positioning along the lower portion of the other of said two inverted V-shaped frame members.

4. A portable shelter comprising a fabric cover having a pair of side walls inclined toward one another and joined together to form an upper edge, a pair of end walls joined to said side walls and inclined upwardly toward one another a limited distance below said upper edge and thereafter diverging from one another until reaching said upper edge so that a generally triangular shaped downwardly and outwardly facing overhang is provided at each end of said cover, the upper portions of said end walls being detachably connected at their junctures with the side walls so that the triangular shaped downwardly and outwardly facing overhangs can be opened, and screens mounted in the openings in said overhangs, and a frame assembly for supporting said cover, said frame assembly having two inverted V-shaped frame members connected together at lower portions thereof and diverging upwardly from one another at substantially the same degree that the upper portions of said end walls diverge from one another, the apexes of said inverted V-shaped frame members fitting into the corners of said cover defined by said upper edge and the triangular shaped overhangs, and means to secure to a supporting surface the four lower corners defined by the side and end walls of the cover.

5. A portable shelter comprising a fabric cover having a pair of side walls inclined toward one another and joined together to form an upper edge, a pair of end walls joined to said side walls and extending upward a limited distance below said upper edge and thereabove diverging from one another until reaching said upper edge so that an overhang is provided at each end of the cover, the end wall portions in said overhangs being in planes having an included angle of approximately 60°, and a bottom wall connected to the lower edges of said side and end walls, and a frame assembly for supporting said cover, said frame assembly having two inverted V-shaped frame members connected at their lower end portions and being respectively generally in the aforesaid planes of said end wall portions, the lower ends of at least one of said frame members being supported on said bottom wall adjacent the side walls, and means at the corners of the cover defined by said side and end walls for securing the cover to a supporting surface.

6. A portable shelter as claimed in claim 5 wherein said planes are each inclined approximately 60° to said bottom wall.

7. A portable shelter as claimed in claim 5 wherein the included angle between the legs in each V-shaped frame member is approximately 60°.

8. A portable shelter comprising a fabric cover having a pair of side walls inclined toward one another and joined together to form an upper edge, a pair of end walls joined to said side walls and extending upward a limited distance below said upper edge and thereabove diverging from one another until reaching said upper edge so that an overhang is provided at each end of the cover, and a bottom wall connected to the lower edges of said side and end walls, and a frame assembly for supporting said cover, said frame assembly having rigid members extending respectively from said bottom wall adjacent the side walls to the apexes of said overhangs, and means at the corners of the cover defined by the side, end and bottom walls for securing said cover to a supporting surface.

9. A portable shelter comprising a fabric cover having a pair of side walls inclined toward one another and joined together to provide an upper edge, a bottom wall connected to the lower edges of said side walls, a pair of end walls joined to said side walls and extending upward a limited distance below said upper edge and thereabove diverging from one another until reaching said upper edge to provide an overhang at each end of the cover, and a frame assembly for supporting said cover, said frame assembly including two rigid members extending respectively from the apex of one of said overhangs to said bottom wall adjacent said side walls and substantially midway between said end walls, two other rigid members extending from the apex of the other of said overhangs to the lower end portions respectively of the first named two rigid members and adapted to be attached selectively at longitudinally spaced portions of the said first named two rigid members, said first named rigid members being in a plane at an acute angle to a plane containing said second named rigid members so that moving the lower ends of said second named rigid members upward to new locations of attachment on said first named rigid members will advance the upper ends of said second named rigid members further into said other overhang.

10. A portable shelter comprising a distensible fabric cover having a continuous lower edge adapted to rest on a supporting surface and a straight closed upper edge with aligned outwardly extending pocket-like formations at each end of said upper edge, and a frame assembly for distending said cover comprising two rigid members connected at their lower end portions and adapted to be supported inside said cover adjacent said continuous lower edge by said supporting surface and having their upper ends inserted respectively into said pocket-like formations, two other rigid members similarly constructed and arranged to the first named two rigid members but with their connected lower end portions on a diametrically opposite side within said cover so that two triangular structures are formed each including two connected members and the straight upper edge, and means for securing other portions of said continuous lower edge to said supporting surface.

11. A portable shelter as claimed in claim 10 wherein

the lower sides of said pocket-like formations have screens therein.

12. A portable shelter as claimed in claim 10 wherein said cover has an opening in the side thereof with flaps adapted for closing said opening.

13. A portable shelter comprising a distensible fabric cover having a continuous lower edge and a straight closed upper edge terminating in outwardly extending pocket-like formations, and a frame assembly for distending and supporting said cover comprising two rigid members adjustably connected at their lower end portions and adapted to be supported inside said cover adjacent said continuous lower edge by said supporting surface and having their upper ends inserted respectively into said pocket-like formations, two other rigid members constructed and arranged similarly to the first named two rigid frame members but with their lower end portions on an opposite side within said cover so that two triangular structures are formed with said upper edge being in tension and corresponding to the common base of both triangular structures, the adjustable connection at

the lower end portions of the two sets of members providing means for varying the tension of said upper edge, and means for securing other portions of said continuous lower edge to said supporting surface.

14. A portable shelter as claimed in claim 13 wherein each of the adjustable connections at the lower end portions of the two sets of members comprise a series of holes spaced longitudinally on one of the associated frame members and a pin extending from the end of the other of the associated members and adapted to fit selectively into said holes.

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