

April 18, 1961

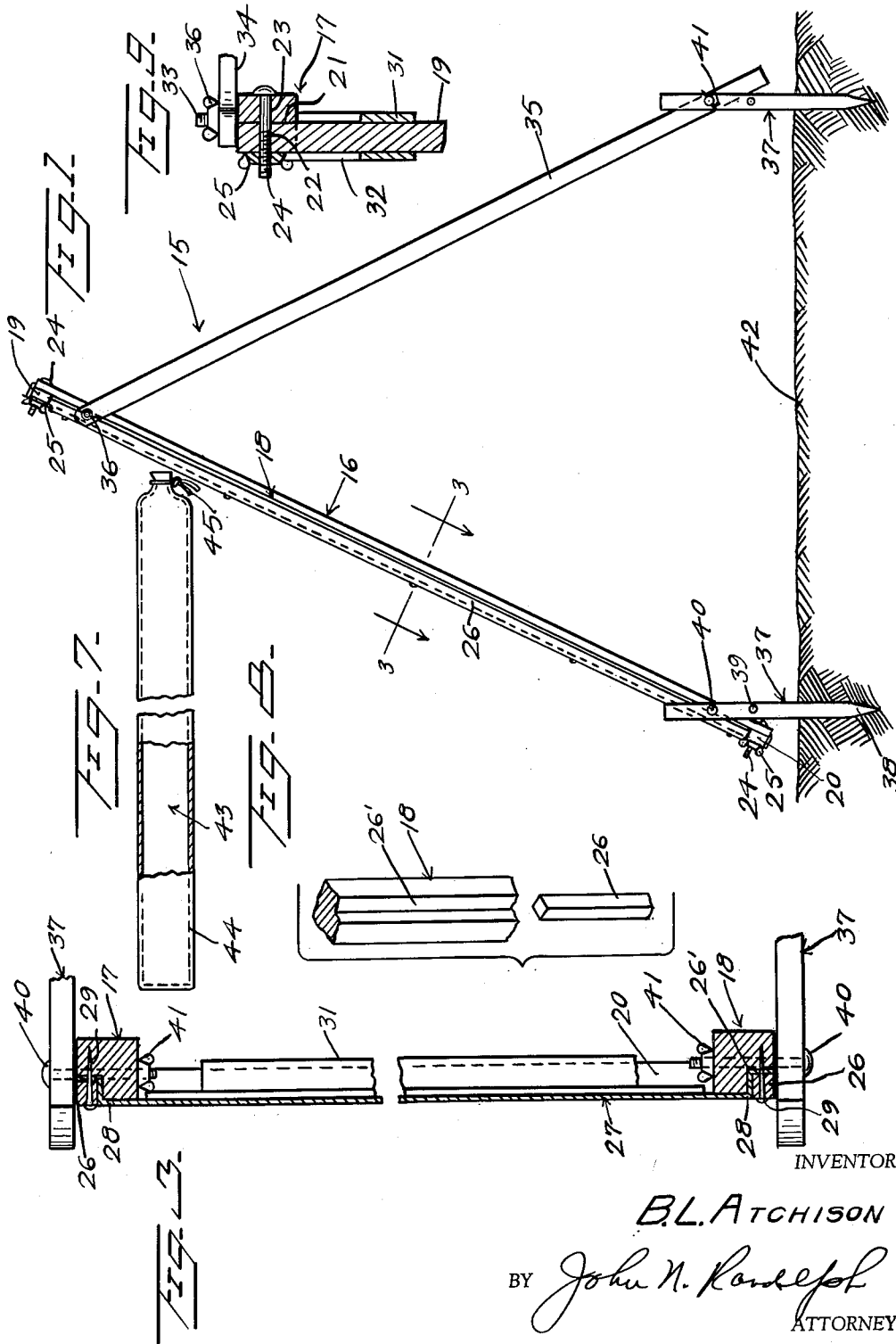
B. L. ATCHISON

2,980,124

PORTABLE SHELTER

Filed Jan. 6, 1960

3 Sheets-Sheet 1



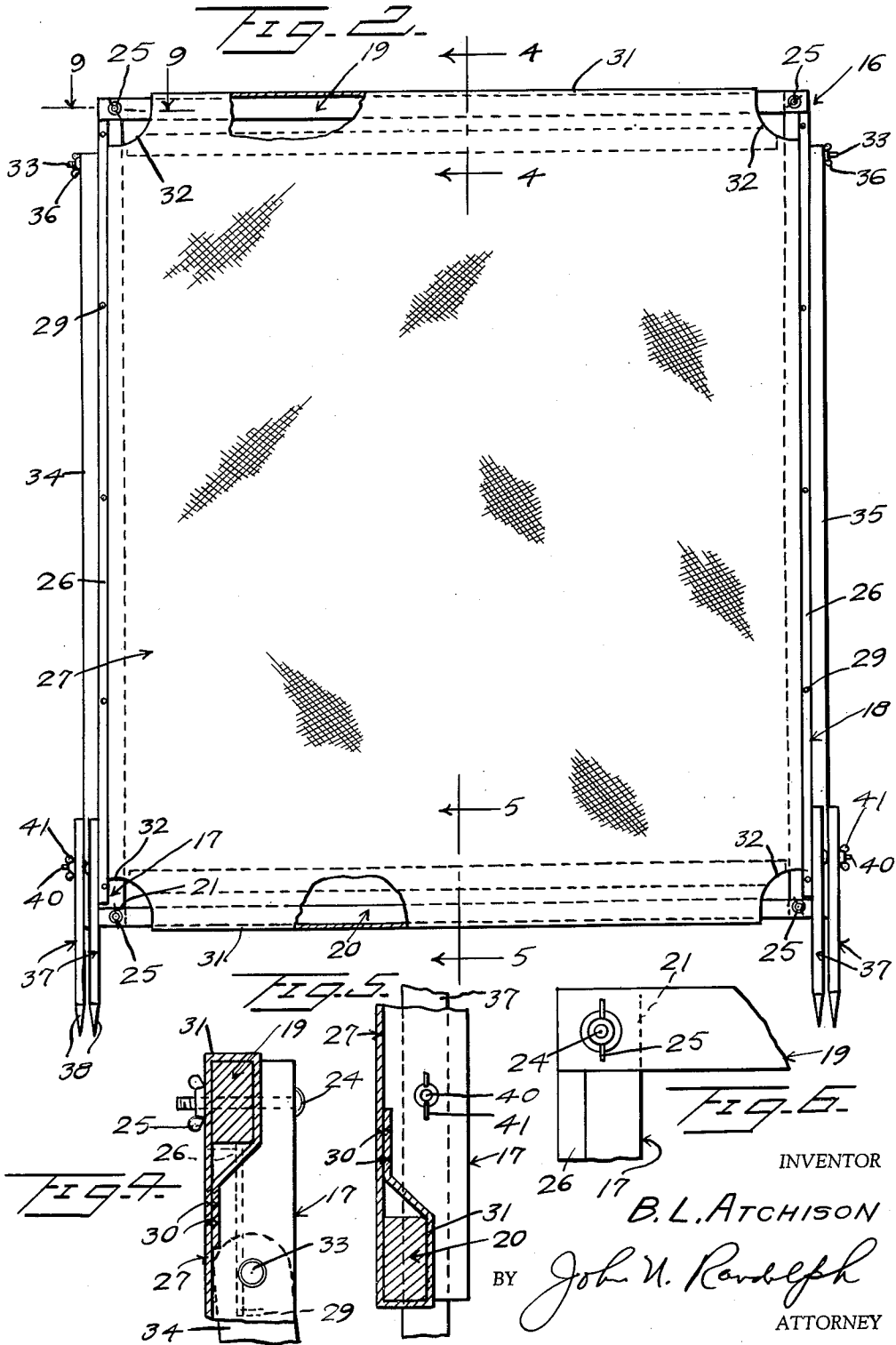
April 18, 1961

B. L. ATCHISON
PORTABLE SHELTER

2,980,124

Filed Jan. 6, 1960

3 Sheets-Sheet 2



INVENTOR

B. L. ATCHISON

BY

John U. Randolph
ATTORNEY

April 18, 1961

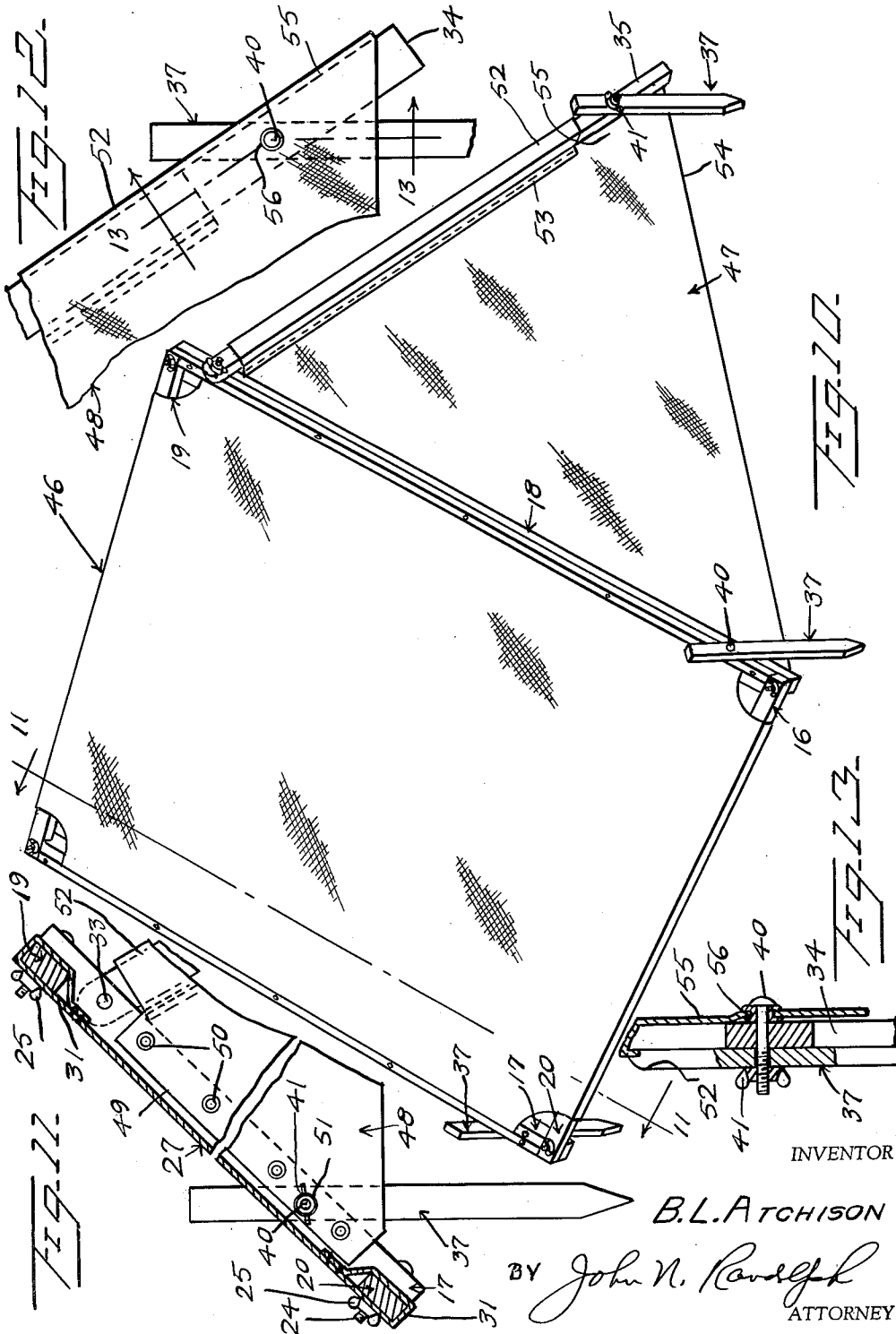
B. L. ATCHISON

2,980,124

PORTABLE SHELTER

Filed Jan. 6, 1960

3 Sheets-Sheet 3



1

2,980,124

PORTABLE SHELTER

Byron L. Atchison, Box 155, Kanopolis, Kans.

Filed Jan. 6, 1960, Ser. No. 778

3 Claims. (Cl. 135—1)

This invention relates to a portable shelter of extremely simple construction which may be quickly and easily erected to afford protection to the user against sun, wind or precipitation.

Another object of the invention is to provide a portable shelter which is capable of being quickly dismantled and packed so as to occupy a minimum of space when transported or stored.

A further object of the invention is to provide a portable shelter which readily adapts itself for use by children in yards where shade is not available for protection from sun or wind, and which also may be conveniently utilized in lieu of a tent or other enclosure on hunting or camping trips.

A further object of the invention is to provide a portable shelter which may be readily produced in camouflage colors and is well adapted for use as a blind for hunting, such as by duck hunters.

Still a further object of the invention is to provide a portable shelter having novel means for anchoring the shelter to the ground when set up for use.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, illustrating presently preferred embodiments thereof, and wherein:

Figure 1 is a side elevational view showing the portable shelter, in one preferred embodiment thereof, set up for use;

Figure 2 is a front elevational view or plan view, partly broken away, showing certain of the parts collapsed, preparatory to dismantling the shelter;

Figure 3 is a fragmentary cross sectional view, on an enlarged scale, taken substantially along a plane as indicated by the line 3—3 of Figure 1;

Figures 4 and 5 are enlarged fragmentary longitudinal sectional views, taken substantially along planes as indicated by the lines 4—4 and 5—5, respectively, of Figure 2;

Figure 6 is an enlarged elevation or plan view showing one corner of the shelter frame;

Figure 7 is a fragmentary plan view, partly broken away, showing the portable shelter packed for storage or transportation;

Figure 8 is an exploded fragmentary perspective view of a part of one of the side frame members;

Figure 9 is an enlarged fragmentary sectional view, taken substantially along a plane as indicated by the line 9—9 of Figure 2, but showing a portion of the brace leg extended as in Figure 1;

Figure 10 is a front perspective view of a modification of the portable shelter;

Figure 11 is an enlarged fragmentary longitudinal sectional view thereof, taken substantially along a plane as indicated by the line 11—11 of Figure 10;

Figure 12 is a fragmentary elevational view looking toward the inner side of the lower portion of the brace leg shown in Figure 11, and

2

Figure 13 is a fragmentary sectional view taken substantially along the line 13—13 of Figure 12.

Referring more specifically to the drawings, and first with reference to Figures 1 to 9, the portable shelter, designated generally 15, as disclosed in these views, includes an elongated rectangular frame 16 composed of corresponding side members 17 and 18 and corresponding end members 19 and 20.

The frame members 17—20 are each preferably formed of wood. The corresponding side frame members 17 and 18 are preferably square in cross section and the end frame members 19 and 20 are each preferably of a width equal to the width or thickness of the side members and of a thickness approximately equal to one-half the width thereof. The side members are provided with corresponding notches 21 in the ends thereof and which open outwardly of front sides of said side members. Said notches 21 are of a width, measured lengthwise of the side members, equal to the width of the end members, and are of a depth equal to the thickness of the end members. The end member 19, constituting the top of the frame 16, has its end portions fitting snugly in the notches 21 of corresponding upper ends of the side members. The end portions of the end member 19 have bores 22 which align with bores 23 in the upper ends of the side members 17 and 18 to receive headed bolts 24 which extend forwardly therethrough. Wing nuts 25 threadably engage the bolts 24 and bear against the exposed front side of the top frame member 19 for securing the ends of the member 19 immovably to the upper ends of the side members 17 and 18. The other lower ends of the side members 17 and 18 have identical notches 21 in which the ends of the lower frame member 20 are snugly received and detachably and rigidly secured by additional bolts 24 and wing nuts 25.

Each of the frame sides 17 and 18 has a strip 26 of square cross section cut therefrom and which is formed partially by the front face and outer side face of the side member, as best illustrated in Figure 8. The width or thickness of the strip 26 is approximately equal to one-third the width of any face or side of the side member and is of a length to form a groove 26' which extends between the two notches 21 of said side member. The frame 16 is provided to support an extended strip of fabric, preferably canvas, designated generally 27, which is of a width slightly greater than the length of the end frame members 19 and 20. The side edge portions 28 of the canvas piece 27 extend across the front faces of the side members 17 and 18, downwardly into the grooves 26' and across the bottoms of said grooves 26'. The edge portions 28 are secured to the bottom portions of the grooves 26' by headed nails or other driven fastenings 29. The strips 26 are then replaced in the grooves 26', which are thus lined by the canvas edge portions 28, and said strips 26 are secured in the grooves 26' by additional headed fastenings 29. The side edge portions 28 are thus securely anchored to the side frame members 17 and 18, and the canvas piece 27 is of a width so that it is stretched taut transversely when the frame 16 is fully assembled. The end portions of the canvas piece 27 are turned rearwardly and back upon themselves and secured by stitching 30 to form sleeves 31 at the two ends of the canvas piece. The corners 32 of the canvas piece 27 are cut away and rounded as seen in Figure 2 so that the length of the side edge portions 28 is less than the length of the anchoring strips 26. The length of the sleeves 31 is less than the length of the frame end members 19 and 20 and less than the spacing between the side members 17 and 18. The spacing between the outermost portions of the two sleeves 31 is approximately equal to the length of the side frame members 17 and 18. Before the end frame members 19 and 20 are secured to

the notches 21, as previously described, said frame members are inserted lengthwise through the sleeves 31 and are then secured in the notches 21 by the fastenings 24, 25 for holding the canvas piece 27 stretched taut in the assembled frame 16, as illustrated in Figures 2 and 3.

A headed bolt 33 extends outwardly through each side frame member 17 and 18, near to but spaced from the notch 21 in the upper end thereof, and between the back face of the side member and its groove 26'. Each bolt 33 also extends through an opening in an upper end of a rigid brace leg. The brace legs 34 and 35 are thus swingably connected at their upper ends to upper portions of the outer sides of the side frame members 17 and 18, and wing nuts 36 engage the outer threaded ends of the bolts 33 and bear against the outer sides of the upper ends of the braces 34 and 35. The braces 34 and 35 are each of a length preferably slightly less than the length of the side frame members 17 and 18 and are also preferably formed of wood and of a cross sectional size corresponding to the cross sectional size of the end frame members 19 and 20.

The portable shelter 15 includes four corresponding anchoring stakes 37 each having a pointed end 38 and at least one opening 39, near its other blunt end. The stakes 37 are preferably about a foot in length and are preferably rigid and formed of metal. Headed bolts 40 extend through the openings 39 of two of the stakes 37 and thence inwardly through transverse bores of the side frame members 17 and 18, near their lower ends and behind their grooves 26'. Wing nuts 41 threadedly engage the inner ends of the bolts 40 and bear against adjacent inner sides of the frame members 17 and 18, as seen in Figure 3, for securing the two stakes 37 to said frame members at an angle to the plane of the frame, as seen in Figure 1. The other two stakes 37 are similarly secured by bolts 40 and wing nuts 41 to the braces 34 and 35, near the lower ends of said braces, as seen in Figures 1 and 2, except that said last mentioned bolts 40 extend outwardly through the braces and stakes and the wing nuts 41 are mounted on the outer sides of the stakes. The last mentioned stakes are also clamped at an angle to the braces and substantially parallel to the first mentioned stakes, as seen in Figure 1.

The braces 34 and 35 are positioned at a desired angle relative to the plane of the frame 16, after which the four anchoring stakes 37 are driven into the ground for supporting the shelter 15 with the frame 16 at an incline, as seen in Figure 1. Obviously, the incline of the frame 16 may vary depending upon the angle at which the braces 34 and 35 are set relative thereto. With the portable shelter 15 erected, as illustrated in Figure 1, the canvas piece 27 and frame 16 will afford a good shelter from the wind or sun, and also a protection against rain or snow, especially if the frame 16 is set at a greater incline. The anchoring stakes 37 will prevent the shelter being blown over. The braces 34 and 35 are preferably somewhat shorter than the frame 16. It will be obvious that the over-all size of the parts forming the shelter 15 can be varied considerably.

It will be readily apparent that the assembled shelter 15 can be quickly erected by driving the stakes 37 into the ground to a desired depth. In Figure 1, the shelter 15 is shown with the lower end of the frame 16 and the lower ends of the braces 34 and 35 disposed slightly above the level of the ground 42; however, the stakes 37 can be driven into the ground so that the lower end of the frame 16 will be in contact with the ground, if desired. After the stakes 37 have been withdrawn from the ground, the nuts 36 and 41 can be loosened so that the braces 35 can be swung to positions along the frame sides 17 and 18, respectively, and the stakes 37 can be swung to positions substantially parallel to the plane of the frame 16. The nuts 25 can then be removed so that the end frame members 19 and 20 can be disengaged from the bolts 24 and then slidably disengaged from the

sleeves 31. The dismantled frame members 19 and 20 can then be placed against one of the frame sides, after which the frame and braces can be rolled tightly into the canvas piece 27 and the roll 43 which is thus formed can be placed in a long sack 44 for convenient storage or transportation. The open end of the sack 44 can be closed by a conventional tie cord 45, as seen in Figure 7.

It will thus be apparent that a novel lean-to type shelter 15 has been provided which may be quickly and easily erected or as quickly and easily dismantled. It will also be apparent that the erected shelter 15 will afford good protection against sun, wind and precipitation.

Figures 10 to 13 illustrate a slight modification of the shelter, designated generally 46, and which includes all of the parts previously described of the shelter 15 plus corresponding shelter sides 47 and 48, each of which is substantially triangular in shape. Each shelter side 47 and 48 has a front edge 49 which is disposed along the inner side of one of the frame sides. The front edge 49 of the shelter side 48, as seen in Figure 11, is disposed along the inner side of the frame side 17 and is secured detachably thereto by conventional snap fasteners 50, from beneath and adjacent the bolt 33 of said frame side, to below the bolt 40 thereof. The front edge of the other shelter side 47 is similarly secured to the other frame side 18. The front edge portion 49 of each shelter side is provided near its lower end with a grommet 51 through which the bolt 40 extends. The back edge of each shelter side has a sleeve 52, formed by stitching 53, extending from the upper end of said back edge, but terminating substantially above the bottom edge 54 of the shelter side. The brace 35 extends loosely and detachably through the sleeve 52 of the shelter side 47 and the brace 34 extends through the sleeve 52 of the shelter side 48. The lower ends of the sleeves 52 terminate above the fastenings connecting the stakes 37 to said braces. However, each shelter side has a rear edge portion 55 which extends below its sleeve 52 along the inner side of its brace 34 or 35, and which has a grommet 56 formed therein. The bolts 33 extend through the grommets 56, as seen in Figure 13.

The braces 34 and 35 can be extended relative to the frame 16 to stretch the shelter sides 47 and 48 taut, after which the four anchoring stakes 37 are driven into the ground, as previously described. The shelter 46 will provide a three sided lean-to type protection which will afford considerable protection to hunters and campers from wind, rain and snow, and which can be readily used instead of a tent or other enclosure. The shelter 46 can also be constructed in a camouflage color so that it can be readily utilized as a blind, such as a duck blind for hunters. It will be readily apparent that the shelter sides 47 and 48 can be readily removed from the frame 16 and braces 34 and 35, when the use thereof is not desired. The shelter 46 can also be dismantled and rolled, as previously described, for storage or transportation in a sack such as the sack 44.

Various other modifications and changes are contemplated and may be resorted to, without departing from the function or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. A portable lean-to-type shelter frame comprising a rectangular frame composed of rigid side members and rigid end members, means adapted to anchor side edge portions of a fabric piece to said side frame members, said end members being adapted to extend detachably through sleeve portions constituting the ends of said fabric piece, means detachably connecting said end members to the side members at the corners of the frame for stretching the fabric piece within the assembled frame, a pair of rigid brace members, means swingably connecting upper ends of said brace members to said side members adjacent an end of the frame constituting an upper end thereof, a pair of frame anchoring stakes, means

adjustably clamping said frame anchoring stakes to the outer sides of said side members adjacent the other lower end of the frame, a pair of brace anchoring stakes, and means adjustably clamping said brace anchoring stakes to the other lower ends of said braces, said frame anchoring stakes and brace anchoring stakes being adapted to be driven into the ground in substantially upright positions for positioning the frame and braces in upwardly converging relation to one another.

2. A portable lean-to-type shelter frame as in claim 1, and means adapted to detachably connect triangular shaped fabric shelter sides to said side members and braces.

3. A portable lean-to-type shelter frame as in claim 1, said side members having end portions provided with notches in which the ends of said end members snugly

fit, and nut and bolt fastenings detachably securing the end members to the side members and cooperating with said notches to maintain the frame rigid.

References Cited in the file of this patent

UNITED STATES PATENTS

415,638	Hawks	Nov. 19, 1889
1,538,064	Skog	May 19, 1925
1,960,001	Davies	May 22, 1934
2,290,786	Varady	July 21, 1942
2,755,009	Parker	July 17, 1956
2,816,559	Kuhar	Dec. 17, 1957
2,827,065	Chapron	Mar. 18, 1958
2,898,923	Smiley	Aug. 11, 1959