

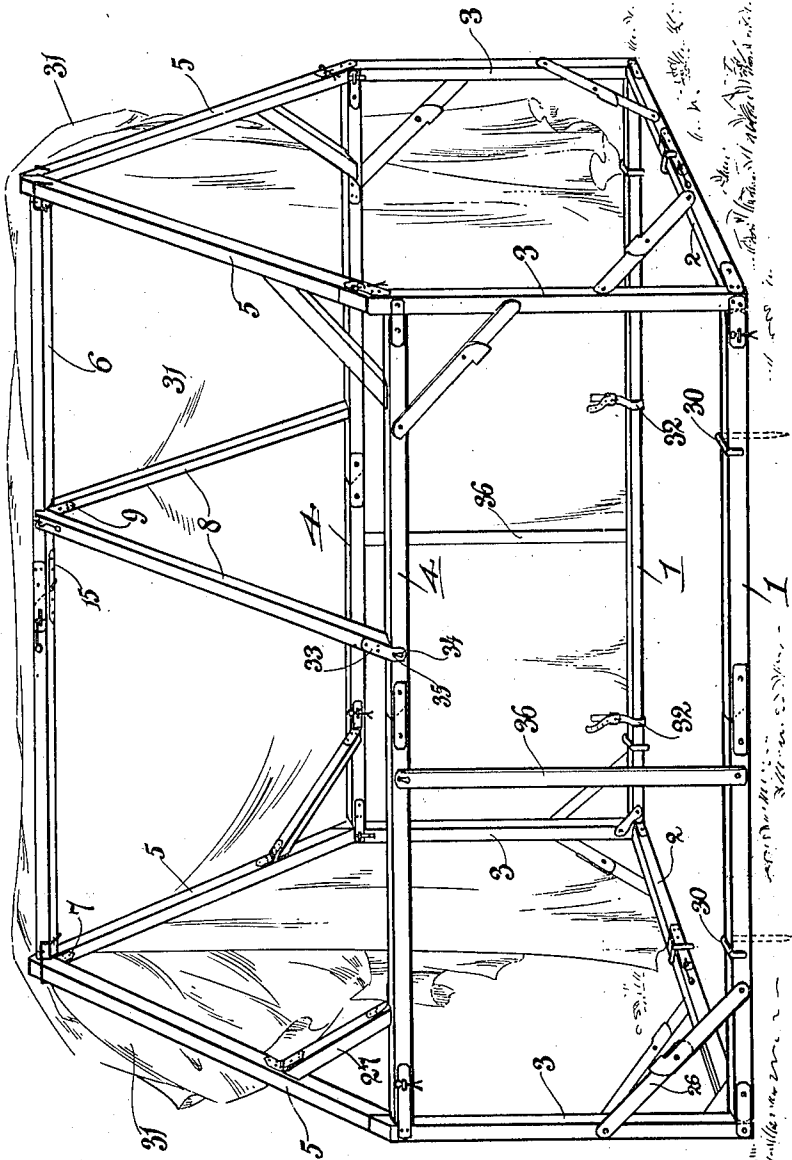
J. L. LINVILLE.
TENT AND PORTABLE AND KNOCKDOWN HOUSE.
APPLICATION FILED MAR. 28, 1917.

1,291,947.

Patented Jan. 21, 1919.

2 SHEETS—SHEET 1.

Fig. 1.



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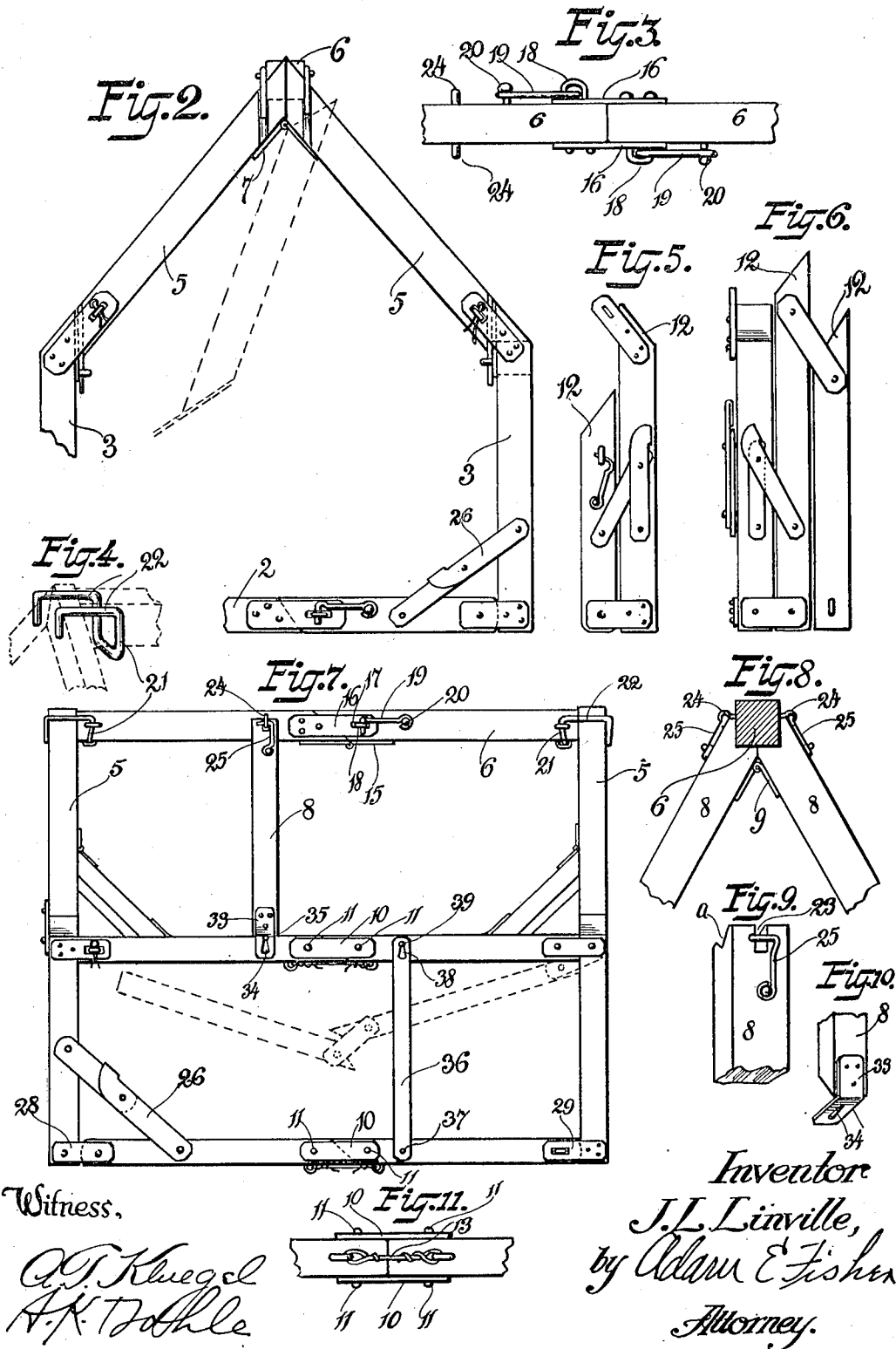
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UNITED STATES PATENT OFFICE.

JOHN LEWIS LINVILLE, OF ALTURAS, CALIFORNIA.

TENT AND PORTABLE AND KNOCKDOWN HOUSE.

1,291,947.

Specification of Letters Patent.

Patented Jan. 21, 1919.

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To all whom it may concern:

Be it known that I, JOHN LEWIS LINVILLE, a citizen of the United States, residing in the town of Alturas, county of Modoc, and State of California, have invented certain new and useful Improvements in Tents and Portable and Knockdown Houses, of which the following is a specification.

My invention relates to improvements in tents and portable and knock-down houses and more particularly to knock-down and folding frames or supports for canvas tents or houses.

Portable shelters in various forms and construction have been utilized for many years to protect man from the elements, especially in wild countries, and the chief problem has been to provide an article of this character possessing strength, simplicity and durability, combined with light weight, ease and convenience in setting up or taking down, and great compactness when collapsed.

Canvas tents in numerous shapes have also been used, being enacted with poles and ropes in a variety of different ways to form temporary shelters.

Likewise small portable houses consisting of a flexible covering of canvas or other suitable material and a frame upon which the covering is arranged and supported, have been devised and employed as summer cottages and for like purposes.

My invention especially relates to a tent, house or shelter of the last mentioned type and to the frame for the same, which is made up of a series of members so connected that they can be folded together to form a very compact bundle when not in use.

The frame sections are in part detachably connected or in part hinged together or articulated and can be easily and quickly and conveniently opened up, fitted together, and erected to form a skeleton supporting frame for the canvas exterior without using tools or requiring fasteners.

The objects of my invention are to make a supporting frame that can be erected or taken down by one person without tools and easily and conveniently within a brief period of time, to so construct and connect the members of the frame that they can be folded together in a very compact bundle

when the tent or house is dismounted, and to so brace and strengthen the frame when erected in supporting position that a strong, stiff, durable and practically non-breakable skeleton is secured which forms an ideal support for the canvas or covering.

The above and other objects I accomplish as hereinafter set forth in the following description and particularly pointed out in the appended claims, reference being had to the accompanying drawings in which an embodiment or adaptation of my invention is illustrated.

In the drawings:

Figure 1 represents a perspective view of my improved tent or portable house, showing the canvas covering thrown back to disclose the construction of the supporting frame, consisting of sectional ridge pole, sectional plates and sills, integral rafters, posts and braces.

Fig. 2 represents an end view of the supporting frame erected in supporting position, showing the method of assembling the rafters, posts, sills and braces, and showing in dotted lines a partially folded rafter.

Fig. 3 is an enlarged fragmentary view of the ridge pole, illustrating the joint or connection between the sections thereof.

Fig. 4 is an enlarged, detached, detail perspective view of one of the two way hooks for detachably securing the ends of the ridge pole to the gables.

Fig. 5 is an enlarged detached view of one of the posts and a portion of one of the end sills in folded position.

Fig. 6 is an enlarged detached view taken at substantially a right angle to the view shown in Fig. 5, and showing one of the posts and one of the side sills folded together.

Fig. 7 is a side elevation of the frame in erected position, showing by dotted lines, one of the plates in partially collapsed position.

Fig. 8 is a vertical section taken transversely through the ridge pole, and through the upper portion of two of the abutting central rafters.

Fig. 9 is a fragmentary perspective view of the upper end of one of the rafters.

Fig. 10 is a fragmentary perspective view of the lower end of one of the rafters.

Fig. 11 is a fragmentary detail to illus-

trate the manner in which the sections of the frame members are fastened together at the joints.

In referring to the embodiment or adaptation of my invention shown in the accompanying drawings in detail like numerals indicate corresponding parts.

My improved tent or house is designed to have the lightness and portability of a tent and at the same time the comfort, convenience, weather-resisting qualities and staunchness of a house.

Unlike a tent, it is erected without side or guy ropes, without a ridge rope and without stakes, with the exception that the sills of the frame may be fastened or secured to the ground by stakes or other suitable fasteners if desired to positively anchor them in place.

When taken down or dismantled, the frame can be folded in a very compact bundle, and further, as it is constructed of quite light but strong material, both the tent covering and its frame can be packed together and in the small one-man size, can be readily carried upon the back of a prospector, trapper or woods or plains traveler.

The frame can be opened up and erected very quickly when desired, in fact, far more quickly than an ordinary tent, and forms a stronger, stancher, stiffer and more desirable habitation than any of the usual forms of tent.

My improved supporting frame as illustrated consists of a series of members or sections, some of which are in articulated parts and others of which are detachably connected so that they may be taken down and folded together in a compact mass.

In the specific embodiment shown in Fig. 1, the frame comprises, when opened out and erected, a number of horizontal, vertical and slanting or diagonally extending members which are arranged in a skeleton form and traced to form a stiff, practically rigid truss frame.

The portable house as shown is of a walled structure having a gable roof in the form of an inverted V and vertical side and end walls which are in the form of a rectangle.

The sills of the frame, it will be noted as shown in Fig. 1, comprise two longitudinal sills 1 which are in parallel separated position and two transverse sills 2 which are also in parallel separated arrangement extending at right angles to the longitudinal sills 1 and having their extremities connected to the ends of said longitudinal sills.

Posts 3 extend vertically upward from each of the four corners of the sills and horizontal plates 4 extend between the posts and are connected at their ends to the posts.

Preferably I employ but two plates 4 which extend parallel to each other and

longitudinally of the frame. The gable or roof supporting position of the frame consists of two slanting end supports, each having rafters 5 arranged in pairs and a ridge or center member 6 mounted at the apex of the end supports.

As shown, the members 5 are connected together at their upper extremities by a hinge 7 and are suitably fastened at their juncture to the ridge or center member 6 substantially as shown in Figs. 1, 6 and 7.

Besides the end supports, an intermediate support may be employed to so stiffen and reinforce the roof which comprises two rafters 8 joined together at their upper extremities by a hinge 9 and mortised out at *a* to receive and fit upon the ridge pole 6 substantially as shown in Figs. 1, 8 and 9.

The longer members or sections of the frame may be made in articulated or hinged together parts so that they can be readily folded.

Preferably I employ at the majority of the joints a link hinge 10 in the form of an elongated strip of suitable metal which is pivoted at each end to one of the parts of the members by a pivot pin 11 so that the two may be folded together substantially as indicated in Fig. 6 and to provide a strong, unyielding, non-sagging joint I bevel the adjacent ends 12 of the parts. A suitable fastening means, for instance the wire 13, having its opposite ends bent and twisted around hooks 14, see Fig. 11, is utilized to secure the parts in their extended supporting condition.

The parts of the sills and plates 1 and 4 are connected in this manner in the adaptation or embodiment shown, while the parts of the ridge or center member 6 are joined by a hinge 15 of ordinary type which is seamed to the undersurface of the parts of the same.

To maintain the ridge pole 6 in supporting position with its parts in horizontal alignment, I prefer to attach a metal strip 16 rigidly to one part with an end projecting beyond the end of the part and to provide said projecting end with a slot 17 through which an eye 18 projecting laterally from the other part fits.

A hook 19 is pivoted at one end to the last mentioned part by a pivot 20 and has a bent terminal at the opposite end which can be inserted through the eye to lock the strip upon the eye.

Similar fastening means is also shown in Figs. 1 and 2 for the transverse sills 2 and for detachably connecting the upper ends of the posts 3 to the rafters 5.

The opposite ends of the ridge or center member are detachably locked in abutting position against the sides of the apices of the rafters 5 by a peculiar form of bent wire fastener, shown principally in Fig. 4 which

consists of a middle portion 21 which fits around the two sides and bottom of the ridge member and end portions 22 which extend horizontally outward and then bend downward, hooking over the diagonal members. This fastening may be referred to as a two way hook.

When an intermediate support for the roof is employed, I prefer to cut a slot 23 in the upper end of each member 8 through which an eye 24 extending laterally from the ridge member can be fitted and to provide a pivotal hook 25, similar to the hook 19, for engaging in said eye and locking the members 8 to the ridge or center member.

To stiffen the frame in its erected position, I prefer to extend diagonal braces between horizontal and vertical members. These braces may be in the form shown at 26 with two pivotally connected portions, or they may be in one rigid piece as shown at 27 in Fig. 1.

The two portion brace 26 is arranged to fold together with the members and parts, see Figs. 5 and 6, while the one piece brace is hinged to one member and detachably connected to the other.

The sills of the frame are hinged together at one end by a link hinge 28 and detachably secured together at the opposite end by a strip 29 corresponding to the hasp-like fastening 16.

When erected in supporting position, the frame may be fastened in place upon the ground by hook stakes 30, which are driven into the ground and have bent upper portions which hook over the bottom members as shown in Fig. 1.

The canvas covering 31 for the frame may be constructed in any desired form and is adapted to be pulled over the frame and fastened in place by straps 32, which are looped around the sills, drawn taut and buckled.

To detachably fasten the lower ends of each of the members 8 to the members 4, I preferably rigidly fasten the upper portion of a bent strip 33 to the lower extremity of the member 8 and form a tapering slot 34 in the lower projecting portion of said strap, in which a pin 35 projecting from the member 4 is adapted to fit. This fastening may be referred to as a hasp-like fastening.

The sills 1 may be connected to and stiffened at an intermediate point if desired, by vertical braces 36, which are pivotally fastened at their lower ends to the sills 1 by a pivot pin 37 and are provided with tapering slots 38 in their upper portions in which pins 39 extending from the plates 4 are inserted and locked as shown in Figs. 1 and 7.

My improved supporting frame can be easily and quickly erected by anyone with-

out the use of tools, and when in supporting position provides a stiff, strong and rigid truss frame for the outer covering.

To dismount, take down and disassemble the frame, the various detachable fastenings are unlocked, the members separated and the several hinged together parts are folded into a compact bundle around which the outer covering is wrapped.

The various members are made as light as possible consistent with the necessary strength, the metal connections, fasteners, etc., are of galvanized iron or other suitable metal, and the canvas covering is waterproofed or made of any desirable waterproof material.

While I have described in the foregoing specification adaptations or embodiments of my invention, it should be understood that the structural parts thereof may be varied, changed, modified or altered, or one or more may be omitted or dispensed with without departing from the spirit of my invention as fairly defined in the following claims, or as may be imparted thereto by invoking the doctrine of equivalents.

Having thus described my invention, what I claim to be new and patentable is:

1. In a knock-down house, a sectional ridge pole, sectional plates and sectional sills, and integral rafters, integral posts and integral braces; the gable rafters being beveled to meet at the two opposite ends of the ridge pole, and beveled to meet the plates, and the central rafters being beveled and notched to meet and support the ridge pole, and beveled to meet the plates; hasp-like fastenings to join the sections of the ridge pole, the central rafters to the ridge pole and the plates, and the plates and the sills to the posts; two-way hooks to join the ends of the ridge pole to the gable rafters; and link hinges to join the sections of the plates and the sills.

2. In a knock-down house, a sectional ridge pole, sectional plates and sectional sills; integral rafters, integral posts, and two-piece tension braces; the gable rafters being beveled to meet at the two opposite ends of the ridge pole, and beveled to meet the plates, and the central rafters being beveled and notched to meet and support the ridge pole, and beveled to meet the plates; hasp-like fastenings to join the sections of the ridge pole, the rafters to the ridge pole and the plates, and the plates and the sills to the posts; said tension braces being hinged centrally and having pivotal connection at the corners with said sills, plates and posts.

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