

No. 833,411.

PATENTED OCT. 16, 1906.

J. W. ORMSBY.

TENT.

APPLICATION FILED JUNE 5, 1905.

4 SHEETS—SHEET 1.

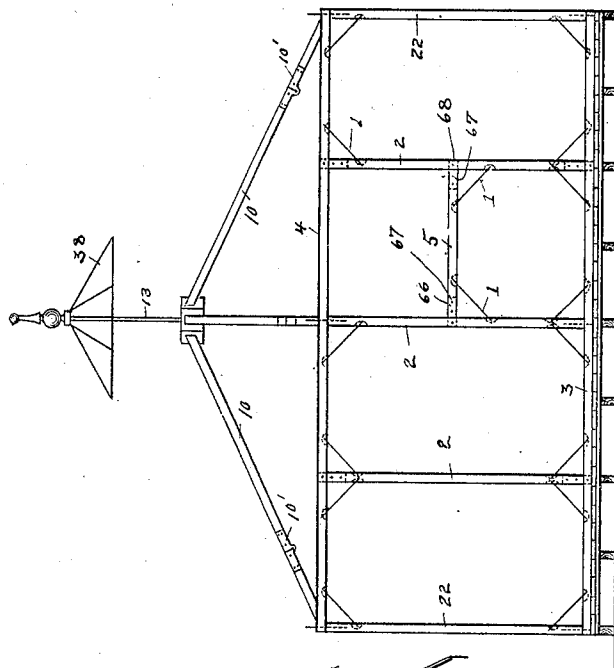


Fig. 2.

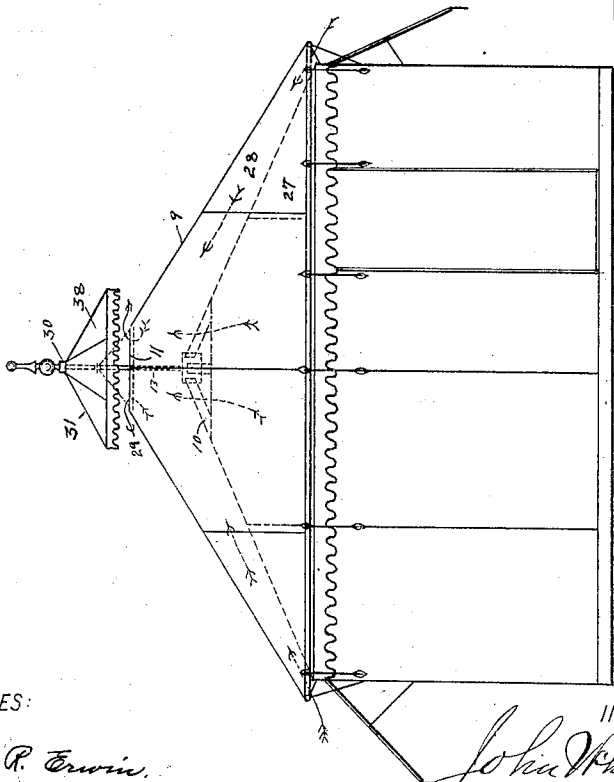


Fig. 1.

WITNESSES:

C. R. Erwin.
Hollis Taubert

INVENTOR

John W. Ormsby
BY
Erwin & Wheeler
ATTORNEYS

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4 SHEETS—SHEET 2.

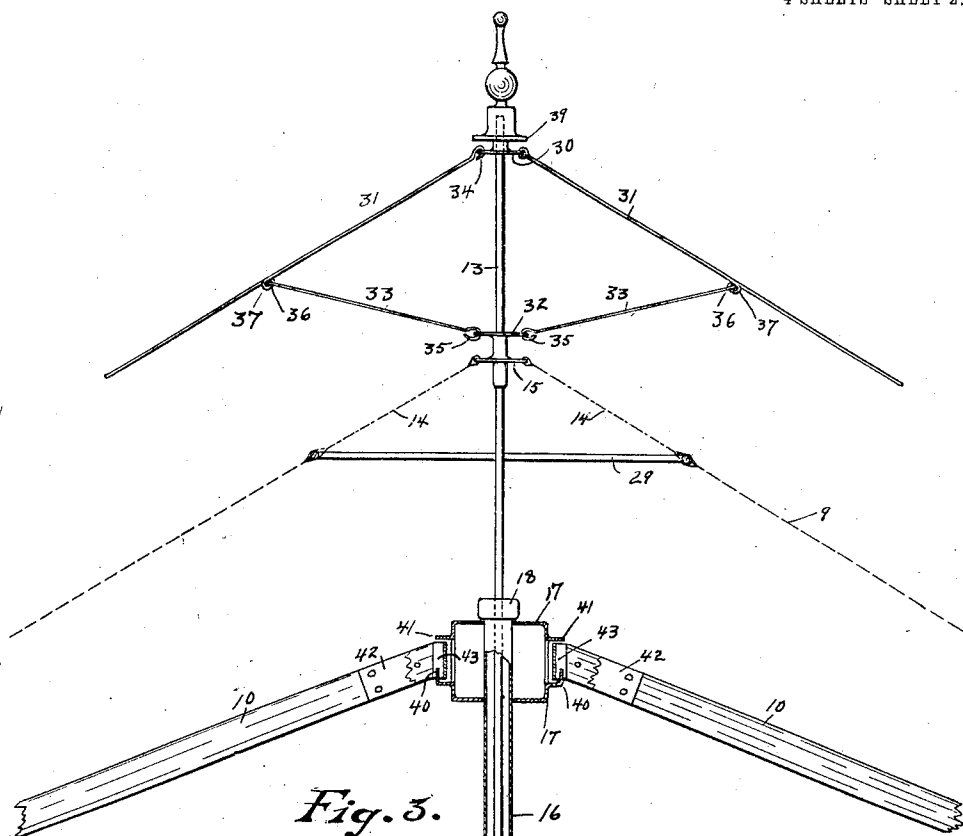


Fig. 3.

Fig. 4.

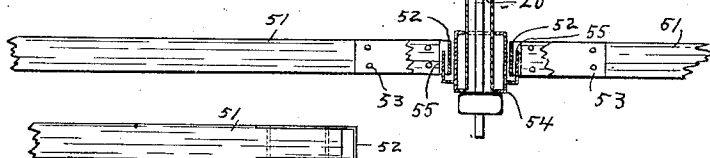
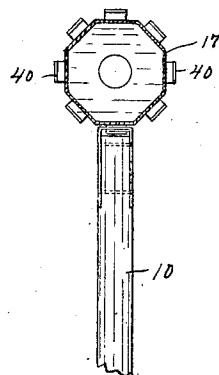


Fig. 6.

WITNESSES:

C. R. Erwin
H. L. Tauber

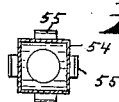


Fig. 5.

INVENTOR
John Whitely Ormsby
BY
Erwin & Wheeler
ATTORNEYS

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4 SHEETS—SHEET 3.

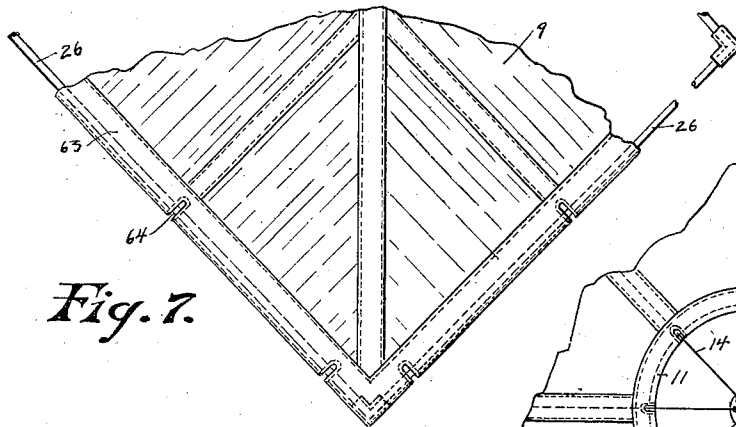


Fig. 7.

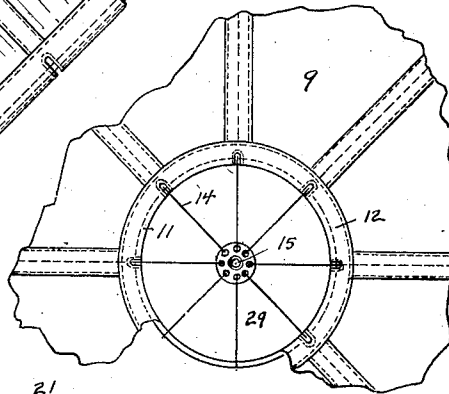


Fig. 8.

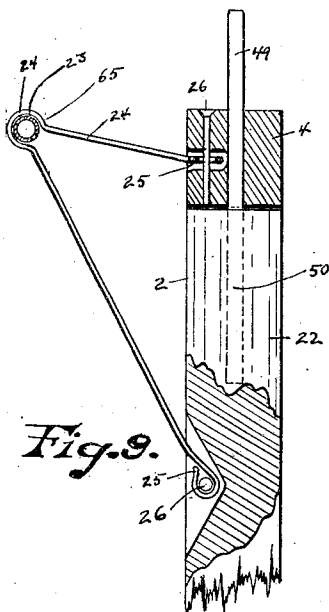


Fig. 9.

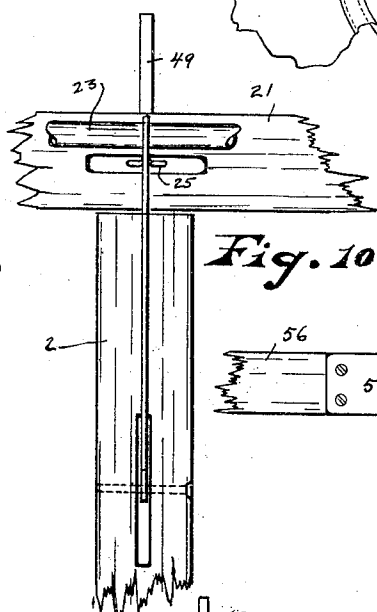


Fig. 10.

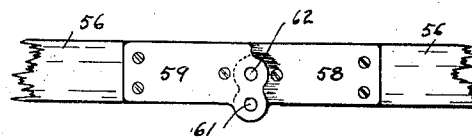


Fig. 12.

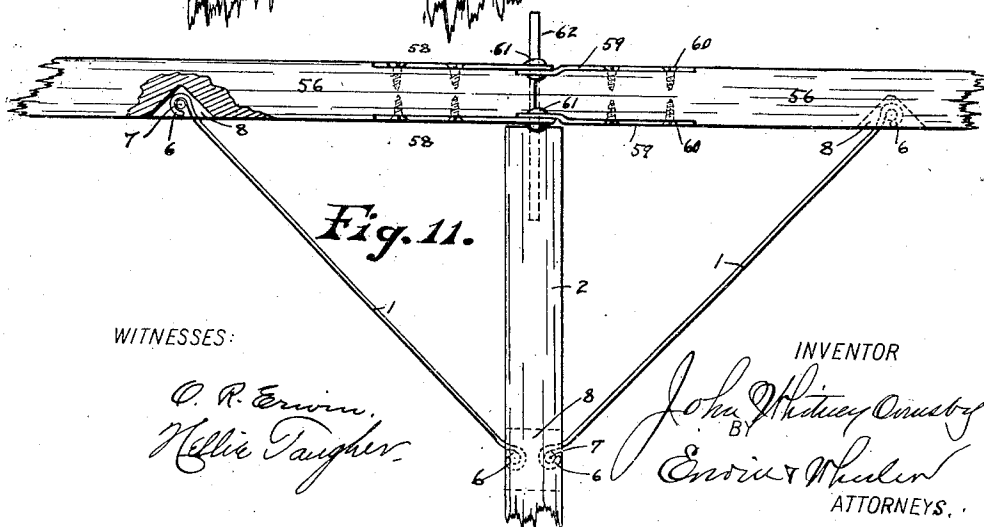


Fig. 11.

WITNESSES:

O. R. Erwin,
Nellie Taucher.

INVENTOR

John W. Ormsby
BY
Erwin & Whelan
ATTORNEYS.

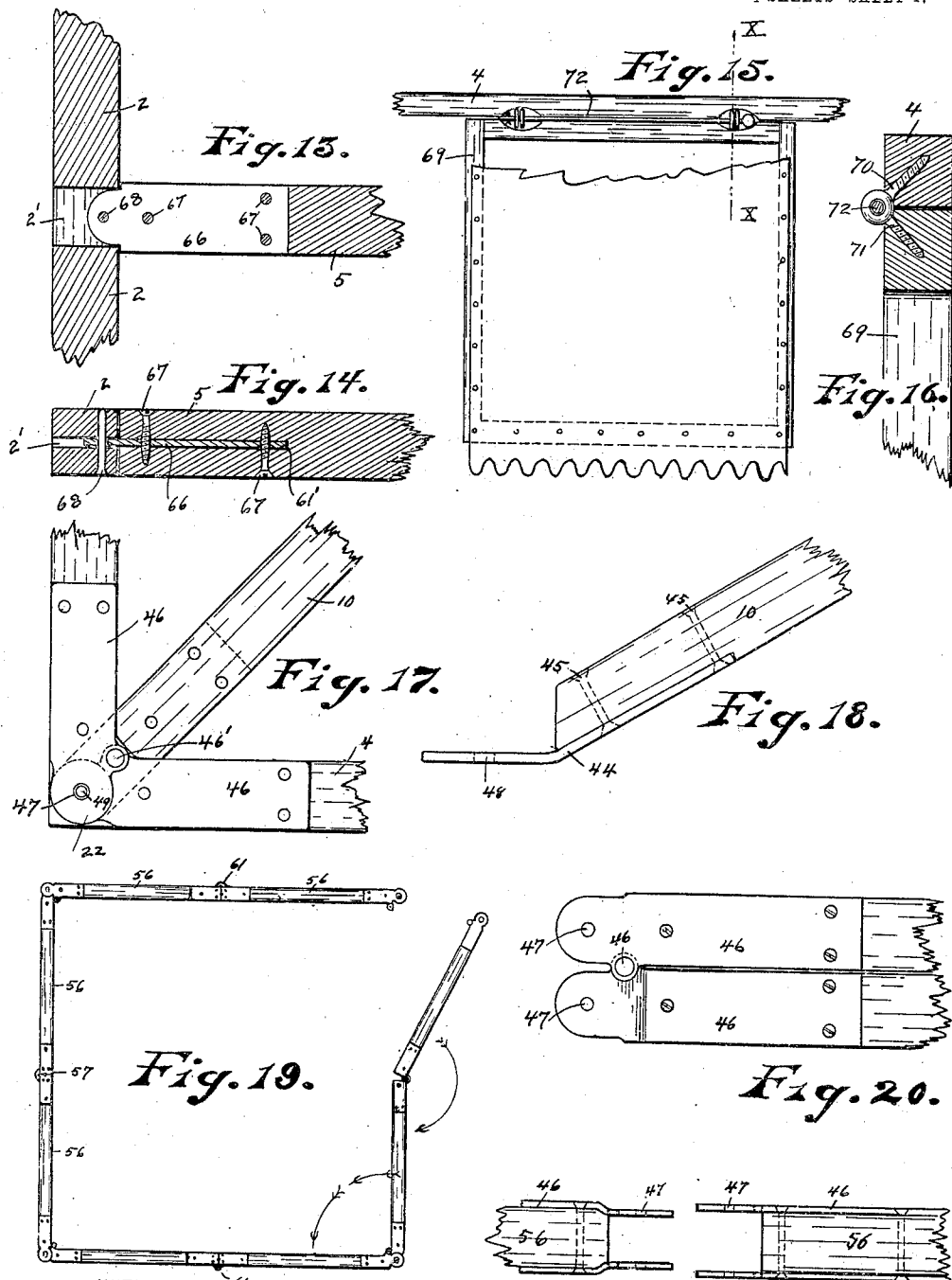
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J. W. ORMSBY.
TENT.

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4 SHEETS—SHEET 4.



WITNESSES:

R. R. Emory
H. L. Taughner

Fig. 21.

INVENTOR

John Whetney Ormsby
BY
Emory & Wheeler
ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN WHITNEY ORMSBY, OF MILWAUKEE, WISCONSIN.

TENT.

No. 833,411.

Specification of Letters Patent

Patented Oct. 16, 1906.

Application filed June 5, 1905. Serial No. 283,705.

To all whom it may concern:

Be it known that I, JOHN WHITNEY ORMSBY, a citizen of the United States, residing at Milwaukee, county of Milwaukee, and State of Wisconsin, have invented new and useful Improvements in Tents, of which the following is a specification.

My invention relates to improvements in that class of tents in which the canvas is supported from a light portable frame, the several parts of which are readily detachable.

The object of my invention is not only to provide a tent of neat and symmetrical appearance and from which the rain and heat and light rays of the sun are better excluded, but also to provide means by which a free circulation of air in the space between the interior and exterior roofs of the tent is maintained, the accumulation of hot air therein is prevented, and the warm foul air is drawn from the interior and the tent thereby kept in a better-ventilated, more comfortable and sanitary condition.

The construction of my invention is explained by reference to the accompanying drawings, in which—

Figure 1 represents an exterior side view of the tent, part of the interior being indicated by dotted lines. Fig. 2 represents a side view of the interior supporting-frame with the canvas removed. Fig. 3 is a detail, part in section, representing the central portion of the roof-supporting frame. Fig. 4 represents a transverse section of an annular collar and mechanism for supporting the upper ends of the rafters of the interior roof in connection with one end of one of the rafters. Fig. 5 represents a transverse section of a rectangular collar by which the inner ends of the radial wall-supporting bars are supported. Fig. 6 represents the inner end of one of the radial bars supported from the collar shown in Fig. 5. Fig. 7 represents one of the lower corners of the exterior roof with parts broken away to show the eaves-rod with which the lower edge of the canvas forming the roof is connected. Fig. 8 represents the top or apex of the exterior roof. Fig. 9 is a detail showing a transverse section of the eaves-rod and bracket for supporting the same from the frame of the tent. Fig. 10 represents a front view of the parts shown in Fig. 9, including a portion of the tent-frame, the eaves-rod, and the rod-supporting bracket. Fig. 11 represents a side view showing the ends of

two of the bars which form a part of the roof-supporting frame in connection with a frame-supporting post and brace-rods, said figure serving to illustrate the manner of connecting the brace-rods with the bars and said bars with the supporting-posts. Fig. 12 represents a top view of a portion of two of the bars shown in Fig. 11 in connection with the hinge plates, by which such parts are pivotally connected together. Fig. 13 represents a vertical section, and Fig. 14 a transverse section, of a portion of one of the vertical posts of the tent in connection with a portion of one of the window-sills of the tent, illustrating the device for forming the joint between such parts by means of a plate and plate-retaining pins and screws. Fig. 15 illustrates a front view of the window-sash pivotally suspended from the roof-supporting frame of the tent. Fig. 16 represents a transverse section drawn on line *xx* of Fig. 15. Fig. 17 is a detail representing a device for connecting one of the rafters or roof-supporting bars with the roof-supporting frame. Fig. 18 represents a side view of one of the rafters or roof-supporting bars provided with an angular plate for connecting the lower end of the same with the roof-supporting frame. Fig. 19 represents the roof-supporting frame removed from its supporting-posts, showing one end of one of the bars of the same disconnected from the opposite bar. Fig. 20 is a detail representing a top view of the ends of two of the roof-supporting bars removed from the other parts of the frame and folded together; and Fig. 21 represents a side view of two of the bars composing the roof-supporting frame provided with hinge-plates preparatory to being pivotally connected together.

Like parts are identified by the same reference-figures throughout the several views.

My invention pertains more especially, first, to the peculiar construction of the canvas-supporting frame, including the means for detachably connecting all of the several cooperating parts together, whereby they may be easily taken apart and folded in a compact form, so as to occupy but small space for the purpose of shipping or storing when not in use; second, to the means of reinforcing the several cooperating parts of the frame by the detachable brace-rods 1, by which the vertical posts or standards 2 and 22 are connected with the sills 3, roof-supporting frame 4, and window-sills 5. The

brace-rods 1 are preferably made of wire or small steel rods, the ends of which are bent to form the loops 6, and said loops are connected with the vertical posts and horizontal bars which form the sills or roof-supporting frame by the removable transversely-arranged pin 7, a small recess 8 being formed in said bars, sills, or other parts for the reception of the looped ends of said rods. Thus it will be obvious that when all the parts are secured together by said brace-rods they will be held rigidly together, when, owing to the fact that the movement of the frame will be resisted by the tensile strength of said rods, they may be made comparatively light, whereby the maximum strength of the frame is obtained by the minimum weight of material.

My invention pertains, third, to the construction and arrangement of the exterior fly-roof 9, the means for centrally supporting the same from the rafters 10 of the interior roof, and to the device for raising, lowering, and adjusting the central support of the exterior roof 9 from the rafters 10, which support the interior roof, whereby the canvas of the exterior roof when too slack may be readily tightened and when too tight may be readily released. The converging ends of the several pieces of canvas which form the exterior roof 9 are connected with the metallic ring 11 by an annular canvas binding 12, which incloses said ring 11. The upper edges of such binding are permanently stitched to the converging ends of the canvas 9, as indicated in Fig. 8, while said ring 11 is suspended from the central rod 13 by a plurality of radial links 14 and annular disk 15. The disk 15 and disk-supporting rod 13 are in turn supported from the converging ends of the rafters 10 by the tubular sleeve 16 and angular collar 17, the collar 17 being retained in place by the joint action of the converging ends of the rafters 10, as shown in Fig. 3, while the tubular sleeve 16 is centrally suspended in said collar by the projecting bearing 18 of said sleeve, and the vertical rod 13 is adjustably supported in said sleeve from the transverse pin 19. The rod 13 is provided with a plurality of transverse apertures 20 for the reception of said pin 19, whereby said rod may be raised, lowered, and adjusted at any desired distance above the interior roof and whereby when said exterior roof is too slack it may be readily tightened or when too tight or contracted by moisture it may be loosened by changing the relative adjustment of said vertical rod 13 in said sleeve 16.

My invention pertains, fourth, to the device for connecting and supporting the eaves of the exterior roof from the roof-supporting frame 4 and corner-posts 22, consisting in the horizontally-arranged eaves-rod 23 and the V-shaped rod-supporting bracket 24, the re-

spective arms of which bracket are provided with fastening-loops 25 for the reception of the transverse removable pins 26. It will be understood that by this arrangement the lower end or eave of the exterior roof 9 is extended beyond and rigidly supported at a slight distance from the lower edge or eave of the interior roof 27, whereby an open space is formed for the free circulation of air through the space 28 between the interior and exterior roofs, whereby as the air in such space becomes heated it will rise and pass out of the opening 29 of the exterior roof, when fresh air will enter between the eaves of said roofs and thus the circulation of air maintained and the tent prevented from becoming too hot.

My invention pertains, fifth, to the device for adjustably supporting the upper or so-called "umbrella" roof 38 above the ventilating-aperture of the other roofs from the upper end of the vertical rod 13, consisting in the annular disk 30, radial arms 31, annular disk 32, and brace-rods 33. The upper ends of the radial arms 31 are provided with hooked ends 34, which engage in apertures provided therefor in said annular disk 30, and said radial arms are supported in the inclined position shown in Fig. 3 by the brace-rods 33, which rods 33 are provided with hooked ends 35, which engage in apertures provided therefor in said disk 32, and hooks 36, which engage in the central loops 37 in said radial arms 31, whereby said arms are adapted to support the umbrella roof 38 in its extended position above the central aperture 29 of the lower roofs and prevent the admission of rain, while it permits the escape of air from the interior through said central opening 29. The disk 30 and the converging ends of the cover 38 are covered by the stationary flange 39, which is supported from the top of the vertical rod 13.

My invention pertains, sixth, to the device for detachably connecting the converging ends of the rafters 10 of the inner roof to the collar 17. The collar 17 is provided with a plurality of upwardly-projecting hooks or flanges 40 and a plurality of radial flanges 41, while the upper ends of the rafters 10 are provided with U-shaped fastening-plates 42, the central portion of which extends past the ends of the rafters, whereby when said plates are secured in place an aperture or opening 43 is formed between the end of said rafters and the upper ends of said fastening-plates for the reception of the hooks 40. Thus it is obvious that when the central portion of the U-shaped fastening-plates 42 are in place upon the hooks 40 and brought to the position indicated in Fig. 3 said rafters will be prevented from being disengaged from said upturned hooks 40 by the radial flanges 41, which will bear against the upper side of said rafters and retain them in place. When,

however, it is desirous to detach the rafters from said hooks 40, they are brought to near the vertical position, whereby the upper ends of the rafter-retaining loops formed by said U-shaped plates will be brought out of engagement with said radial projections 41.

My invention pertains, seventh, to the device for detachably connecting the lower ends of the several rafters 10 to their supporting corner-posts 22 and the roof-supporting frame 4, which end is accomplished by providing the lower end of the rafters with an angular plate 44, which is secured thereto by a plurality of screws or rivets 45 and by providing the corners of the roof-supporting frame with the hinge-plates 46. The overlapping ends of the plates 46 are provided with apertures 47, while the lower end of the plate 44 is provided with an aperture 48. Thus when the roof-supporting frame is in place, as indicated in Fig. 17, the lower end of the plate 48 is inserted between the top of the post and the lower surface of the roof-supporting frame, when a pin 49 is inserted through said aperture and from thence into an aperture 50, provided therefor in the top of the post 22, whereby said parts are firmly secured together. The plates 46 are pivotally connected together by the hinge-pin 46', as shown in Figs. 17 and 20, which permits the bars to which they are attached to be folded together, as indicated in Fig. 20.

My invention pertains, eighth, to the device for connecting the upper ends of the several corner-posts 22 with each other by a plurality of radial bars 51, the outer ends of which bars are detachably connected with said posts by said pins 49, while the inner converging ends are suspended from the upper ends of the rafters 10 by the collar 17, tubular sleeve 16, and collar 54. The converging ends of the bar 51 are provided with U-shaped loops 52, which project past the inner ends of said bars 51 and are connected to the sides of said bars by the bolts or screws 53, while the angular collar 54 is provided with a plurality of upturned hooks 55 for the reception of the loops 52 of said horizontal bars 51. Thus the tubular sleeve 16 serves the twofold purpose of supporting the converging ends of the horizontal bars 51 and as a guide and support for the vertical rod 13, from which the two roofs 9 and 27 are supported.

My invention pertains, ninth, to the device for pivotally connecting the contiguous ends of the bars 56, forming the roof-supporting frame centrally between the corner-posts of the frame, whereby when said parts are removed from their supporting-posts they may be folded together, and also to the device for locking the pivotal connections of said bars together and to their supporting-posts when brought in line with each other, as shown in

Figs. 11 and 12. To accomplish this end, the contiguous ends of the bars 56 are provided with hinge-plates 58 and 59, which plates are respectively secured to the opposing ends of said bars by rivets or screws 60. Said plates are permanently hinged together by the pivots 61 at one side of the center of the bars, as shown in Fig. 12, and are temporarily secured together and with the central supporting-post 2 by the pin 62, whereby when the pin 62 is inserted the tendency for said bars to be deflected one way or the other out of line is prevented.

My invention pertains, tenth, to the device for connecting the lower edge of the canvas forming the exterior roof to the eaves-rod. The canvas forming the exterior roof is connected with the eaves-rod by strips of binding 63, the central portion of which is brought around the eaves-rod, while its upper edges are stitched to the lower edges of the exterior roof, as indicated in Fig. 7. A plurality of notches 64 are formed through the binding 63 for the reception of the central loops 65 of the supporting-brackets 24. The ends of the window-sills 5 are respectively connected with the vertical posts 2 upon either side by the central plates 66, which plates 66 are secured in the slit 61', formed vertically in the centers of said window-sills by a plurality of screws 67, while the outer ends of said plates are secured to the posts 2 in corresponding slits 2', formed in the center of said posts by a removable pin 68.

My invention pertains, eleventh, to the device for pivotally suspending the window-sash 69 from the roof-supporting frame 4, which end is accomplished by two sets of two each of eye-screws 70 and 71, the set 70 being secured to the roof-supporting frame 4 and the set 71 being secured to the upper rail of the window-sash 69 when said sets of eye-screws are connected together by the hinge-rod 72, as indicated in Figs. 15 and 16. To provide for packing the bars comprising the frame of the tent in the smallest possible space, I have not only formed the roof-supporting frame shown in Fig. 19 in two parts and hinged such parts together, but the rafters 10 are also provided with similar hinges by which they may, if desired, be folded together.

It will be understood that the posts and bars which form the frame of my tent are preferably formed of light wood and that the metallic parts are so arranged that the strain in supporting the frame of the tent will, as stated, be resisted by the tensile strength of such metallic parts and that all the parts are connected together in such a manner as to mutually strengthen and support each other, whereby a tent is formed of the maximum strength and resistance with the minimum weight of material.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In a tent of the described class, the device herein described for supporting the eaves of the exterior roof at a slight distance from the vertical walls and eaves of the interior roof, consisting in a plurality of angular V-shaped detachable brackets, the respective arms of which are detachably connected with the vertical frames of the tent; a horizontal eaves-rod detachably secured to the apex of said V-shaped brackets and means for connecting the lower marginal edge of the exterior roof to said eaves-rod, substantially as set forth.

2. In a tent of the described class, the device herein described for connecting and supporting the converging ends of the rafters around a common center, consisting in the combination with the converging ends of the rafters 10; of a central collar 17 provided with a plurality of upturned hooks 40, adapted to engage in retaining loops or recesses in the converging ends of said rafters; a plurality of radial lugs 41 adapted to engage the upper sides of said loops or rafters and prevent the latter from being accidentally disengaged therefrom, substantially as set forth.

3. In a tent of the described class, the device herein described for connecting and supporting the lower ends of the rafters from the tops of the vertical side frames, consisting in the combination with the lower ends of the respective rafters of the angular bars 44 provided with apertures 48 and with the converging ends of the roof-supporting frame of the hinge-plates 46 pivotally connected together and respectively provided with apertures 47 for the reception of a vertical fastening-pin; vertical corner-posts 22 provided with a socket for the lower end of said fastening-pin and fastening-pin 49, substantially as, and for the purpose specified.

4. In a tent of the described class, the device herein described for pivotally connecting together the contiguous ends of the bars forming the roof-supporting frame centrally between the vertical corner-posts, consisting in the combination with the opposing ends of such bars; of two sets of two each of the fastening-plates 58 and 59, one end of each set of fastening-plates being permanently connected with the opposing ends of the bars and the opposite overlapping ends of said fastening-plates being each provided with two sets of apertures, one set of apertures being formed for the reception of the hinge-pins 61, and the other set of apertures being provided for the reception of the vertical fastening-pin 62; hinge-pins 61, and fastening-pin 62, substantially as set forth.

5. In a tent of the described class, the device herein described for bracing and reinforcing the horizontal bars and vertical posts of the canvas-supporting frame, consisting

in the combination with the horizontal bars and vertical posts, each provided with transverse recesses for the reception of the brace-rods, of the angular brace-rods and the rod-pins, the ends of the respective rods being secured in the transverse recesses of the bars and posts by said pins, substantially as and for the purpose specified.

6. In a tent of the described class, the combination with the lower marginal edge of the canvas forming the exterior roof, of an eaves-rod and a rod-retaining binding provided with a plurality of transverse apertures for the reception of the rod-retaining bracket, said binding being centrally folded longitudinally around said eaves-rod and secured at its marginal edges to the lower marginal edge of the canvas forming the roof, substantially as set forth.

7. In a tent of the described class, the device herein described for suspending the window-sash from the roof-supporting frame, consisting in the combination with said sash and roof-supporting frame, of two sets of two each of eye-screws, one set of said screws being connected with the roof-supporting frame and the other set being secured to the upper rail of the sash and a hinge-rod extending longitudinally through the eyes of both sets of eye-screws, substantially as set forth.

8. In a tent of the described class, the device for detachably connecting the converging ends of the horizontal bars 51 together and for suspending them from the converging ends of the rafters, consisting in the combination of a collar 54 provided with a plurality of upturned hooks 55; means for connecting said hooks with the converging ends of said horizontal bars, collar-supporting sleeves 16, sleeve-supporting collar 17 and means for connecting said collar 17 with the upper converging ends of said rafters, substantially as set forth.

9. In a tent of the described class, the device herein described for adjustably suspending the upper end of the exterior roof above the interior roof, consisting in the combination of the collar 17, centrally supported from the converging ends of the rafters of the interior roof, of a vertical rod 13 provided with a plurality of apertures 20; rod-inclosing sleeve 16 provided with a transverse aperture for the rod-supporting pin 19 and means for connecting the upper end of the exterior tent with the upper end of said rod 13, all substantially as, and for the purpose specified.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN WHITNEY ORMSBY.

Witnesses:

JAS. B. ERWIN,
NELLIE TANGHER.