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CONVERTIBLE ROOF STRUCTURE FOR TENTS, CABANAS, AND THE LIKE

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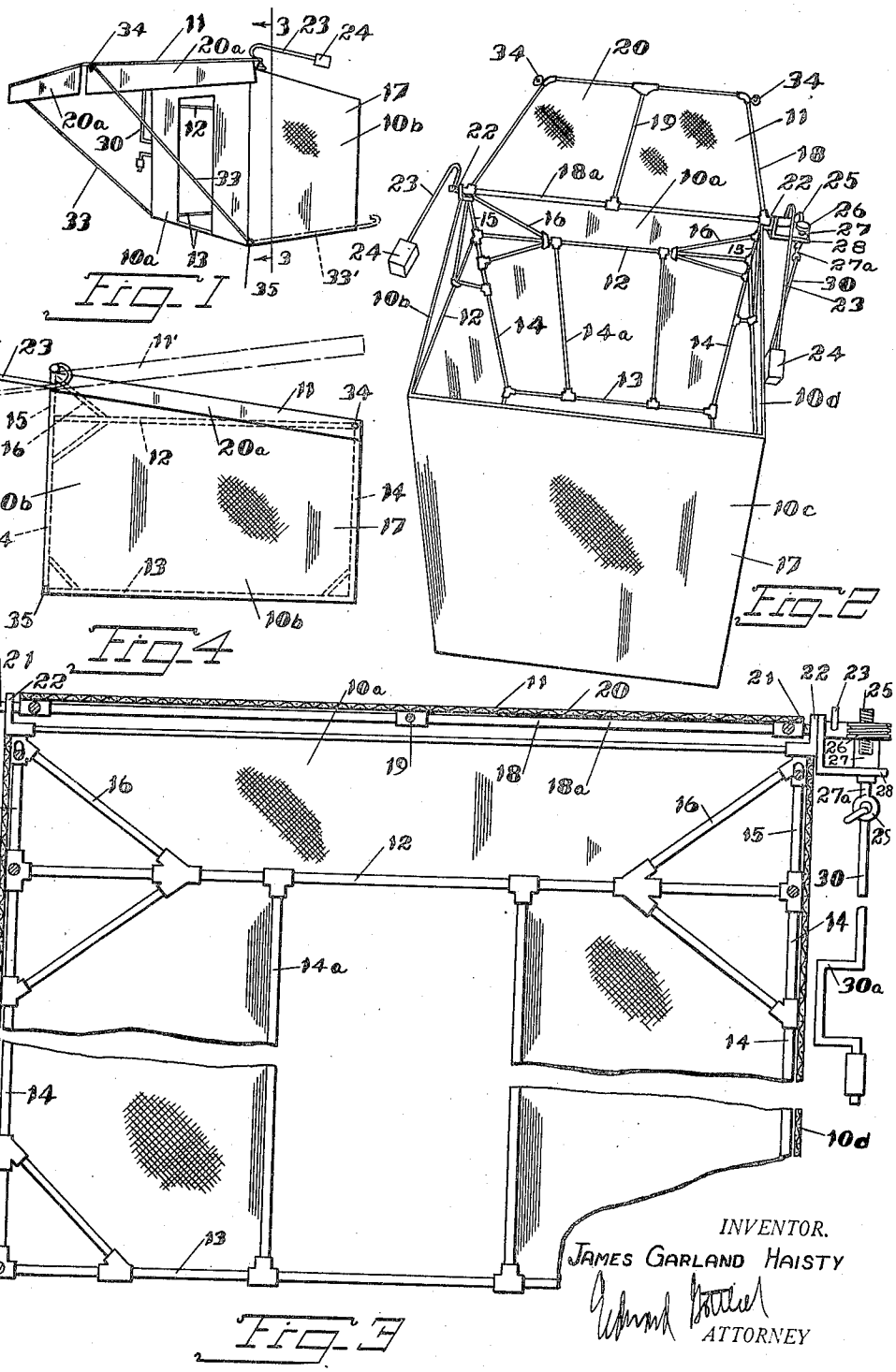

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CONVERTIBLE ROOF STRUCTURE FOR TENTS, CABANAS, AND THE LIKE

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5 Claims. (Cl. 135—1)

This invention relates to new and useful improvements in a convertible roof structure for a tent, a cabana, a small building, a trailer, or other similar structure.

The invention has for an object the provision of a roof structure for a device as mentioned which is capable of being pivoted around so as to extend outwards and form an awning or porch for the device.

The advantage of this arrangement resides in the fact that then the device may be converted to a solarium and the roof used outside of the device as an awning or a shield from winds.

More specifically, the invention contemplates the association of the roof structure with a plurality of substantially vertical walls dividing off a space for persons. The vertical walls may be the walls of a tent, a cabana, a small building, a trailer, or other similar device.

It is proposed to arrange the roof structure so that it engages over said walls for closing the top of the space and to arrange the roof structure to be hingedly connected at one side to the top of one of the walls. It is proposed to provide a means for revolving and holding said roof structure on said hinged side in various raised and extended positions to open the top of said space and to extend outwards of said connected wall to form an awning.

Another object of the invention is the construction of a device as described which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:—

Fig. 1 is a perspective view of a tent with a roof structure constructed according to this invention shown in the extended position acting as an awning.

Fig. 2 is a perspective view of Fig. 1 seen from the top looking from the back towards the front.

Fig. 3 is a vertical sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 is a side elevational view of the device shown with the roof structure in the closed position.

The convertible roof structure for tents and the like, according to this invention, is associated with a plurality of substantially vertical walls 10*a*, 10*b*, 10*c* and 10*d* dividing off a space therebetween for persons. These walls may be the walls of a tent, cabana, small building, trailer or the like. The roof structure, indicated by numeral 11, is adapted to engage over the walls for closing the top of the space and is hingedly connected at one side to the top of one of said walls. A means is provided for revolving and holding said roof structure 11 on said hinged side in various raised and extended positions to open the top of said space and to extend outwards of said connected wall to form an awning.

The walls illustrated on the drawing are those of a tent. But this showing is not intended as a limitation. The tent is formed from a frame structure which includes a top horizontal frame 12 and a bottom horizontal frame 13 held in spaced positions by vertical corner posts 14. The front wall 10*a* is formed with a door frame opening 14*a*. The front wall 10*a* also has an extended portion 15 above the top frame 12. This extended portion is reinforced with braces 16. The side walls 10*b* and 10*d* have inclined top edges extending from the tops of the extensions 15 down to the frame 12. The frame structures are covered with cloth material 17 customarily used for tents. The exact details of the construction of the walls of the tent are immaterial to a consideration of this invention, though a preferred form would include the inclination of the walls so that the roof structure may assume an inclined position to permit the water from rain to run off.

The roof structure 11 also comprises a frame such as the frame 18 which is braced at the center by a rod 19 and which is covered with cloth material 20. This cloth material is extended at the sides to form flap portions 20*a* as is customary in an awning construction.

The frame structure 18 has a side 18*a* the ends of which are provided with stud shafts 21. These stud shafts rotatively engage through brackets 22 which are attached to the top ends of the extensions 15. It is these brackets which hingedly support the roof structure. On the stud shafts 21 there are attached radial arms 23 which extend in the opposite direction to the roof structure and which are provided with weights 24 to act as counterweights to counterbalance the weight of the roof structure. It should be recognized that because of the counterweights it will be relatively easy to move the roof structure about its hinge support.

One of the stud shafts 21 is provided with a

worm gear **25** which meshes with a worm pinion **26** fixed on a shaft **27** rotatively supported in the bracket **28** which is attached to the bracket **22**. The shaft **27** has a lower portion **27***a* formed with a ring **29** through which a handle **30** may be hooked. This handle **30** has a crank portion **30***a* by which it may be easily turned to turn the shaft **27** and so the worm pinion **26** and the worm gear **25**. From the gear **25** the stud shafts **21**, and thus the roof structure **11**, will be pivoted.

Fig. 1 shows a perspective view of the tent with the roof structure extended forming an awning. This awning is braced by bracing rods **33** which are connected between brackets **34** secured upon the free end portion of the awning. These braces **33** may extend outwards at an angle towards the tent and be connected with brackets **35** secured on the front end of the lower frame **13**. When the roof structure is hinged back to act as a roof the braces **33** are unhooked from the brackets **34** and are then laid upon the ground along the sides of the tent as indicated by the dot and dash lines **33'** in Fig. 1.

Fig. 4 shows the roof structure in a closed position. It should be noted that it is inclined for the drainage of rain water. The dot and dash lines **11'** indicate the roof structure in a partially raised position. It may be used in any elevated position to cut off the wind while it permits light to enter the space between the walls. The worm pinion and worm gear are arranged to firmly hold the roof structure in any raised position.

While I have illustrated and described my invention with some degree of particularity, I realize that in practice various alterations therein may be made. I therefore reserve the right and privilege of changing the form of the details of construction or otherwise altering the arrangement of the correlated parts without departing from the spirit or the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:—

1. A convertible roof structure for tents, cabanas, small buildings, trailers and the like, comprising a plurality of substantially vertical walls dividing off a space for persons, a roof structure engaging over said walls for closing the top of said space and hingedly connected at one side to the top of one of said walls, and means for revolving and holding said roof structure on said hinged side in various raised and extended positions to open the top of said space and to extend outwards of said connected wall to form an awning, said wall which is connected with the roof structure being formed with a door so that in the extended position of the roof structure it extends frontwards of the door to form a porch for the front of the device.

2. A convertible roof structure for tents, cabanas, small buildings, trailers and the like, comprising a plurality of substantially vertical walls dividing off a space for persons, a roof structure engaging over said walls for closing the top of said space and hingedly connected at one side to the top of one of said walls, and means for revolving and holding said roof structure on said hinged side in various raised and extended positions to open the top of said space and to extend outwards of said connected wall to form an awning, said hinged connection comprising stud shafts from the ends of the roof structure engaging brackets secured to said vertical walls, said stud shafts being provided with radial arms and weights on said radial arms to counterbalance the weight of the roof structure.

3. A convertible roof structure for tents, cabanas, small buildings, trailers and the like, comprising a plurality of substantially vertical walls dividing off a space for persons, a roof structure engaging over said walls for closing the top of said space and hingedly connected at one side to the top of one of said walls, and means for revolving and holding said roof structure on said hinged side in various raised and extended positions to open the top of said space and to extend outwards of said connected wall to form an awning, said hinged connection comprising stud shafts from the ends of the roof structure engaging brackets secured to said vertical walls, one of said stud shafts being provided with a worm wheel, a worm pinion meshing with said worm wheel, a bracket for rotatively supporting said worm pinion and secured upon one of said side walls, and a handle for rotating said worm pinion.

4. A convertible roof structure for tents, cabanas, small buildings, trailers and the like, comprising a plurality of substantially vertical walls dividing off a space for persons, a roof structure engaging over said walls for closing the top of said space and hingedly connected at one side to the top of one of said walls, means for revolving and holding said roof structure on said hinged side in various raised and extended positions to open the top of said space and to extend outwards of said connected wall to form an awning, and means for bracing said awning, comprising brackets upon the roof structure, brace rods engaging said brackets, and brackets on the lower portions of certain of said walls for receiving said brace rods.

5. A convertible roof structure for tents, cabanas, small buildings, trailers and the like, comprising a plurality of substantially vertical walls dividing off a space for persons, a roof structure engaging over said walls for closing the top of said space and hingedly connected at one side to the top of one of said walls, means for revolving and holding said roof structure on said hinged side in various raised and extended positions to open the top of said space and to extend outwards of said connected wall to form an awning, and a handle for rotating said worm pinion, comprising brackets upon the roof structure, brace rods engaging said brackets, and brackets on the lower portions of certain of said walls for receiving said brace rods, said brace rods when disconnected from the roof structure being placeable along the sides of said tent or the like.

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