

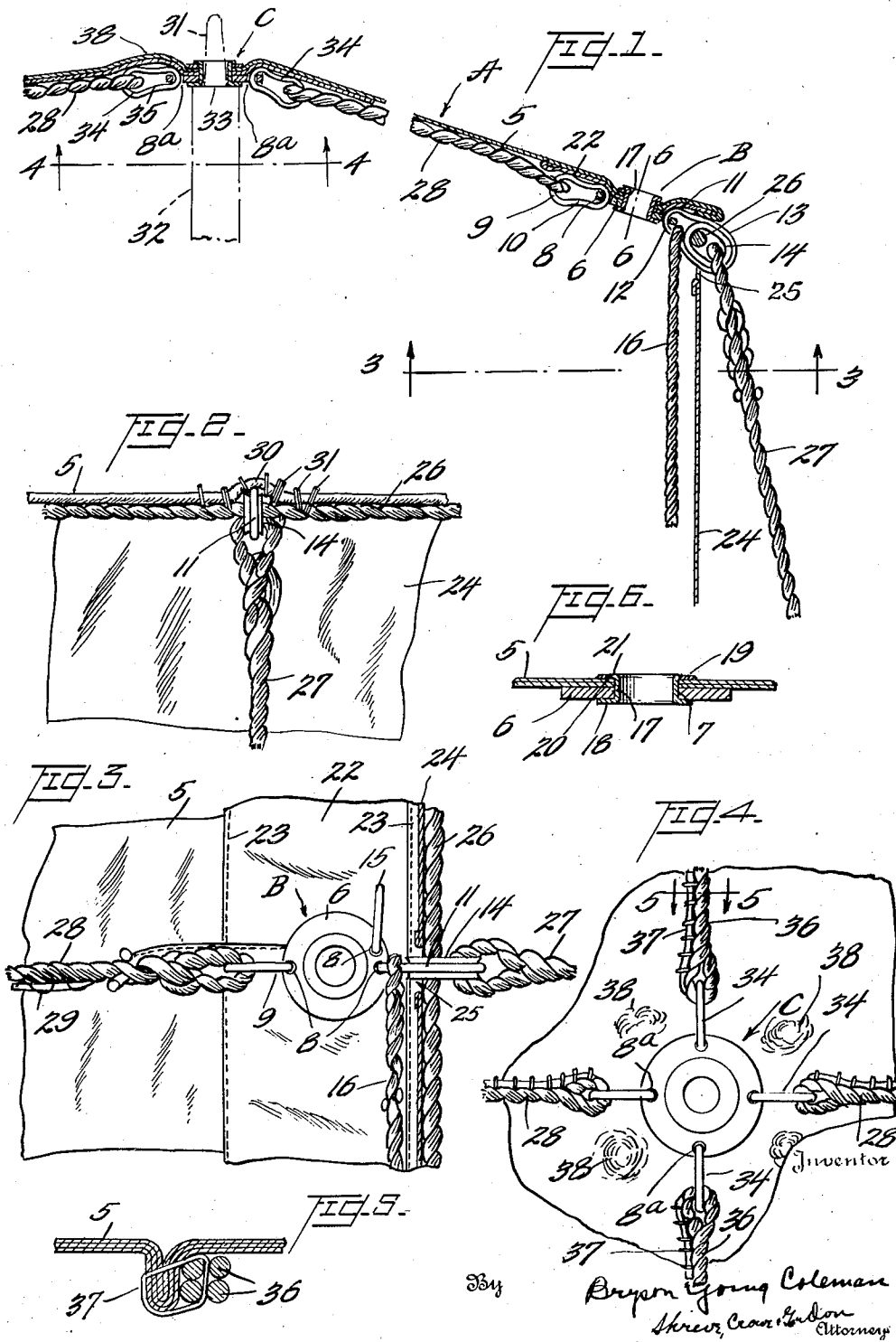
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TENT AND SHACKLE CONSTRUCTION

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TENT AND SHACKLE CONSTRUCTION

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9 Claims. (Cl. 135—15)

Generically this invention relates to tent construction but is more especially directed to the shackle features of such construction.

The principal object of this invention is the provision of a flat compact tent pole shackle having means for securing the shackle to the tent top in a single operation to effect a concealed leakproof jointure, the combined structure being thin in cross sectional area and presenting a smooth roof surface.

One of the principal objects of this invention is the provision of a shackle structure adapted to be supported by and to receive the dowel portion of the tent pole and embodying a unique means of attaching the canvas to the shackle structure and at the same time presenting bearing surfaces for contact with the pole and dowel portion.

Another important object is the provision of a shackle structure including a shackle plate having oppositely positioned shackle elements, said plate having a central opening adapted to register with a similar opening in the tent top and a grommet extending through the plate and tent openings with its ends crimped, respectively, over the exposed surface of the plate and top material, thereby not only eliminating handwork in connection with securing the shackle structure but presenting a flat substantially thin connection of pleasing appearance.

A further important object of this invention is the provision of a shackle structure including a shackle plate having a central aperture, means for securing guy ropes at diametrically opposite points and a tubular member insertable through said aperture and tent top and adapted to have its ends clamped in overlying relation with the tent top and plate surrounding said opening to unite said parts, the mounting of said plate and the connection of the guy ropes with said shackle being such that, the supporting stresses will be on the shackle structure irrespective of the expansion and contraction of the tent top under varying climatic conditions.

Still another important object of this invention is the provision of a tent structure including wall and quarter pole plate-like shackle structures clampingly secured to a tent top in a manner to present a flat pleasing appearance, at the same time concealing the jointure of the shackle and roof around the pole opening, and a pull-up rope attaching means carried by said plate, the construction of the wall shackle being such as to permit a flat seam between the outer end of the top and the point of attachment of the down rope.

With these and other objects in view, which will become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts, herein-after more fully described and claimed, and illustrated in the accompanying drawing, in which like characters of reference indicate like parts throughout the several figures, of which:

Fig. 1 is a vertical section through the top of the tent and portion of side wall.

Fig. 2 is an elevation of the outside of the tent showing the side wall and edge of the top.

Fig. 3 is a section taken on the line 3—3 of Fig. 1.

Fig. 4 is a view showing a portion of the top of the tent looking from the inside on line 4—4 of Fig. 1.

Fig. 5 is a section on the line 5—5 of Fig. 4.

Fig. 6 is a section on the line 6—6 of Fig. 1.

Briefly the shackle constructions with which I am familiar have proven deficient in many respects; for instance, what is known as a one-way shackle, an iron ring, or a rope-eye splice for the wall pole opening, as well as others. All of these constructions require considerable hand sewing and leather reinforcing. Such constructions not only require extra handwork but increase labor cost and presents a thick and unsightly structure, and it was to overcome such deficiencies that I designed the tent shackle construction forming the subject matter of the instant invention, by providing a shackle structure for attachment to the top of a tent embodying a flat plate element having a central opening, shackle elements secured to said plate at diametrically opposite points for attachment to the top and wall structure supporting ropes and a tubular element extending through the openings in the plate and canvas top with the ends in clamping relation with the exposed surfaces of the canvas top and plate for sealing and concealing the jointure and forming a supporting bearing for engagement with a tent pole. The tent top is attached to the supporting ropes and shackle structures in such manner as to compensate for the stretching and shrinking of the material owing to climatic changes, whereby the consequent wear and tearing of the top is eliminated. The combined shackle and top presents a substantially thin flat structure of pleasing appearance, the quarter pole shackle, in the present instance, has four elongated rings mounted in the plate at diametrically opposed points for rope connections and the wall pole shackle has two links attached to the plate at opposite points, said construction

being such as to permit a flat seam or roof surface between the outer edge of the top or roof at the point at which the splicing of the down rope begins which not only facilitates manufacture but presents a more pleasing appearance.

In the illustrated embodiment characterizing this invention there is shown in Fig. 1 a fragmentary sectional view of a tent A illustrating my improved tent construction including wall pole shackle B and quarter pole shackle C operatively positioned in the tent top 5.

The quarter pole shackle B in the present instance comprises an annular plate 6 having a central opening 7 and is formed at one edge with aperture 8 in which is mounted shackle link or element 9 slightly closed intermediate its length as at 10. Said plate 6 is formed at its diametrically opposite edge with a similar opening 8 adapted to receive a link 11 narrowed at one end as at 12, its outer end being enlarged and formed to present a substantially straight upper edge 13 and mounted in said enlarged end is a metal egg thimble 14. Adjacent opening 8 in which is mounted link 11, plate 6 has a perforation 8 in which is mounted a ring or link 15 to which is adapted to be suitably connected one end of a pull-up rope attached to the top of the wall for use in raising and lowering the walls. Attached to the inner end of link 11 is a wall pole anchor or jump rope 16 for a purpose directly more fully appearing.

Adapted to be mounted in opening 7 is a tubular element or grommet 17 one end terminating in lateral flange 18 adapted to overlie the surface of plate 6, the tubular body extending through said plate and canvas top 5 and while said grommet may be formed of one piece, in the present instance is formed with a ring portion 19 having a beveled inner edge 20, the upper edge of said grommet is complementally beveled and is adapted to be crimped as at 21 into binding engagement with ring 19 seated on the upper surface of top 5 to clampingly and directly unite the top 5 and shackle plate 6 to form a watertight jointure and secure the shackle in operative position, not only concealing the line of jointure but presenting a pleasing appearance and uniting the parts into a substantially thin flat assembly.

It will be noted that in the present instance the tent top 5 has an extra strip of material 22 secured by stitching 23 at its edges. At one edge said stitching also secures the folded over edge of tent wall portion 24, said wall portion being gathered at its edge underlying said link to provide an opening 25 to accommodate link 11 as will be apparent without further discussion. Suitably secured to the outer surface of wall 24 and underlying the outer edge of top 5 is an eave rope 26. This rope extends through thimble 14 in link 11.

Attached to the outer end of link 11 is a wall guy rope 27 and secured to the link 9 is a section rope 28 suitably secured by stitching 29 to the under surface of the tent top or roof 5. The arrangement of the shackle B and link 11 is such as to permit a flat seam 30 to extend from grommet 17 to the edge of the top 5, except presenting a slight curve at the extreme edge overlying link 11, said top at its edge being further secured to eave rope 26 by stitching 31 so that the roof has no substantial humps but presents a substantially smooth surface throughout its exposed surface area.

The tubular or grommet elements of shackles

B and C are each adapted to receive a respective pike 31 of a tent pole 32 and to be supported on seat 33 of said pole. As the center or ridge poles, quarter poles and wall poles are of similar construction it is not deemed necessary to illustrate or describe more than one. The shackle C is similar to shackle B except that instead of two apertures 8 it has four equi-spaced diametrically opposed apertures 8a which are similar to apertures 8 described in connection with said shackle B. Mounted in each of the apertures 8a are links 34 substantially closed adjacent plate 6 as at 35. Opposite links 34 are attached to section ropes 28 and the remaining opposed links 34 are attached to the horizontal or quarter band ropes 36, the spliced portions of which are secured to the under surface of roof 5 by stitching 37.

Fig. 5 illustrates the manner of attaching the spliced portion of ropes 28 and 36 to said roof portion by stitching 37, the ropes throughout their remaining length being secured by stitching 29, similar to ropes 28.

The tent top or roof at each point where a quarter pole shackle C is positioned is provided with an extra piece or pieces of material secured to the under surface of the top 5 by annular rows of stitching similar to the manner in which section 22 is secured as heretofore described and through which extends the shackle grommet 17 as described in connection with shackle B. Since shackle C is constructed and attached to the top C identically in the same manner as shackle B, a detailed description of the components of shackle C is deemed to be unnecessary.

In connection with both shackles B and C a slight fullness or slack in the canvas material of top 5 between the shackle connections and its attachment at the spliced ends of the connecting ropes is provided as at 33, so that the strain of supporting the top will be on the ropes and shackles and the tearing away of the material at point of connection with the shackles and also with respect to the expansion and contraction of the roof material at such point will be prevented.

From the above it will be apparent that I have designed a tent construction including unique shackle structures, said shackles being clampingly secured to the tent top in such a manner as to present bearing surfaces for engagement with the supporting base of the tent poles and the pikes extending through the shackles, as well as concealing the lines of jointure with the tent top material, and the clamping end of the connection forming in effect a continuation of the top surface, such construction at the same time presenting a neat, compact assembly, the combined assembly being such as to tend to prevent disintegration of the tent construction at such points by adding to the life of the tent, said shackle devices being simple in construction, manufacturable at a saving in production cost, and easily and quickly installable at a saving in time and labor, and efficient for the purposes intended.

Although in practice it has been found that the form of the invention illustrated in the accompanying drawing and referred to in the above description as the preferred embodiment is the most efficient and practical; yet realizing the conditions concurrent with the adoption of the invention will necessarily vary, I desire to emphasize that various minor changes in details of construction, proportion and arrangement of parts, may be resorted to within the scope of the appended claims without departing from or sacrificing any of the principles of this invention.

Having thus described my invention, what I desire protected by Letters Patent is as set forth in the following claims:

1. A tent pole shackle adapted to be mounted in a tent top comprising a member having a central opening, rope engaging shackle elements carried by said member, and tent pole engaging means extending through said central opening and top, said means including flange means adapted to engage the surfaces of said member and top, and adapted to clampingly unite said member and top, and effect a concealed leak-proof jointure.

2. A tent pole shackle for engagement with the pike end of a tent pole adapted to be mounted in the tent top, comprising a member having a central opening and formed with a plurality of link engaging openings of said member, and means extending through said opening and top and including flange means for clamping engagement with the outer surfaces of said member and top, whereby a substantially thin, compact, unitary structure is effected.

3. A tent pole shackle for engagement with a tent pole pike adapted to be directly secured to the roof of a tent comprising a plate member having a central opening, rope engaging shackles secured to opposite edges of said plate member, a tubular element extending through said plate member opening and said top with its ends terminating in lateral flanges for clamping engagement with the outer surfaces of said plate member and top to unite the same into a flat, compact, unitary structure.

4. In a tent, a tent top having a tent pole pike opening, a plate having a central opening registering with said pike opening, rope engaging shackles secured to opposite edges of said plate, a grommet engageable in said openings with its flanged ends adapted to clampingly engage the outer surfaces, respectively, of said plate and top to conceal the line of jointure and unite said top and plate into a unitary structure, whereby a pole engaging bearing surface is provided and a leakproof jointure effected.

5. In a tent construction having a pole supportable fabric top and pole pike openings, a supporting pole for the top having a supporting base and pike portion, a plate underlying said top and having an opening registering with said pike opening, rope engaging shackles connected at their inner ends to the opposite edges of said plate and a grommet extending through said openings with its end flanges in overlapping engagement with the exposed surface of said plate and top to secure in superimposed relation said top and plate, whereby said grommet constitutes bearing surfaces for said supporting pole and pike and sealing means for the line of jointure of the fabric top.

6. In a tent construction including a fabric top, having a pole pike opening, a supporting pole for the top having a supporting base and a pike portion extending therefrom, a plate having a central opening underlying said top and having an opening registering with said pike opening, rope engaging shackles connected to opposite edges of said plate, ropes connected to said top and to said shackles, a tubular member extend-

ing through said openings having its ends terminating in lateral flanges adapted for overlying and clamping engagement with the exposed surfaces of the fabric top and plate, said member adapted to receive said pike and said plate adapted to seat on said pole supporting base, whereby wearing contact of said top and ropes with said pole and pike is prevented.

7. In a tent construction including a fabric top, having a pole pike opening, a supporting pole for the top having a supporting base and a pike portion extending therefrom, a plate underlying said top and having an opening registering with said pike opening, rope engaging shackles connected to opposite edges of said plate, ropes connected to said top and to said shackles, a tubular member extending through said openings having flange means at its ends for overlying and clamping engagement with the exposed surfaces of said top and plate surrounding said openings, said member adapted to receive said pike and said plate seating on said pole supporting base, said plate carrying a ring means for attachment to a wall raising and lowering rope, said top intermediate said tubular member and the ends of the supporting ropes attached to said shackles formed with a slack in the material so as to relieve strain on said material adjacent its connection with said shackle plate.

8. The combination of a tent construction including a fabric top having a pole pike opening, a member having a central opening registering with said pike opening, rope engaging shackle means secured to said member, a grommet engageable in said openings including means to clampingly engage the outer surfaces, respectively, of said member and top and unite the same into a unitary structure, rope means connected to said top at a point spaced from said grommet and also connected to said shackle, the distance from said connected point to said grommet through said top material being greater than through said shackle connection, whereby a slack in the top material adjacent to said grommet is provided and the strain of supporting the top is on the rope means and member irrespective of the stretching and shrinking of said top.

9. The combination of a tent construction including a fabric top having a pole pike opening, a shackle structure comprising a plate having a central opening registering with said pike opening, rope engaging shackle links secured to opposite edges of said plate, a grommet engageable in said plate and top openings including flanges to clampingly engage the outer surfaces, respectively, of said plate and top and unite the same into a unitary structure, a rope connected to said top and one of said links and a guy rope connected to the opposite link, the free edge portion of the top overlying said guy rope link and being attached to the side tent wall, the top construction and wall connection therewith and the arrangement of the shackle structure and link being such as to present a substantially flat seam extending from said grommet to the edge of said top, whereby said top presents a substantially flat smooth surface throughout its surface area.

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