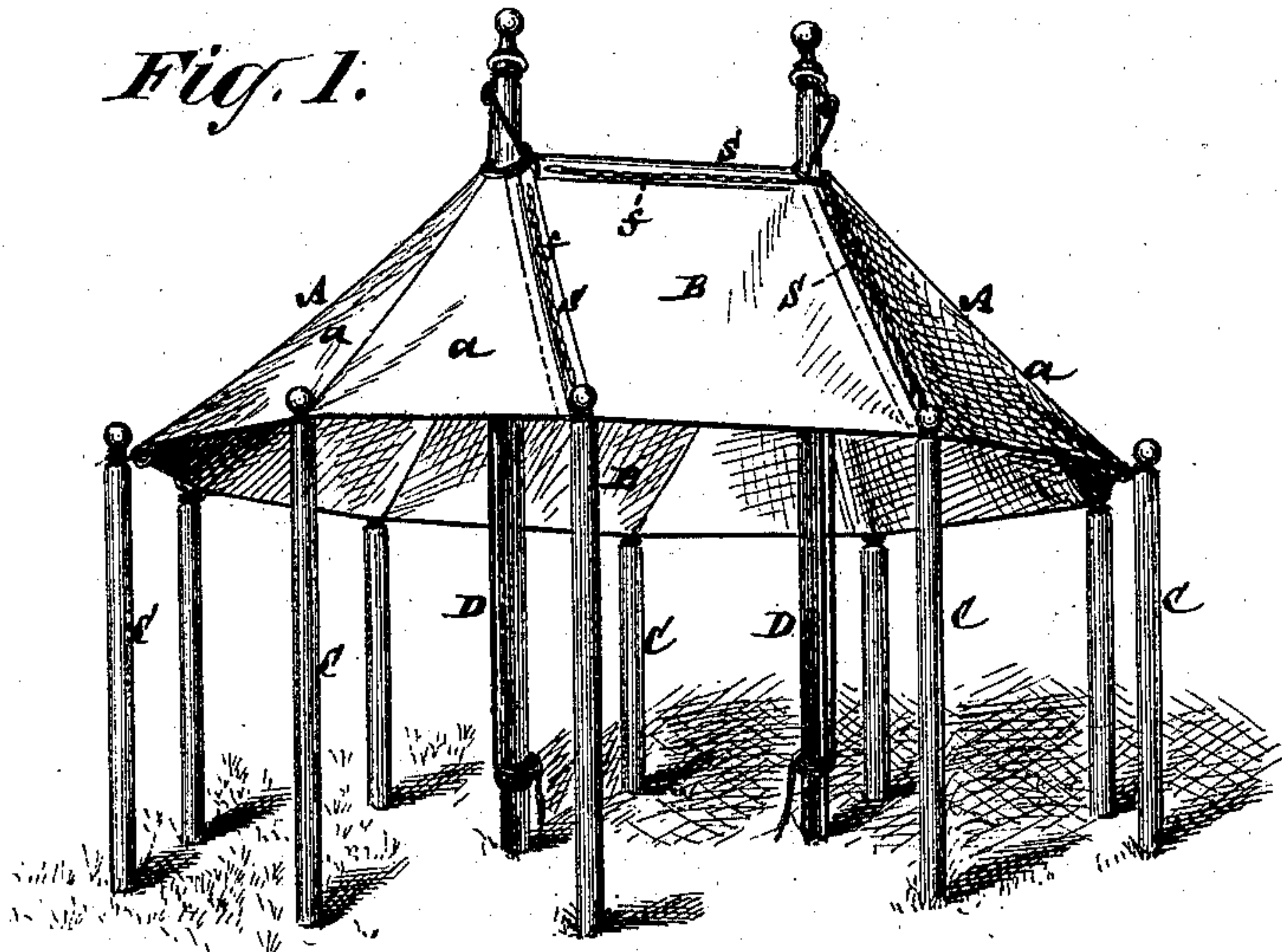


M. R. KUNKELY.  
Tents, Awnings, &c.

No. 203,279.

Patented May 7, 1878.

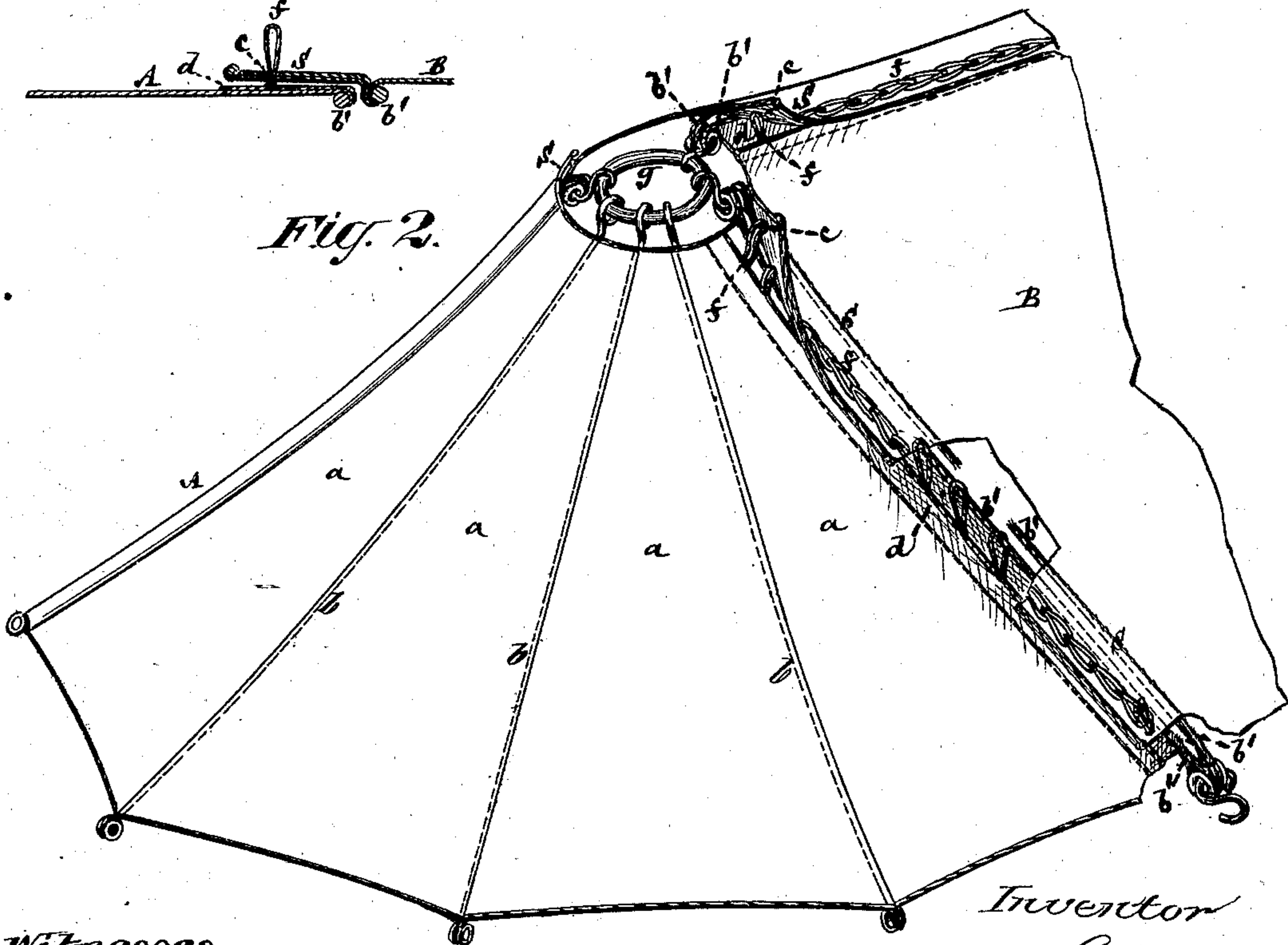
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



Witnesses

John Becker  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN TENTS, AWNINGS, &c.

Specification forming part of Letters Patent No. 203,279, dated May 7, 1878; application filed October 16, 1877.

*To all whom it may concern:*

Be it known that I, MAX R. KUNKELY, of the city and State of New York, have invented certain new and useful Improvements in Tents and Awnings, &c., of which the following is a description, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to awnings, tents, and various canvas-covered structures in which the cover is composed of two or more parts or pieces, united to each other by lacing.

One of the objects of the invention is to obtain a perfect and secure lap, and to do away with all opening or gaping between the lacings of the united parts, including the ridges when the invention is applied to a tent, and so prevent water from entering at the junction of the laced parts.

Another object of the invention is to give increased strength to the top or cover and structure to which it is applied.

The invention is more particularly designed to be applied to tents, and will herein be described mainly with reference thereto.

It consists in a peculiar lap at the parts of the cover which are united by lacing, and in a combination, with the lap, of additional ropes and means for stiffening, supporting, and securing the cover at opposite ends of its laced parts.

Previously to describing the invention as illustrated in the drawing it will be well to observe that tents are usually made in halves, quarters, and other numbers of parts, according to the size of the tent, and that certain or each of said parts are composed of sections, permanently stitched or secured to each other, and braced by what are termed "section-ropes." These sections lead from the head of the tent down to the foot thereof, or side poles.

Heretofore the several parts of the top or cover have had the lacings which unite them on the edges of said parts, and the holes which the lacing-lines, or "keys," as they are termed, pass through but a short distance from the one edge of each of said parts, while the lacing-lines or keys were on the extreme other edge of said parts. When the parts as thus constructed are laced together, there is an open space in the lacing-holes which the lacing-lines

or keys cannot fill up, and said lines, by stretching, gape, thus leaving openings in and between the parts for the rain to pass through. As the parts are thus united, their laced portions, in not being stayed, as the sections are, by the section-ropes, are much weaker than the sections. These and other defects my invention obviates.

Figure 1 represents a view, in perspective, of an oblong wall-tent with the walls omitted, and with the top or cover as composed of two halves or ends, forming two parts, and a center-piece in two parts, laced together at the ridge, all constructed in accordance with my invention. Fig. 2 is a perspective view, upon a larger scale, of the canvas top in parts, with certain portions in section; and Fig. 3 is a sectional view of the lap where any two of the parts are laced together.

A A are the two end parts of the canvas top, and *a a* the sections of which the same are composed, *b b* being the section-ropes. B B are the two parts of the center-piece, with which the end parts A A are united by lacing. C C are the side poles of the tent, and D D quarter or center poles.

On one edge of each part A B or B B, I add a lap or lapping-piece, S, in which, at some little distance from its outer edge, I work the usual lacing-holes *c*. This lap may vary in width, according to the size of the tent. On the other edge of each of said parts I stitch a strip of canvas, *d*, which may be wider than the lap, and which, as well as the lap, may be of double thickness, and has the keys or lacing-lines *f* united to it, instead of to the part A or B, said lacing-lines coming underneath the lacing-holes *c* in the lap when each part of the cover is in position relatively to its adjacent part. This forms a lapping of the parts, one over the other, and the lacing-line *f* constitutes a ridge, which prevents water from running under the lap and down into the tent.

By use of the laps S and arrangement of the lacing-lines as shown and described, the edges of the parts A B, for instance, are left clear or free for the attachment thereto of section-ropes *b' b'*, whereby said edges may be braced or supported as they have not been heretofore, and as the sections *a a* are braced and supported. These additional or edge ropes



*b' b'* materially add to the strength of the tent and its cover by relieving the edges of the parts of the cover of strain, thus stiffening the tent where usually it has been weakest. Said ropes *b' b'* of each laced portion are or may be united, by eyes or thimbles at their upper ends, to a single hook—that is, two ropes to the one hook—which hook engages with the bail-ring *g* at the head of the tent. This holds the parts of the cover firmly together, a similar connection being made at the lower ends of these ropes *b' b'*, by a single hook or otherwise, with each side pole, respectively, at the foot of the tent or its awning.

By means of the ropes *b' b'* on the edges of the parts of the canvas cover I am enabled to put as many poles inside of the tent between the center and the side poles as there are sections, and to arrange them at equal distances apart.

The same construction of lap *S* and arrangement of the lacing-line and of section or bracing ropes at the edges of the parts *B B* is adapted for the seam or junction of the cover at the ridge as has been described with reference to the seam or junction of the parts down the top from head to foot of the tent; and a single hook at either end of the ropes which run along either upper edge of the parts *B B*, serve to unite the ends of said ropes with the bail-rings *g*.

The lap or lap-lacing on the ridge of the center-piece *B B* is of great importance, inasmuch as it enables each half center-piece to have a ridge-rope, one hook from each bail-ring being

arranged to take the eye of both ridge-ropes, to hold both parts or halves of the center-piece together.

When the two parts *B B* of the center-piece have more than one section, each of the ropes of said sections has eyes on its ends, arranged to run up and fasten to the ridge and foot rope on each half center-piece. The opposite eyes of each half center-piece tie together, making it like one rope over the whole center-piece, and preventing any strain from coming on the lap-lacing, the section-ropes and the edge-ropes taking all the strain.

I claim—

1. The combination of the separately-attached lap or overlapping piece *S* on the edge of either one part of the cover or awning, and having lacing-holes in it along or near its free edge, with the underlapping edge or portion of the adjacent part of the cover or awning or strip secured thereon, and the lacing-line or key *f*, arranged back of the edge of said underlapping portion, substantially as specified.
2. The section-ropes *b' b'*, secured along the edges of two meeting parts of the cover or awning, and united at their opposite ends to the poles or supports of the tent, in combination with the lap or overlapping piece *S* and the lacing-line or key *f*, essentially as shown and described.

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Witnesses:

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