

R.B. Pullan,

Tent,

Nº 39,777,

Patented Sep. 1, 1863.

Fig. 1

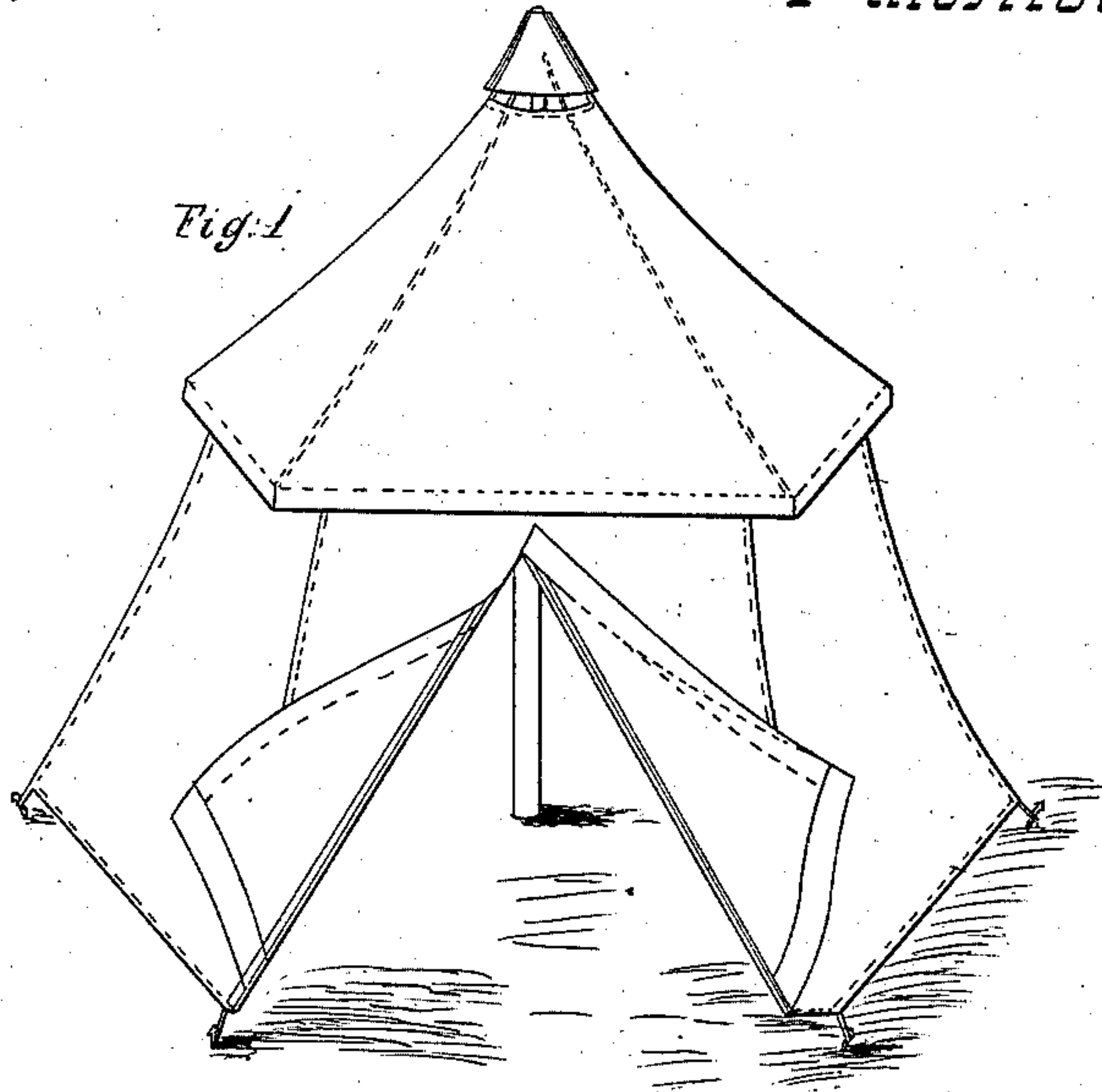


Fig. 4

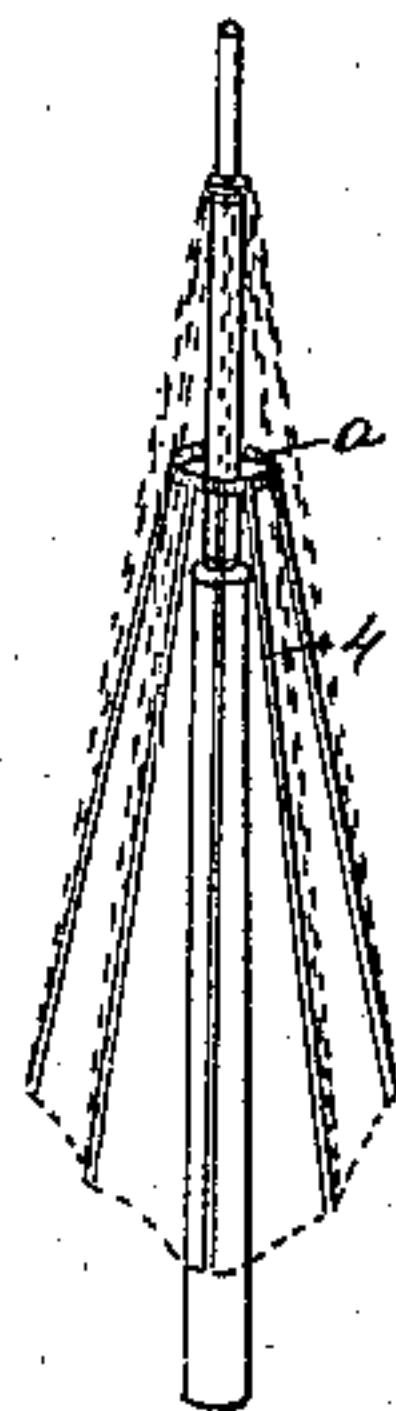


Fig. 5

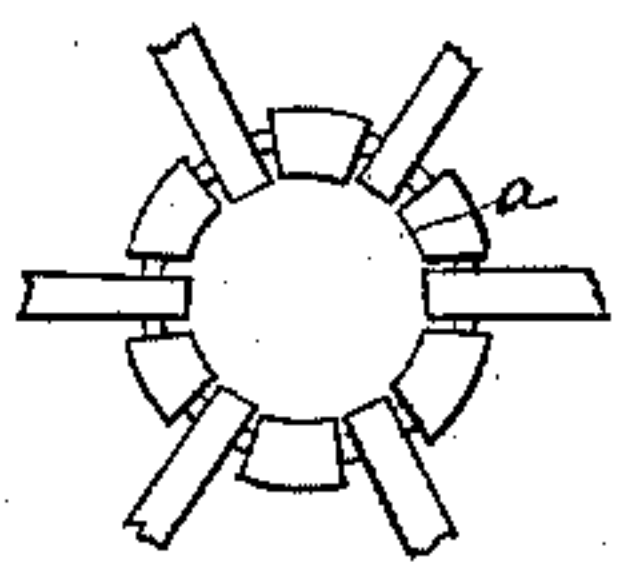


Fig. 2

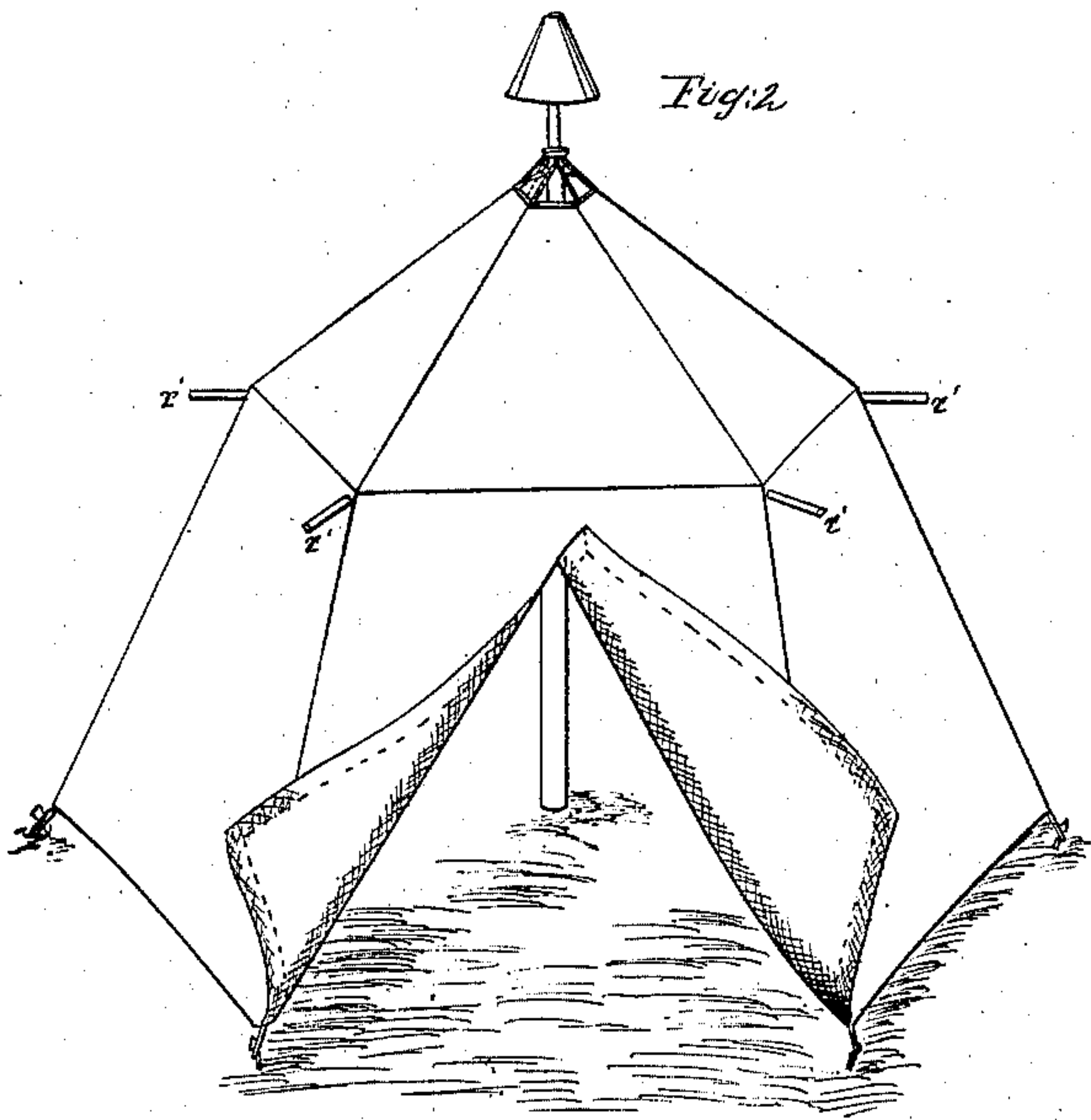
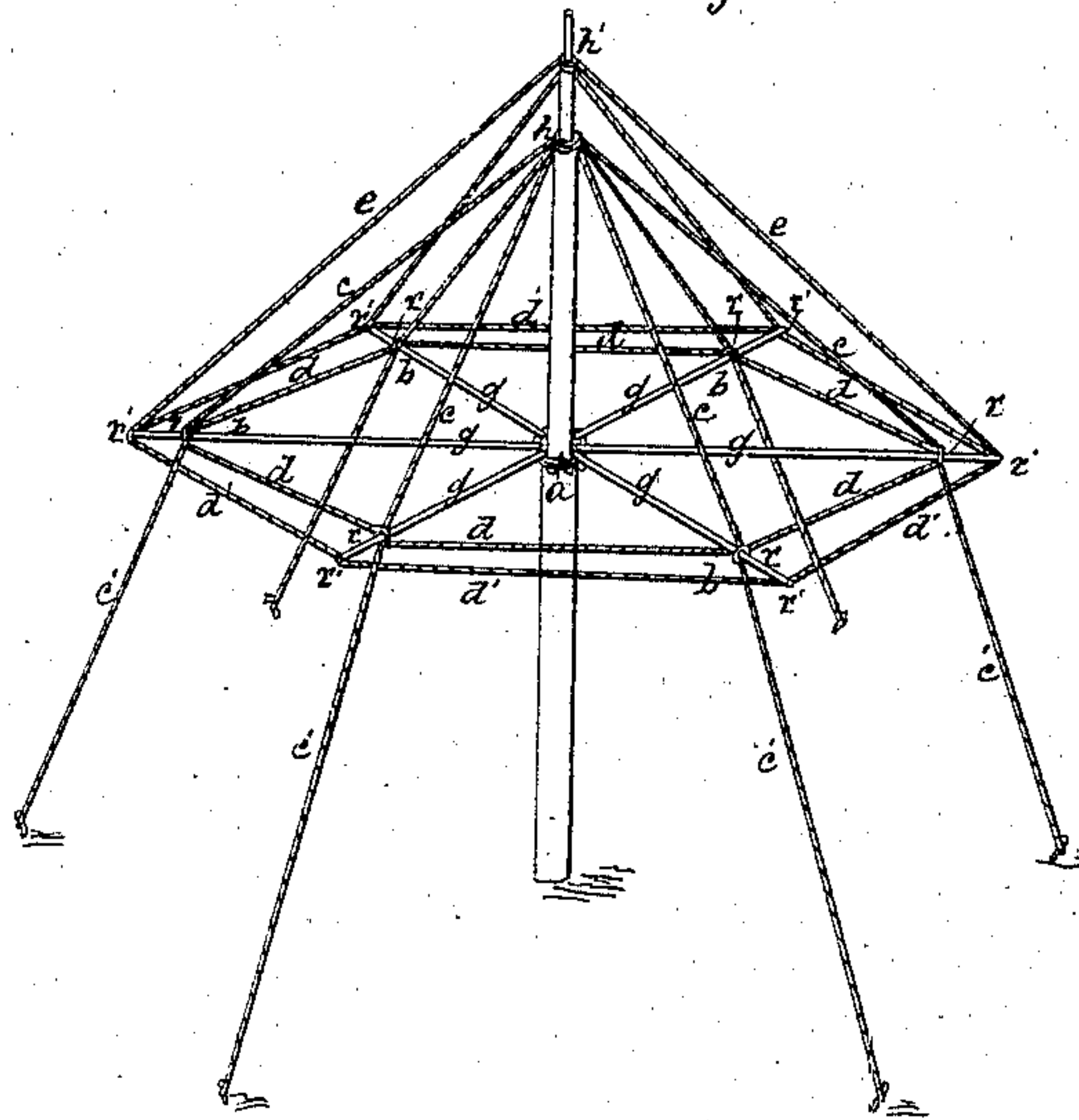


Fig. 3



Witnesses
J. H. Phillips
E. P. Norris

Inventor
Richard B. Pullan

UNITED STATES PATENT OFFICE.

RICHARD B. PULLAN, OF CUMMINSVILLE, OHIO, ASSIGNOR TO JESSIE D. PULLAN, OF SAME PLACE.

IMPROVEMENT IN FOLDING TENT-FRAMES.

Specification forming part of Letters Patent No. 39,777, dated September 1, 1863; antedated September 13, 1862.

To all whom it may concern:

Be it known that I, RICHARD B. PULLAN, of Cumminsville in the county of Hamilton and State of Ohio, have invented certain new and Improved Devices Applied to Military Tents; and I do hereby declare that the following is a full and sufficient description thereof, reference being had to the accompanying drawings and references marked thereon.

The nature of the invention consists in the arrangement of certain bracing-arms for controlling and stretching the canvas covering of the said tent, in manner hereinafter more fully explained.

In the accompanying drawings, Figure 1 represents an elevation of the tent; Fig. 2, the tent elevation, the outer covering removed; Fig. 3, a perspective view of the frame-work and cords without the canvas; Fig. 4, the frame-work partly folded together; Fig. 5, a detached vertical view of the ring and arms seen in place in Fig. 3.

This invention belongs to the class of tents called "central-pole" tents. The pole consists of detachable tubular sections, capable of sliding upon each other like the parts of the tube of a telescope, and hence called the "telescopic pole," capable of being lengthened or shortened, according to circumstances. Each section is armed with suitable set-screws or stops, for holding the parts firmly in place for lengthening or shortening the pole, as may be required. The frame of this tent consists of the central pole and ring, *a*, with its six radial arms. (Shown in Figs. 5 and 3, and four of the ends of which are seen to project from the canvas in Fig. 2.) The arms are nearly folded, as shown in Fig. 4, and are stretched nearly horizontally, as shown in Fig. 3.

By comparing the respective positions of the ring *a*, as seen in Figs. 4 and 3, we perceive that when the arms are in the folded position the ring is carried upward into the higher part of the tent, and that when the arms are fully extended the ring is moved downward till it rests on the top of the lower section of the tent-pole, as upon a shoulder. This position, as here arranged, brings the radial arms into the horizontal position, stretching the canvas to its full capacity and presenting the outline seen in Fig. 2, or that represented in

Fig. 3, the former exhibiting the tent with a single covering, the latter a tent with the double covering in its upper or roof part.

From what has now been said of the movements of the ring *a* up and down the tubular pole, it appears that the canvas coverings of the tent are made taut by pulling down the ring and loose by elevating it. It will also be seen by inspecting Fig. 3 that various cords are used for bracing the several parts of the tent, and for the support of the canvas, some for the support of the canvas of the inner covering and some for the support of the outer covering. The upper part is arranged with two coverings and a ventilating space between them. The lower part is arranged with a single covering.

Confining the inspection to Fig. 3, cords *e* extend from the apex *h'* downward and outward to the ends of the six extended arms, (two of the cords *e* have been omitted in the drawings, to avoid confusion arising from the many crossings of the cords,) and terminate at *r'*. Connected with the lower ends of cords *e* is the horizontal cord *d'*, entirely surrounding the border of the upper part of the tent. In the same manner as cords *e* radiate from apex *h'*, so do cords *c* radiate or diverge from the apex *h*, which is the top of the inner tent, to the several points *r*, where the cord is made fast, and is thence extended down to the several stakes in the ground, under the denomination of cord *c*. Horizontal cords *d* are stretched from point *r* to point *r*, throughout the entire circumference of the inner tent, in the same manner as cords *d'* extend around the lower border of the outer tent.

Letters *b* represent rings or thimbles for fastening the cords at *r*. They are sustained in place by means of shoulders on the arms, immediately within the rings, preventing the rings from slipping toward the center.

From what has been stated above it appears that the horizontal cords *d* and the inclined cords *c*, converged at *h*, constitute the frame-work of the upper part of the inner tent, and that horizontal cords *d'* and inclined cords *e*, converged at apex *h'*, constitute the frame-work of the outer covering of the tent. The cap which covers the top or apex of the tent, is sustained at the top of the pole in a suitable

ble manner, capable of being elevated or depressed by adjustment for varying the degree of ventilation, &c.

The functions of the ring *a* and bars *g* for stretching and otherwise controlling the canvas covering of the tent, including the inner and outer covering thereof, have been already indicated in the description above, but not specifically defined. I will proceed to explain them, first showing how the tent is set up.

The tent is set up by first elevating the telescopic pole in the vertical position and drawing the cords *c'* in the direction shown in Fig. 3. The ring *a* is then seized by the hand, or by means of a cord attached, and drawn down so that it may rest on the top of the lower section of the pole or some equivalent rest. This movement of the ring and of the bars with respect to the line of direction in the tent-pole and the canvas covering causes the bar *g* to vibrate, as it were, on an axis at some point near its middle, which is itself unstable, and is carried downward and outward in the action of stretching the tent and upward and inward in the action of closing the tent. For example, suppose the bar marked 4 in Figs. 3 and 4 to be considered as the axis of vibration in the bar, and the initiatory position of the bar be that shown in Fig. 4, and the final position of the bar be that shown in Fig. 3, and that we then perform the operation of opening the tent, we shall find on the first movement of the ring *a* in the downward direction, carrying, as it does, the corresponding end of bar 4, at first nearly vertically, but as the outer end of bar 4 is held by the canvas attached thereto, the tendency is to hold

the said outer end in the same position, but yielding by the stretch of the canvas the end of said bar is thrust somewhat outward. This first step of the movement, by means of the restriction or resistance of the canvas or cord *e* against the end of the bar, gives to the axis a compound motion downward and outward, the resultant of which is a movement in a curve, as might be demonstrated; but as the character of the line which would be described has nothing to do with the question here involved, it is passed by. To the outer portion of the bar or bars *g* are attached at the points *r r'* the cords sustaining the inner and the outer covering of the upper or roof part of the tent. The points *h h'* on the pole and *r r'* on the bars indicate both the space between the inner and outer coverings, and the inclination and length of the roof, as seen in Fig. 3.

The work to be done on which the claim is based is the arrangement provided for stretching the canvas of the inner and outer coverings by means of moving the bar and ring seen at 4 in Fig. 4 to the position shown in the same bar in Fig. 3.

What I claim as my invention, and desire to secure by Letters Patent, is—

The arrangement and combination of the ring *a* and bars *g* with the cords *c* and *e*, for stretching and otherwise operating the inner and outer coverings of the tent, as herein described and represented.

RICHARD B. PULLAN.

Witnesses:

JOHN S. HOLLINGSHEAD,
D. ROWLAND.