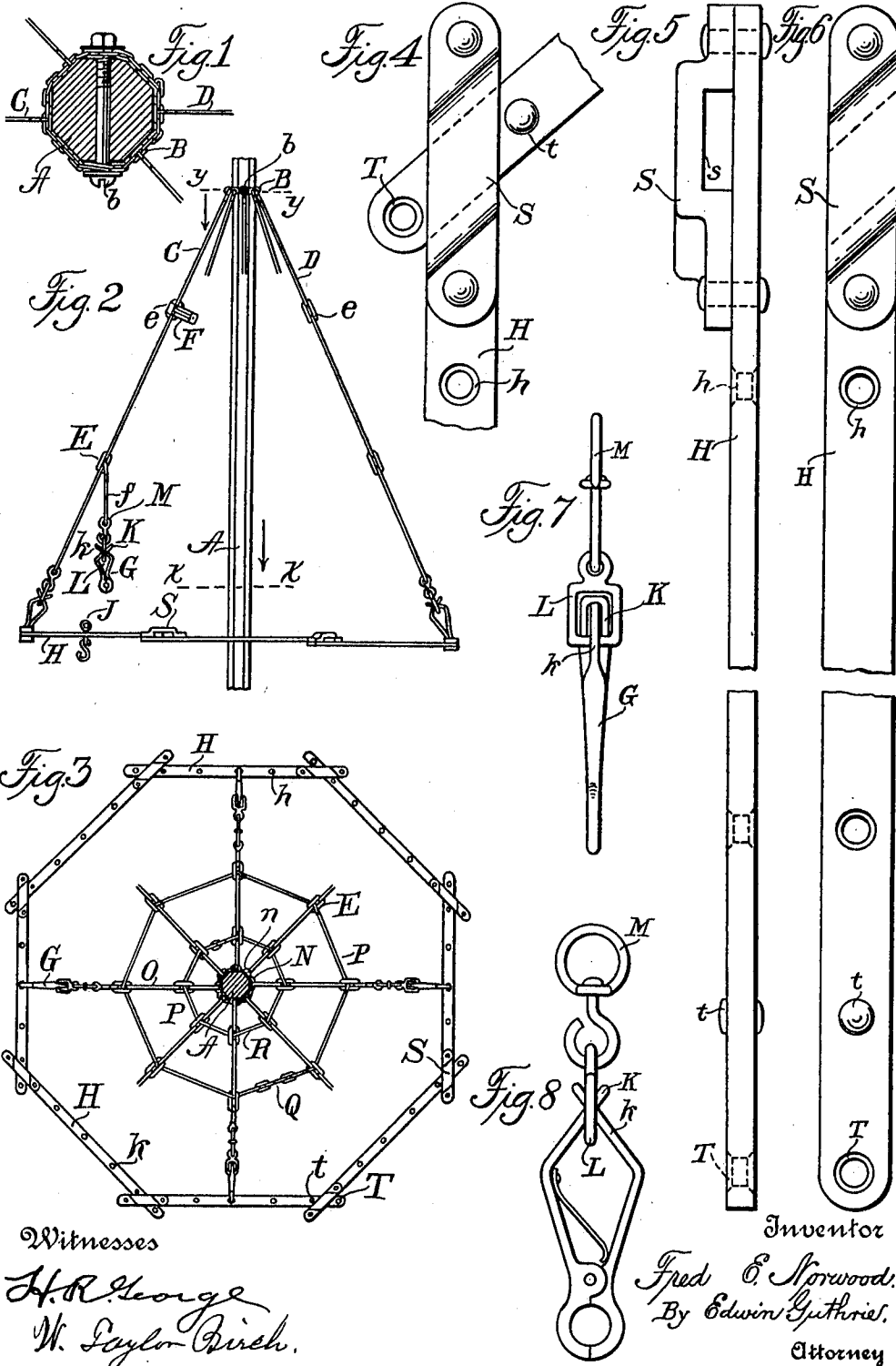


F. E. NORWOOD.  
SUSPENSION RACK.

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1,035,895.

Patented Aug. 20, 1912.



Witnesses

H. R. George  
W. Taylor Birch.

Inventor

Fred E. Norwood.  
By Edwin Guthrie,  
Attorney

# UNITED STATES PATENT OFFICE.

FRED E. NORWOOD, OF CHICAGO, ILLINOIS.

## SUSPENSION-RACK.

1,035,895.

Specification of Letters Patent.

Patented Aug. 20, 1912.

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*To all whom it may concern:*

Be it known that I, FRED E. NORWOOD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Suspension-Racks, of which the following is a specification.

This invention relates to suspension racks.

It is intended more particularly for the reception and support of military accoutrements in camp, the various parts being arranged about a tent pole, but, it may be equally adapted for the display of other implements or articles.

The object of this invention is the production of a hanging rack comprising parts of special construction and arrangement with respect one to another, whereby the whole may be easily and quickly taken down and folded and rolled into small compass for transportation or storage.

The preferred construction and arrangement of this invention are set out in the accompanying drawings, of which—

Figure 1 represents a cross-section of a tent pole, showing the bolt and chain attached to the pole to carry the sustaining cords. This figure is drawn upon a somewhat enlarged scale, and the section is taken on line *y—y* of Fig. 2, which is a side view of the parts assembled. Fig. 3 is a cross-section of the tent pole on broken line *x—x* of Fig. 2 and shows the polygonal arrangement of the mutually-engaging bars. Fig. 4 is a detail front view showing the ends of two bars, substantially full size, in engagement. Fig. 5 is a side view, and Fig. 6 a face or flatwise view of one of the bars. Fig. 7 is an enlarged view of a convenient and efficient form of clip for use in connection with this invention. Fig. 8 is a side view of the clip.

The same letter is employed throughout the drawings and description to refer to the same part.

Considering the drawings, A represents a tent pole, about which may be placed a chain B, secured to the pole by a bolt *b*. Downwardly and outwardly extended cords C and D have their upper ends attached to the links of the chain, as best shown in Fig. 1. There may be any desired number of cords C and D, each of which may include any number of rings E. A fastening F of any convenient construction may be se-

cured, for example, to rings *e* placed toward the top of the tent pole, and, by means of short cords *f*, another fastening, for example, the clip G, may be secured to other rings E.

There are a number of bars H, usually arranged as shown in Fig. 3, and suspended horizontally from the tent pole as shown in Fig. 2. Bars H are provided with any desired number of countersunk holes *h*, and the cords C and D, by means of clips G at their lower ends engage holes *h*. Or, the particular holes *h* to be engaged by the clips on those cords, may be provided with swivel hooks J that are made with an eye above the bars as illustrated in Fig. 2.

While I do not limit myself to any particular form of clip, hook or other fastening for use in connection with this invention, there is illustrated in Figs. 7 and 8 a form of clip particularly useful for a variety of purposes. The clip G comprises a leg K constructed with a loop at the end, and another straight leg *k*. Those legs are passed diagonally in opposite directions through a supporting link L, usually of substantially rectangular contour as shown in Fig. 7, and the straight leg *k* also passes through the loop at the end of the leg K. Thus, the legs cannot become disengaged from link L, while, by pressing the bends of the legs together against the force of the spring illustrated in Fig. 8, the jaws of the clip are opened. It is customary in practice to provide the clip G with a swivel hook-and-eye M at the top.

Now considering Fig. 3, it will be observed that the tent pole A is encircled at the level of the bars H by a second chain N, and secured by a bolt *n*. The chain and bolt may be of the same construction exactly as has been described for chain B and bolt *b*. Any number of radial cords O have their inner ends attached to chain N and their outer ends connected with bars H by means of clips G in engagement with holes *h*. Cords O include any desired number of rings E. A cord P is passed through one series of rings E in cords O, for example, the outermost series, and the cord is provided with any suitable fastening Q to connect the ends. A cord R is similarly passed through an inner series of rings. The purpose of the radial and circularly arranged cords just mentioned is to give a certain rigidity to the

frame formed by the engaging bars, as well as to afford supports for such hooks or the like that it may be found convenient to attach to them.

- 5 Now considering Fig. 4, it will be noted that the end of one bar is passed diagonally beneath the strap S riveted upon the end of another bar. The cavity *s* thus formed to receive the end of a bar is shown in Fig. 5.
- 10 The end of the bar H that passes through the strap S in the cavity *s* has at its end a countersunk hole T, and, at a predetermined distance therefrom a projecting rivet *t*. The office of the rivet is to limit the extent to
- 15 which the end of the bar passes through the cavity *s*, as best shown in Fig. 4. The diagonal cavities *s* are in practice ordinarily constructed to hold the bars in the shape of a regular octagon as illustrated in Fig. 3.
- 20 The pull of the suspending cords C, D, is upwardly and inwardly toward the central support, and, were it not for the stop rivets *t*, the bars in use would slide in or out of the cavities and the octagonal form would not
- 25 be preserved. In other words, the devices provided at the ends of the bars hold the bars at a given angle one to another. Ordinarily, after the bars have been engaged as shown in Fig. 4, and arranged as shown in
- 30 Fig. 3, and cords O, P and R applied, the ends of the engaged bars do not become disengaged under usual working conditions, but, if it is desired to insure them against disengagement, any plug, or hook J may be
- 35 inserted in the holes T outside the strap S, and the frame composed of the polygonally disposed bars cannot come apart. It will be discerned from Figs. 4, 5 and 6, that the bars are flat, and that the diagonal cavity
- 40 beneath the strap S fits the bar closely yet movably, effectually preventing one bar from rotating upon its longitudinal axis with respect to another bar. It is believed to be
- 45 clear that the whole may readily be taken down, and the bars placed side by side, with

the cords around them, for shipment or storage.

Having now described this invention and explained the mode of its operation, what I claim is:—

1. In a suspension rack, the combination with bars each provided at one end with a device constructed to engage and hold the end of another bar at a predetermined angle, each bar having means near the other end constructed to limit its movement longitudinally with respect to the said device of another bar, said bars being arranged to form a polygonal frame, and the said device being constructed to allow the separation of the bars outwardly with regard to the center of the polygonal frame and to resist such separation inwardly, a support, and means constructed to connect the bars and said support.

2. A polygonal suspension rack, comprising bars each having at one end a device permanently attached to the bar and constructed to provide a diagonal cavity arranged to receive the end of another bar, and means constructed to limit the insertion of the ends of the bars in said cavities, each bar being detachable from the others.

3. A polygonal suspension rack, comprising flat bars each having at one end a strap permanently attached to the bar and constructed to provide a diagonal cavity arranged to receive the end of another bar and to movably fit said bar whereby the bar cannot rotate in said cavity, and means constructed to limit the insertion of the ends of the bars in said cavities, each bar being detachable from the others.

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

FRED E. NORWOOD.

Witnesses:

G. A. SEIDENBECHER,  
GEORGE ENGBLOM.