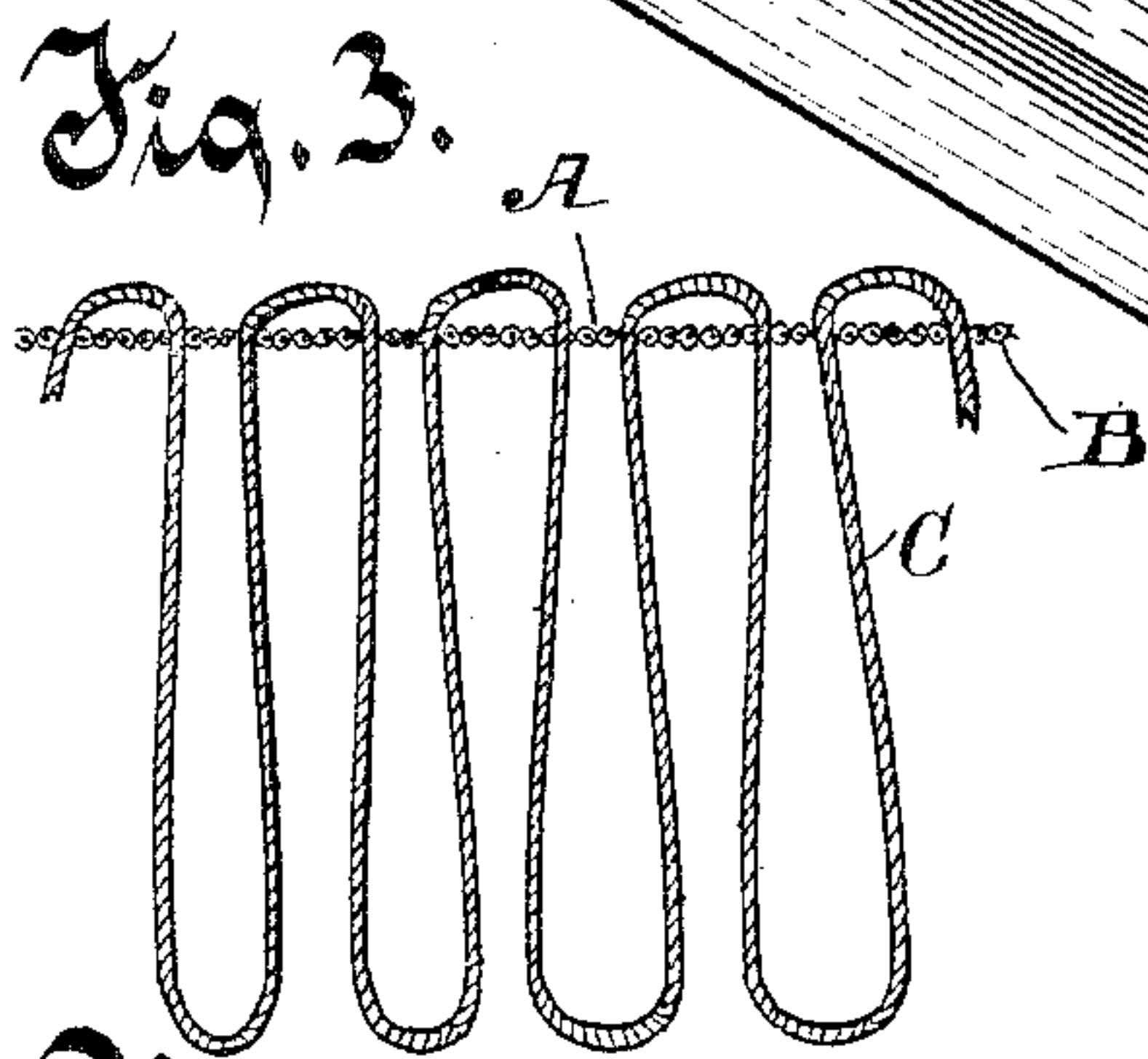
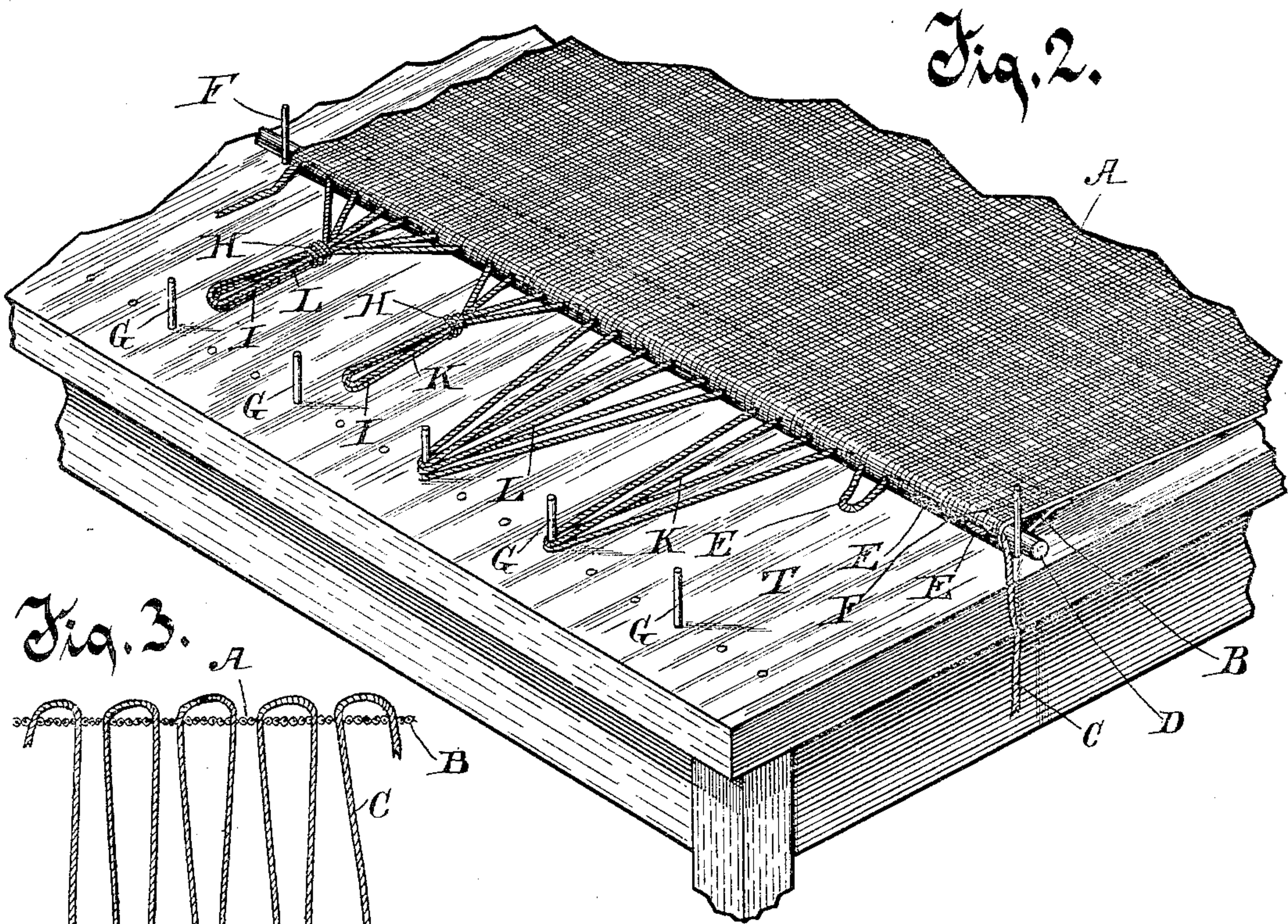
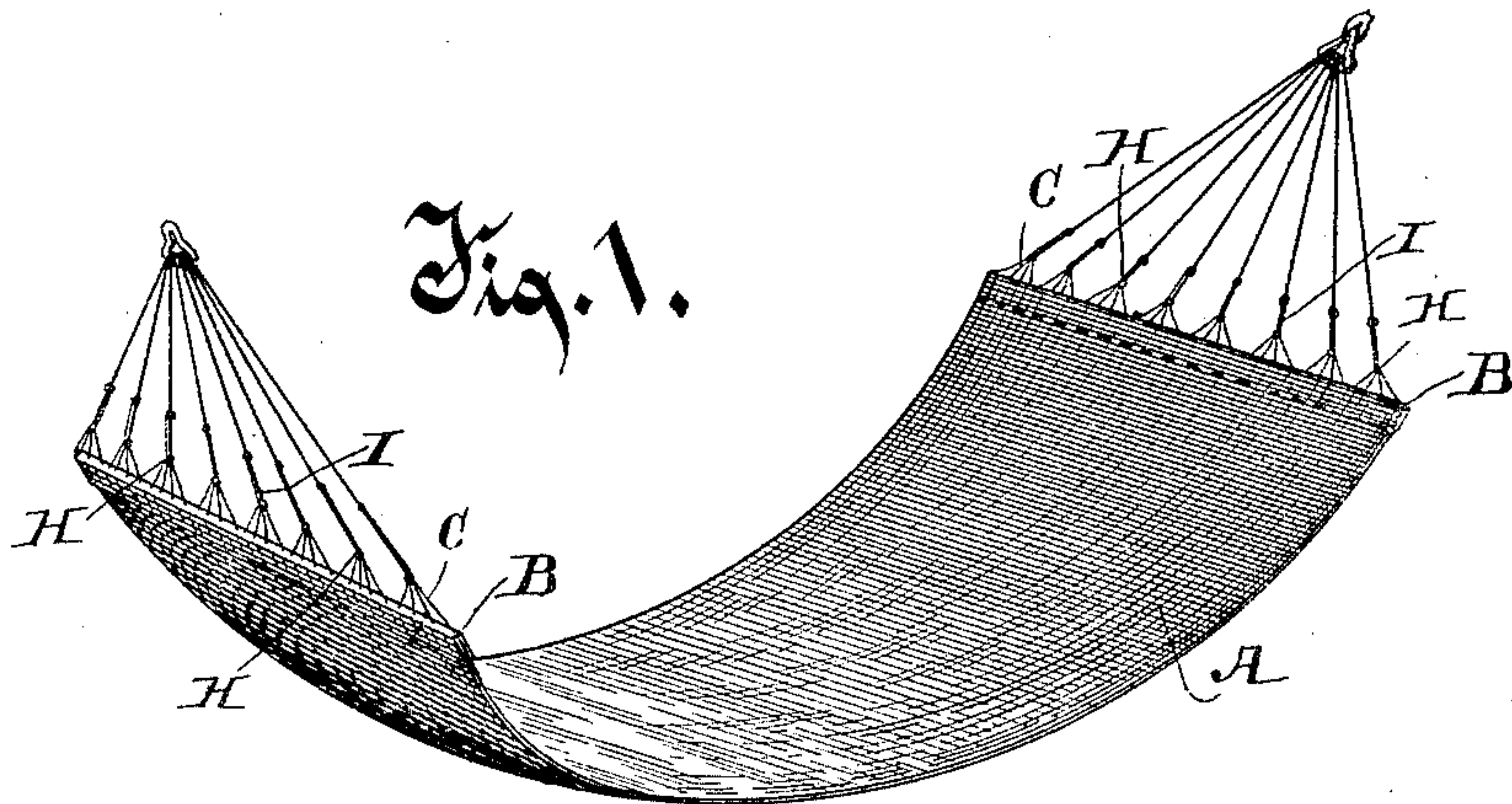


(No Model.)

C. KNOERNSCHILD.  
HAMMOCK.

No. 459,043.

Patented Sept. 8, 1891.



Witnesses.

W. Keene,  
Anna L. Faust.

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# UNITED STATES PATENT OFFICE.

CHARLES KNOERNSCHILD, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE  
GEM HAMMOCK AND FLY NET COMPANY, OF SAME PLACE.

## HAMMOCK.

SPECIFICATION forming part of Letters Patent No. 459,043, dated September 8, 1891.

Application filed October 20, 1890. Serial No. 368,668. (No specimens.)

*To all whom it may concern:*

Be it known that I, CHARLES KNOERNSCHILD, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Hammocks, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to improvements in hammocks having a body formed of woven fabric and supported by cords secured to the ends of the woven fabric.

In the drawings, Figure 1 is a perspective view of my complete device, in which the hammock is represented in the position in which it is used, the hammock being spread at the ends by rigid rods or poles thrust through the hem of the woven fabric. These rods or poles through the ends of the fabric may or may not be used, as desired. Fig. 2 is a fragment of the fabric of a hammock lying on the top of a table and with which the supporting-cord is shown in different and successive conditions in which it exists in the process of securing it to the hammock and tying several strands of it together for use. Fig. 3 is a transverse section of the fabric of the hammock with the supporting-cord inserted through it, showing its relation to the fabric.

The body of the hammock is formed of a piece of woven fabric A, which is finished at both ends by turning the ends over upon itself and stitching them down, forming a loop or hem B.

In making hammocks of the general form of the one shown in the drawings the body formed of the woven fabric A is constructed on a loom and requires the attention and care of a skilled operative to manufacture it. When removed from the loom and cut into pieces of proper length for hammocks, the hems B are made by stitching the ends down upon the main part of the fabric on a sewing-machine, and thereafter the supporting-cord C is inserted, looped, and tied by girls or boys or other unskilled cheap labor. For this purpose a rod D is inserted temporarily in the hem of the fabric in which the supporting-cord is to be inserted, as shown in Fig. 2.

The cord C is then run into the fabric by threading it on a needle and running the needle with the cord thereon through the fabric at the center line or bend of the hem in a running stitch—that is, by passing under several threads of the warp, then over a few threads of the warp, and again under several threads of the warp, and so continuing across the entire fabric. This process puts the cord into the fabric and leaves it in the condition shown at E. Thereupon the end of the hammock is placed flat on a table T, with the rod D placed behind and against the pegs F F, inserted in the table, and other pegs G G being inserted in holes therefor in the table at proper distances apart and at a desired distance in front of the end of the hammock. The loops E E on the outside of the fabric commencing at one side of the hammock are pulled forward until they are long enough to and are passed over a peg G in groups of two or three loops, as preferred. These loops forming a single group are subsequently removed from the pegs one by one and tied medially in a knot H, whereby the loops are secured together in groups permanently, each group outside of the knot forming a single compound loop I, adapted for supporting the hammock. The loops as first lengthened or drawn out from the fabric are shown in groups of two and three loops at K and L, respectively. The free ends of the cord C are made fast to the fabric by tying or knotting them thereto or by knotting them into the outer groups of loops.

Heretofore a supporting-cord has been secured to a hammock by interweaving it with the warp-threads and drawing the cord out at intervals into loops; but this construction is objectionable, because it is difficult and expensive to weave this extra cord into the fabric during the process of weaving and more difficult to draw the cord out into loops, and the completed device is not satisfactory, because the supporting-cord, being run under and over each alternate thread of the warp, supports the hammock by strain on only one-half of the threads of the warp, thus puckering the fabric and producing a comparatively weak construction.

In another form of hammock heretofore



made the supporting-cord was introduced into the fabric by drawing it doubled or in a looped form through the fabric between the threads of the warp, the result of which when the hammock is used is to pull the threads of the warp apart where the supporting-cord passes doubled between them, thus weakening and disfiguring the hammock.

It will be seen that in my improved device the method of securing a supporting-cord in the end of the body of a hammock constructed of woven fabric is very simple and easy to be accomplished, and that the work may be done by boys or girls or other unskilled persons. It will also be understood that the construction forms a strong and enduring hammock, and that as only a single strand of the cord is passed through the fabric between any two strands of the warp there is no great tendency to pull the strands of the warp apart when the hammock is suspended on the supporting-cords, as there would be if the double or looped cord were

merely pulled through the fabric between the same two strands of the warp thereof. 25

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

As an article of manufacture, a hammock comprising a body part formed of woven fabric having hems at and across its two ends, supporting-cords, one at each end, inserted in the fabric alternately over and under several strands of the warp of the fabric, but so as to have a greater number of strands above the cord, the exterior loops of which cord are lengthened and knotted together in groups in single compound loops, the free ends of the cords being secured substantially as described. 30 35

In testimony whereof I affix my signature in presence of two witnesses. 40

CHARLES KNOERNSCHILD.

Witnesses:

C. T. BENEDICT,  
ANNA V. FAUST.