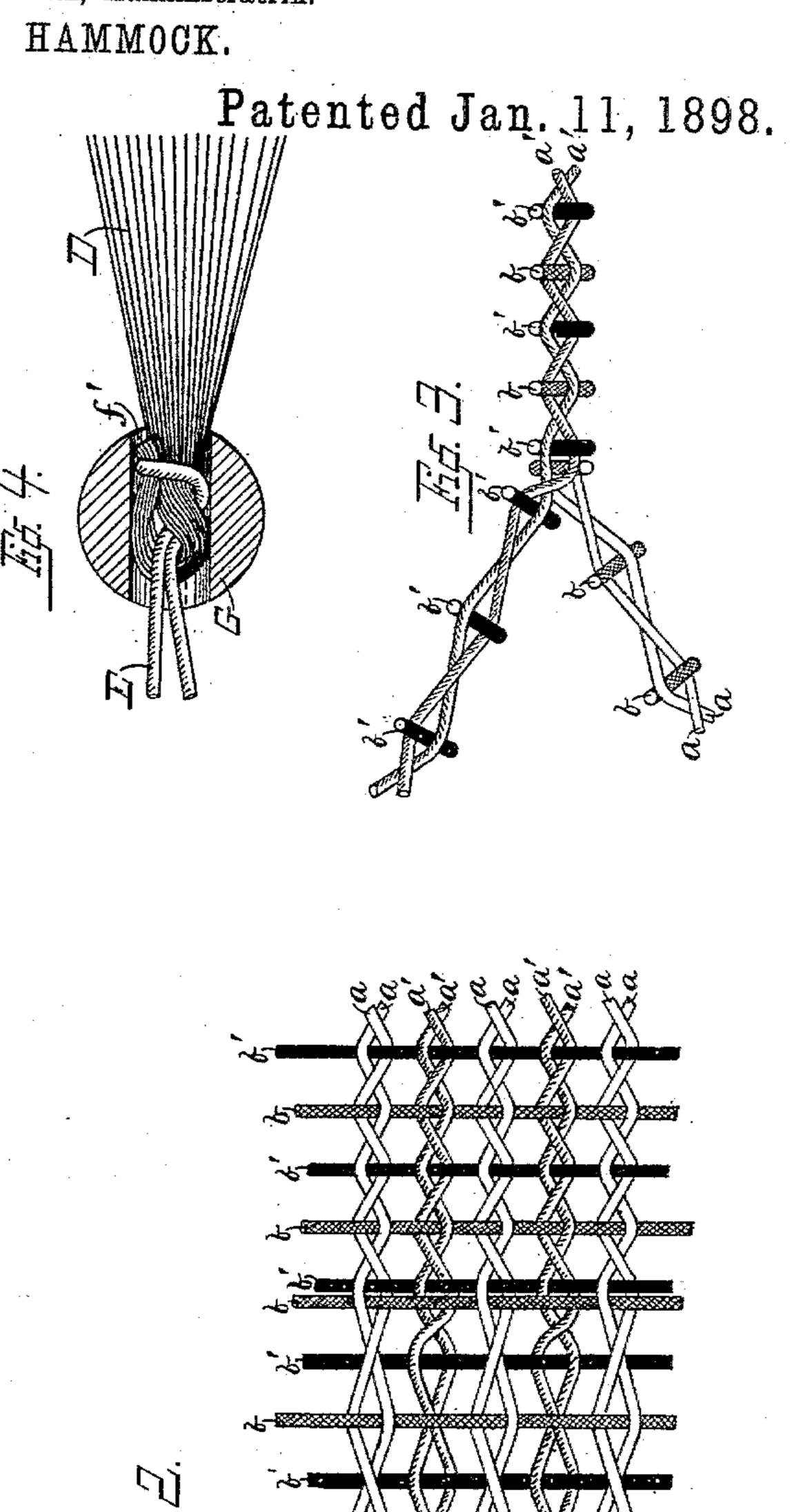
## H. THIELE, Dec'd.

J. THIELE, Administratrix.

No. 597,227.



Witzesses: Hallow Vinnified Timber

And Thele Henry Thiele By Erwin Wheeler, Attorneys.

## United States Patent Office.

HENRY THIELE, OF MILWAUKEE, WISCONSIN; JOHANNA THIELE ADMINISTRATRIX OF SAID HENRY THIELE, DECEASED.

## HAMMOCK.

SPECIFICATION forming part of Letters Patent No. 597,227, dated January 11, 1898.

Application filed December 14, 1896. Serial No. 615,606. (No model.)

To all whom it may concern:

Be it known that I, HENRY THIELE, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Hammocks, of which the fol-

lowing is a specification.

My invention relates to improvements in that class of hammocks which are provided to with a pillow-retaining sack or pocket, and pertains, first, to the peculiar construction of the same, whereby in a cross or twist woven fabric the alternate pairs of the warp-threads and alternate weft-threads are separated from the intermediate threads to form the upper and lower walls of the pocket; second, to the adjustable connection of the unwoven ends of the warp-threads with the suspension-cords.

I am aware that it is not new to provide
20 a hammock with a pillow-retaining pocket
formed by doubling over the end or by attaching to the body of the fabric a separate
piece of goods, and also that it is not new to
form a pocket or sack in certain classes of
25 straight-woven goods, such as is commonly
known as the "bag-weave;" but I believe I am
the first to form a pocket integrally with the
fabric of a hammock, and especially that I
am the first to form a pocket or sack in any
30 form of cross or twist woven goods, this being extremely difficult, owing to the complicated harness required for cross-weaving.

My invention derives especial importance from the fact that the cross-woven fabric is 35 peculiarly adapted to the purpose of a hammock, as it is more elastic, more pleasing to the eye, and of a softer texture than any other style of weaving, and my primary object is therefore to produce in the twist or cross 40 woven fabric of a hammock an integrally-

woven pillow-retaining pocket.

As a second object I wish to provide means for uniting in groups the unwoven ends of the warp-threads directly with the suspension-cords of the hammock in an adjustable knot, whereby the slack of the central threads can be easily taken up or adjusted by the user after the hammock has been stretched by usage.

o In the following description reference is had to the accompanying drawings, in which—

Figure 1 is a perspective view of a hammock, showing the arrangement of the knot-retaining balls and stretcher. Fig. 2 is an enlarged top view in detail, showing the arrangement of the threads forming the weave and the separation of the alternate weft-threads and alternate pairs of warp-threads to form the pillow-retaining pocket. Fig. 3 is a section view of the detail shown in Fig. 2, drawn longitudinally of the warp-threads. Fig. 4 is a section view of the adjustable knot and knot-retaining ball located at the point of union of the unwoven ends of the warp-threads and the suspension-cords of the hammock.

Like parts are identified by the same reference-letters throughout the several views.

Referring to Figs. 2 and 3, which particularly show the arrangement of the threads, I have, for convenience in description, drawn 70 the alternate pairs a a of the warp-threads white and the intermediate pairs a' a' shaded, while the alternate weft-threads b are cross-hatched and the intermediate ones b' are black. By this means the course of the sev-75 eral threads can be easily followed throughout the fabric, it being understood, however, that all of the threads are usually of the same material.

The arrangement of the various threads is 8c that of ordinary cross or twist woven fabric, except that at the junction of the body-section A with the pocket-section B an additional set of harness is used and the alternate pairs of warp-threads  $\alpha$  are woven independ- 85 ently in a lower plane with the weft-threads b' and continuing thus throughout the pocketsection, weaving two fabrics united at one end of the pocket by looping the weft-threads b around and under the threads b' and under 90 one of the pairs of warp-threads  $\alpha$  in an obvious manner to form a closed end. In completing the pocket one set of harness is dispensed with and all of the warp-threads are again supported in the original harness and 95 woven into a single fabric.

In view of the complicated harness required for the production of the pocket-section, it being double that required for ordinary crossweaving, special practice and great skill are required in the production of the pocket-section, but the hammock thus produced is much neater and more durable than any other heretofore constructed in this class.

At each end of the hammock the unwoven ends of the warp-threads are gathered in 5 groups or bundles D D and united to the stretcher-cords E E by a double-loop knot, as

best shown in Fig. 4.

In order to hold the sides of the knot and thereby prevent the short end of the bundle to of warp-threads D from slipping out, as well as to protect the same from interference, I have provided the ends of the hammock with knot-protecting balls G, provided with tubular openings f', in which the knots are adapted 15 to snugly fit, and at the head end I have provided a spreader F, having similar tubular openings. It is obvious that with this construction the user can at any time take up the slack of the warp-threads which have be-20 come stretched with usage by removing the ball to uncover the knot, when the suspensioncord, being comparatively stiff and heavy, can be easily loosened from its engagement around the bundle of warp-threads and the 25 latter adjusted, as desired, without separating the knot. The knot is again rendered secure by replacing the tubular coverings.

It will be observed that by forming the pillow-retaining pocket integrally with the body of the hammock and connecting the unwoven ends of the warp-threads directly with the suspension-cords by an adjustable knot the strain on the warp-threads is evenly distributed on all sides of the pocket, thus keeping the fabric from forming creases or wrinkles and causing it to present at all times a smooth

and even surface.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a hammock, comprising a body fabric, and a pillow-retaining pocket, the respective walls of which are subdivided from, and woven integrally with the body of the fabric, with the warp-threads on both sides of the pocket extending through the entire length of the hammock, and extended at both ends in unwoven bundles, together with the suspension-cords connected to the bundles of warp-threads at the 50 respective ends, whereby the tension of the warp-threads is distributed equally in the respective walls of the pocket, and the surface of the latter kept smooth and even, substantially as described.

2. As a new article of manufacture, a hammock fabric provided with a pillow-retaining
pocket, the respective walls of which are subdivided from, and woven integrally with the
body of the fabric, in combination with the 60
suspension-cords, united to the unwoven ends
of the warp-threads by double-loop knots and
removable rigid coverings adapted to engage
with, and hold the sides of said knots, whereby
the tension of the warp-threads is distributed 65
in the respective walls of the pocket, and the
surface of the latter kept smooth and even,

substantially as described.

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

HENRY THIELE.

Witnesses:

F. A. Otto, Jas. B. Erwin.