

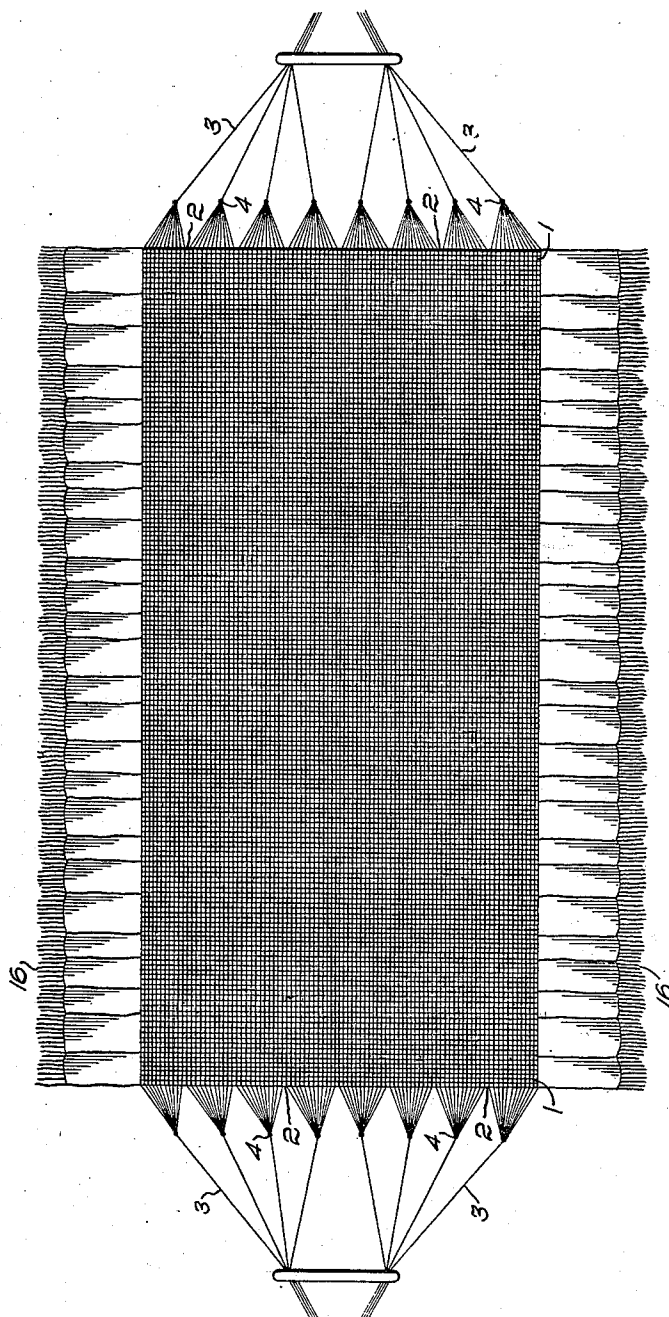
I. E. PALMER.
 INTEGRAL FULLED VALANCE HAMMOCK.
 APPLICATION FILED JAN. 11, 1911.

996,029.

Patented June 20, 1911.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses:
 Horace A. Crossman
 Carl L. Choate

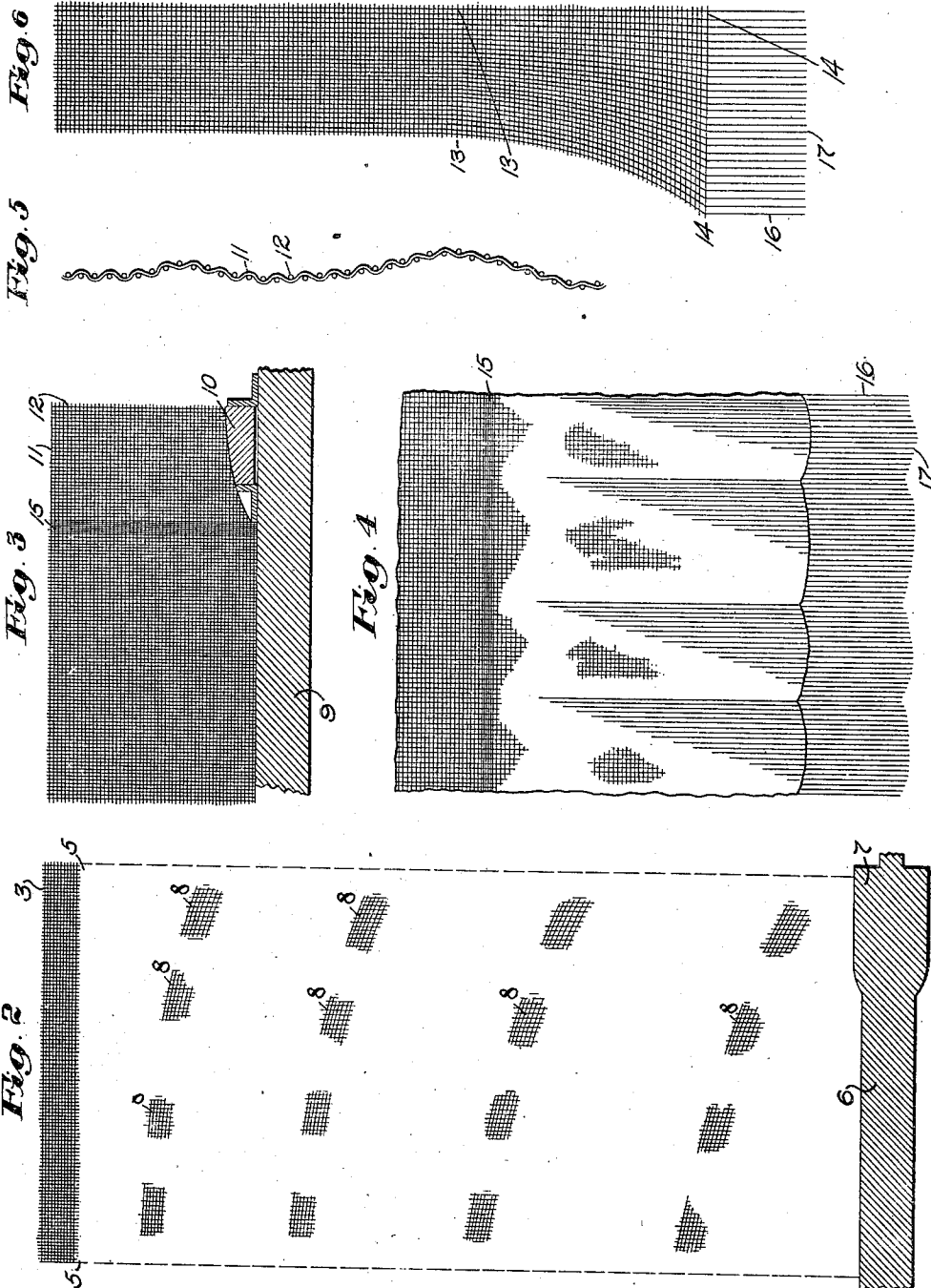
Inventor:
 Isaac E. Palmer.
 by Emory, Booth, Janney & Vaneys
 Attys.

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2 SHEETS—SHEET 2.



Witnesses:

Horace A. Grossman
 Carl L. Choate.

Inventor
 Isaac E. Palmer.
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 Attys

UNITED STATES PATENT OFFICE.

ISAAC E. PALMER, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR TO THE I. E. PALMER CO., OF MIDDLETOWN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

INTEGRAL FULLED-VALANCE HAMMOCK.

996,029.

Specification of Letters Patent. Patented June 20, 1911.

Original application filed April 29, 1910, Serial No. 558,422. Divided and this application filed January 11, 1911. Serial No. 601,997.

To all whom it may concern:

Be it known that I, ISAAC E. PALMER, a citizen of the United States, and a resident of Middletown, in the county of Middlesex and State of Connecticut, have invented an Improvement in Integral Fulfilled-Valance Hammocks, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to integral fulfilled valance hammocks.

In order that the principle of the invention may be readily understood, I have disclosed the preferred embodiment thereof in the accompanying drawings.

This application is a division of my co-pending application filed April 29, 1910, Serial No. 558,422.

Referring to the drawings, Figure 1 is a plan view of an integral fulfilled valance hammock embodying my invention; Figs. 2 and 3 are diagrammatic views representing respectively a manner in which I heretofore practiced weaving a fulfilled valance hammock and the manner in which I now weave the integral fulfilled valance hammock embodying my invention; Fig. 4 is a side elevation of a portion of an integral fulfilled valance hammock; Fig. 5 is a longitudinal section taken through a portion of an integral fulfilled valance hammock; and Fig. 6 is a diagrammatic view representing a portion of a hammock body and the fulfilled valance and fringe integral therewith.

Hammocks have heretofore been woven with integral valances, but in all cases so far as I am aware in which the valances have been integrally woven with the hammock, the valances have not been fulfilled. Fulfilled valances have heretofore been woven as distinct and separate articles of manufacture and have been thereafter sewed to the hammock body. It has long been sought to weave a hammock having integral therewith fulfilled valances, as fulfilled valances add materially to the appearance, value and strength of the hammock, and if woven integrally therewith would materially lessen the cost of the hammock. I myself previous to this in-

vention proposed to weave a hammock having integral fulfilled valances and was granted Patent No. 626,842, dated June 13, 1899, but this patent fails to disclose any particular relation of the body warp and weft threads and does not disclose that particular relation thereof clearly set forth in this application and constituting an important and essential feature of the present invention. Prior and subsequent to the grant of my said Patent No. 626,842, I endeavored to weave an integral fulfilled valance, but inasmuch as I had not then conceived of a hammock such as herein claimed, that is, a hammock wherein all of the weft threads from end to end of the hammock in the body thereof extend individually at substantially right angles to the body warp threads throughout substantially the entire length of the body portion of said weft threads, and said weft threads being continued through the valances in approximately the same direction as their body portions, but very slightly inclined thereto owing to the increased length of the valance warp threads over that of the body warp threads, thereby to form fulfilled valances, I did not succeed in producing an integral fulfilled valance hammock. It was not until I conceived the method disclosed in my said application filed April 29, 1910 that I conceived of and invented an integral fulfilled valance hammock characterized by the features herein set forth and claimed.

The hammock embodying my invention is composed of woven warp and weft threads, the body warp threads being delivered from a warp beam and the completed fabric being taken up upon a cloth roll. In order to weave integral fulfilled valances, I provide supplemental warp threads at each side of the body portion, said warp threads being fed from supplemental warp beams at a higher rate of speed than the body warp threads are fed. I myself in my Patent No. 626,842 proposed to feed supplemental warp threads faster than the body warp threads, but said invention did not extend beyond such step. In endeavoring to weave a hammock in accordance with the disclosure in said Patent No. 626,842, I at all times until

the conception of my present invention merely endeavored to take up the entire mass of warp threads with the interwoven weft threads upon a take up roll mounted
 5 in the usual position. That is to say, the take up and cloth rolls were positioned at points substantially remote from the fell of the cloth. The result was that accordingly all attempts to take up in the usual manner
 10 a fabric having edge warps fed at a higher rate than the body warps resulted in a distorted fabric or a fabric ruptured or damaged along the line of the proposed union of the body and edge warps. This was owing
 15 to the fact that the warp threads after having been woven into the cloth were not delivered past the breast beam and onto the take-up and cloth rolls in planes or lines parallel or substantially parallel to the fell
 20 of the cloth, or more strictly speaking, substantially parallel to a plane passing through the fell of the cloth and normal to said cloth. In other words, the edge warps and the portion of the weft threads interwoven there-
 25 with were taken up so much in advance of the adjacent warp threads and their portion of the weft threads, that the entire fabric was drawn askew and distorted and the warp and weft threads of the body did not
 30 and could not in the completed fabric have a position at substantially right angles to each other, but the weft threads from the edges of the body portion to points extending well toward the longitudinal center of
 35 the hammock were very substantially inclined to the direction of the warp threads.

In order to produce a hammock in accordance with my present invention, I provide the loom wherein I weave the same
 40 with means for preserving substantial parallelism of each weft throughout the body and the valances with a plane that is normal to the cloth at its fell. Said means compels an enforced control and immediate deflection of the valance portions as they are
 45 formed from the plane of the body, said deflection being preferably progressively greater from the edges of the body portion of the hammock to the outer edges of the valances. Inasmuch as the said means deflects the valances immediately upon weaving
 50 thereof from the plane of the body of the hammock, it will be apparent that the said deflection is substituted for a divergence of the weft threads entering into the valances from the fell which occurred in all attempts to construct a hammock as described in my said Patent No. 626,842. In
 55 other words, in my attempts previous to my present invention to produce a hammock having integral full valances, I endeavored to take up those portions of the weft threads which entered into the valances by producing a divergence of them away from
 60 the breast beam and toward the cloth roll,

while maintaining said portions of the weft threads in the plane of the body. This inevitably resulted in a distorted fabric,—that is, one wherein the warp and weft threads no longer maintained a position at substantially
 70 right angles with respect to each other. In fact it was substantially impossible to produce even a distorted fabric characterized as stated, owing to the tendency of the fabric to rupture along the proposed
 75 line of union of the edges of the body fabric and the inner edges of the proposed integral valances.

In the weaving of the fabric and immediately upon the formation of the fabric at
 80 the fell, the body portion thereof, being that part embraced between the inner edges of the valances, passes onto the level portion of the breast beam while the valances are at once deflected from the plane of the body
 85 part, so as to take up the full portions. Such deflection prevents those portions of the weft threads which have been incorporated in the valances from being drawn by the take up and cloth rolls into a position
 90 in advance of the remaining portion of said weft threads, that is, the portion which is incorporated with the body of the hammock. In other words, each weft thread is maintained throughout its entirety in substantial
 95 parallelism with the plane passing through the fell of the cloth normal thereto. Preferably, this deflection is continued by suitable take up temples or other devices until the woven cloth is received upon the take
 100 up and cloth rolls.

The words "substantially right angles," etc., used regarding the relation of the body warp threads (that is, those between the valances) and the weft threads, are used
 105 herein in a general or generic sense to express the customary or known cross relation of warp and weft threads, which may be a truly right angular relation or known variations or modifications thereof, all of which are well known to those skilled in the art. The essence of applicant's invention is the preservation in the full valances of the correct and intended relation of the supplemental warp threads and the weft threads,
 110 as fully set forth.

Referring more specifically to the drawings, the hammock embodying my invention is represented in Fig. 1. Therein, the body warp threads are indicated at 1 and the body weft threads at 2. The stringing means at each end are represented at 3 as connected to grouped warp ends at 4. In order that the manner of weaving the hammock may be clearly understood and that it may be readily distinguished from my prior attempts to weave a full valance hammock, I have in Figs. 2 and 3 diagrammatically indicated both the manner in which I have previously attempted to weave a full
 120
 125
 130

valance hammock and the manner in which I weave the hammock embodying my present invention. In Fig. 2 the fell of the cloth is represented at the line 5—5 and the guide roll is represented at 6, it having enlarged ends, one of which is represented at 7. As illustrated, this guide roll is located at a very considerable distance from the fell of the cloth. The weft threads 2 are continued into the valances, as represented at 3, but inasmuch as the guide roll, the take up and cloth rolls are remote from the fell of the cloth, the lines of strain of the proposed valance penetrate the body fabric so deeply as indicated by the patches of interwoven warp and weft threads 8 as to distort the same in the taking up thereof. In other words, not only were the portions of the weft threads entering into the valances taken up more rapidly, but this strain of advance take-up did not terminate at the line of union of the body and valance, and consequently portions of the weft threads which were in the body but adjacent the valances were drawn ahead of the remaining or central portions of the weft threads in the body, and hence the whole fabric was drawn askew at and adjacent the edges. As diagrammatically illustrated in Fig. 3, however, wherein the breast beam of the loom is indicated at 9 and the deflecting means at one side of the loom is indicated at 10, the weft threads are continued into the valances, as indicated at 11, and immediately after each weft is beaten up at the fell of the cloth, it is deflected from the plane of the surface of the body fabric by said deflecting means 10 in order to preserve the described parallelism of the weft threads with said fell of the cloth. In so deflecting the valance portions of the fabric, the take up lines of strain of the valance are either parallel with the warp threads or are so nearly parallel therewith as indicated that said lines of strain do not substantially enter the body portions of the fabric nor distort the same. In other words, all of the weft threads from end to end of the hammock in the body thereof extend individually at substantially right angles to the body warp threads throughout substantially the entire length of the body portion of the weft threads, and are continued through the valances in approximately the same direction, but at a very slight inclination thereto owing to the increased length of the valance warp threads 12 over that of the body warp threads, thereby to form fullered valances. Furthermore, all of the warp threads throughout substantially the entire length of the body portion of the weft threads, when interwoven are crossed to form the shed for each weft in a line that is at substantially right angles to the direction of the said warp threads and each weft thread

from end to end of the hammock in the body thereof is therefore held by the described warp crossing in lines that as previously described are at substantially right angles to the said warp threads throughout substantially the entire length of their body portions. This is more fully apparent from the somewhat diagrammatic representation in Fig. 6, wherein the weft threads are represented as extending at right angles to the warp threads to substantially the line of union of the body portion of the hammock and the valance or to substantially the line 13—13 in said figure. Between the lines 13—13 and 14—14 in said figure is represented a part of one of the integral fullered valances, and as therein shown the prolongations of the weft threads are therein represented as extending in substantially the same direction as the body portions of said weft threads, but at a very slight inclination thereto owing to the increased length of the valance warp threads over that of the body warp threads, thereby to form fullered valances. Preferably the said supplemental warp threads 12 are progressively longer from the edge portions of the body outward, but at their ends are substantially co-terminal with the body warp threads, that is, they terminate along substantially the same lines transversely of the hammock.

In Figs. 4 and 5, I have indicated in side elevation and longitudinal section a portion of one of the fullered valances integral with the body portion and as diagrammatically represented in Fig. 6.

If desired, I may incorporate with the valances and substantially at the point of union of the valance with the body fabric, a strengthening cord or grouped warp threads 15 as indicated in Figs. 3 and 4. This strand or group of warp threads tends to strengthen the line of union of the fullered valances and the body as well as to add to the appearance thereof. Such construction involving the employment of a strengthening cord or group of warp threads is not claimed in this application.

As indicated in Figs. 1, 4 and 6, the weft threads are integrally prolonged beyond the outer edges of the valances, so as to form fringes 16, these fringes being cut at their extreme ends 17 in any suitable manner, and preferably by blades carried by the loom and about which the weft threads are passed in the weaving operation.

From the foregoing description, it will be evident that the hammock embodying my invention has a body portion wherein all of the weft threads from end to end of the hammock in the body thereof extend individually at substantially right angles to the body warp threads throughout substantially the entire length of the body portion of the weft threads and extend through the

valances in approximately the same direction as the body portions of said weft threads but at a very slight inclination thereto owing to the increased length of the valance warp threads over that of the body warp threads, and that my invention is radically distinguished from the invention disclosed in my Patent, No. 626,842, wherein the warp and weft threads do not have the said relation to each other herein defined, but wherein the warp and weft threads were distorted in the body portion adjacent the valances and well toward the central longitudinal line of the body, by reason of the fact that I did not, as a part of the invention, disclose in Patent No. 626,842, conceive, appreciate or invent that particular arrangement of warp and weft threads in the body portion of the hammock herein disclosed in conjunction with the approximate right angular relation of said weft threads to the supplemental warp threads where interwoven therewith.

Having thus described one illustrative embodiment of my invention, I desire it to be understood that although specific terms are employed, they are used in a generic and descriptive sense and not for purposes of limitation, the scope of the invention being set forth in the following claims.

1. A hammock consisting of a continuous piece of woven fabric constituting an undistorted body portion composed of longitudinally extending warp threads and transversely extending weft threads and integral full valances, the latter being formed by supplemental warp threads of greater length than said body warp threads but substantially co-terminal therewith, and integral, substantially straight, prolongations of said weft threads, all of said weft threads from end to end of the hammock in the body thereof extending individually at substantially right angles to the body warp threads throughout substantially the entire length of the body portion of said weft threads, and said weft threads being continued through the valances in approximately the same direction as their body portions but very slightly inclined thereto owing to the increased length of the valance warp threads over that of the body warp threads, thereby to form full valances.

2. A hammock consisting of a continuous piece of woven fabric constituting an undistorted body portion composed of longitudinally extending warp threads and transversely extending weft threads and integral full valances, the latter being formed by supplemental warp threads of greater length than said body warp threads, but substantially co-terminal therewith, and integral, substantially straight, prolongations of said weft threads, all of the warp threads

throughout substantially the entire length of the body portion of the weft threads, when interwoven being crossed to form the shed for each weft thread in a line that is at substantially right angles to the direction of the said warp threads and each weft thread from end to end of the hammock in the body thereof being held by the described warp crossings in lines that throughout substantially the entire length of their body portions are at substantially right angles to the said warp threads, and the prolongations of said weft threads in said valances extending in approximately the same direction as that of their body portions but very slightly inclined thereto owing to the increased length of the valance warp threads over that of the body warp threads, thereby to form full valances.

3. A hammock consisting of a continuous piece of woven fabric constituting an undistorted body portion composed of longitudinally extending warp threads and transversely extending weft threads and integral full valances, the latter being formed by supplemental warp threads of greater length than said body warp threads but substantially co-terminal therewith, and integral, substantially straight, prolongations of said weft threads, said weft threads extending laterally beyond said supplemental warp threads to form integral fringes, all of said weft threads from end to end of the hammock in the body thereof extending individually at substantially right angles to the body warp threads throughout substantially the entire length of the body portion of said weft threads, and said weft threads being continued through the valances in approximately the same direction as their body portions, but very slightly inclined thereto owing to the increased length of the valance warp threads over that of the body warp threads, thereby to form full valances.

4. A hammock consisting of a continuous piece of woven fabric constituting an undistorted body portion composed of longitudinally extending warp threads and transversely extending weft threads and integral full valances, the latter being formed by supplemental warp threads of greater length than said body warp threads but substantially co-terminal therewith and integral, substantially straight prolongations of said weft threads, said supplemental warp threads being progressively longer toward the outer edges of the hammock, all of said weft threads from end to end of the hammock in the body thereof extending individually at substantially right angles to the body warp threads throughout substantially the entire length of the body portion of said weft threads, and said weft threads being continued through the val-

ances in approximately the same direction
as their body portions, but very slightly in-
clined thereto owing to the increased length
of the valance warp threads over that of the
5 body warp threads, thereby to form fulled
valances.

In testimony whereof, I have signed my

name to this specification, in the presence
of two subscribing witnesses.

ISAAC E. PALMER.

Witnesses:

CHAS. M. SAUER,
FRED. E. FOWLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
