No. 653,595. Patented July 10, 1900.

W. M. STEVENSON.

WOVEN FABRIC.

(No Model.) (Application filed Jan. 22, 1900.)

Fig. 1.

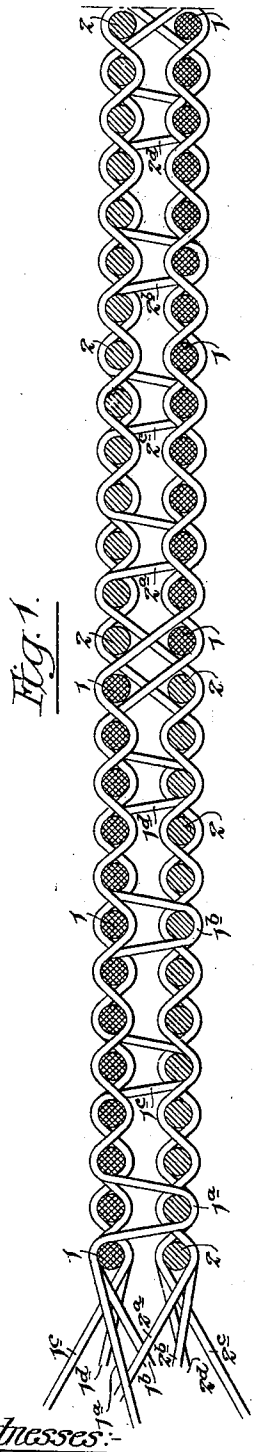
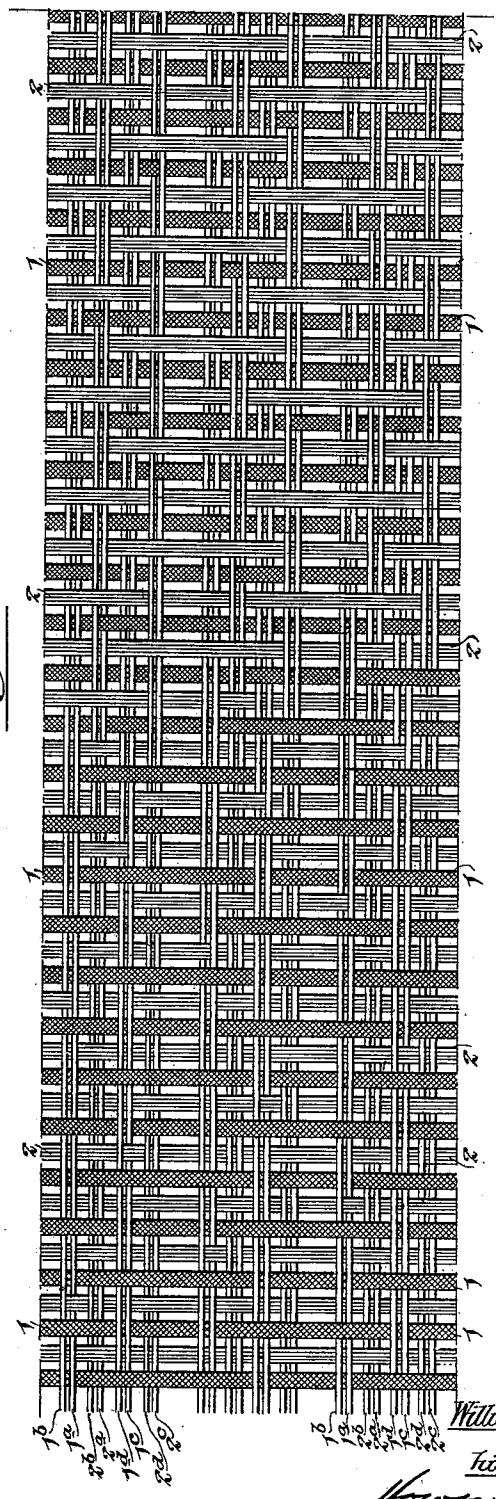


Fig. 2.



Witnesses:
Robert S. Blake
Louis F. Whitehead.

Inventor:
William M. Stevenson.
— by —
His Attorneys:
Howson & Howson

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM M. STEVENSON, OF INDIAN ORCHARD, MASSACHUSETTS, ASSIGNOR TO THE HODGES FIBER CARPET COMPANY, OF SAME PLACE AND PORTLAND, MAINE.

WOVEN FABRIC.

SPECIFICATION forming part of Letters Patent No. 653,595, dated July 10, 1900.

Application filed January 22, 1900. Serial No. 2,325. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. STEVENSON, a citizen of the United States, and a resident of Indian Orchard, Hampden county, Massachusetts, have invented certain Improvements in Woven Fabrics, of which the following is a specification.

The object of my invention is to form a two-ply woven fabric in which the plies are firmly bound together throughout all portions of the fabric, so as to form a homogeneous fabric without pockets and without the possibility of a weft-thread of the back ply being drawn up between the weft-threads of the face ply, so as to show upon the face and produce the objectionable appearance known as "grinning."

My invention also provides for the binding of the weft or filling threads on the face of the fabric always with warp-threads of their own color.

In carrying out my invention I shed the binding warp-threads in pairs, the two threads lying side by side wherever they bind a weft-thread on either face of the fabric, but the pair being split between the plies wherever it is desired to bind the two plies together, so that one thread of the pair may engage with a weft of the back ply and bind it firmly against the face ply, the remaing warp-thread of the pair, however, preventing such weft-thread of the back ply from being drawn up between the weft-threads of the face ply at the binding-point.

In the accompanying drawings, Figure 1 is an exaggerated section taken in the line of the warp and illustrating a fabric woven in accordance with my invention, but showing the two plies separated from each other in order to illustrate more clearly the course of the warp-threads; and Fig. 2 is a view illustrating the disposition of the various warp and weft threads of the fabric, the weft-threads of the back ply, however, being shown as alternating in the same plane with the weft-threads of the face ply instead of being disposed beneath the same, as in the actual fabric, and in Fig. 1 this method of illustration being adopted in order to more clearly show the relation of the warp-threads and weft-threads of the fabric to each other.

In the fabric shown in the drawings there are repetitions of successively-inserted weft-threads 1 and 2 interwoven with pairs of warp-threads to form face and back plies. Thus the weft-threads 1 are interwoven with warp-threads 1^a 1^b and 1^c 1^d to form one ply and the weft-threads 2 are interwoven with the warp-threads 2^a 2^b and 2^c 2^d to form the other ply, the plies changing from face to face in accordance with the demands of the pattern. Each pair of warp-threads is shedded as a unit in the ordinary weaving of the fabric, so that the two threads of the pair appear side by side over a weft-thread where they bind the same on the face or under the weft-thread where they bind it on the back; but the pairs of warp-threads of the face ply are split at intervals between the plies, so that one warp-thread of the pair may engage with a weft-thread of the back ply and bind the same up to the face ply while the other warp-thread of the pair prevents the pulling through of said weft-thread of the back ply between the wefts of the face ply. The tying duty is preferably performed first by a warp-thread of one pair of the face ply, then by a warp-thread of the next pair in said ply, then by the second thread of the first pair, and then by the second thread of the other pair, so as to evenly distribute the ties, as shown in Fig. 1. The binding warp-threads of each ply may be similar in color to the weft-threads of that ply, so as to produce solid-color effects on the face of the fabric.

A fabric produced in accordance with my invention has the plies firmly bound together at all points, and hence is without bags or pockets, while the grinning of weft-threads of the back ply between weft-threads of the face ply is effectually prevented.

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

1. A woven fabric in which sets of weft-threads are interwoven with sets of warp-threads to form a double ply, the warp-threads being shedded in pairs to bind the weft-threads, but the pairs on the face ply being split at intervals between the plies, and one warp-thread of a pair in the face ply being caused to engage with a weft-thread of the

back ply and tie the two plies together, while the other warp-thread of the pair in the face ply prevents said weft-thread of the back ply from being drawn up between wefts of the face ply, substantially as specified.

2. A woven fabric in which sets of weft-threads are interwoven with sets of warp-threads to form a double ply, the warp-threads being shedded in pairs to bind the weft-threads, but the pairs on the face ply being split at intervals between the plies, and one warp-thread of a pair in the face ply being caused to engage with a weft-thread of the back ply and tie the two plies together, while the other warp-thread of the pair in the face ply prevents said weft-thread of the back ply from being drawn up between wefts of the face ply, the tying duty being performed first by a thread of one pair in the face ply, then by a thread of the next pair in said ply, then by the second thread of the first pair, and then by the second thread of the other pair so as to evenly distribute the ties, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM M. STEVENSON.

Witnesses:
F. E. BECHTOLD,
JOS. H. KLEIN.