

W. G. TRAUTVETTER.
WOVEN FABRIC.
APPLICATION FILED DEC. 27, 1910.

1,033,843.

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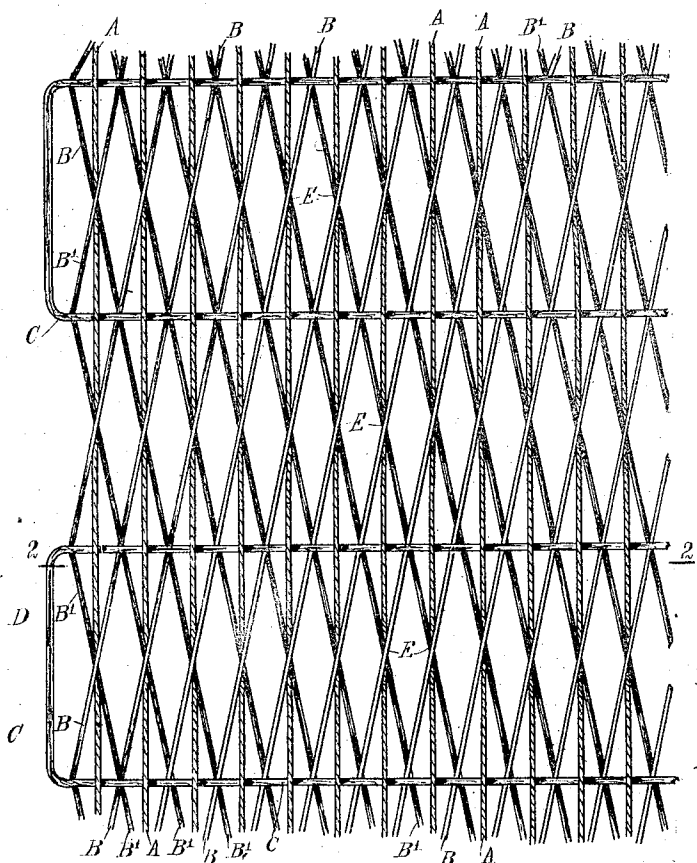


Fig. 1

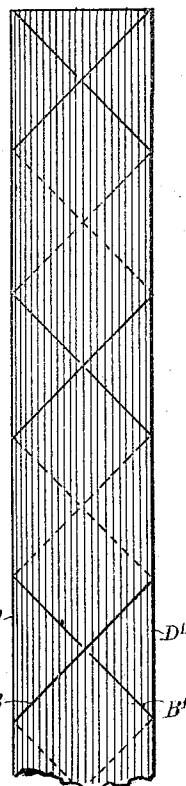


Fig. 4

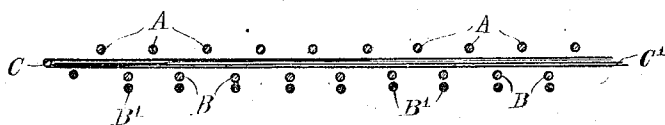


Fig. 2

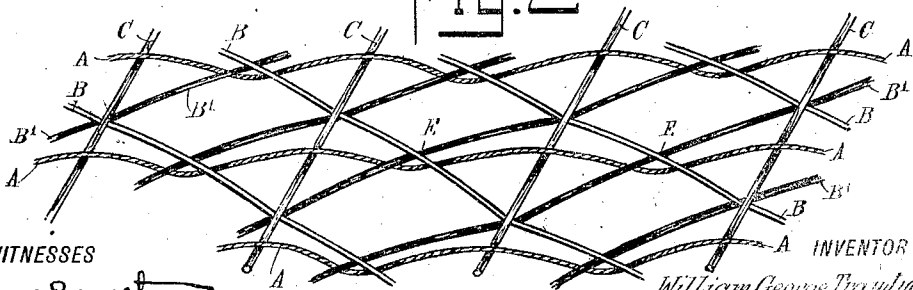


Fig. 3

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WOVEN FABRIC.

1,033,843.

Specification of Letters Patent.

Patented July 30, 1912.

Application filed December 27, 1910. Serial No. 599,269.

To all whom it may concern:

Be it known that I, WILLIAM GEORGE TRAUTVETTER, a citizen of the United States, and a resident of Paterson, in the county of Passaic and State of New Jersey, have invented a new and Improved Woven Fabric, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved woven fabric, having interwoven bias or diagonal threads to reinforce the fabric and render the same exceedingly strong and durable and capable to withstand strains in any direction.

In order to produce the desired result the fabric is formed of interwoven ground warp threads, bias warp threads and weft threads, of which the bias warp threads extend diagonally across the fabric from one selvage to the other.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is an enlarged plan view of the bias woven fabric; Fig. 2 is a cross section of the same on the line 2—2 of Fig. 1; Fig. 3 is a perspective view of the same; and Fig. 4 is a diagrammatic view of the same.

The woven fabric presently to be described in detail is preferably woven on a loom, such as shown and described in the application No. 599,270 for Letters Patent of the United States, filed under even date herewith. The woven fabric, as illustrated in the drawings, consists essentially of regular or ground warp threads A, bias or diagonal warp threads B, B' arranged in sets, and weft threads C. The ground warp threads A are arranged lengthwise of the fabric, parallel one to the other, and the sets of bias or diagonal warp threads B, B' extend diagonally across the fabric in opposite directions, from one selvage D to the other selvage D', so that the bias warp threads B and B' cross each other between the adjacent picks and at the top of the ground warp threads A, which latter pass over the weft threads C, while the bias warp threads B, B' pass under the said weft threads C, as plainly indicated in Figs. 1, 2 and 3. It will also be noticed that the bias warp threads B, B' cross each other under the weft threads C, so that the ground warp threads, bias warp threads and weft

threads are compactly interwoven with each other to form a reinforced and exceedingly strong and durable fabric, capable of withstanding strains in any direction. The bias warp threads B, in passing from the selvage D diagonally across the fabric to the selvage D', extend over the other set of bias warp threads B'; but when the bias warp threads B extend diagonally across the fabric from the selvage D' to the selvage D then the said bias warp threads B pass under the bias warp threads B' then running diagonally from the selvage D to the selvage D'.

It is understood that by interweaving the warp threads B, B' diagonally or zigzag across the fabric and in opposite directions to each other, it is evident that the fabric is reinforced in a diagonal direction to withstand strains in any direction, and at the same time producing an exceedingly close and compact weave.

The set of bias warp threads B or B' extends diagonally from one selvage to the other for as many picks as there are bias warp threads used in the set.

It is understood that the reference in the foregoing description to the top and bottom faces of the fabric is relative to the fabric, as the latter is woven on the loom, it being understood that the fabric itself may be used with either face up.

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

1. A woven fabric, comprising interwoven weft threads, ground warp threads, and bias warp threads extending diagonally across the fabric from one selvage to the other, the bias warp threads crossing the ground warp threads between successive weft threads, the said ground warp threads and bias warp threads passing the weft threads on opposite sides.

2. A woven fabric, comprising interwoven ground warp threads, sets of bias warp threads extending in opposite directions from one selvage to the other, and weft threads passing under the ground warp threads and over the bias warp threads.

3. A woven fabric, comprising interwoven weft threads, ground warp threads, and sets of bias warp threads extending in opposite directions and crossing each other between successive weft threads.

4. A woven fabric, comprising interwoven weft threads, ground warp threads, and sets

of bias warp threads extending in opposite directions and crossing each other at the ground warp threads between successive weft threads.

- 5 5. A woven fabric comprising interwoven weft threads, ground warp threads, and bias warp threads extending over the ground warp threads and under the weft threads and crossing each other between successive
10 weft threads.

6. A woven fabric comprising interwoven

weft threads, ground warp threads, and bias warp threads extending diagonally across the fabric and crossing each other between and at successive weft threads.

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

WILLIAM GEORGE TRAUTVETTER.

Witnesses:

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