

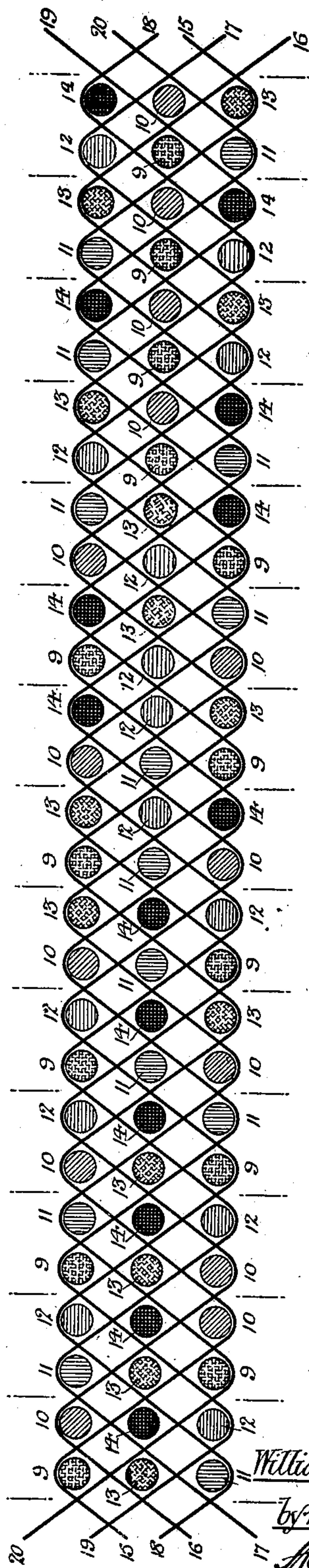
No. 756,150.

PATENTED MAR. 29, 1904.

W. M. STEVENSON.  
WOVEN FABRIC.

APPLICATION FILED FEB. 10, 1902.

NO MODEL.



Witnesses:-

*James O. Kruger*  
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# UNITED STATES PATENT OFFICE.

WILLIAM M. STEVENSON, OF INDIAN ORCHARD, MASSACHUSETTS.

## WOVEN FABRIC.

SPECIFICATION forming part of Letters Patent No. 756,150, dated March 29, 1904.

Application filed February 10, 1902. Serial No. 93,322. (No specimens.)

*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, Massachusetts, have invented certain Improvements in Woven Fabrics, of which the following is a specification.

My invention relates to fabrics of the ingrain type, in which weft-threads are combined with binding warp-threads so disposed in respect to said weft-threads as to form a series of plies, the object being to produce fabric of this character having more than two plies and in which the plies shall be firmly bound together at all points, there being no independent and disconnected plies forming pockets, as in ordinary ingrain fabrics.

In carrying out my invention I use as many warp-threads in each set as there are weft-threads in a set, whereby each weft-thread will be contained in a shed of its own, and the threads of the plies will thus be caused to lie one above another, so that they can be beaten up closely, whereby the weft-threads of an intermediate ply will not show through between the weft-threads of either face-ply.

The figure in the accompanying drawing is an exaggerated section taken in the direction of the warp and showing a three-ply fabric made in accordance with my invention.

The fabric comprises weft-threads in sets of six, numbered, respectively, 9, 10, 11, 12, 13, and 14, and binding warp-threads likewise in sets of six, numbered, respectively, 15, 16, 17, 18, 19, and 20, each set of weft-threads being so disposed as to form three plies with two weft-threads in each ply and the warp-threads being so disposed that each warp-thread will pass over a weft-thread of one face-ply and thence downwardly under a weft-thread of the other face-ply of a set in advance, the warp-threads crossing each other between each face-ply and the intermediate ply and also between threads of said intermediate ply, as fully shown in the drawing.

The weft-threads are shot in the same order in each set, but whether a weft-thread appears in the upper face-ply, the lower face-ply, or the intermediate ply depends upon the manipulation of the warp-threads, one of said warp-threads of the set being raised and the

others depressed if the weft-thread is to be shot into the upper face-ply, three of the warp-threads being raised and three depressed if the weft-thread is to be shot into the intermediate ply, and one of the warp-threads being depressed and the others raised if the weft-thread is to be shot into the lower face-ply.

By proper manipulation of the warp-threads, therefore, the desired "ground," "figure," "mate-thread," or "shot-about" effects can be produced in the same manner as in weaving ordinary ingrain fabric.

It will be observed that each of the weft-threads of each ply of the fabric is contained in a separate and independent shed of warp, each warp-thread forming first a binder for a weft-thread of one face-ply and then a binder for a weft-thread of the other face-ply, and by reason of this construction the three plies of the fabric are firmly bound together at all points. Hence the fabric is entirely without independent plies or pockets, such as characterize an ordinary ingrain-carpet fabric, and the intermediate weft-threads are caused to lie directly below the weft-threads of the upper face-ply and directly above the weft-threads of the lower face-ply, the fabric being beaten up so closely that a weft-thread of an intermediate ply cannot be seen between the weft-threads of either face-ply.

The fabric is reversible, having the same pattern on each face, but with different distributions of color, the six weft-threads shown providing for fourteen different color combinations on each face. When such diversity of coloring is not desired, however, the weft-threads may change from face-ply to face-ply without any change of the intermediate weft-threads, and the latter may in such case be composed of cheaper material than the others.

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 combined with sets of binding warp-threads comprising as many threads as there are weft-threads in a set, said warp-threads being shedded so as to form the weft-threads into face and intermediate plies, each weft-thread in each ply being contained in its own shed of warp-threads and the weft-threads

of the different plies being disposed one above another, each warp-thread binding first a weft-thread of one face-ply and then a weft-thread of the other face-ply and crossing another warp-thread between each face-ply and an intermediate ply, substantially as specified.

2. A woven fabric in which sets of weft-threads are combined with sets of binding warp-threads comprising as many threads as there are weft-threads in a set, said warp-threads being shedded so as to form the weft-threads into face and intermediate plies, each weft-thread in each ply being contained in its own shed of warp-threads and the weft-threads of the different plies being disposed one above

another, each warp-thread binding first a weft-thread of one face-ply and then a weft-thread of the other face-ply and crossing another warp-thread between each face-ply and an intermediate ply, and also between weft-threads of said intermediate ply, 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:

GEO. L. CHAPIN,

W. S. COLWELL.