

UNITED STATES PATENT OFFICE.

ALEXANDER SMITH, OF WEST FARMS, NEW YORK.

IMPROVEMENT IN THE MANUFACTURE OF TWO AND THREE PLY CARPETS.

Specification forming part of Letters Patent No. 7,825, dated December 10, 1850.

To all whom it may concern:

Be it known that I, ALEXANDER SMITH, of West Farms, in the county of Westchester and State of New York, have invented a new and useful Improvement in Fabrics known under the appellation of "Ingrain" or "Kidderminster" Carpets, whether of two or three plies, of which the following is a full, clear, and exact description.

My invention consists in weaving two and three ply ingrain carpets by the combination of party-colored warp and weft, arranged so as to cause the warp and weft to unite in forming the same color in the figure as produced by the jacquard or any other mechanical means by which any variety of colors or shades on one or more plies that may be desired may be produced in the same range, in the direction both of the warp and the weft, the figure being formed by throwing down the weft, which obviates any difficulties arising from imperfections in the party-coloring of the yarn.

The mode of procedure which I have practiced is as follows, viz: For a two-ply I party-color the warps according to the figure to be produced and the variety of its colors. If, for instance, if I want to make in the same range red, green, and blue, the warps are party-colored, a portion red, of the required length, so that when woven in the red will appear on the surface, then a portion green of the required length, and then a portion blue of the required length. Each warp-thread may be party-colored according to its position in the breadth of the fabric; and if it be desired also to vary the colors of the fabric in the direction of the breadth it will be obvious this may be done in like manner, as the form of the figure and the variety of its colors, in connection with the length taken up by the weaving-in, will determine the length and variety of colors to be given to each warp-thread; but this alone would not suffice, for the weft would still present a striped appearance on the fabric; and to avoid this I also party-color the weft to correspond with its position in the fabric, making the requisite allowance for the slight amount of length which will be taken up by the weaving-in or interlacing of the warps, so that with this allowance the position of each weft in the

figure will determine the variety of colors and the length of each which is to be given to the weft-threads in party-coloring them. In this way one surface of the two-ply will present the full and well-defined figure of any variety of colors or shades desired; but the other or under face will not be so perfect, as, by the working of the jacquard the various colors will be carried through to the under ply. Still greater variety may be given to the figure by party-coloring the ground warp and weft.

In the weaving of three-ply carpets the warp and weft are to be prepared and treated in the same manner as for the two-ply; but having one more ply a greater variety can be obtained by party-coloring the yarns for two or all of the plies, if desired. The figure is not produced by party-coloring the yarn, but by the jacquard, and the yarn is party-colored simply to prevent the blending of colors which are not desired, and which really do not belong to the design, so that in a given length there may be any desired variety of colors, whereas in the usual mode of weaving such fabrics the figures in the same range can only be of one color.

I am aware that fabrics have been woven with party-colored warp, and sometimes with party-colored weft; but I am not aware that two or three ply ingrain carpets, or any other fabric, have ever been woven with party-colored warp and weft combined, for the purpose of causing the same color in both to unite in forming the same color in the fabric.

What I claim therefore as my invention, and desire to secure by Letters Patent in the weaving of two or three ply ingrain carpets, is—

The employment of party-colored warp and weft, operated by the jacquard or other mechanical means, to form the figure when the same colors in the warp and in the weft are caused to combine together to form the same-colored figure in the fabric, substantially as described.

ALEXANDER SMITH.

Witnesses:

CANSEN BROWNE,
WM. BISHOP.