(Specimens.)

# H. PATTERSON & W. Z. WALKER.

## INGRAIN CARPET FABRIC.

No. 457,288. Patented Aug. 4, 1891.

FIG. 1

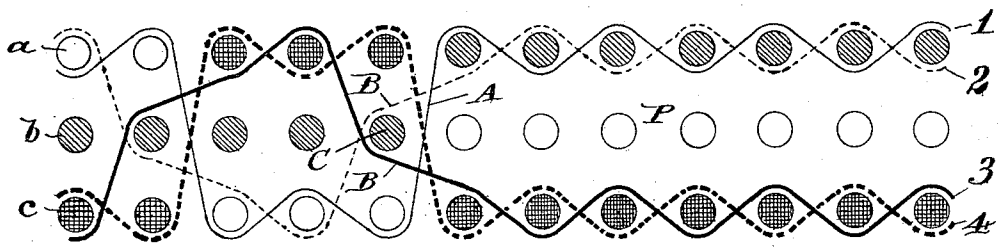
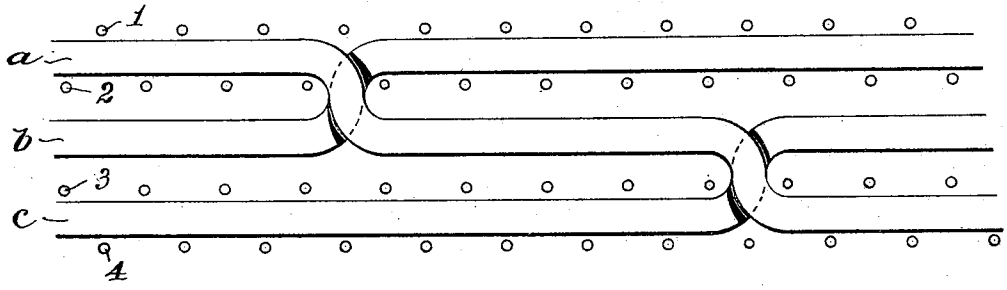



FIG. 2.




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

# UNITED STATES PATENT OFFICE.

HUGH PATTERSON AND WILLIAM Z. WALKER, OF PHILADELPHIA, PENNSYLVANIA.

## INGRAIN CARPET FABRIC.

SPECIFICATION forming part of Letters Patent No. 457,288, dated August 4, 1891.

Application filed August 1, 1890. Serial No. 360,634. (Specimens.)

*To all whom it may concern:*

Be it known that we, HUGH PATTERSON and WILLIAM Z. WALKER, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Ingrain Carpet Fabrics, as set forth in the annexed specification.

Our invention relates to that class of carpet fabrics commonly known as "ingrains," and resides in the fabric hereinafter described and specifically claimed.

A carpet embodying our invention is properly an imitation three-ply fabric; but it is produced by using only four warp-threads instead of six, which is the number employed in the old method of weaving three-ply ingrain carpets. Thus we produce a carpet of uniform thickness having a full three-ply wefting or three weft-planes and possessing all of the advantages in the production of color effects by the wefts which are attained in the ordinary three-ply ingrain carpets, with a great economy in the number of warp-threads used, and consequently materially lessening the cost of production. The wearing quality of the carpet is equal to that of the ordinary three-ply carpet, and it has a very superior appearance on the wrong as well as the right side, the wrong side being free from any objectionable striping or shading effect, so that either side may be exposed to view with pleasing effect, and when one side becomes worn the carpet may be reversed. The leaves or flowers composing the figures of the pattern stand out in marked relief, as though embossed. This is caused by the manner in which the warp-threads are changed from one face of the carpet to the other, two of the four warps of a set passing directly from one face of the carpet to the other, while the other two of the set pass for two shots or picks from the outer weft-planes, between the outer and intermediate weft-planes, and then each to the outer face of the plane opposite to that from which it started. This arrangement of warps occurs at the termination of the pockets or bags inherent in this class of carpets, the said pockets or bags underlying the figures of the pattern, and acts to draw closely at that point the two outer weft-planes and compress the corresponding wefts of the central plane, while the said central wefts lying in the pockets serve as a filling to make pronounced the embossed effect.

In order to enable our invention to be clearly understood, we have shown in the accompanying drawings the manner of carrying the same into practical effect.

Figure 1 of said drawings is a longitudinal sectional view parallel with the warp-threads of a carpet embodying the improvement. Fig. 2 is a transverse sectional view parallel with the weft-threads of the same fabric.

Referring to the drawings, 1, 2, 3, and 4 indicate the four warp-threads of a set, the manner in which they cross from the top to the bottom ply, as above described, being shown in Fig. 1. The weft-threads are indicated at *a*, *b*, and *c*, and form three continuous weft-planes, said threads changing from one weft-plane to another, as required by the exigencies of the predetermined pattern, and to obviate the shading or striping effect ordinarily resulting at places on the wrong side or back of the fabric where a new color of weft is introduced into the face of the carpet. When a weft passes from the face to the back of the carpet after having been employed in the production of the figure upon the face thereof, an objectionable striping effect sometimes results. We have found by experience that this objection may be obviated by passing such weft into the intermediate weft-plane, instead of to the back of the carpet, as is usual. Where such coloring-wefts are carried into the middle plane, in order to avoid appearing as a stripe or band across the back of the fabric, they lie in pockets P, in which said wefts float as a filling ununited with either outer ply.

Two of the warp-threads, when an interchange occurs, cross directly, as shown at A, from one outer weft-plane to the other, and the other two threads pass for two shots between the outer and intermediate planes, and then pass, respectively, each to the outer face of the plane opposite to that from which it has come. We thus obtain in an imitation three-ply ingrain a better, firmer, and more effectual binding of the plies between the figure-pockets than heretofore in the class of

fabric, and also produce a marked prominence of the figures.

We claim—

A carpet fabric having three continuous weft-planes and the warp-threads arranged in sets of four warp-threads each and interwoven with the weft-threads of the top and bottom planes to form top and bottom plies inclosing the other weft-plane between them, the weft-threads being interchanged in position among the three planes according to the exigencies of the pattern and to obviate shading, as described, and the warp-threads being interwoven in the two plies and crossing from one to the other ply when an interchange of warp becomes necessary, two of said warps crossing directly and the other two lying for two shots between the outer and intermediate plies and then passing each to the outer face of the opposite ply, substantially as set forth.

In testimony whereof we have hereunto set our hands this 10th day of July, 1890.

HUGH PATTERSON.
WILLIAM Z. WALKER.

Witnesses:
THOS. F. SHERIDAN,
JOSEPH THOMASSON.