

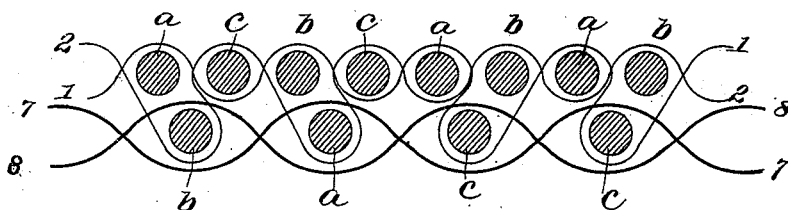
No. 649,106.

Patented May 8, 1900.

T. F. & A. NAYLOR.
INGRAIN CARPET FABRIC.

(Application filed Dec. 18, 1897.)

(No Model.)



Witnesses:

C. K. K. K.

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Inventors:

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UNITED STATES PATENT OFFICE.

THOMAS FOX NAYLOR AND ARTHUR NAYLOR, OF KIDDERMINSTER,
ENGLAND.

INGRAIN CARPET FABRIC.

SPECIFICATION forming part of Letters Patent No. 649,106, dated May 8, 1900.

Application filed December 18, 1897. Serial No. 662,465. (No specimens.)

To all whom it may concern:

Be it known that we, THOMAS FOX NAYLOR and ARTHUR NAYLOR, subjects of the Queen of the United Kingdom of Great Britain and Ireland, residing at Green street, Kidderminster, in the county of Worcester, England, have invented certain new and useful Improvements in Kidderminster, Scotch, or Ingrain Carpet Fabrics, (for which we have obtained British Letters Patent, dated June 15, 1895, No. 11,692,) of which the following is a specification.

Our invention relates to an improved manufacture of Kidderminster, Scotch, or ingrain carpets, the object being to use a smaller number of wefts than is usually employed. The ordinary carpet of this class is composed of two or more plies of weft—that is to say, having two or more webs or layers of material thrown or shot by the shuttle, which webs are bound together by the interweaving both of the warp-threads and of the weft material. When weaving two-ply carpets of the class above named the shots of weft are placed alternately in the top web and in the bottom web—that is, the first weft is shot into the bottom web (for example) and the second weft is shot into the top web, the third weft is then shot into the bottom, the fourth weft into the top, and so on, alternately, the one shot (or odd shots) being directly under the next shot, (or even shots, in the order just named,) except where they cross and recross by interweaving in forming the pattern. Four shots of different-colored wefts are frequently used in the ordinary two-ply carpet fabric of the aforesaid class, and the pattern or design thereof is produced by various combinations of the colors employed. Adverting to the aforesaid order of placing the odd numbers of the shots under the even numbers and assuming the colors to be black, olive, scarlet, and white, they may be combined in the following manner: Black may be first shot in the bottom web, olive may be first shot in the top web, scarlet may be second shot in the bottom web, white may be second shot in the top web, and then repeat. The combinations used to give color effects are black and scarlet, olive and white, black and white, and olive and scarlet; but in some cases black and olive are used as an additional combination.

Now our invention consists in making a Kidderminster, Scotch, or ingrain carpet having two webs or layers of material thrown by the shuttle, but with one web composed of one-half the number of shots of the weft material to that which composes the other web. The web forming the face or upper side of the carpet has the larger number of weft-shots, and in making the fabric two shots are placed in the top web to one in the bottom web. In the set of three shots, therefore, two shots would be placed side by side in forming the top web and one shot in the bottom web; but the bottom-web shot is sometimes passed into the top web to form a part of the pattern, either in place of the first top shot or in place of the second top shot, while one of the latter takes its place in the bottom web.

Our improved manufacture of Kidderminster, Scotch, or ingrain carpet fabric is hereinafter called a "one-and-one-half-ply carpet."

In further description of our invention reference is made to the accompanying drawing, which is a longitudinal section of our said one-and-one-half-ply carpet, the warp-threads being shown in an extended manner, while the top and bottom shots of weft are shown by circles indicating their transverse position in the fabric.

The figure denotes a one-and-one-half-ply fabric woven with the fine warp-threads 1 2 worked mainly around the weft-shots in the top web, but also occasionally passing from thence around the bottom wefts to make a solid cloth. The warp-threads 1 2 are black, for example, and are known as "universal" warp-threads from being used throughout the ground and the figure pattern. The thick lines 7 and 8 denote a stuffer and backing warp-threads of a different material, both of which form a substantial back and are worked in the bottom web only, not appearing in the top web. The weft-shots are denoted by *a* for scarlet, *b* for olive, and *c* for black. The wefts *a* and *c* are first used, with the weft *b* beneath them. A change is made in the color combination by raising weft *b* to the top and lowering weft *a*, while a third color effect is produced by returning weft *a* to the top beside the weft *b* and placing weft *c* beneath

them. The upper and lower webs are thus bound together by the interchange of wefts (which also produce change in the color effect) and the passage of the fine warps 1 2
 5 from the top web around a weft-shot in the bottom web once in each set of three shots of weft.

It is to be noted that the binder-warps—that is, the warps used for binding the upper
 10 and the lower webs together—may be slayed so as to run two ends of warp in one reed close together in order to give a straight-line or ribbed effect, as in the case of imitation-Brussels carpets, or the binder-warps may be
 15 split, so as to produce an alternate or twilled effect, as in certain other carpets known in the trade. Furthermore, we have used the term “solid cloth” above to denote the binding together of the upper and lower webs of
 20 the herein-described one-and-one-half-ply carpet, as previously specified, and we restrict our claim thereto.

What we claim as our invention, and desire to secure by Letters Patent, is—

25 In Kidderminster, Scotch, or ingrain car-

pets, a one-and-one-half-ply fabric consisting of two layers of weft material formed by three shots of the shuttle, the upper layer having double the number of shots contained in the bottom layer, each one of the shots exchanging positions at intervals with one of the remaining two shots to form pattern or color effect, combined with two fine warp-threads worked mainly around the shots in the upper layer but passing from thence once in
 30 each set of three shots of weft to the bottom layer and back again to bind the said layers together, and two thicker warp-threads continuing in the bottom layer to form a backing, substantially as and for the purpose
 40 herein described.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

THOMAS FOX NAYLOR.
 ARTHUR NAYLOR.

Witnesses:

JAMES MORTON,
 FRED GADSBY.