Sept. 19, 1933. J. F. SHAW ET AL 1,927,810

PILE FABRIC

Filed Feb. 23, 1932

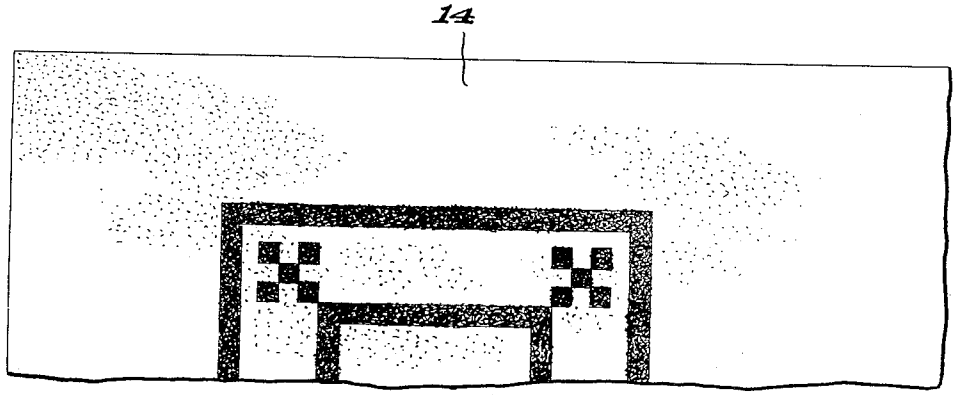


Fig. 1

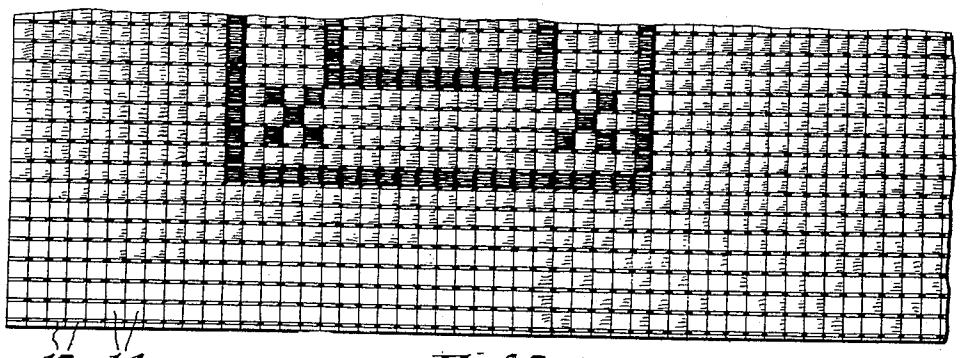


Fig. 2

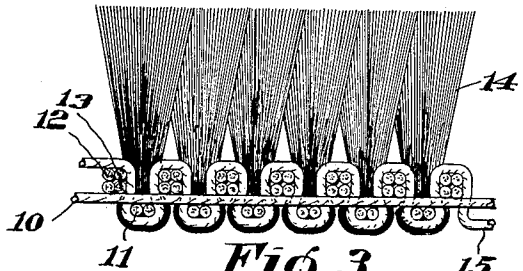


Fig. 3

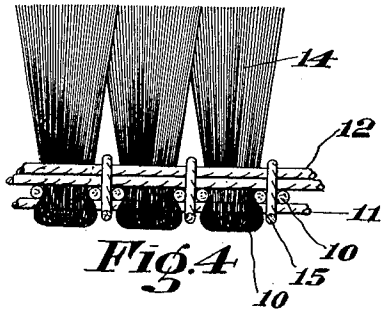


Fig. 4

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Patented Sept. 19, 1933 1,927,810

UNITED STATES PATENT OFFICE

1,927,810

PILE FABRIC

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Application February 23, 1932. Serial No. 594,454

1 Claim. (Cl. 139—401)

This invention relates to pile fabrics and more particularly to an improved weave for carpets and rugs having the pattern visible at the back.

There is a demand for Axminster rugs and carpets which resemble Oriental rugs by having the pattern reproduced on the back, and the binding structure of the ground fabric well concealed by the pile forming yarn.

The present invention relates to a pile fabric constructed to meet these requirements and which presents a good pile area with the tufts firmly held in place and which may be readily woven on an Axminster or nipper type of loom.

In accordance with the weave of the present invention the pile forming tufts extend downwardly between the stuffer warps and are looped about a lower weft shot and lie between upper shots of weft disposed at the opposite sides of the transverse row of tufts. As a result of this construction the pattern is well defined on the back of the fabric and the tufts are firmly supported in an upright position by the upper shots secured at their opposite sides.

The fabric may be woven by inserting three shots of weft and a row of tufts to the cycle, one shot being inserted below the plane of the stuffer warps and two shots above this plane. The pair of upper shots are preferably bound one against the other to form a firm support between the rows of tufts and serve to hold the tufts looped about the lower shot and to maintain them in an upright position.

The novel weave of the present invention will be further understood from the following description when read in connection with the accompanying drawing showing one good practical embodiment of the invention.

In the drawing:—

Fig. 1 is a plan view of the upper face of a piece of rug or carpet constructed in accordance with the present invention;

Fig. 2 is a view of the back of the fabric of Fig. 1 showing the pattern on the back;

Fig. 3 on an enlarged scale is a longitudinal sectional view of the fabric; and

Fig. 4 is a transverse sectional view of the fabric of Fig. 3.

The embodiment of the invention illustrated in the drawing is a two plane fabric having the approximately straight stuffer warps 10 all laid in a single plane, and the fabric is woven with three shots of weft and a row of tufts to the cycle, one shot 11 of the cycle being placed below the stuffer warps and the two remaining shots 12 and 13 are laid above the stuffer warps. Each of the shots is shown as formed of two strands of weft laid by the in-and-out travel of the weft inserting needle.

The tufts 14 forming the cut pile surface are carried down through the ground structure and looped about the lower weft shot 11, as shown. This reproduces the pattern at the back and forms a soft wool back at the lower face of the fabric, and it also helps to conceal the ground structure.

The upper shots 12 and 13 of a cycle are preferably placed in close relation with each other, as shown, so that they form a firm rib or support extending transversely of the fabric between the rows of tufts and engage the opposite sides of the transverse row of tufts to support the tufts in an upright position.

Each lower weft shot 11 preferably lies centrally between the adjacent pairs of upper shots 12 and 13, as shown, and the upper pair of shots are placed sufficiently close together to snugly embrace the row of tufts therebetween so as to firmly secure the tufts about the lower holding shot 11 and support the tufts upright. This crowding of the upper weft shots together serves also to decrease the space between the rows of tufts, which improves the appearance of the pile area and helps to conceal the ground fabric.

The upper and lower weft shots are firmly secured in place in the construction shown by a set of binder warps 15 that are looped around the lower shot 11 and extend upwardly over the pair of upper shots 12 and 13 of a cycle. This serves to firmly bind the two upper shots 12 and 13 together and to hold the wefts firmly in place at the opposite sides of the stuffer warps.

The number of chain and binder warps provided between the longitudinal rows of tufts may be varied as desired, but in the construction shown one chain 15 and two stuffer warps 10 are provided between each pair of tufts, the chain being provided between the two stuffer warps.

The present fabric is well adapted to be woven on a two beam loom since the chain warps may be supplied from one beam and the pairs of stuffer warps may be supplied from a second but double beam. The pile forming tufts may be inserted either by tube frames or nippers.

What is claimed is:—

As an article of manufacture, a carpet or rug having a tuft pile surface and comprising a backing having a single series of stuffer warps arranged in pairs, one at each side of the pile forming tufts and extending longitudinally of the carpet or rug in a single stuffer plane, a shot

of weft below the stuffer warps formed of two strands, two shots of weft above the stuffer warps superposed upon each other in contacting relation and each consisting of two strands, pile forming tufts looped about both strands of the weft shot below the stuffer warp, and a single binder warp extending about the double strand of the lower weft shot, then upwardly between the two stuffer warps constituting a pair, then over the four contacting weft strands above the stuffer warps to bind the four strands closely together in contacting relation, then downwardly between the same pair of stuffer warps so that the loops of the tufts shall not be distorted laterally and thereby form a complete coverage of the backing with the reproduction of the pile surface pattern on the back.

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