Feb. 27, 1934. J. F. SHAW ET AL 1,948,936

PILE FABRIC

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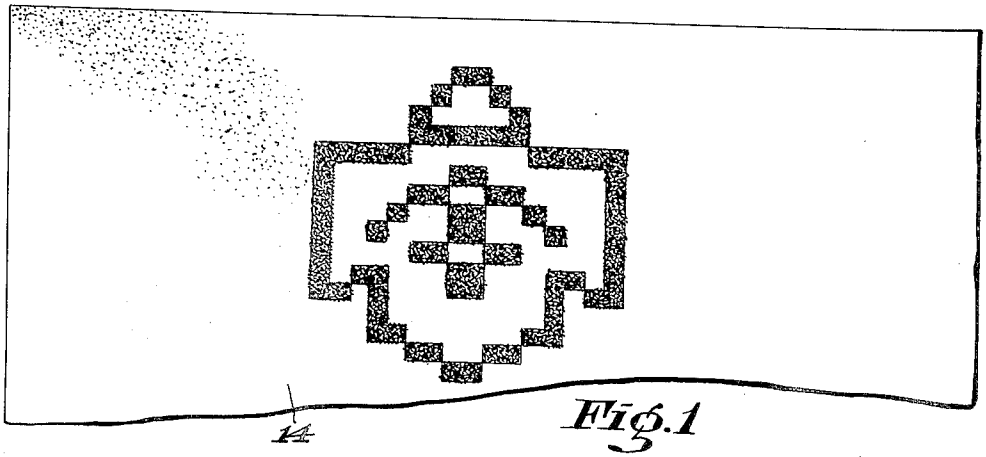


Fig. 1

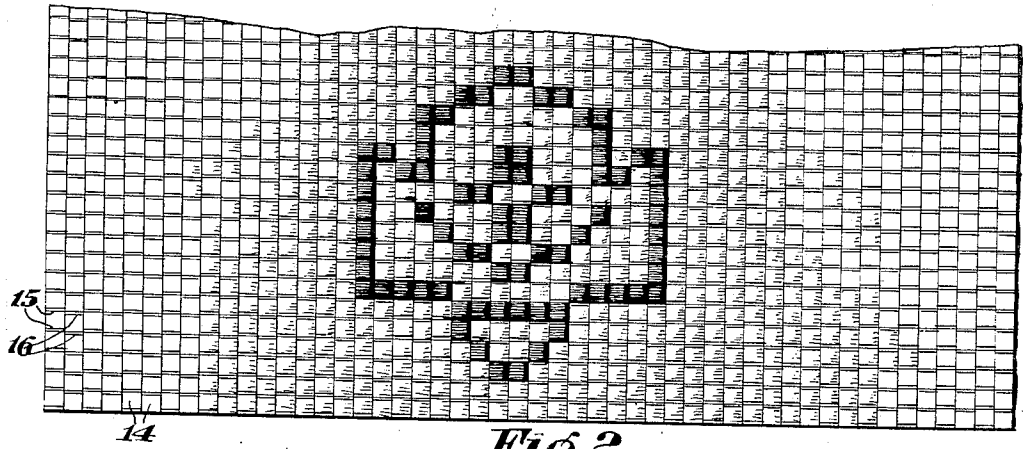


Fig. 2

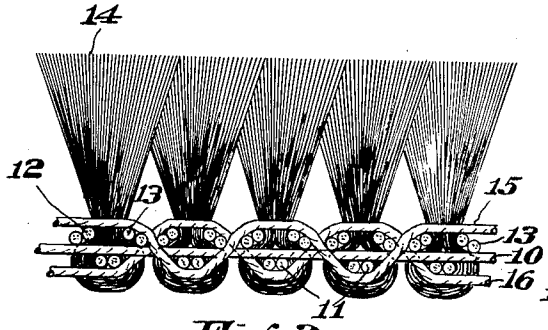


Fig. 3

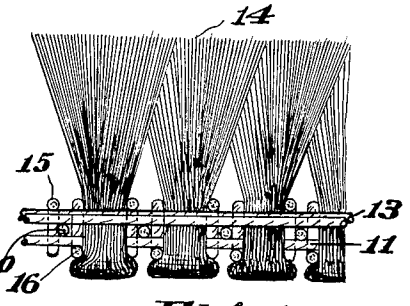


Fig. 4

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PILE FABRIC

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1 Claim. (Cl. 139—401)

This invention relates to tuft pile fabrics and more particularly to an improved weave for carpets and rugs wherein the pattern of the pile surface appears well defined on the back. Carpets and rugs of the Axminster type having the pattern of the tuft pile surface visible on the back are not broadly new, but such prior weaves have not responded to the increasing demand that the ground fabric itself shall be concealed both at the face and back and the pile forming tufts be securely anchored in place.

One of the objects of the present invention is to provide tuft pile carpets and rugs fully answering the demands of the trade and wherein the tuft pile shall be so bound to the foundation fabric that it shall possess the inherent capacity of returning to its desired upright position after having been depressed temporarily.

In accordance with the present invention the tuft pile is so combined with the threads of the foundation fabric that a full coverage of the latter and duplication of pattern are presented both at the face and back, and where the tufts extend upwardly from the foundation fabric the two portions thereof are pinched or bent inwardly to securely bind the loop of the tufts about the lower shots of wefts and cause the upwardly extending portions of the tufts to resume an upright position after having been depressed.

More specifically stated the foundation fabric comprises a series of stuffer warp threads, a shot of double weft threads below the stuffer warp threads about which a loop of the tuft forming yarns pass, two shots of weft threads above the stuffer warp threads, and two chain or binder warp threads which pass alternately under the lower shot of weft then upwardly over the two double shots, one each side of upwardly extending portions of the pile forming tufts, which serve to bend such portions of the pile forming tufts towards each other, with the result that the loop of the tufts are bound closely about the shot of weft below the stuffer warp and bent inwardly above the stuffer warp thereby insuring complete coverage of the foundation fabric at the face and back and return of the tufts to an upright position after having been depressed.

The weave thus generally described presents a well defined pattern on the back of the foundation fabric, the pile forming tufts are securely anchored in place, and the upper shots constitute a firm support at the opposite sides of the transverse row of tufts, while the chain or binder warps inclose and bind the upwardly extending portions of the tufts in the same loop of the engaged binder warps which serves to draw the upper shots tight against the opposite sides of the tufts.

The improved weave and construction of the present invention will be further made clear from the following description and accompanying drawing showing a good practical embodiment of the invention.

Fig. 1 is a plan view of the upper face of a 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 pile fabric of the present invention may be readily woven on an Axminster type of loom, and as illustrated in the drawing is provided with the stuffer warps 10 laid in the same plane.

One shot of weft 11 is provided below the stuffer warps and two shots of weft 12 and 13 are provided above the stuffers for each transverse row of tufts 14, and the tufts 14 are carried downwardly between the stuffer warps and looped about the lower shot of weft 11, as shown. Each of the shots is shown as formed of two strands of weft laid by the travel of the needle through the shed.

The upper shots 12 and 13 are laid against the opposite sides of the transverse row of tufts, which serves to hold the tufts firmly bound about the lower shot 11 and support the tufts at their opposite sides.

The shots of wefts are secured in place by two sets of binder warps 15 and 16 arranged to cross between each pair of tuft rows. The arrangement is such that the two upper shots of weft 12 and 13 at the opposite sides of a row of tuft are enclosed in the same binder loop to be firmly bound thereby against the opposite sides of the tufts. Each set of binders is looped about one lower and two upper weft shots so that there are two cycles or six weft shots to each repeat of the binder warps. This forms a well balanced and firmly bound weave.

The number of stuffer and binder warps may be varied, as desired, and in the construction shown one stuffer and two binder warps are provided between each two rows of tufts extending longitudinally of the fabric.

As a result of the present invention the tufts are bent and firmly supported at their opposite

sides in an upstanding position by the upper weft shots 12 and 13 and the crossing arrangement of the binder warps produces a flexible and balanced weave in which the tufts are well bound and serve to conceal the ground structure at both the upper and lower face of the fabric.

The pile forming yarns carried through the fabric form a soft wool backing having the same pattern effect as the face of the pile fabric, and owing to the binding effect of the upper shots of weft, the loop of the tufts passing about the lower shot take a natural spread condition and afford a complete coverage for the back of the carpet or rug.

What is claimed is:—

As an article of manufacture a tuft pile carpet or rug having a tuft pile surface with the pattern of the pile surface reproduced on the back and comprising a series of stuffer warps laid in a single stuffer plane, two shots of weft above and one shot of weft below the stuffer warps to the weave cycle, a transverse row of tufts looped about a lower weft shot and extending upwardly between the two upper weft shots of that cycle, and two binder warps enclosing between them a stuffer warp at each side of a row of tufts and arranged so that the binder warps pass alternately above the two upper weft shots one at each side of a tuft and below a lower tuft holding weft shot and cross each other directly between rows of pile forming tufts to pinch the tufts above the stuffer and cause the loop of the tufts to spread laterally and cover the contacting binder warp.

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