

March 9, 1937.

P. SHEARER

2,073,227

CARPET WEAVING

Filed Feb. 6, 1934

2 Sheets-Sheet 1

Fig. 1.

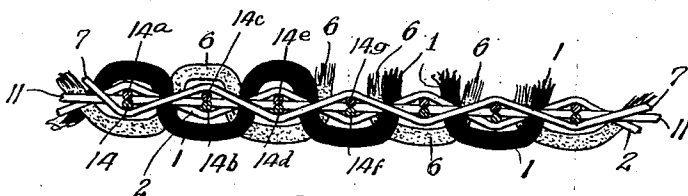


Fig. 2.

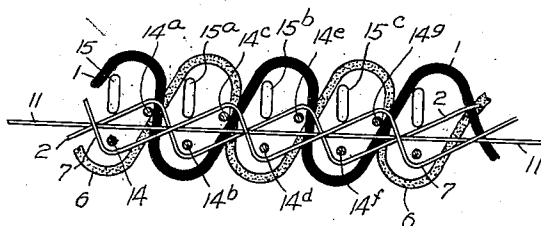
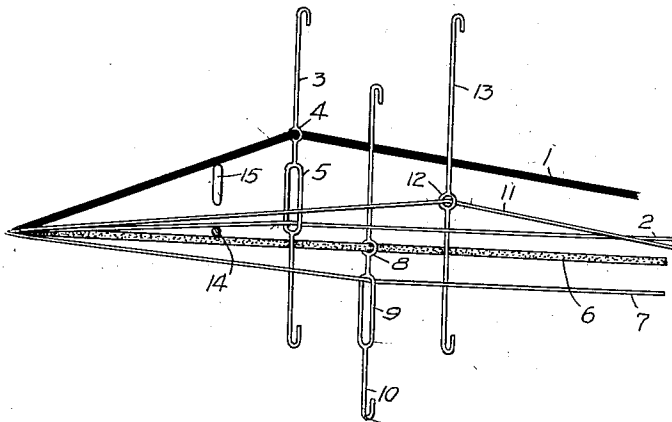


Fig. 3.



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INVENTOR

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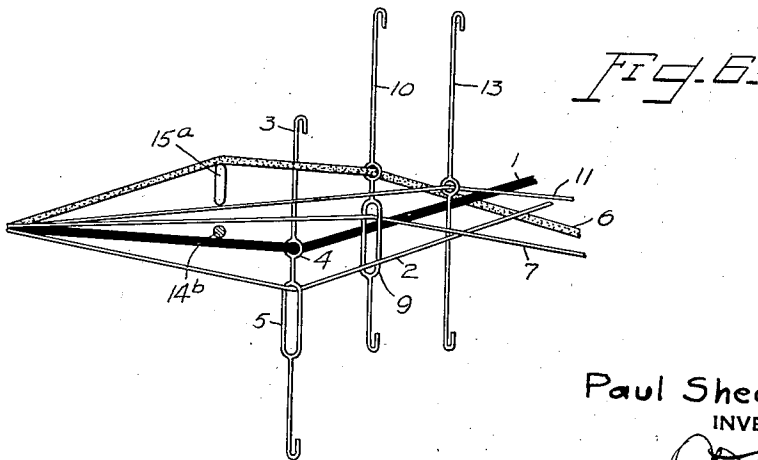
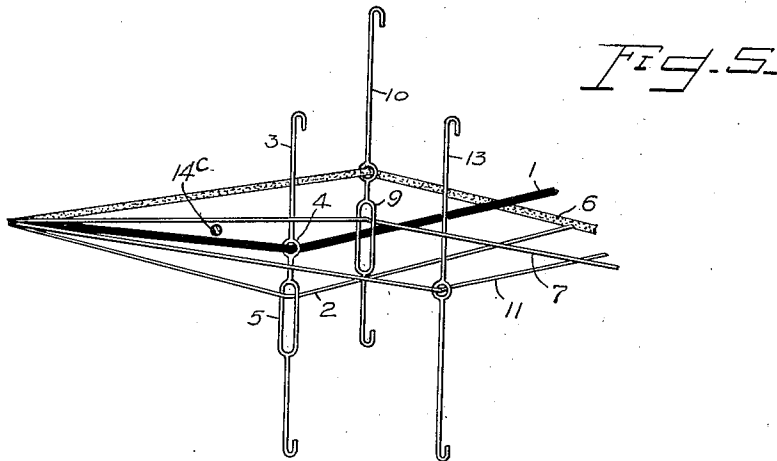
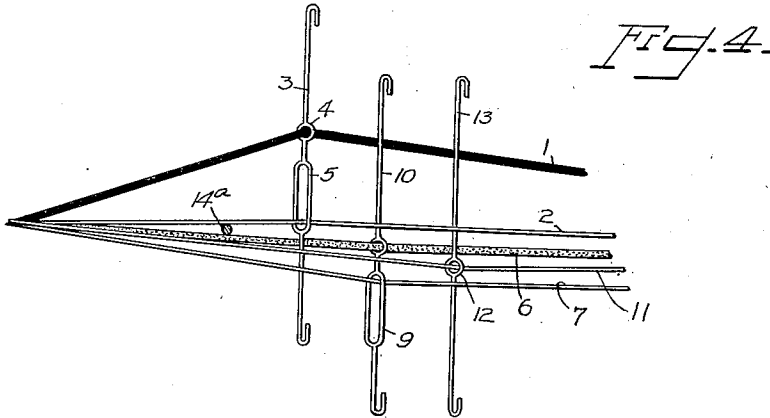
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,073,227

CARPET WEAVING

Paul Shearer, Carlisle, Pa., assignor to C. H. Masland & Sons, Inc., Carlisle, Pa., a corporation of Pennsylvania

Application February 6, 1934, Serial No. 709,909

5 Claims. (Cl. 139—403)

This invention relates to new and useful improvements in carpet weaving.

The object of the invention is to weave multi-colored carpets of great diversification of color and patterns on the usual velvet carpet loom.

I accomplish this object by carrying a binder yarn and a print yarn in one harness or heddle, and a second binder yarn and a print yarn in a second heddle, the stuffer yarn being carried in a separate heddle.

The heddles carrying the print and binder yarns are always displaced with respect to one another; when one is down the other one is up. The heddle carrying the stuffer yarn assumes alternately positions corresponding to one or the other heddle.

A filling is inserted on each shot but a wire is inserted only on alternate shots. One pair of binder and print yarns will pass over spaced pairs of filling shots, (as the 1st and 2nd, the 5th and 6th, the 9th and 10th, etc.); and the other pair of print and binder yarns will pass over alternate pairs of filling shots, (as the 3rd and 4th, the 7th and 8th, the 11th and 12th, etc.). The heddles are so arranged that while the print yarns may be moved into any position with respect to the wire and the filling, the binders can be moved only above or below the filling, and never above the wire.

Great diversification of color and pattern may be produced in the carpet since two print sheds raise the number of color and yarn combinations to the second power as compared to a weave which uses a single print shed. Furthermore, the danger of "streaks" is practically eliminated, since it is unlikely that two print yarns display the same imperfection at the same spots. By using cutting wires throughout or in combination with round wires, the pattern effects can be further varied. The cut pile will stand erect and the fabric has a very full feel, owing to the mass of wool packed into the face of the carpet as compared to the mass of yarn on the back.

In order more clearly to explain the nature of my invention, so much of a practical embodiment thereof will be described as is necessary to an understanding of the invention by one skilled in the art.

In the drawings, Fig. 1 is an enlarged transverse section of a carpet woven in accordance with my improved method one end of the view showing the print yarn cut to form tufts;

Fig. 2 is a schematic illustration of my weaving method; and

Figs. 3, 4, 6 and 5 are schematic illustrations

of four successive stages or shots of a complete weaving cycle for one dent.

Referring to the drawings, one print yarn 1 and one binder yarn 2 are carried by one heddle 3. The print yarn 1 passes through a small circular eye 4 of the heddle, and the binder yarn 2 passes through an elongated, slotted eye 5 of the heddle. Similarly, a second print yarn 6 and a second binder yarn 7 pass through circular and slotted eyes 8 and 9, respectively, of a second heddle 10. Stuffer yarn 11 passes through eye 12 of heddle 13. The weft filling shot is indicated at 14 and the wire at 15.

The weaving mechanism is that of the well-known velvet carpet loom which, in order to attain my object, I operate in the following manner:

On shot No. 1 (see Figs. 2 and 3), a wire 15 is inserted and the shuttle carries the filling 14 across. Heddle 3 is up, heddle 10 is down, and heddle 13 is up. The print yarn 1 is above the filling yarn 14 and the wire 15. The binder yarn 2 and the stuffer yarn 11 are above the filling yarn 14 but below the wire 15. The second print and binder yarns 6 and 7 are both below the filling yarn 14 and the wire 15.

On shot No. 2 (Figs. 2 and 4) no wire is inserted, but the shuttle carries the filling yarn across as indicated at 14a. Heddles 3 and 10 remain in the same position as in Fig. 3 and heddle 13 goes down. The stuffer yarn 11 will be below the filling shot and all the other yarns retain their position shown in Fig. 3.

On shot No. 3 (Figs. 2 and 6), a wire 15a is inserted and the shuttle carries the filling yarn across, as indicated at 14b. Heddle 3 goes down carrying print yarn 1 and binder yarn 2 below both the wire and the filling yarn. Heddle 10 is up carrying print yarn 6 above the filling yarn 14b and the wire 15a but, owing to the length of slot 9, the binder yarn 7 although above filling 14b, will be below wire 15a. Heddle 13 is up and stuffer yarn 11 above the filling yarn and below the wire.

On shot No. 4 (Figs. 2 and 5) again only the filling yarn is inserted (14c). Heddle 3 being down, the print yarn 1 and binder yarn 2 are below the filling yarn. The heddle 10 is up and both the print yarn and binder yarn carried by it are above the filling yarn. Heddle 13 is down and the stuffer yarn 11 is below the filling yarn.

From here on the cycles are repeated.

The carpet will be a two-shot weave shown in Fig. 1, there being two shots of the filling 14 for every wire 15 inserted.

The wires 15 may be either round or provided with cutting blades or any desired combination of round and cutting edge wires may be used. Of course, the tufts formed over the cutting wires 5 will be cut when the wires are withdrawn, as indicated at the right end of Figure 1.

What is claimed is:

1. A carpet comprising a series of pairs each of pile yarns, binder yarns and filling yarns, and 10 stuffer yarns, each pair of pile and binder yarns passing successively between the spaced pairs of filling yarns, one series of pile and binder yarns passing successively over and under the filling yarn pairs, and another series passing successively 15 under and over the filling yarn pairs, respectively, the pile yarns forming tufts on one face of the carpet, and the stuffer yarns passing between the filling yarns of each pair.

2. A carpet comprising a series of pairs each of 20 pile yarns, binder yarns and filling yarns, and stuffer yarns, each pair of pile and binder yarns passing successively between the spaced pairs of filling yarns, one series of pile and binder yarns passing successively over and under the filling 25 yarn pairs, and another series passing successively under and over the filling yarn pairs, respectively, the pile yarns forming loops on one face of the carpet, and the stuffer yarns passing between the filling yarns of each pair.

30 3. A multicolored carpet comprising a series of alternating pairs each of colored pile yarns, binder yarns and filling yarns, and stuffer yarns, each pair of pile and binder yarns passing successively across the filling yarn pairs, one series 35 of pile and binder yarns passing successively over

and under the filling yarn pairs, and another series passing successively under and over the filling yarn pairs, respectively, forming alternating colored pile tufts on one face of the carpet, and the stuffer yarns passing between the filling 5 yarns of each pair.

4. The herein described method of weaving a multicolored carpet having pile yarns, binder yarns, filling yarn pairs and stuffer yarns which 10 comprises moving a series of pile yarns and associated binder yarns with respect to the filling yarns, passing one of said series above and below successive filling yarn pairs, passing another of said series below and above said successive filling yarn pairs alternately with respect to said first 15 series, passing the shots of filling yarn below and above the stuffer yarns on alternate shots, and passing a pile wire beneath the pile yarns to form pile on one face of the carpet.

5. The herein described method of weaving a 20 multicolored carpet having pile yarns, binder yarns, filling yarn pairs, and stuffer yarns, which comprises moving two series of color yarns and associated binder yarns with respect to the filling 25 yarns, passing one of said series above and below successive filling yarn pairs, passing the other of said series below and above said successive filling yarn pairs alternately with respect to the first series, passing the successive shots of filling yarn 30 alternately below and above the stuffer yarns and passing a pile wire between the color yarns and their associated binder yarns on every alternate shot to form pile on the carpet face.

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