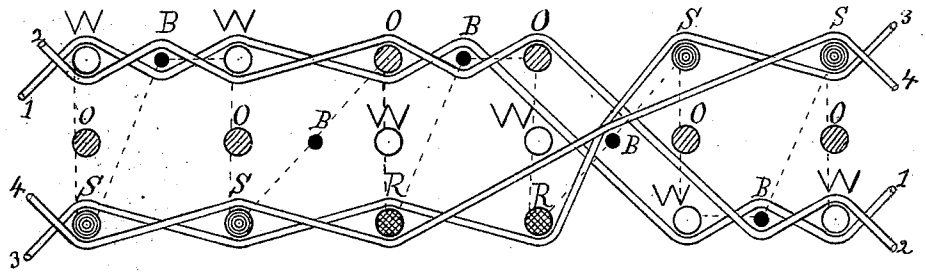
(Specimens.)

W. B. KEEFER.

INGRAIN CARPET FABRIC.

No. 419,855. Patented Jan. 21, 1890.



WITNESSES.

Ferdinand L. Kibby

Samuel L. White

INVENTOR.

William B. Keefer

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM B. KEEFER, OF PHILADELPHIA, PENNSYLVANIA.

INGRAIN CARPET FABRIC.

SPECIFICATION forming part of Letters Patent No. 419,855, dated January 21, 1890.

Application filed February 23, 1889. Serial No. 300,798. (Specimens.)

To all whom it may concern:

Be it known that I, WILLIAM B. KEEFER, a citizen of the United States, residing at Germantown, in the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Ingrain Carpet Fabrics, which improvement is fully set forth in the following specification and accompanying drawing.

My invention belongs to a class of carpet fabrics known to the trade as "ingrains."

In the old method of weaving a two-ply ingrain carpet four figuring and binding weft-threads and four warp-threads are required in a set or weave. In a three-ply six figuring and binding weft threads and six warp-threads are required to a set or weave.

Most all two-ply ingrains are woven by the jacquard and four journals and one card for each two picks of weft; a three-ply, six journals and one card for each shot of weft.

The object of my improvement is to so make a two-ply ingrain carpet with a greater variety of shadings in the figure or design than is possible when the carpet is woven in the usual manner; and it consists in the combination of three figuring and binder weft-threads, one binder weft-thread, and four warp-threads in a set or "weave," the binder weft-thread serving to bind down each warp-thread wherever the latter appears on the same surface for two or more successive picks, and the figuring-wefts and warp-threads where they do not appear on the face or back of the fabric are buried between the face and back, and this object I attain in the manner I will now proceed to describe, reference being had to the accompanying drawing, making a part of this specification.

Referring to the drawing, the warp-threads are indicated by numbers 1, 2, 3, and 4. These warp-threads are usually of a shade of color to correspond with the color of the weft-threads as near as possible. In each set of figuring-wefts there are shown three colors, and the warp-threads four colors to each set. Between each set of three figuring and binder wefts is a binder-weft, which weft may be of any suitable color, as it does not enter into the shading or figures of the design woven, but is used solely for binding purposes, and it is made finer than the figuring-wefts, so that the warp-threads will cover and hide it as much as possible.

The figuring-wefts are marked as follows: W for white, O for olive, S for scarlet, R for red, and B is the binder-weft. The warp-threads 1 we will suppose to be white, 2 olive, 3 scarlet, and 4 red. In arranging the warp in the loom-harness I prefer a loom with four journals, (which is the same as a "cumberboard" divided into four parts.) The warp is by the four journals divided into four parts, each color to one journal.

The design to be woven is cut on the cards, one card for each shot of weft. The journals do not move, but are stationary. The warp-threads are moved solely by the jacquard as controlled by the cards.

Referring to the drawing, commencing on the left-hand side, we will suppose W is the first shot of weft. Warp-thread 1 is up; 2, 3, and 4 are down. The second shot is O. Warp-threads 1 and 2 are up; 3 and 4 are down. This shot is thrown between the upper and lower plies. The third shot is S. Threads 1, 2, and 3 are up; 4 is down; and this shot is thrown in the lower ply. The fourth shot is the binder B. Warp-thread 2 is up; 1, 3, and 4 are down. This completes the set or weave. The next shot is W. Warp-thread 1 is up and 2, 3, and 4 are down. This brings the white warp-thread over the white weft, the same as the first shot of the preceding weave. This could not be done without the binder B or by floating the warp-thread over two wefts. The second shot in this set: warp-threads 1 and 2 are up, 3 and 4 are down, and weft O is thrown between the upper and lower plies. The third shot S: 1, 2, and 4 are up, and 3 is down. This shot is thrown in the lower ply. The fourth shot: binder B, 1 and 2 are up; 3 and 4 are down. The binder is thrown between the upper and lower plies. As the first shot in the next set will be O, (olive,) olive warp-thread 2 will be over it. The second shot W of the third set: warp-threads 1 and 2 are up; 3 and 4 down. This puts that shot between the plies. The third shot of the third set: warp-threads 1, 2, and 3 are up; 4 is down. This puts weft R in the lower ply. The fourth shot of the third set is the binder B. The warp-thread 1 is up; 2, 3, and 4 are down. This puts the binder in the upper ply, as the next

shot will be olive, and it is desired to put the olive warp-thread 2 over that shot without floating.

From the above, and by following the dotted line on the drawing, the successive shots of wefts in each set can be traced, and it will be seen and understood by one skilled as a weaver that by interweaving the binder weft-thread in the top ply, center, or bottom ply such warp-threads desired may be woven over such weft-threads desired, either on the face or back of the fabric, and none of the warp-threads floated, and by such combinations of colored warp and weft threads various shadings be made in ground and figures of the fabric.

Having, as above, fully described my improved carpet fabric, I do not broadly claim an ingrain carpet fabric when woven with three figuring and one binder weft-threads and four warp-threads in a set or weave, as is shown and described in Patent No. 215,999, dated May 27, 1879; but

What I claim as my invention, and desire to secure by Letters Patent, is—

A woven ingrain carpet fabric composed of three figuring weft-threads, one binder weft-thread, and four warp-threads in a set, the said binder-weft serving to bind down each warp-thread wherever the latter appears on the same surface for two or more successive picks, and the figuring-wefts and warp-threads where they do not appear on the face or back of the fabric being buried between the said face and back, substantially as shown and described.

WILLIAM B. KEEFER.

Witnesses:
GEORGE COON,
RUDOLPH KOHLER.