

No. 648,567.

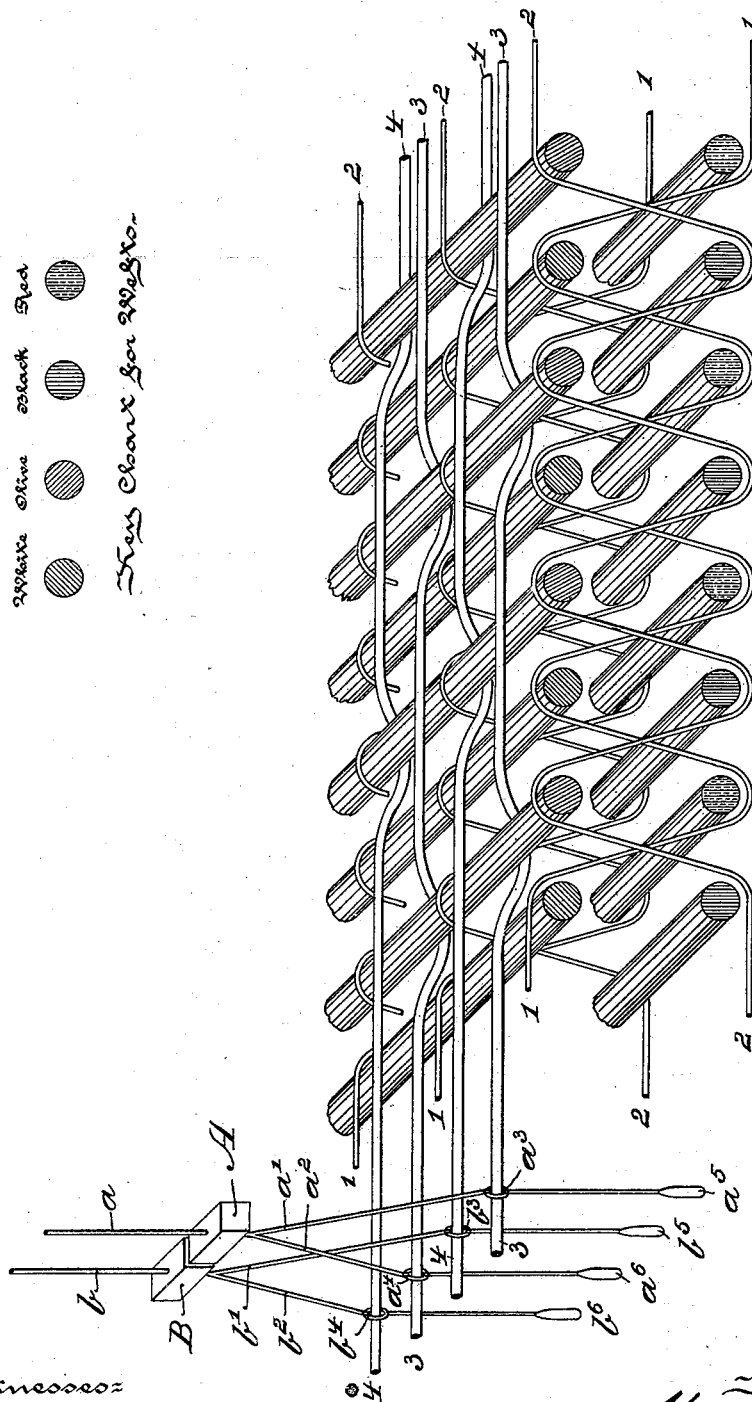
Patented May 1, 1900.

W. B. KEEFER.
INGRAIN CARPET FABRIC.

(Application filed July 27, 1899.)

(Specimens.)

White Olive Black Red
● ● ● ●
See Chart for 24x50.



Witnesses:
Thomas M. Smith.
Richard C. Mayhew.

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UNITED STATES PATENT OFFICE.

WILLIAM B. KEEFER, OF PHILADELPHIA, PENNSYLVANIA.

INGRAIN CARPET FABRIC.

SPECIFICATION forming part of Letters Patent No. 648,567, dated May 1, 1900.

Application filed July 27, 1899. Serial No. 725,226. (Specimens.)

To all whom it may concern:

Be it known that I, WILLIAM B. KEEFER, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Ingrain Carpet Fabrics, of which the following is a specification.

My invention has relation to a woven two-plane ingrain carpet fabric; and in such connection it relates to the arrangement of the figuring and binding warp-threads with relation to the weft-threads in one plane of the fabric.

The principal object of my invention is to provide a homogeneous woven two-plane ingrain carpet fabric having two acceptable faces, one plane of said fabric only being ornamented by additional figuring warp-threads, without materially increasing the cost of the fabric and without destroying the homogeneous character thereof.

My invention consists of a two-plane ingrain carpet fabric having the weft-threads arranged in sets of eight and bound together into a homogeneous fabric by two binding warp-threads and having two acceptable faces, in conjunction with figuring warp-threads arranged so as to ornament the upper face of one plane only of the fabric. These figuring warp-threads when a figure or design is to appear on said face are arranged so that a given thread will float over three and under the fourth upper weft in the set of eight weft-threads, while an adjacent thread floats over the first upper weft-thread, then under the second weft in the set, and is then floated over the remaining two upper wefts in that set, both figuring-threads being bound when thus passed under a weft-thread without crossing each other below the upper plane of the fabric. When, however, no figure is to be produced, both sets of figuring warp-threads are hidden between the two planes of the fabric, to reappear, however, when required in the precise relationship, as hereinabove set forth.

The nature and scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawing, which illustrates in perspective to the left the preferred arrange-

ment of a portion of the harness of the loom and to the right diagrammatically the structure and arrangement of the fabric embodying the features of my invention.

Referring to the drawing, the weft-threads are four in number and according to the usual weave are arranged in sets of eight. The colors used are preferably white, olive, black, and red, as indicated in the key-chart for the wefts. These weft-threads are bound together by the light binder warp-threads 1 and 2 to constitute a homogeneous two-plane ingrain carpet fabric. The two-plane homogeneous carpet fabric thus formed has two acceptable faces, and it is the purpose of the invention primarily to ornament or give increased pattern effect to the upper face of one plane only of the fabric. In the weaving of the fabric the figuring warp-threads 3 and 4 are preferably arranged in sets of two, and each thread of each set is divided into two parts, and the parts of the two threads 3 and 4 are so arranged that one part of one thread is woven into the fabric between the two parts of the other thread of the set. To enable this arrangement to be carried into effect, each heddle *a b* of the jacquard is provided with a journal board or box *A B*, from each of which boxes two branch wires *a' a²* and *b' b²* are suspended. Each wire *a' a²* and *b' b²* is provided with a male eye *a a⁴* and *b³ b⁴*, and from each male eye is suspended a lingo or weight *a⁵ a⁶* and *b⁵ b⁶*. The wires *a' a²* and *b' b²* are so arranged that the inner wires *b' b²* cross each other, thus throwing between the eyes *b³ b⁴* a male eye *a⁴* of the journal and heddle *a*, while the male eye *b³* of the other journal and heddle *b* is interposed between the male eyes *a³ a⁴*. In the eyes *b³ b⁴* the divided parts of the figuring warp-thread 4 4 are conducted, and within the male eyes *a a* the divided parts of the other figuring-thread 3 3 are passed. By this arrangement the two figuring warp-threads 3 3 and 4 4 are thrown closely together and are prevented from separating. In the completed fabric there will be no lateral grinning of the figuring warp-threads 3 3 4 4 in the design, and the ornamentation or pattern will be clean and sharply defined or outlined.

In the formation of the designs or figures on the face of one plane of the fabric the parts

3 3 and 4 4 of the figuring warp-threads are so arranged with respect to the weft-threads that both parts of both threads 3 3 or 4 4 either float over the upper weft-threads or under the same, but never pass entirely through the fabric. The threads 3 3 and 4 4 whenever reversed and brought respectively under and over the upper plane of the fabric have crossing-points which lie in the same plane as the upper or figured plane of the fabric. As there are sets of eight wefts in the fabric and as it is necessary in the weaving that the figuring-threads shall always pass over or under the same wefts to produce a continuous design, one thread 3, for instance, always passes over three weft-threads and then under one alternately in the sets of wefts, whereas an adjacent thread 4 likewise passes over three weft-threads and under one alternately in the sets of wefts. Thus, as illustrated in the drawing, one thread 4 passes over the first three upper wefts, which are white, olive, and white, and then under the next weft, which is olive, whereas an adjacent thread 3 passes over the first weft, which is white, then under the second, which is olive, and then over the remaining two wefts in the set, which are white and olive. By this arrangement a colored weft (olive) wherever it appears is inclosed between parts 3 3 and 4 4 of the figuring warp-threads, although, of course, the parts 3 3 are always

under the olive when it first appears in the set and then over the olive when it next appears, whereas the other parts 4 4 are always over the olive when it first appears and under the next olive weft-thread. When no pattern is to be produced on the upper plane of the fabric, the two figuring-threads are both hidden under the upper plane of the fabric.

Having thus described the nature and object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

A two-plane carpet fabric, having the weft-threads arranged in sets of eight bound together into a homogeneous fabric by two binder warp-threads and having two acceptable faces, figuring warp-threads adapted to ornament the upper face of one plane only of the fabric by having a given thread passed alternately over three and under one upper weft-thread in each set and the adjacent thread passed alternately over the first, under the second, and over the remaining two upper weft-threads in the same set, substantially as and for the purposes described.

In testimony whereof I have hereunto set my signature in the presence of two subscribing witnesses.

WILLIAM B. KEEFER.

Witnesses:

J. WALTER DOUGLASS,
THOMAS M. SMITH.