

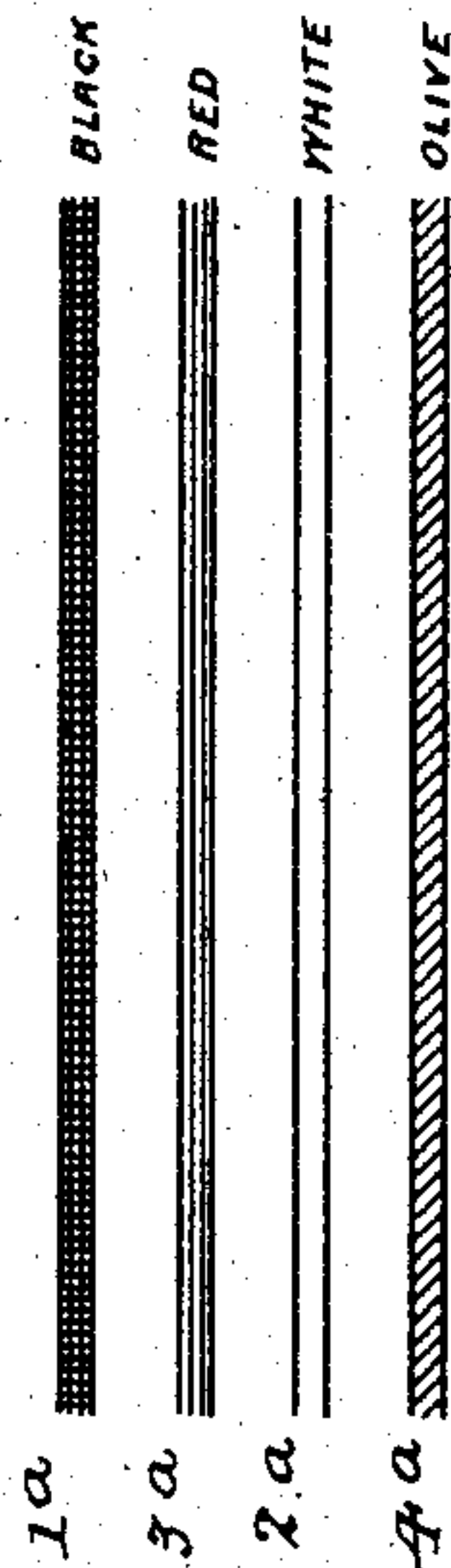
No. 790,205.

PATENTED MAY 16, 1905.

H. HARDWICK.
WOVEN FABRIC.

APPLICATION FILED SEPT. 30, 1904.

Key Chart for Warps



Key Chart for Wefts

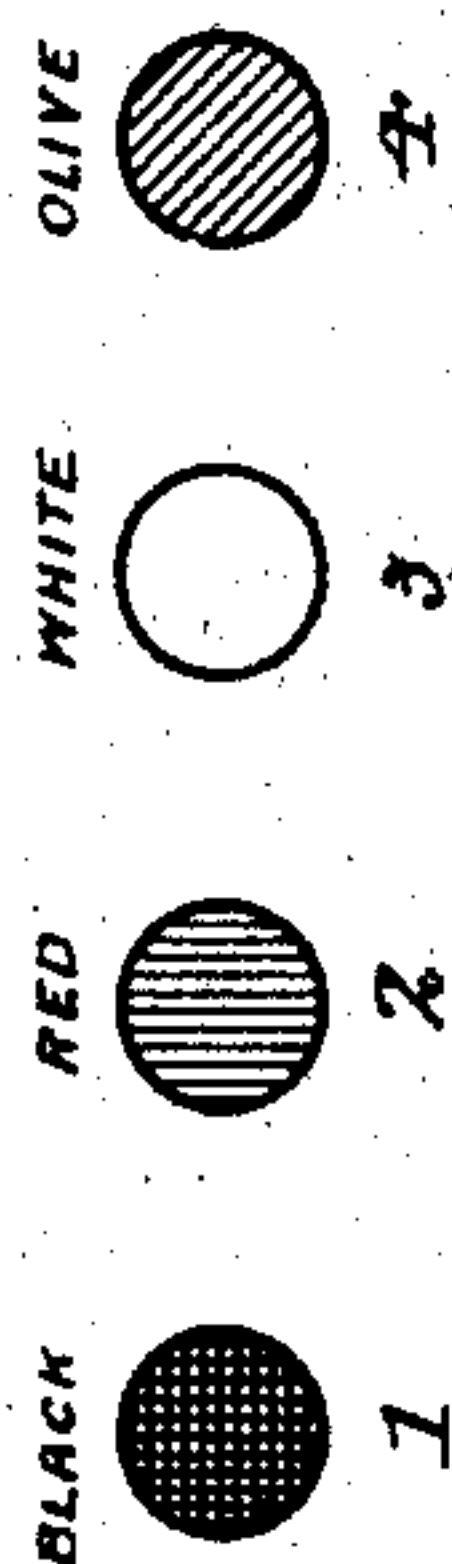
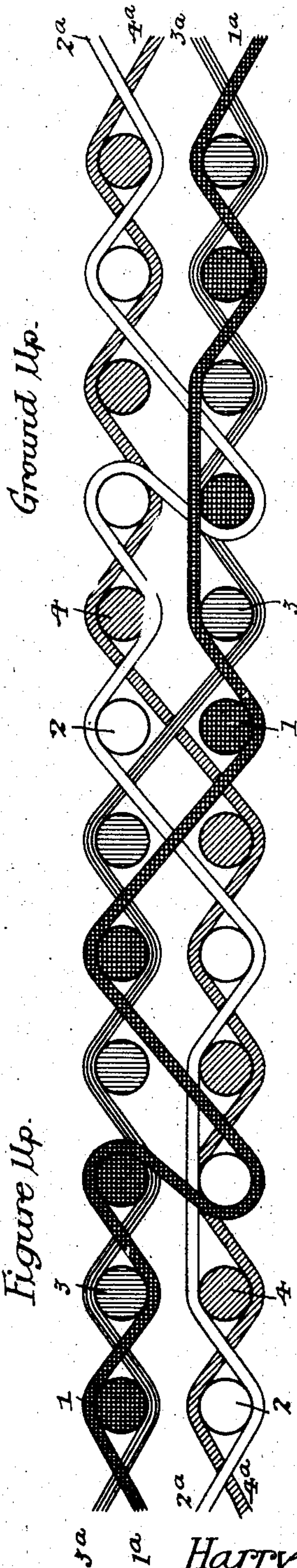


Figure 11p.



Witnesses:

Hamilton D. Inner
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UNITED STATES PATENT OFFICE.

HARRY HARDWICK, OF PHILADELPHIA, PENNSYLVANIA.

WOVEN FABRIC.

SPECIFICATION forming part of Letters Patent No. 790,205, dated May 16, 1905.

Application filed September 30, 1904. Serial No. 226,699.

To all whom it may concern:

Be it known that I, HARRY HARDWICK, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Woven Fabrics, of which the following is a specification.

My invention consists of a two-ply ingrain carpet fabric, the object of the invention being to tie together the two plies, especially in the ground and figure portions of the pattern, in such manner as to prevent the weft-threads of the one ply which are engaged by the tying warp-thread from being drawn into such relation to the weft-threads of the other ply as to be visible, or as it is technically termed to "grin" between the same. This object I attain in the manner hereinafter set forth, reference being had to the accompanying drawing, which represents an exaggerated section of a piece of fabric made in accordance with my invention, the section being taken in the direction of the warp-threads.

The fabric shown is as to its general structure similar to an ordinary two-ply ingrain carpet fabric, being composed of successive sets of weft-threads 1 2 3 4 interwoven with warp-threads 1^a, 2^a, 3^a, and 4^a, so as to form two plies.

In the present instance the weft-threads 1 and 3 are the "figure-threads" and the weft-threads 2 and 4 are the "ground-threads," and each of the plies of the fabric shown consists one-half of ground and one-half of figure, the warp-threads being so disposed in respect to the weft-threads that each of the latter will be normally bound by a warp-thread of corresponding color in both plies of the fabric.

In an ordinary two-ply ingrain carpet fabric the figure-threads form one ply and the ground-threads the other ply, and these plies are disconnected from one another except where the plies change from face to face.

In order to tie together the two plies of the fabric, especially in the ground and figure portion, I carry a warp-thread of one ply to and around a weft-thread of the other ply at any desired intervals and at the same time displace the warp-thread, which would normally bind said tied weft-thread, so that said

displaced warp-thread will at the tying-point pass between the two plies from and to a weft-thread of the same ply and will thereby prevent the weft-thread which is engaged by the tying warp-thread from assuming such a position in respect to the weft-threads of the other ply as to grin or be visible between the latter.

In the drawing I have shown the warp-thread 1^a, which normally binds the weft-thread 1, engaging with the weft-thread 2 of the other ply and passing thence back to a weft-thread 1 of the first ply, said warp-thread 1^a thus serving as a tying-thread, the warp-thread 2^a, which normally binds the weft-thread 2, engaging in like manner with the weft-thread 1 when performing tying duty, although it is immaterial which of the warp and weft threads are thus engaged for tying purposes so long as the normal binding warp-thread for the weft-thread which is tied is at such tying-point shifted to a position between the face and back plies of the fabric, where it extends from and to a weft-thread of the same ply for the purpose described.

By always carrying the tying warp-thread from one and the same ply of the fabric and floating between the plies the warp-thread which would normally serve as a binder the solid color effects in the ground and figure of the pattern of said ply are not disturbed by the presence therein of warp-threads of a color contrasting with those of the weft-threads.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. A woven fabric having a plurality of plies, each composed of interwoven warp and weft threads, said plies being tied together at intervals by a warp-thread of one ply passing around a weft-thread of the other ply, the normal binding warp-thread for said tied weft-thread, passing at the tying-point, between the plies from and to a weft-thread of the same ply, substantially as specified.

2. A woven fabric having a plurality of plies each composed of interwoven warp and weft threads so disposed that each weft-thread will, in each ply of fabric, be normally bound by a warp-thread of corresponding color, the plies being tied together at intervals by a

warp-thread of one ply passing around a weft-thread of the other ply, and the normal binding warp-thread for said tied weft-thread, passing, at the tying-point, between the plies
5 from and to a weft-thread of the same ply, substantially as specified.

3. A woven fabric having a plurality of plies, each composed of interwoven warp and weft threads, said plies being tied together at
10 intervals by a warp-thread of one ply passing around a weft-thread of the other ply, the normal binding warp-thread for said tied weft-thread, passing, at the tying-point, between the plies from and to a weft-thread of
15 the same ply, and the tying warp-thread always being drawn from the same ply of the fabric, substantially as specified.

4. A woven fabric having a plurality of plies each composed of interwoven warp and

weft threads so disposed that each weft-thread
20 will, in each ply of fabric, be normally bound by a warp-thread of corresponding color, the plies being tied together at intervals by a warp-thread of one ply passing around a weft-thread of the other ply, the normal binding
25 warp-thread for said tied weft-thread, passing, at the tying-point, between the plies from and to a weft-thread of the same ply, and the tying warp-thread always being drawn from the same ply of the fabric, substantially as
30 specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY HARDWICK.

Witnesses:

WALTER CHISM,
JOS. H. KLEIN.