My invention relates to double pile fabrics, that is to say, to fabrics which are woven with two ground weaves, and having pile forming warps extending therebetween which are subsequently cut for the purpose of producing two separate fabrics, each having a pile face.

In my previous application for Letters Patent, filed March 27, 1928, Serial No. 10, 269,150, there is shown and described a fabric of the type aforesaid, which may be woven in a double shuttle loom. My present invention contemplates a fabric which is in some respects similar to the fabric there shown, but which, however, is more particularly adapted to be woven in a loom in which but one shuttle is thrown at each pick, and in which fabric there will be a more substantial body of pile.

The principal object of my present invention is to provide an improved double pile fabric which, when cut apart, will produce two rugs or carpets, each of the well known Wilton type.

A further object of my invention is to provide a fabric of the type aforesaid, in which the pile tufts will be securely held in the ground weaves after the same are cut apart.

A further object of my invention is to provide a fabric of the type aforesaid in which there will be a substantial body of pile in the face thereof.

A further object of my invention is to provide a fabric of the type aforesaid, in which the dead ends of the figuring warp will be evenly distributed in the ground weaves, whereby the same will be of a uniform texture, and this notwithstanding that a certain color or colors may predominate in the pile.

A further object of my invention is to provide a fabric of the type aforesaid, whereby seamless Wilton rugs of the larger or room sizes, may be more economically produced than heretofore.

With the foregoing objects in view, my invention contemplates the provision in a double pile fabric of similar upper and lower ground weaves each having a plurality of shots of weft between each crossing of the binder warp, the carrying of the pile forming warp from the one ground weave to the other to form the pile, and the binding of the pile warp in the ground weaves in such manner that the same will be securely held therein.

The nature and characteristic features of my invention will be more readily understood from the following description, taken in connection with the accompanying drawings forming part hereof, in which:

Figure 1 is a longitudinal section of a double pile fabric embodying the main features of my invention, illustrating the arrangement therein of one set of figuring warps; and

Figure 2 is a similar view, illustrating the arrangement of an adjacent set of figuring warps.

Referring to the drawings, in the particular embodiment of my invention therein shown, the double pile fabric comprises two similar ground weaves, the upper ground weave consisting of pairs of binder warp 1 and 2, and three shots of weft 3, 4 and 5, respectively, between each crossing of the binder warp thereof, and the lower ground weave also consisting of pairs of binder warp 6 and 7, and three shots of weft 8, 9 and 10, respectively, between each crossing of the binder warp thereof.

It will be noted, however, that the crossing of the binder warp of the lower ground weave preferably takes place between the crossing of the binder warp of the upper ground weave.

It should also be noted that the weft shots 3 lie in the outer plane of the upper ground weave, and the weft shots 4 and 5 lie in the inner plane thereof, and in like manner the weft shots 8 lie in the outer plane of the
lower ground weave, and the weft shots 9 and 10 lie in the inner plane thereof.

For the purpose of forming the pile, the figuring warps are carried from the one ground weave to the other, and back again.

In the drawings, there is illustrated a typical arrangement of the figuring warps wherein the same are arranged in groups or sets of color ends, and in one group or set (see Fig. 1) there are three different colored figuring warps 11, 12, and 13, which are primarily carried by the upper ground weave, and three other differently colored figuring warps 14, 15 and 16, which are primarily carried by the lower ground weave. This arrangement will ordinarily be provided in a single dent space of the loom in which the fabric is woven.

In the next adjacent group or set of color ends, (see Fig. 2) the corresponding figuring warps of the colors 11, 12, and 13 are primarily carried by the lower ground weave, and the three figuring warps of the colors 14, 15 and 16 in that group are primarily carried by the upper ground weave.

When a figuring warp is to form the pile, the same passes into the pile region from between the inner and outer planes of the ground weave where it has been carried as a dead end.

At the left hand end of each figure of the drawings, the warp 13 is shown as making the pile, and in Fig. 1 the same is shown as passing from the upper ground weave, where it is primarily carried, passing between the wefts numbered 4 and 5 of a particular shedding of the binder warp of that ground weave, thence over to the other ground weave, where it passes between the wefts numbered 9 and 10 of a particular shedding of that ground weave, thence returning to the original ground weave from which it was taken, passing between the wefts numbered 9 and 10 of the next shedding of the lower ground weave and between the wefts numbered 4 and 5 of the same shedding of the upper ground weave from which it emerged, and repeating in like manner as long as the particular color is required in the face of the pile.

In like manner, in the adjacent group or set of figuring warps (see Fig. 2), the warp 13, which in that group is primarily carried in the lower ground weave, passes between the wefts numbered 9 and 10 of a particular shedding of the binder warp thereof, thence over to the upper ground weave, where it passes between the wefts numbered of 4 and 5 of a particular shedding of the binder warp thereof, thence between the inner and outer planes of the wefts of that ground weave, thence returning to the lower ground weave from which it was taken, passing between the wefts numbered 4 and 5 of the next shedding of the upper ground weave, and between the wefts numbered 9 and 10 of the same shedding of the lower ground weave from which it emerged.

When the color changes, the warp which has been used in the pile forming as aforesaid is thereafter carried as a dead end between the inner and outer planes of the weft of the ground fabric, and another color is brought out and in like manner carried across from the one ground fabric to the other and back again, so that the same will then appear in the face of the pile.

While, in the drawings, the warp ends 12 and 13 are the only ones illustrated as being carried over from one ground weave to the other and back again, it will, of course, be understood that the other figuring warps, namely, 11, 14, 15 and 16, are in like manner carried over whenever their respective colors are used in the pile.

It should be noted, however, that for the best results the figuring warp which has been carried over to form the pile will be finally returned to the ground weave from which it came, and is thereafter carried in said ground weave as a dead end, and in this manner the distribution of the yarn between the two ground weaves will be balanced and the texture be kept even throughout.

It will, of course, be understood that the number of pile forming warps carried by the respective upper and lower ground weaves will be considerably varied in practice, according to the requirements of the pattern, etc.

It will also be apparent that, if desired, stuffer warps may be used in addition to the figuring warps, for the purpose of giving additional body to the ground weaves. It has not been thought necessary to illustrate such stuffer warps as the same are not essential to the weave.

It will be seen that by the present invention there is provided a fabric of the double pile type, adapted to be cut apart in the usual manner for the purpose of forming two Wilton carpets or the like, which when so cut apart will produce two carpets which will be equally desirable and of uniform texture and weight throughout, in which the pile tufts will be securely bound in the ground weave, in which there will be a substantial body of pile in the face thereof, and which may be woven in widths for the production of the larger or room size seamless rugs.

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

A double pile fabric comprising two similar ground weaves, each consisting of pairs of binder warp and a plurality of shots of weft in each shedding of said binder warp, certain of said weft shots lying in an inner plane, and others of said weft shots lying in
an outer plane, and the crossing of the binder warp in one ground weave occurring between the crossing of the binder warp in the other ground weave, figuring warps primarily carried between the inner and outer planes of the wefts of each ground weave, and pile formed by certain of said figuring warps passing between the inner plane weft shots in a particular shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the inner plane weft shots in a particular shedding of the binder warp thereof, thence extending between the inner and outer planes of said ground weave, thence passing between the inner plane weft shots of the next shedding of the binder warp thereof, thence returning to the original ground weave, passing between the inner and outer planes of the weft shots of the same shedding of the binder warp from which it emerged, said figuring warps being arranged in color sets, in each set certain of the colors being carried in one ground weave and the remaining colors being carried in the other ground weave, and the particular colors in the respective ground weaves being reversed in alternate sets.

2. A double pile fabric comprising two similar ground weaves, each consisting of pairs of binder warp and a plurality of shots of weft in each shedding of said binder warp, certain of said weft shots lying in an inner plane, and others of said weft shots lying in an outer plane, and the crossing of the binder warp in one ground weave occurring between the crossing of the binder warp in the other ground weave, figuring warps primarily carried between the inner and outer planes of the wefts of each ground weave, and pile formed by certain of said figuring warps passing between the inner plane weft shots in a particular shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the inner plane weft shots of the same shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the inner plane weft shots of the next shedding of the binder warp thereof, thence returning to the original ground weave, passing between the inner and outer planes of said ground weave, thence passing between the first and third weft shots of the same shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the first and third weft shots of the next shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp from which it emerged, said figuring warps being arranged in color sets, in each set certain of the colors being carried in one ground weave and the remaining colors being carried in the other ground weave, and the particular colors in the respective ground weaves being reversed in alternate sets.

3. A double pile fabric comprising two similar ground weaves, each consisting of pairs of binder warp and three shots of weft in each shedding of said binder warp, the first and third weft shots in each series lying in an inner plane, and the second weft shot in each series lying in an outer plane, figuring warps primarily carried between the inner and outer planes of the wefts of each ground weave, and pile formed by certain of said figuring warps passing between the first and third weft shots in a particular shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the first and third weft shots in a particular shedding of the binder warp thereof, thence extending between the inner and outer planes of said ground weave, thence passing between the first and third weft shots of the same shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the first and third weft shots of the next shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp from which it emerged, said figuring warps being arranged in color sets, in each set certain of the colors being carried in one ground weave and the remaining colors being carried in the other ground weave, and the particular colors in the respective ground weaves being reversed in alternate sets, and in each color set the colors

4. A double pile fabric comprising two similar ground weaves, each consisting of pairs of binder warp and three shots of weft in each shedding of said binder warp, the first and third weft shots in each series lying in an inner plane, and the second weft shot in each series lying in an outer plane, figuring warps primarily carried between the inner and outer planes of each ground weave, and pile formed by certain of said figuring warps passing between the first and third weft shots in a particular shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the first and third weft shots in a particular shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the first and third weft shots of the next shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp from which it emerged, said figuring warps being arranged in color sets, in each set certain of the colors being carried in one ground weave and the remaining colors being carried in the other ground weave, and the particular colors in the respective ground weaves being reversed in alternate sets, and in each color set the colors

5. A double pile fabric comprising two similar ground weaves, each consisting of pairs of binder warp and three shots of weft in each shedding of said binder warp, the first and third weft shots in each series lying in an inner plane, and the second weft shot in each series lying in an outer plane, figuring warps primarily carried between the inner and outer planes of the wefts of each ground weave, and pile formed by certain of said figuring warps passing between the first and third weft shots in a particular shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the first and third weft shots in a particular shedding of the binder warp thereof, thence extending between the inner and outer planes of said ground weave, thence passing between the first and third weft shots of the next shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the first and third weft shots of the next shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp from which it emerged, said figuring warps being arranged in color sets, in each set certain of the colors being carried in one ground weave and the remaining colors being carried in the other ground weave, and the particular colors in the respective ground weaves being reversed in alternate sets.
in one ground weave being different from the colors in the other ground weave.

3. A double pile fabric comprising two similar ground weaves, each consisting of pairs of binder warp and three shots of weft in each shedding of said binder warp, the first and third weft shots in each series lying in an inner plane, and the second weft shot in each series lying in an outer plane, and the crossing of the binder warp in one ground weave occurring between the crossing of the binder warp in the other ground weave, figuring warps primarily carried between the inner and outer planes of the wefts of each ground weave, and pile formed by certain of said figuring warps passing between the first and third weft shots in a particular shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the first and third weft shots in a particular shedding of the binder warp thereof, thence extending between the inner and outer planes of said ground weave, thence passing between the first and third weft shots of the next shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp from which it emerged, said figuring warps being arranged in color sets, each set certain of the colors being carried in one ground weave and the remaining colors being carried in the other ground weave, and the particular colors in the respective ground weaves being reversed in alternate sets.

6. A double pile fabric comprising two similar ground weaves, each consisting of pairs of binder warp and three shots of weft in each shedding of said binder warp, the first and third weft shots in each series lying in an inner plane, and the second weft shot in each series lying in an outer plane, and the crossing of the binder warp in one ground weave occurring between the crossing of the binder warp in the other ground weave, figuring warps primarily carried between the inner and outer planes of the wefts of each ground weave, and pile formed by certain of said figuring warps passing between the first and third weft shots in a particular shedding of the binder warp of the ground weave in which the same are primarily carried, thence extending to the other ground weave, passing between the first and third weft shots in a particular shedding of the binder warp thereof, thence extending between the inner and outer planes of said ground weave, thence passing between the first and third weft shots of the next shedding of the binder warp thereof, thence returning to the original ground weave, passing between the first and third weft shots of the same shedding of the binder warp from which it emerged, said figuring warps being arranged in color sets, in each set certain of the colors being carried in one ground weave and the remaining colors being carried in the other ground weave, and the particular colors in the respective ground weaves being reversed in alternate sets, and in each color set the colors in one ground weave being different from the colors in the other ground weave.

In witness whereof, I have hereunto signed my name.

JOHN ZIMMERMANN, Jr.