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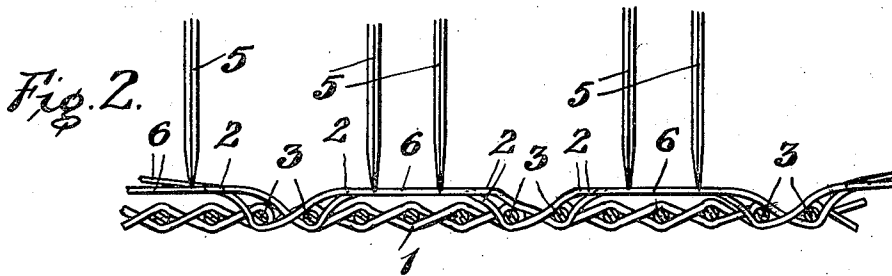
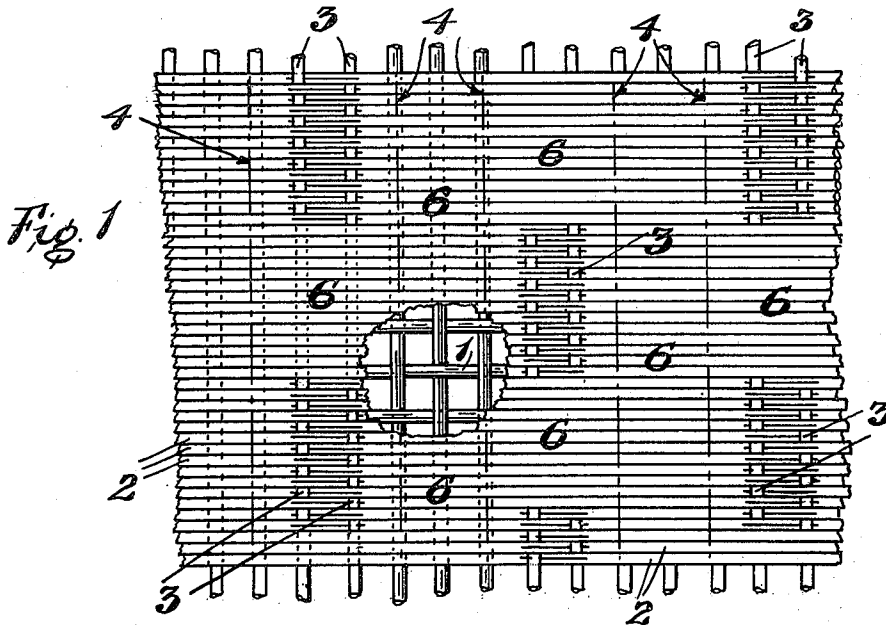
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J. S. BOYD

PROCESS OF MAKING ORNAMENTAL PILE FABRICS

Filed April 10, 1923

2 Sheets-Sheet 1



INVENTOR

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BY

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Feb. 19, 1924.

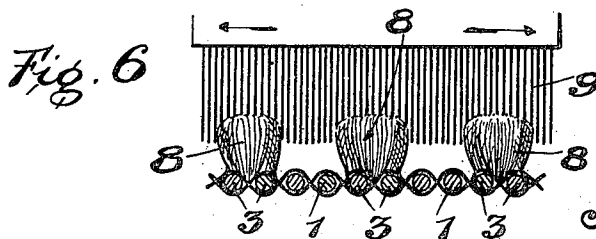
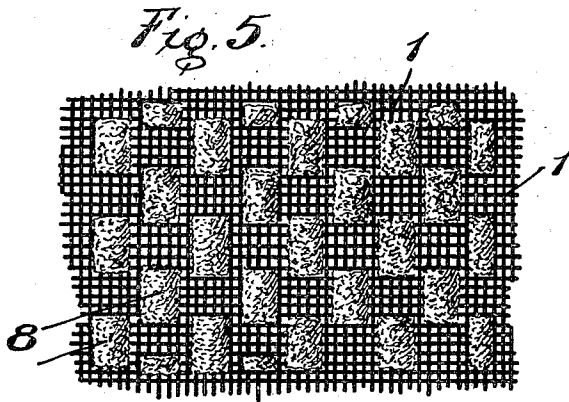
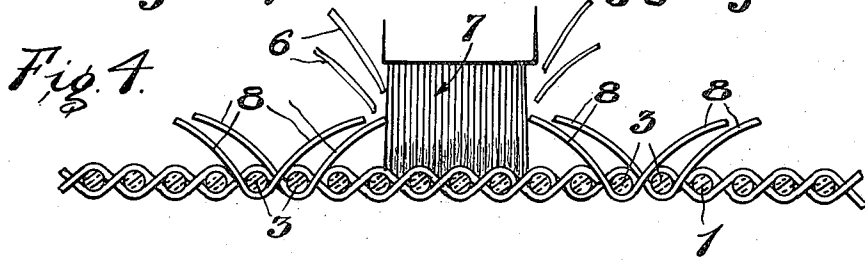
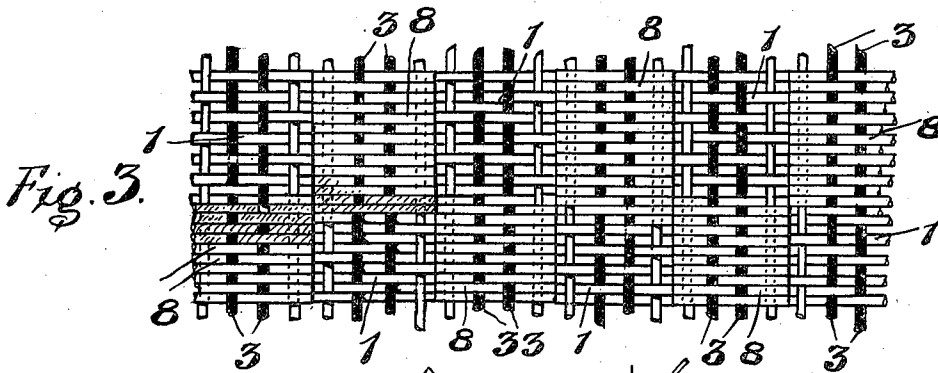
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PROCESS OF MAKING ORNAMENTAL PILE FABRICS

Filed April 10, 1923

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE.

JOHN S. BOYD, OF WILLIAMSTOWN, MASSACHUSETTS, ASSIGNOR TO JOHN S. BOYD CO. INC., OF WILLIAMSTOWN, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

PROCESS OF MAKING ORNAMENTAL PILE FABRICS.

Application filed April 10, 1923. Serial No. 631,178.

To all whom it may concern:

Be it known that I, JOHN S. BOYD, a citizen of the United States, and a resident of Williamstown, county of Berkshire, and State of Massachusetts, have invented a certain new and useful Improvement in the Processes of Making Ornamental Pile Fabrics, of which the following is a specification.

The object of this invention is to provide a process of making pile fabrics of ornamental form which are so arranged and constructed that their pile sections or areas are located at spaced intervals whereby the base fabric upon which the pile areas are formed will be visible at positions intermediate of the pile areas and contrast therewith.

Through the use of my improved process the areas of pile produced on the base fabric may be located at different positions with regard to one another, these areas of pile may be of different sizes and shapes so that ornamental designs may be produced upon the base fabric, and many desirable arrangements of the pile and its background or its base fabric may be produced.

A still further object of this invention is to provide a process for producing a pile fabric of exceptionally light weight, which result is secured by covering one face of the base fabric with pile threads and thereafter eliminating a large portion of such threads to render portions of the base fabric visible, thereafter forming the remaining attached pile threads into areas of pile.

With these objects, and other objects which may hereinafter appear, in view, I have devised the particular arrangement of parts hereinafter set forth and more particularly pointed out in the claims appended hereto.

Reference is to be had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is a plan view of a section of the primary fabric, with some of the pile threads being broken away to disclose a portion of the woven base fabric;

Figure 2 shows the second step in my improved process—the cutting of the pile threads;

Figure 3 shows a section of the fabric after the same has been cut and some of the pile threads have been removed;

Figure 4 shows the brushing away of the loosened or cut pile threads;

Figure 5 is a plan view of a section of the completed fabric; and

Figure 6 shows the pile sections being brushed to soften and compact the threads.

Throughout the various views of the drawings, similar reference characters designate similar parts.

I will describe herein the manner in which a specific form or pattern of fabric is produced. Other patterns are produced by following the same form or method of procedure with a slight re-arrangement or spacing of the pile fabric threads and the binder threads which hold them to the woven base fabric.

In Figures 1 and 2 the fabric in its primary state is shown. It will be seen therein that the fabric consists of a woven base material 1 and a plurality of pile-producing threads 2 which are located on the upper face of the woven base 1. These pile-producing threads are a plurality of threads arranged in a series of loops across the face of the base fabric and are connected thereto at certain spaced intervals, which connection is established by interweaving the pile threads 2 with various threads in the base, which threads are indicated at 3 and are designated as binder threads.

The binder threads as above mentioned, serve to attach the pile threads 2 to the base fabric 1, and it is the location of these binder threads with respect to one another which determines the location of the various sections of pile finally remaining attached to the base. It will thus be seen from the foregoing that the pile threads 2 consist of a plurality of looped threads which are placed adjacent one another to completely cover the upper face of the base fabric 1, and are connected to said base fabric at spaced intervals by the binder threads 3.

To produce the final fabric disclosed in Figure 5, the binder threads are located as shown in Figures 1 and 2, that is, in substantially "staggered" relationship to one another. The fabric as above described is produced by a single weaving operation, and in the condition above mentioned, it is ready for the cutting operation.

In Figure 1, the dotted lines 4 indicate the course taken by the rotary cutting knives 5. These knives 5 are usually mounted upon a single shaft and spaced apart from one another.

other thereon at the proper distances. These knives cut across the pile threads as indicated in Figure 2, and it will be apparent thereon that those portions of the pile threads which are located between each pair of knives, and which I have designated at 6, will be loosened or detached from the fabric and will be free to be removed therefrom.

After the cutting operation has taken place, the loosened threads 6 may be removed by any simple means, such as by air suction, brushing or the like. I have diagrammatically illustrated the removal of these loose threads 6 by the use of a brush 7 in Figure 4.

After the loosened or cut threads 6 have been eliminated, the fabric assumes the condition shown in Figure 3, with certain threads 8 held to the base by the binder threads 3, and portions of the base fabric 1 being visible between the areas of the threads 8.

The next step in the process is to compact and soften the pile areas which are formed by the threads 8. This is done by brushing, as at 9 in Figure 6, washing and otherwise treating the fabric as is usually done in the manufacture of corduroy and other pile fabrics.

It will be seen from the foregoing that the utilization of my improved process results in the production of a fabric in which large portions of the woven base fabric or background are visible between the areas of pile, and that by the simple cutting and elimination of certain of the pile threads various patterns and designs may be produced.

It will also be apparent that the elimination of a large amount of the pile threads results in a fabric of much lighter weight than the ordinary corduroy or other pile fabrics where the pile completely covers the face of the base fabric. The fabric may, by the utilization of my improved process, be made in various weights, weaves and thicknesses, and many highly ornamental fabrics may be made by using threads of various colors for the base fabric and the pile areas, or by the mixture or insertion of silk threads among cotton threads.

From the foregoing it is obvious that my invention is not to be restricted to the exact embodiment shown, but is broad enough to cover all structures or processes coming within the scope of the annexed claims.

What I claim is:—

1. The process of producing a pile fabric

consisting in forming a fabric with a woven base and a plurality of threads extending across one face thereof and secured to said base at intervals, the points of joinder of some of said threads to the base being located intermediate of the points of joinder of other of said threads whereby said threads form independent groups arranged in staggered relationship, in cutting said threads and removing portions of said threads from the base to render portions of the base in back of the removed threads visible and thereafter treating the remaining attached threads to form the same into spaced pile areas.

2. The process of forming a pile fabric consisting in forming a base with binder threads, in forming a plurality of looped pile threads on one face of said base and engaging said pile threads with the binder threads at spaced intervals, in causing some of said pile threads to pass over the binder threads of other pile threads, in cutting the pile threads on parallel lines, in removing portions of the threads so cut and treating the remainder of the threads that are attached to the base by the binder threads to form the same into separated areas of pile.

3. The process of forming a pile fabric consisting in cutting a plurality of threads across the face of a pile fabric on parallel lines and in one direction, in removing portions of the threads thus cut, and treating the remainder of the threads that are attached to the pile fabric to form the same into areas of pile separated by lateral and longitudinal spaces.

4. The process of forming a pile fabric consisting in weaving a fabric with a base portion and a plurality of looped threads on one face thereof, said looped threads being interwoven at spaced intervals with the base, with the points of interweave of some of said threads located intermediately of the points of interweave of other of said threads, of cutting on opposite sides of said points of interweave, of removing portions of threads located between the cuts, and thereafter treating the threads attached by interweaving to form the same into areas of pile with portions of the base visible between them.

Signed at Williamstown, county of Berkshire and State of Massachusetts, this 27 day of March, 1923.

JOHN S. BOYD.