(No Model.) 2 Sheets—Sheet 1.

N. ALBRECHT.

MODE OF PRODUCING CHENILLE.

No. 535,235. Patented Mar. 5, 1895.

Fig. 1.

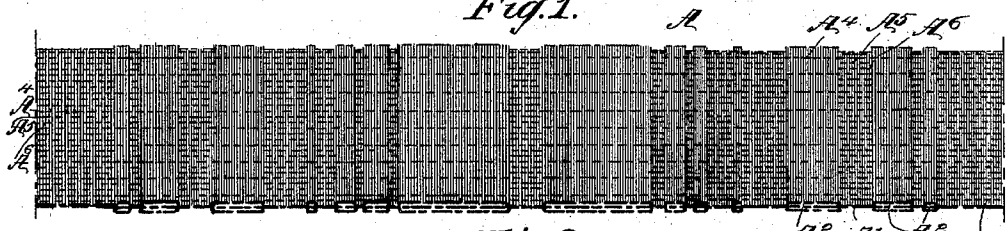


Fig. 2.

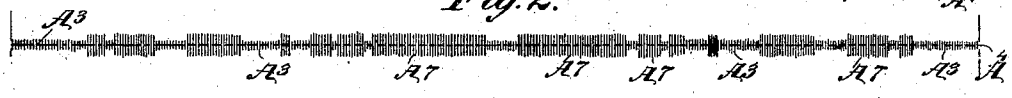


Fig. 4.

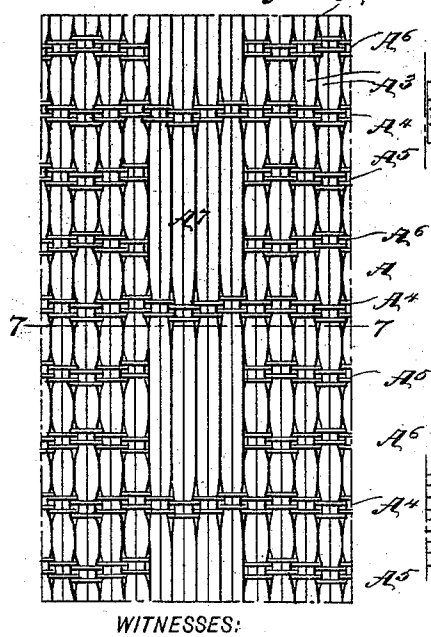


Fig. 3.

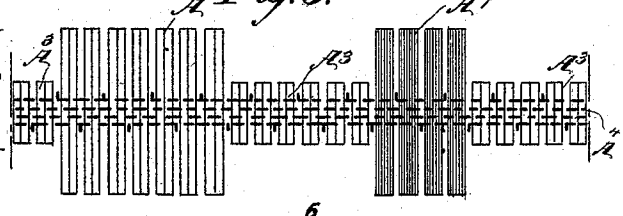


Fig. 5.

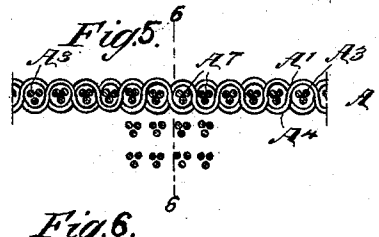
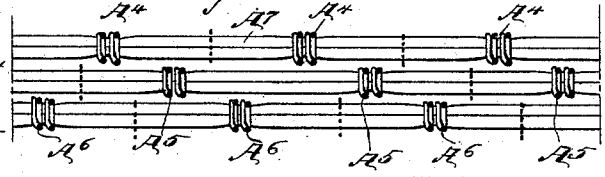


Fig. 6.



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Fig. 7

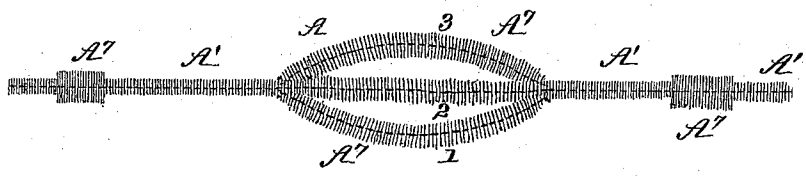


Fig. 8.

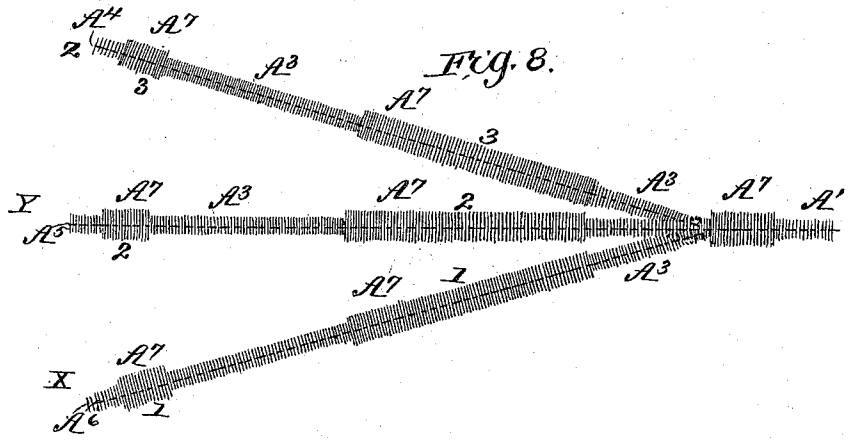
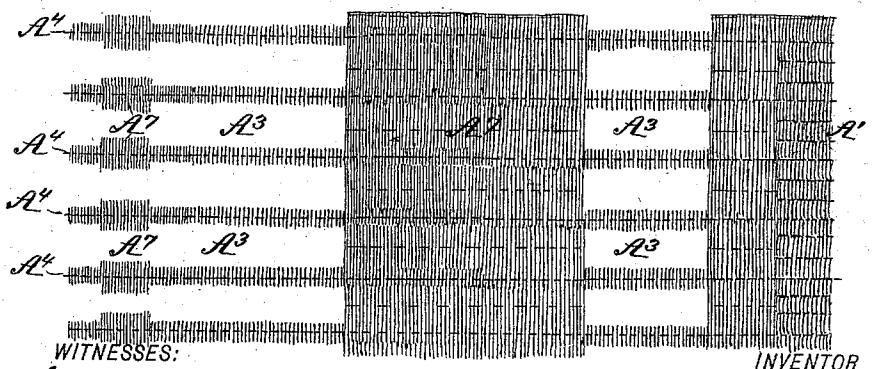


Fig. 9.



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NICHOLAS ALBRECHT, OF PHILADELPHIA, PENNSYLVANIA.

MODE OF PRODUCING CHENILLE.

SPECIFICATION forming part of Letters Patent No. 535,235, dated March 5, 1895.

Application filed May 23, 1894. Serial No. 512,162. (No specimens.)

To all whom it may concern:

Be it known that I, NICHOLAS ALBRECHT, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a Mode of Producing Chenille, of which the following is a full and exact specification.

Chenille fabrics are ordinarily composed of a weft formed of strands of chenille interwoven with warp threads of cotton or other suitable material.

My invention consists in the mode of forming the chenille strands employed in weaving chenille fabrics, as hereinafter described.

In the accompanying drawings: Figure 1 is a perspective view of the chenille cloth woven according to my invention. Fig. 2 is an edge view of such cloth; or, what is the same thing, a side view of a strip cut from such cloth, and designed and adapted to be used as weft in weaving chenille fabrics. Fig. 3 is an enlarged view of such chenille weft shown in Fig. 2. Fig. 4 is an enlarged plan view of a portion of the chenille cloth shown in Fig. 1. Fig. 5 is an edge view of the same. Fig. 6 is a transverse section on line 6—6 of Fig. 5. Fig. 7 (Sheet 2) is an edge view of the chenille cloth shown in Fig. 1, with the three superposed plies of the figured portion separated from one another—for sake of clearness of illustration. Fig. 8 is an edge view, showing the three divisions, or fabrics, into which the chenille cloth is separated by the first cutting operation. Fig. 9 is a plan view of the upper one of such divisions or fabrics.

My preferred form of chenille weft is thicker, or has greater cross section, at one point than another, as shown in Figs. 2 and 3; and such thicker portion is preferably composed of marked or brilliant colors differing from the rest of the weft. Hence the chenille fabric produced by such weft will have correspondingly greater thickness at those points where such colored weft is incorporated. In other words, the figured portion of the fabric will be in relief, and thus more prominently distinguished from the plain portion of the fabric. To produce chenille of this character, I weave the chenille cloth A (shown in Fig. 1) thicker at the points A^7 than at A′ (or A^3, Fig. 2).

The invention lies primarily in weaving such thicker and differently colored portions, A^7, in three plies, or thicknesses, 1, 2, 3, as shown, in Fig. 7, each such ply or thickness being in itself a complete fabric. When the chenille-cloth, A, is cut as hereinafter described, one third of all the warp threads belong with and form part of one fabric, or section, X. (See Fig. 8.) Another third is interwoven with the second fabric, or section, Y; and the other third of the warp threads belongs with the third fabric, or section, Z.

To enable my invention to be more fully understood, I will now describe it more in detail. The plain portion, A′, of the chenille cloth, A, (Fig. 1,) is a single ply, or thickness, but the figured portions, A^7, are in three superposed parallel plies, or thicknesses (Fig. 7), as indicated by the numerals 1, 2, and 3, respectively. The plain portion, A′, is woven in the ordinary manner, and the figured portion, A^7, is so woven that each ply, 1, 2, or 3, is complete in itself, and exceeds in thickness the part A′. The colored weft of each ply, 1, 2 or 3, is interwoven with one third of the warp threads of the plain part, A′, that is to say, the latter has six warp threads to the inch in width of the chenille cloth, A, and the ply 1 has one third of said threads, the middle ply 2 another third, and the upper ply, 3, the remaining third. Thus, while the plain portion, A′, has six warp threads to the inch in width of the fabric, A, the respective plies 1, 2 and 3 have each two warp threads to the inch. This will be better understood by comparison of Figs. 1 and 9. It is not necessary to describe here the precise manner in which the weaving is effected. Suffice it to say, that my preferred way of doing it is with the aid of a loom attachment commonly known as the "doup." In such attachment the "shafts," or heddles, are so arranged that a shed is first formed with one third of the warp threads, and a thick colored weft is then shot through the same, thus forming ply No. 1. Then a shed is formed with another third of the warp, and the weft shot through, forming ply No. 2; and, lastly, the remaining warp threads form a third shed, and ply No. 3. Thus the lower ply 1, is formed first, the middle ply, 2, next, and the upper ply 3, last. By reference to Fig. 1, it will be seen that the

warp threads, A^4, alone enter into and form part of the upper ply, 3, of the figured portions, A^7, and the warp threads, A^5, extend through and form part of the middle ply, 2, and the threads, A^6, form part of the lower ply, 1. This will be further apparent upon inspection of Figs. 4 and 6. To recapitulate—for sake of greater clearness—while all the warp threads bind in the plain weft of part A′, of the chenille cloth, A, only the threads, A^4, bind in the wefts of the upper ply 3 (Fig. 7) of the figured portion, A^7, of said cloth, and are at no point interwoven with the other plies, 1, 2; and similarly, only the warp threads, A^5, are interwoven with the weft of the middle ply, 2; and, again, that the warp threads, A^6, are interwoven only with the weft forming the lower ply, 1, and not with the weft of plies 2 and 3.

Having thus produced a chenille cloth, A, formed of alternating, plain, single-ply portions, A′, and figured three-ply portions, or sections, A^7, it remains to state how such cloth is cut to form the chenille weft (Figs. 2 and 3). There are two entirely distinct cutting operations, and the effect of the first is indicated in Figs. 8 and 9, as will be further explained.

Since one third of all the warp threads extend through and form part of all the lower plies, 1, and another third form part of the middle plies 2, and the remaining third extend only through the upper plies, 3, it is apparent the cutting must be so effected that these three respective sets of warp threads shall go with their respective plies. The first cut is made longitudinally between every two warp threads in and throughout the plain part, A′, of the cloth, A, the figured portion, A^7, being alone left uncut. Thus the cloth, A, is separated into three parts, or divisions, whose beginning is shown in Fig. 8, and which, for convenience, may be designated as fabrics X, Y, Z. It will be seen the warp threads, A^4, A^5, and A^6, separate as parts of the respective divisions or fabrics X, Y, Z, and that in each division, or fabric, one set of warp binds all the colored or thicker weft, A^7; also that the portions, A^7 alternate with strands, A^3, which originally formed part of the plain portions, A′, of the cloth.

In Fig. 8, the cloth is shown cut up to a certain point, and the three divisions, or fabrics X, Y, Z, thus formed are separated and diverge. Each of these fabrics is in practice wound on a roller, (not shown,) and subsequently unrolled and cut for the purpose of severing the hitherto uncut portions, A^7, between every two sets of warp threads. Such lines of cut and division are indicated by dotted lines in Fig. 9. This last cutting operation will obviously produce the chenille represented in Figs. 2 and 3.

In practice, in order to cut the cloth, A, I pass it through a machine having knives so arranged that they cut through the plain part, A′, but are raised to pass over the thicker, or three-ply, portions, A^7, and thus leave the latter uncut. The same machine is used to subsequently cut the three separate divisions or fabrics X, Y, Z, but the knives are in that case necessarily set differently.

Each strand has four warp threads, and by the action of the "doup" before referred to, the said threads are so arranged that when a chenille strand is severed from the cloth, A, it twists on itself axially, and thus forms a round chenille strand.

What I claim is—

The described method of forming chenille strands which consists, first, in weaving a chenille cloth with plain or single ply portions, or sections, and alternating three-ply portion, or sections, all the warp threads being interwoven in the single-ply and a portion only of said threads in each of one of the three, superposed plies; second, cutting the single ply lengthwise between each two sets of warp threads, leaving the three-ply sections uncut, whereby the cloth is separated into three divisions, or fabrics; and third, cutting each of the three plies midway between each two sets of its warp threads, as shown and described.

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