MULTIPLE STITCH SEWING SYSTEM ESPECIALLY SUITABLE FOR THE MANUFACTURE OF PERIWIGS AND THE LIKE

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ABSTRACT

A sewing system, particularly suitable for the manufacture of periwigs and the like, according to which each fixing stitch is followed by at least two simple chain stitches formed of the same thread so as to obtain a very strong binding of the hairs to the support comprising a net or a very light fabric. Improved means are provided to practice the system of forming a multiple chain stitch seam.

2 Claims, 11 Drawing Figures
MULTIPLE STITCH SEWING SYSTEM
ESPECIALLY SUITABLE FOR THE
MANUFACTURE OF PERIWIGS AND THE LIKE

It is well known that for the manufacture of periwigs by means of threads of synthetic substances, such as nylon, it is necessary to bind the very threads to a support, which in the case of periwigs for dolls, is made up almost always by a layer, having a certain thickness, of plastics which being resilient closes itself, as it were, on the thread giving rise to a good holding in situ of the same. In this case the threads which are destined to make up hair are rooted on the head of the doll, through a simple chain stitch and because of the reasons mentioned above, the problem of the loosening of the threads, or hair, from the support, is not extant.

As far as periwigs for human heads are concerned the case is different, in that, because of the support being made up of a net or by a very light fabric, if resort were had to a fixing through simple chain stitch, the threads would loose themselves with a great ease, at the time of the first combing, strongly jeopardizing therefore the soundness of the periwig. In order to obviate such a drawback, there have been proposed further methods of fixing the threads or hair on the support, but these methods have only partially eliminated the annoyance mentioned above.

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a process of sewing the threads, destined to form the hair of the peruke, on the corresponding support, wherein each fixing stitch is accompanied by at least two simple chain stitches, formed of the same thread and which form a very strong binding such as to be satisfying from all standpoints.

Another object of this invention is to provide improved equipment for forming the seam which is the feature of this invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The method which is the object of the invention and the associated equipment will be particularly disclosed with reference to the accompanying drawings, in which:

FIG. 1 shows, sectionally, a support for a periwig, on which the hair or threads have been fastened by a triple chain stitch seam.

FIG. 1a shows (for control) a similar support where the threads are fixed through a simple chain stitch seam.

FIG. 2 illustrates diagrammatically the various apparatus components which are needed for carrying out the binding according to the invention, in the starting position of a triple stitch.

FIGS. 3 to 6 illustrate the same tools shown in FIG. 2, but in the various successive positions which they will take during the working of the seam.

FIGS. 7 and 8 illustrate two successive steps in the action of the needle in a modification of the arrangement shown in FIGS. 2-6.

FIGS. 9 and 10 illustrate two successive steps of forming a seam with a further modification of the equipment shown in FIGS. 2-6.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

From FIG. 1a there may be seen how the threads or hair 2' are bonded to the support 1' through a simple chain stitch seam, but it will be understood too how, by exerting a pull upon one of the two runs of thread 2', of one and the same stitch, this latter will lose itself very easily from the support 1', giving rise to great inconvenience.

In FIG. 1 it will be apparent instead, that by exerting a pulling force on one of the threads 2, this latter cannot lose itself easily from its support 1 in that it is held by the two simple chain stitches, which separate each projecting length of thread 2 from the length which is coupled therewith.

Now it will be disclosed in what manner the tie shown in FIG. 1 can be obtained. The tools needed (FIGS. 2 to 6) are as follows: a hooked needle 3, moving up and down, vertically, a thread guide 6 for the thread 2, and a metering disc 4 which determines the length of hair protruding from the support 1, when the periwig is finished.

Disc 4 is formed with a spoke-shaped protrusion 5, adapted to co-act with the blade 7 which cuts the thread 2, after each tying.

The equipment or apparatus operates in a manner which will now be described. On the table of the sewing machine including the needle 3, there is placed the support 1. The needle 3, during its upward stroke, moves therethrough and hooks the thread 2, which is delivered to it by the thread guide 6, and brings it under the support 1. At the same time the disc 4, through the projection 5 of the disc, hooks the thread 2 and moves it towards the blade 7, which is located at a distance from the needle 3, varying according to the length which is to be given to the hair of the periwig.

During the downward stroke of the needle 3 and when the hook of the needle is just running through the support 1 (FIG. 3), the protrusion 5 has approached the knife 7 which cuts the thread 2. Hence, the support 1, while the needle 3 is itself below it, is stepped further to the left and, coming back upwards, the needle 3 moves through the support 1, at a different place, hooks again the thread 2 and pulls it downwards, below the support 1. However, inasmuch as, at this time, the disc 4 is not in a position to engage projection 5 with the thread, the closed stitch is formed on support 1, followed by formation of at least one additional closed stitch. This is illustrated in FIGS. 4, 5, and 6, wherein it will be noted that following the formation of each binding stitch, holding a cut thread 2 in position, there are formed at least two conventional chain stitches in accordance with the invention. At the third stitch, namely at the third hooking of the thread 2 by the needle 3, the disc again engages the projection 5 with the thread 2 to pull it towards the blade 7 and bring about the forming of another two projecting hairs, and so on, that is, the cycle beings again.

In order to prevent that the hair, on a periwig prepared by a triple seam, should have too scanty a spread with respect to periwigs obtained through simple seam, it will be enough to diminish proportionally the step of the seam, to wit the length of the chain stitches, it being sufficient for this to vary the length of
each step of advancing of the table of the machine, carrying the support 1.

From FIG. 7 it will be seen that the thread 2a, which is to be sewn and fastened on the support 1a by means of chain stitches formed by the needle 3a, after having passed through the stationary thread guides 10, carried by the bars 9, and a movable thread-looper 6a, may form a loop, which is clearly shown in FIG. 7. This is caused by the displacement of the looper 6a and makes more difficult and not orderly the picking of the thread by the hook of the needle 3a. In order to avoid this, upstream of the looper 6a and between the two thread-guides 10—9 there is placed a small bar 8, which is subjected to a reciprocating motion, perpendicular to the direction of the thread in the region between the two bars 9 and such as to allow the increased length of the thread 2a in the region between the support 1a and the looper 6a, to be recovered and thread 2a tensed before the hook of the needle 3a picks up the thread 2a (which see FIG. 8).

In FIGS. 9 and 10 there is shown another improvement on the basic equipment or apparatus. This improvement comprises placing a slide 11, for tensioning the threads or hairs which form the hair, precisely in order to keep them taut during the sewing, to improve the shape of the chain. When the thread is formed into chain stitches in the support 1, of net or the like, and the thread is cut to form the hair, the length of thread which remains upon the disc 4a, owing to the tension of the thread when this latter is being cut, rebounds backward, causing the enlargement of the loop of the last resulting stitch, so that the chain would be not regular.

By means of the slide the above trouble will be obviated. Preferably slide 11 is constituted of rubber or a similar material, bears on the disc 4a at a point preceding the blade 7a, and is urged against the disc 4a by means of a calibrated spring 12.

The thread 2a, before being cut by the blade 7a, goes below the slide 11 and thus it is being held by the slide (FIG. 9) till the next building of another hair, avoiding the rebound of the thread and thence allowing a chain, more adherent to the support 1a and of a more regular shape, to be obtained.

The system which is the object of the present invention provides, besides the advantages set forth above, also a noteworthy simplicity, in that it does not require, substantially, other means, besides those used for the simple stitch seams. Indeed, for carrying out the two simple chain stitches, after each stitch of threading of the yarn in the support, it will be sufficient, by resorting to the same metering disc 4, to make this latter rotate at a speed as small as a third of that which would be used in order to carry out a simple stitch seam.

The system hereinbefore described may be advantageously used too for producing fabrics formed with small projecting loops, such as the so-called sponge fabrics, certain types of velvets and the like.

By way of example, there has been described the formation of a triple seam, that is to say with two simple chain stitches between two adjoining stitches, of insertion of the thread, but it will easily be understood that, through the same system, there could be formed seams of ties with multiple stitches, even more than three.

Of course, the detail, both of the tools and of the working, may be varied according to the need, without departing nevertheless from the scope of the present invention.

What I claim is:

1. Apparatus for producing wigs by tying "hair" forming filaments to a net support or the like by chain stitches, with the filaments extending outwardly from a front surface of the support, said apparatus comprising, in combination, a reciprocable hooked needle; means operable to pierce said needle through said support from the back side thereof to the front side thereof; a thread guide adjacent the front side of said support operable to feed thread to the hook of said needle for drawing of a thread loop through the fabric by said needle to form respective tying stitches tying the filaments successively to said support; a rotatable metering disc adjacent the front side of said support and through which said needle is extended to draw thread from said thread guide; a thread cutting blade adjacent the front side of said support; a thread cutting projection on said disc operable to engage thread drawn by said needle to draw a loop of the thread and engage the bight of the loop with said cutting blade to sever the same; said reciprocable needle, immediately following formation of each tying stitch, and in advance of forming the succeeding tying stitch, forming a series of at least two successive conventional and complete chain stitches in said support using the same thread as used to form the respective single tying stitches; said disc having an angular velocity inversely proportional to the number of conventional chain stitches formed in said support between two successive tying stitches; said thread guide comprising two spaced and aligned fixed thread guides adjacent the front side of said support, and an oscillatable looper positioned between said two stationary thread guides and said support; and a bar reciprocable transversely of its length between said two stationary thread guides and operable to engage the thread extending between said two stationary guides to tension the thread to straighten the loop formed by oscillation of said looper.

2. Apparatus as claimed in claim 1, including a slide of resilient material engageable with said disc and positioned in advance of said cutting blade; and a calibrated spring pressing said slide against said disc; said slide being cooperative with said projection on said disc to hold taut a cut filament; whereby there is formed a series of orderly chain stitches in said support.

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