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STITCH FORMING MECHANISM FOR SEWING MACHINES

Original Filed June 13, 1925

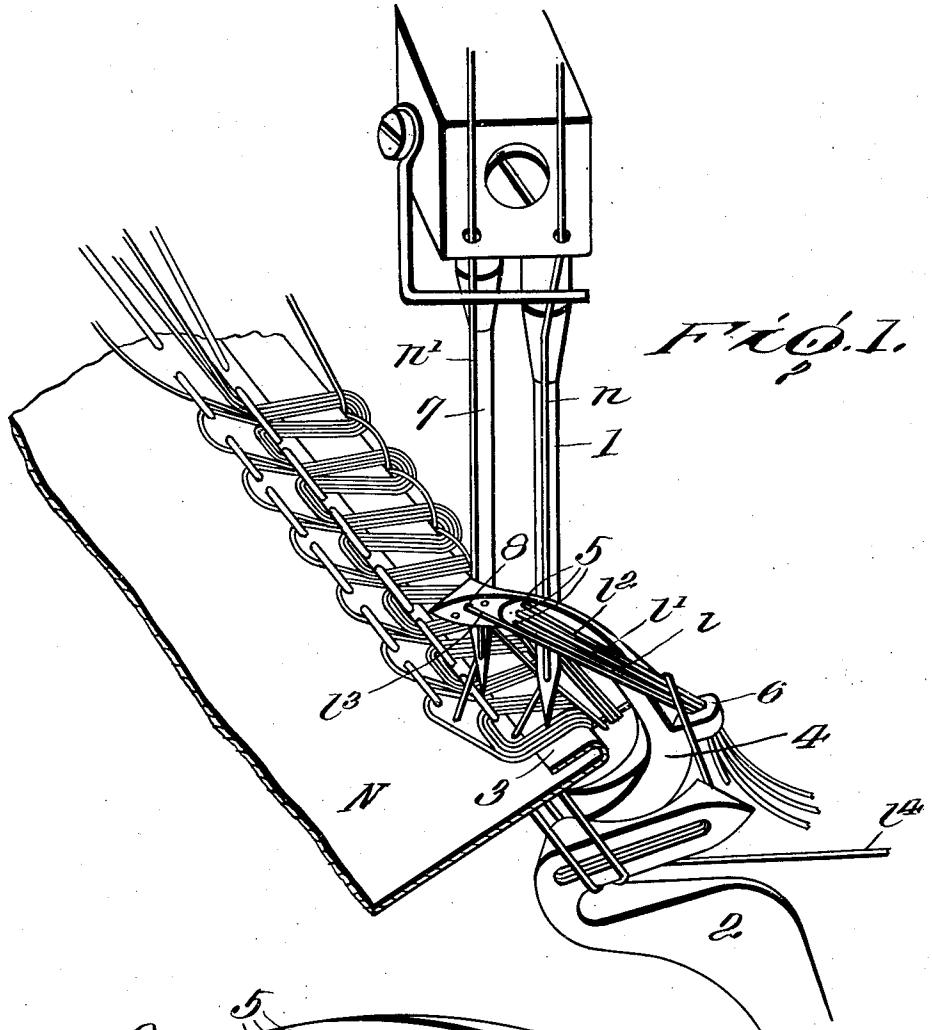


FIG. 1.

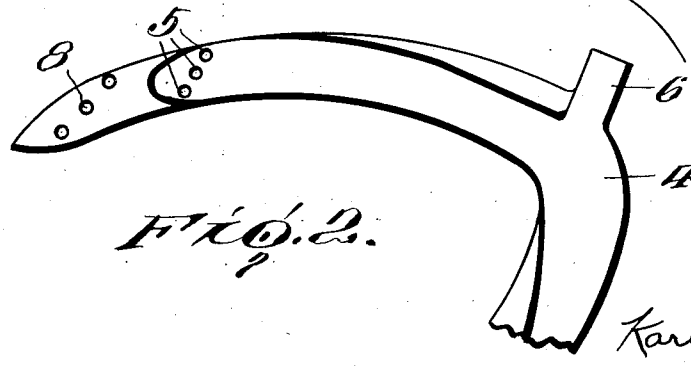


FIG. 2.

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STITCH-FORMING MECHANISM FOR SEWING MACHINES.

Original application filed June 13, 1925, Serial No. 36,887, and in Germany June 19, 1924. Divided and this application filed October 26, 1926. Serial No. 144,311.

The invention relates to new and useful improvements in stitch forming mechanisms for sewing machines, and more particularly to the construction of the looper used for forming over edge stitches.

An object of the invention is to provide an over edge stitch forming mechanism with a looper which is provided with means for laying simultaneously a plurality of nested thread loops so disposed in the over edge stitches as to effectively cover the edge of the material.

A further object of the invention is to provide a looper of the above character with means for guiding and laying an anchoring thread loop with said nested thread loops, which anchoring thread loop is secured to the fabric at a point further in from the edge of the material.

These and other objects will in part be obvious, and will in part be hereinafter more fully described.

In the drawings—

Figure 1 is a perspective view showing the stitch forming elements embodying the improved looper and the edge covering seam formed thereby, and

Fig. 2 is an enlarged view of the looper.

The invention is directed broadly to a stitch forming mechanism for forming over edge stitches, that is, stitches which extend about the edge of a fabric for covering the edge. The stitch forming mechanism includes a needle or needles, a thread carrying member cooperating with the needles beneath the material, and an over edge threaded looper cooperating with the thread carrying looper beneath the material and with the needle or needles above the material. This thread carrying looper is of the usual shape except possibly that it is slightly broadened adjacent the point thereof, and adjacent the point of the looper there are a plurality of thread eyes arranged one above the other through which independent threads are passed. At the heel of the looper there is a thread guide for all of said threads. This over edge looper passes a loop of each thread simultaneously through the loop of thread carried by the under thread carrying looper, and these loops of thread carried by the over edge looper are positioned so that the needle passes through all of the loops at the same time. The over edge loops are thus secured by the needle thread and they are so laid as to be nested one about the other. In certain forms of the invention two needles are used and the looper is provided with another eye nearer its point so that the thread loop carried by said last named eye will be entered by both needles. This forms an anchorage for the over edge stitches.

Referring more in detail to the drawings the invention is shown as comprising a needle 1 with which a thread carrying under looper 2 cooperates beneath the material. The needle 1 is provided with a needle thread n and the under thread carrying looper 2 is provided with a thread l^4 the material being stitched as indicated at N. The edge portion of the material is infolded as indicated at 3. The needle 1 is positioned so as to penetrate the material along a line inside of the edge of the infolded portion 3. Cooperating with the thread carrying looper 2 is an over edge thread carrying looper 4. This over edge thread carrying looper contains the new features. Said over edge looper 4 is provided with a series of eyes 5, 5, 5, three in number as illustrated in the drawings. It is obvious however that any number of eyes may be used. A looper thread l passes through one of said eyes. A looper thread l' passes through another eye, and a looper thread l^2 passes through the third eye. All three of the looper threads pass through a guiding means 6 at the heel of the looper.

In the illustrated embodiment of the invention there is a second needle 7 carrying a needle thread n'. This second needle 7 is set slightly in the rear of the needle 1 and at a distance further from the edge of the material. Both of the needle thread loops n and n' are engaged by the thread carrying looper 2 and are locked thereby. The over edge looper 4 is provided with another eye 8 nearer the point of the looper than the eyes 5. A looper thread l^3 passes through this eye 8 and through the guiding means 6 at the heel of the looper.

It will be clear from Figure 1 of the drawings that the over edge looper 2 will position a loop in the thread l^3 so that both the needles 1 and 7 enter said loop and the loop in the needle thread n' will secure said loop in the looper thread l^3 at a point further back from the edge of the material and thus

form an anchorage for the interlocked loops passing around the edge of the material. The loops in the looper threads l, l' and l^2 are nested one about the other as clearly shown in this figure of the drawings. These nested loops are held by the loops formed in the needle thread n. The improved over edge looper through the laying of its nested thread loops forms a covering edge stitch wherein the edge of the material is well covered by these nested thread loops.

It will be understood that the thread may be omitted from the eye 8 of the looper if desired, and as a matter of fact the needle 7 may be omitted in which case the over edge stitches are formed by the one needle thread, the under looper thread, and the nested over edge looper threads. It will be obvious that the under thread carrying looper may be merely a hook instead of a threaded looper, the hook serving to carry the needle thread loop to the edge of the material for the over edge looper to pass through. It is also obvious that the over edge looper may be of the type which is mounted above the work support. The essential features of the invention reside in the over edge looper with the plurality of thread eyes one above another for laying the nested thread loops in the over edge stitch forming mechanism.

The article and method of making the same described above form no part of the present invention, but are described and claimed in my co-pending application, Serial No. 36,887, filed June 13, 1925, of which this application is a division.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent, is—

1. The combination of a needle, a thread carrying member cooperating with the needle beneath the material, an over edge thread carrying looper cooperating with said thread carrying member and with said needle above the material, said over edge looper having a plurality of thread eyes adjacent the point thereof arranged one above another for carrying independent looper threads, and means at the heel of the looper for guiding said threads.

2. The combination of a needle, a thread carrying member cooperating with the needle beneath the material, an over edge thread carrying looper cooperating with said thread carrying member and with said needle above the material, said over edge looper having a plurality of thread eyes adjacent the point thereof arranged one above another for carrying independent looper threads, means at the heel of the looper for guiding said threads, said over edge looper having a looper thread eye between the point thereof and the plurality of eyes for laying an anchoring loop, and a second needle for engaging said anchoring loop.

3. An over edge thread carrying looper comprising a body portion having a point and a heel, said body portion having a plurality of spaced eyes one above the other for carrying independent looper threads disposed adjacent the point, and means adjacent the heel of the looper for guiding the looper threads.

4. An over edge thread carrying looper comprising a body portion having a point and a heel, said body portion having a plurality of spaced eyes one above the other for carrying independent looper threads disposed adjacent the point, and means adjacent the heel of the looper for guiding the looper threads, said looper having an eye between the point and the plurality of eyes spaced one above each other for guiding an independent anchoring looper thread.

In testimony whereof, I affix my signature.

KARL MAIER.