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Stitch Guide

A Study of the Stitches on the Embroidered Samplers
in the Collection of the Cooper-Hewitt Museum

The Smithsonian Institution's
National Museum of Design

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Foreword

The Cooper-Hewitt Museum is fortunate to have a large and important collection of embroidered samplers. When a museum houses a collection of this significance, it bears a responsibility: to care for and preserve its holdings and to make them available to students, scholars, and other interested viewers. The ideas presented in this guide result from a meticulous and thoughtful examination of the embroidered samplers in the Museum's collection. The findings serve to enhance our appreciation of our own samplers and to broaden our understanding of the history of needlework and the decorative arts. We wish to thank the DMC Corporation for assisting us once again in the printing of a book on textiles. The New York State Council on the Arts has also provided funds for this publication, as well as for the accompanying handbook and exhibition, *Embroidered Samplers*.

Lisa Taylor
Director

The collection of embroidered samplers in the Cooper-Hewitt Museum is an important resource because it contains so many examples—nearly one thousand—and because the range of countries represented is so great. Included are samplers from Europe, Asia, North Africa, the United States, Canada, Mexico, and South America.

An interesting observation to emerge from the study of the sampler collection is that just as designs often can be categorized according to national or regional preferences, so, too, can stitches. Several stitches were found on the samplers of only one country. Other stitches were found to have been used frequently over a fairly wide geographical area within certain years, but to have been dropped from the embroiderers' repertoire later. Familiarity with all the stitches used and the dates of their popularity is thus a valuable tool in identifying samplers.

This guide is not intended to be a "how-to" for making embroidery stitches, nor is it meant to be an encyclopedia of every embroidery stitch ever used. It is, rather, a listing of the stitches found on the embroidered samplers in the Cooper-Hewitt Museum, with some comments on when and where they were used. The history and design of samplers in the Museum is discussed in the handbook *Embroidered Samplers in the Collection of the Cooper-Hewitt Museum* (1984).

Many stitches must be examined from the back as well as from the front to be identified correctly. It is easy, for example, to confuse herringbone stitch with long-armed cross stitch if it is closely worked on a small scale and viewed only from the front. Likewise, double running stitch can be confused with back stitch, but a glance at the back of either will identify the stitch.

The concept of counted versus uncounted, or free-style, stitches is often referred to in books or articles about embroidery. The difference between the two is really a difference in the attention paid to the foundation fabric. Uncounted or free-style stitches are worked across the foundation cloth according to the dictates of the pattern, whereas counted stitches are always worked over a predetermined

number of warps and wefts of the foundation fabric. In a coarse foundation fabric the elements are clearly visible and the counting is almost automatic. Recently the term "needlepoint" has tended to replace the term "counted embroidery" for work done on a large-scale, open-grid fabric.

Most stitches can be used for both counted and uncounted work. Cross stitch, however, is always used as a counted stitch. Both counted and uncounted areas can be found on eighteenth-century American samplers made in eastern Massachusetts. The uncounted area, usually a picture or scene, is embroidered over an outline drawn onto the cloth. Elsewhere on the sampler, alphabets, numerals, and texts are worked by counting warps and wefts.

Names of stitches cause difficulty. Often one stitch will be known by several different names, many of which have a local or regional use. Sometimes the names accurately describe the movement of the stitch, as in back stitch, which has a pronounced backward movement. In other cases, the name describes the look of the stitch, as in four-sided stitch. In some cases the stitch may have no direct relation to the geographical area referred to in its name, as in roumanian stitch, montenegrin stitch, and French knot.

Sometimes the name will change according to the technique and foundation fabric used. Satin and upright gobelin are the same stitch, but the first term refers to an uncounted stitch, while the second term is used if the stitch is worked on canvas (counted) foundation.

The clearest method of classification arranges stitches according to the movement of the hand and the threaded needle. Small changes, such as the change in the angle between stitches, or a change in the place where the needle emerges, can result in a different name for the embroidered effect. Yet when the movements of the hand and the threaded needle are essentially the same, the stitches belong in the same family or group.

Simple stitches generally fall into one of five groups, according to the movements involved in working them: constant forward movement; forward, partway back movement; circling movement; looping; and knotting. With the

exception of constant forward movement, the variations within each of these groups are limitless, since an ever greater number of repetitions and angle changes can be added. Only two stitches use constant forward movement: running stitch and surface satin stitch. All other stitches involve a forward and a backward movement within each stitch—which allows the development of decorative possibilities. Understanding the basic movements of simple stitches can prevent one from becoming overwhelmed by terminology.

Compound stitches require two or more separate passages of the threaded needle across the cloth. Double running is a good example of such a stitch. The second passage may use the same thread as the first passage or a different kind of thread.

Cross stitches are unusual because they are made in several different ways, all resulting in an *X* on the front of the fabric. It is necessary to see the back of a cross stitch to determine its type.

The following study considers stitches that are embroidered on solid areas of foundation cloth. Openwork techniques, withdrawn element work, cut fabric with needlemade fillings, and looping that produces a separate structure are not discussed, although such techniques are occasionally found on samplers.

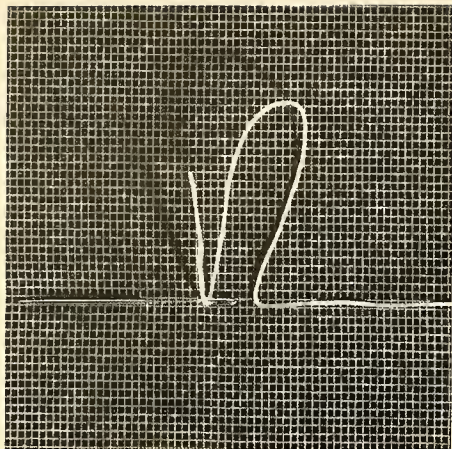
Gillian Moss

Constant Forward Movement

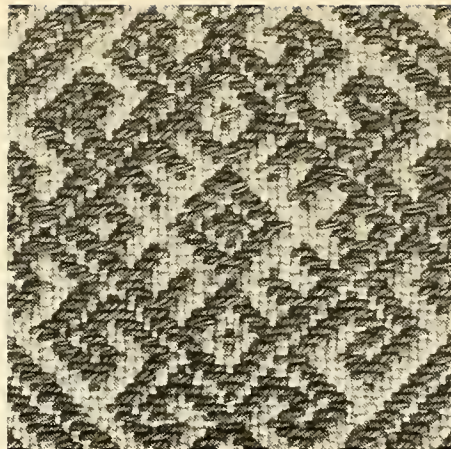
Running Stitch

Surface Satin Stitch

Constant Forward Movement describes a category of stitches that move in a straight line as well as those in which the angle of the float on the front of the fabric is different from that of the float on the back of the fabric. The lengths of the floats on both sides of the fabric may also change. On the front of the fabric the floats may be end to end, offset, parallel, or irregularly spaced.

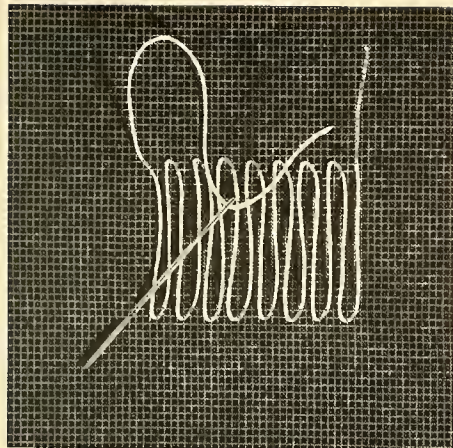


front

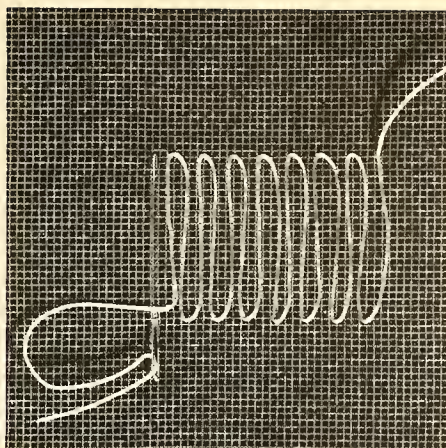


detail

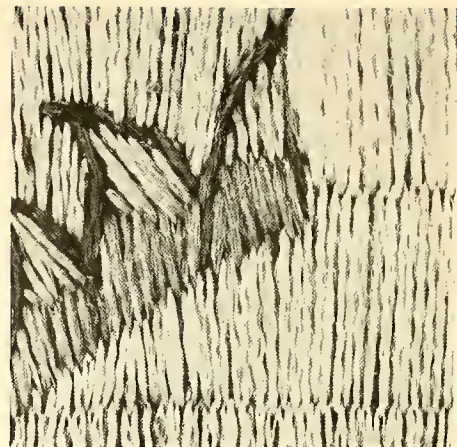
Running stitch is the most basic of stitches. The threaded needle moves in and out of the fabric producing floats of thread on both sides of the fabric. The floats on the front and back of the fabric may be of equal length (as in the illustration), or they may be unequal. When rows of running stitch are massed closely together to form solid areas of pattern in imitation of woven structures, the technique is known as pattern darning. Such work is found on Spanish samplers and embroideries as well as on the darning samplers of northern Europe. The detail is from a Spanish nineteenth-century sampler (1981-28-241) worked in cotton on plain-weave linen.



front



back



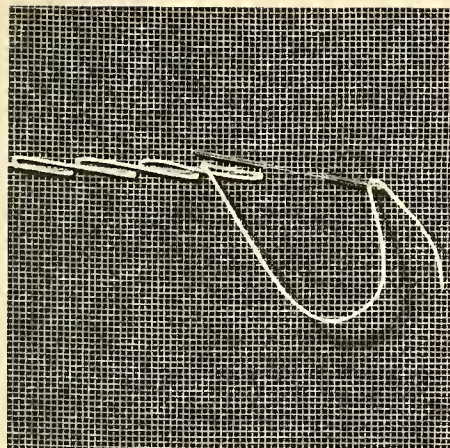
detail

In **surface satin stitch** the thread constantly moves forward, in and out of the fabric. However, the angle of forward direction is different for the front and back floats. This is an economical stitch, since the float is long on the front of the fabric and short on the back. Surface satin, also known as *false satin* and *New England laid stitch*, was used in eighteenth-century America to fill in large areas of background. The stitch is closely associated with New England and does not appear on the samplers of any other countries. The detail is from a Massachusetts sampler of 1771 (1974-42-13), worked in silk on plain-weave linen.

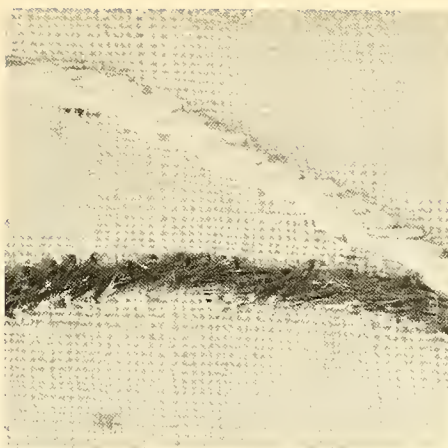
Forward, Partway Back Movement

Stem Stitch
Back Stitch
Tent Stitch

Forward, Partway Back Movement describes a category of stitches that move forward on the front of the cloth, then partway back on the underside of the cloth in order to be in position to start the next stitch. There is a linear quality inherent in these stitches.

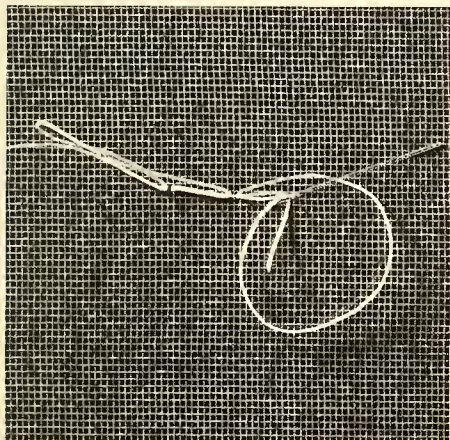


front

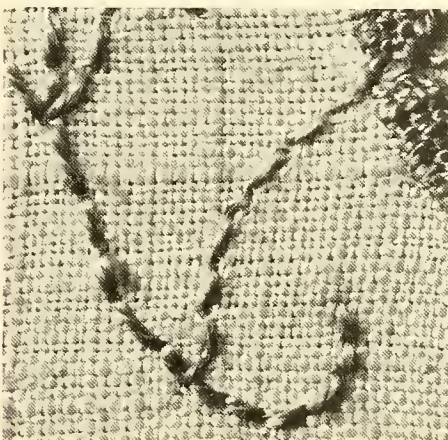


detail

Stem stitch moves forward on the front of the cloth and then partway back on the underside of the cloth. The needle usually emerges consistently on the right or on the left of the float. *Outline* is another name for this stitch. Both words, *stem* and *outline*, are descriptive of the way the stitch is used in embroidery. Stem stitch is a useful stitch, and is found on the samplers of almost every country. The detail is from a Pennsylvania sampler of 1795 (1981-28-158), worked in silk on plain-weave linen.

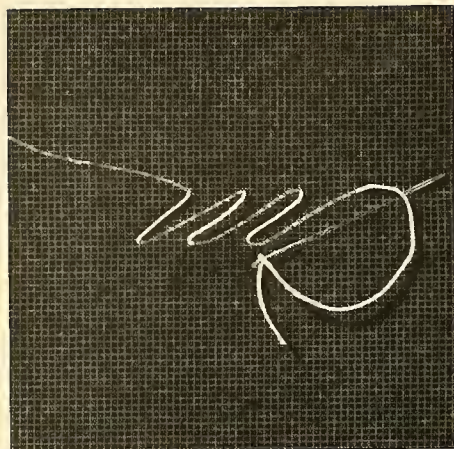


front

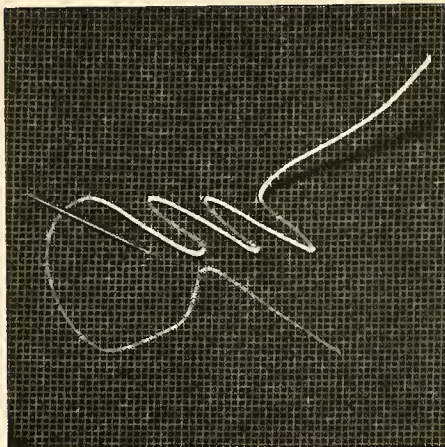


detail

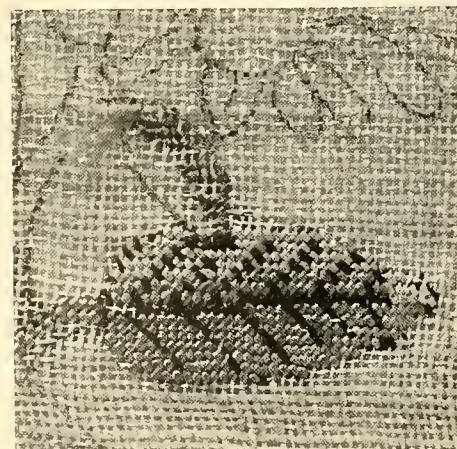
In back stitch a backward-moving float on the front of the cloth is followed by a long forward-moving float on the back of the cloth. The stitch is the opposite face of stem stitch and is used when a straight or curving line of end-to-end floats is desired. Back stitch is found on the samplers of every country. From the front, the stitch can be confused with double running stitch (page 34). The detail is from an English seventeenth-century sampler (1981-28-83) worked in silk on plain-weave linen.



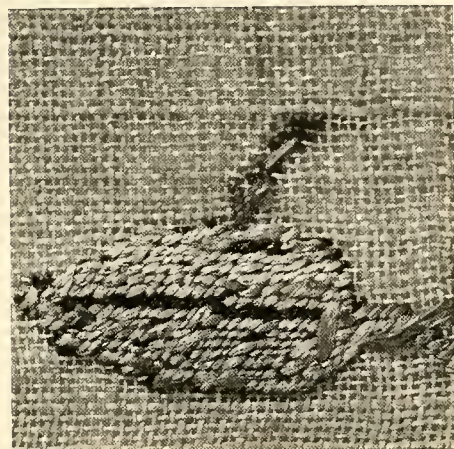
front



back



detail



detail

Tent stitch resembles back stitch because the longer float is on the back of the fabric and the shorter float is on the front. The stitch, always a counted one, produces a repetition of diagonal lines on the front of the fabric. From the front it is difficult to distinguish this stitch from half cross (page 14). Tent stitch was frequently used on seventeenth-century English samplers. When applied to pictures and cushion covers the stitch covered the foundation fabric. The illustrations show the longer float on the back of the fabric. The detail is from an English seventeenth-century sampler (1941-69-80) worked in silk on plain-weave linen.

Circling Stitches

Satin Stitch

Half Cross Stitch

Eyelet Stitch

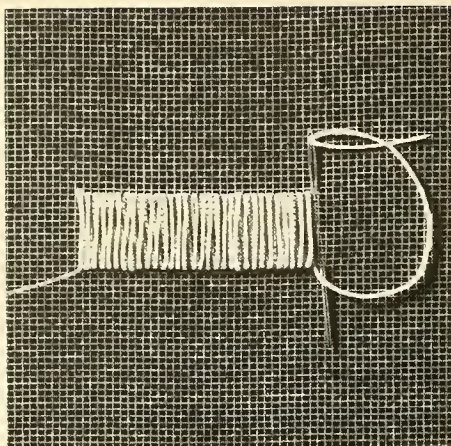
Roumanian Stitch

Rococo Stitch

Montenegrin Cross Stitch

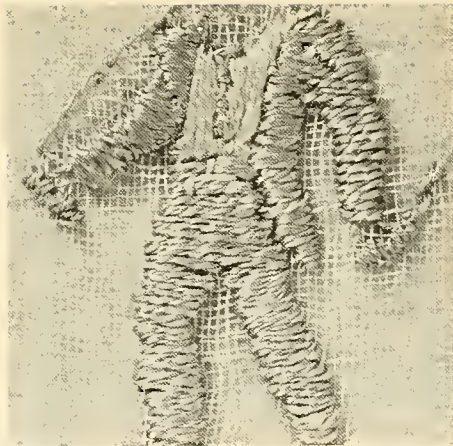
Two-sided Cross Stitch

Circling Stitches are those stitches that move through the fabric in a circling motion. The stitches use as much thread on the back of the fabric as on the front. Often the individual movements will radiate or fan out from one fixed point, as in eyelet stitch. Characteristically the stitches in this group are massed.

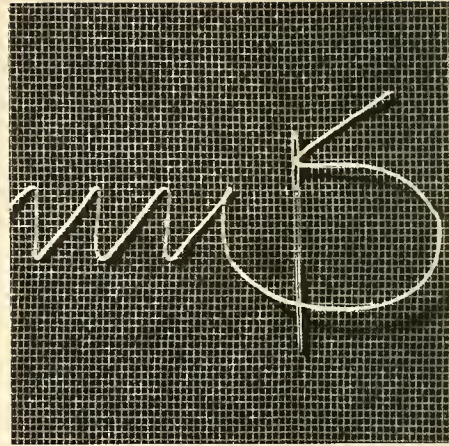


front

Satin stitch moves through the fabric in a circling motion producing an alignment of floats of equal length on the front and back of the fabric. Satin stitch can be used as an uncounted and as a counted stitch and is found on the samplers of every country. The stitch is used for dense areas as well as for the angular shapes of letters and numerals. The detail is from an English nineteenth-century sampler (1974-42-19) worked in silk on plain-weave cotton.

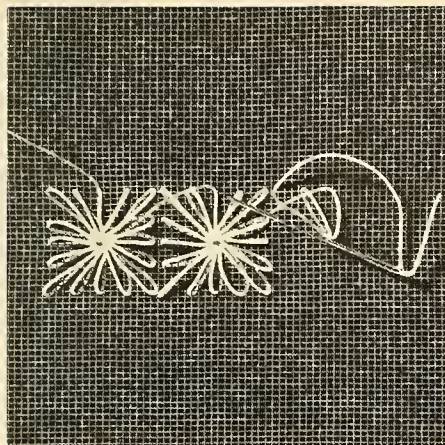


detail

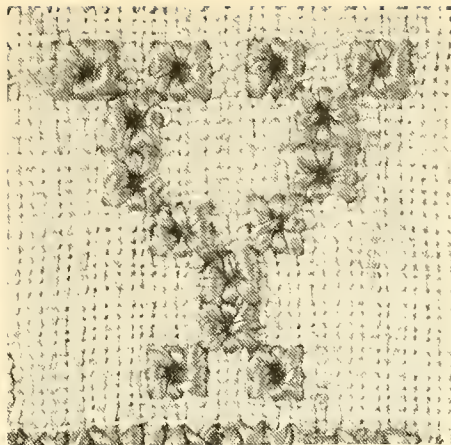


front

Half cross stitch is a circling stitch with a space left between each movement of the stitch. This opening up of the stitch causes the float on the front to take a diagonal line.

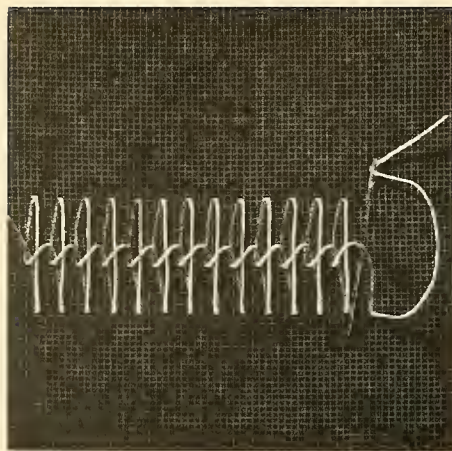


front

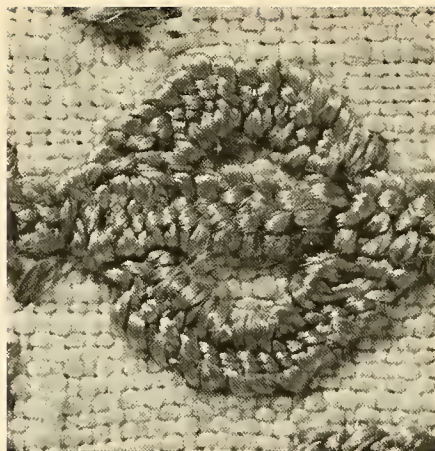


detail

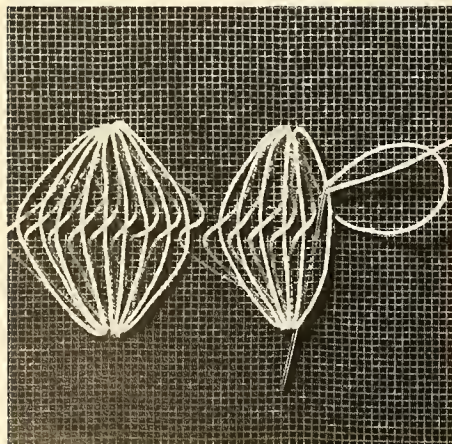
Eyelet stitch is a circling stitch that radiates from a fixed spot. The action of repeatedly putting the needle into the cloth in the same place, the center of the radiating stitch, combined with the pulling action of the embroidery thread, usually causes a hole to appear in the center of the stitch. Eyelet stitch is used for a variety of designs, including for lettering. The stitch is a popular one, and it appears frequently on the samplers of Great Britain and the United States. The detail is from a Massachusetts sampler of 1787 (1941-69-74), worked in silk on plain-weave linen.



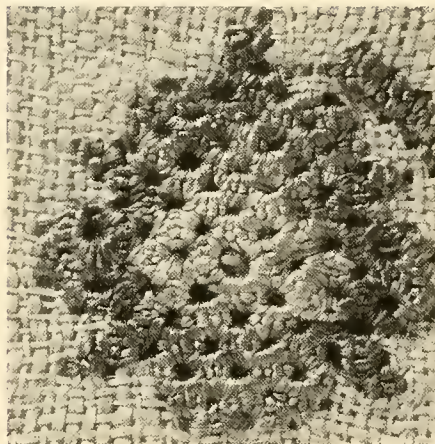
front



detail



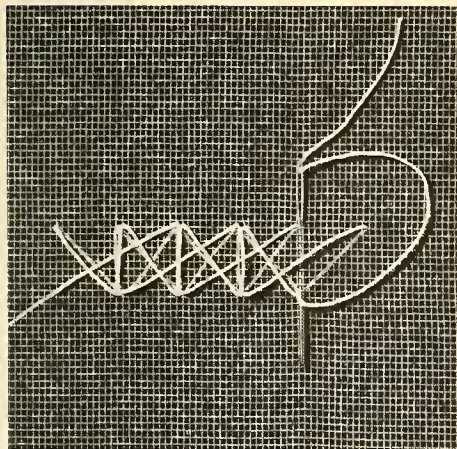
front



detail

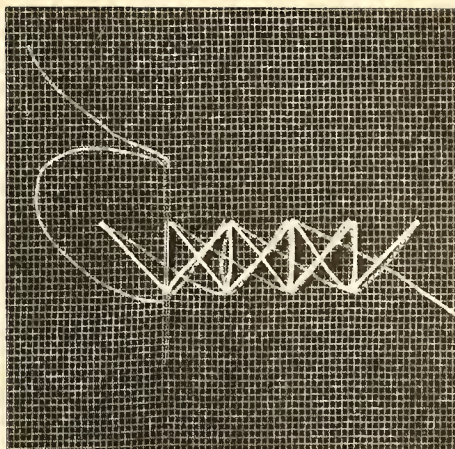
Roumanian stitch is a circling stitch that interrupts its circling passage to make a short crossing of the long float on the front of the fabric before continuing its circling movement. Roumanian stitch, while found only occasionally on the embroideries of continental Europe, was used frequently on the samplers of Great Britain and the United States. The detail is from an English seventeenth-century sampler (1981-28-83) worked in silk on plain-weave linen.

Rococo stitch, also known as *queen stitch*, is actually a series of roumanian stitches in a group, placed so that the ends of the floats are close together while the central part fans out. Several adjacent rococo stitches will create decorative "holes" on the fabric. Rococo stitch is found on samplers from The Netherlands, Great Britain and the United States. The stitch is usually found in multiples of itself and creates a dense, closely packed area of pattern. When used on embroidered objects, such as book covers and shoes, the stitch covers the entire foundation. The detail is from an English seventeenth-century sampler (1941-69-80) worked in silk on plain-weave linen.

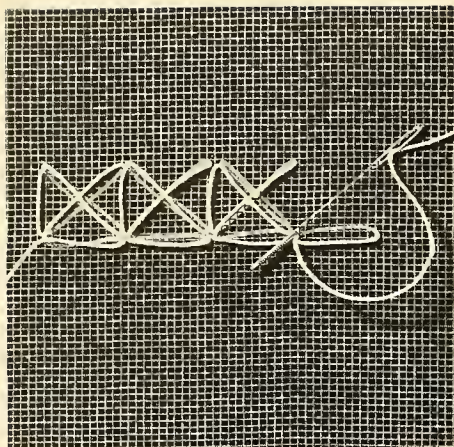


front

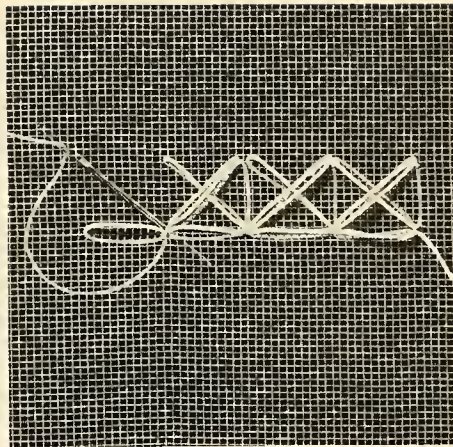
Montenegrin cross stitch is a circling stitch in which three circles radiate from the same point before the needle and thread move on to work the next stitch. The circles pass over each other. Frequently encountered on seventeenth- and early-eighteenth-century English samplers, montenegrin cross stitch has a complex interlaced appearance.



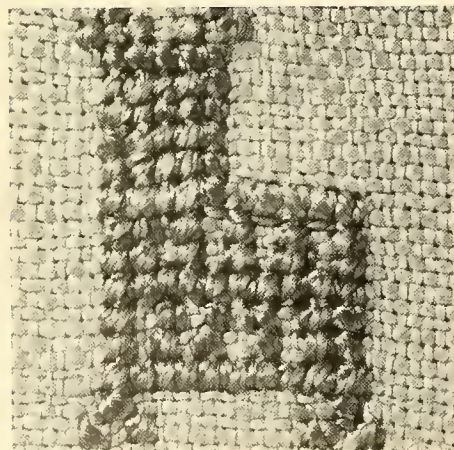
back



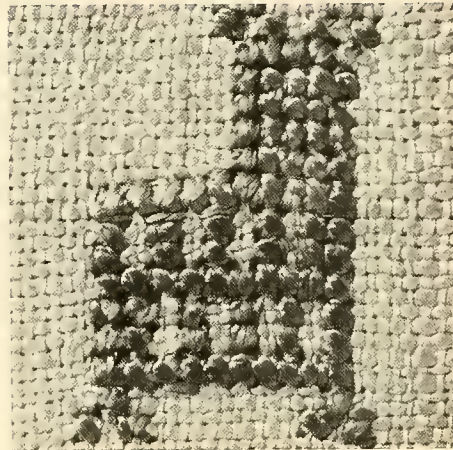
front



back



detail



back

In **two-sided cross stitch** circles pass over each other creating crossed floats on both the front and the back of the fabric. One of the diagonals on the back is doubled. Two-sided cross stitch is found on samplers and other embroideries from Germany and occasionally on eighteenth-century American samplers. The detail is from a German eighteenth-century sampler (1941-69-247) worked in silk on plain-weave linen.

Looping Stitches

Buttonhole Stitch

Feather Stitch

Herringbone Stitch

Long-armed Cross Stitch

Cross Stitch (Looping Backward Movement)

Cross Stitch (Looping Lateral Movement)

Wrapped Cross Stitch

Marking Cross Stitch

Four-sided Stitch

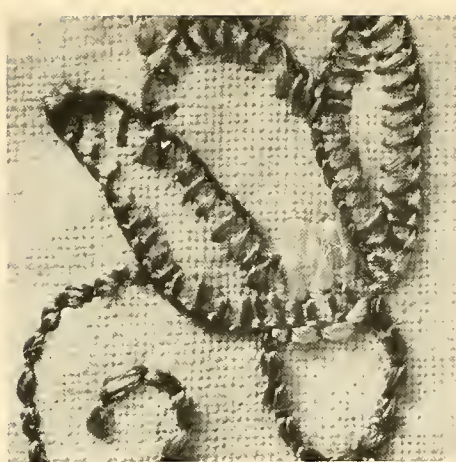
Plaited Braid Stitch

Chain Stitch

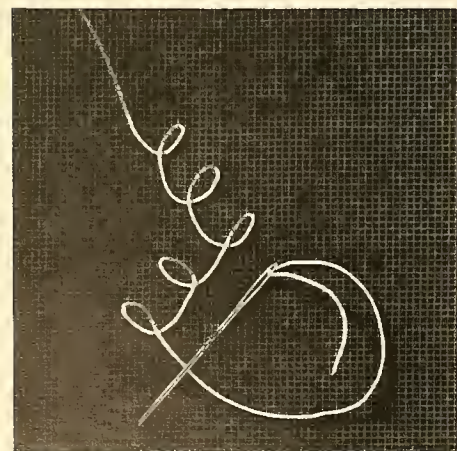
Looping stitches are those in which a crossed loop passage of the yarn is worked through the foundation fabric. The simplest of these stitches is buttonhole. Changes of angle and additional movements create more complicated stitches.



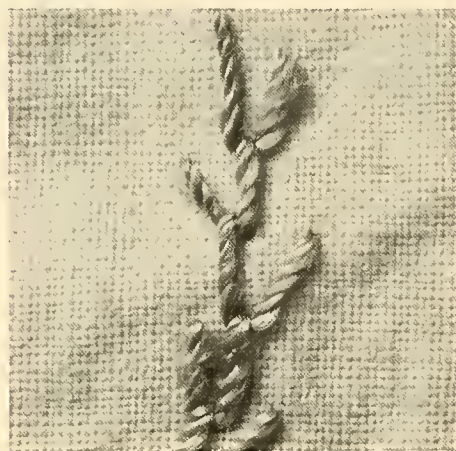
front



detail



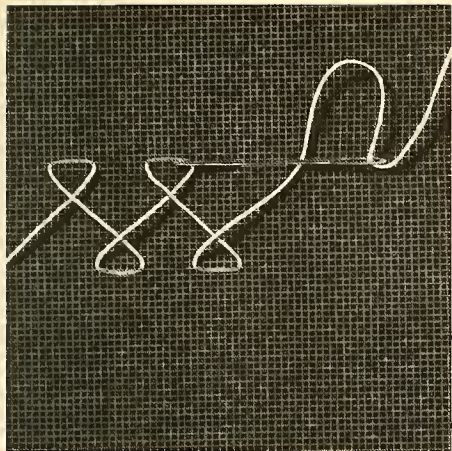
front



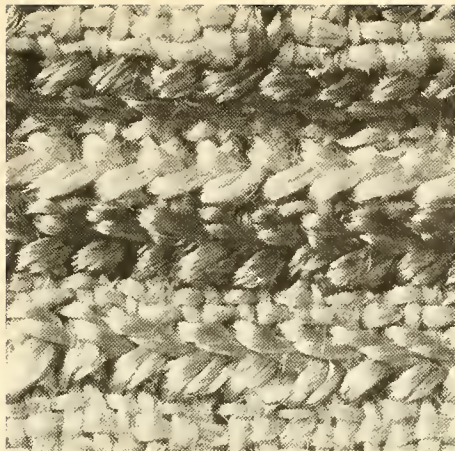
detail

In **buttonhole stitch** the thread is looped through the fabric. The cross between stitches, a characteristic of the sequence, is visible on the front and is an important part of the design. Buttonhole stitch is used on samplers in a functional manner, to secure edges, and in a decorative manner. It is often used for wheels and flowers. The detail is from a nineteenth-century sampler from The Netherlands (1981-28-244), worked in silk on plain-weave cotton.

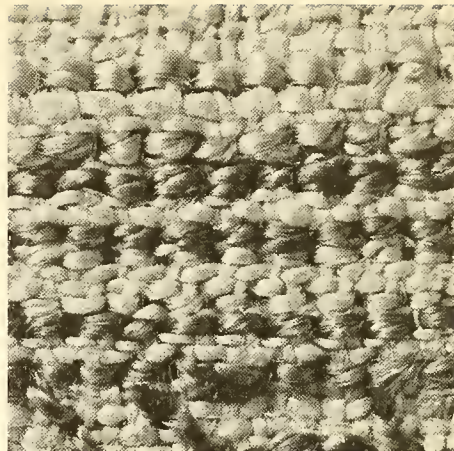
Feather stitch is buttonhole stitch spaced to form open flowing patterns. The stitch is used to illustrate branching stems and other decorative elements. The detail is from a late nineteenth-century sampler from The Netherlands (1981-28-224), worked in silk on plain-weave cotton.



front

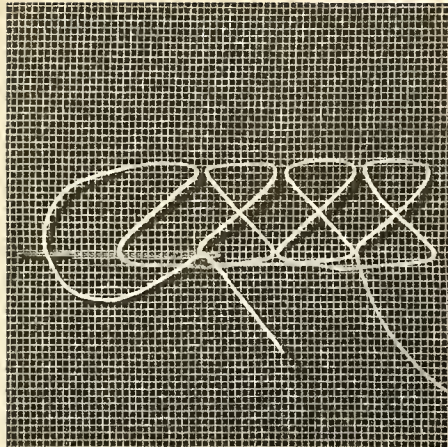


detail

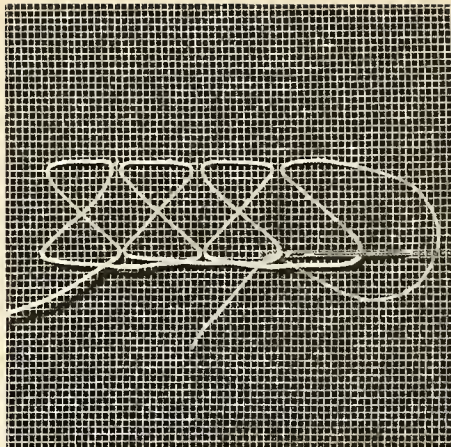


back

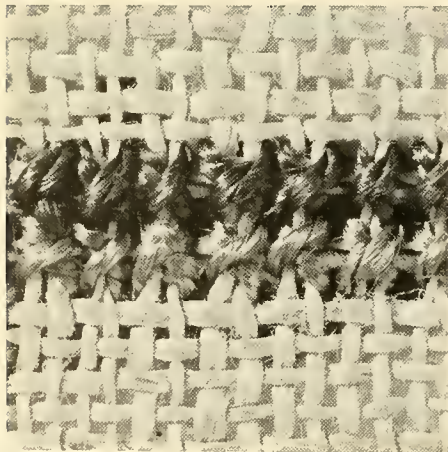
Herringbone stitch is a double row of loops facing each other. When herringbone stitch is closely worked, it is easily confused from the front with long-armed cross stitch (page 24). The parallel horizontal lines on the back identify the stitch. The detail is from an English seventeenth-century sampler (1981-28-105) worked in silk on plain-weave linen.



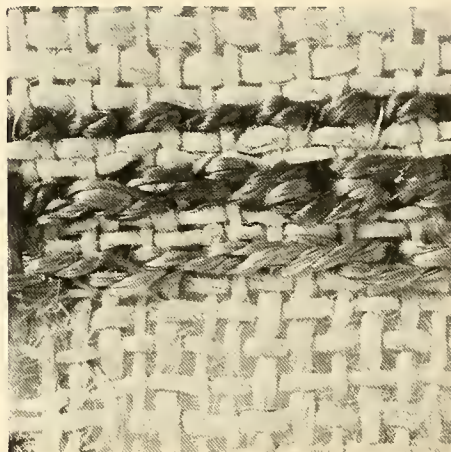
front



back

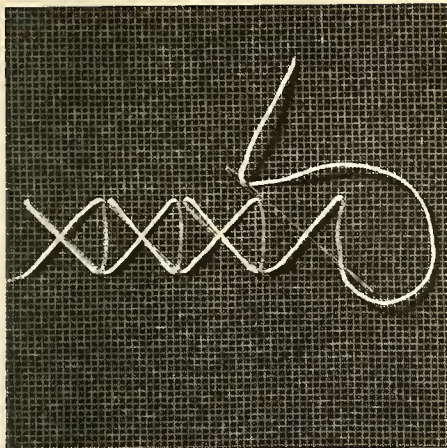


detail

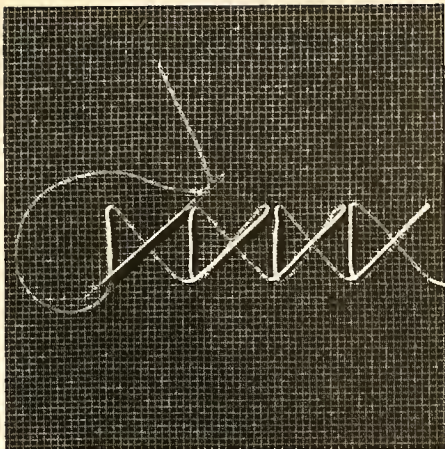


back

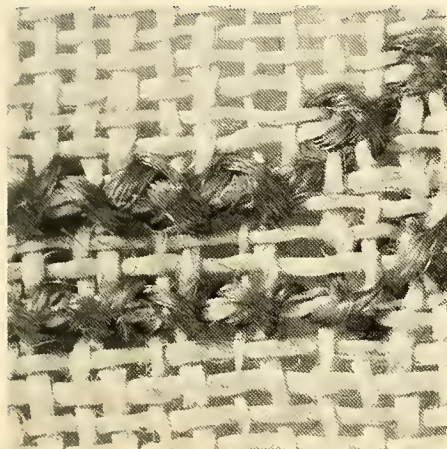
Cross stitch (looping backward movement) forms an X on the front of the fabric, while the back looks like a row of stem stitches topped with a row of back stitches. This is the least precise way of making cross stitch and sometimes the stitches do not "square up" properly. Cross stitch made in this way is frequently encountered on French samplers. The stitch creates an uneven surface on the back. The detail is from a French sampler of 1803 (1976-100-15), worked in silk on plain-weave linen.



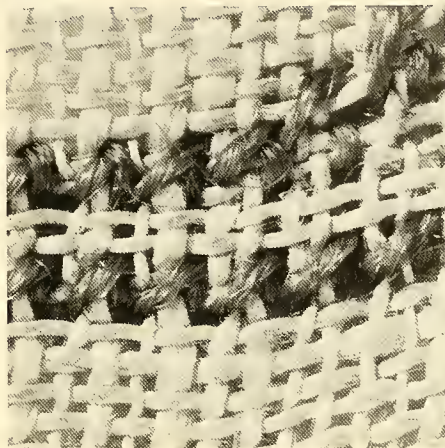
front



back

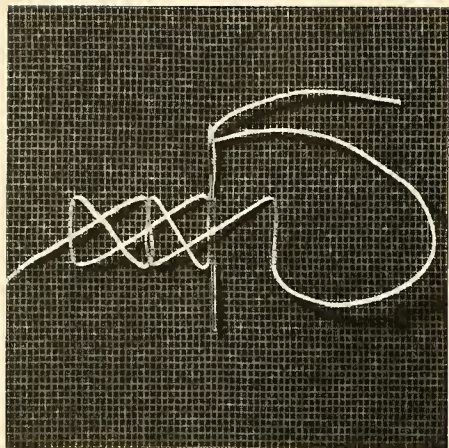


detail

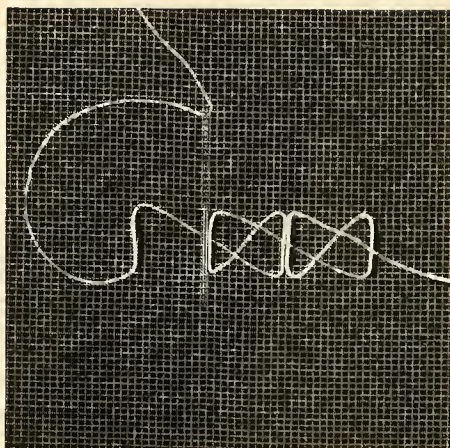


back

Cross stitch (looping lateral movement) is a laterally oriented loop followed by a return movement on the back of the fabric. The back of the stitch shows an alternation of vertical and diagonal floats. This simple and straightforward method of working cross stitch is the one that is most frequently encountered in northern Europe, Great Britain, and the United States. The detail is from a Norwegian nineteenth-century sampler (1941-69-244) worked in wool on plain-weave linen.

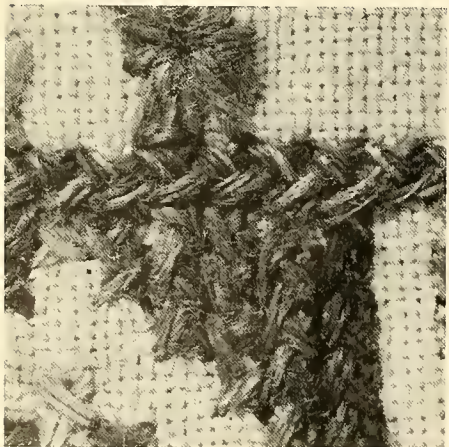


front

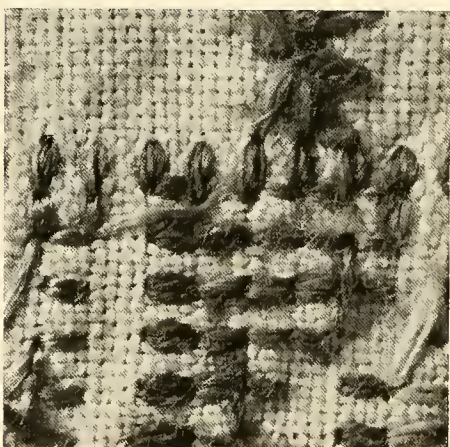


back

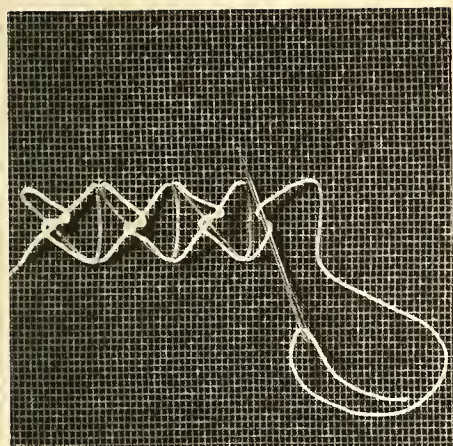
Long-armed cross stitch consists of loops that have a sideways movement. The back of the stitch is a row of paired vertical floats. When closely worked on a small scale and viewed from the front only, long-armed cross stitch may be confused with herringbone stitch (page 21). The back of the stitch shows paired vertical floats. The detail is from a North African twentieth-century sampler (1947-47-2) worked in cotton on plain-weave cotton.



detail

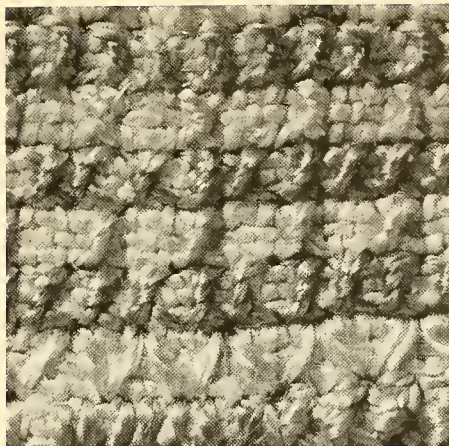


back

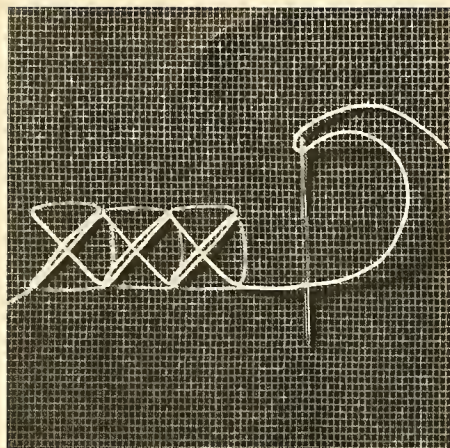


front

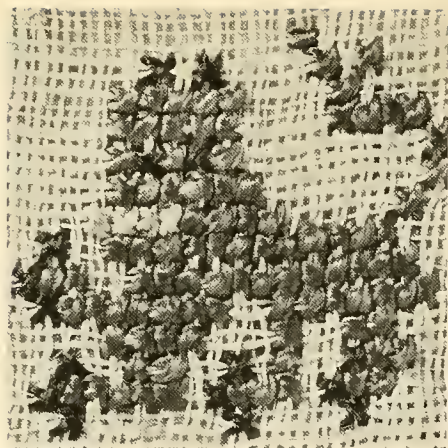
Wrapped cross stitch uses the same movements as cross stitch (looping lateral movement), with the addition of a wrapping on the first diagonal float, which creates a raised effect in the embroidery.



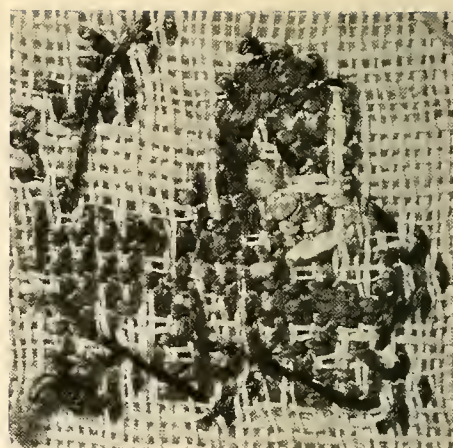
detail



front

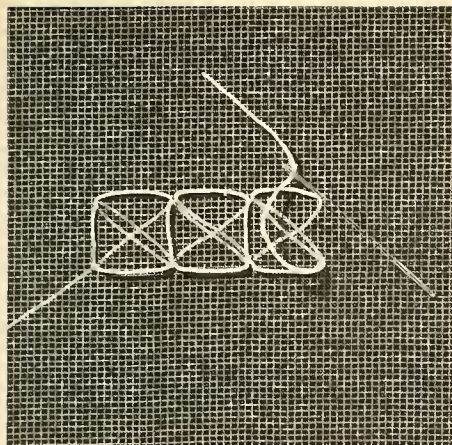


detail

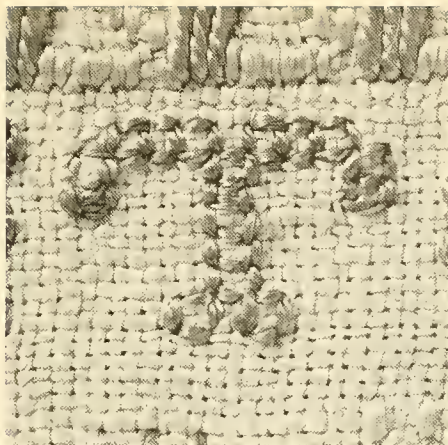


back

Marking cross stitch is two loops placed at right angles to each other. On the front of the stitch there is a double line of thread on one of the diagonals and a single line of thread on the other diagonal. Four-sided stitch is the opposite face of marking cross. Marking cross is found on the samplers of central Europe. The detail is from a German sampler of 1745 (1931-47-12), worked in silk on plain-weave linen.

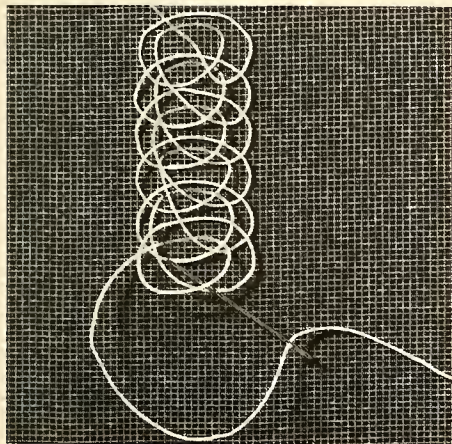


front



detail

Four-sided stitch is the opposite face of marking cross. When completed the stitch resembles a square box. Four-sided stitch has a larger distribution than marking cross because it is used in a decorative way. It is frequently found in Central Europe and Spain and, to a lesser degree, in Great Britain and the United States. The detail is from a Spanish sampler of 1809 (1941-69-211), worked in silk on plain-weave linen.

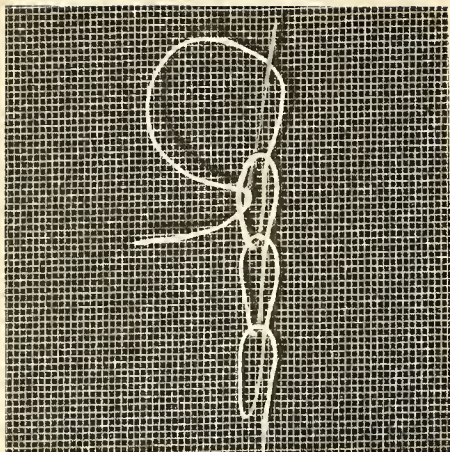


front

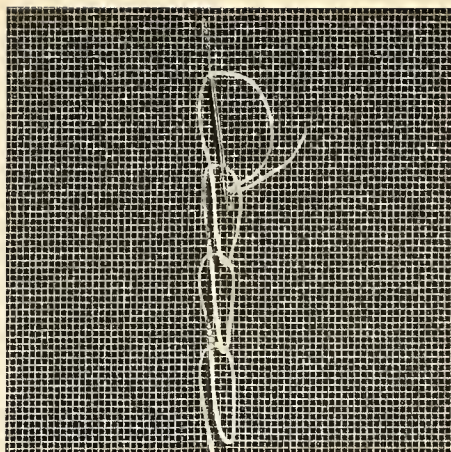


detail

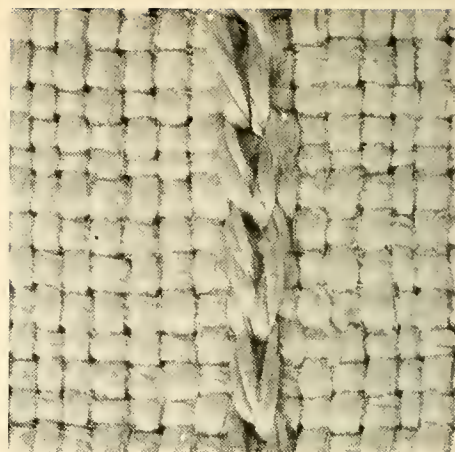
Plaited braid stitch is an alternation of loops working through the fabric with loops working through the previous loop. The stitch is almost entirely on the front of the fabric. The back shows only a series of parallel floats. Plaited braid stitch requires a strong resistant thread in order to be effective and was therefore worked in metal-wrapped silk thread. In samplers, the stitch is confined to seventeenth-century English work. The detail is from an English mid-seventeenth-century sampler (1981-28-138) worked in metal-wrapped silk on plain-weave linen.



front



back



detail

Chain stitch is a series of connected forward-moving uncrossed loops. On the back the stitch is a line of end-to-end floats. Chain stitch is found on the samplers of all countries. Because of its linear qualities the stitch is useful for lettering. The detail is from a Spanish sampler of 1809 (1941-69-211), worked in silk on plain-weave linen.

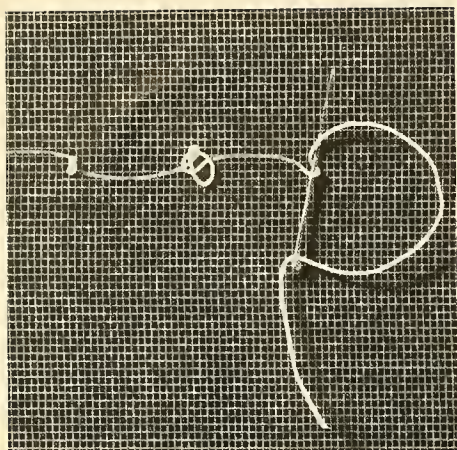
Knot Stitches

Knot Stitch

Coral Stitch

Bullion Knot Stitch

Knot stitches are those in which the yarn is pulled through a crossed loop. In some stitches an overhand knot is made on top of the fabric; in others the sequence is worked through the fabric.

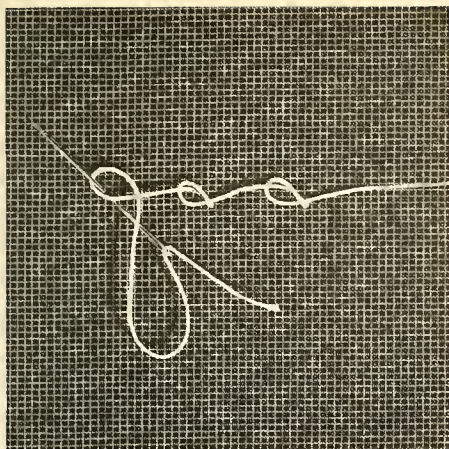


front

Knot stitch, also known as **French knot**, is found on the samplers of central Europe. The stitch consists of a yarn pulled through a crossed loop and is worked on a very small scale. The needle descends through the fabric as close as possible to the place from which it emerged, thus creating a tight mound-like form. Knot stitches are usually massed, as they are here to indicate foliage. The detail is from a German sampler of 1789 (1981-28 -280), worked in silk on plain-weave silk.



detail

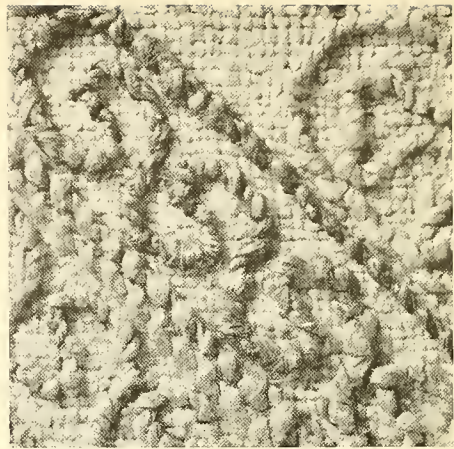


front

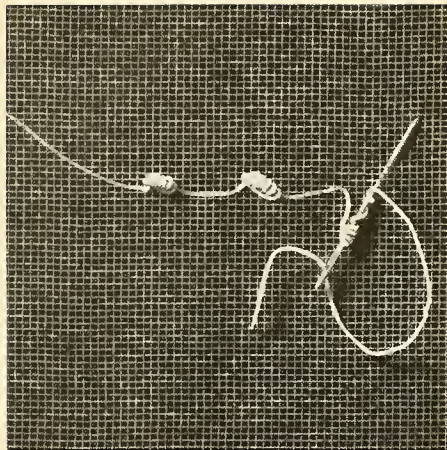
Coral stitch is a yarn pulled through a crossed loop, but the knot is worked through the foundation fabric rather than on the surface. Generally there is a long float between knots on the front of the fabric. When worked loosely and spaced close together this stitch is known as *twisted chain*. Both coral stitch and twisted chain stitch are frequently found on Spanish samplers. They give a raised appearance to the embroidery. The detail is from a Spanish nineteenth-century sampler (1947-47-19) worked in linen on plain-weave linen.



front



detail



front



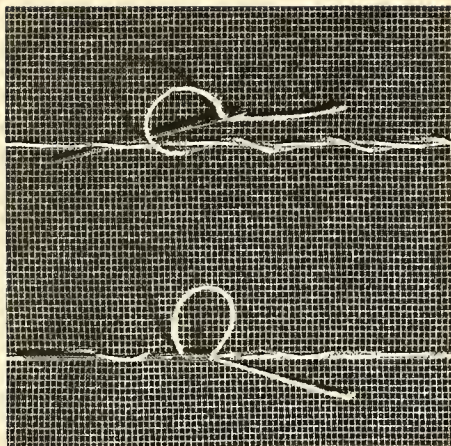
detail

In **bullion knot stitch** the thread is wrapped around the needle several times before the needle is re-inserted through the fabric. The completed stitch forms a coil on the front of the fabric. A knot is not created. Bullion knots are found on the samplers of England and the United States. The stitch is used to give a textured effect. The detail is from a late eighteenth-century sampler from Massachusetts (1941-69-148), worked in silk on plain-weave linen.

Compound Stitches

Double Running Stitch
Cross Stitch (Compound)
Threaded Herringbone
Turkish Stitch

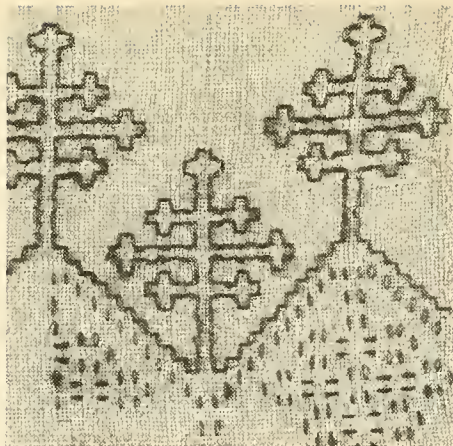
Compound stitches require two or more entirely separate passages of the needle and thread across the cloth.



front

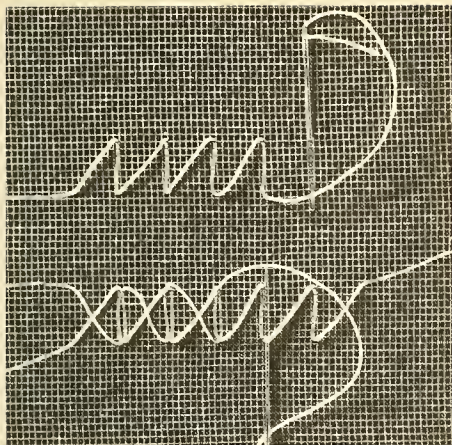
Double running stitch requires two passages of running stitch, one after the other. The second passage may lie parallel to the first as in the top example, or it may wrap or spiral around the first passage as in the bottom example. The thread may be the same for both passages or a different color or fiber may be used.

Double running is used to create lines of floats that are alike on the front and back of the cloth. The stitch is found on the samplers of every country. When it is worked in a straight line, it is possible to confuse the stitch with back stitch (page 11), but a change of angle between each stitch, as shown in the illustration, indicates that the stitch is double running.

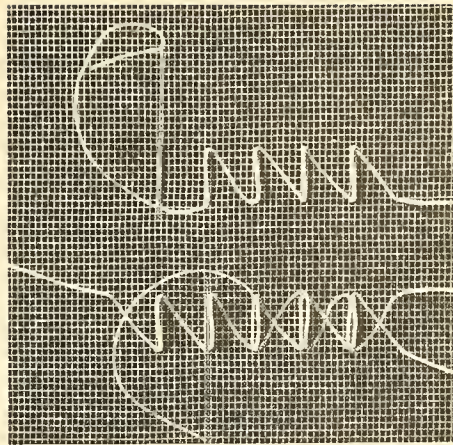


detail

The detail is from an Italian seventeenth-century sampler (1941-69-59) worked in silk on plain-weave linen.

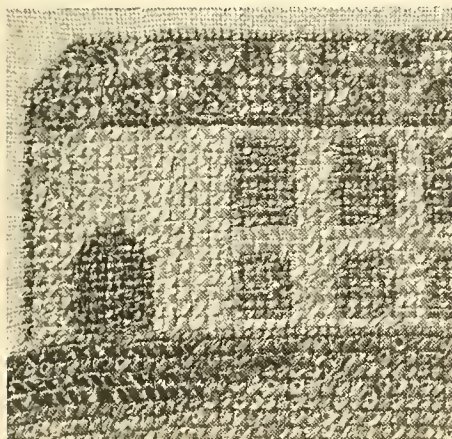


front

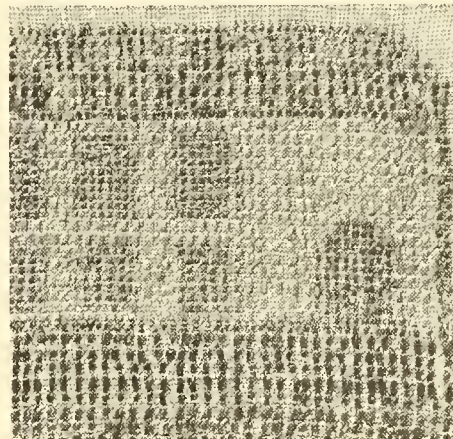


back

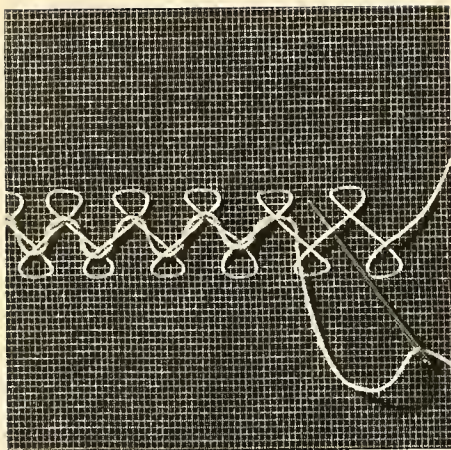
Cross stitch (compound) is made with two passages of the needle and thread across the cloth. Each passage makes a half cross stitch on the front of the fabric, the diagonal slanting in a different direction in each passage. On the back are paired vertical floats. The characteristic X of cross stitch on the front of the fabric does not reveal how the stitch is made. The paired vertical floats on the back, however, reveal that the stitch is *compound cross*. The detail is from an Italian sampler of 1819 (1981-28-13), worked in silk on plain-weave linen.



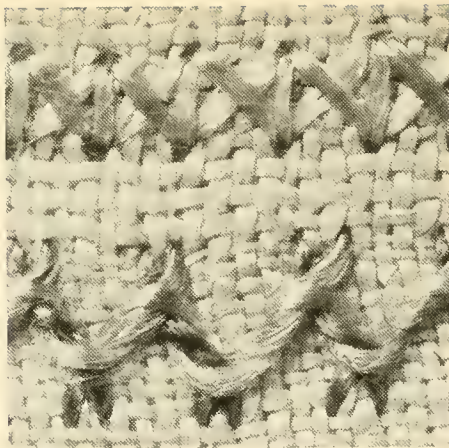
detail



back

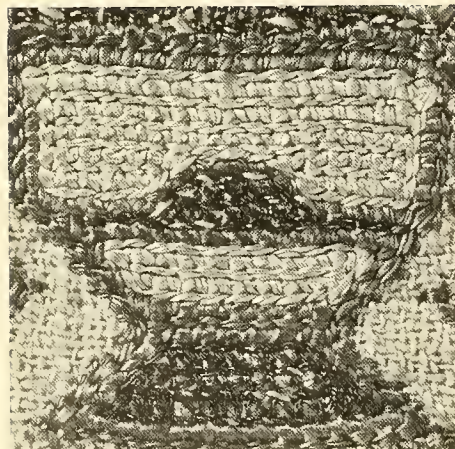


front

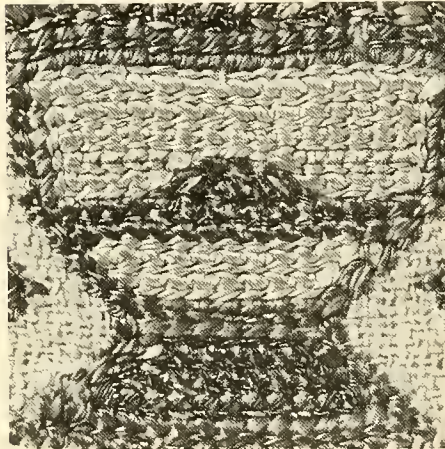


detail

Threaded herringbone stitch is herringbone stitch embellished with a second passage of needle and thread, almost always using a color different from that used for the first passage. The second passage consists of a stem stitch that is worked over the herringbone, without piercing the fabric. Threaded herringbone is used for decorative borders. The stitch is found on the work of northern Europe and Mexico. The detail is from a Mexican nineteenth-century sampler (1941-69-129) worked in silk on plain-weave linen.

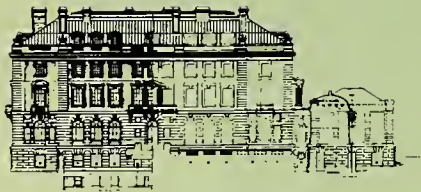


detail



back

In **Turkish stitch**, four passages of the needle and thread are required to complete the stitch: two of half cross (page 14) with a diagonal on both the front and the back, and double running (page 34). This combination of stitches creates a double-sided fabric. It is only found on Turkish embroideries. The detail is from a Turkish eighteenth-century sampler (1981-28-106) worked in silk and metal-wrapped silk on plain-weave linen.



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