Embroidery and tapestry weaving
Christie, Mrs. Archibald. Samplers and stitches.

"Mrs. Christie points out that there is no art in which designing and technique are more closely interwoven than in embroidery. ... The successful embroiderer must have a large repertoire of stitches at her command, and the means to obtain this are provided by Mrs. Christie in her excellent book. ... It would hardly be possible to imagine a work dealing more thoroughly, concisely and clearly with the subject of stitches.... However, ... With the exception of a few general hints, she has nothing to say on what materials are best adapted for individual stitches or of the types of design they are most suited to exemplify."

Connoisseur, Aug. 1921, p. 248.
Flowers, Plants and Fishes, Birds, Beasts, Flyes, and Bees,  
Hils, Dales, Plaines, Pastures, Skies, Seas, Rivers,  
Trees,  
There's nothing neere at hand, or farthest sought,  
But with the needle may be shap'd and wrought.”

—John Taylor ("The Praise of the Needle").
EDITOR'S PREFACE

Needlework, which is still practised traditionally in every house, was once a splendid art, an art in which English workers were especially famous, so that, early in the XIIIth century, vestments embroidered in England were eagerly accepted in Rome, and the kind of work wrought here was known over Europe as "English Work." Embroideries façon d'Angleterre often occupy the first place in foreign inventories.

At Durham are preserved some beautiful fragments of embroidery worked in the Xth century, and many examples, belonging to the great period of the XIIIth and XIVth centuries, are preserved at the South Kensington Museum, which is particularly rich in specimens of this art. In order to judge of what were
then its possibilities it is worth while to go and see there three notable copes, the blue cope, the Sion cope, and the rose-colour Jesse-tree cope, the last two of which are certainly English, and the former probably so. The Sion cope bears a remnant of an inscription which has unfortunately been cut down and otherwise injured, so that all that I have been able to read is as follows: DAVN PERS: DE: V . . . ; probably the name of the donor.

In the XIIIth century the craft of embroidery was practised both by men and women.

That great art patron, Henry the Third, chiefly employed for his embroideries, says Mr. Hudson Turner, "a certain Mabel of Bury St. Edmund's, whose skill as an embroideress seems to have been remarkable, and many interesting records of her curious performances might be collected." And I have found a record of an embroidered chasuble made for the king by "Mabilia" of St. Edmund's in 1242. The most splendid piece of embroidery produced for this king must have been the altar frontal of Westminster Abbey, completed about 1269.
It was silk, garnished with pearls, jewels, and translucent enamels. Four embroideresses worked on it for three years and three-quarters, and it seems to have cost a sum equal to about £3000 of our money.

"The London Broderers" did not receive a formal charter of incorporation until 1561, but they must have been a properly organised craft centuries before. In 2 Henry IV. it was reported to Parliament that divers persons of the "Craft of Brauderie" made unfit work of inferior materials, evading the search of "the Wardens of Brauderie" in the said City of London.

In Paris, in the year 1295, there were ninety-three embroiderers and embroideresses registered as belonging to the trade. The term of apprenticeship to the craft was for eight years, and no employer might take more than one apprentice at a time. In the XVIth century the Guild was at the height of its power, and embroideries were so much in demand that the Jardin des Plantes in Paris was established to furnish flower-subjects for embroidery design. It was founded by the gardener, Jean Robin, and by Pierre Vallet, "brodeur" to Henry IV. In the XVIIIth
Preface

To this craft the present volume forms, I believe, an admirable introduction and text-book, not only on the side of workmanship, but also on that difficult subject, "design"—difficult, that is, from its having been so much discussed in books, yet entirely simple when approached, as here, as a necessary part of workmanship. It is fortunate that we have not as yet learned to bother our cooks as to which part of their work is designing and which is merely mechanical. Of course the highest things of design, as well as of workmanship, come only after long practice and to the specially gifted, but none the less every human creature must in some sort be a designer, and it has caused immense harm to raise a cloud of what Morris called "sham technical twaddle" between the worker and what should be the spontaneous inspiration of his work. What such combination has produced in past times, may perhaps best be understood by some reading in old church inventories of the simply infinite store of magnificent embroidered vestments which once adorned our churches. In an in-

xiv
Inventories of Westminster Abbey I find mentioned such patterns as roses and birds, fleur-de-luces and lybardes, angels on branches of gold, roses and ships, eagles and angels of gold, castles and lions, white harts, swans, dogs, and antelopes.

W. R. LETHABY.

September 1906.
AUTHOR'S PREFACE

In the following pages the practical sides of Embroidery and Tapestry Weaving are discussed, their historical development being only incidentally touched upon.

The drawings illustrating design and the practical application of stitches have been taken almost without exception from actual Embroidery or Tapestry; the exceptions, where it has been impossible to consult originals, from photographic representations obtained from various sources, among which the collection of M. Louis de Farcy should be mentioned.

I have to thank Miss May Morris and Mrs. W. R. Lethaby for permission to reproduce pieces of their work, and Miss Killick, Colonel J. E. Butler-Bowdon,
the Viscount Falkland, and the Reverend F. J. Brown of Steeple Aston for permission to reproduce work in their possession. Also I must thank the authorities of the Victoria and Albert Museum for help in various ways, and Mr. J. H. Taylor, M.A. Oxf. and Cam., for his kindness in reading the proofs.

GRACE CHRISTIE.

Ewell,
September 1906.
CONTENTS

EDITOR'S PREFACE . . . . . xi
AUTHOR'S PREFACE . . . . . xvii

PART I
EMBROIDERY

CHAPTER I
INTRODUCTION . . . . . . . . 27

CHAPTER II
TOOLS, APPLIANCES, AND MATERIALS
### CHAPTER III

**PATTERN DESIGNING**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Difficulties of Pattern Making</td>
<td>51</td>
</tr>
<tr>
<td>A Stock-in-Trade</td>
<td></td>
</tr>
<tr>
<td>Some Principles upon which Patterns are Built Up</td>
<td></td>
</tr>
<tr>
<td>Spacing-Out</td>
<td></td>
</tr>
<tr>
<td>Nature and Convention</td>
<td></td>
</tr>
<tr>
<td>Shading</td>
<td></td>
</tr>
<tr>
<td>Figure Work</td>
<td></td>
</tr>
<tr>
<td>Limitations</td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td></td>
</tr>
</tbody>
</table>

### CHAPTER IV

**STITCHES**

<table>
<thead>
<tr>
<th>Stitch</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>75</td>
</tr>
<tr>
<td>Chain Stitch</td>
<td></td>
</tr>
<tr>
<td>Zigzag Chain</td>
<td></td>
</tr>
<tr>
<td>Chequered Chain</td>
<td></td>
</tr>
<tr>
<td>Twisted Chain</td>
<td></td>
</tr>
<tr>
<td>Open Chain</td>
<td></td>
</tr>
<tr>
<td>Braid Stitch</td>
<td></td>
</tr>
<tr>
<td>Cable Chain</td>
<td></td>
</tr>
<tr>
<td>Knotted Chain</td>
<td></td>
</tr>
<tr>
<td>Split Stitch</td>
<td></td>
</tr>
</tbody>
</table>

### CHAPTER V

**STITCHES—(continued)**

<table>
<thead>
<tr>
<th>Stitch</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satin Stitch</td>
<td>95</td>
</tr>
<tr>
<td>Long and Short Stitch</td>
<td></td>
</tr>
<tr>
<td>Stem Stitch</td>
<td></td>
</tr>
<tr>
<td>Overcast Stitch</td>
<td></td>
</tr>
<tr>
<td>Back Stitch</td>
<td></td>
</tr>
<tr>
<td>Buttonhole Stitch</td>
<td></td>
</tr>
<tr>
<td>Tailor's Buttonhole Edgings</td>
<td></td>
</tr>
<tr>
<td>Flower in Open Buttonhole Stitch</td>
<td></td>
</tr>
<tr>
<td>Leaf in Close Buttonhole Stitches</td>
<td></td>
</tr>
<tr>
<td>Petal in Solid Buttonholing</td>
<td></td>
</tr>
</tbody>
</table>

### CHAPTER VI

**STITCHES—(continued)**

<table>
<thead>
<tr>
<th>Stitch</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knots and Knot Stitches</td>
<td>118</td>
</tr>
<tr>
<td>Herring-bone Stitch</td>
<td></td>
</tr>
<tr>
<td>Feather Stitch</td>
<td></td>
</tr>
<tr>
<td>Basket Stitch</td>
<td></td>
</tr>
<tr>
<td>Fishbone Stitch</td>
<td></td>
</tr>
<tr>
<td>Cretan Stitch</td>
<td></td>
</tr>
<tr>
<td>Roumanian Stitch</td>
<td></td>
</tr>
<tr>
<td>Various Insertion Stitches</td>
<td></td>
</tr>
<tr>
<td>Picots</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER VII

CANVAS WORK AND STITCHES


CHAPTER VIII

METHODS OF WORK


CHAPTER IX

METHODS OF WORK—(continued)

Quilting—Raised Work—Darning—Open Fillings—Darned Netting . . . . . . 189

CHAPTER X

METHODS OF WORK—(continued)

Drawn Thread Work—Hem Stitching—Simple Border Patterns—Darned Thread Patterns—Corners—Cut or Open Work—Various Methods of Refilling the Open Spaces . . . . . 213
Contents

CHAPTER XI
EBROIDERY WITH GOLD AND SILVER THREADS


CHAPTER XII
LETTERING, HERALDRY, AND EMBLEMS

The Uses of Lettering—Marking—Monograms—Heraldry—Emblems . . . . . . . . . . . 259

CHAPTER XIII
THE GARNITURE OF WORK


CHAPTER XIV
PRACTICAL DIRECTIONS

Transferring Patterns—Paste for Embroidery Purposes—Protection and Preservation of Work—Washing Embroidery—Prevention and Cure of Puckered Work—Points about the Thread—Dressing the Frame . . . . . . . . . . . 292

XXii
PART II

TAPESTRY WEAVING

CHAPTER XV

INTRODUCTION . . . . . . 307

CHAPTER XVI

NECESSARY APPLIANCES AND MATERIALS

The Loom — Mirror — Bobbins and Needles — The Comb — Embroidery Frame treated as a Loom — Warp — Wools — Silk — Gold and Silver Thread . 315

CHAPTER XVII

PREPARATIONS FOR WORK

Warping the Loom — Dressing the Coat - Stave — Tracing the Pattern upon the Threads . . . 328

CHAPTER XVIII

THE TECHNIQUE OF WEAVING

Weaving — Commencing and Fastening Off — The Interlocking Stitch — Fine Drawing — Shading — Added After-stitches . . . . . . 338

NOTES ON THE COLLOTYPE PLATES . . . 355

THE COLLOTYPE PLATES . . . . . . 369

INDEX . . . . . . . . . . . . . . . . . . . . . . . . . . 402

xxiii
PART I

EMBROIDERY
In the practice of embroidery the needlewoman has an advantage not now shared by workers in any other craft, in that the technical processes are almost a matter of inherited skill. Every woman can sew, and it is with little more than the needle and thread, which she habitually employs, that the greatest masterpieces of the art have been stitched. The art of embroidery, however, is not merely an affair of stitches; they are but the means by which ideas can be expressed in intelligible form, and memories of all kinds of things be pictured on stuffs.

To laboriously train the hand is scarcely worth while unless it is capable of ex-
pressing something that is at least pretty. Nowadays much embroidery is done with the evident intent of putting into it the minimum expenditure of both thought and labour, and such work furnishes but a poor ideal to fire the enthusiasm of the novice; happily, there still exist many fine examples showing what splendid results may be achieved; without some knowledge of this work we cannot obtain a just idea of the possibilities of the art.

It is obvious that much advantage can be gained from studying the accumulated experience of the past in addition to that current in our own day. To do this intelligently, the history of embroidery must be followed in order that the periods richest in the various kinds of work may be ascertained. Museums afford useful hunting-grounds for the study of past work; other sources are private collections, churches, costume in pictures or on engraved brasses, and manuscript inventories such as those of cathedral treasuries, which sometimes contain interesting detailed descriptions of their embroidered vestments and hangings.

Blind copying of old work is not of much value; it is not possible or desirable
to imitate XIIIth century work now, but much can be learned by examining fine examples in an appreciative and analytical spirit. In what way the design has been built up can be discovered; the most complicated result may often be resolved into quite elementary lines. The student must find out wherein lie the attraction and interest, note good schemes of colour, and learn about stitches and methods of work by close examination of the embroidery, both front and back.

Every one knows what embroidery is, and a formal definition seems unnecessary. As a matter of fact, it would be a difficult task to give one, since weaving, lace-making, and embroidery are but subtle variations of the same art.

This art may be of the highest or the most homely character, and the latter is by no means to be despised. Simple unaffected work decorating the things of every-day use can give a great deal of pleasure in its way. This should surely be the accomplishment of every woman, for though she may not have the skill to attain to the highest branches, it would at least enable her to decorate her home with such things as the counterpanes, curtains, and other
Introduction

objects that set such a personal stamp upon the English domestic work of several centuries, and which nowadays can hardly be found except stored up in museums.

It is advisable as a general rule that the design be both made and carried out by the same person. From the worker's own point of view the interest must be much greater when working out her own ideas than when merely acting as amanuensis to another. The idea is more likely to be expressed with spirit; further there is the possibility of adding to or altering, and thereby improving, the work as it progresses. The designer must in any case be well acquainted with stitches and materials, for they play an important part in achieving good results. The individuality of the worker should be evident in her work; indeed it generally is, for even plain hems by two people bear quite different characters; the degree of individuality present, varies with each one, but in any case it will be much more marked if the design and stitching bear the stamp of the same personality.

The difference between good and unsatisfactory results should be carefully
thought out, for it is often but a small matter. The best kind of work is that which appeals to the intelligence as well as to the eye, which is another way of saying there should be evidence of mind upon the material. Work must be interesting in some way if it is to be attractive; it had better almost be faulty and interesting than dull, dry, and correct. It can interest by reminding us of pleasant things, such as familiar flowers, shady woods, or green lawns; birds, beasts, and so forth can be depicted in their characteristic attitudes, or a story can be told; in fact, work can be made attractive in a hundred different ways. It must not show signs of having wearied the worker in the doing; variety and evidence of thought lavishly expended upon it will prevent this, and enthusiasm will quicken it with life.

The selection of the object to work comes at an early stage, and is a matter to be well considered, for it is a pity to spend time and labour upon unsuitable objects when there are many excellent ones to choose from. In thinking over what to work it should be realised that it takes no longer to execute one rather important piece than several of a less ambitious
character, and that the former is generally more worth the doing. Whether the subject is a suitable one for embroidery or not sometimes depends upon the method chosen for carrying it out; for instance, anything that has to endure hard wear must be treated in such a way as to stand it well.

Dress is a fine subject for embroidery; but, for the decoration to be satisfactory, the art of designing dress must be understood, and the dress must also be well cut, or the embroidery will be quite wasted upon it. What is termed "art dress," proverbially bad, well deserves its reputation. There is a great difference in the quantity of work that may be put into dress decoration; this may be simply an embroidered vest, collar, and cuffs, or it may be actually an integral part of the costume, which as a much bigger and more difficult undertaking is correspondingly finer in effect when successfully carried out.

Amongst larger objects that well repay the labour of embroidery, hangings of various kinds, quilts, screens, furniture coverings, altar frontals, church vestments, may be mentioned; amongst smaller, are bags, boxes, book-covers, gloves or mittens,
bell-pulls, cushions, mirror frames, all kinds of household linen, infants' robes, and so on, and for church use such things as alms-bags, book-markers, stoles, pulpit and lectern frontals. Then a panel may be worked with the deliberate intention of framing it to hang on a wall. There is no reason why the painter should have the monopoly of all the available wall space, for decorative work is undoubtedly in place there; a piece of embroidered work might well fill a panel over a mantel-piece. There is no need to discuss what not to do, but, if the attraction to embroider a tea-cosy is too strong to resist, it should surely be of washable materials.

Embroidery has distinct practical advantages over some other crafts practised nowadays—no special studio need be devoted to its use, for most work can be done in any well-lighted room, which indeed will be rendered more attractive by the presence of an embroidery frame, for this is in itself a characteristic and dainty piece of furniture. It need but seldom interfere with one of our pleasant traditions, genial converse with, and about, our neighbours, for it is a distinctly
sociable occupation. Work of this kind can be put down and taken up at leisure; the necessary outlay in materials need not be extravagant, and so on. Many other points might be thought of, but the claims of the art do not demand any special pleading, for it is pleasant in the actual working, and can produce an infinite variety of most interesting results.

CHAPTER II

TOOLS, APPLIANCES, AND MATERIALS


Tools, Appliances, and Materials

Good workmanship takes a prominent, though not the first, place. Technical excellence in needlework, as in all other artistic crafts, is a question of the worker's perseverance and her ability in the use of tools. In embroidery these are few and simple, and are as follows:—
Needles.—For most purposes needles known as long-eyed sharps are used. Tapestry needles, similar to these, but with blunt points, are useful for canvas work and darned netting. For gold work a special needle can be procured with sharp point and long wide eye. A bent needle makes a crooked stitch; but needles if made of good steel should not bend; they break if used unfairly. The eye should be cleanly cut, or it roughens the thread. The needle must be just stout enough to prepare for the thread an easy passage through the material.

Scissors.—Three pairs may be necessary; for ordinary work a small pair with fine sharp points, for gold work small ones with strong points similar to nail scissors, and for cutting-out purposes a large pair with one rounded and one sharp point.

Thimbles.—Steel ones are said to be most serviceable, silver are most usual; but whatever the material they must be neatly made in order not to wear the thread.

Frames.—A common type of frame is shown at fig. 1. It is made in various sizes; the one here represented measures
18 inches across. It consists of four pieces of wood, two rollers for the top and base and two side pieces. Each of the rollers has a piece of webbing securely nailed along it, and its extremities are pierced with holes to receive the side pieces. These are formed of two long wooden screws, fitted with movable nuts, which adjust the width of the frame and the tautness of the stretched work. The piece of material that is stretched between
is the link that keeps the frame together, for the screw ends fit just loosely in the holes of the rollers. The side pieces are sometimes made of flat laths of wood pierced with holes at regular intervals; in these are inserted metal pins, by means of which the work is kept stretched. Fig. 9 represents a frame of this type. If the frame is a very large one it can have a strengthening bar fixed across the centre from roller to roller.

The frame is most convenient for work when fixed in a stand, although it can be used leaning against a table or the back of a chair. A very large frame would be supported upon trestles, but for ordinary purposes, a stand, such as the one shown in fig. 2, is practical. It consists of two upright wooden posts, a little over 2 feet in height, which are connected near the base by a strengthening cross piece. Both this and the uprights are adjustable; the centre part of the posts is arranged to slide up and down, and can be fixed at any convenient height by the insertion of a long metal pin; the width of the cross piece is regulated in similar fashion, being made firm, by a screw, at the required width, thus allowing various sized frames to be
Tools, used in the same stand. The frame is fixed in place by metal clamps, and a wooden pivot is arranged so as to permit
the stretched work to be inclined at any angle convenient. Both stand and frame should be well made and of good wood, for they must be able to stand strain and be perfectly firm and true when fixed for work.

A small circular frame, such as is shown in fig. 3, is useful for marking linen or for any small work. This, formed of two hoops fitting closely one within the other, can be procured in wood, ivory, or bone, of various sizes, the one illustrated being about 6 inches in diameter. The material to be worked upon is stretched between these hoops like the parchment on a drum. These tambour frames, as they are called, are sometimes fixed into a small stand or fitted with a wooden clamp for fastening to a table; this frees both hands for work. These tambours cannot well be recommended; the material is apt to stretch unevenly, and a worked part, if flattened between the hoops, is liable to be damaged.

The illustration at fig. 4 shows a simple
little instrument for making a twisted cord. It is interesting to note that Etienne Binet, who wrote on embroidery about 1620, when discussing some necessary equipment for an embroideress mentions "un rouet pour faire les cordons."

There is sometimes a difficulty in procuring the cord just right to suit the finished work; the texture may be too coarse to put beside fine embroidery, it may not be a good match, and, even if so at first, it may fade quite differently from the worked silks. For these and other reasons it is a safe method to make the cord one’s self, possibly with some materials of the kind already used in the embroidery.

This appliance enables the worker to make any kind of twisted cord; it is as simple as a toy to handle, and gives excellent results. It is a metal instrument about 8 inches in height. The three small discs are wheels, supported on the arms of an upright cross which has a heavy circular base. These three wheels are connected by a cord with a larger wheel below that has a handle attached to it. The cord runs in a groove round the circumference of each wheel,
Tools, Appliances, and Materials

Fig. 4.
Tools, Appliances, and Materials

and must be held taut in position. By turning the handle of the large wheel the three small ones are set in motion. Three hooks, attached to the axles of the small wheels, are therefore rotated with them. One end of each ply of the cord in making is looped on to one of these hooks, the other ends are attached to three similar hooks fixed into a block of wood which, when in use, is firmly clamped to the table. Further instruction in the making of cords is given in Chapter XIII.

To trace the pattern on to the material the following articles may be required: Indian ink, a small finely-pointed sable brush, a tube of oil paint, flake white or light red, according to the colour of the ground material, turpentine, powdered charcoal or white chalk for pounce, tracing paper, drawing-pins, and a pricker. This last-mentioned tool is shown in fig. 5. It is about 5 inches long, and is like a needle with the blunt end fitted into a handle. For
rubbing on the pounce some soft clinging material rolled into a ball is necessary. A piece of old silk hose tightly rolled up makes an excellent pad for the purpose.

The knife shown in fig. 6 is useful for cutting out at times when the use of scissors is not practical. It is used in an upright position, with the point outwards.

A spindle for winding gold thread upon whilst working is shown in fig. 7. It is about 8 inches long. A soft padding of cotton thread is first placed round (between A and B, fig. 7), and the gold thread wound upon that. The end of the thread passes through the forked piece at the top on its way to being worked into the material. The use of this or some similar appliance enables the worker to avoid much touching of the metal threads.

A small tool called a piercer is repre-
sent by fig. 8; it is used in gold work; the flat end assists in placing the gold in position, and also in making the floss silk lie quite flat; the pointed end is used for piercing holes in the material for passing coarse thread to the back, and for other purposes. This little tool, made of steel, is about 5 inches in length.

**MATERIALS**

The surface is a matter of special interest in embroidery work. This makes the choice of materials of great importance. Besides the question of appearance, these must be suitable to the purpose, durable, and, if possible, pleasant to work with and upon. The materials chosen
should be the best of their kind, for time and labour are too valuable to be spent upon poor stuffs; occasionally a piece of old work is seen with the ground material in shreds and the embroidery upon it in a good state of preservation, which is a pity, for a newly applied ground of any kind is never as satisfactory as the original one. Still another plea for the use of good materials is the moral effect they may have upon the worker, inciting her to put forth her best efforts in using them.
The purpose to which the work is to be put usually decides the ground material, besides governing pattern, stitches, and everything else. A background is chosen, as a rule, to show to advantage and preserve what is to be placed upon it, though sometimes it is the other way about, and the pattern is planned to suit an already existing ground.

A background must take its right place, and not be too much in evidence, although if of the right kind it may be full of interest. There are, roughly speaking, three ways of treating the ground, leaving the material just as it is, covering part of it with stitching, or working entirely over it.

If there is no work upon the ground the choice of material becomes more important. Texture, colour, tone, and possibly pattern, have all to be considered, though the problem is often best solved by the selection of a plain white linen. The question of texture is sometimes one of its suitability for stitching upon; colour and tone may be of all kinds and degrees from white to black; these two, as a rule, being particularly happy ones. If the ground stuff is patterned, as in
the case of a damasked silk, it must be specially chosen to suit the work to be placed upon it; small diaper patterns are frequently very good, since they break up the surface pleasantly without being too evident.

Linen, which well answers all the usual requirements, is, for this reason, very frequently chosen for a ground material. It can be procured in great variety, the hand-made linens being the best of all. Of kinds besides the ordinary are twilled linens, of which one named Kirriemuir twill is similar to the material used in the fine old embroidered curtains. Some damask linens look very well as backgrounds for embroidery; the pattern is sometimes a slightly raised diaper, which forms a pleasantly broken surface. Loosely woven linens can be obtained specially suitable for drawn thread work. In any case, if there is dressing in the new material, it must be well boiled before the embroidery is commenced; this makes it much softer for stitching through. Coloured linens are rarely satisfactory, a certain kind of blue being almost the only exception. The safest plan is to keep to pure white, or to the unbleached
varieties that have a slightly grey or warm tone about them. Wools, silks, and flax threads all look well upon a linen ground; it is not usually in good taste to embroider with poor thread upon a rich ground material, and, upon the other hand, gold thread and floss demand silk or velvet rather than linen, though any rule of this kind may on occasion be broken.

Velvet and satin make excellent backgrounds for rich work; they should not be used unless of good quality. The pile of the best velvet is shorter than that of poorer kinds, and so is easier to manipulate, which is a further reason for using the best. It is in any case a difficult material, so much so that work is often carried out on linen and afterwards applied to a velvet ground. The modern velvets, even the best of them, are for quality or colour not comparable with the old ones.

Silk of different kinds is largely employed, since it makes a suitable ground for many kinds of embroidery. Twilled and damasked silks are much used; in the last-named kind, patterns must be carefully chosen to suit the particular
purpose. A thick ribbed silk is rarely satisfactory for embroidery purposes.

For working with silk thread, an un-twisted floss takes the first place, but it needs some skill in manipulation. Filofloss is somewhat similar, but it has a slight twist in it, making it easier to work, though producing a less satisfactory result. Filosel is useful for some kinds of work, but it is a poorer quality of silk. The purse silks, and what is called embroidery silk, are all excellent; they are tightly twisted varieties of fine quality. There are various others in use; a visit to a good embroidery depot will probably be the best means of finding out about these and about materials in general.

Wools can be obtained in various thicknesses and twistings, each good in their way. Some workers prefer a but slightly twisted wool; however, examples of old wool work are to be found in which a finely twisted variety is used with most satisfactory effect.

Flax threads can be obtained in very good colours, and are to be highly recommended. There are various cottons procurable, either coloured or white, that are good for marking and other embroidery
purposes where an evenly twisted thread is desirable.

Pearls and precious stones take their place in rich embroideries, also various less expensive but pretty stones may often be made use of effectively.

Beads are a fascinating material to work with; all kinds of pretty things can be done with them, either sewing them upon a ground, knitting or crocheting, or making use of a small bead loom. A good deal of the ready-made bought bead work, that only requires a monotonous ground to be filled in around an already worked pattern of sorts, is not at all suggestive of its possibilities. Beads of both paste and glass can be obtained in much greater variety than is usually known, from the most minute in size to large varieties of all kinds of shapes and patterns, the colours of most of them being particularly good. The larger ornamental beads are useful in many ways, sometimes taking the place of tassels or fringes.

Many kinds of most curious materials are at times brought into the service of embroidery, but the above-mentioned ones are the most usual.
CHAPTER III

PATTERN DESIGNING

The Difficulties of Pattern Making—A Stock-in-Trade—Some Principles upon which Patterns are Built Up—Spacing-Out—Nature and Convention—Shading—Figure Work—Limitations—Colour.

A BEGINNER sometimes experiences difficulty in preparing her own patterns. A designer needs a wide knowledge of many subjects, which necessitates much time being given to study; also drawing ability is necessary to enable the worker to set down her ideas upon paper. For much simple and pretty work, however, a slight acquaintance with drawing and design is sufficient, and any one who can master the requisite stitches can also acquire some knowledge of these two subjects.

The word design frightens some who do not know quite what it means or entails. Perhaps they do not realise that the design has already been begun when the object to be worked has been settled, and
the material, thread, and stitches have been decided upon—the rest comes in much the same way, partly by a system of choice; as it is necessary to know what materials there are which can be used, so must the chief varieties of pattern be known from which choice can be made. All patterns are built up on some fundamental plan, of which the number is comparatively small. The ability to choose, plan, and arrange is in a greater or less degree inherent in every one, so there should be, after all, no great difficulty in the design. The necessary underlying qualities are—a nice taste, freedom from affectation, an eye for colour and form, and, it might be added, a fair share of common sense.

A pattern maker requires some stock-in-trade, and it is wise to collect together a store of some well-classified design material of ascertained value, ready to be drawn upon when required. A good knowledge of plants and flowers is very necessary. This is best acquired by making careful drawings from nature. In choosing flowers for embroidery purposes, the best-known ones, such as the daisy, rose, or carnation, give more pleasure to the observer than rare unrecognisable varieties.
Figures, birds, beasts, and such things as inscriptions, monograms, shields of arms and emblems, all demand study and drawing, both from miscellaneous examples and from embroideries.

The treatment of all these should be studied in old work, in order that the curious conventions and all kinds of amusing and interesting ideas that have gradually grown up in the past may still be made use of and added to, instead of being cast aside in a wild endeavour after something original. The student who collects a supply of the foregoing materials will find she has considerably widened her knowledge during the process, and is better prepared to make designs.

In making a pattern the first thing to be decided upon is some main idea, the detail that is to carry it out must then be considered. This latter may be of various types, such as flowers, foliage, figures, animals, geometrical forms, interlacing strapwork, quatrefoils, &c., &c.; perhaps several of these motifs may be combined together in the same design.

One of the simplest plans upon which a pattern can be arranged is that of some form recurring at regular intervals over
Pattern Designing

Fig. 10.
the surface. The principle involved is repetition; an example of it is shown at fig. 10. The form that is used here is a sprig of flower, but the repeating element admits of infinite variation, it may be anything from a dot to an angel.

Copes and chasubles, bedspreads and curtains, are often to be seen decorated with some repeating form. Fig. 11
Pattern Designing shows in outline a conventional sprig that is repeated in this fashion over the surface of a famous cope in Ely Cathedral. Fig. 12 is an example of a sprig of flower taken from a XVIIth century embroidered curtain; similar bunches, but composed of different flowers, recur at intervals over this hanging.

It may interest the practical worker to know what are the different stitches used upon this figure. The petals of the top flower are in chain stitch in gradated colouring, the centre is an open crossing of chain surrounded by stamens in stem stitch in varied colour, the outermost leaves are outlined in stem stitch with an open filling of little crossed stitches. The petals of the lower flower are worked similarly, and the centre is carried out in chain stitch and French knots. The leaves are filled in with ingenious variations of these stitches.

The repeating element is perhaps a symbolical figure, a heraldic shield, or it may be some geometrical form that supplies the motive. Fig. 13 is a conventional sprig of hawthorn that ornaments in this way an altar frontal at Zanthen. It is by no means necessary that the element
Pattern Designing

Fig. 12.
which repeats should be always identical; so long as it is similar in size, form, and general character it will probably be the more interesting if variety is introduced.

The principle of repetition is again found in fig. 14, but with an additional feature; a sprig of flower is used, with the further introduction of diagonal lines, expressed by leaf sprays, which are arranged so as to surround each flower and divide it from the adjoining ones.

It is advisable to space out the required surface in some way before commencing to draw out a pattern; for carrying out fig. 14 it would be well to pencil out the surface as in fig. 15; a connection between these two will be perceived at a glance. This spacing-out of the required surface in one way or another is of great assistance, and may even prove suggestive in the planning of the design. It helps the regularity of the work, and order is essential in design as in most other things in life.
Another very usual expedient is that of introducing a main central form, with others branching out on either side and symmetrically balancing each other. An example of this is given in fig. 16. The symmetry may be much more free than this; a tree is symmetrical taken as a whole, but the two sides do not exactly repeat each other.

A plan very commonly employed is that of radiating main lines all diverging from one central point. Fig. 17 shows a design following this principle; there is infinite variety in the ways in which this may be carried out.

Another method would be to plan a continuous flowing line with forms branching out on one side or on both. Figs. 18 and 19 are border designs, for which purpose this arrangement is often used, though it can also well form an all-over pattern; sometimes these lines used over a surface are made to cross each
Fig. 16.
Pattern Designing

Fig. 17.
Pattern Designing

Figs. 18 and 19.
Pattern Designing

other, tartan wise, by running in two directions, producing an apparently complicated design by very simple means.

Designs may be planned on the counter-change principle. This is a system of mass designing that involves the problem of making a pattern out of one shape, continually repeated, and fitting into itself in such a way as to leave no interstices. The simplest example of this is to be found in the chess board, and it will easily be seen that a great number of shapes might be used instead of the square. Fig. 20 is an example of a counterchange design carried out in inlay; for this method of work counterchange is very suitable. On reference to the chapter upon this work
another example will be found (page 181). Fig. 21 illustrates the same principle, further complicated by the repetition of the form in three directions instead of in two only.

A method of further enriching a straightforward pattern, covering a plain surface, is to work a subsidiary pattern upon the background. This is usually of a monotonous and formal character in order not to clash with the primary decoration, though this relationship may sometimes be found reversed. It has the appearance of being some decoration belonging to the ground rather than to the
Pattern Designing

primary pattern; in its simplest form it appears as a mere repeating dot or a lattice (see fig. 22), but it may be so elaborated as to cover with an intricate design every portion of the exposed ground not decorated with the main pattern.

Many other distinct kinds of work might be mentioned, such as needlework pictures, the story-telling embroideries that can be made so particularly attractive. Embroidered landscapes, formal gardens, mysterious woods, views of towns and palaces, are, if rightly treated, very fine. In order to learn the way to work such subjects we must go to the XVIth and XVIIth century *petit point* pictures, and to the detail in fine tapestries. The wrong method of going to work is to imitate the effect sought after by the painter.

It is a mistake in embroidery design to be too naturalistic. In painting it may be the especial aim to exactly imitate nature, but here are wanted embroidery flowers, animals and figures, possessing the character and likeness of the things represented, but in no way trying to make us believe that they are real. The semblance of a bumble bee crawling upon the
tea cloth gives a hardly pleasant sensation and much savours of the practical joke, which is seldom in good taste; the needle, however, adds convention to almost anything, and will usually manage the bee all right unless the worker goes out of the way to add a shadow and a high light. Such things as perspective, light and shade or modelling of form, should all be very much simplified if not avoided, for embroidery conforms to the requirements of decoration and must not falsify the surface that it ornaments. Shading is made use of in order to give more variety to, and exhibit the beauty of, colour by means of gradation, to explain more clearly the design, and so on; it is not employed for the purpose of fixing the lighting of the composition from one point by means of systematically adjusted light and shade, or of making a form stand out so realistically as to almost project from the background.

In avoiding too much resemblance to natural forms it is not necessary to make things ugly; a conventional flower implies no unmeaning straightness or impossible curve, it may keep all its interesting characteristics, but it has to obey other
requirements specially necessary in the particular design. Another point to be noted is that, since there is freedom of choice of flowers and other objects, only those perfect and well-formed should be chosen; all accidents of growth and disease may, happily, be omitted; if anything of this kind is put in it helps to give the naturalistic look which is to be avoided. Both sides of a leaf should match, though it may happen in nature, through misfortune, that one is deformed and small.

In figure work, which, though ambitious, is one of the most interesting kinds of embroidery, the figures, like all other things, must be treated with a certain amount of simplicity; very little attempt must be made to obtain flesh tones, roundness of form, perspective, or foreshortening. The work should be just sufficiently near to nature to be a good embroidery rendering of it. However, without overstepping the limits there is a great deal that may be expressed, such things as character, gesture, grace, colour, and so on, matters which are after all of first importance. Detail, if of the right kind, may be filled in, but it is wrong to attempt what is to the craft
very laborious to obtain, for this would be misdirected energy, which is great waste. A right use of the figure can be seen in the XIIIth century embroidery pictures, which, covering mediæval church vestments, often display episodes from the lives of the saints. These are some of the masterpieces of the art of embroidery; observation of nature is carried to a marvellous pitch, but the execution never sinks into commonplace realism.

Certain restrictions are always present, in making a design, that must be conformed to, such as, the limit of space, the materials with which the work is to be carried out, the use to which it will be put, and so on. These, instead of being difficulties, can afford help in the way of suggestion and limitation. A bad design may look as if it obeyed them unwillingly—a form is perhaps cramped, perhaps stretched out in order to fit its place, instead of looking as if it naturally fitted it whether the confining lines were there or not. In the early herbals, illustrated with woodcuts, examples can be found over and over again of a flower filling a required space simply and well; fig. 23 is taken from the herbal of Carolus Clusius,
Pattern printed at Antwerp in 1601 by the great house of Plantin. The draughtsman in this case had to draw a plant to fit a standard-sized engraver's block, and he had a certain number of facts to tell about it; he drew the plant as simply and straightforwardly as possible, making good use of all the available space, the result being a well-planned and balanced piece of work, with no affectation or unnecessary lines about it.

Fine colour is a quality appreciated at first sight, though often unconsciously. It is a difficult subject to speak of very definitely; an eye for colour is natural to some, but in any case the faculty can be cultivated and developed. By way of studying the subject, we can go to nature and learn as much as we are capable of appreciating; even such things as butterflies, shells, and birds' eggs are suggestive. Again, embroideries, illuminated manuscripts, pictures, painted decoration, may be studied, and so on; in fact, colour is so universal that it is not possible to get away from it. Unfortunately we are sometimes forced to learn what to avoid as well as what to emulate.

Colour is entirely relative, that is to say it depends upon its immediate sur-
roundings for what it appears to be. Also it has effects varying with the material which it dyes; wool is of an absorbent nature, whereas silk has powers of reflection. It is a safe plan to use true colours, real blue, red or green, not slate, terra cotta, and olive. Gold, silver, white and black, are valuable additions to the colour palette; it should be remembered about the former that precious things must be used with economy or they become cheap and perhaps vulgar.

For getting
satisfactory colour there is a useful method which can at times be made use of; this is to stitch it down in alternate lines of two different tints, which, seen together at a little distance, give the desired effect. Backgrounds can be covered over with some small geometrical pattern carried out in this way, such as is shown in fig. 24, perhaps using in alternation bright blue and black instead of a single medium tint of blue all over. At a slight distance the tone may be the same in either case, but this method gives a pleasantly varied and refined effect, which avoids muddiness, and shows up the pattern better. This same method is used for expressing form more clearly as well as for colour; waves of hair, for instance, are much more clearly expressed when worked in this way.
CHAPTER IV

STITCHES

Introduction — Chain Stitch — Zigzag Chain — Chequered Chain — Twisted Chain — Open Chain — Braid Stitch — Cable Chain — Knotted Chain — Split Stitch.

It is necessary for every worker to have a certain amount of knowledge of stitches; for they are, so to speak, the language of the art, and though not of first importance, still there is a great deal in stitchery. The needlewoman should be absolute master of her needle, for there is a great charm in beautifully carried out stitching; also a good design can be made mechanical and uninteresting by a wrong method of execution. The simplest and most common stitches are the best, and are all that are necessary for the doing of good work. Work carried out entirely in one stitch has a certain unity and character that is very pleasing. There are a great number of stitches in existence, that is, if each slight
Stitches variation has a different name assigned to it. The names are sometimes misleading, for often the same stitch is known by several different ones; descriptive names have where possible been chosen for those discussed in the following pages.

A worker may find it useful to keep by her a sampler with the most characteristic stitches placed upon it; a glance at this will be suggestive when she is in doubt as to which to use, for it is often difficult to recollect just the right and most suitable one at a moment's notice. It is necessary to learn only the main varieties, for each individual worker can adapt, combine, and invent variations to suit a special purpose.

The direction of the stitch is important; tone, if not colour, can be very much altered by change in direction; also growth and form can be suggested by it; for instance, lines going across a stem are not usually so satisfactory as those running the length of it; these suggesting growth better. Folds of drapery are often explained by direction of the lines of stitching quite as much as by gradation of colour.
With reference to the stitches described in the following chapters, the worker is advised to try to work them by simply examining the diagrams, and, if in any difficulty, then to refer to the printed description, for such directions are apt to be tedious. The simplest way to master these is to let some one read them out step by step, and to work from dictation. It should be remembered that the use of a particular thread often makes or mars a stitch, some requiring soft silks to show them to advantage, whilst others may need a stoutly twisted thread.

Chain stitch is universal, and one of the most ancient of stitches. It is the most commonly used of a group that might be described as linked stitches. Much beautiful work has been carried out entirely in it, and when a monotonous even line is required, this is a most suitable stitch to employ. It is equally in request for outline and filling in, and its chain-like adaptability makes it specially good for following out curved forms or spiral lines. Tambour stitch is practically the same in result, though worked in quite a different manner, for it is carried out in a frame with a fine
Stitches crochet hook, instead of with a needle. This makes it quicker in execution, but more mechanical in appearance, so it is not to be as much recommended.

**Fig. 25.**

To work chain stitch (fig. 25) bring the needle through at the top of the traced line, hold the working thread down towards the left with the thumb, insert the needle at the point where the
thread has just come through and bring it up on the traced line about one-sixteenth of an inch further along, draw the thread through over the held down thread. It should show a neat line of back-stitching on the reverse side. The chain can be made broader by inserting the needle a little to the right, instead of at the exact point where the last thread came through. Care must be taken in the working not to draw the thread too tightly, as this stitch is inclined to pucker the material, especially when it is worked in curved lines.

A flower and leaf worked with a solid filling of chain stitch are shown in fig. 26. The dark outline of the flower is in back stitch, the centre a mass of French knots, and the stem in stem stitch. By working the petals in curved lines in this way the shape is well suggested, and the play of light on the curves is particularly happy, especially if the thread used is silk or gold. Another slight variation from this would be to work the lines of chain stitch in different shades of colour, and so get each petal gradually either lighter or darker towards its base; this gives a very pretty effect. Fig. 27 shows an oak leaf
Stitches carried out in this way, the lines upon it indicate the way in which the stitches
would be worked. The rule in solid fillings is to work from the outside inwards where possible, and thus make sure of a good outline.

In the Victoria and Albert Museum there is a white linen dress\(^1\) daintily embroidered in chain stitch. It is an excellent example of a kind of design suitable to this stitch; the leaves and flowers are carried out in lines of chain stitch following the outline, and in these lines use is made of strongly contrasting colour to both show up the form better, and also decorate it. The leaf in fig. 28 is in style somewhat similar to this, and is intended to be carried out in two distinct colours.

\(^1\) No. 184, 1898.
Stitches

Fig. 28.
Chain stitches can be worked singly; they are used in this way as a powdering over a background. Sometimes they may be seen conventionally suggesting the small feathers on the shoulder of a bird's wing by being dotted over it at regular intervals. Fig. 29 shows how they might be used to carry out a tiny flower, five separate stitches represent the petals, and two more the leaves at the base; this is a simpler and more satisfactory method than to attempt very minute forms with satin stitches.

The common chain makes a particularly neat border stitch taken in zigzag fashion. To work this (fig. 30)—Trace two parallel lines on the material and work the chain across from side to side at an angle of 45° to the traced lines. For further security it is well to catch down the end of the stitch just completed with the needle as it commences the following...
Stitches one. The line can be further decorated by placing a French knot, perhaps in a contrasting colour, in each little triangular space left by working the stitch.

There is an ingenious method of working ordinary chain stitch in a chequering of two colours (fig. 31). It is quite simple to work. Thread a needle with two different coloured threads, commence the chain stitch in the usual way
until the thread has to be placed under the point of the needle for forming the loop. Place only one of the two threads underneath, leaving the other on one side out of the way, then draw the needle and thread through over the one held down. A chain stitch will have been formed with the thread that was looped under the needle. For the next stitch, the alternate thread is placed under, and so on, taking each thread in turn. The thread not in use each time usually requires a little adjustment to make it entirely disappear from the surface.

Twisted chain is worked very similarly to the ordinary chain stitch. It has not such a decidedly looped appearance, which is sometimes an advantage. To work it (fig. 32)—Bring the thread through at the top of the line, hold it down under the thumb to the left, and insert the needle to the left of the traced line, slightly below the point where the thread has come through. Bring it out again on the traced line, about one-eighth of an inch lower down, and draw it through over the held down thread.

An entirely different effect can be obtained by working this stitch much
Stitches closer together, but in exactly the same way. It will then resemble a satin stitch slightly raised on one side. This is known as rope stitch and is at times very useful.

Open chain stitch makes a good broad line; it looks best when worked with a stout thread. To carry out the stitch (fig. 33)—Trace two parallel lines upon
the material, about one-eighth of an inch apart, and bring the thread through at the top of the left-hand one. Hold the thread down with the thumb and insert the needle exactly opposite on the other line, bring it up one-eighth of an inch lower down and draw the thread through over the held down part, leaving a rather slack loop upon the material.
Stitches

Then insert the needle on the first line again, inside the slack loop, and bring it out one-eighth of an inch below. Repeat this on each side alternately. Fig. 34 is a drawing from a piece of white linen work in which the open chain stitch is used in combination with other stitches. This figure, with its open-work centre, is repeated diagonally over a white linen cloth exhibited in the Victoria and Albert Museum.

Braid stitch rather resembles a fancy braid laid upon the material. It looks best when carried out with a stoutly twisted thread. To work it (fig. 35) — Trace two parallel lines upon the material about one-eighth of an inch apart, and bring the thread through at the right-hand end of the lower line. Throw the thread across to the left and hold it slackly under the thumb. Place the needle pointing towards the worker under this held thread, then twist it round towards the left and over the held thread until it points in the opposite direction. It will now have the thread twisted loosely over it. Next, insert the needle on the upper line one-eighth of an inch from the starting-point, and bring it
Stitches

Fig. 34.
Stitches through on the lower line exactly underneath. Place the thumb over the stitch in process of making and draw the thread through as the diagram shows. It can be worked openly or more closely as preferred.

Cable chain is descriptively named, for, when worked with a stoutly twisted thread, it has very much the appearance

90
of a chain laid upon the material, rather too much so perhaps to be a pretty embroidery stitch. To work it (fig. 36)—Bring the needle through at the top of the traced line, throw the thread round to the left and hold it down with the thumb near where it has come through the material. Pass the needle under the held down thread from left to right and draw it
through until there is only a small loop left. Insert the needle in the centre of this loop, on the traced line about one-sixteenth of an inch below the starting-point. Bring it out a quarter of an inch below and outside the loop. Take the thread in the right hand and tighten the loop that has now been formed, and then pass the thread under the point of the needle towards the left (see diagram). Place the left thumb over the stitch in process of making and draw the thread through; this will complete the first two links of the chain; to continue, repeat from the beginning.

Knotted chain is a pretty stitch; to look well it must be worked with a stout thread. To carry it out (fig. 37)—Trace two parallel lines upon the material, about one-eighth of an inch apart. Bring the thread through at the right hand end in the centre between the two lines, then insert the needle on the upper line one-sixteenth of an inch further along, and bring it through on the lower line immediately below. Draw the thread through and there will be a short slanting line left upon the material. Throw the thread round to the left and hold it under the
thumb, then pass the needle and thread through the slanting line from above downwards, leaving the thread a little slack. Place the thread again under the thumb, then in the same way as before, from above downwards, pass the needle and thread through this slack loop. This makes the first two links of the chain; the last one will not be properly
Split stitch is a most useful one for many purposes. It is difficult to distinguish from a fine chain when done, but in the working it much more resembles stem stitch. It can be carried out
in the hand or in a frame. This stitch, frequently seen upon ancient work, was much used for both draperies and features; the lines of the stitching usually, by their direction, expressing moulding of form or folds of drapery. To work it (fig. 38) — Bring the thread through at the lower end of the traced line, then insert the needle about one-eighth of an inch further along, and bring it through on the line two or three threads nearer the starting-point; whilst bringing it through take it also through the centre of the working thread, which thus splits each stitch.

CHAPTER V

STITCHES—(continued)


SATIN AND SIMILAR STITCHES

Satin stitch is perhaps the most commonly used of all stitches. It is more
Stitches quickly worked by hand, but for complicated work the help of a frame is required. Floss silk thread is seen to greatest advantage in a stitch of this kind, for it shows off the glossiness of silk particularly well. It is straightforward in the working and needs no further description than is given by the diagram (fig. 39). The stitches may vary in length, they must neither be impracti-
cably long nor, on the other hand, too much cut up, lest the silky effect be partly lost. These stitches lie close together and in parallel lines; the chief difference between satin and several other closely allied stitches being that these others may radiate or vary in direction according to the space to be filled. The stitch is usually worked in oblique lines; stems, leaves, and petals would be treated in this way; sometimes it is worked regularly having regard to the warp and woof of the material; it would be treated thus when used in conjunction with cross or stroke stitch.

It will be seen that there is as much silk at the back as on the front of the work. There is a method of carrying out the stitch by which this waste of material at the back is avoided; the thread is returned to the front close to where it went through instead of crossing over and coming up on the other side. The effect on the right side, however, is not so good, so this method cannot be recommended.

One of the technical difficulties with satin stitch is to get a neat firm line at the edges of the filled space; this is excellently attained by the Chinese and Japanese, who use this satin stitch a great
Stitches deal. They frequently work each petal of a complicated flower separately, leaving as a division, between each one and the next, a fine line of material firmly and clearly drawn.

The stitch is much used for raised work, and also lends itself well to gradation of colour. Fig. 40 is an example of shading in satin stitch. In this case each new row of stitches fits in just between those of the last row; this is a bold but very effective method of expressing gradation. A variation upon this is shown in fig. 42; the bands of different colour are here necessarily worked in a chevron pattern which makes the shading rather more
gradual. An example of the same thing can be seen in fig. 44 in the leaf upon which the squirrel sits. Apart from gradation of colour, the surface to be covered by satin stitch has often to be partitioned up in some way in order to make the satin stitches of a practical length.

Long and short stitch is a very slight variation, if any, from satin stitch. The name describes the method of working, for it is carried out by working alternately a long and a short stitch, the stitches being
Stitches picked up just as in satin stitch. It is useful for close fillings and shaded work, and also as a solid outline for any kind of open filling. The working of the stitch can be seen in fig. 41, where the band of lightest colour on the upper part of the leaf is worked in long and short stitch. The advantage of this way of working can be seen at once, it makes a firm outline on the one edge and a nicely broken-
up one on the other, just ready for another shade to be worked in. In order to carry out the rest of the shading on the leaf in the same way the stitches can be all of the same length; this will always ensure a broken line at the edge, which is a necessity for this method of gradation. Long and short stitch used as an outline for a leaf with an open filling can be seen on page 209. The *opus plumarium* or feather stitch that we read of in the descriptions of the old embroideries was a similar stitch to this, and so called, some say, because it resembled the plumage of a bird.

Stem stitch, well known and frequently in use for various purposes, such as for lines, outlines, gradated and flat fillings, and so on, is usually done in the hand, and is quite simple; fig. 43 explains the working. If a broad line is required the needle is put in more obliquely, and a raised effect can be obtained by working over a laid thread. The thread must be kept to the same side of the needle, either to the left or to the right as better suits the purpose in hand; the effect is more line-like when it is kept to the right. Occasionally, when just a double line is to be worked, it is deliberately done in the two ways, and
Stitches then the line resembles a narrow plait. A solid filling in stem stitch should be worked in lines as illustrated in the squirrel in fig. 44. This little beast is taken from the curtain shown in Plate VII., and is a good example of the life and interest that the introduction of such things adds to embroideries.

The stitches just described were largely
used in crewel work. This is a rather vague name that denotes a decorative kind.
of needlework carried out with coloured wools upon a plain white linen ground. The design is usually composed of conventionally treated leaves and flowers, often growing from boldly curved stems. These were partly shaded in solid stitches, partly worked with geometrical open fillings; ornamental birds and beasts of all kinds were introduced, and the effect of the whole was very beautiful. The work is
Stitches characteristically English, and a great deal of it was executed in the XVIIth century. Plates VII. and VIII. are illustrative of the type of work, and fig. 45 represents a detail. The various stitches which occur in this drawing are stem, herring-bone, long and short, knot, basket, buttonhole, single chain and satin stitches.

Overcast stitch in embroidery is practi-
cally a very short raised satin stitch. It requires neat workmanship, and then makes a bold clear line or outline. To work it (fig. 46)—Run or couch down a thread on the traced line, then with fine thread cover this over with close upright stitches, picking up as little material as possible each time in order to make the line clear and round. The stitch is worked most perfectly in a frame.

Back stitch sometimes makes a good line or outline. To work it (fig. 47)—Bring the needle through one-sixteenth of an inch from the end of the traced line, insert it at the commencement and bring it through again one-sixteenth of an inch beyond where it first came out. Each stitch, it will be seen, commences at the point where the last one finished.

**BUTTONHOLE STITCH AND ITS APPLICATION**

Buttonhole stitch, which is well known in plain needlework, is very useful also in embroidery, besides being an important stitch in needlepoint lace. Owing to its construction it is well suited for the covering of raw edges, but it is also adaptable to a
Stitches variety of other purposes, such as are open or close fillings of leaves and flowers, cut work, and the outlining of applied work.

There are two ways of forming the stitch, the common buttonhole and what is called tailor's buttonhole.

To work the ordinary buttonhole stitch (fig. 48)—Bring the needle through at the left-hand end of the traced line, hold

Fig. 48.
the thread down to the left with the thumb and insert the needle as shown in the diagram, draw it through over the held thread to complete the stitch. It is worked openly in the diagram, but it may, as required, be either more or less open or quite closed.

The tailor’s buttonhole is for some purposes more satisfactory; the stitch is
Stitches firmer than the other kind owing to the heading having an extra knot in it; this makes it also more ornamental. To work it (fig. 49)—Commence in the same way as the last stitch until the needle and thread are in the position shown in fig. 48 then, with the right hand take hold of the thread near the eye of the needle, bring it down and loop it under the point from right to left, draw the needle and thread through over these two loops, and the first stitch is made.

Buttonhole stitch can be varied in many ways, dependent mainly upon the spacing
of the stitch and the direction that the needle takes when picking up the material. Fig. 50 shows four simple varieties; the first is the open buttonhole spaced slightly irregularly and with a thread slipped underneath it; any variety of spacing can be arranged, and the thread shown running underneath, which sometimes forms a pretty addition, is usually of a contrasting colour or material. The second
Stitches shows the stitches taken slanting-wise, so that they cross each other. In the third the stitches are at different angles and of unequal length. The fourth example shows two lines of spaced buttonhole stitch fitting neatly the one into the other and forming a solid line. One row is worked first, leaving just sufficient space between each stitch for the second row to fill up, which can be carried out by reversing the position of the material and exactly repeating the first line in the same or in a different colour.

A flower filled in with open buttonhole stitch is shown at fig. 51. The centre consists of a mass of French knots, and the outside line is in satin stitch. The innermost circle of buttonholing is worked first, the next row is worked over the heading of the first row as well as into the material; the succeeding rows are worked in the same way until the outside limit is reached, and there the satin stitch just covers the heading of the last row of buttonhole stitching. Gradation of colour can easily be introduced by using a different shade for each circle of stitches, and this produces a very pretty effect. An open method of filling a
space, whether flower, leaf, drapery, or background, is sometimes preferable to a solid filling, and the two methods can very well be used together as each shows off the other. These light fillings give opportunity for further variety and ingenuity in the stitching, and prevent the work from looking heavy. A butterfly,
Stitches carried out partly in open stitches, is illustrated in fig. 52.

Fig. 53 is, in the original, a gay little flower carried out in orange and yellow. The stitch employed here is a close buttonhole.

Another example of the use of close buttonhole is shown in the ivy leaf in fig. 54. The stitch is worked in two rows, back to back, in each lobe of the leaf, and the resulting ridge down the centre rather happily suggests the veining. This method of filling in might be just reversed for a rose leaf; the heading of

Fig. 53.
the stitch would then suggest the serrated edge, and the meeting of the two rows down the centre the line of the vein.

A cluster of berries can be very prettily worked in buttonhole stitch in the way shown in fig. 55. The stitches are so

![Fig. 54.](image)

arranged that the heading outlines each berry, and the needle enters the material at the same point, always in the centre. A bullion stitch in a darker colour marks the eye of the berry.

A good method of filling a space with solid buttonhole stitching is shown in 115
Stitches

Fig. 55.

116
fig. 56. Each row is worked into the heading of the preceding row, and the stitches do not pierce the material except in the first row and at the extremities of succeeding rows. They are placed rather close together in order to completely cover the ground. The stitch
Stitches is worked, first, from left to right, then for the next row from right to left; this is quite easy and enables the work to be continuously carried out. Sometimes, when the first row is done, the thread is thrown across to the side where the row began, and there made fast; then the second row is worked with stitches which take up the thrown thread as well as the heading of the first row. By using a more open buttonhole and thus partly exposing the laid thread, a filling, both quick and effective, is obtained. This is a useful method to employ when the work is done over a padding of threads, for there is no necessity to pierce the material except at the edges.

CHAPTER VI

STITCHES—(continued)


KNOTS AND KNOT STITCHES

It would be difficult to go far in embroidery without requiring knots for one purpose or another. They are useful in
all sorts of ways, and make a pleasant contrast to the other stitches. For the enrichment of border lines and various parts of the work, both pattern and background, they are most serviceable, and also for solid fillings; for such places as centres of flowers or parts of leaves, they are again valuable. They have been used to form a continuous outline, but owing to their tendency to make a weak line, not frequently; indeed they usually show to better advantage when slightly separated.

Examples are to be seen of English knotted line work in which the knotting was executed in the thread previously to embroidering with it. The knotting of thread was a pastime with ladies in the XVIIth century. The thread, usually a linen one and as a rule home spun, was wound upon a netting-needle, and by the aid of this a close series of knots was made upon it; when finished it somewhat resembled a string of beads. Balls of this prepared knotted thread may still be found, treasured up in old work receptacles. When prepared it was couched on to the material with fine thread, like a cord or braid, and made to follow out some prearranged pattern.
Stitches  In white linen work it was used for carrying out ornamental borderings on infants' robes and other dainty articles.

French knots can be worked in the hand or in a frame. They are easier to manage in the latter, and to look well they must be neatly and firmly made. Completed they should resemble beads lying end upwards on the material. To
work the French knot (fig. 57)—Bring the thread through the material at the required point, take hold of it with the left finger and thumb near the starting-point (A on plan), then let the point of the needle encircle the held thread twice, twist the needle round and insert it at point B on plan, draw the thread through to the back, not letting go the held thread until necessary. Fig. 58 shows some French knots decorating a leaf spray, and various other examples of their use can be found in the book.

Bullion knots resemble tight curls of thread laid on the material. They can be used as a variation from French knots, and even for the representation of petals and small leaves. To be satisfactory they must be firm, stout, and tightly coiled; some knack is required to make them properly.
Stitches  To work the bullion knot (fig. 59)—
Bring the thread through at the required place, insert the needle one-eighth of an inch from this point and bring it through again exactly at it. Take hold of the thread about two inches from where it came through and twist it several times round the point of the needle, the number of times being dependent on the required
length of the knot. Place the left thumb upon the tight coil on the needle, in order to keep it in place, and draw the needle and thread through it, then pass the thread through to the back at the point where the needle was last inserted (point A on plan). The thumb must not be removed until it is in the way. Fig. 60 represents a flower, of which the centre is formed of bullion together with French knots.
Fig. 61 shows a knotted stitch that is similar in result to the knotted threads discussed earlier in the chapter. In this case the knotting of the thread and the fixing to the material is done at the same time. It is a useful stitch when a jagged line is wanted, and can be seen used, for instance, for the branching veins in open
work leaves, as in fig. 62. The diagram explains the working of the stitch; at point A on the plan the left thumb holds the thread down whilst the stitch is in progress.
The stitch illustrated at fig. 63 is very similar to the common herring-bone. The only practical difference is that in the plain needlework stitch there is usually a smaller piece of material picked up by the needle each time. To work it as in the diagram—Trace two parallel lines on the diagram — Trace two parallel lines on the material.
the material and bring the thread through at the commencement of the lower line, insert it on the opposite line rather farther along and there pick up a stitch, as the needle is doing in the figure. Then on the opposite line pick up a similar stitch a little in advance of the one just finished. After this work the stitches on either line alternately, commencing each one at the point where the last one ended; this forms on the underside a double row of back stitches. It is quite easy to work this stitch with the back stitches on the working side, and when they are required to be on the surface it is advisable to do it in that way. When embroidering upon a semi-transparent material this stitch is a satisfactory one to use, the back stitching follows out the outline on either side of the form, and the crossing of the threads on the underside shows through prettily. This stitch sometimes goes by the name of double back stitch. It is useful in many ways, making a light stitch for stems, leaves, or flowers; it can be sometimes found in Eastern work used for an entire embroidery. When used for flowers or leaves the width and the closeness of the stitch
Stitches are varied to suit the shape to be filled. An example of its use as a flower filling is shown in the carnation at fig. 64, which is carried out in four shades of colour. Considerable use is made of this stitch in 128.
embroidered curtain shown in Plate VII.; it is there employed for all the stems and various flowers upon the hanging.

The feather stitch, often used to decorate plain needlework, is now to be discussed; although similar in name it must not be confused with the feather or plumage stitch that has already been mentioned. The stitch is so simple and so much in
Stitches use as hardly to need description; fig. 65 explains the working. There can be many slight variations of the stitch, the worker perhaps devising them needle in hand.

![Diagram of stitches](image)

**Fig. 66.**

Two are shown in fig. 66. The one to the left is worked very like the ordinary stitch; the needle picks up the material in a straight line instead of slightly obliquely, and each stitch touches the one imme-

130
diately above; it is here made use of as a couching stitch, a bunch of threads of a contrasting colour is laid on the material, and the stitch worked over it from side to side. The right-hand example shows the ordinary feather stitch worked more closely and in a broader line; carried out in this way, it can be used for a leaf filling.

Basket stitch, useful for a solid line, shows up very clearly when worked with a stout twisted thread. This stitch would be appropriately used when applied to some representation of basket work. To carry out the diagram (fig. 67)—Trace two parallel lines on the material, and to commence, bring the thread through on the left-hand line, then insert the needle on the right-hand line about one-eighth of an inch lower down and bring it through on the left-hand line exactly opposite (see needle in fig.); the next stitch is worked by inserting the needle on the right-hand line but above the last stitch, that is at point A on diagram, and bringing it through at B. To continue, repeat from the beginning.

A particularly good line for a border is made by fishbone stitch. It can be worked in one colour, or as easily in a
Stitches chequering of two or three, as shown in the diagram (fig. 68); to carry it out in this way the worker must have two threads in use, bringing through each as required.

For such purposes as the fillings of small leaves, this stitch is very useful (see fig. 58). The meeting of the stitches in the centre suggest the veining line, also the change in direction of the thread gives, to the
two sides of the leaf, pleasant variation in tone. To work it—Trace three parallel lines upon the material and bring the thread through on the upper line at the left-hand end. Insert the needle and bring it through as in process in the diagram, then repeat the same stitch on the other side the reverse way, that is, insert the needle just over the central line.
Stitches and bring it through on the upper one close to the last stitch. Care must be taken that the stitches cross well over each other at the centre, or the material will show through.

The stitch shown in fig. 69, known as plait or Cretan, is commonly seen on Cretan and other Eastern embroideries. It can be used as a solid border stitch or
Stitches as a filling, varying in width as required. To work it—Bring the thread through on the lower central line, then insert the needle on the uppermost line and bring it through on the next below as in process in the diagram; then, still keeping the thread to the right, insert the needle immediately underneath on the lowest line and bring it through on the line next above, in fashion similar to the last stitch, but in reverse direction. To continue, work the stitch alternately on one side and the other, always keeping the thread to the right of the needle. In order to make the central plait broader take up rather less material with the needle; this will decrease the outer and increase the inner lines. Fig. 70 is taken from a Cretan embroidery, in which this stitch is mainly used.

Another similar but more simple stitch, often seen in Eastern work, is shown in fig. 71. It can also frequently be found employed on XVIIth century English wool work hangings. It is sometimes called Roumanian stitch, and is composed of one long stitch crossed by a short one in the centre. To work it—Trace two parallel lines on the material
and bring the thread through on the left-hand line at the top. Insert the needle on the opposite line and bring it through near the centre, as shown in process in the diagram. For the next half of the stitch the needle enters the material at point A on plan, and is brought through again on the left-hand line close to the last stitch, and so in position to commence.
Stitches again. An illustration of this stitch in use as a filling can be seen at fig. 72. It is worked in four shades of green wool,

and each line of stitches is so arranged as to encroach slightly on the line before by means of setting each stitch just between two of the last row. This method of working has two advantages; the shading.
is thus made more gradual, and a pleasant undulating effect is given to the surface of the leaf. This can be most easily understood by a practical trial of the stitch and method.

**INSERTION STITCHES**

There is occasion sometimes in embroidery to join edges together visibly. This gives an opportunity for some additional pretty stitching—the addition of something like this, that is perhaps not absolutely necessary, has extra value from the evidence it gives of the worker's interest and delight in her work, a quality always appreciated; on the other hand, work done from the motive of getting a result with as little labour as possible is valued at just its worth.

These insertion stitches are useful for joining together edges of cushion covers, bags, detached bands, also for the ornamentation of dress, and for embroideries upon which drawn thread work is not possible. A stout thread is usually suitable for the purpose. The raw edges must first be turned in and flattened, and the parts to be joined can if necessary be
Stitches tacked in place on a temporary ground such as toile cirée.

Fig. 73 illustrates a twisted insertion stitch that is quickly executed and very frequently used. The diagram sufficiently explains the working without further description.

Buttonhole stitch can be turned to account for this purpose. Fig. 74 shows the tailor’s buttonhole used as an insertion stitch; for this purpose it is the better of the two kinds of buttonhole. The stitches could be arranged in various ways; in the present example three are worked closely together on either side in turn. The only difficulty with this buttonhole inser-
tion is that on one side the stitch has to be worked in direction contrary to that usual.

Stitches

that is from right to left instead of from left to right. In the diagram the needle is shown working in this reverse way.

Fig. 75 is a knotted insertion stitch; the knot at each side makes the stitch
Stitches to work it—Bring the thread through at the lower left-hand side, insert the needle on the upper side a little towards the right, draw the thread through, and then tie the knot on it as in process in the diagram.

A rather more complicated joining stitch is shown in fig. 76. It could be carried out with different coloured threads. The two sides must be first worked with the edging, which is practically the braid stitch described on page 88. Commence the stitch in exactly the same way as when carrying out braid stitch, but work on the edge of the material as
in buttonholing, the working edge in this case being away from the worker. Let the worker, having reached the point of pulling the thread through to complete the stitch, draw it out in the direction away from her. This will draw the stitch towards the edge, where it will form a knot. In the diagram one of the stitches has been partly undone in order to show the working more clearly. When the two sides are bound with the stitch, they can be laced together with another thread as in the illustration.

**PICOTS**

Picots are commonly in use in lace work and they are sometimes required for embroidery purposes, especially in the kinds of work nearly allied to lace, such as cut work, or for an added ornament to an edging stitch.

Fig. 77 shows too small picots added to a buttonhole bar, and on the lower bar is shown the method of working the left-hand picot. The pin that passes into the material behind the bar can be fixed in the bar itself if there happens to
Stitches be no material underneath. After reaching the point illustrated in the diagram, the needle draws the thread through, thus making a firm knot round the loop.

This completes the picot, the bar is then buttonholed to the end. The second picot is made in much the same way; instead, however, of putting the needle as the diagram shows, bring the needle...
thread up through the centre of the loop, then round under the pin from left to right, and it will be in position to make three buttonhole stitches along the loop, which completes the second example.

The upper bar on fig. 78 shows a buttonholed picot. The bar must be worked to the left-hand end of the loop.
Stitches

required picot; the thread is then from there taken back about one-eighth of an inch and threaded through the edge of the buttonhole. This is repeated to and fro until there is a loop composed of three threads ready to be buttonholed over. Upon this being done, the thread will have arrived at the right point to continue the bar.

Bullion stitch makes another simple picot—Work the bar to the point where the picot is required, then, instead of taking the next stitch, insert the point of the needle in the heading of the last stitch. Leave the needle in this position, and twist the thread six or eight times round the point of it, just as for the bullion knot (fig. 59). Place the left thumb over the tight coil thus formed, and pull the needle and thread through tightly in order to make the stitch double up into a tight semi-circle, then continue the buttonholing to the end of the bar.
CHAPTER VII

CANVAS WORK AND STITCHES


Canvas work, known in the XIIIth century as opus pulvinarium or cushion work, is of great antiquity, and seems to have had an independent origin in several countries. It is sometimes given the misleading name of tapestry, perhaps owing to hangings of all kinds being called tapestries, whether loom-woven, worked with the needle, or painted. Large wall hangings with designs similar to those of woven tapestries have been most successfully carried out on canvas in cross or tent stitch; as a rule, however, smaller objects are worked, such as furniture coverings, screens or cushions, whence it is obvious canvas work received its ancient and descriptive Latin name. Many Eastern carpets are worked upon a
strong canvas in a kind of tent stitch, and so come under the heading of canvas work. It is a particularly durable method of embroidering, and this makes it suitable for use upon anything subjected to hard wear.

The work has usually a very decided and attractive character of its own. A familiar example of this can be seen in the XVIIIth century samplers. Its peculiar character is perhaps due to the fact that it cannot break away from a certain conventionality due to constant use of the same stitch, and its dependence upon the web of the fabric. This regularity prevents the work from showing certain faults of design that other methods may exaggerate. It is hardly possible to copy a natural spray of flowers in cross stitch and keep it very naturalistic. The stitch being square and alike all over gives a formality of treatment to every part of the design, also, some detail is perforce omitted owing to the impossibility of putting it in; all of this tends to a right method of treatment, which renders the sampler an admirable lesson not only in workmanship but also in design.

148
The XVIth and XVIIth century pictorial subjects worked upon fine canvas in cross or tent stitch afford instances of most interesting work in canvas stitches. Some of these, though, as a rule, very much smaller in size, equal, in their way, the finest tapestries. Most of them, if judged from a painter's standpoint, would be pronounced failures, but this effect is not what is sought after; the method of treatment belongs rather to the great traditions of the tapestry weaver, and is not governed by the canons of the painter. Plate VI. shows a detail of foliage from a particularly fine example of this work lately added to the Victoria and Albert Museum collection.¹

In what went by the name of Berlin wool work, popular in the early XIXth century, we have before us a degenerate offshoot of this fine and poetic kind of work in which all its possibilities are missed, with a result that is prosaic in the extreme. Some of the canvas-work seat covers decorated with geometrical designs, seen on Chippendale chairs, were a pleasant and satisfactory variation in

¹ No. 879, 1904.
their way, but in most of the work after that period, the attempt at impossible naturalistic effect gave such unsatisfactory results as to almost deal a death blow to all canvas embroidery. It is, however, a method too good and useful to die out; it must always be more or less in vogue.

Patterns carried out in canvas stitches are sometimes to be seen worked apparently upon velvet or similar ground materials. This is done by first laying the canvas upon the velvet and stitching through both materials; this would have to be carried out in a frame. The threads of the canvas are afterwards either withdrawn or closely cut off. In the former case, the stitches must be drawn tight, or the finished work will not look well. This method has the advantage of saving the labour of working the background, and sometimes it suits the pattern to have a contrast in the ground material. In old embroideries, heraldic devices may be seen successfully treated in this way.

The usual canvas stitches can be worked upon other fabrics that have an even and square mesh, such as various kinds of
linen; also other embroidery stitches, such as stem, satin, or chain, can be used upon canvas; they are then always worked with a certain regularity, following the web of the material.

Canvas work can be done in the hand or in a frame, but the technique is often better in work done in a frame. In all-over work it is important that not even a suggestion of the ground fabric should be allowed to show through; for this reason work in light colours should be done on white canvas, and vice versa, as far as possible, also the thread used must suit in thickness the mesh of the canvas. To work a plain ground well is less easy than to work the pattern, though it may sound more simple. The back of the work, though not necessarily similar to the front, must be alike in stitch all over, for the direction the stitch takes at the back affects the regularity of appearance of the front. The stitch must not be commenced in exactly the same place in each row, lest a ridge should appear upon the surface; this can be avoided by using threads of different lengths. A ground is usually commenced at the lower left-hand corner, and a pattern, if a complicated
one, from the centre outwards. These technical points are of importance, but they are of little value unless the stitches are at the same time expressing an interesting and suitable design.

The stitches used are exceedingly numerous; those described in the following pages are the varieties most commonly seen.

Cross stitch, the best known in this group, can be worked in slightly different ways, according to the purpose for which it is required. On the surface it is always the same, but it can vary at the back. For instance, when used for marking purposes it should form on the reverse side either a cross or a square, to do either of which demands some ingenuity on the part of the worker. For ordinary work the really correct method is to complete each stitch before going on to the next, though grounding is frequently done by working the first half of the stitch along an entire line, and completing the cross upon a return journey. In any case, the crossing must always be worked in the same direction.

Cross stitch is a double stitch worked diagonally over two threads of the canvas.
each way. It can, however, be taken over more or fewer threads if required larger or smaller. To work it (fig. 79)—Bring the needle through on the upper left side of the threads to be covered, and take it back again on the lower right, then bring it through on the upper right side and return it to the back on the lower left, which completes the first stitch.

Tent stitch (fig. 80) is the finest canvas stitch, and is therefore suitable for work involving much detail. Pictorial and heraldic subjects are frequently carried out in it. It is worked diagonally over a perpendicular and horizontal thread of the canvas. The diagram shows the
method of working both back and front. It will be noticed that though the line goes alternately from left to right and from right to left, the stitch is always the same at the back as well as the same upon the front; if this were not so, alternate rows would have a different appearance upon the right side. The diagram does not show the connection between the first and the second row, but it is evident that it must be a short upright line.

Gobelin stitch is a useful variety; it lends itself to shading better than cross stitch. It is most often worked upon a fine single canvas, and it can be used as a raised stitch. Fig. 81 represents the stitch; it is worked over two threads.
in height and one in width, no matter whether the single or double thread canvas is used. In order to work it as a raised stitch, a line of some kind of padding is thrown across the canvas, and the stitch taken over it. This line can be arranged to show in part, in which case the material must be one presentable, such as a gold cord or narrow braid. The padding would be covered with stitching to form the background, and left exposed for the pattern, which would probably be a simple repeating form of some kind. Gobelin stitch is sometimes worked quite perpendicularly just over two threads in height.

Irish stitch is pretty and quickly worked. It is usually taken perpendicularly over
four threads of the canvas (fig. 82), though the number over which it is taken may vary. It is worked in such a way as to make the stitches of each succeeding row fit between those of the last row, and can be carried out either diagonally or in horizontal lines. What is known as Florentine work is carried out in a stitch of this kind. The pattern in this kind of work is taken horizontally across the ground in a succession of shaded zigzag lines.

Plait stitch is often used for grounding. It resembles a simple plait laid in close rows to and fro on the ground. It can frequently be seen used upon the Italian XVIth century linen work, that in which the pattern is left in plain linen, and the ground worked in some colour. The diagram in fig. 83 shows the method of working the stitch. If carried out correctly, the back of the material should show a row of short perpendicular lines, each composed of two threads.

Two-sided Italian stitch is descriptively named, for it is alike on both sides. This is frequently seen on XVIth and XVIIth century Italian linen work, similar to that mentioned above. A loosely
Canvas
Work and Stitches

Fig. 82.
woven linen makes a suitable ground material, for in the working the stitches must be pulled firmly, so as to draw the threads of the fabric together; this gives over the ground a squared open-work effect, which is very pretty. Fig. 84 explains the working of the stitch; it is shown in four stages, and is quite simple; the final result is a cross surrounded by a square. The lowest figure in the diagram shows the last stage, for the upper side of the square is filled in when the row above is worked. The drawing together of the web is not shown, but at a trial it should be done, for in that lies the special character.
of the stitch. The silk used must be just thick enough to well cover the linen, but not too thick, for then the work would be clumsy.

Holbein stitch (fig. 85), also known as stroke or line stitch, is alike on both sides, and is often used in conjunction with cross and satin stitch, as well as alone. Very intricate and interesting patterns can be devised to be carried out with these three stitches, worked always with regard to the web.
of the linen. Squared paper could be used for planning the design, as the stitches would all be practically of the same length, and the pattern must be one that can be easily carried out alike on both sides. The stitch is worked as follows: An even running stitch, picking up as much material as it leaves, is taken all round the pattern. This does half the work on either side; the gaps are then filled up by the running stitch being taken in a contrary direction, which completes the pattern. Occasionally stitches go off at
an angle from the running pattern; these are completed on the first journey by a satin stitch being made at the necessary point. The present diagram is a zigzag line, with one of these stitches going off at each angle. Fig. 86 is an example of a border design carried out in Holbein stitch.

The stitch illustrated in fig. 87 is known as rococo stitch. It is a useful one for carrying out a conventional design, such as, to give a simple illustration, a flower sprig repeating in the spaces formed by a trellis pattern. The effect of the stitch when worked cannot be judged.
from this diagram; to see this properly a piece of canvas must be worked entirely over with it. The pattern chosen is usually one that lends itself to being worked in diagonal lines, as this stitch is best worked in that way. It entirely hides the canvas background, and is carried out very similarly to the oriental stitch in fig. 71. By the help of that diagram and description and the present one, which gives various steps, the worker will easily master the stitch, which is quite simple. The ordinary carrying out of the stitch is shown where the needle is at work, and in another part the diagram, by some loosened stitches, illustrates how to pass from one cluster to the next.

Some fine examples of canvas work design, introducing a variety of stitches, may be seen in the Victoria and Albert Museum. These are large panels filled with foliage and flowers growing about architectural columns.¹

¹ No. 517-522, 1896.
CHAPTER VIII

METHODS OF WORK


COUCHING

Couching is the name given to a method of embroidery in which one thread is attached to the material by another one. Sometimes not only one thread but a number of threads are couched down together; or it may be cord, braid, or metal thread that is attached to the material in this way. Fig. 88 shows some couching in progress. The method probably arose through the difficulty experienced in passing either coarse or very delicate threads through a material. Couching is constantly in use with gold thread embroidery, and it is further discussed in the chapter upon that subject, where also is described an entirely different method, which is to be recommended for couching other as well as for gold threads.
Couching is useful in a variety of ways, e.g., for carrying out work in line or for outlining other embroidery, applied work for instance, which is frequently finished off by means of a couched thread; in the case of a difficult ground material, it is one of the most manageable methods of working. The geometrical open fillings of leaves and backgrounds are often composed of lines of thread thrown across and couched down at regular intervals. Fig. 89 is an example.
Methods of Work

of a favourite filling of this kind. Embroidery stitches can be made use of for couching down other threads; a bunch of threads may be laid upon the material, and an open chain, buttonhole, or feather stitch worked over in order to fix it in place.

Braid work is quickly and easily executed; it needs only a suitable pattern and a pretty braid for couching down to be most successful. There are a few points to be observed about the technique—the cut edge of a braid is awkward to manage, for it must, with a special needle, be taken through to the back of the material and there made secure and flat; for this reason the design should be so planned as to have as few breaks as possible. Interlacing strap work designs, of which a simple example is given in fig. 90, are very suitable for braid work. The thread that couches down the braid may be quite invisible, or, on the other hand, it may be made use of to further decorate the braid by being placed visibly across it.
perhaps forming a chequering or other simple pattern, as shown in fig. 91. Ravellings of the braid may be used as invisible couching threads for stitching it down. Curves and sharp corners need special attention by way of extra stitches. The completed work is much improved by several hours' pressure under a weight.

167
Laid work might be described as couching on a more extended scale—a given space is covered with threads taken from side to side in parallel lines close together, fixed at either extremity by entering the material. Further security is usually given by small couching stitches dotted down at intervals over the laid threads, or by throwing single lines of thread across in a contrary direction and tying these down at intervals with couching stitches. Yet another way is, to work a split or stem stitch over the laid threads, and thus fix them down. Fig. 92 shows a flower carried out in laid work. The tying-down threads can often be made use of in one way or another to further decorate, or to explain form, by means of contrasting colour, change in direction,
and so on. The laid stitches in this flower are taken from the centre outwards and fixed in place by couched circular lines of thread. The centre of the flower has a geometrical filling, composed of a couched lattice pattern with French knots between.

FIG. 92.

169
Methods of Work

Conventional centres of this and like kinds are very pretty for embroidery flowers; such patterns as those shown in fig. 93 can often be seen in use, and they need only a trial to be frequently adopted.

Laid work shows off the gloss and texture of silk to great advantage, which is due to the thread being laid upon the material without being cut up into small stitches. Floss silk is much used for the work; it must not be at all twisted in the laying down, since this mars the effect. The work is carried out in a frame; it is quickly executed and economical, the thread being practically all upon the surface. Owing to the length of the stitches, this is not a very durable method, so it should not be subjected to hard wear. The work has sometimes a flimsy, unsatisfactory appearance, probably because of these long stitches. It will be seen that the silk passing through
to the back, and then immediately to the front again, takes up very little of the material. A method in use for giving greater strength in this way is to lay the silk first in alternate lines and to fill up...
the gaps thus left upon a second journey across the form. For added strength, use might be made of a linen thread at the back, as in the point couché rentré ou retiré method that is discussed later.

A gold thread outline gives a nice finish to laid work. If there is nothing in the way of an outline, and the pattern and ground are both covered with laid threads, the edges of the pattern are likely to look weak. Fig. 94 shows a leaf filled in with rather loosely laid threads and outlined and veined with gold passing, the veining answering the double purpose of fixing down the laid threads and vein- ing the leaf at the same time.

In this work, the colouring is frequently in flat tones, but if necessary it is quite easy to introduce gradation. Further variety can be obtained by a contrast in colour in the tying-down threads.

APPLIED WORK

The ancient Latin term opus consutum, and the modern French one appliqué, which is perhaps the name most commonly in use, both refer to the same kind of work; what is now called cut work is quite
different from this, and is described elsewhere. Under the heading of applied work comes anything that, cut out of one material, is applied to another; it may have been previously embroidered, or it may be just the plain stuff. Both kinds can, as has been proved, be carried out with excellent effect, but much unsuitable and badly designed work has been done by this method, with the result that the very name has fallen into disrepute.

The simplest kind of applied work is that in which the design, traced upon one material, then cut out along the outline of the pattern, is applied to another material, the junction of the two materials being hidden by a cord or suitable stitch. The applied work is most often flat, but it can be in slight or in strong relief. The texture of the materials employed may be an important factor in the result, for a contrast in material as well as in colour is often wanted; sometimes the former alone is sufficient. The choice of material depends very much upon the use to which the finished work will be put, but this simple form of applied work often relies for part of its effect upon an intrinsic interest in the material, so it is
Methods of Work

usually carried out with such materials as velvet, satin, or silk, either plain or figured. The design for this kind of work should be of a bold conventional type, such as large foliage with the character of the heraldic mantling; any naturalistic flowers, figures, or animals easily become grotesque. A simple outline to the forms is necessary, both because of the technical difficulties and for the effect of the finished work. This kind of work is hardly suitable for expressing fine detail; oftentimes it is seen from a distance, and many indentations on an outline sometimes tend to weaken it. Heraldry can be well expressed by this method. Fig. 95 is an example from a piece of XIIIth century work, a fragment of the surcoat of William de Fortibus, third Earl of Albemarle, who lived in the reign of Henry III.; the example can be seen in the British Museum. This method of work is also particularly suitable for such purposes as the decoration of wall surfaces, for hangings of various kinds, or banners; it can, however, be used for many other purposes, provided the design and the materials are well chosen.

Owing to the difficulty of working upon some ground stuffs, the method
has arisen of carrying out the embroidery upon an easily worked ground, such as linen; cutting it out, when finished, along

Fig. 95.

the outline and applying it to the proper ground, the junction of the two materials being hidden by a cord or some equivalent. It is usually further completed by
light sprays or some other kind of finishing touches being placed around the applied part, these worked directly on to the proper ground. This prevents the embroidery from looking too bald and detached from its surroundings, of which there is always a danger when it is carried out separately and then attached; if at all possible it is always more satisfactory to work directly on to the right ground.

As a matter of fact it is almost always possible to do this; the workers of the XIIIth century, the period at which the art of embroidery was at its height, carried out the most exquisitely fine stitching and design on such grounds as velvet that had almost as long a pile as some varieties of plush. The famous cope of English work known as the Bowden cope, of which a detail is given in Plate I., is an excellent illustration of this point. Upon careful examination of the work it is apparent that between the stitching and the velvet there is a layer of material, composed either of fine linen or silk. This would be of great help in the carrying out of the stitching. It is exceedingly probable that this layer of fine material was at the commencement
of the work laid completely over the velvet background of the cope; for one thing, the design, with its finely drawn detail, could easily be perfectly traced upon a surface of this kind and only imperfectly upon velvet; another advantage of this method would be, that the background would be kept quite free from dust and from getting soiled by the hands during the lengthy process of the work. The stitching would be carried through all the surfaces, and when finished, the fine surface layer would be cut away close round the edges of the design, which would be quite easily done. This method of working upon a difficult ground is well worth trying in place of the applied method.

To return to the discussion of applied embroidery—let us suppose the embroidered piece to be just completed on its linen ground, still stretched in the frame in which it was worked. In another frame, stretch the background material and trace upon it the exact outline of the piece to be applied. Cut out the embroidered piece carefully round the edge, allowing about one-sixteenth of an inch margin outside the worked part, leaving, if necessary, little connect-
Methods of Work

ing ties of material here and there for temporary support. With fine steel pins or needles fix the cut-out work exactly over the tracing already made on the ground material, then make it secure round the edge with rather close stitches of silk placed at right-angles to the outline; with fine materials the raw edge of the applied part can be neatly tucked under and fixed in place by this overcast stitch. A cord is next sewn on to hide the fixing and give a finish to the edge. The colour of this cord is important, since its colour may increase the expanse of either the applied part or the ground. Sometimes a double cord is put round, and in this case the inner one is attached to the embroidery before it is cut out of the frame, and the second attached afterwards. The inner one is often of a colour predominating in the embroidery, and the outer one of the colour of the ground. Gold cord is very usual; if a coloured silk one is used it must be a perfect match. The ordinary twisted cord looks best attached invisibly; to do this, slightly un-twist it whilst stitching and insert the needle in the opening thus formed. Some kinds of flat braids look well with the
fixing stitches taken deliberately over them and forming part of the ornamentation (see fig. 91). Bunches of silk are sometimes couched round with a buttonhole or other stitch, but whatever the outline may consist of, it should be a firm bold line.

The work must be perfectly flat when completed. Puckering may occur through want of care in the preliminary straining or in the fixing on of the applied parts. Some materials are more easy to manage than others. The difficult ones can if necessary have a preliminary backing applied, which is useful also if the material is inclined to fray. The backing may consist of a thin coating of embroidery paste, or of tissue paper or fine holland pasted over the part to be applied. The more all this kind of thing can be avoided, the better the work, for pasting of any kind is apt to give a stiff mechanical look; also, if the work is intended to hang in folds any stiffness would be most impracticable.

Even more than simpler work applied embroidery needs the finish of some light work upon the ground. Gold threads and spangles, arranged in fashion similar to the sprays in fig. 112, are
very often used. Sometimes, instead of this, some small pattern in outline is run all over the ground in order to enrich it.

INLAID WORK

Inlaid work is in effect similar to the applied, and it is used for the same purposes. The difference with this is that both background and pattern are cut out and fitted into each other, instead of only one of them being cut out and laid on an entire ground. The method of work is economical, for there need be very little waste of material. What is left from cutting out the pattern and background for one piece can be used as ground and pattern for another and possibly companion piece. There is in Perugia a church which possesses a complete set of draperies of this description, that were made at a good period for this work, early XVIth century, and evidently were designed for the position they occupy. On festivals, the piers, pulpit, and parts of the wall are hung with these rose and gold-coloured hangings of inlaid work. The design is a conventional scroll-work pattern, and the various hangings have
alternately the rose ground with gold pattern, and gold ground with rose pattern, the whole forming a rich and harmonious interchange of colour.

Fig. 96 is an example of inlaid work.

It is a XVth century tabard said to have belonged to Charles the Bold, and now in the Musée Historique at Berne. The pattern, it will be noticed, is planned on the counterchange principle, which is particularly well suited for this method of work.
A very ancient piece of the same kind of inlaid work is the funeral tent of Queen Isi-em-Keb, dated about 980 B.C., which is in the Boulak Museum, Cairo. It is composed of thousands of pieces of gazelle hide dyed in various colours and stitched together so as to form a wonderful design.

To carry out the work—Stitch in a frame some holland to use as a background; this may be only temporary, being removed when the work is completed, or it may be left for additional strength. The materials for both background and pattern must first be carefully cut out. It is a good plan, where possible, to cut the two together so as to ensure exact similarity, for they have to fit together afterwards like the parts of a puzzle. The cut edges cannot be allowed to fray, so if there is any danger of this, precautions must be taken to prevent it, though the better way is to choose in the first place more suitable material. Leather is a particularly good example of one. Any pasting or backing which might be used for prevention of

1 For further information see "The Funeral Tent of an Egyptian Queen," by Villiers Stuart.
fraying would prevent also that possibility of exposing both sides of the work, which in inlay is sometimes a valuable quality; also, the stiffening which unavoidably results from pasting is rarely an improvement. When materials of different thicknesses are used together, the thinner one can be lined with fine holland so as to make it nearer equal in strength. After the materials are cut out the next process is to lay them in position on the prepared holland and tack them to it. Then, with an overcast stitch that must not be allowed to pierce the under surface, join all the edges together, and cover the stitches with a finishing cord or braid. The backing can now be removed if need be.

**PATCHWORK**

Patchwork can hardly attain to a high position amongst the various branches of embroidery. The main object of doing patchwork frequently is to make good use of valuable scraps of waste material. Unless, however, the product shows evidence of well thought out colour and arrangement, it cannot come under the heading
Methods of Work

of embroidery. Interesting results, however, of many kinds can be produced from this paint-box of brightly coloured scraps of material by ingenious mixing and shaping of them. Patchwork infers a rather more mosaic-like design than inlaid work, to which it is in some respects similar. The geometrically planned mosaic and inlay pavements that are to be seen so commonly in Italy and the East suggest great variety of patterns that could be applied to patchwork. The illustration at fig. 97 is a simple example taken from this source. Too often the results are only "alarming," as the Countess of Wilton expressively puts it, thinking, probably, of the patterns frequently seen upon cushions, patterns more resembling bright-coloured bricks set in cornerwise than anything else. They are the most unrestful looking things imaginable. The important elements of the work lie in the colour, shape, and texture of the pieces used, for upon the right selection the result wholly depends. The shapes chosen must be simple owing to the necessity of fitting and stitching them together, but there is plenty of variety obtainable with simplicity. The design
May consist of one shape repeated or several. If only one, it is limited to a few geometrical figures, such as the square, hexagon, or shell shape; if more
than one, there can be greater variety of pattern. Fig. 98 is an example in which four shapes are made use of, a large and small circle, an octagon, and an S-like twist. Four of these twists together make the figure that interlaces over the surface. Embroidery stitching can be added to patchwork; for instance, this example might have a neat border pattern worked on all the S-shapes, as suggested in the diagram, which would probably considerably increase its interest. Fig. 99 shows flowers springing from the base of the shell-form in use upon it. The embroidery could be simply carried out in one colour, or if a more gorgeous result were required, variety could be introduced in this way as well as in the ground, and a marvellous combination of intricate colour could be thus produced.

For the work to be made up satisfactorily it is necessary that the shapes be accurately cut out. To ensure this, a metal plate is cut and all the shapes are taken from it; sometimes, in lieu of this, a pattern is cut out in stiff cardboard. Lay this pattern-shape on the wrong side of the material and pencil it round, then carefully cut out the stuff, leaving
about a quarter of an inch for turning in. Next lay the pattern-shape upon a piece of stiff paper or thin card-board and again trace off the shape, this time cutting it out exactly to the pattern, tack the material to the paper, and stitch down the raw edges at the back. Lay the prepared patches on a table and put them in place by referring to the design, and then commence sewing the edges together with an overcast stitch on the wrong side. When all are sewn, remove the papers and flatten the seams with
Methods of Work

CHAPTER IX

METHODS OF WORK—(continued)

Quilting—Raised Work—Darning—Open Fillings—Darned Netting.

Quilting is a method of working by which three materials are fixed together by more or less all-over stitching. It probably developed through the necessity of keeping the three layers in place. For practical purposes only, the sewing machine does the work excellently, but by making the stitching follow out some prearranged design, it is raised to the level of art. Plate III. is an interesting example showing what can be done in the way of design with the stitching over the surface. Embroidery may be added to the quilting,
and this is often an improvement. The Eastern nations carry out marvellously intricate designs in quilting, and English XVIIIth century work of this kind shows Eastern influence strongly. A good example of this is a very interesting piece in the Victoria and Albert Museum.¹

The first aim in quilting was evidently warmth, and the name denotes one of the chief uses to which it is put. It is made use of also for curtains, infants' caps or gloves (see fig. 100), all these things requiring the three layers for warmth. The materials usually consist of a surface one, which can be silk, fine linen or anything else; an interlining of some softer material having a certain amount of spring in it, such as flannel, cotton wadding, or wool; and for the third, an underneath lining of some kind. A cord is sometimes inserted instead of the inner layer of stuff, the lines of stitching running along either side to keep it in place. Occasionally there are only the top and the under layer, with no intervening material. The stitch usually employed is a running, back, or chain stitch, and

¹ No. 1564, 1902.
it can be of the colour of the surface, or a contrast to it. Gold silk is often seen upon a white linen ground. The chief interest in the work lies in the choice of pattern, such things as colour, variety of stitching, interest in material, are not made much of. In planning the pattern, use is made of the knowledge that the closely stitched parts will lie more flatly, so it frequently happens that the ground has a small diaper running over it, and the pattern part, being less worked upon, perhaps only outlined, stands out more and forms an effective contrast.

RAISED WORK

In the XIVth century raised work was commonly done, but few examples are known of date earlier than this. The raised effect is obtained by an interposed layer of padding, which is a good method of getting a certain kind of effect. It is perhaps wise to err on the side of too little rather than too much relief. An example of too much and also of a wrong kind is the English stump work that was popular in the XVIIth century, when figures were stuffed like
dolls, the clothes made separately and attached, even to the shoes and stockings. Germain de St. Aubin, writing in 1769, describes with much admiration a kind of *broderie en ronde bosse*, apparently much the same thing and in equally doubtful taste, though the skill required to carry it out must have been considerable.

The work, usually done in a frame, must be well carried out technically; the padding should be quite perfect in the form required before the final surface layer is worked over it, for this one will not make any deficiency right, but will only serve to show it up the more. Another point to be careful about is to make the padding stop well within the traced line of the pattern, otherwise the finished design will turn out much larger than was originally intended. The outline is sometimes worked round at the commencement, whereby its correctness is ensured.

Many different materials are brought into use for padding purposes. One of the simplest and most durable is a running of thread as illustrated in fig. 101. The thread can be arranged so
as to be thicker in the centre than at the edges by laying some extra stitches over that part. If a quite flat padding is required, the shape, cut out in cloth, felt, or parchment, is attached by stitches to the material as shown in fig. 102; the surface stitching would be taken across it. Cardboard, sometimes pasted on to the ground, is used for this purpose, but it is unsatisfactory in several ways; for instance, cardboard letters are procurable for embroidering initials upon linen, but they are not at all practical for anything that goes through the wash; moreover, the letters are sometimes of bad design. Cotton wool is used as a stuffing, its surface being usually covered over with muslin, but this again
would not stand much wear of any kind, and so could only be used under certain conditions.

Another good method is to couch down a hank of threads of fine cotton or perhaps wool as illustrated in fig. 103. For raised lines there is a special kind of string procurable that can be couched to the ground material at the required places. The padding, whatever it may be composed of, should be as nearly as possible of the same colour as the surface layer, in view of any after wear and tear misplacing the threads.

The top layer of underlay must lie in direction contrary to the surface embroidery stitching, which is very often some form of satin stitch taken from side to side over the padding. Instead of going through the material it can...
Methods of Work

be fixed on each side with a couching stitch, as in fig. 104. A stronger way than these would be that shown in fig. 129. Buttonhole is a good stitch for working over a padding; it would be worked solidly in the manner described and illustrated on page 117, but taken, as there shown, over a padding instead of over a flat surface.

DARNING

There is a most practical sound about darning; it can, however, be made good use of in embroidery as well as in plain needlework. There are two rather different kinds in use; in both the stitch is a running one and done in much the same way that a thin place would be darned in mending.

One kind of darning is rather popular at the present moment, and examples of it may be familiar; it is a large, bold kind of work, often carried out with a coarse twisted silk. Upon the background, the lines of stitching usually run straight across or up and down, in the pattern, they radiate according to the shape of the form to be filled. The entire material
is covered one way or another by the running stitches, and just one thread of the ground fabric is picked up where necessary at irregular intervals; a loosely woven linen is often chosen for working upon, one in which it is easy to pick up the single thread. Gradation of colour can easily be introduced; the design chosen is most frequently some kind of conventional flower and leafy scroll. This method of embroidery is seen to best advantage when used upon large surfaces.

The second kind is called pattern darning; in it the stitches are picked up in some regular order, so that they form various geometrical patterns over the surface. It is worked by counting the threads of the fine linen ground and picking up a single thread or more in some regular sequence. The threads are run in parallel lines close together, either horizontally or vertically, so as to take advantage of the web of the fabric. The work is particularly pretty and not difficult, requiring only patience and good eyesight. Fig. 105 gives some simple examples of the work—The first is a chevron pattern, formed by picking up one thread and leaving about five each
Methods of Work
time; each succeeding row moves a step forward or backward as required to carry out the pattern. In the second example the darning is taken two ways of the material; in the centre, where it meets and crosses, it entirely covers the ground. A different colour might be used for each direction, which would look very well at the crossing in the centre. The four corners are filled up with a chequer darn; this each time picks up as much material as it leaves. The third example shows the darning stitch forming a diamond pattern. Samplers, dated early XIXth century, may be seen entirely filled with these pattern darns; they are covered with most intricate and beautiful sample squares showing various patterns in darning, and were possibly done in order to learn how to repair damask table linen. In a collection of early Egyptian work in the Victoria and Albert Museum, there is some pattern darning, dated VIth to IXth century, A.D., which proves it to be a very early method of embroidering.

This pattern darning, however, is so pretty that it is often possible to make use of it in embroidery work for all kinds of purposes. It makes a very good back-
Methods of Work

ground if there is sufficient space to show the pattern, if there is not, the irregular darning might be used instead, for it would in that case be just as good and much quicker to work. To pattern-darn the ground with the ornament upon it left in the plain material, perhaps not worked upon at all, is a very effective method of carrying out a design, see fig. 106 for example. Again it might very well be used for the conventional carrying out of draperies in the same way as in point couché rentré ou retiré.¹ The draperies on the

¹ For description of this method, see page 238.

200
Methods of Work

figure in the frontispiece could easily be carried out with silk thread in the darn-ing stitch, in fact this method of decora-
tion more closely resembles the early couching than any other; it is not quite as satisfactory because the single threads of the background that are picked up prevent the ground showing nothing but silk. Bands of this work may be seen ornamenting needle books or work cases; it shows to best advantage when worked finely with floss or filosel silk, the coarse twisted silks are too thick for the purpose.

OPEN WORK FILLINGS

Patterns can be carried out in line, they can be worked quite solidly, and there is a method that lies between these two known as open filling. The open and solid fillings are often used together in the same piece of work; examples of this can be seen on the XVIIth century wool-work curtains, the large scrolling leaves are sometimes partly worked openly and a portion, possibly reflexed, filled in with solid stitches in gradating colour; see for an example Plate VIII. This has a very good effect, it
Methods of Work

prevents the work looking too heavy, shows up the form more clearly, and allows of more variety in the stitching. With open fillings the outline surrounding them must always be some firm decided line, such as is made by a band of satin or long and short stitch, or, in the case of larger forms, by several rows of different line stitches worked closely together, one inside the other, most likely in different shades of colour. A filling of open work can be carried out in a variety of ways; it may be a decorated trellis, a regular dotting of some kind, or some geometrical pattern in outline, or some light stitch such as an open buttonhole (see Fig. 107.)
fig. 107), which would be treated each as a diapering over the form to be filled. It does not much matter what the filling is as long as it is dispersed pretty regularly over the space, giving the effect at a little distance of a light pervading tone, and when examined closely exhibiting an in-
Methods of Work

interesting small pattern. The open filling method can be used entirely throughout a design with very pretty effect; an example of this may be seen on an embroidered coverlet and pillow case in the Victoria and Albert Museum.¹ The pattern, composed of vine leaves and grapes, is carried out in dark brown silk on a linen ground, the leaves being all outlined with satin stitch. There is wonderful variety in the patterns, no two alike, which form the open fillings of the leaves; this makes them most interesting to examine, and is evidence of enthusiasm in their designing. Fig. 108, a leaf taken from this specimen, shows one method of filling a form with open work.² Fig. 109 shows a collection of patterns taken from the same piece of embroidery. It will be observed that small stitches of the same length compose the pattern, which can be designed upon squared paper and easily copied on to the linen ground by always picking up the same number of threads. To look well these little forms must be accurately worked,

¹ A piece belonging to Lord Falkland.
² Fig. 18 is a drawing from the border of the same example.
and they or similar kinds can be used upon flowers, leaves, beasts, draperies, or anything else quite indiscriminately. Fig. 110, from a cap in the Victoria and Albert Museum, is a drawing showing the same kind of open filling in use upon a bird.¹

A quicker way of carrying out these geometrical fillings is by using such forms

¹ No. 308, 1902.
Methods of Work

Fig. III.
as a lattice and throwing the lines from side to side across the shape to be filled, fixing them down, where they cross each other, with couching stitches; the interstices left between the threads can be filled in with little stars, crosses, or dots (see fig. 111). Buttonhole stitch, if made use of as an open filling, would be taken in lines straight across a form, the stitches being worked possibly two or three closely together and then a space, and so on.

Fig. 112 suggests another method of lightly filling a leaf with a conventional veining and dotting. There is no limit to the variety which can be obtained in this method of working.

Open fillings are effective for use upon any work that is intended to be seen with a light at the back; they make very decorative the various forms they fill, in such things as muslin window blinds, curtains, fire screens, whether hand screens or the larger type. For articles of this kind the patterns should be rather more solid and less lined in character; fig. 113, taken from a window blind exhibited in the Victoria and Albert Museum, exemplifies what is meant; most of the patterns illustrated in fig. 100 could be treated in a
Methods of Work

Fig. 112.
more solid manner if necessary, and would look equally well that way. When working upon transparent grounds special care must be taken with the reverse side as well as with the surface, for the work to be practically alike upon both sides; there must be no threads running from one form to another nor any visible fastening off of ends.

**DARNED NETTING**

Darned netting, or *lacis*, as it is sometimes called, might almost come under
the heading of either lace or embroidery. It is used effectively with other kinds of white linen work, bands or squares of it being let into the linen; the contrast of the solid with the more open work gives a pretty effect. Fig. 114 is an example of this work. The darning is done on a plain netted ground which can be
prepared by the worker if acquainted with netting, if not, the squares can be obtained ready for working upon. The pattern must be designed upon squared paper as for cross stitch work, then it is simply a question of following out the pattern upon the square net ground. Every square of the patterned part must be crossed in each direction by two lines of darning, which should about fill it up. The various lines are run in and out as continuously as possible, so as to avoid unnecessary fastening off or passing from one part to another. When a fresh thread is required, join it with a knot to the end of the last one (see figs. 165 and 166), and darn the ends in neatly with the other threads. These knots are often used in embroidery, for they are both strong and small. Detached stitches and parts must be worked by themselves; the thread should not be carried from one to the other. The work must be done in a frame and carried out with a blunt-pointed needle. The same thread is used for the netted ground and for the darned pattern. A method of work that the French call *dessein réservé* is, in result, rather similar to this, but it is worked
in just the reverse way. The pattern, whatever it may be, is left in the plain linen, and the background has certain threads in each direction withdrawn at regular intervals, whereby the effect of the squared net ground is obtained.

CHAPTER X

METHODS OF WORK—(continued)

Drawn Thread Work—Hem Stitching—Simple Border Patterns—Darned Thread Patterns—Corners—Cut or Open Work—Various Methods of Refilling the Open Spaces.

This method of work is the acknowledged link between embroidery and lace, and was possibly the origin of the latter. Drawn work is that in which the threads of either the warp or the weft of the material are withdrawn and those remaining worked into a pattern, by either clustering together or working over them in some fashion. The cut or open work, as it is sometimes called, is that in which both warp and weft are in places cut away, and the open spaces thus formed are partly
Methods of Work

refilled with a device of one kind or another.

The work is most often carried out in white thread on white linen, but coloured threads may occasionally be introduced with advantage. It is a durable method of work, and particularly suitable for the decoration of various house-linens, things that must undergo daily wear and wash; its rather unobtrusive character too makes it the more suitable for this purpose. The work is used in conjunction with other kinds of embroidery, perhaps making a neat finish to an edge, or lightening what would otherwise be too heavy in appearance.

Drawn thread and cut work can be carried out with such detail and fineness as to really become most delicate lace. In this chapter, however, it is intended to be treated rather as an adjunct to other embroidery, therefore only elementary work will be discussed. More attention might with advantage be paid to the design of this kind of work, for more might be done with it than sometimes is. For one thing, there is very little variety in the patterns, and the result often seems a spidery mass of

214
incomprehensible threads with no very perceivable plan; perhaps if more attention were paid to the proportion and massing of the solid and open parts, a better result might be attained. Neatness and simplicity are good qualities in the pattern, the method of work not being suited to the expression of the various larger and bolder types of design.

**DRAWN THREAD WORK**

In drawn work the question is how to treat the remaining warp threads after the weft has been withdrawn. They can be clustered in bunches in different ways with ornamental stitches added, or be entirely covered over with darning or overcast stitches in such a way as to form a pattern.

The beginning of most drawn thread work is hem stitching, the two edges marking the limit of the withdrawn threads have usually to be hem stitched before any pattern can be carried out. One method of doing this is in progress in fig. 115. In order to work it, draw out three or four threads of the warp and tack the hem down to the top edge.
Methods of Work

of the line thus made. The diagram explains the remainder of the working.

Fig. 116 shows in the first example clusters of four threads drawn together at each edge by hem stitching in such a way as to form a ladder-like pattern. This and the one below are the ornamentations of a plain hem that are most commonly seen. The variation in pattern in the lower one is obtained by drawing together on the lower edge two threads from two consecutive bunches in the upper row instead of just repeating over again the same divisioning as before. These two examples are drawn to show the reverse, not the working side.

216
Another way of disposing of the undrawn threads is to cover them with a kind of darning stitch, as illustrated in fig. 117. This kind of work is more solid than the other, and is for that reason very durable.

This example is commenced at the right-hand corner, where the threads are drawn loosely in order to explain the working. The needle, which should have a blunt point, takes the thread to and fro alternately over and under two clusters of warp thread, drawing them together a
little during the process; half-way down, the needle leaves the first set of threads and continues working with the second and a new set (see needle in diagram). When this is worked down to the base the needle takes the thread invisibly up the centre of the worked part to the point where it is required for the continuation of the pattern. The working of this simple pattern explains the principle upon which all kinds of pretty and more complicated designs can be carried out. The darning thread may be coloured; in a more intricate design two or three different colours might be introduced.

Fig. 118 shows another pattern in the
same kind of work. The darning stitch begins by working to and fro over and under four clusters of warp threads, part way down it continues over the two central ones only, leaving the outside clusters alone for the present. It finishes up, as at the beginning, to and fro over the four.

Fig. 118.

The threads that were left are next covered with an overcast stitch, the adjoining ones in each case are caught together in the centre in order to form the X shape that recurs along the pattern. This darning kind of work is very closely allied to weaving, and especially the kind often seen in Coptic work, in which bands of the woof threads are purposely omitted in places, whilst the fabric is being made,
Methods of Work

in order that a pattern may be hand-woven in afterwards to take their place. Many beautiful examples of this work are on view in the Victoria and Albert Museum.

In working a drawn thread border round a square shape, at each corner there comes an open space that requires a filling. Fig. 119 shows two wheels that are commonly used to ornament such places. The square in the first one has a preliminary groundwork of threads thrown across from corner to corner and from side to side, all meeting and crossing in the centre. The working thread is brought through at this point and the wheel commenced by taking a kind of back stitch over a bar and bringing
the needle up beyond the next bar. It then takes the thread a step back and over the same bar and brings it up beyond the next; this goes on until the circle is of sufficient size, the stitches growing a little longer in each succeeding row. In the diagram the thread is loosened at the end to explain the working. The lower example is a commonly used wheel, which is made by the thread running round alternately over and under a bar until the wheel is completed. It should be as solid as the upper one, but is purposely left loose in the diagram. Either of the wheels could have a line of button-hole stitching worked round the edge as a finish. This figure shows also the two usual ways of making firm the raw edges in cut work—the square shape is bound by an overcast stitch, and the round one by buttonholing.

**CUT OR OPEN WORK**

Cut work can be most interesting both to look at and to carry out. In the XVIIth century Italy was famous for its *punto tagliato* or cut work. John Taylor mentions "rare Italian cutworke" in "The
Praise of the Needle." This poem may perhaps be of interest to some; it was prefixed to a book of embroidery patterns of cut work named "The Needle's Ex- cellency." It ran through twelve editions, the first of which was printed in 1621, and sold at "the signe of the Marigold in Paules Churchyard." Copies may be seen in the British Museum Library; in the Bodleian, Oxford; in the Ryland's Library, Manchester, and occasionally elsewhere. Fig. 120 shows a pattern taken from this book.

There are several distinct varieties of cut work, for instance, that known as renaissance embroidery, which is usually composed of an arabesque design from which the background is cut away, leaving the pattern in the linen; the cut edges are outlined and protected by an overcast stitch. The pattern has to be specially planned with the idea of holding strongly together, but, if necessary, buttonholed bars can be added to form strengthening ties in any weak part.

Another kind of cut work is that known as broderie anglaise, and sometimes as Madeira work, over which our grandmothers spent much time, perhaps with-
out adequate result. The pattern is followed out by round holes pierced in the linen with a stiletto and then overcast round the edges. At the present day the work is done mostly by machinery, though hand work also is procurable.

Perhaps the prettiest kind of cut work is that in which various-shaped spaces are cut out of the linen, and these filled in, in
part, with some design built up with stitches. There are various methods of refilling the spaces cut out, one of the simplest is a diapering formed by some lace stitch, such as an open buttonhole. As a rule, the decoration of the open spaces is based upon bars of thread that are either composed of warp or woof threads left, instead of being cut away, or else upon fresh threads thrown across in various directions. The pattern is planned on and about these strengthening ties, and where necessary receiving support from them. An ingenious worker will soon devise ways of refilling the spaces by all kinds of interesting patterns, which can be geometrical or floral, or any kinds of objects that can be attractively represented in conventional fashion, such as figures, birds, insects, ships in full sail, or anything else. It must, however, be remembered that the various forms filling the spaces are for use in the way of strength as well as for ornament, and that the work is often put upon objects that have to endure daily wear.

Open work is frequently mixed with other, and especially with white embroidery, and such things as counterpanes may be
seen arranged with a chequering of alternate squares of embroidered linen and open work.

Fig. 121 shows in progress a simple method of filling a space, mainly making use of the strengthening threads that have been left at regular intervals over the cut part. The threads are covered with an overcast stitch, and alternate squares of those that recur over the space are decorated with a cross. This is made by the working thread, after reaching the right point at the centre of an overcast line, being thrown across the space and then twisted back over itself to the starting-point, where it is in the right position for continuing the overcast line. The crosses being put in at the same time as the overcasting of the bars renders some forethought necessary to get each in at just the right time and place.

Another kind of filling can be seen in progress in fig. 122. The stitches used in it are overcast and buttonhole. With the help of this last-mentioned stitch patterns of all kinds can be carried out, for each succeeding row of the stitch can be worked into the heading of the last row, and in this way it is possible to build up any required shape. This figure is a working
Methods of Work

Fig. 121.

226
Methods of Work

overcasting the raw edges a diagonal thread is thrown across (E D on plan), upon which the pattern shall be built up; the thread is taken once to and fro and
then twisted back again for a third crossing. Commence by overcasting the threads from point D, and upon reaching the part where the pattern is widened out, change the stitch to an open buttonholing (as shown on line B). It is worked openly in this way in order to leave space for another row of the same kind of stitching to be fitted in from the opposite side, which is the next thing to be done. Then an outer row of buttonhole stitch is worked on each side of the central bar and into the heading of the first row of stitching; this is shown in progress where the needle is at work. The entire pattern is carried out in this way, first laying down foundation threads in the necessary places and then covering them up with either overcasting or buttonhole stitch as required. It is easily possible to carry out flowers and all kinds of other things sufficiently well to make them pleasantly recognisable.
CHAPTER XI

EMBROIDERY WITH GOLD AND SILVER THREADS


Gold and silver threads have always played an important part in embroidered work, and are a most valuable addition to the worker's stock of materials, for they give a splendour and richness that is not obtainable in any other way. They have been utilised from the earliest times in both embroidery and weaving; in scripture and other ancient historical writings there is abundant proof of this fact.

The earliest form of gold thread in use was the pure metal beaten into thin plates and then cut into long narrow strips; that
it was sometimes rounded into wire form is very probable. The first wire-drawing machine is said to have been invented by a workman at Nuremberg, but it was not until two centuries later that the drawing-mills were introduced into England.

Gold thread, similar to that we now use, entwined about a silk one, is mentioned in a XIVth century Latin poem; also, it is known that in the XIIIth century our English ladies prepared their own gold thread before working it in, and it was of the same type as ours, the gold being spirally twisted round a thread of silk or flax.¹

To be a skilled worker with gold thread needs considerable application and practice. There is much variety in the work, some branches of it being more simple to manipulate than others. It is desirable for all workers to understand something of gold work, for it is frequently employed in conjunction with other embroidery, as well as alone. Fig. 123 shows a couched line of gold thread outlining some silk embroidery, which gives a pretty jewel-like effect of something precious in a setting of gold.

¹ See Dr. Rock's "Textile Fabrics."
Gold embroidery may be divided roughly into three main classes, outline work, solid flat work, and raised work. Outline work is, as far as technique is concerned, one of the simplest forms of gold embroidery. The pattern is followed round with a gold cord or double thread of passing, fixed either visibly or invisibly with a couching stitch; the work needs but an interesting design and suitable background to be most successful. Fig. 124 illustrates a portion of a design, carried out with gold cord upon a velvet ground, which has been further enriched by the addition of little applied white flowers. The raised work, and that which introduces the use of purls and bullions, is at once more complicated, and perhaps hardly as pleasing as the simpler flat work.

Fig. 123.
The method of applying the gold to the material is usually by couching of...
one form or another, for most of the threads are too inflexible to be stitched through. The ground, if it shows at all, is usually a rich stuff, such as velvet, satin, or silk, in order to be in keeping with the valuable thread. If the ground chosen is difficult to work upon, the embroidery is carried out upon linen, and the finished work afterwards applied to the ground. If both background and pattern are solidly embroidered, linen can be used as the permanent ground. It is usual to have two layers of material for working upon, for gold threads are heavy and require the support of the double ground. There are several advantages in this double material, as the old workers knew, for we find they commonly used two. The under-layer can be a strong linen, and the surface one silk, satin, or a fine linen, as required.

**MATERIALS**

A variety of metal threads are manufactured for embroidery purposes, and they are all obtainable in gold, silver, or imitations of these; aluminium thread has been made lately, and has the advantage

Embroidery with Gold and Silver Threads
Embroidery with Gold and Silver Threads

of being untarnishable, but its colour and quality do not seem quite satisfactory, and it is not popular. The imitation threads are never worth the using; they tarnish to a worse colour, and are more difficult in manipulation; what goes by the name of real gold, is silver or copper, plated with the more valuable metal. The pure gold thread is said not to be so practical as this, being too brittle; but somehow or other it was more successfully manufactured in the past than nowadays, for some gold work six centuries old exhibits beautifully bright threads.

The following list comprises the chief threads used in this work:

**Passing.**—This is a bright smooth thread, resembling in appearance a gold wire; it consists of a narrow flat strip of gold spirally twisted round a silken thread. It can be obtained in different sizes, the finest qualities going by the name of tambour. Most passing has to be couched on to the material, but it is possible to stitch in the tambour like ordinary thread.

**Purl.**—This resembles a smooth round hollow tube of metal, very pliable and elastic; when pulled lengthways it is
found to be constructed like a closely coiled spiral spring. It is manufactured in lengths of about one yard, and for use it is cut into small sections of any required size with scissors or a knife. There are several varieties of purl, namely, the smooth, rough, check, and wire check. The smooth has a bright polished appearance, which is obtained by a flat gold wire being spun spirally round; the rough has a duller and more yellow appearance, which is owing to the wire having been rounded; the check is bright and sparkling, and consists of the flattened wire spun in a different way, so that parts of it catch the light and sparkle; the wire check is the same thing, but duller and of a deeper yellow, owing again to its being made of the round wire.

**Bullion.**—This is the name given to the larger sizes of purl.

**Pearl Purl.**—This is manufactured in the same spiral tube-like fashion as the other purl, but the gold wire is previously hollowed out in this ∇ shape, the convex side being the one exposed. This, when spun round, has the appearance of a string of tiny gold beads. It is frequently used as an outlining thread.
Various gold twists and cords can be obtained; they are composed of several threads twisted up in the usual cord fashion, each ply consisting of gold spun round a silk thread.

*Plate* is a flat strip of metal commonly about one-sixteenth of an inch wide; it can be obtained in different widths.

*Spangles.*—These are small variously shaped pieces of thin metal, usually pierced with a hole in the centre for fixing on to the material. They are frequently circular in shape, and either flat or slightly concave; the latter are the prettier. Many fancy shapes also are obtainable, but they are inclined to look tawdry, and suggestive of the panto-mime.

*Cloth of Gold and Silver.*—This is a fabric manufactured of silk, with gold or silver thread inwoven in the making. It is not now so much used as formerly, when it was in great request for robes of kings and other high dignitaries of church or state.

A special make of silk for couching down gold thread is obtainable in various colours. It is called horsetail or sewings, and is both fine and strong.
Padding for use in raised gold work is usually yellow, and for silver, white or grey. Yellow soft cotton, linen thread, or silk, are all used for the purpose.

Various precautions can and must be taken to keep the gold thread bright, for under unfavourable circumstances it rapidly assumes a bad colour; the silver thread is even more liable to tarnish than the gold, and it turns a worse colour, going black. There is a special paper manufactured to wrap threads in, and the stock supply should be kept in a tin or air-tight bottle; this is in order to protect the metal from damp, which is most injurious; to do this is a difficult matter in the English climate. Linen used for working upon, or as backing, is best unbleached, for sometimes the chemicals used in the bleaching process have a deleterious effect upon the gold; a piece of gold embroidery wrapped up in cotton wool for preservation has been found completely spoiled by some chemical in this wool, which proved more disastrous than exposure to air would have been. Gas, strong scents, handling (especially with hot hands), all have an evil effect, and so should be
Embroidery avoided as much as possible. Work even whilst in progress should be kept covered as much as is practicable, and should not be allowed to hang about; the quicker it is done the better. A piece of finished work can be polished up with a leather pad or a brush, similar to a housemaid's brush for silver-cleaning purposes; this of course, must be used with care.

**ANCIENT METHOD OF COUCHING**

Gold thread can be couched on to the material in two distinct ways, one of them in use at the present day, the other one that was commonly practised in the XIIIth and XIVth centuries. About the second half of the last-named century the earlier method was supplanted by the present one. Almost every example of early gold thread work exhibits this obsolete and ingenious method of couching. The Syon cope and the Jesse cope in the Victoria and Albert Museum may be mentioned as famous examples. M. Louis de Farcy\(^1\) draws especial attention

\(^1\) In *La Broderie du Onzième Siècle jusqu'à Nos Jours.*

238
to this beautiful method of working, to which he gives the name *point couché rentré ou retiré*, and strongly urges its revival; he points out many distinct advantages it has over the method now in use. The durability is very great, owing to the couching thread being upon the reverse side, where it is protected from wear and tear, and being out of sight can be made strong and durable. If a thread is accidentally broken it does not necessarily give way along an entire line, as may easily happen in the present method. A proof of this point can be seen upon the beautiful Ascoli cope lately in the Victoria and Albert Museum, about which there has been so much discussion of late as to in what country it originated, and who was the rightful owner. The early couching worked entirely over the background of the cope is in a state of perfect preservation; portions of the gold thread drapery have here and there been couched by the other method, the tying down threads have, in those parts, mostly disappeared, and the gold hangs loose and ragged upon the surface.

By the way in which it is worked, there results a particularly pleasing and even
Embroidery
with Gold
and Silver
Threads

surface, agreeably varied by play of light and shade. Another advantage of the ancient method is that the completed work is very flexible; this point will appeal to those who have experienced the extreme stiffness of a large surface of ordinarily couched metal threads. Flexibility is an invaluable quality for any work destined, like copes and curtains, to hang in folds.

Representations of draperies upon figures are well expressed, for by the way in which they are worked there comes an indentation along the lines marking the folds; this emphasises them rather happily, and also breaks up the surface in a satisfactory manner.

Fig. 125 is a diagram that will aid in explaining the working, it gives both the front and the reverse side. This has been found to be the simplest and the most practical method of obtaining a result similar to the early examples; there is, however, no means other than examination of result whereby to get at this obsolete method. To all appearance there is upon the surface a kind of satin stitch worked in gold passing, the stitches carrying out some geometrical pattern, such as a chevron or lattice; but at
the back a linen thread is seen running to and fro in close parallel lines in the same direction as the surface thread, and at regular intervals encircled by the gold passing, just as if this was intended to couch down the linen thread.

The ingenuity and satisfactoriness of the method must be admitted by all who give it a trial, and it is interesting to conjecture how it may have arisen. Possibly weaving suggested it to the embroiderers, for, take away the intervening material, and it is not unlike
Embroidery with Gold and Silver Threads

woven work, and these two arts would very likely be the accomplishment of the same person. Perhaps the commonly used method of taking a coarse thread through to the back (see fig. 167) suggested it, for this is briefly the whole process.

In order to try the couching, a two-fold ground material must be firmly stretched in an embroidery frame, a strong linen underneath and a thinner closely woven one upon the upper side. Some fine gold passing and some strong linen thread, well waxed, are required to work with, also an embroidery needle with long eye and sharp point, the size, which is important, depending upon the threads in use; the needle has to pierce the two-fold ground material, making a hole only just large enough for the passage of a double gold thread.

If the linen has a regular even thread the drawn pattern shown in the diagram can be worked by counting the threads of the ground fabric, but if this is difficult or impossible, as in the case say of a twilled surface, a careful tracing must be made upon the linen; a beginner may find this the easier way in any case.

The end of the gold thread, which by
now, in readiness for working, will be wound upon the bobbin or spindle, must be passed through to the back at the starting-point, the top left-hand corner in the diagram. The linen thread secures it at the back and then comes through to the front upon the traced line exactly beneath (see arrow on plan). It now encircles the gold thread which the left hand draws out rather tautly, and then returns by the same hole to the back, pulling the metal thread through with it. There is knack in taking the gold thread only just through and leaving the completed stitch straight and flat upon the surface. The process is now repeated, the linen thread coming through to the front again upon the next traced line, and so on. When the base of the pattern is reached the gold thread is taken through once upon that line, and then commences a like journey upwards.

This practically explains the couching; variety is obtained by change of pattern, but the method of carrying it out is always the same. Figs. 126, 127, and 128 show three patterns taken from old examples of this couching.

The difficulties in technique are easily overcome; an important aid in this matter
Embroidery with Gold and Silver Threads

Fig. 126.

Fig. 127.

244
is the use of materials exactly right; this means needles and threads of the correct size, the ground composed of suitable fabrics, and properly strained in a frame. The aim in the working is to get each stitch perfectly flat and straight in its correct place in spite of the obstinacy of the metal thread; to avoid making the perforation larger than necessary, for this makes the work clumsy; to make each succeeding line lie closely beside the last one, for the surface must be of solid gold, and if the ground showed through in places it would impoverish the effect.

245
The direction of the couched thread is usually either vertical or horizontal, and it may be both of these in the same piece of work. The reason of this may be because it is worked by counting the threads of the fabric, or because the pattern is always treated as a diaper and placed upon the surface without regard to contour. The exception to this rule of direction is when the couching is taken along a stem or the narrow hem of a robe to form the border, or along a girdle, it then follows the direction of the band, this being evidently the most straightforward and satisfactory method to use for the purpose.

The point couché rentré ou retiré is an excellent
method to use for working a raised bar. Fig. 129 shows the front and reverse sides of a bar worked by it. The gold thread comes cleanly through from the back of the material instead of being clumsily doubled upon the surface, and the durability is evidently great. The linen thread, it will be seen, runs to and fro at the back, at each turn securing the gold thread.

In fig. 130 this couching is to be seen in use upon drapery. It is taken entirely over the exterior surface of the cloak, and upon the crown, sceptre, and model of the church. The lines expressing the folds of drapery are in this case shown by the couching at these places being taken in a different direction. Fine gold passing is used for the couched thread, much finer than can possibly be shown in the drawing, and the pattern chosen for the couching down is a chevron. The other parts of the work are done with silk thread in a fine chain or split stitch. The play of light upon the varied surface of the golden cloak is very beautiful; the drawing of the figure is perhaps primitive, and, regarded from the draughtsman's point of view, somewhat ludicrous; it is however sufficiently good to express all
Embroidery with Gold and Silver Threads

Fig. 130.
that its author intended, and there is something very human in this dignified little king who would not have you forget that he founded a church. The king who is personified here is Edward the Confessor, so the church is Westminster Abbey, of which he was the founder.

The Madonna and child forming the frontispiece of the work is another example of this couching. The method of expressing the folds of drapery is slightly different from that employed upon the king's robes. All drapery carried out in this stitch is worked in somewhat the same fashion, that is, the couching running to and fro between the lines marks each fold as roughly shown at fig. 131. This method leaves an indented line to express the drapery, which is a more satisfactory way than a simple line of dark colour worked over the gold, as in more modern work. The indented line is often further emphasised by a line of dark silk stitched.
Embroidery along it, which is done in this case. The figures are taken from the Jesse cope in the Victoria and Albert Museum; ¹ this vestment, with its red silk background and its finely coloured and drawn ancestors of Christ posed amongst encircling vine branches, is a most beautiful, though sadly mutilated, example of XIIIth century design and workmanship.

MODERN METHOD OF COUCHING

In the usual form of couching the gold thread is attached to the material by fine strong silk. The thread is fastened down as a rule two-fold, sometimes even three-fold; this method is both quicker and more effective than couching each thread separately. As the couching thread is necessarily in evidence, decorative use is often made of it as well as practical; the stitches, for instance, may be planned so as to carry out some pattern (see fig. 132) instead of being put down at random. There is no limit to the variety of the patterns that can be devised in this way.

Decorative use can be made of the colour

¹ No. 175, 1889.

250
of the couching thread; a hot colour warms the tone of the gold and a cool one does the reverse; and the more contrasting the colour the more it is in evidence.

The gold thread may be couched solidly in straight lines, as the above figure shows, or it may be arranged in wavy lines either close or open, as in fig. 133. The thread is waved by bending it round the pointed end of a piercer just before fixing down. This waving line is particularly suitable for the gold thread, since the slight change in direction allows the light to play upon the metal very prettily. For this reason gold is often
Embroidery with Gold and Silver Threads

couched solidly in circular or shell form over a ground. In gold embroidery, therefore, the direction of the thread is a specially important matter.

At the end of a line a technical difficulty sometimes arises in the turning of the thread, which is apt to be clumsy. This difficulty is overcome in various ways; the most usual is to return the doubled thread as neatly as possible and continue the next line; another is to cut the thread sharp off, secure it close to the end with a double stitch, and recommence in like fashion; the thread can sometimes be passed through to the back and brought up in position for working the next line. The fine point of a leaf may present difficulties in the same way; sometimes one of the two threads is temporarily let slip and the point completed with the single one, the left thread being picked up upon the return (see fig. 134). For such occasions as this it is more practical

252
to wind the two threads of passing upon separate bobbins, and bring them together at the working. Another way of overcoming the point difficulty is shown at fig. 135.

RAISED WORK

The couched gold threads may be raised in parts by means of some kind of padding interposed between it and the ground. They are very effective so treated, since the raised metal catches and reflects the light in a pleasing manner. This raising of the thread, however, has been carried to such extremes as to resemble goldsmith’s work rather than embroidery, and it is then hardly in good taste.

A simple method of raising the gold is to lay down lines of string at stated intervals over the ground. The well-known form called basket stitch is done in this way; fig. 136 illustrates this stitch, a part of the square is left unworked in order to expose the under-layer of string. To carry out the diagram—First couch
Embroidery with Gold and Silver Threads

down the lines of string at regular intervals over the surface, then commence laying on the gold by carrying a doubled thread of passing over two bars of string, and there fixing it down to the material, then over two more and fixing it down again, and so on to the end of the line. This is exactly repeated for a second line of passing, then, for the next two lines, commence by carrying the passing for the first stitch over one bar only, and for the remainder of the line over the two as before. This process repeated makes the wicker-like pattern so frequently seen in gold work. It can be used as a filling or as a border. It is evident that with the same arrangement of strings many other patterns could be carried out by varying the points of couching down.

Another way in which string is used for padding the gold is illustrated in fig. 137. The pattern, which in the first part
is two diamond shapes and a border line, is laid down in string. The doubled gold thread is then taken horizontally to and fro in close parallel lines over the part to be worked, and fixed by couching stitches at necessary intervals; wherever else these stitches may be put, one must always be placed upon each side of a raised line to make it sharp and clear. Other kinds of padding are used in this method of work; for instance, a lozenge shape may be stuffed with layers of soft cotton, as shown in the second part of this same diagram. Sometimes most complicated patterns are laid down in string and covered with gold thread in this way, e.g.:—fig. 138 shows an interlacing pattern taken from the border of an orphrey upon a XVth century chasuble.

Fig. 137.
THE USE OF FANCY GOLD THREADS

A cursory glance must be given to the use of purls and other fancy threads, but these are mostly used nowadays for badges on uniforms, or for masonic purposes, and are carried out by the trade. These threads, when tarnished, are very difficult to clean, they easily turn a bad colour and catch the dust, and for real embroidery purposes are not as satisfactory as the plainer threads.

Purl and bullion must be cut very accurately into pieces of the required size, and attached to the material as a bead would be. The metal must be as little
as possible touched with the fingers; the cut pieces can be placed upon a tray lined with some soft springy substance, such as felt, in order to be easily picked up with the point of the needle, and they can be adjusted to their right position upon the work by the aid of the flat end of the piercer; unnecessary handling may be avoided in this way.

These threads, laid over padding either straight across or at an angle, may be used for the stems or petals of conventional flowers. The various kinds, dull, bright, and check, may perhaps be used in succession.

Plate is frequently taken to and fro over the same kind of forms over a prepared padding, being caught down by a stitch on each side by a method the French call le guipl. It needs skill and practice to do this well. Crinkled plate used to be couched on to work, but now is not much used in this way.

Pearl purl is most often seen outlining a form filled in with the other threads; an enlarged example of this thread lies vertically down the centre of fig. 139, the end of it is pulled out, in order to show the formation of the thread.
Spangles are usually sewn down separately; they may be attached by stitches from the centre outwards or by the thread being passed through a piece of purl and then returning to the back through the hole in the centre of the spangle. Fig. 139 illustrates another way of using these spangles to form a long tail shape. Here again they are attached with the help of pieces of purl. In the same figure are given some illustrations of the use of the fancy threads;
to learn more about them the student should examine XVIth to XVIIIth century gold work during which period they were in popular use.

CHAPTER XII

LETTERING, HERALDRY, AND EMBLEMS

The Uses of Lettering—Marking—Monograms—Heraldry—Emblems.

Lettering of one kind or another is frequently in request. It is useful for inscriptions, verses, names attached to figures, the signing and dating of work, and for the more ordinary purposes of marking linen and so forth. Signed and dated work has peculiar attractiveness: it can be placed amidst definite historical associations: an authenticated piece of embroidery, say of the reign of King Richard Cœur de Lion, Queen Anne, or George III., would be an historical document and a standard to gauge the period of any uninscribed examples. Although few of us are likely to possess treasures of the XIIIth century, signed and dated
pieces of our great-grandmothers’ embroideries are interesting personal landmarks in family history, so for this reason, amongst others, unostentatious marks of identification are by no means out of place. Descriptive names or verses are also a means of amplifying the story and so enlivening our curiosity.

Lettering can answer a further purpose still; it can enrich the design, for, if rightly chosen and employed, letters are very decorative. They may be seen forming a border to a piece of work. The three letters in fig. 140 were taken from an XIth century embroidered cope, which has a fine inscription running round the entire lower margin.¹ The names of the

¹ This cope is full of interest in every detail. See M. Louis de Farcy, La Broderie du Onzième Siècle jusqu’à Nos Jours. Plate II.

260
saints and martyrs standing in rows in the columned arcades, affected at certain periods, are sometimes inscribed in the mouldings of the arches above them or along the base; kneeling donors can be seen naively presenting a little scroll inscribed with prayers, and many other
interesting uses of lettering might be recalled. The names St. Luke and St. John, shown in fig. 141, are taken from a beautiful embroidered example of Gothic lettering.

Illuminated manuscripts supply fine examples of initial letters and writing. A visit to the show-cases in the King's Library at the British Museum will be of great interest to the student; the illustrations also to be seen there, the beautifully composed and coloured figure-subjects, would be equally suitable for carrying out in embroidery; indeed it is very probable that many of the figure compositions on the old copes and chasubles were derived from such a source. Fig. 142 gives as an example of an alphabet one taken from a Benedictionale of late XVth century date.

A practical purpose to which lettering is often put is the marking of linen. To learn how to do this used to be a recognised part of a girl's education, and was one of the objects of the sampler. Marking can be anything from a simple cross-stitch initial to an elaborately worked monogram. For simple work the corner to be marked can be tacked upon toile 262
Lettering, Heraldry, and Emblems

FIG. 142.

263
cirée, a material not unlike American cloth. Tambour frames also are useful for this purpose.

Fig. 143 shows the stitches most used for working simple letters such as those seen upon the old samplers. The first is cross stitch, which for marking purposes should be worked so as to be alike on both sides. To do this requires some forethought whilst the work progresses, and necessitates an occasional doubling of one of the crossed stitches, in order to reach the point for commencing the next one and at the same time preserving a cross on each side.

The second stitch in the diagram shows a square on one side and is a cross upon the reverse. This makes a good stitch for the purpose, is quite simple to manipulate, and is easier to manage than the cross on both sides.

The third example is made use of when a larger letter is required. It is known as blanket stitch, and is used for the
marking of such things. It may be further completed by a neat back stitch just fitting along the outside edges of the other stitches.

Many embroidery stitches are suitable for marking purposes, such as satin, chain, stem, back, rope, basket, and others. The Oriental stitch which carries out the letter in fig. 144 is a good one when both sides can be seen, for though these are quite different, it is presentable upon either. The diagram shows the appearance of the stitch on the front and on the back.

A simple initial letter may be made interesting by enriching the ground behind it with some form of diaper patterning. An example of this is shown in fig. 145. The letter could be worked in a plain satin stitch over a padding of threads, and the pattern on the ground
Lettering, Heraldry, and Emblems

in a darning stitch and French knots, or in any other suitable way.

A monogram carried out in embroidery can be a very pretty thing; there is scope in it for ingenuity both of design and of stitching. The letters may be decorated and tied up with a floral spray, strap work or a combination of several motifs. Fig. 146 shows a monogram composed of the letters I. G. ornamented and bound together by a ribbon-like interlacing band. The letters are worked in a raised satin stitch, and a running stitch in another colour threads in and out down the centre of each letter. The outline is stem stitch in a darker colour. The band is outlined on both sides with an overcast stitch, which always makes a particularly neat edging for anything of this sort. The centre is filled with a row of French knots, the tassels are worked in close lines of stem stitch,
and the petals of the small flowers in satin stitch, finished off with a French knot at the centre.
Another mark of proprietorship and origin was the shield of arms of the owner, which introduces the subject of heraldry. A shield executed with the needle is often seen, and looks particularly rich. Heraldry is an intricate science, full of pitfalls for the unwary, and demands an earnest study of its complex rules and regulations. Every one should know at least some fine examples of great national shields such as the Lions of England, the Fleur de Lys of France, and the Imperial Eagle. Examples of shields surmounted by helmets and crests with quaint and flowing mantling are to be seen in all kinds of art work.

Various stitches and methods specially lend themselves to the expression of heraldry. Those which, like cross stitch, impose a certain simplicity, are very good. Another suitable medium is applied work, of which an illustration can be seen on page 95. Gold and silver thread are very useful here, and look exceptionally rich when couched in the XIIIth century method. Fig. 147 is an embroidered coat of arms dated the first half of the XIVth century. It is executed almost entirely in the point couché.
rentré ou retiré. The arms are those of the Clinton and Leyburne families—argent,

6 cross crosslets fitchée 3, 2 and 1 on a chief azure, two stars or.

In designing heraldic work care must be taken to introduce no debased forms such as were current after the XVth
century. The XIIIth and XIVth centuries are the periods considered best for the study of this subject. Heraldry sometimes adds historic interest to embroideries; owners or donors may be traced by their coat of arms appearing upon some part of the work.

Allied to heraldry and marking are a number of decorative objects that have acquired peculiar traditional significance of an emblematic or symbolical nature, hard
to define. The Cross of Christianity may be instanced, the olive branch of peace, the mirror of truth, and the snake of eternity. The name of a saint is frequently declared by an emblem accompanying the figure. In appropriate surroundings emblems may often be used effectively. For knowledge about these things the student must go to various books that deal with the special subject. Fig. 148 is an illustration of the well-known emblem, the Pelican in her piety.

CHAPTER XIII

THE GARNITURE OF WORK


When the embroidery is completed, the making up, the addition of tasteful finishing touches, and such things as fringes, tassels, and linings, must all be considered. These will, if judiciously made use of, give a distinction and character to the work that might be missed if due care and thought were not expended upon such details.

271
This part of the work might be compared to the garnishing of a boiled fowl with lemon and parsley, a minor detail, but a very effective one.

It is possible, by the help of such expedients, to emphasise certain colours and bring out points of the design, as well as to give completeness and finish. Such things as fringes, cords, and tassels are often more satisfactory when made by the worker and with materials like those used in the embroidery, for such will be more likely to be in keeping with the character of the rest, and to be more interesting in detail. In the finishing off the same taste and neatness of execution is required as in the embroidery. Good work can be very much marred in the making up; on the other hand, a little extra interest added on a part not often seen renders it doubly valuable.

The mounting of certain things should not be attempted at home; boxes should be handed over to the cabinetmaker, books to the bookbinder, and so on, for it is not possible for any one not an expert to do these things properly, and even good work can look poor if badly set.

The question how to appropriately
finish off an edge often arises; let it be hem stitched rather than plain hemmed; or a narrow line of drawn thread work may be inserted, for an open-work border is frequently a set-off to the rest of the embroidery. If a binding is placed over the edge this can be fixed with a pretty stitch, or the stitch alone can bind the edge, one such as buttonhole, overcast, or that shown in fig. 76. With some stitches the edge of the material can be rolled over a piping cord and the stitch worked over the thus emphasised margin.

The difficulty of procuring cord suitable for use with embroidered work makes the appliance illustrated at fig. 149 a useful possession. The cords made upon this wheel can be of any thickness, according to the number of plies and the substance in each. Different colours and materials can be twisted up together, such as a gold and silk thread.

To make a three-plied cord, cut three equal lengths of thread rather longer than the required cord is to be, as it shortens

1 This will be found described in detail in Chapter II. There is an interesting drawing of a neat little machine, similar to this, but worked by cogwheels, in L’Art du Brodeur, by Germain de St. Aubin (1770).
The Garniture of Work
in the twisting. Make a loop at each end of the thread, or, better still, attach tiny metal rings at the ends. Hook the threads in position as shown in the diagram, and place the instrument far enough from the clamped block of wood to make the threads that are stretched between quite taut. Now commence the twisting by turning the large wheel quickly with an even motion in the direction that continues to twist up the threads, keeping the left hand on the instrument to steady it, for it gradually slides towards the block as the twisting continues. When corkscrew-like knots begin to come in the threads, stop revolving the wheel, unhook the two outer threads and place them both on the central hooks together with the third thread, keeping them taut during the process. Revolve the large wheel again, in the direction opposite to that in which it has been working, and continue turning until the cord is tightly twisted up. It is now made, and can be removed from the machine. The second twisting had better be over-done rather than not sufficiently, since if over-twisted the cord rights itself upon being removed from the machine.
A two-ply cord is made in like manner, by using first the two outer hooks only, and then placing both threads together on the central hooks.

There is a simple way of making this cord without the help of any instrument, but it is not possible to get the perfect result that the machine gives. It is most easily carried out by two persons, though one can do it. In order to make a two-plied cord, by hand, take a thread rather more than twice the length of the required cord. Let each worker take an end of the thread in the right hand and commence to twist it between the thumb and finger, each working in direction opposite to the other and keeping the thread at tension. When twisted as much as possible without getting cork-screw-like knots in the thread, the cord must be doubled in half by holding it at the centre and bringing together the two ends, which are then knotted. During the entire process the thread must be kept under tension. If one end of the cord is now let go it should immediately twist itself up tight, and remain in that position. If any small knots form during the process run the cord sharply.
through the fingers once or twice to straighten it out.

Another pretty kind of cord is a knotted one. It is made in the hand in most primitive fashion by using the two first fingers as crochet hooks. The thread used for making it should be stout and firm. To commence making the cord, knot two pieces of thread together and place the threads in position as shown in fig. 150. The next step is shown in fig. 151, which is the index finger of the left hand bringing the darker thread through the loop. Fig. 152 shows this thread looped on the finger, the cord held in the left hand instead of the right,
and the right hand in process of drawing the lighter thread, which was the last loop, tight. The next move, fig. 153, shows the right-hand first finger making the new loop with the lighter thread, and
fig. 154 shows the loop on the finger, the cord passed over to be held in the right hand again, and the left hand this time pulling the last loop tight. Continue making the cord by following out the last four positions consecutively.
A very usual finish to an edge is a fringe. This can be made either by fraying out the material or by adding a detached fringe, either knotting it in or attaching it in some other way. If the fringe is to be a frayed-out one, the best way to do it is to first draw out a few warp threads where the head of the fringe is to come, then hem stitch the upper edge of this, see the right-hand end of fig. 155; this makes the heading of the fringe secure, after which the remainder of the warp threads can be withdrawn. When fringing a square in this fashion, it is well to save some of the frayings out to knot in at the four corners where otherwise there would be gaps.

To knot an added fringe into the
border is a very simple matter. Begin by cutting the threads that are to compose it all to one length, about double that of the required fringe. Take a few together to form a bunch and double it in half. With a stiletto make a hole near the edge of the material; then bring from the back a crochet hook through this hole, and draw the loop formed by the doubling of the bunch a little way through, then take the ends of the bunch through the loop and draw them tight in order to make the knotting firm.

There are many ways of patterning a plain fringe, sometimes a change of colour in the knotted-in threads is sufficient, as shown in fig. 156. Another very usual way is to divide the bunches and refasten them together in some way to form a pattern. Fig. 157 is an example of this; they may be either knotted together, as
The Garniture of Work

in the first half of the diagram, or bound with thread as in the second half, the needle reaching the required places by running in zigzag fashion up the thread and down again.

A simple fringe can be made of strands twisted together, as in the first half of fig. 158. This is made upon the same principle as the twisted cord already described. About three threads of the fringe are twisted up tight, and an adjoining three treated in the same fashion. These threes are then twisted together in the direction opposite to that which has just been used, and thus are securely locked together. The ends of the completed fringe may require a little trimming.
off to make all of an equal length. The second half of the diagram shows a durable and simple fringe made by a close series of knots down the thread.

Fig. 159 suggests two methods by which a stitching of coloured thread near the margin can help to decorate a plain fringed edge.

A row of tassels makes a pretty finish to various things. Complicated tassel-making requires a professional hand; even a simple tassel requires making properly. The first proceeding is to wind some thread round a piece of card-
board, which should be a little wider than the tassel is to be long; then double a piece of the same thread and thread the two ends into a needle, thus leaving a loop at the usual knot end. Slip the needle through the centre of the wound thread close to the cardboard, then through the loop and draw the thread tight; this will bind the threads securely at that point. They can then be cut exactly opposite this on the other side, which will release the cardboard. Give the binding thread another tightening pull, and then take the needle and thread
straight through the centre, as shown in fig. 160, and fasten it off with a good knot. This knot will be in the ball part of the tassel and will help to make it round. Next, double the tassel into shape ready for the collar. Thread the needle as before and make the thread encircle the tassel, as shown in the second figure in the diagram, drawing the thread quite tight, and, if necessary, winding it several times round the neck of the tassel until the collar is of sufficient width, then take the needle and thread straight through the centre, bringing it out at the top, where it can be made use of to fix the tassel in its place upon the work.

285
With sharp scissors trim the edge of the tassel which now is complete. The ball part can be further decorated by covering it with an open network of stitches in some contrasting colour; buttonhole and various lace stitches can be used for the purpose.

**Knots**

Knots, which can be very pretty, are at times required in embroidery; anything that requires a fastening may give an opportunity for some pretty interlacing strap work or knotting. Also knots may be practically useful in both weaving and embroidery, for sometimes a finishing thread must be knotted on to a new one, since there may be no opportunity of making a firm commencement with the aid of the material.

The knot shown in fig. 161 is called the girdle knot; it might be made use of in many other ways. To carry it out, make a loop with one end of the cord and hold it between the left finger and thumb, the looped part being towards the right, and the end that points downwards to the left passing over the other end. Take up the other piece of cord, pass it diagonally across the surface of
The looped end can be left as large as necessary. To work it the first part of the knot is laid in position on the table, commencing at point A; for the latter part (from point C) the thread is interlaced through to the finish. It can then be pulled tight, taking care in the drawing-together process that the various loops are adjusted in right position.

The Chinese knot, which is used for a sailor's collar, is shown in fig. 162. The loop, commencing from the right-hand lower side, then round under one end and over the other, then up into the loop from underneath, over its own end that crosses the loop there, and then out under the loop at the top right-hand corner.
The Garniture of Work

Fig. 162.

288
Another ornamental knot is shown at fig. 163. To make it—Form a loop and hold it between the left thumb and finger, the loop pointing to the right, the longer end pointing upwards and passing over the end that points downwards. Take hold of the end pointing upwards, pass it perpendicularly downwards across the surface of the loop, then round under the other end, up over its own end, under the side of the loop, over its own end that lies across the loop, and out under the loop at the right-hand end. Pull as tight as required. All these knots may be made of double cord by running a second through, following the lead of the first, just before tightening up the knot. The one last described may be
made of doubled cord from the commencement, the looped end being used as the working end: the knot will then finish off with a loop at one end, which can be used as a loop or cut if required.

Fig. 164 is an example of a pretty piece of interlacing strap work attached to a fastening.

The weavers' knot (fig. 165) is useful for practical purposes in both weaving.
and embroidery; this knot is universally employed by the cotton weavers when the warp breaks. It is made as follows—Place the two ends that are to be knotted together between the thumb and first finger of the left hand in such a way that they cross each other at right angles, the end that points towards the left passing under the one pointing towards the right. Pass the long end of thread that hangs down towards the right, and which is the newly attaching piece, over the thumb, round the back of the end pointing to the left in front of the other end, and let it hang down again towards the right, holding the loop thus made between the thumb and finger; then pass the end pointing towards the right down through this loop and out on the opposite side. To draw the knot tight, pull the end which hangs down towards the right, which will tighten the loop and so complete the knot.

291
The reef knot (fig. 166) is another useful one, and it has this advantage over the weaver's knot, that both short ends return parallel to the long ones instead of going off at an angle; this makes it neater for some purposes.

CHAPTER XIV

PRACTICAL DIRECTIONS


The best method of getting the pattern on to the material is to draw it on directly with a brush; since this, however, is not always possible, other ways of doing it can be employed.

The pattern can be transferred to the background by a process called pouncing. To do this fix some tracing-paper over...
the design and carefully take the outline; a good margin of plain paper should be left round the outside in order to prevent any of the pounce getting accidentally rubbed on to the embroidery. The next process is the perforation of the pattern. Lay the tracing upon some substance of the nature of thick felt, then with a pricker or a needle, held in an upright position, pierce tiny holes all round the outline of the pattern, very close together. This completed, attach the perforated tracing securely to the material, the smooth side of the perforations towards the stuff. Both material and tracing paper may be fixed to a board with drawing pins. Next, rub the pounce, which consists of finely powdered charcoal or of white chalk, lightly over the perforated parts with a soft pad, keeping the rubbing always in the same direction; once or twice at the most over the surface is quite sufficient, often too much is rubbed through, which afterwards is only in the way. The pad, first dipped into the pounce, is rubbed preparatorily upon some paper to remove the superfluous powder, and then upon the actual work. Carefully remove the tracing-paper; there
Practical Directions

should now be visible upon the surface of the material, in charcoal dust, a perfectly clear reproduction of the pattern. Should, however, the impression be blurred, it is quite easy to flick everything away with a duster and repeat the process. The causes of failure would most probably be that the perforations were too large or too far apart, or that there was some movement of either paper or material during the process. It is necessary for the pattern to be permanently fixed upon the ground material; blow lightly to remove any superfluous powder, then, with a brush dipped in light red oil-paint moistened with turpentine, trace a fine clear line over the powdered pattern. When this is dry, what is left of the charcoal can be lightly dusted away. Red is in most cases a good colour to use for tracing purposes, for if by chance any tracing should show or come off on the thread it will be a clean-looking colour, and one comparatively easily removed in any after cleaning.

Red or blue carbonised paper is used for tracing patterns; it is not a good medium though it may be an expeditious one. If it is used, an after painting over the outline will make the marking permanent.

294
When pouncing or painting is difficult, a method of indicating the pattern upon the stuff is to trace the design on tissue paper, and tack it to the ground material with cotton, the stitching of which should follow the outline of the design, and be kept as much as possible upon the front. The thin paper is then torn away, and there will be some suggestion of pattern left upon the material.

Transparent ground stuffs need only be laid upon the pattern; then the tracing can be taken directly on the stuff.

Paste is sometimes in request for embroidery purposes; the following is a good recipe—Pour rather less than half a pint of cold water into a saucepan, add to this a piece of carpenter's glue about the size of a small filbert and place it on the fire to heat. Put three teaspoonfuls of flour into a basin, and with cold water mix to a smooth paste; when the water in the saucepan boils add it to the paste, stirring well all the time; then place the mixture in the saucepan and boil for about two minutes. When cold it is ready for use. It may be required as a preservative; for instance, canvas work when finished can have a thin coating of
paste rubbed over the back in order to preserve the stitches from giving or running; when the work is to be used for such things as furniture coverings this may be a good thing to do. Applied work is sometimes pasted on to its new ground, and a backing may be fixed to the surface material by paste. The more all this can be avoided the better, for its tendency is to give a stiff mechanical look to work; professional people, however, are rather fond of the paste pot. Paste, if used, must be of the right kind, or it will do more harm than good. It should be very fresh, and have no acid in its ingredients, of which gum arabic must not be one if any after stitching has to take place through the stuff, for gum makes it hard and less penetrable. The paste must be applied and allowed to dry thoroughly before the work is removed from the frame. A finger makes a good brush for the purpose. The paste should be put on as thinly and evenly as possible, care being taken not to rub on the cross of the material, since this might stretch it unevenly.

Shoemakers' paste is easily procured, and can be used for embroidery purposes. This is made from rye flour, and
is very strong. It is harmless if perfectly fresh.

A good many things go to the keeping of work fresh and orderly, which is a very important matter. The work must be kept carefully covered up when not in use; finished parts can sometimes be covered whilst the work is going on, for the covering is easily raised when comparison with the part in progress is necessary. The work should have some protection if the hand rests on it; the worker should wear a white apron with sleeves. The worker's hand should be cool, dry, and smooth; hot hands should frequently be washed. The use of pumice stone cures slight roughness, but fine work cannot be attempted if the fingers are for any reason constantly rough. Wools and silks need a case to keep them orderly and clean. The best way to preserve valuable embroidery is to frame it, which, of course, is not always practicable, but it is a sure safeguard against moth and dust.

For washing embroidery special soap should be procured. It is not well to use any ordinary soap, for this may contain alkali, which would injure the colours in the work. Dissolve the soap in boiling water,
and add cold to make it just warm and of the required strength. Immerse the embroidery in the lather thus made, and work it about gently, avoiding any friction. When clean, rinse first in warm water, afterwards in cold, to which a little salt may be added. The water must be squeezed out carefully and the material quickly dried. If ironing is necessary it must be done on the wrong side, but if the work can be pinned out on a board to dry, and in this way stretched and smoothed without any ironing, so much the better, for the embroidery will not be flattened at all. Another way of ironing embroidery that is not harmful is to do it from underneath while some one holds out the material.

It is easy to prevent the puckering of work when it is carried out in the frame; there is, however, no necessity for it to occur in hand work. Certain stitches are more inclined to draw up the material than others, and extra care has to be taken in working upon the cross of the fabric. The work should be held in convex fashion over the fingers of the left hand. Weights are occasionally attached to the corners of the work to prevent any unconscious drawing of it up.
There are remedies for the cure of slightly puckered work. Place on a drawing-board some clean blotting-paper, damp it evenly over with a wet handkerchief, and then lay the work, right side up, upon it. Fix the work down to the board with drawing-pins, inserted at regular short intervals round the edge, endeavouring during the process to stretch the material to its original shape. This needs doing carefully, for it is quite possible to stretch it to a wrong shape, and it will remain as now pinned out. Next, lay some white paper or a handkerchief upon the surface of the work, and then place upon it a flat weight that presses equally on every part of the embroidery. Leave it undisturbed for a night, and the puckering will probably be cured. Work, if not puckered, may be improved by going through this process, which practically amounts to a mild ironing, but without any injurious effects.

There are various points about the thread that should be known. To commence a new thread run a few stitches in the material upon the right side upon a part that will afterwards be covered by the working. This is a better way than a
Practical Directions

fastening on the wrong side, for it is both neater and more secure. A knot made at the beginning is fairly safe, but it is undesirable for several reasons. The needleful should not be lengthy lest it gets worn before it is all worked in. With some threads it is important to thread only the proper end into the eye of the needle, since one way they will work in roughly and the other way smoothly. An end of a coarse thread can be taken through to the back of the material by the help of a fine one; the fine thread is brought through from the back by the needle, it then encircles the coarse one, and returns to the back by the same hole, pulling the coarse thread with it, as in process in fig. 167. Taking it through by the aid of a thick needle would make too large a hole. Thread can be knotted into the eye of the needle if for any reason it is required to be quite safe from accidental unthreading. The neatest way of doing this is to pass the
needle through the centre of the thread and draw it tight; this is a useful trick for any unskilled worker with needles and thread, for re-threading also may be a difficulty. When work has to be unpicked it is better to cut the threads rather than do any drawing out, for they are in any case unfit for further use, and this method wears the material less; a beginner must not shirk unpicking if first-rate results are to be obtained.

FRAME WORK

Certain stitches and methods of work cannot be carried out except with the help of a frame, others are hand stitches, and some few can be worked either way. Work done in a frame takes longer than that done by hand, and is rather more fatiguing. Each method has its advantages; in the frame it is perhaps easier to get good technique, for difficulties such as puckering the material, irregular stitching, and so on, are more easily avoided, also it is more possible to see the effect of the whole whilst the part progresses. In frame work a thimble is required for each hand, for one pushes the needle through from above and one from below. It is a rest to
be able to reverse the hands, so both should be equally dexterous in either position.

To dress the frame correctly is an important preliminary, for unless done well the effect of much after labour may be spoiled. In the chapter upon tools and appliances in fig. 9 is shown a piece of linen stretched in the frame ready for commencing work.

The square of material that is seen to be inserted in the centre of the stretched linen is to show how a very small piece or a portion of a large surface could be stretched in the same sized frame. A corner may require marking or a small detail of embroidery carrying out upon it. A portion is cut out of the centre of the stretched linen, and the piece or part of the material to be worked stitched securely to it, as illustrated in the diagram. The remainder of the material, if there is any, can be folded up and pinned out of the way over the rollers.

To return to the dressing of the frame—the linen to be stretched, before being fixed in place, must be hemmed or herring-boned down at the top and base and then sewn with overcast stitches to the webblings, inclining during the process to
pucker the webbing rather than the material. The side pieces can now be put through the holes at the ends of the rollers and the metal pins inserted, or nuts adjusted, as the case may be, in order to stretch the material to the right tension. The raw edges at the sides must now be turned in or bound with tape, and a string securely attached at intervals along the edge; this is for lacing the string through that now braces the material to the sides of the frame (see fig. 1). The screw-sided frame has an advantage over the side pieces shown in fig. 9, in that in the former an extra turn can, at this point, be given to the nuts to still further stretch the material; on the other hand, some workers prefer the flat side pieces, thinking that they make the frame more rigid.

If the material, when fixed to the two webbings, is too long for the frame, it must be wound round one of the rollers until of the correct size. This must be done carefully, for a delicate fabric might get damaged in the process; the roller can be padded with soft paper, and an interlining of tissue paper can be inserted and wound up with the material. It may not always be desirable to do this wind-
Practical Directions

...ing round the rollers; in that case fine glazed holland can be stretched in the frame, and the part to be first embroidered fixed to it. When the first part of the work is completed, the holland is cut out of the frame and fresh pieces substituted as the work goes on. If it is not wished that the stitches should be taken through both surfaces, as would here be the case, it would be possible to cut the linen partly away underneath, and use it only as a kind of inner frame for stretching the material on, in a way somewhat like that already described (see fig. 9).

A backing to the material, however, is often a necessity—perhaps heavy work may be put on it or the stuff itself is fragile; in such cases there must be a backing of some kind. This usually consists of fine holland or linen, which is first stretched in the frame and then has the surface material securely stitched to it with overcast stitches, care being taken that both materials are equally strained.

To frame velvet, sew it to the webbing by the selvedges or that way of the material, since the pile with that arrangement is more manageable when the embroidery is in progress.
PART II

TAPESTRY WEAVING
PART II
TAPESTRY WEAVING

CHAPTER XV
INTRODUCTION

Weaving, a most ancient art, naturally precedes embroidery, for this necessitates an already existing ground stuff, which is generally some kind of woven material. All varieties of weaving are done by one little-varied method, that of the weft passing to and fro in and out of the warp, and thus binding the whole into a fabric or web.

The kind of weaving which demands from the worker the greatest artistic skill is that which produced the great masterpieces of Flanders, once known as Arras, from the town of that name, and now commonly called Gobelins tapestry, so
Introduction named from the *Manufacture des Gobelins* in Paris, at which establishment, founded over three hundred years ago, it is still produced.

It is this kind of weaving that is now to be discussed, but without the least suggestion that the pupil should work upon a scale so large as is usually followed, though there is no reason against doing so if it is practicable. Tapestry weaving is so constantly associated with objects of large size, such as wall hangings, that it is scarcely realised as an art in this smaller way and as an alternative to embroidery. Yet it can be work of a most interesting kind even when produced in pieces only six inches square, as is well shown by existing specimens of the work of the weavers in Egypt who flourished in the early centuries of the Christian era. Examples of this work can be seen in many museums; they consist frequently of decorative panels of tapestry work inlaid in linen tunics and stuffs that have been used as grave clothes. These early Coptic examples are, like all tapestry, built up by interweaving various threads upon warp-strings stretched in close parallel lines. By varying the colour of the threads that are
thus manipulated upon the warp, patterns of any degree of complexity can be built up directly by hand, and without the assistance of any further mechanical contrivance. The peculiarity of this ancient weaving is that the patterns are frequently woven upon the warp-threads of some fabric, from which the weft either has been removed, or, what is perhaps more probable, been purposely left out when the material was made, to leave space for this decorative pattern weaving to be added to it.

The Latin name for the workman who in this way wove in the ornamental patterns was *Plumarius*, which is a name known to be applied to an embroiderer also. This weaving of small subjects is certainly very little removed from embroidery; it may fairly be called needlework, for it is as often carried out with needles as with bobbins, the former being frequently better suited to the size of the work.

In execution weaving is not more difficult than embroidered work; it can be done in an ordinary room and upon a simple loom that is not more cumber- some than an embroidery frame; in fact
an embroidery frame can sometimes be used in the place of a loom.

Weaving takes about as long in doing as finely stitched solid needlework, for in weaving the entire fabric is made, both pattern and ground. The speed with which the work can be done of course varies considerably, being mainly dependent upon the design that is being carried out. Also the quality of the materials used affects the rate of working; for instance, the thickness of the warp-strings and the placing of them nearer together or further apart. Moreover the weft may be composed of one strand or of several strands together.

In weaving, unless the materials used are very fine, it is impossible to get minute detail in drawing; fortunately it is seldom necessary to attempt much of this. The simpler and more direct work is as good as, and sometimes better than, that with finely gradated colour, shading, and form. On the other hand, work, small in scale, even though simply treated, does not look well when carried out with very coarse materials, for they seem out of proportion to the size of it.

The main difficulty in the technique of
the work lies in the attainment of good draughtsmanship, which of course includes light and shade as well as outline. It is naturally more difficult to draw by means of bobbin and thread, in horizontal lines, than to work unrestrictedly with a pencil, or even with an embroidery needle.

There is a great deal in the preparation of the design; as in all other crafts this must be suited to the method of work; otherwise the difficulties of execution will be greatly increased and the result will be less satisfactory. This is even more important in weaving than in embroidery, for in the latter the stitch and method may possibly be chosen to suit the design, but in weaving no variation of stitch is possible; all must be carried out in the same way.

Tapestry weaving, whether for wall hangings or for small objects, has the same technical difficulties, and certain restrictions govern all work of the kind. One point to be observed is, the main lines of the design should go as little as possible in the same direction as the warp threads. This is because with each change of colour in the weft that occurs in the direction of the warp, there comes an
inevitable separation in the woven material, which, oft repeated, would materially impair the strength of the fabric. The less frequently this occurs, of course, the better, since it entails additional labour, either a joining-together stitch at the time of working or an after-sewing up from the back. Long lines made by change of colour going straight or at a slight angle across the warp-threads, are perfectly simple to manage, and the hatching lines of shading, as well as the outline, should be taken as much as possible in this direction.

It will be noticed that most tapestries have the ribbed lines of warp going horizontally across; in the loom these lines are perpendicular, so this means that the design has been placed and carried out sideways upon it. This is for the reason just under discussion, for the long lines of a design are most frequently perpendicular, take, for instance, lines of figures, draperies, or architecture, and so by placing the design sideways in the loom, most of the important lines will come in the direction most easy for the working of them.

With small pieces it frequently does
not matter which way it is carried out, but it is useful to know when making the design that there is the alternative of placing it either way upon the warp-threads. If this matter were not considered and arranged, there might come a good deal of twisting round one or two warp-threads which would be most unsatisfactory in working and in appearance. A band of plain colour framing a square piece of work will be found to be completely detached from the centre part upon each side of the square, although working in very straightforwardly at the top and base; if, instead of being a straight band, the inner edge was vandyked, the work would be well knitted together upon all sides (see fig. 169). In such ways as this the technical pitfalls can be somewhat avoided by a designer who understands the method of the work.

To lay down definite rules for designing is practically impossible; right and wrong depend upon so many circumstances. The study of fine tapestries of the best
periods is one of the most satisfactory ways of learning what one may or may not attempt; the beautifully flowered grounds in many of these show what excellent motives flowers make, and how they should be treated. It is not usually a good plan to introduce in any part of the work much plain ground, for it is inclined to look poor; this is very likely the reason why the grass in tapestry-land is often covered with such profusion of flowers. Tapestry calls for beautiful colour, richness, and plenty of interesting detail; it is essentially decorative work, and must be treated as such. The arrangement of colours and tones need to be sharply defined; if by chance a dark leaf comes against another dark one, a line of light colour is sometimes deliberately run between, perhaps shading or outlining one of the forms; a flower may even change its colour as it passes over different backgrounds; what is more remarkable is that this change, unless sought for, is imperceptible.

The work may be applied to all kinds of uses, such as coverings for furniture, mats, curtains, bell-pulls, book-covers, bags, boxes, and so forth. Anything
that hangs upon a wall is particularly suitable for working in tapestry, for at a little distance this kind of work shows up more effectively than embroidered work does. A great many articles, such as alms-bags, frontals of all kinds, stoles and book-markers, for use in churches could most excellently be carried out in tapestry.

CHAPTER XVI

NECESSARY APPLIANCES AND MATERIALS

The Loom—Mirror—Bobbins and Needles—The Comb—Embroidery Frame treated as a Loom—Warp—Wools—Silk—Gold and Silver Thread.

TOOLS AND APPLIANCES

The chief requisite for weaving is the loom; this can be made by a carpenter from a working drawing. In the Victoria and Albert Museum there is a model of a small tapestry loom, presented by William Morris, which a novice will do well to examine. It is quite possible to carry out a small piece of weaving upon an embroidery frame, but to work in a loom which has all the proper appliances is
always quicker, better, and absolutely necessary with work of any size.

There are two main varieties of tapestry loom, one in which the warp-threads are horizontal, and another in which they are vertical. The latter kind is considered to give the best results, mainly owing to the possibility of the worker's seeing the right side of the work whilst it is in progress. This is a great advantage, for tapestry is woven with the reverse side towards the worker, and progresses by such gradual steps that the weaver is prone to lose sight of the whole whilst paying attention to the part in progress, and it will be easily understood that to be able to go round and view the entire piece is of immense help. A detail may perhaps be corrected during the progress of the work, but afterwards this would be an awkward matter. It is one of the difficulties of weaving to have to finish completely each step as it comes up. Working from the wrong side is not so hard as it might seem, for both sides are practically alike; the side towards the worker, however, shows ends of thread and thread passing from one place to another, which make it somewhat unpresentable.
Necessary Appliances and Materials

Fig. 170.
Fig. 170 shows a drawing of a small loom with some warp stretched upon it in readiness for commencing work. It stands upon the ground, and is about 4 feet high by 2½ feet wide. It is made of beechwood; a hard wood like this is best, for there must be no possibility of the rollers bending with the strain of the warp. The loom consists of two uprights standing upon heavy feet; these uprights are joined together at the top and base by strengthening cross bars. Two wooden rollers are fixed into the uprights (see A and B in fig. 170) and in the surface of each of these a narrow groove is hollowed out lengthwise (see fig. 171); this is for the purpose of holding a long metal pin, by means of which the warp-threads are kept in place. The rollers are fitted at one extremity with a handle for turning them round, and at the other with a ratchet and toothed wheel to prevent unwinding. The pur-
pose of the upper roller is to hold the supply of warp-thread and unwind it as required; the lower one is for winding up the web as the work progresses, so that upon a loom of this size a piece of work of considerable length can easily be carried out.

The warp soon after it passes from the top roller is divided into two leaves by a cylindrical wooden bar about one inch in diameter, called the cross stave (see fig. 172). The cross stave may be oval or round in section; if it is oval the warp-threads may be moved more widely apart when required by turning the stave round, but this is not often necessary. The upper part of the cross stave can be seen in position in the loom diagram, which shows also how the stave divides the threads, which pass alternately one in front and one behind the bar. After this the threads are passed through a comb-like instru-
ment, having about fourteen divisions to the inch (see fig. 173). This extends from side to side of the loom, and lies in a groove made in the bar that fixes the coat-stave (C in fig. 170) in position at either extremity. It can be taken out and exchanged for another with a different divisioning, if necessary; without doing this, however, it is quite possible to put at intervals two threads through one division, or to pass over one occasionally if need be. The threads are next fixed in the lower roller.

The coat-stave can be seen projecting from near the top of the loom. A number of looped threads called coats are fixed to it, and each one of these encircles a thread of the warp. They are attached only to those threads that were passed behind the cross stave and form the back
leaf of the warp, and they are for the purpose of pulling these forward when required. Underneath the lower roller is fixed a wooden tray, which is useful for holding bobbins, comb, or scissors.

On the loom is hung a small mirror facing the right side of the work (see fig. 170). This enables the weaver to glance now and then through the warp-strings at any detail that is in progress.

Smaller looms can be made, suitable for placing upon a table; these, standing about two feet in height, must in some way be firmly fixed to the table, in order to be properly rigid for work.

The thread composing the woof is wound upon a wooden bobbin or shuttle, such as that shown in fig. 174. The chief point about this is, that it may not have sharp angles that might catch in the warp whilst passing to and fro. The pointed end is sometimes made use of to poke between the warp-threads and

\[ 321 \]
press down the weft. A fresh bobbin is employed for each colour, and the wool is wound upon it two or three strands together, just as may happen to be required for the work. Large blunt-pointed needles about three inches long (fig. 175) are often used in place of bobbins, for with small pieces of work sometimes so little of a colour is required as to make it unnecessary to wind a quantity on a bobbin, which is, after all, only a needle with an extra long thread.

A comb is necessary for pressing down the weft whilst the work is in progress. Combs vary in size and shape; fig. 176 shows one suitable for this type of work; it is $1\frac{1}{2}$ inches square, slightly wedge-shaped, and about one-eighth of an inch thick. Boxwood is the most suitable wood to make them from, since it is
particularly hard and fine in the grain. They are sometimes made of metal, ivory, or bone; for large work, metal combs of a heavier type are used.

An embroidery frame, which has been
Necessary Appliances and Materials

already mentioned as a possible substitute for the loom, is oftentimes an article more easily procured. Fig. 177 illustrates how a frame of this kind may be prepared with warp-threads for weaving. One with the screw side pieces is the best, for these enable the tension of the warp to be slightly adjusted if the working shows any tendency to slacken the thread.

To prepare the frame for weaving—Place the parts together at the required distance from each other; secure the end of some warp-thread to some part of the frame, and then commence to wind it round and round over the two rollers, placing the threads at approximately the right distance apart, taking into account when doing this that the two leaves thus formed will eventually be brought into the same plane. When the required width of warp-thread is wound upon the rollers, secure the end of the string and proceed to bring the front and back leaves together by darning a knitting-needle or some similar article in and out of the threads at the centre. Then slide it up close to the top roller and secure it by tying it with string at each end.
(see diagram). The same process is gone through with a second pin, which is tied to the lower roller.

The warp-threads can now be adjusted to their proper distance apart, as they will probably be a little irregularly spaced. The next process is to weave two or three courses of warp-thread close to the knitting-pins at either end; this brings the warp still nearer to being in the one plane, and enables the threads to be arranged in perfect order by the aid of the point of the bobbin or a needle, and they will remain as now placed.

The frame is now ready for work. A piece of plain web, about half an inch in width, is usually woven before the actual design is begun; this serves as a selvedge for turning in when the completed work is mounted, and also gets the warp into condition much better for working upon.

A thick knitting-needle can be passed between the alternate threads of the warp and placed towards the top of the frame, as shown in the diagram. This takes the place of the cross-stave in the loom, and, by thus dividing the warp into two leaves, is of assistance when the
shuttle goes in one direction. Coats cannot easily be applied to an embroidery frame.

It is quite possible upon a frame of this kind to weave a long narrow band of any kind. The warp must be wound on and arranged in position at the necessary length by separating the rollers and temporarily fixing them apart at the distance required for the band. The surplus warp is then wound up on the upper roller until the side pieces will fit into the ends. As it gets worked upon, the completed part is wound upon the lower roller. A piece both long and wide would be impracticable, especially if any winding on and off the rollers were necessary.

MATERIALS

There are very few materials required for tapestry weaving; they consist of, string for warp, wools, silks, and maybe gold and silver thread for the weft.

The warp is usually composed of a smooth, strong, evenly twisted thread, specially made for the purpose. It can be procured of various thicknesses. It happens sometimes that in parts the warp shows, as a fringe or in some other
way; in this case it could be made of a strong silk thread, such as purse silk, though for edges of mats, the ordinary string warp fringed out is quite suitable. Occasionally weaving is carried out in such a way as to expose the warp in various parts of the work, the pattern being woven, but the ground left altogether unworked. In a case of this kind the colour and composition of the warp is naturally important, and must be considered. In a show-case in the British Museum there can be seen a small book with an interesting woven binding carried out after this manner. The warp is composed of gold passing, and the effect of this with a pattern carried out in brightly coloured silks is very pretty indeed, the gold adding a rich glow to the whole.

Wool and silk are the chief materials used for the woof. It is well to choose those of fine texture, for several strands can then be wound together upon one bobbin, which, with coarse materials, would be too clumsy a method. When working in this way there is more opportunity of varying colour and texture, for three shades may be wound upon the bobbin together to get a required colour.
and this has often a prettier effect than the use of an unblended colour; also, silk and wool are very satisfactory wound and worked in together, each texture showing the other to advantage.

Fine gold or silver threads are frequently used in tapestry weaving. They can be woven in alone, which gives a metallic look, or they may be mixed with strands of silk. Both ways are very good, and the use of the metal thread adds great richness to the work. These threads make fine backgrounds, and they can be used in many ways upon the design; it is a common practice to carry out the lighting of draperies and of other parts in real gold, just as they are treated in illuminated manuscripts.

CHAPTER XVII
PREPARATIONS FOR WORK
Warping the Loom—Dressing the Coat-Stave—Tracing the Pattern upon the Threads.

Upon commencing the warping of the loom the first matter to be decided is the length of the threads. Some extra length must be measured off besides that
actually used for weaving, to allow for what is taken up in fixing the threads and winding them round the rollers, and as it is not convenient to work more than about half-way up the loom, this also has to be allowed for in the length. The threads must all be cut to one size, and since they have to be doubled in halves when placed on the loom, this should be twice the required length.

Another question for early decision is the number of warp-threads that may be allowed per inch. This varies with the coarseness of the strings and the thickness of the weft that will have to pass to and fro between them; what governs both of these points is the design, whether there is much detail or not, for if the drawing is complicated the warp-strings must be fine in order to be able to carry it out; this point will be better understood after some experience of working. Fourteen to sixteen threads to the inch is a very usual number.

The fixing of the threads in the upper roller is a very simple matter. It is done by doubling each in halves and placing the loop thus formed over the metal pin, which for this purpose may be temporarily suspended by string to the frame of the top
of the loom just above the roller. It can be dropped into its place in the groove when all the threads are looped upon it, and made secure there for the moment by tying some string round the extremities of the roller.

Each thread is now taken separately through the comb-like instrument. The cross-stave is laid upon this, so it is well to put it in place now, and carry the threads alternately in front and behind it, whilst passing them through the comb. The threading of the strings through the comb decides the number there will be to the inch, so they must be put through at the required distance apart.

The upper roller is next given a complete turn, which will make the metal pin and the threads that are round it secure in the groove. The winding up must be continued until only about three inches of the warp-string hang below the lower roller. Some kind of tension must be applied to the threads whilst this winding is going on, or it will be done irregularly; a hand, or several hands, holding it, answers the purpose well enough.

The next process is to fix the threads securely in the lower roller. The diffi-
culty here lies in getting the placing and tension of the threads between the two rollers exactly regular and even. If some were slack and others tight it would be very awkward to correct afterwards, and impossible to weave upon properly if incorrect.

Fig. 178 shows a practical method by
which the warp may be fixed in the lower roller, but any contrivance will do that gains the required result. To carry out the fixing as in the diagram, the roller must be turned so that the groove comes just at the centre in the front. Four lines of warp-thread are then fixed from end to end of the roller, two above and two below the groove. Each warp-string in turn is now threaded in and out of these cross lines, as shown in the diagram. This places them in regular order, at the correct distance apart, and keeps them at very nearly the same tension throughout. The metal pin is now placed in the groove and pushes the threads before it. It must be temporarily made firm there by string tied round the roller at intervals.

The next process is to tie the warp-threads in knots, either two or four together, just where they emerge below the pin. This prevents any giving way, and if the threads are pulled just equally tight immediately before the knotting, the tension of the entire warp will be the same. The lower roller is next turned round until the metal pin is made quite firm in its place by the warp-threads passing across the face of the groove. The
warp will now be fixed in the loom as shown in the drawing in fig. 170.

The placing of the coats upon the coat-stave is the next part of the preparatory work. Commence by fixing a line of warp-thread along the exterior side of the coat-stave, making it secure to the bar at both ends. The coats, encircling the stave and a thread of warp, are fixed to this string by a kind of button-hole stitch (see fig. 179). It is important that each loop should be of exactly the same size; this can be ensured by temporarily fixing a rod across the loom at the point where the loops will encircle the warp-thread, and then taking the loop round this bar as well as round the thread.

To commence making the coats, take a long needleful of warp-thread and secure the end of it to the string at the right-hand end, and then make about three small looped stitches upon it (see needle in progress in the diagram); next, instead of making another of the same stitches, take the thread down below the stave, let it encircle the first thread of the back leaf and then be brought up over the coat-stave and string and be
Preparations looped under the thread to complete the stitch (see B). Usually a long and a
short stitch are taken alternately, but the number of short ones may be varied. This process is continued until all the threads of the back leaf are encircled each by a loop.

A new length of thread must be knotted on to the last one as it gets used up. The weavers' knot, which is shown on p. 291, might be used for the purpose. It would be made use of also if by chance the warp-thread were broken, for it is a knot specially good for the purpose.

It is necessary to have a coloured drawing of the design for frequent reference whilst the work is in progress; also a tracing of the outline must be marked upon the warp-threads for the worker's further guidance. The tracing upon the threads must be a reflection of the pattern owing to the fact that the work is done from the back. It does not affect the matter if the design is a symmetrical one, but to find the lions of England facing the wrong way in some completed piece of heraldic work would be most annoying. In order to get a tracing of the design upon the threads, a sheet of paper, with a distinct outline of the pattern upon it, must be attached.
Preparations for Work possibly by pinning, to the further side of the warp-threads, exactly where the weaving is to take place. The outline will be clearly perceivable through the threads, and the next process is to take pen and Indian ink and make a dot upon each warp-thread in sequence round the outline of the pattern. When this is completed, the tracing-paper can be removed, and the dots upon the warp must be taken all round each thread instead of marking one side only. The marking round is done by holding a warp-thread between the finger and thumb, placing the side of the nib against one of the dots, and then twisting the thread to and fro against it. All the marks upon the first thread are treated in succession in this way, then the next thread is taken up and treated in similar fashion, and so on until all are done. Fig. 180 shows a leaf marked upon the warp-threads in readiness for working. This marking should be clear, sharp, and decided, all the lines being taken horizontally round, as in fig. 180; if the pattern seems to run up a thread, a mark just half-way up is sufficient guide. In a piece of work of any size the tracing must be done, a
part at a time, for the threads moving slightly when the warp is unwound and the web wound up may displace the marks and make the guiding lines incorrect.
CHAPTER XVIII

THE TECHNIQUE OF WEAVING

Weaving—Commencing and Fastening Off—The Interlocking Stitch—Fine Drawing—Shading—Added After-stitches.

The way in which the woof threading in and out of the warp makes the web is shown at C, fig. 179. Here the woof has been taken once to and fro; a movement called a weft or a course, one way only, goes by the name of a half pass or a shoot. By the use of the cross stave for one direction, and of the coats for the other, the tediousness of the process of darning in and out and so picking up the right threads is avoided. It is not always practical to make use of these appliances; for instance, in working over only two or three threads it may not be worth while, but when they can be made use of the work is done twice as rapidly by their help.

The bobbin enters the loom rather high up, for there the division of threads is
greatest. One hand starts the bobbin upon its journey, the other hand, entering between the divided warp-threads, takes it on and out as required. Sometimes the bobbin has to go the entire way between the leaves, and at others it may be only over two or three threads, this depending upon the pattern. To enable the bobbin to make the return passage, the warp must be redivided, the threads that are at the back must be brought to the front; this is managed by the help of the coats—a bunch of them is taken in the hand in order to pull forward the threads to which they are attached. This can be done by sections all along the line, or just in one part of it if it be so required.

The weft is almost always taken in horizontal lines to and fro. The exceptions to this rule occur when it is very evident that to run up and down a narrow slanting line from end to end is far simpler than to work up in a horizontal zigzag fashion along it.

About an inch of thread is left at the end and at the commencement of each length of weft; these are secured by the tight packing down of the threads above.
them, so there is as a rule no need for any knot or fastening off, which would be necessary only in the case of commencing or ending off round a single thread, but it is important for the future durability of the work to see that the ends are secured. Sometimes a commencement or a finish is made just where a natural division of the fabric occurs; in this case, the end of thread would not be secure, for it might work loose or appear upon the right side. This can usually be avoided by commencing a little further along the line. The few times that fastening off or on is necessary, the thread can be run into the part already woven with a smaller needle, or else be knotted on to a loose end of wool.

The bobbins not actually in use hang down fixed as in lace work by a half-hitch. Fig. 181 shows this in process of making; the loop is passed from the finger on to the bobbin; it will unwind as wanted and yet hold firm whilst hanging down. The thread is always carried, if practicable, from one place to where it is next required, in order to avoid unnecessary breaking off. Tapestry is sometimes woven with both sides alike, which
means only that all the ends must be cut close off. It is said that work so treated is quite durable.

Special care must be taken that the weft is turned neatly round at the margins, because if it is at all loose there the work has a ragged, untidy appearance. This applies also to any turnings that may occur in other parts due to the carrying out of the pattern; if in these places the thread is too loose upon the warp, the fabric will be uneven and pushed out of place, if on the other hand the thread there is too tight, the slits will gape, and if these are afterwards closed by stitching, the entire material will be drawn in. A new thread is never
The Technique of Weaving

commenced actually at the margin, for it would then be seen upon the right side; it is quite easy to avoid this happening by commencing an inch further in. This may entail beginning in a direction which is apparently wrong for picking up the proper threads, that is, those not picked up in the row below; but this must happen at times, and the work packs down and quite prevents the warp showing, as it might be inclined to do in such a case. It is sometimes at the margin a good plan to pick up two warp-threads together, for this emphasises the edge rather pleasantly; this might be advisable in carrying out a long ribbon-like border of any kind.

After each shoot, the point of the bobbin, the comb, or maybe the fingers, should press down the woof to make it lie close upon the row before, and so entirely cover up the warp. Fig. 182 shows the comb in action, and also the bobbins hanging. The weft must be left a little slack along the line for this purpose, and some experience is required in order to leave just the right slackness. The turn at the edge is arranged first, and then the thread eased evenly along
its length in readiness for being pressed down; it must have the appearance not of running straight across the warp-strings, but of lying loosely round them. For packing down a long line, much more play of weft is required than for a short one.

The usual fault with beginners is to draw the weft too tight here and there. This is a fault to be specially avoided, for it causes the fabric to be drawn in, and to vary in width, spoiling its appearance and making the threads difficult to

343
work upon; also the packing down of the weft could not be properly done, which would cause the warp-threads to be exposed in parts.

The thoroughness of this packing down of the weft is for several reasons very important. The durability of the work is much affected by it, both for the securing of the ends of wool already mentioned, and for the making of a strong, well-knit piece of fabric. Another reason is, that the drawing of the various forms in the design may be made incorrect, in this way: suppose an apple were woven in, apparently correctly, but the wefts were not pressed down thoroughly, the weaving and packing down of the wefts above it would be sure to press the part underneath closer together, and the effect of this would be to make the round apple assume a flattened oval shape, and cause similar changes throughout the work.

It has already been mentioned that wherever a change of colour occurs vertically, that is, in the direction of the warp-threads, there results of necessity a division or slit in the web; the slit, which may be of any length, if noticeable, must be closed. This can be done whilst the weaving is.
in progress by a method of interlocking the two wefts as they meet, or else by stitching up at the back when the work is finished. The latter way is called fine drawing, and must be very carefully done, especially with large tapestries.

Both methods are used; the first takes longer, but is the most durable. Old and worn tapestries will usually be seen to have given way where this stitching up at the back has taken place. In small pieces of work, however, there is not much likelihood of strain, so the oversewing at the back answers fairly well. The two ways can be used in conjunction. Supposing a border, owing to its being of a different colour, had to be joined the entire length of the work, the interlocking stitches might be made at intervals of about half an inch, and when the work was finished the oversewing at the back might be taken the entire length.

Fig. 183 is a diagram illustrating the way in which the wefts may be interlocked whilst the weaving goes on. Examination of the drawing will probably be sufficient explanation; however, interlocking is effected thus: Commencing at the base, run a weft of the darker wool to and
The Technique of Weaving

fro, leaving it slack at the turning point. A half pass of the lighter-coloured woof is then run through, it is threaded in an upward direction through the slack loop of the darker wool, waits there whilst another weft of the darker colour is worked, and then is threaded down through the second loop that has been formed, and returns to the starting-point. It then comes back again and is threaded upwards through this same loop, and waits, as before, for another to be formed, and returns back through it—and so on. If this is done properly, no change is visible on the right side. The joined weft will last as long as any other part of the weaving.

The process of stitching up at the back is simply an oversewing with silk or other 346
strong thread. The stitches must be rather close, drawing the edges just sufficiently together, and they must not show through to the right side. The stitching together should be done while the work is on the loom, since the web would then be in less danger of pulling out of shape.

Shading in tapestry weaving is carried out by a hatching process which is most simply explained by a diagram (fig. 184). The difficulty is not in the working, but in getting the form of the shadow or light correctly expressed. There is no need for fine gradation of colour and tone, for the shading looks best when carried out simply and boldly, but the drawing of it should be decided and good. The above figure gives but one intermediary tone in shading from one colour to another, which is the ancient method of
working; at the present day the weavers in the Manufacture des Gobelins employ several other intermediary tones, thus allowing of finer gradation; possibly however these fine gradations are not of such great importance, and so need not have an unnecessary amount of attention and time devoted to their accomplishment.

The student will do well to examine fine examples and make careful drawings from them, since this will teach the right way of going to work better than anything else can. Fig. 185 is a simply shaded leaf taken at random from a piece of weaving; the same leaf was shown in outline in fig. 180, so the two show the commencement and completion of the same piece. It will be noticed upon studying tapestry that usually all the light parts of a work are hatched with the same colour, often a buff shade, those of rich tapestries with gold thread. This sameness of colour throughout gives unity to the work.

Sometimes after the weaving is completed a few finishing touches can be satisfactorily put in by means of single stitches taken through the fabric with a sharp-pointed embroidery needle. The dots representing the seeds upon a strawberry
could be stitched in afterwards in this way, for to insert them while the work is going on would be very tedious. This kind of thing must not be overdone, however, for the stitches are apt, unless very deftly treated, to have a laid-on look, and care must be taken not to mar the evenly ribbed effect, which is one of the characteristics of tapestry.
This weaving is a most fascinating kind of work, as will be found upon a trial. The simplest patterns look very interesting when woven, and, on the other hand, the work can be carried to any degree of complexity that the worker desires. For a first trial a piece might be done with no attempt at shading, even one such as that illustrated at fig. 186 would be suitable. This example happens to be a form particularly easy for carrying out in weaving. The worker should begin at the lower right-hand corner and
work the successive flights of steps diagonally, as shown by the unfinished portion of the diagram.

In the way of actual technique there is in the art of tapestry weaving not nearly as much to be learnt as there is in embroidery, for there are no varieties of methods and of stitch to be acquired: still for a person to become a skilled weaver, capable of carrying out large wall hangings, is a thing very difficult of attainment, indeed it is said that it takes as long as fifteen years of constant application to acquire the necessary knowledge and skill. To carry out designs of less magnitude and intricacy is a very different matter; success in this smaller way is far more easily attained, and is well within the reach of unprofessional people.
NOTES ON THE COLLOTYPE PLATES
NOTES ON THE COLLOTYPE PLATES

Plate I.—A Detail from a XIVth Century English Cope.—The figure of Christ which is shown in this plate is taken from a central group, representing the coronation of the Virgin, in a famous cope in the possession of Colonel J. E. Butler-Bowdon. The ground is of rich red silk velvet; the face, hands, and linings of the draperies are worked in silk in split stitch; the drapery, crown, and surrounding architectural decoration are in gold thread couched by the early method. The twisted column with oak leaves and the five lobed arch are both characteristic of English work of this period. Note the use of pearls in the lion’s head and in the acorns, also the charmingly drawn bird. An interesting technical point displayed in this example...
Notes on the Collotype Plates

is that the work is done directly on to the velvet ground, instead of being first worked upon linen and afterwards as a completed piece of embroidery applied to the velvet. The method in use here, if at all possible, is always the most satisfactory.

Size of detail, about eleven inches by six.

Plate II.—Two Heads from a XIVth Century English Cope preserved at Steeple Aston, Oxfordshire.—The cope is not now in its original state, for it has been divided into two parts and used for the decoration of the altar. The background is composed of a thin greyish white silk backed with a stronger material. The white may have been originally some other colour; it is, however, in its present state, very beautiful and harmonious. The drawing of the features in this cope is remarkably refined and true to nature (the reproduction does not do full justice to the original). The ancient method, of working the faces in split stitch commencing with the middle of the cheek and continuing spirally round, then afterwards pressing the centre down by some mechanical means, is plainly to be observed here.

356
The effective drawing of the tresses of hair in alternate lines of two colours is well seen in the left-hand example. The gold thread which is freely made use of all over the cope, upon the draperies, nimbi, and surrounding foliage, is marvellously bright and sparkling, although nearly six hundred years old. The manufacture of untarnishable gold for embroidery purposes seems beyond present day enterprise.

Width of nimbus, two and a half inches.

Plate III.—A small portion of a Quilted Coverlet, probably of Sicilian work. Date about 1400.—In this interesting example of quilting, which is exhibited in the Victoria and Albert Museum, the ground is composed of a buff-coloured linen. The raised effect is obtained by an interpadding of wool. The background is run over irregularly with white thread, in order to keep it more or less flat, and the design, which is in fairly high relief, is outlined with brown thread. The entire coverlet is embroidered with scenes from the life of Tristan. Tristan frequently engaged in battle against King Languis, the oppressor of his country.
Notes on the Collotype Plates

This detail represents “How King Languis (of Ireland) sent to Cornwall for the tribute.”

Size of detail, two feet by three.

**Plate IV.**—*A portion of an Altar Cloth Band, embroidered in coloured silk threads upon a white linen ground.*—This is a piece of German XVth century work exhibited in the Victoria and Albert Museum. It is embroidered almost entirely in one stitch, which might be described as a variety of herring-bone. The design is made up of two motives which repeat alternately along the band—a square shaped tree and a circle, the latter decorated with floral sprays and, in the centre of it, a group of emblems. Down the middle of the design runs a series of names in fine Gothic lettering—“Ursula” and “Augustinus” being the two that occur in this plate.

Width of embroidered band, four and a half inches.

**Plate V.**—*A portion of a late XVth century Orphrey, embroidered with the arms of Henry Stafford, Duke of Buckingham.*—The
ground is of red velvet, and is embroidered with gold thread and coloured silks. The two shields here represented bear the arms of the families of de Bohun and Fitzwalter. Each shield has for supporters two swans, and is surrounded by floral sprays. The Stafford knot unites the sprays between the shields. The chasuble upon which this orphrey is placed is made of a lovely brocaded silk decorated with falcons, peahens, and roses.

Width of embroidered orphrey, about eight inches.

Plate VI.—A detail of Foliage taken from a late XVIth century Embroidered Picture representing the story of Daphne.—The picture is worked in coloured wools and silks in cross stitch upon canvas, and is an admirable example of this kind of work, and this particular detail is a good illustration of a very satisfactory treatment of foliage. The whole panel measures about seven feet by two, and is exhibited in the Victoria and Albert Museum.

Height of detail, ten and a half inches.
Notes on the Plate VII.—An Embroidered XVIIth or XVIIIth century Wool-work Curtain.—This curtain, the property of Miss Killick, is a pretty example of a small crewel-work hanging. The design is of a type that was often used upon hangings of that period. It is embroidered with brightly coloured wools upon a white linen ground, and is in a good state of preservation. Much ingenuity as well as variety of stitching are shown in the execution of the work.

Size of curtain, about five feet by three.

Plate VIII.—A portion of a large XVIIth century Linen Hanging embroidered with coloured wools.—In both design and execution this curtain is remarkably fine. The entire hanging is about eighteen feet in width by seven in height. It is embroidered with a conventional representation of a forest; in the branches of the trees lodge all kinds of birds and beasts. The type of design shown in this plate and in the last is derived from Eastern work; its introduction into England was due to the increase of trade with oriental nations, which developed about this time.

Size of detail, about six feet by four.
Plate IX. — Cutwork Lettering taken from a XVIIth century English Sampler.—

The letters and surrounding decoration shown in this example of cut or open work are built up on a square network of warp and weft threads that were left at regular intervals throughout the space, when the unnecessary threads were withdrawn, and then covered with a kind of darning stitch. The letters are worked in button-hole stitch, each fresh line being taken into the heading of the last one. The other parts of the work are carried out in either buttonhole or overcast stitch. The complete sampler is a long narrow strip of linen, across which run specimen bands of various kinds of work. It is exhibited in the Victoria and Albert Museum.

Width of cutwork detail, six inches.

Plate X. — An Embroidered Sampler.—

The work is carried out in coloured silks in minute cross-stitch and occasional rows of satin stitch, upon a ground of fine single-thread canvas. It is dated 1798, and was worked by Alice Knight, the author's great-grandmother. The birds,
trees, and flowers, the charming little border patterns, and the comical cats standing on either hillocks or housetops, are all characteristic of sampler work. Working the sampler was once the regular introduction to mending, marking, and embroidery, and one was done by almost every XVIIIth century child as a part of education, indeed the practice of working samplers was continued some decades into the XIXth century.

Actual size of original, eighteen inches by twelve.

**Plate XI.**—An Example of Persian Embroidery.—Formerly in the collection of Lord Leighton, and now in that of the London County Council's Central School of Arts and Crafts. The embroidery is carried out almost entirely in chain stitch with brilliantly coloured silks, upon a fine semi-transparent ground. The flowers that appear dark in the reproduction are worked in a bright rosy red, others are yellow and orange, and the leaves are in pale grey green outlined with a dark myrtle shade of the same.

Size of panel, about five feet by four.
Plate XII.—A Detail from an Embroidered Tablecloth.—The entire surface of this fine white linen cloth is strewn with a profusion of beautiful flowers, worked in floss silk in bright colours. The flowers were all drawn directly from nature by the worker, Mrs. W. R. Lethaby.

Plate XIII.—An Embroidered Altar Frontal, executed by Miss May Morris, designed by Mr. Philip Webb.—The work is carried out with floss silk in bright colours and gold thread, both background and pattern being embroidered. The five crosses, that are placed at regular intervals between the vine leaves, are couched in gold passing upon a silvery silk ground.

Plate XIV.—Two Pieces of Ancient Weaving taken from Tombs in Egypt.—These are exhibited in the Victoria and Albert Museum. The upper example is about five inches square, dated IIIrd to VIIth century, Egypto-Roman work, and is said to have decorated a child's tunic. It is woven in coloured silks upon a green ground; the colours are still wonderfully
Notes on the fresh and bright. Weavers may see various interesting technical as well as other points in this early work. For instance, how the difficulty of the narrow detached vertical lines, necessitated by change of colour in the weft, has been overcome by using surface stitching instead, the easier horizontal lines being woven in the usual way. A good deal of this surface stitching can be seen in the ancient weaving; sometimes an entire pattern is picked out by this method, the ground having been first woven all over in some plain colour.

The lower border pattern is a band of weaving about two inches in width, Saracen work. It is woven in coloured silks and linen thread upon the actual warp threads of the garment that it decorates. The weft threads were probably omitted for the space of one and a half inches when the fabric was being made in order that some ornamentation might be put in, in this way. Some of the weft threads have perished, leaving the warp exposed to sight; this enables the student to understand better the manner in which it was carried out.
Plate XV.—An Example of a Tapestry Field strewn with Flowers.—This kind of decoration is characteristic of many tapestry grounds, for the style is particularly suited to the method of work, and very happy in result. The detail shown in this plate is taken from a piece of late XVIth century Flemish work; it carries on, however, a much earlier tradition. The ground is of a dark blue colour, and the flowers varied as in nature.

Plate XVI.—A Tapestry Bag, woven in coloured silk and gold thread by the Author.—The ground is woven with black silk, decorated with gold at the top and base. The centre panel is carried out in brightly coloured silks and gold thread. The various compartments are filled with representations of flowers, birds, and fishes, upon an alternating purple and blue background. The dividing lines are of gold thread.

Size of bag, ten inches by six.
THE COLLOTYPE PLATES
Plate I.—A Detail from a XIVth Century English Cope.
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Plate IV.—A portion of an Altar Cloth Band, embroidered in coloured silk threads upon a white linen ground.
Plate V.—A portion of a late XVth Century Orphrey, embroidered with the arms of Henry Stafford, Duke of Buckingham.
Plate VI.—A detail of Foliage taken from a late XVIth Century Embroidered Picture, representing the story of Daphne.
Plate VII.—An Embroidered XVIIth or XVIIIth Century Wool-work Curtain.
Plate VIII.—A portion of a large XVIth Century Linen Hanging embroidered with coloured wools.
Plate IX.—Cutwork Lettering taken from a XVIIth Century English Sampler.
Plate X.—An Embroidered Sampler.
Plate XI.—An example of Persian Embroidery.
Plate XII.—A Detail from an Embroidered Tablecloth. Designed and executed by Mrs. W. R. Lethaby.
Plate XII. An Embroidered Altar Frontal, Executed by Miss May Morris, designed by Mr. Philip Webb.
Plate XIV.—Two pieces of Ancient Weaving taken from Tombs in Egypt.
Plate XV.—An example of a Tapestry Field strewn with Flowers.
Plate XVI.—A Tapestry Bag, woven in coloured silk and gold thread by the Author.
INDEX
INDEX

Index

ALTAR - CLOTH band (Plate IV.)
Altar frontal (Plate XIII.)
Appliances, 34
Appliances and materials for tapestry weaving, 315
Applied embroidery, 174
Applied work, 172

BACKGROUND, the, 46
Bag, tapestry (Plate XVI.)
Beads, 50
Bobbins, 321
Braid work, 166
Broderie anglaise, 222
Bullions, 235, 256

Canvas work, 147
Coat-stave, 333
Collotypes, descriptive notes on, 355
Colour, 72
Comb, 322, 343
Cope at Steeple Aston (Plate II.), 356
Cope, detail from XIVth century English (Plate I.), 355
Cord, 40, 271
Cord-making appliance, 39, 273
Cotton, 49

Couching, 164
Couching gold, ancient method of, 238
Couching gold, usual method, 250
Coverlet, quilted Sicilian (Plate III.), 357
Crewel work, 103
Curtain, XVIIth century (Plate VIII.), 360
Curtain, XVIIIth century wool work (Plate VII.), 360
Cutwork, 213, 221

Darned netting, 210
Darning, 196
Darning, pattern, 197
Design, 30, 51
Design for tapestry, 311
Designing, pattern, 51
Directions, practical, 292
Drawn thread work, 213
Dressing the coat-stave, 333

Egyptian weaving (Plate XIV.), 363
Emblems, 270
Embroidery frame used as a loom, 323
Embroidery, washing, 297
Embroidery with gold and silver threads, 229
INDEX

- "Basket" 131
- "Braid" 88, 403
Index

Stitch, bullion, 121

buttonhole, 107

cable chain, 90

chain, 77

chequered chain, 84

Cretan, 134

cross, 152

double back stitch, 127

feather stitch, 129

fishbone, 131

French knot, 120

Gobelin, 154

herring-bone, 126

Holbein, 159

insertion, various, 139

interlocking, 345

Irish, 155

knot, 124

knotted chain, 92

long and short, 99

open chain, 86

overcast, 106

plait, 156

rococo, 162

rope, 86

Roumanian, 136

satin, 95

split, 94

stem, 101

stroke, 159

tailor's buttonhole, 109

tambour, 77

tent, 153

twisted chain, 85

two-sided Italian, 156

zigzag chain, 83

Tablecloth, embroidered (Plate XII.), 363

Tambour frame, 39

Tapestry bag (Plate XVI.), 364

Tapestry, example (Plate XV.), 365

Tapestry weaving, introduction to, 307

Tassels, 283

Tarnish of gold and silver threads, 237

Thimbles, 35

Threads, 49, 299, 327

Threads, gold and silver, 229

Tools, 34

Tools for tapestry weaving, 315

Tracing patterns, 42, 328

Tracing patterns on warp, 335

Transferring patterns, methods of, 292

Transferring patterns, requisites for, 42

Velvet, 48

Warp, 326

Warping the loom, 328

Washing embroidery, 297

Weaving, 338

Weaving, Egyptian (Plate XIV.), 363

Weaving, tapestry, 305

Work, garniture of, 271

preparations for, 328

protection and preservation of, 292

Wools, 49, 327

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