*"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").

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SECOND EDITION REVISED

(*A reprint of the First Edition, with various slight alterations in text*)

THIRD EDITION REVISED

(*A reprint of the Second Edition*)

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# THE ARTISTIC CRAFTS SERIES OF TECHNICAL HANDBOOKS EDITED BY W. R. LETHABY

# EMBROIDERY AND TAPESTRY WEAVING

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# 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 [Pg 308] 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[Pg 309] 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 cumbersome than an embroidery frame; in fact[Pg 310] 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 [Pg 311] 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[Pg 312] 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[Pg 313] 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.

*Fig. 169.*

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[Pg 314] 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[Pg 315] 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[Pg 316] 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. [Pg 317]

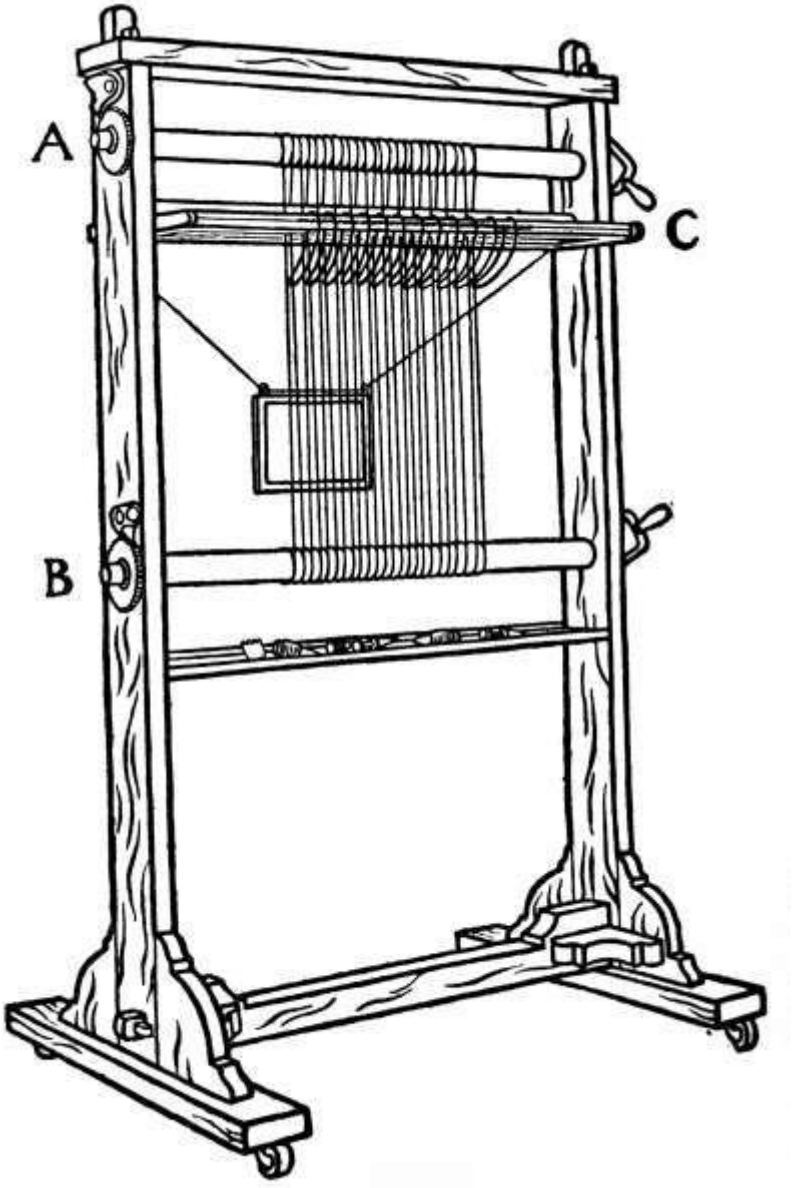


*Fig. 170.*

[Pg 318]

*Fig. 171.*

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[Pg 319]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.

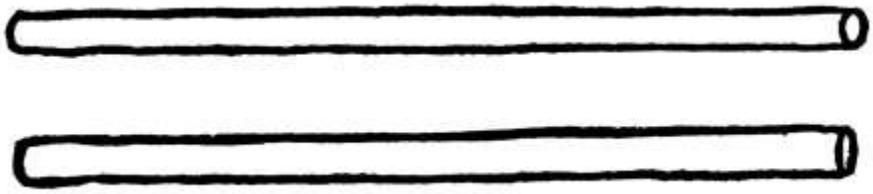

*Fig. 172.*

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[Pg 320]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.

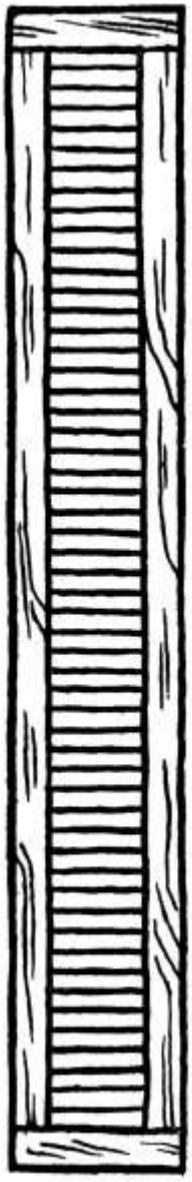

*Fig. 173.*

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[Pg 321] 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.

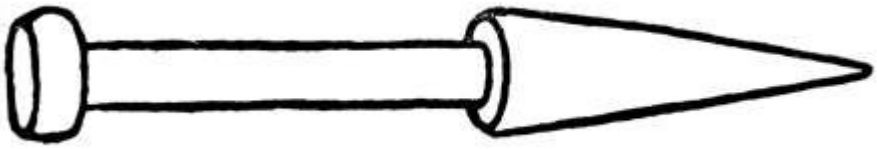

*Fig. 174.*

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[Pg 322] 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.

*Fig. 175.*

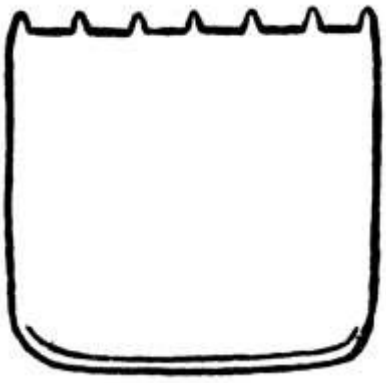

*Fig. 176.*

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 1½ 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[Pg 323] 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.

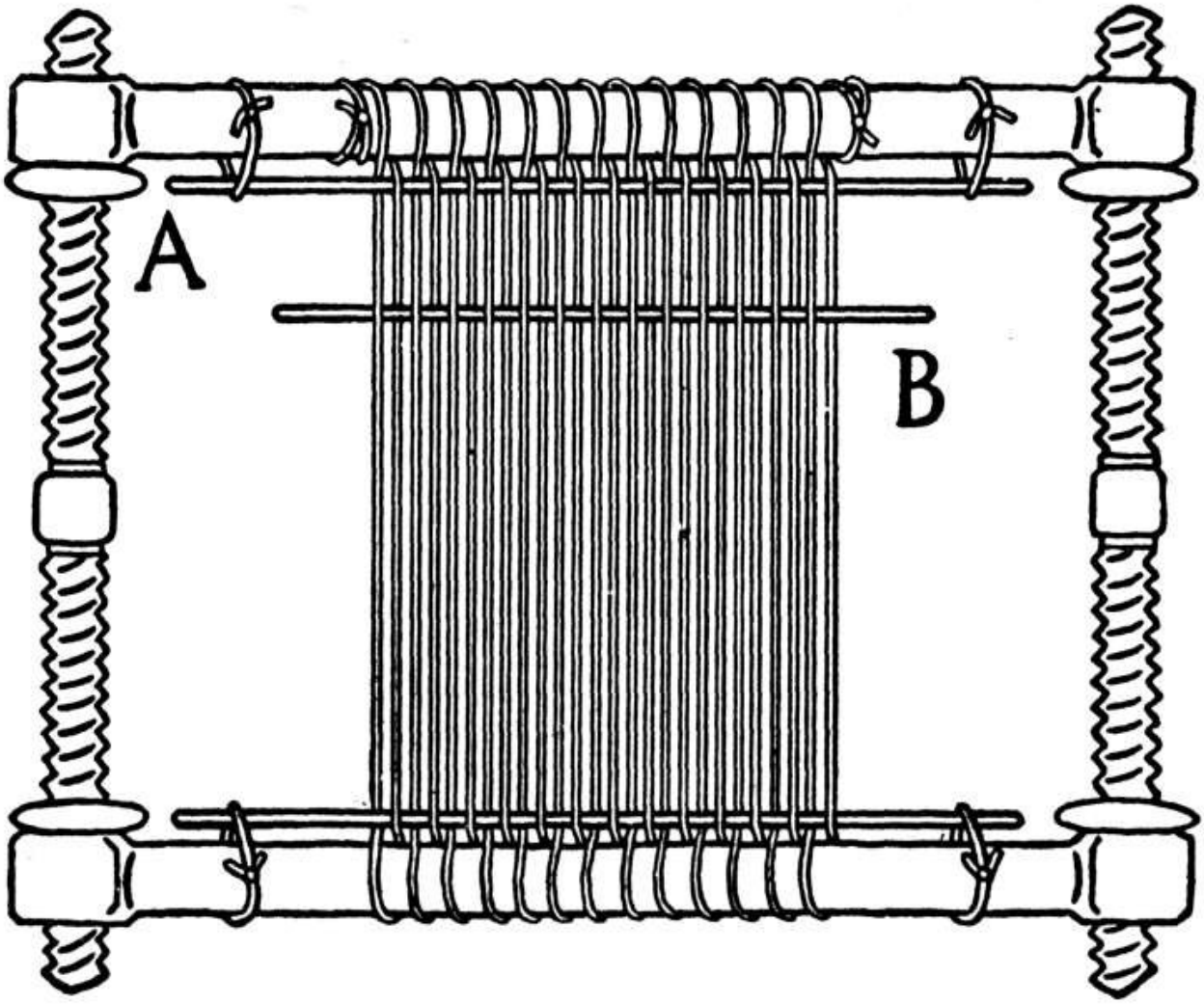


*Fig. 177.*

An embroidery frame, which has been[Pg 324] 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[Pg 325] (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[Pg 326] 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.

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## 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[Pg 327] 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, [Pg 328] 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.

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# 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[Pg 329] 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[Pg 330] 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[Pg 331]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.

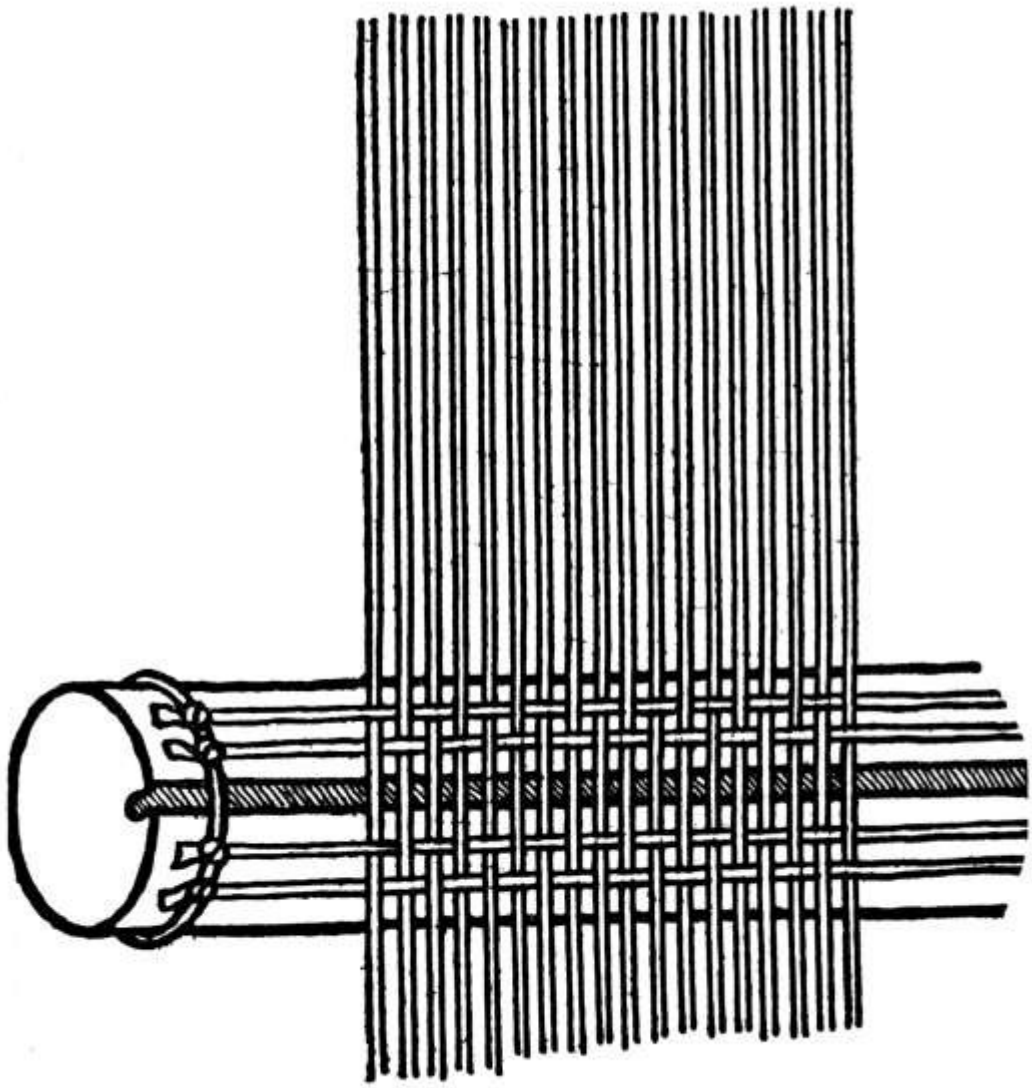

*Fig. 178.*

Fig. 178 shows a practical method by[Pg 332] 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[Pg 333] 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 buttonhole 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.

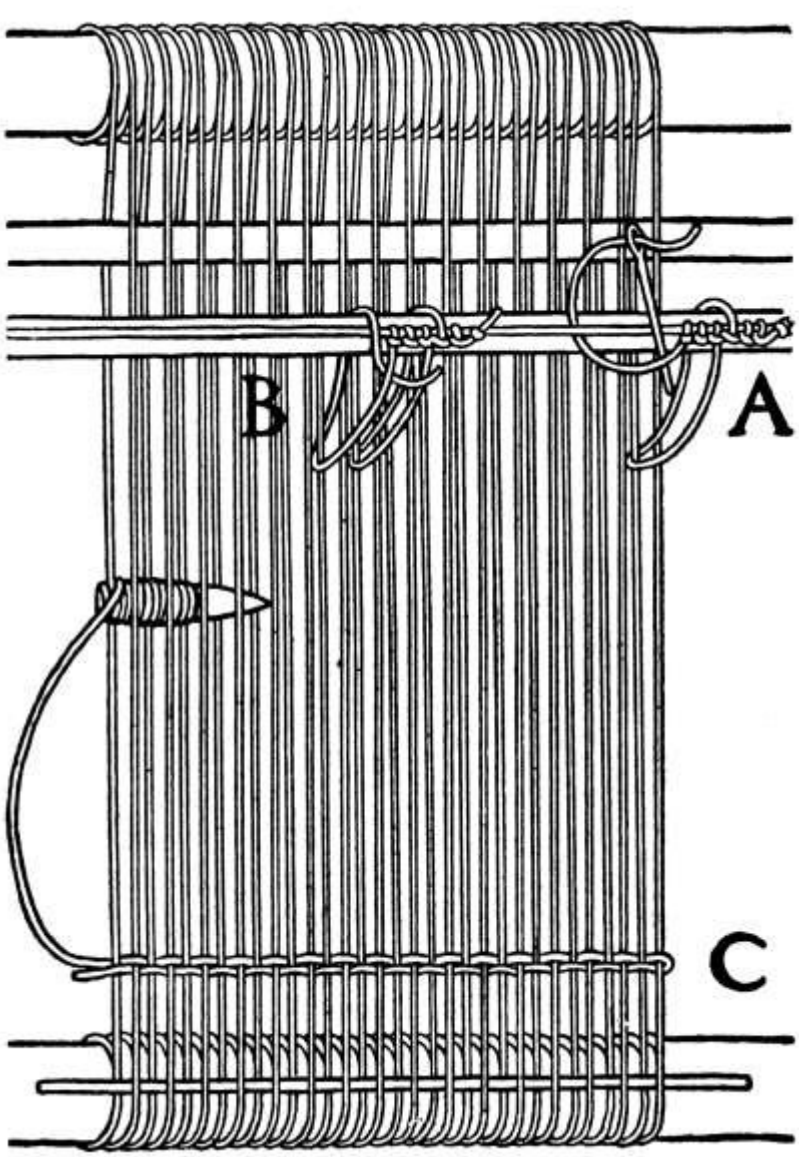


*Fig. 179.*

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 [Pg 334] looped under the thread to complete the stitch (see B). Usually a long and a[Pg 335] 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.

When the coats are completed there are still one or two preparations to be made before actually commencing to weave. Either a metal rod or a long narrow piece of wood must now be threaded in and out of the warp-strings and placed in position at the base. This rod can be seen properly placed in position in fig. 179 in front of the lower cylinder. This is put there to keep the lines of the woof horizontal when they are being beaten down by the comb.

Next wind on a bobbin some warp-thread similar to that already on the loom, or, if that happens to be very coarse, let this be a little finer. Now weave two courses with this warp-thread and beat it down with the comb, leaving the woof during the process rather loose. The technique of weaving with all its[Pg 336] difficulties is discussed in Chapter XVIII. When two of the warp-thread courses are complete, insert

either the pointed end of the bobbin or a blunt needle between the warp-threads below the woven portion, and if necessary move the warp-strings a little to or fro until they are equally separated each from the other all along the line. Next weave about four more courses of the woof; these will serve to keep the arranged warp-threads still more firmly in place. Then with a red pencil rule a horizontal line straight across the warp-strings about one-third of an inch above the woven portion. Wind on another bobbin some wool and weave it to and fro until the space between the woven portion and the red line is filled in. Between each course the comb must beat the woof-threads firmly down. It is often necessary to weave over some portions of the surface more than over others as the threads pack down tighter in some parts. The loom should be now in perfect order for commencing work. The preparatory weaving that has been done is often useful afterwards as a selvedge.

It is necessary to have a coloured drawing of the design for frequent reference whilst the work is in progress; also [Pg 337] 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, 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[Pg 338] 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[Pg 339] 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.

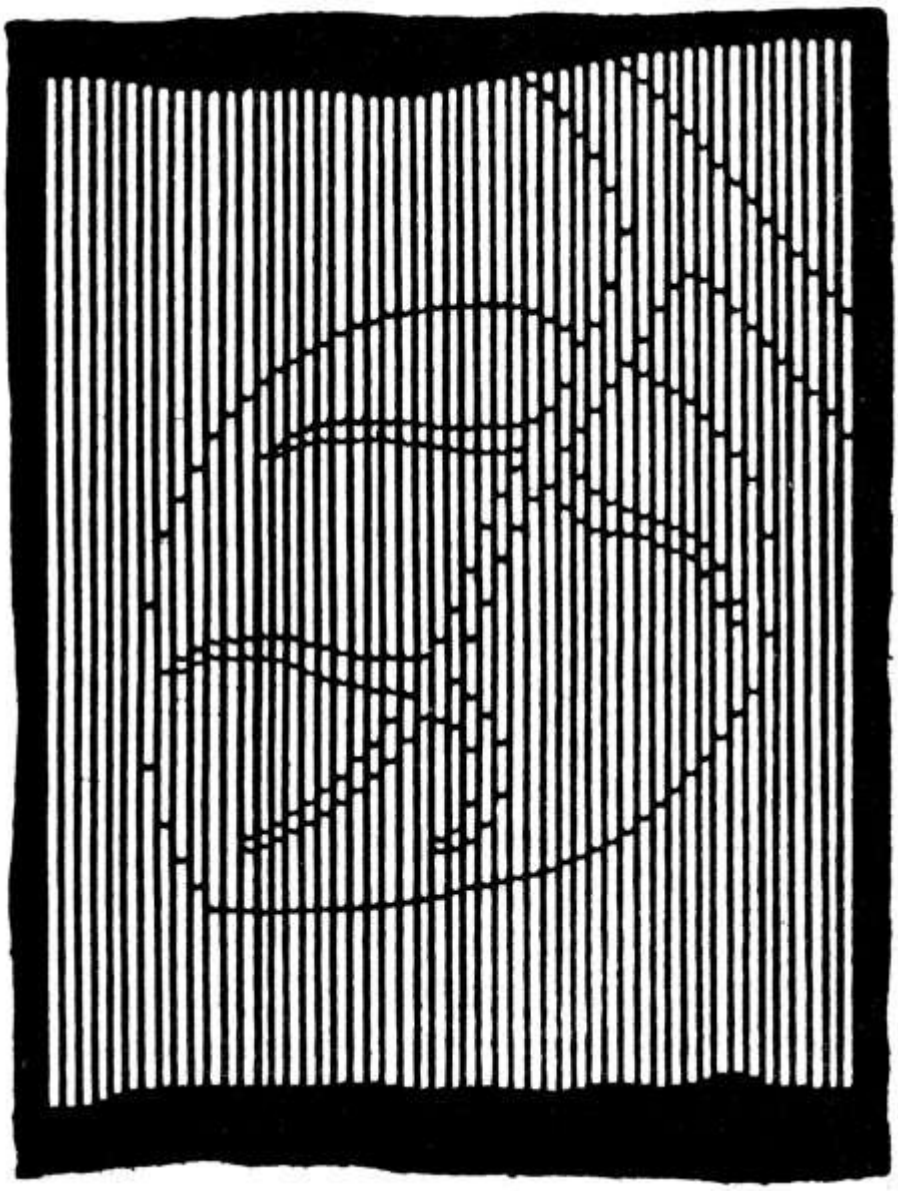

*Fig. 180.*

# 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[Pg 340] 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[Pg 341] 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[Pg 342] 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.

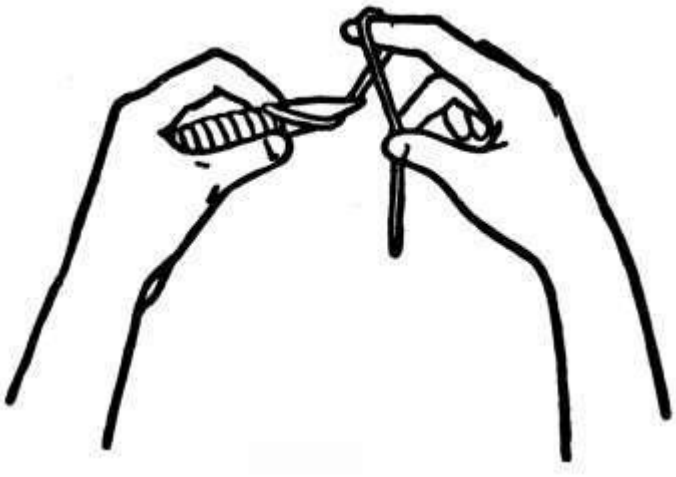

*Fig. 181.*

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;[Pg 343] 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 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[Pg 344] 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.

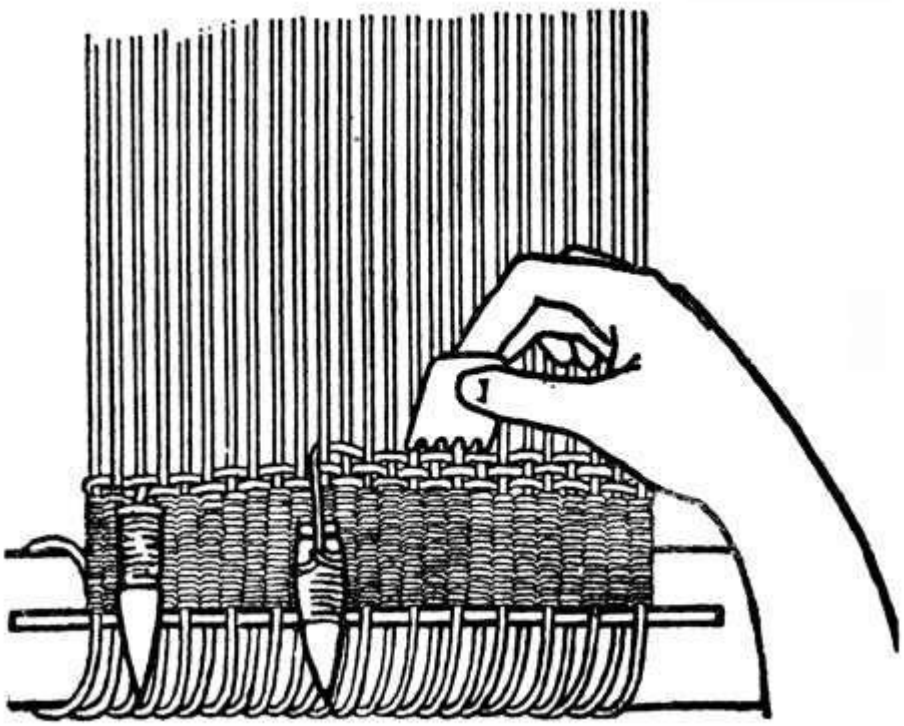

*Fig. 182.*

[Pg 345]

The usual fault with beginners is to draw the web 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 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 wher[Pg 346]ever 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.

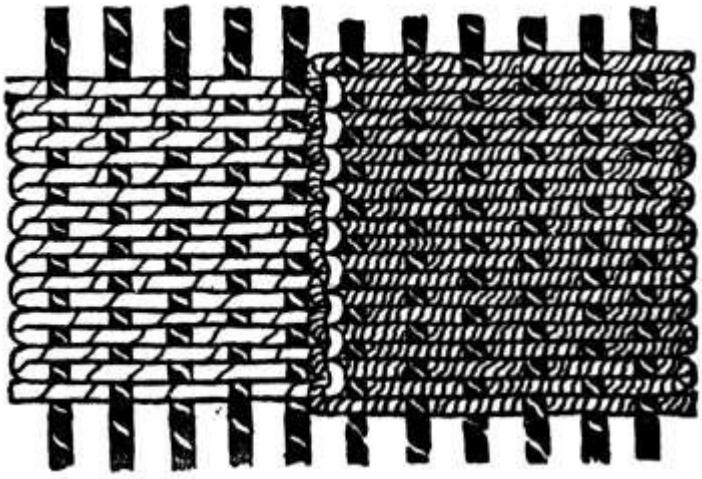

*Fig. 183.*

Fig. 183 is a diagram illustrating the[Pg 347] 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 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[Pg 348] 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 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.

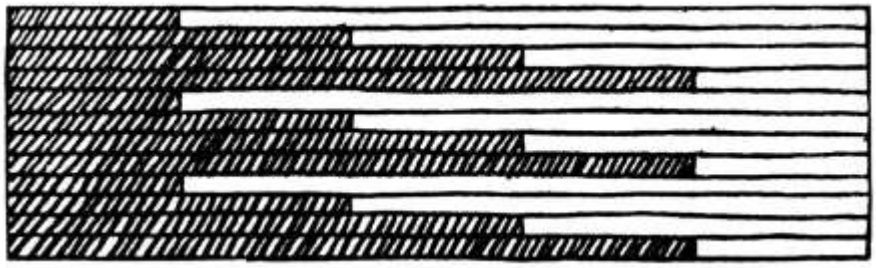

*Fig. 184.*

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,[Pg 349] 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 simply a 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.[Pg 350]

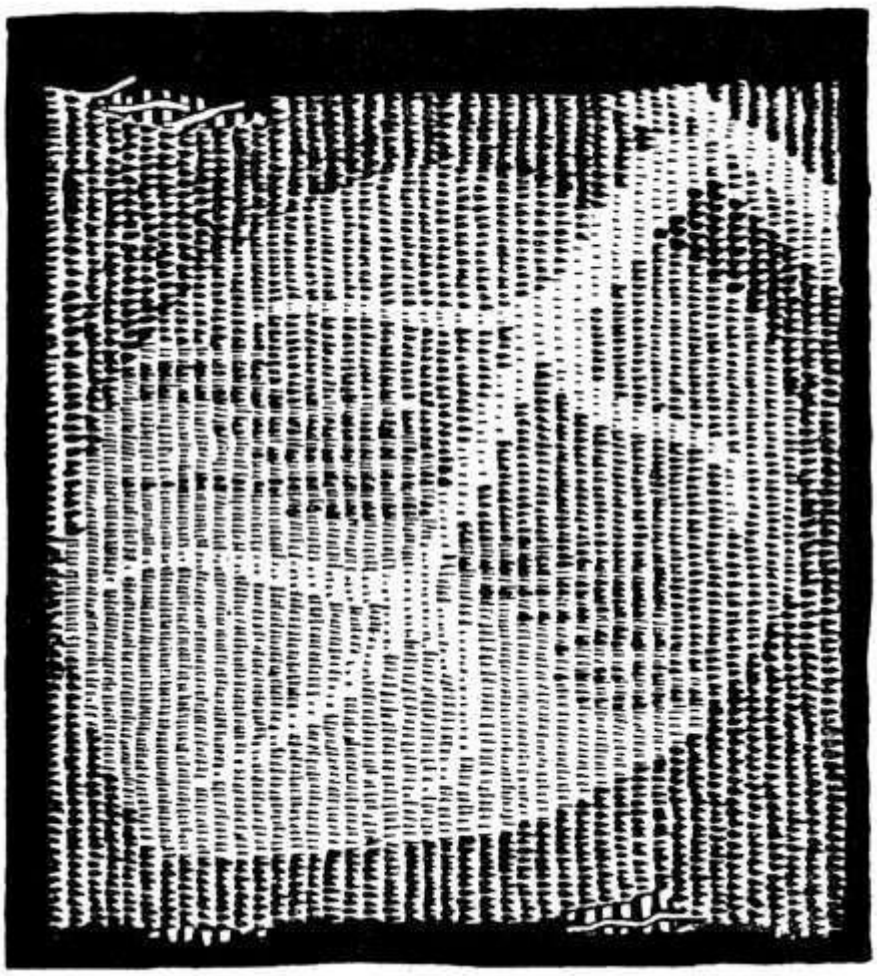

*Fig. 185.*

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[Pg 351] 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[Pg 352] 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.

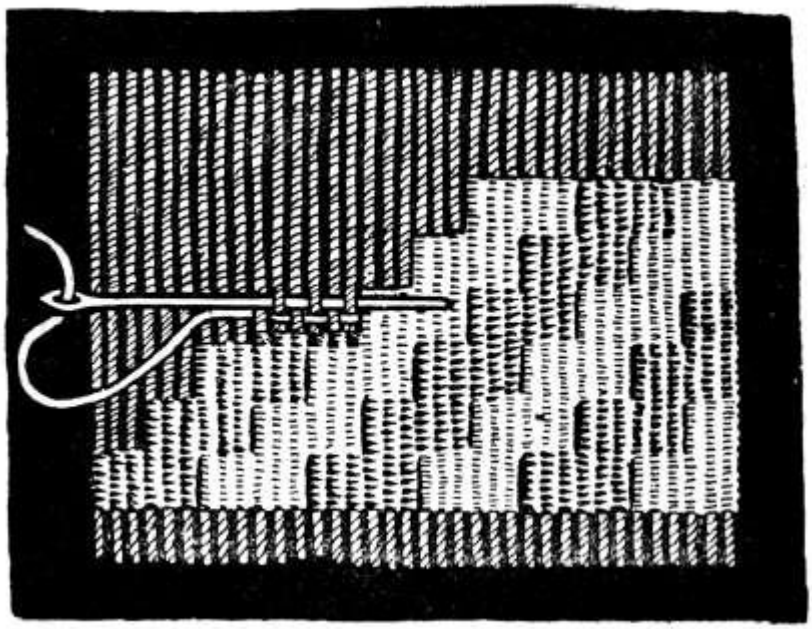

*Fig. 186.*

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.[Pg 355][Pg 354][Pg 353]

# 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[Pg 356] 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.[Pg 357] 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.[Pg 358] 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[Pg 359] 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.[Pg 360]

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.[Pg 361]

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 buttonhole 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,[Pg 362] 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.[Pg 363]

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[Pg 364] 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, Saracenic 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.[Pg 365]

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.[Pg 367][Pg 366]

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[Pg 368]

[Pg 369]

# THE COLLOTYPE PLATES

*(embroidery is missing)*

***Plate XIV.—Two pieces of Ancient Weaving taken from Tombs in Egypt.***
***Notes.***

*[Pg 398][Pg 397]*

***Plate XV.—An example of a Tapestry Field strewn with Flowers.***

***Notes.***

*[Pg 400][Pg 399]*

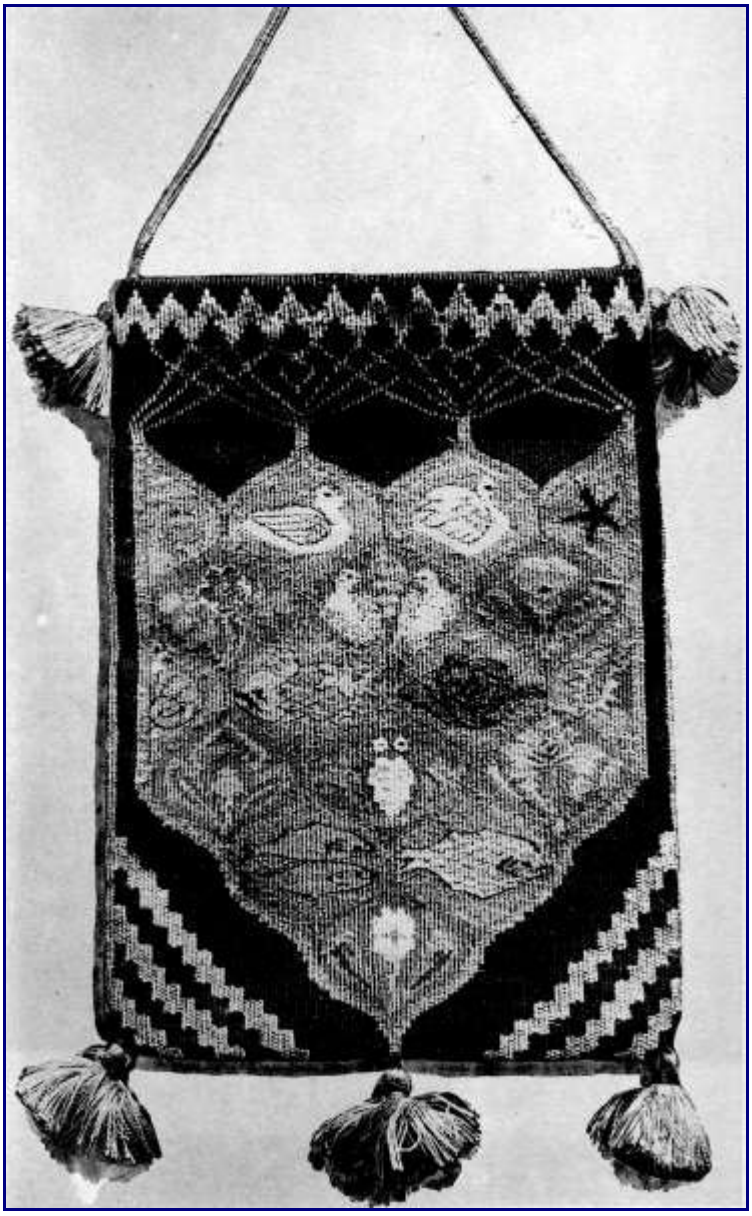

*Plate XVI.—A Tapestry Bag, woven in coloured silk and gold thread by the Author.*

*Notes.*