

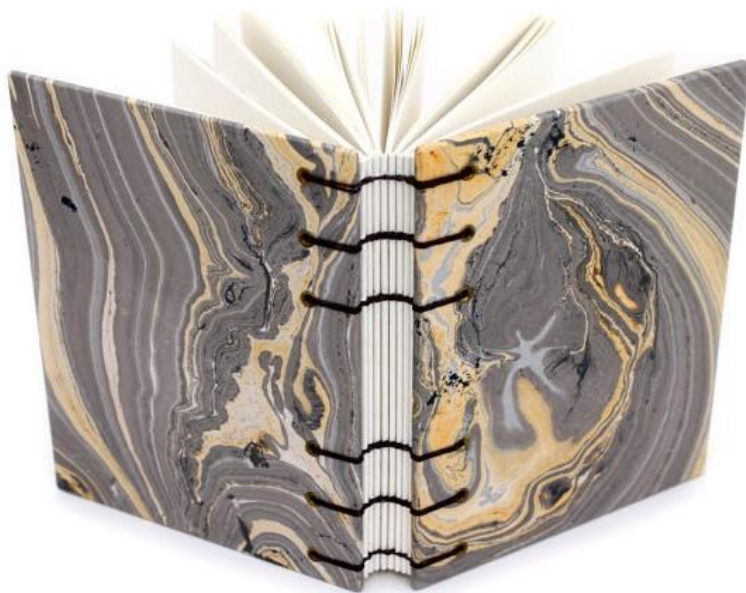
Bound  *by Veterans*

BOOKBINDING COURSE NOTES



**CITY & GUILDS LEVEL 2
SECOND AWARD**

Alternative and Historical Binding



Authorised by:



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MATERIALS AND EQUIPMENT NEEDED TO COMPLETE UNIT 221

Materials

Paper (for text blocks)
Coloured and decorative papers for covers
Ribbon, tape or paper for sewing supports
Sewing thread

Equipment

Knife
Set Square
Pencil
Needle
Safety rule
Glue brush
Cutting mat or piece of board to cut on
Scissors
Bodkin
Bonefolder

INTRODUCTION TO SEWING TECHNIQUES

Earliest Historical Examples

The *codex*, made of several leaves of papyrus, parchment or vellum, held together on one edge with a binding string of some sort, was first made around the 2nd century AD.

Stab Sewing

The simplest way of fastening the loose sheets together was by stab-sewing them, which involves making several holes evenly down the edges up to 10mm in, and passing the needle right through the leaves with a thread or cord from front to back and back again. This method was used in the Mediterranean area during the first few centuries AD, and has always been popular in the far east. Traditional Japanese bindings are still sewn in this way.

Stab-sewing means that the pages of the resulting book will not open flat, and therefore is most suitable for soft flexible papers that will bend well, and which may tear if sewn through a fold. It is necessary to allow a large margin for this type of sewing also.

Coptic Sewing

Coptic sewing was first practised in Egypt and the middle east, and consists of sewing sections together using only thread without the support of cords, thongs or tapes. The

method is often used to attach the sections to the covering boards also. The thread is often knotted between each section, or looped to create a chain stitch.

The method spread to the Mediterranean and northern Europe but fell out of favour with the introduction of raised thong or cord sewing around the eighth century AD.

Raised Thong Or Cord Sewing

Raised leather thongs were used for sewing with from around the eighth century until the sixteenth in northern Europe. The thongs, often split down the middle, were made from leather or vellum and vastly improved the strength of the sewing. However, over time the leather would deteriorate and snap, which is why cord started to come into use.

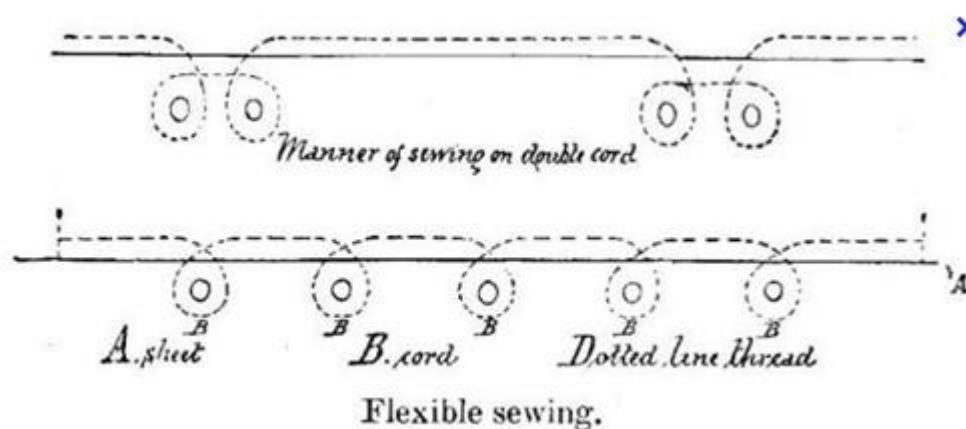
Cords were introduced late in the sixteenth century to replace thongs and were made from hemp, jute or flax. Double thongs or cords were used on earlier books, where the thread was carried around them in a figure of 8 or in separate loops starting from the centre of the two cords. Single cords were introduced later as being more economical in terms of labour; here the thread encircles each cord, with the needle coming out of and re-entering the same hole in the fold.

The raised cords would show on the spine of the book as what we now call 'raised bands' and the circling method of sewing them kept them even and perpendicular to the spine. The covering leather was moulded around these, and glued straight to the spine. This method of binding is called 'tightback'.

Packed Sewing

This technique is used when the sections are very thick, or of uneven thickness, in order that the sewing does not compress the spine making the book fan open, and making rounding and backing very difficult.

The thread is wound around the cord between sections so that the stitches are spaced in line with the section folds.



Recessed Cord Sewing

Recessed cord sewing, introduced late in the sixteenth century, took the place of raised cord sewing as it was again more economical in terms of labour time, as the thread passes over the cord and is not wound around it. The sections of the book, after glueing, are held in the laying press and grooves are sawn in using a hacksaw. The grooves should be deep enough to accommodate the cord snugly, but not so deep as to create a recess where each cord lies.

This method has fallen out of favour as it damages the paper of the book, and in time leads to weakness in the binding. Books sewn on recessed cords, in the nineteenth century, often had false raised bands stuck on to the spine hollow, to create the appearance of the raised sewing cords from previous centuries. It is easy to tell the difference between real and false bands as the latter are often very square and completely uniform in look, rather than rounded and slightly uneven.

Tacketing

A method originally employed in non-adhesive binding to secure the section (or sections) to the covers of limp vellum bindings. The technique was later used to secure the loose, jacket-like cover to the text block of some bindings, and, from late medieval times, as a method of decorating the covers of stationery bindings. Tacketing in one form or another, dates back to at least the early 12th century.

Over a period of some 800 years, tacketing has evolved from a method of constructing a bookbinding to a method of reinforcing and decorating the spine and covers of a book.

Early tacketing involved punching two holes through the centre fold of each section, as well as the vellum cover, about 10-20mm apart. The ends of a strip of vellum, gut, or leather lacing were passed through the holes from the inside, wound around each other and knotted at each end. When tacketing stationery bindings, the holes were punched through the sections, the cover, and the bands, and then wound around each other.



Sewing On Tapes

Sewing on flat tapes of linen began in the 19th century and continues today. The linen tapes are generally sewn across as with recessed cords, and imbue strength and flexibility to the

spine. When the tapes are removed after sewing is completed, leaving only thread, this is called French sewing. It allows for a very flat smooth spine.

When the sections of a book are very thin (ie 4pp or 8pp only), the sewing is often done 'two on' meaning that the thread does not catch up all the tapes or cords along the fold of each section, but misses a couple on one section, which are caught up in the next section, thus alternating the tapes sewn in to every other section. This reduces the swell caused by too much thread on thin paper, and also reduces the risk of tearing the thin sections by reducing the number of times the paper is punctured.

RESEARCH REQUIREMENTS

As part of Unit 221, you need to design the final presentation piece that you will make at the end of the course. This design will be based on one of the three samples that you will make under direction, but its style, colour, size and stitching structure will need to be influenced by ideas gained from your own research of historical, cultural and contemporary bindings.

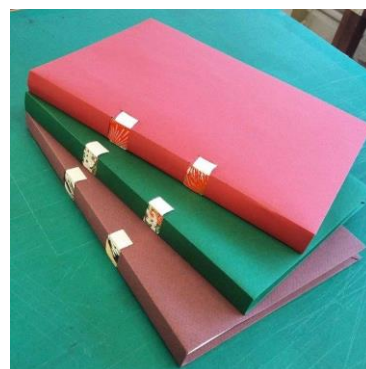
Your research will need to cover Near and Far Eastern sewing styles from primary and secondary sources, eg current trends, key designer makers (national and international), libraries, websites, books, journals, exhibitions and shows, museums.

You will be expected to present the results of your research in an organised manner to your instructor as part of an informal presentation using sketches, samples and photographs or a combination of all three.

EXAMPLE 1 – CONSERVATION COVER

Introduction

The Conservation Cover is a simple paper cover for a book block sewn onto tapes, ribbons or paper strips. No glue is used to hold the book together; everything is held in place by folding.



Materials

Paper for cover (on this course you will use Colourplan, Canson or Mi Teinte 135 gsm)

Paper for book block (on this course you will use Andover Text Block 90 gsm)

Ribbon, tape or paper for sewing supports (on this course you will use 10mm linen tape)

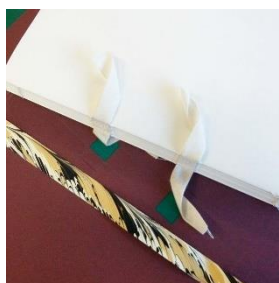
Sewing thread

Equipment

Knife
Steel rule
Bone folder
Dividers
Set square
Cutting mat
Needle

Method

1. Sew up a bookblock of 10 sections onto 10mm tapes using two sewing stations.
2. Make a paper pattern for the cover. Use a sheet large enough to wrap around the bookblock with a turn-in margin of 45 mm all round.
3. Lay the bookblock on the right side of the paper and draw around it (see A below). Then turn the book over by pivoting on its spine and mark the width of the spine onto the pattern. Finally turn the book over and lay it down on the left of the paper and draw around it (see B below).
4. Transfer the measurements from the pattern onto your cover paper. Extend the book edge measurements out by 3 mm all round. Score along these lines with ruler and bone folder.
5. Lay the spine of the bookblock onto the spine section of the cover and mark the position of the tapes using a bodkin. Mark the position on both the right and left hand edge of the spine.
6. Join the marks made by the bodkin by lines across the spine, and cut through the paper with your knife. Next cut along the spine folds between these cuts and remove the paper. These holes in the spine should correspond precisely with the position of the tapes on the bookblock.
7. Continue a line from the top and bottom of each hole into the cover and mark 10 mm from the left and right spine fold of each. Cut vertically through the cover between these marks.



8. Cut away the corners and spine fold turn-ins as shown below. Fold the turn-ins along the pre-scored edges, and mark each side of the corner tabs with a bodkin. Open out the turn-ins and cut between the corner marks to make an entry slit for the corner tabs (see C below).
9. Cut a spine strip from contrasting paper that is the same height as the cover and 1 mm narrower than the width of the spine. Lay it into position on the spine of the cover and fold down the spine turn-in tabs (see D below).
10. Lay the bookblock spine onto the cover spine and line up the tapes with the holes. Push each tape through each corresponding slit along the spine fold. When all tapes are pushed through, take them back into the cover through the outer slits. Pull each tape taught so that the cover fits securely and snugly against the spine.
11. Fold in all the turn-ins around the bookblock endpapers and locate each of the corner tabs into its corresponding slit.

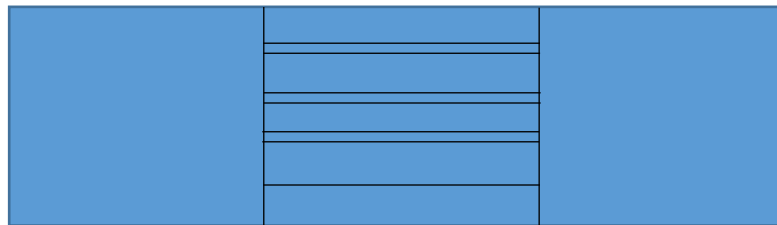


EXAMPLE 2 – CROSSED STRUCTURE BINDING

1. Fold 10-12 sections for book block. Trim to size and for neatness.
2. Cut a strip of manila/heavy card which is the exact height of the block, and is 3x the width. (N.B. another variant is exact height, and width is 3x width of block + depth of block.)
3. From both left and right edges, mark the exact width of the section and score two lines.



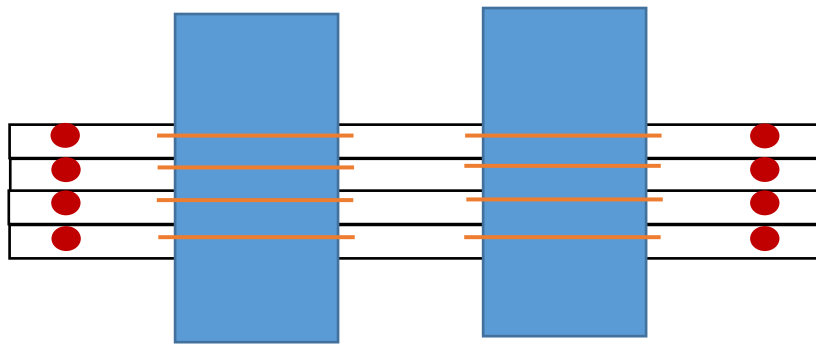
4. Divide the middle third of the strip horizontally into 5 equal parts using a ruler or dividers. Draw lines from scoreline to scoreline.



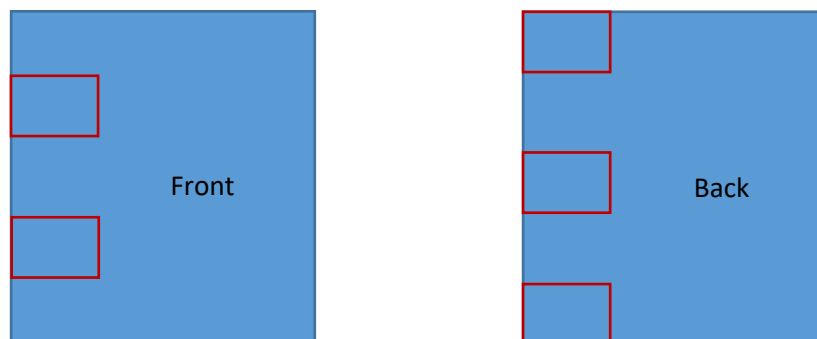
5. Being careful not to go over the scorelines, cut along the lines to give you two boards, one with two tabs, one with 3. (For this exercise we're going to assume the board with two tabs is the rear board – worth noting if your decorative paper has a direction or focal point).



6. Lay the two-tabbed board decorative paper side down and lift the two tabs until they are vertical. These now act as tapes for the sections to be sewn onto.
7. Using this board, make a sewing guide. There will be 4 sewing stations and two kettle stitches.
8. Use sewing guide to make holes in sections.
9. Sew sections to board around tabs.



10. Put 3 tabbed front board into place on top of the sewn block, interweaving the tabs. The kettle stitches will be hidden by the top and bottom tabs of the front board. Bend the tabs of the rear boards around to the front, and the front ones over to the back. Scoring and bending tabs on the bench first provides a more boxy finish, bending on the book is softer.
11. Mark the position of the tabs on the front and back covers about one inch in from the spine. Cut slits between the marks and lace the tabs into the covers. There will be 3 slits on the back cover – the top and bottom slits will be off the edge of the board.



12. If the tabs overhang the cover, cut them flush to the foreedge.
13. If the slits are not cut too wide, the friction will keep the tabs in place. You can also glue them down on the inside cover, or stitch them with a decorative stitch into place.
14. There are various ways of 'lacing' the boards on – the slits can be placed at irregular intervals across the cover, the three tabs can be fed through to the inside of the back cover and two slits made instead to lace-on, etc etc. If glued or stitched, the tabs can be cut back to any length on the inside.

EXAMPLE 3 – COPTIC BINDING

1. Coptic stitched books have the advantage that they allow the book to be opened flat without weakening the spine or signatures. They also have the advantage in that they can be made without the use of any glue. They can be used for both single sheet bindings, and the binding of sections/folios.

Stage 1 - Making the boards

2. Decide the size of boards you would like and cut boards to size. Then decide on the covering. Cover the outside of the boards first, fold over the edges to make neat corners and then cover the inside of the board.



The marbled paper is the outside of the boards, and the red paper is the inside

3. Make holes in the boards. The holes should be evenly measured from the top and the bottom. (Normal convention is to have 2-3 holes at each end, dependent on the size of the book).

Stage 2 - Making the text block

4. Fold paper into folios of 4-8 pages (dependent on the size of paper and book you are working with), and then trim to size using a plough or guillotine.
5. Use one board as a guide and piece through the existing hole of the board into the fold of each signature, making sure the edges of the board and folios are aligned. An alternative to this is to make a pricking template from the boards and use this as a guide. This procedure ensures that all the holes are in the right places and the book is appropriately aligned when stitching.

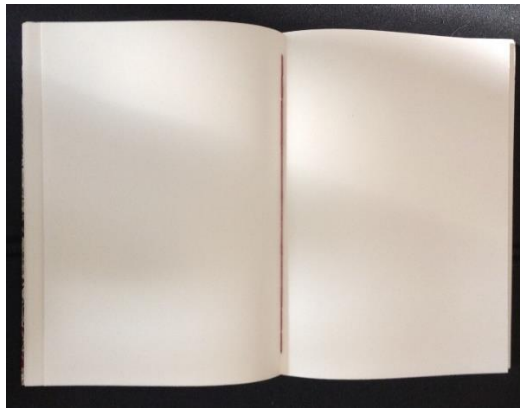
Stage 3 - Stitching the book together

6. Start by opening the first signature, pulling the thread through, and then bringing the thread down through the first hole on the inside of the board and wrapping the thread around the board, and going back into the first hole of the signature. Then bring the thread across to the second hole. Repeat the process till you get to the end.

7. Once you get to the end, lay the second folio on the top and attach it by going up through the first hole and looping down. When you come up through the first hole, move along to the second hole on the inside of the folio, go through the hole and loop down to the stitch underneath, picking it up and then going back through the same hole.
8. As you work along the holes, make sure you keep the tension tight. Using a curved needle is beneficial for coptic stitching.



Sewing on the top board



The stitching from the inside

9. Repeat this process until you get to the last folio. Come up through the last hole, go through the hole on the side of the board and then loop over, and go down through the same hole. Repeat the process until you get to the end and then tie off.



The stitching from the outside



The finished product (courtesy of Vicky Manners)

PRESENTATION PIECE

Student's to devise own design for Alternative Structures book based on research and on practical examples. Book is to be minimum of A5 size.

Stage 1 - Statement of intent

Written description of the suggested design for the item which satisfies client requirements. This must include a working drawing of the book to be made

Stage 2 - Create

Make the book

Record the steps followed during the making process including any modifications eg photographic, written

Stage 3 - Selected design

Must show the design influences eg colour, line, texture, shape and form from source material.

Stage 4 - Present

Photograph and display the finished book. Presentation must include a cost sheet giving the estimated material costs of the book, and a production timescale showing the time taken to plan, prepare and complete the book.

Stage 5 - Evaluate

Describe strengths, areas for improvement and any adjustments made for the design and process

Introduction

If time is available at the end of the course, you will also make a Japanese binding style of stab sewn notebook. This very decorative style is based on a method commonly used in Japan and provides a simple solution to the problem of binding single leaves. It involves the technique of “stab sewing” which uses the thread or ribbon as a decorative feature of the outside cover. This type of binding is not suitable for bookblock paper that is too heavy or stiff.

Japanese decorative papers make ideal covering materials, and this exercise will use hand-made and hand printed Chiyogami paper. Very little glue is used for this binding as it is the sewing form that holds the book together.

Materials

Single sheets of paper for bookblock

Decorative papers for covers

Two sheets of manilla, slightly larger than bookblock leaves, for covers

Coloured thread or ribbon

Making the Bookblock

Knock up the pages of the bookblock and designate one of the long edges as the spine. Place the bookblock flat on the workbench, with the spine just hanging over the edge, and hold in place with a pressing board and weight. The spine edge needs to be able to fan apart very slightly.

Apply a thin layer of PVA to the spine edge, leave for a few minutes to become tacky, then move to one side, keeping the bookblock under weight to dry.

Making the Wrapper

The wrapper is made as three separate articles: two sides and a spine piece. The sides are made using a process known as “drumming on” by which the decorative face of the sides are secured to their backing paper by glueing only the turned in edges.



Figure 1: Drumming On the decorative paper

Cut two sheets of manilla 2mm wider than the bookblock and 4mm longer.

Cut two pieces of the decorative paper 30mm larger than the bookblock in both directions.

Lay one sheet of the decorative paper face down on scrap paper and place one of the sheets of manilla centrally on top.

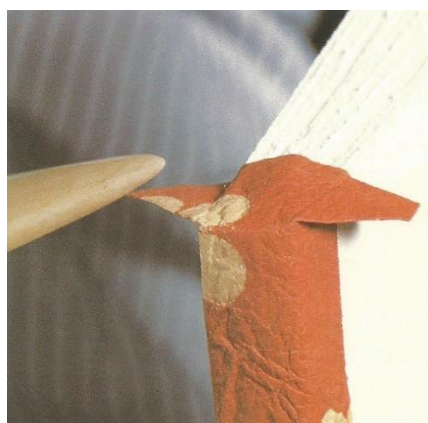
Mitre the corners of the decorative paper to within 2mm of the manilla, and glue out the exposed edges of the decorative paper. Turn in each edge,

pinching in the corners to make a neat joint, and then smooth down the turns-in with a bone folder to complete the seal.

Repeat this process for the second decorated side.

Cut two pieces of decorative paper 2mm narrower than the manilla sides. Apply a 10mm strip of glue to the edges of each paper and attach them centrally to the inner faces sides of each paper. Firm down with a bone folder.

Cut another piece of decorative paper (a contrasting one if you wish) large enough to overlap the spine of the bookblock at the sides, head and tail. The overlap can vary with the size of the book, but should be no more than 5mm .



Place the bookblock in a finishing press with spine uppermost. Glue out the spine cover piece and pitch it centrally on the spine. Fold down the side edges and firm down with a bone folder. At the head and tail turn down the ends to form a cap, Apply glue to the two “wings” and turn them down.

Tip in the side pieces by glueing a 5mm margin at the inside edge and attach to the bookblock. These should be flush with the spine and overlap the three other sides evenly to form squares.

Figure 2: Turning down the ends to form a cap

Sewing the Book

The traditional four-hole pattern used for sewing the spine in this exercise is only one of many possible variations that can be used for securing the bookblock and sides.

Using a bodkin and hammer, pierce four holes through the complete book 10mm from the spine. Each hole should be spaced evenly down the length of the spine.

With needle and contrasting colour of thread, and starting at the tail of the block, pass the needle through the first hole from the underside, around the spine and back through the same hole to form a loop. Take the needle down through the next hole, around the spine as before, and back through the same hole. Repeat for the third and fourth holes.

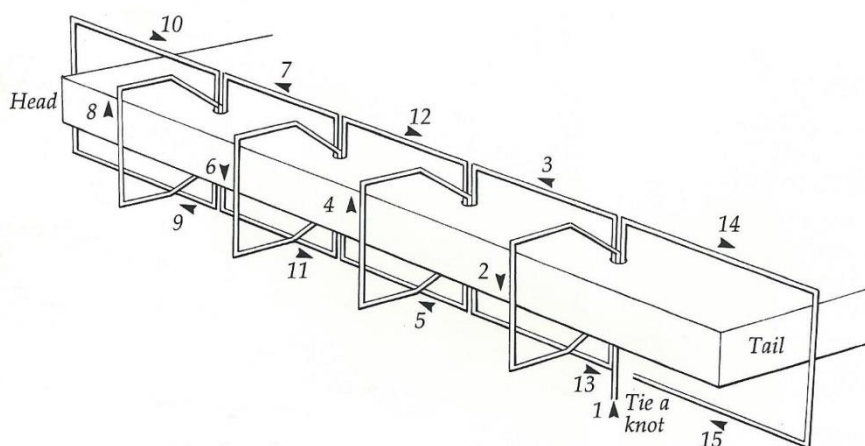


Figure 3: Route taken by the thread for Japanese style sewing

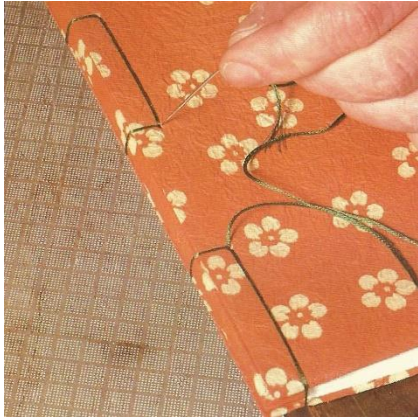


Figure 4: Sewing the spine

Take the thread over the head of the book, down through the fourth hole and up through the next. Then take the thread down through the second hole, up through the first, and around the tail of the book to the start. Complete by knotting the thread at the first hole, and use the blunt end of the needle to conceal the knot in the hole.

If desired, thin ribbon can be used for sewing the spine in place of thread.