

Cincinnati Book Arts Society
Bookbinding Basics: Historical Structures Class #3
November 14, 2018

**COPTIC STITCH:
SINGLE VS. DOUBLE NEEDLE**

PART 1: DOUBLE NEEDLE COPTIC BINDING

Supplies needed:

20 sheets of text paper, 5 1/2" high x 8 1/2" wide

2 covers, 5 5/8" high x 4 3/8" wide

1 strip card stock for making sewing jig

2 lengths of waxed linen thread

4 straight tapestry needles, all the same size (size 18-22, based on thread thickness)

Punching cradle

Awl

Pencil

Ruler

INSTRUCTIONS

Preparing the text block and covers:

1. Fold paper in half. Divide into 5 signatures. Lightly mark a T at the top of each signature's outer sheet.
2. Make a template: cut the narrow strip of card stock to the exact height of your text block. Fold it in half vertically to make a sewing jig or template. Mark a T at the top of one short side.
3. The sewing holes in double needle Coptic stitch must be in multiples of two. For the purposes of this session, we'll be using 4 sewing holes. Mark 4 holes in the template for punching, 1/2" each from the top and bottom edges, and 2 more evenly spaced inside those holes.
4. Open up the first signature and put it inside the cradle, butted up against the top of the cradle. Place the sewing jig snugly in the center fold of each signature, also butted up against the top. Being sure to match the T marks on the jig and signatures, use your awl to poke the 4 holes. Repeat with the remaining signatures. Because the thread will be going through each hole twice, make the holes a bit larger than you otherwise might.

- Using your template, punch holes in your front and back covers, 1/4" in from the spine edge. A screw punch makes a neater hole than an awl through board.

Calculating thread length



Use this formula for calculating how much thread you'll need. The assumption here is that your 2 sewing stations are about the same distance apart (top and bottom in the photo). If not (center sample with two narrow stations at the ends and one wide one in the middle), you'll need to measure thread needed for each sewing station separately.

EXAMPLE

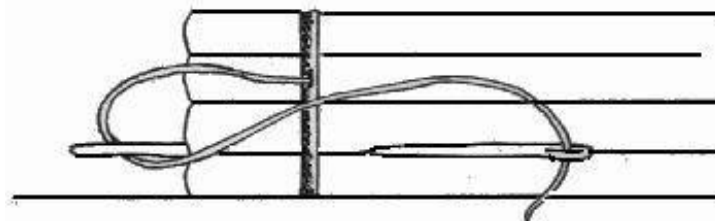
Measure the distance between the holes of one of the sewing stations.	1"
Count the number of signatures.	5
Add 2 to include the front and back covers	7
Multiply by 2 (you'll be doubling back between the stations)	14"
Add 1/2" for each chain stitch	7"
Subtotal	21"
Add about 9" for good measure = thread needed for <u>each station</u>	30"

Multiply by number of sewing stations (2) = TOTAL THREAD NEEDED 60"

2

Sewing the Book

1. For this sample book, you will need 4 straight needles. Thread one needle onto each end of the two lengths of waxed linen thread.
2. Sandwich the text block between the front and back covers, matching tops.
3. Place the sandwich in front of you, spine facing you, front cover up.
4. Place the cover to the side.
5. Begin sewing from the inside of the first signature at the bottom of the book. From the inside, insert one needle into each hole, with opposite ends of the thread adjacent to one another. Pull gently on the threads to even them up so that the hanging threads are of equal length. You now have 2 pairs of threads on the outside, hanging over the edge of the table.
6. Place the cover on top of the first signature. Bring each thread up and over the spine edge and enter the matching hole of the cover from the outside. Bring the threads out between the cover and the first signature. Repeat with the second pair of needles. Your two pairs of threads are now on the outside.
7. Insert the needles back into the corresponding holes in the first signature. Your threads are now on the inside.



8. Pick up one pair of needles, cross them over one another and insert them into the opposite holes, being careful not to split the thread. Repeat with the other pair. The operative word here is snug. Pull gently so that stitches are snug but not so

tight that the paper tears or the spine becomes distorted. You now have two pairs of crossed threads, with the needles hanging outside.

9. Pick up the second signature, place it under the first and enter the matching holes from the outside. Follow the step above and cross the threads, snugging them up and bringing them to the outside.

Figure 3.—Kettle stitch.

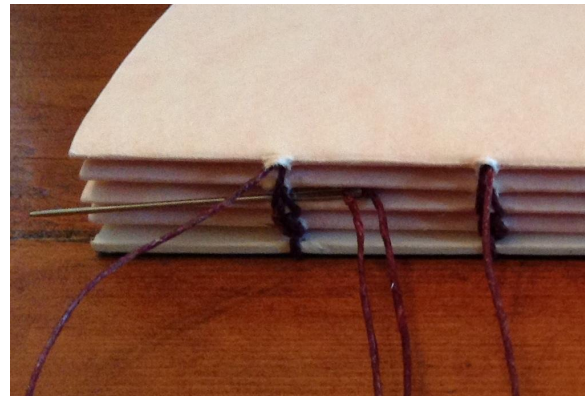
from Library Bookbinding by Arthur L. Bailey, 1916 (available on gutenberg.org)

3

10. Begin making the kettle stitches that give the Coptic stitched book its distinctive appearance. For the double needle Coptic stitch, always maintain a consistent pattern, stitching towards either the top or bottom of the book, whichever is closer. For our example using 4 needles, on the right (bottom) sewing station, move the thread from left to right.



11. You are sewing the second signature and the needles are on the outside. For our sample today, we'll start with the right (bottom) needle. To do the kettle stitch, pick up the right needle and insert the tip of the needle between the cover and the bottom (first) signature, to the left of and under the stitch and out on the right side. Leave the thread hanging on the outside. Do the same with the second needle from the right, sewing in the same direction.



12. Now sew the third station from the right, but reverse the direction of the stitching, from right to left this time. Work across the spine to the fourth loop, then go back and carefully snug the stitches up on the inside. To get the neatest binding, be as consistent as possible, always inserting the needle from the same direction so your rows of stitches are uniform. At the end of each row, needles are on the outside.

13. Now insert each needle back into the hole above it, pulling the threads to the inside. Cross the threads over and pull the threads to the outside from
14. Add the third signature and repeat the sewing pattern above, this time dropping down two rows and inserting the needle between the first and second signatures. For the Coptic stitch, you will always follow this pattern of dropping down 2 signatures to form your chain stitch.
15. Continue in this pattern until you have stitched all signatures. The needles will be on the outside.
16. Now place the remaining back cover on the stack of sewn signatures. Bring each needle through the corresponding hole in the cover, loop it over the spine, and then back into the matching hole in the last signature. Tie each pair of threads with a square knot. Trim the threads to about 1/2." Enjoy your book!

4

PART 2: SINGLE NEEDLE COPTIC BINDING

Supplies needed:

20 sheets of text paper, 5 1/2" high x 8 1/2" wide
2 covers, 5 5/8" high x 4 3/8" wide
1 strip cardstock for making sewing jig
1 length of waxed linen thread
1 curved needle
Punching cradle
Awl
Pencil
Ruler

INSTRUCTIONS

Preparing the text block and covers:

1. Fold paper in half. Divide into 5 signatures. Lightly mark a T at the top of each signature's outer sheet.
2. Make a template: cut the narrow strip of card stock to the exact height of your text block. Fold it in half vertically to make a sewing jig or template. Mark a T at the top of one short side.

3. In single needle Coptic stitch, you can use any number of sewing holes. For the purposes of this session, we'll be using 5 sewing holes. Mark 5 holes in the template for punching, 1/2" each from the top and bottom edges, and 3 more evenly spaced inside those holes.
4. Place one open signature in the cradle and using the template poke the 5 holes, being sure to match the T marks on the jig and signatures. Repeat with the remaining signatures.
5. Using your template, punch holes in your front and back covers, 1/4" in from the spine edge.

Measuring the thread

In single needle Coptic stitch, you work with one thread which if the book is large or has many signatures can become very long. Use the simple formula below for calculating thread length. If the thread seems too long to handle comfortably, add a few inches and cut it in half. You can tie it when the first piece runs out.

Height of book from head to tail x (number of signatures + 2 for covers) = thread length

Example: 5 1/2" high x 7 (5 signatures + 2 covers) = 38 1/2" thread
I always add a few inches for good measure.

5

Sewing the Book

1. Thread the curved needle with waxed linen thread.
2. Sandwich the text block between the front and back covers, matching tops.
3. Place the sandwich in front of you, spine facing you, front cover up.
4. Place the cover to the side.
5. Begin sewing from the inside of the first signature at the (right) bottom hole. Insert needle and pull gently to the outside, leaving about 2" as a tail. It might be helpful to use a small binder slip to keep the tail in place.
6. Now attach the cover. Place the cover on top of the first signature. Bring the thread up and over the spine edge and enter the matching hole of the cover from the

7. outside. Bring the thread out between the cover and the first signature. Your threads are now on the outside. Note: for extra reinforcement, loop the thread over the cover twice.
8. Insert the needle back into the same hole it's just come out of in the first signature. Your thread is now on the inside. Tie off the tail with a square knot.
9. Bring the needle to the next station on the left and sew from inside to outside. Again, bring the thread up and over the spine edge and enter the matching hole of the cover from the outside. Bring the thread out between the cover and the first signature. Your threads are now on the outside.
10. Insert the needle back into the same hole it's just come out of in the first signature. Your thread is now on the inside.
11. Repeat this sewing pattern until you get to the fifth (last) hole. Bring the thread out, loop it over the spine and out between the cover the first signature, but do not insert the needle back into the hole.
12. Instead, put the second signature on top and move the needle up to enter the corresponding hole of the second signature from the outside.
13. Move to the next station and bring the needle out that hole to the outside.
14. Now begin the chain stitch pattern. Insert the tip of the needle between the cover and the bottom (first) signature, to the left of and under the stitch and out on the right side. Pull the thread snug and insert the needle back into the hole it's just come out of in the second signature.

15. Continue making this chain stitch, always inserting the needle in the direction you're sewing (in this first case, from left to right). Stop at the last stitch on the right.
16. For the last stitch in the row, do the kettle stitch as above, but don't insert the needle back into the hole. Instead put the third signature on top and move the needle up to enter the corresponding hole of that signature from the outside. You will now be sewing from right to left, so do your chain stitches with the needle moving in that direction.

17. Continue sewing in this pattern, making the kettle stitches in the same direction you're sewing, until you have sewn all 5 signatures. Stop at the last hole of the last signature. Do the kettle stitch as above, but don't insert the needle back into the hole. Instead put the cover on top. Bring the needle up over the spine (once or twice, to match the cover) and into the corresponding hole in the outside of the cover, bringing the needle out between the cover and the last signature.
18. Make a chain stitch, and then insert the needle back into the hole you've just come out of in the last signature. You'll see that there is already one line of thread sewn here. For this last row of stitching to attach the cover, you'll be adding a second line of stitching inside the last signature.
19. Move the needle to the next hole, insert the needle and pull it to the outside. Bring the needle up over the spine and make a chain stitch. Insert needle into the corresponding hole from the outside of the cover, bringing the needle out between the cover and the last signature, and back into the last signature.
20. Continue sewing in this pattern to the end of the row. Tie a knot and trim thread. Enjoy your book!

Prepared for CBAS Study Group by Janice Kagermeier
May 10, 2014
Revised for Bookbinding Basics
November 14, 2018