

Nålbinding Garment Construction

Lady Jeneur le Geline

Unless otherwise stated, the diagrams are ones I sketched. Feel free to use these notes (apart from the section after the sock template as it is not mine) in any not for profit context. If you find them useful or would like to make suggestions for improvement please contact me at jennifer_blaikie@hotmail.com

There are three main units of nålbinding, the spiral, the tube and flat. By combining these, mittens and socks were constructed in the SCA period. There is a moderately high probability that hats were also made using this technique but at this stage no extant nålbanded hats have been found.

In some of the more remote areas of Scandinavia nålbinding has stayed a common hand craft until the 20th Century, in other parts of Europe, nålbinding lot favour to faster two needle knitting techniques as early as the 14th Century. The continuation of the craft means that there are people who are part of a continuous teaching tradition stretching back well over a thousand years. The advantages of this are that the construction methods and stitch techniques have been kept alive, the disadvantages are that it is more difficult to separate the more recent developments from the historical methods.

Please note that these notes are for the second of 2 classes and assume that you know the basic stitch that is to be used in your project.

The best book on nålbinding that I have seen is

Title: Nalbinding - What in the World Is That?: History and Technique of an Almost Forgotten Handicraft

Author: Ulrike Claßen-Büttner

ISBN: 3734779057, 9783734779053

Description: This book has an excellent listing of many of the extant pieces available in museums, along with through notes on stitches and projects

Practice pieces

Please consider making some smallish pieces and then washing them and possibly trying to full them. This will give you an ideas of the changes you will need to make so that the garments fit.

To prevent fulling wash items gently in cold water with wool wash.

Fulling

Fulling is the term used to describe the felting of a cloth (rather than the felting of clean unspun fibre). It will only work with animal fibres that have not been treated to become “super wash” yarn. Please note that garments made of super wash yarn may stretch when washed.

Fullled garments become stiffer, more wind resistant and smaller.

To full you items, three things are needed:

- Warm water
- Agitation
- Alkali (generally in the form of soap)

To full by hand

- Dunk your item in warm very soapy water
- Rub against a knobbly surface (I find a sink draining board a useful surface)
- repeat the process until it is the texture that you are after

To full in a washing machine

- Place items in machine with either soap or standard washing powder (not wool wash)
- Set to a warm to hot wash with a medium to high level of agitation and spinning
- Please note that hotter washes and more agitated washes will lead to greater levels of fulling

Hats

There are several extant hats including:

- Tarim Cap – a beret shaped hat from 1000 BCE (http://www.geocities.ws/ld_tadhg/Classes/BasicNaalbinding01.pdf)



- St Simeon's hat/cap, a relic on display in St. Peter's Cathedral, Trier, Rhineland-Palatinate, Germany - right



The method described below can be summarised as a top down spiral

Start with the rosette start by making a loop with a diameter of about 5cm and then using that as a foundation to knit about 20 half hitches. Pull the initial loop tight.

For the next round, increase every stitch.

Round 1 – make a rosette about 20 stitches, do not trim the end of your yarn – this will be used to make the start of round marker – see the diagram

Round 1B – Optional for pointy topped hat – one or more rounds that do not increase or only increase slightly

Round 2 – Increase every stitch, in other words after making one stitch, use the same stitch from the previous row (stitch 1) to make the next stitch. After this, move on to the next stitch of the previous row (stitch 2) and do the same thing.

Round 3 – Increase every third stitch (that is there will be three normal stitches then the fourth will be made into the same stitch of the previous round as the third). At the end of this round, run the beginning of your yarn through to keep the top of the hat together. If you are making a single colour hat and then use the leftover yarn to mark the beginning of the round, I usually do this by sewing a line of large slightly loose stitches from the top of the hat to near the edge.

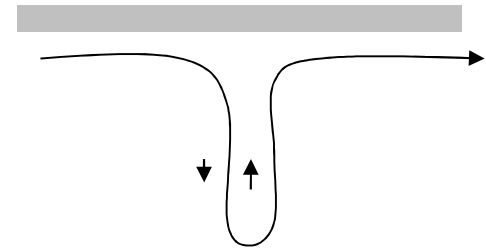
Round 4 – If you wish to create a spiral striped hat, this is a good place to start with your second colour. On this row, increase every 5th stitch

For subsequent rows, increase every 7th, 9th, 11th etc until the hat's diameter is one third of the final circumference or larger if you are going to full (felt) it.

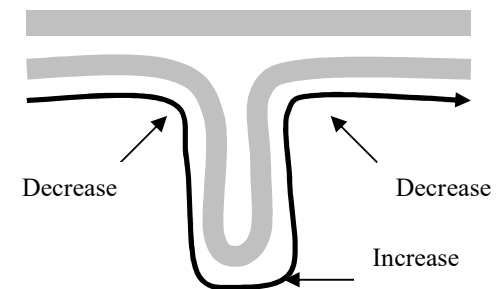
After this, knit until the hat is level with about the top of your ears. At this point follow the ear flap instructions if you wish otherwise keep going until it is the length you want.

For ear flaps:

- Stop knitting each stitch into one on the previous row so that you end up with a worm about 10cm long then turn and knit back down until you are back at the previous row, then add a couple of stitches to prevent a gap forming and then go back to knitting around the hat



- For each subsequent row, decrease 4 stitches (in other words only put a stitch into every second stitch of the top corners and increase around the bottom curve (increase at about 1 stitch in 2 for a fairly circular bottom edge)



- Follow the same general pattern until it is the right size

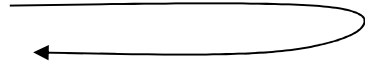
Mittens

Extant mittens have been found. The most famous is the Åsle mitten. The Åsle mitten uses one of the more complicated stitches to produce extremely thick fabric. Other mittens have been found throughout Scandinavia. From the number of finds it appears that nålbanded mittens were the most common nålbanded garment.

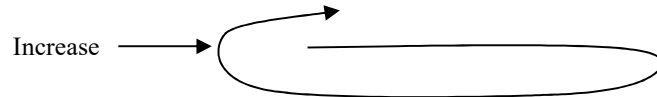
Fitted Mittens

My preferred method for making mittens is from the finger tips up as this allows for custom fitting all the way along. I also make them at the same time, each time I get to the end of a piece of yarn, I work the same section on the other mitten, this helps to create a pair of matching mittens without having to record every stitch. Therefore the instructions below are going to assume that you work in the same way, generally left mitten first. It does assume that you are right handed, if you are left handed, I think the instructions will work if you turn the mittens inside out when trying the mittens on.

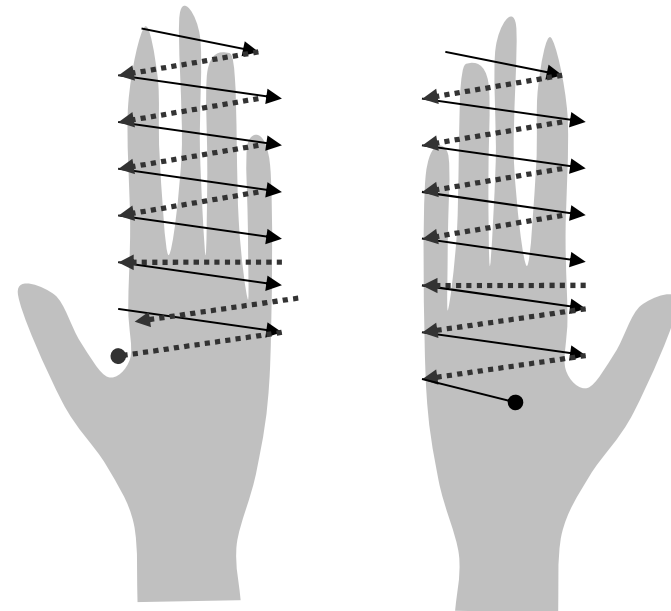
1. Make a worm of nålbinding equal in length to the width of your three middle fingers, turn and work back



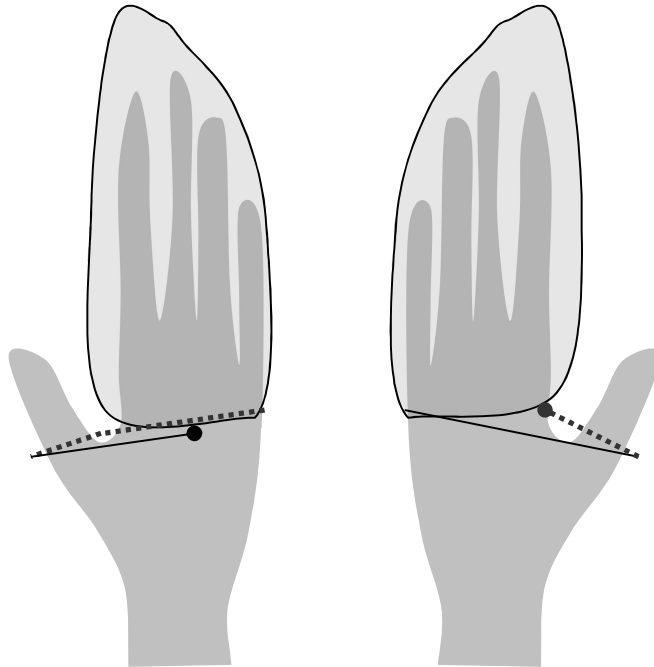
2. Increase by about 6 to 8 stitches as you work around the starting end, do not thread the dangling line though as this is marker for the index finger side of your mitten



3. Keep going, increasing by about 3 stitches on the index finger side and about 6 stitches on the little finger side until the finger section of the mitten fits your fingers and reaches to the bottom of the webbing between your thumb and forfinger on your left hand, and ending in the middle of the palm of your right hand – the diagrams below show the hands palm up and the dashed lines are at the back of the hand



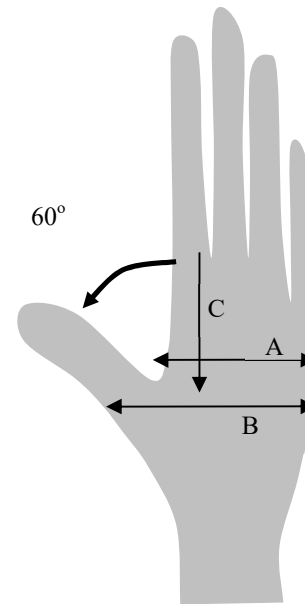
4. Make sure that both mittens fit your fingers, the next bit requires more thought and so fixing fit issues now is less irritating than having to redo the start of the thumb
5. Make a worm that runs from the point where you finished (on left mitten the back of thumb webbing and on the right, the middle of the palm) around the thumb and to the equivalent point where you left from on the other hand (middle of palm on the left mitten and the back of the thumb webbing on the right), add several extra stitches so that there is free movement space for the thumb and then join back on to the mitten



6. Make two entire rounds without any increases or decreases, this reduces the chances of too much ease being allowed for the thumb
7. Start on the thumbs at the beginning of the wrist side of the thumb, (back of hand side of thumb strap for left hand and palm side of thumb strap for right hand), leaving a 20cm tail (this is to fix any holes that appear when the thumb is flexed), being particularly careful to add extra stitches to the join between the thumb and the palm. Work up the thumb decreasing as required for reasonable fit (generally more decreases on the inside of the thumb than the outside). Sew together the tops of the thumbs
8. To help the hand and wrist fit, decrease 2 stitches every row on the little finger side of the hand and 4 to 5 stitches per row over the base of the thumb until the wrist joint is reached
9. Knit a couple of rounds and then start increasing slightly so that the mittens fit over the forearm (allowing for a watch if necessary)
10. Finish when the mittens reach the desired length.

Basic Mittens

1. Follow steps 1 and 2 of the fitted mittens.
2. Increase by about 4 stitches on each side so that it fits from the joint at the base of your little finger to the joint at the base of your thumb when your thumb is held out sideways at about 60° (the width of the folded mitten should have a width about distance $A + 2.5\text{cm}$) and work down to the bottom of the webbing between thumb and forefinger
3. On the left mitten, once the edge of the hand is reached, work a worm of stitches free of the mitten that will fit around the back of the thumb joint and join onto the palm at a point level with the 1st and 2nd fingers (C), (the width of the folded mitten for this loop will be approximately width $B + 3\text{cm}$).
4. Continue the body and wrist of the mitten down about 4 rows
5. Work the thumb without any shaping until about level with the top thumb joint, then decrease one stitch in 3 until the thumb is the correct length, then sew up the top of the thumb
6. Continue with the wrist of the mitten until it reaches the length you want.



Socks

There are a few extant nålbinding socks. Many have been found in burials in Sweden and in Finland. Some of these appear to have been made specifically as burial garments (for example they are made of linen rather than wool and sometimes do not have a heel). One well studied sock was found in York. The detailed description is in the Textiles, Cordage and Raw Fibre from 16-22 Coppergate, York by Penelope Walton and published by the York Archeological Trust in 1989. This is available from from <https://www.yorkarchaeology.co.uk/resources/publications/fascicules/>

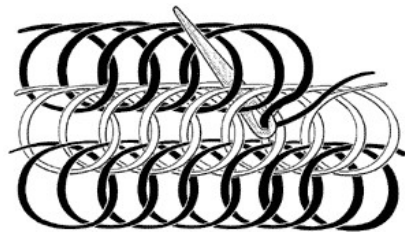
The basic description of the Coppergate sock (for in York) is that is:

1. A toe up sock with a short row heel
2. The stitch is uu/ooo F2
3. The wool yarn is smooth and even plied S2Z
4. There are approximately 36 stitches per 100mm
5. The majority of the yarn is undyed, the last row (near the ankle) is madder dyed.

The following pictures are all sourced from the York Archeological Trust web page.



The un-reconstructed sock



The stitch used



The reconstructed sock

<http://www.yorkarchaeology.co.uk/artefacts/sock1.htm>

<http://www.yorkarchaeology.co.uk/artefacts/sock2.htm>

<http://www.yorkarchaeology.co.uk/artefacts/sock3.htm>

An easier style of sock to make is the one found in Uppsala

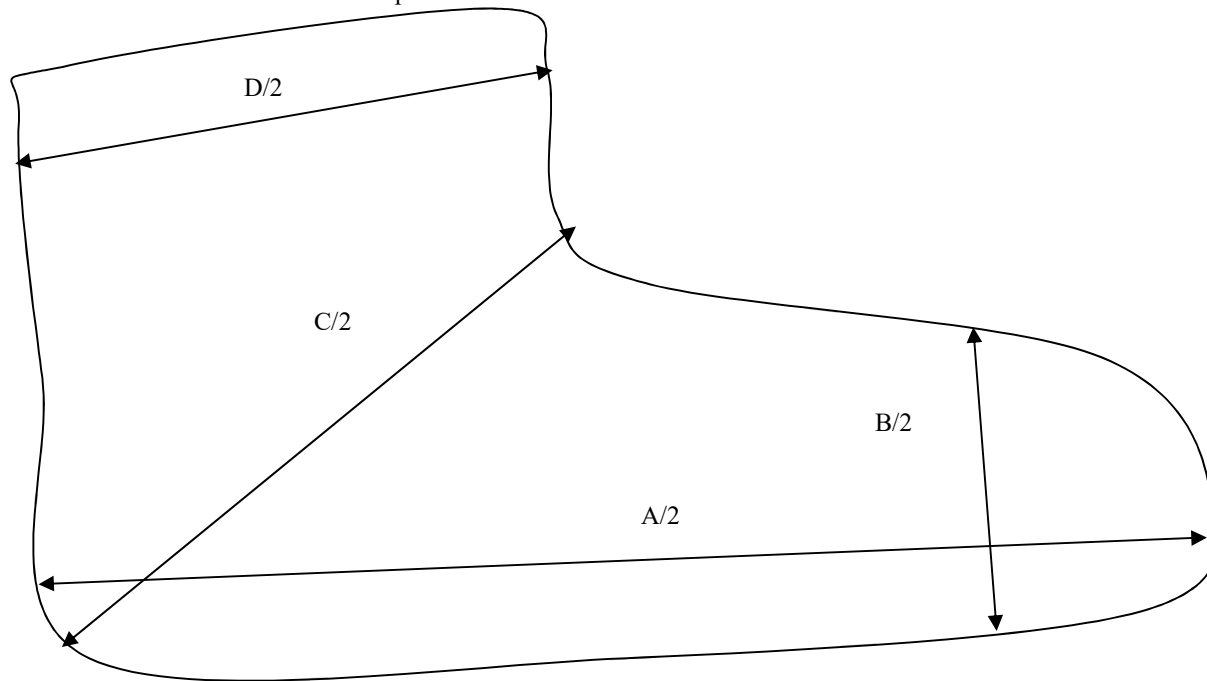


https://digitalmuseum.se/011013971466/nalbunden-socka-i-upplandsmuseets-samlingar?pos=7&advanced_search=1&query=n%C3%A5lbundet#&gid=1&pid=1

Technique – UOO/UOO (aka Mammen Stitch or Finnish Stitch)

In order to make a sock it is recommended that you first take some measurements from the foot that will wear the sock.

- A. Distance around the edge of the foot
- B. Distance around the forefoot at the widest point
- C. Distance around the heel running diagonally from the heel across the arch of the foot
- D. Distance around the calf at the point where the sock is to finish



Given that it is harder to try on socks than mittens, consider making a template out of cardboard so that you can check the fit as you go. Or make them for yourself or someone you see often enough for a couple of fit checks. Be prepared to use the relative difference between yourself and the recipient as a method for checking that they are going well.

Coptic Socks



<http://www.neatorama.com/2012/12/30/Roman-Socks/>



http://www.britishmuseum.org/research/collection_online/collection_object_details/collection_image_gallery.aspx?partid=1&assetid=1079362001&objectid=155676

Eura Mittens

My favorite extant mittens are the Eura Mittens from Finland. They are tricoloured (red, pale (either un-dyed or yellow) and blue). There is an entire PHD thesis about them in Finnish with excellent pictures.

A stiffer stitch was used for the hand (F2 UUOO/UUOOO) and a more flexible (F1 UUOO/UUOOO) stitch was used for the wrist.

http://www.vajanto.net/gradu/euran_emannan_neulakintaat.pdf



These are some of the best online references I have found for notes on making nålbound items

Name: Nalbinding Socks: Methods of Construction

Content: A detailed run-down on the methods for constructing socks by a member of several UK dark-ages re-enactment groups

URL:

http://www.shelaghlewins.com/reenactment/naalbinding/sock_construction.htm

<http://heron-media.com/karen/HeelsandThumbs.pdf>.

Name: Nålbinding - Mittens based on an Icelandic Viking-Age example

Content: An overview of historic examples and notes on a recreated mitten based on an Icelandic example, SCA documentation

URL:

https://dawnsdressdiary.files.wordpress.com/2016/02/kas_naalbinding_nolastname.pdf

Name: Nålbinding in Prehistoric Burials – Reinterpreting Finnish 11th–14th-century AD Textile Fragments

Contents: An overview of most of the finds from Finland

URL: http://www.sarks.fi/masf/masf_2/SLT_02_Vajanto.pdf.

Name: Early Naalbinding: Stitches of the Tarim Mummies

Contents: detailed information on the Tarim Cap, the stitches used and the recreation of the hat, SCA documentation

URL: http://www.geocities.ws/ld_tadhg/Classes/BasicNaalbinding01.pdf

Name: Sock It! Making Ancient Egyptian socks from scratch. Come and have fun with wool!

Contents: Several volunteers have knitted Coptic socks and written up their patterns as part of an experimental archaeology project

URLs https://closeknitmanchester.files.wordpress.com/2012/02/sock_pattern2-1.pdf

<http://ancientegyptiansock.blogspot.com.au/>

Name: EURAN EMÄNNÄN NEULAKINTAAT TUTKIELMA LUISTARIN HAUDAN 56 NEULAKINNASFRAGMENTEISTA

Contents: Detailed analysis of the Eura mittens, PHD thesis in Finnish

URL: http://www.vajanto.net/gradu/euran_emannan_neulakintaat.pdf

Other references of interest:

Name: DYES AND DYEING METHODS IN LATE IRON AGE FINLAND

Content: detailed discussion on the methods used to dye fabric, yarn and fibre in late iron age Finland, PHD thesis

URL:

<https://helda.helsinki.fi/bitstream/handle/10138/159210/dyesandd.pdf?sequence=1>

Toe up Japanese tabi sock patterns – sources ideas about construction methods and static ratios for making Coptic Socks

<https://idahostixandstrings.com/2011/08/19/toe-up-tabis/>

<https://idahostixandstrings.files.wordpress.com/2011/05/tabi-sock-pattern.pdf>

<https://idahostixandstrings.files.wordpress.com/2011/07/custon-sock-illustrations4.pdf>

<https://idahostixandstrings.files.wordpress.com/2011/07/custon-sock-illustrations4.pdf>