

# Narrow Wares - Guidelines

*Braids, bands and cords for*

*Viking and Anglo-Saxon re-enactors*

*25 January 2019*

## 1 Introduction

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These guidelines apply to narrow wares and the tools used to make them. They are not a “how to”, as there are plenty of tutorials available elsewhere, instead they are intended as a guide to authenticity for Dark Age re-enactment.

Tablet-weaving is discussed in the most detail because of the range of techniques and patterns available, and the importance of knowing what patterns are appropriate for the Dark Ages.

Some items such as rigid heddles are debatable. In these cases, the arguments for and against are presented and it is up to the individual to decide whether to use the item.

It is completely acceptable to make an authentic item at home using modern tools. It is only at a public display that period tools are required.

These guidelines are based on the best information available to the authors, and will be revised if new evidence is brought forward.

## 2 Summary

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Textiles		
Item	Status	Details
Tablet weaving	Encouraged	Viking: very common in all time and places. Anglo-Saxon: very common until around 700 AD. After that, optional, but probably less common than for Viking. Patterns: abstract diagonal motifs were universal. For Anglo-Saxon, block and figurative motifs are also known. Do not use: Rams Horns / Running Dog / Novelty / 4-forward, 4-back <sup>1</sup> .
Warp-faced bands	Allowed	Plain weave bands can have pick-up patterns, and can be combined with tablet-woven borders.
Braids / plaits	Encouraged	Almost any hand-made braid or plait (but not macrame!)
Decorative stitching	Encouraged	Simple decorative stitching and seam treatments were widely used, especially for Viking.

<sup>1</sup> With the exception that diamonds and chevrons are fine in any method.

Weaving equipment		
Item	Status	Details
Tablets	Encouraged	Wood or bone, usually around 32mm x 32mm but wooden ones may be up to 50mm.
“Oseberg” looms	Encouraged	Two vertical posts set in a horizontal base, with a crosspiece for stability. These are based on one Viking-Age find and a number of mediaeval manuscript illustrations.
“Box” looms	Not recommended	These are based on mediaeval looms that were not used for tablet-weaving.
“Plank” looms	Not recommended, except for simple posts.	These are based on relatively modern looms recorded in the 20 <sup>th</sup> century.
Rigid heddles	Allowed	There is no direct evidence for rigid heddles in the Dark Ages but Roman and mediaeval finds suggest continuous use. Note that plain weave bands can be woven on tablets.
Backstrap weaving	Allowed	There is no evidence for or against.
“Inkle” looms	Not recommended	The woven band is authentic but the loom design is modern.
Shuttles	Encouraged	Any simple wood or bone shuttle.
Beaters	Allowed	Iron, wood or bone beaters may be used when weaving narrow bands.

Braiding equipment		
Item	Status	Details
“Trollen”	Not recommended	No evidence for the “Trollen wheel” has been produced.
Lucet	Allowed	Many simple tools for making “lucet” braid have been found.
Bobbins	Allowed	Simple bobbins can be used for whip cording.

### 3 Tablet weaving

*Status: encouraged.*

#### 3.1 General Guidelines

Tablet-weaving was commonly used to decorate clothes in the Dark Ages, and was very varied: almost no two finds feature the exact same pattern, and different techniques were combined inventively.

Many of the historic finds are technically difficult to reproduce, so any of the following is acceptable:

- A copy of a historic band from Northern Europe or Britain in the period 600 -1200 AD.

- A simplified version of a historic design from the Dark Ages.
- An invented design in Dark Age styles and techniques.

The patterns on Dark Age tablet-weaving were usually either brocaded<sup>2</sup>, or made by turning tablets forwards and backwards to change the colour showing on the ground weave. These methods can be combined on the same band. Other methods included plain weave with warp pick-up in between warp-twined borders<sup>3</sup> and soumak<sup>4</sup>.

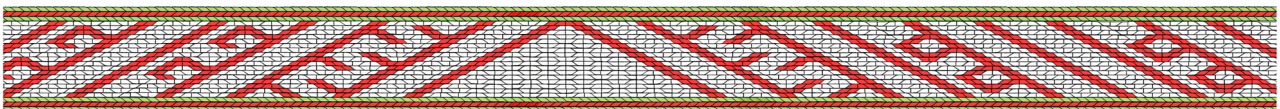
Patterns were made of diagonal lines and could either be repeats of relatively simple motifs, or patterns that varied along the band. Designs ranged from very simple to very complex. Typical motifs include:

- Key patterns
- S and Z shapes
- Broken crosses
- Diamonds
- Diagonal lines

Vine and animal motifs appear in some later Anglo-Saxon bands. Note that the “vine and leaf” motif in these finds is not the same as the Ram's Horn variant shown in Figure 11.

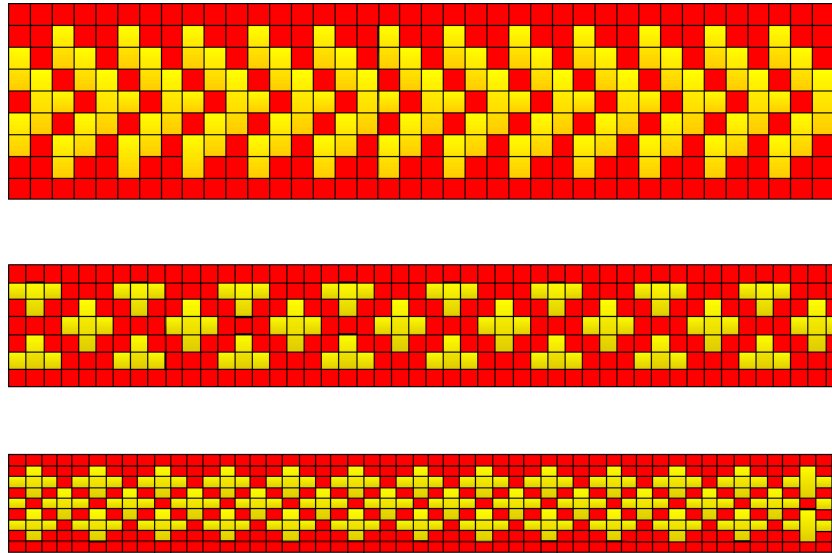
### **3.2 Example patterns**

These examples of designs found on early tablet-weaving. Some patterns are from earlier or later than the Dark Ages, but they show the general type of patterns that were popular.



**Figure 1: design from the border of a band from Hochdorf, Germany. 6<sup>th</sup> century BC.**

- <sup>2</sup> 'Brocade' is when a decorative second weft is passed across the surface of the band from edge to edge, passing under warp threads at intervals to hold it down.
- <sup>3</sup> An example is Laceby, Lincs.
- <sup>4</sup> 'Soumak' is similar to brocade but the decorative weft is wrapped around the warps and does not go to the edge of the band. An example is Køstrup, Denmark.



**Figure 2: Kentish brocades. 6<sup>th</sup> -7<sup>th</sup> century AD.**



**Figure 3: reproduction of a band from  
Laceby, Lincolnshire. Early 7<sup>th</sup> century.**

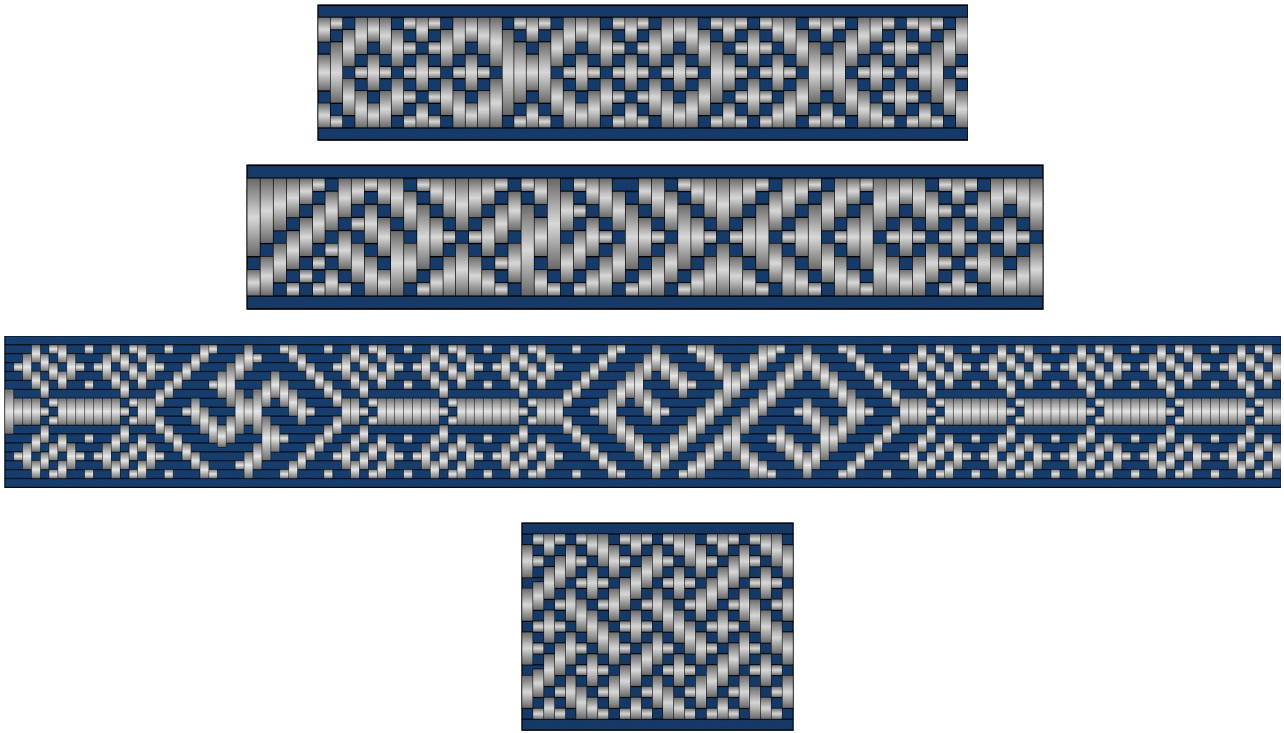


**Figure 4: reproduction of a band from Oseberg, Norway.  
Late 9<sup>th</sup> century AD.**

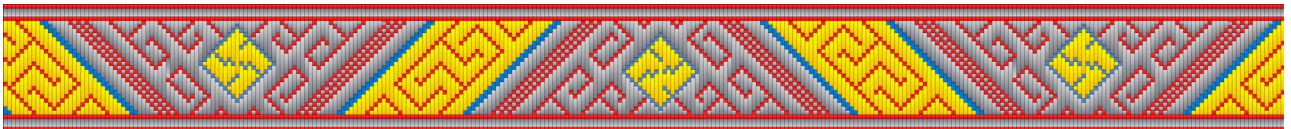


**Figure 5: Motifs from the brocaded Birka band B6, Sweden,  
adapted for double-faced weave. 10<sup>th</sup> century AD.**

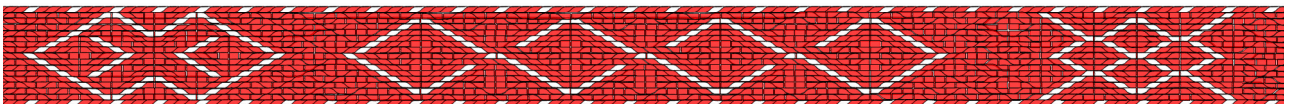




**Figure 6: brocades from Birka, Sweden. 10<sup>th</sup> century AD.**  
*B2, B5, B21, B22*



**Figure 7: brocaded band from Mammen, Denmark. 10<sup>th</sup> century AD.**



**Figure 8: woollen band from Mammen, Denmark. 10<sup>th</sup> century AD.**

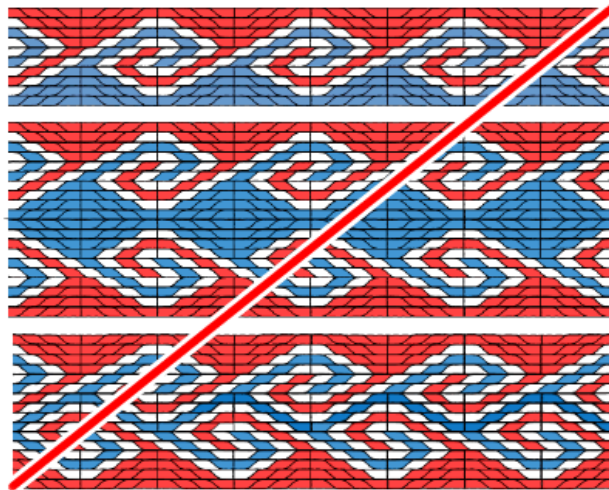


**Figure 9: reproduction of a band from Kaukola, Finland. 11<sup>th</sup> - 12<sup>th</sup> century AD.**

### 3.3 Unsuitable patterns

The following should be avoided:

- Ram's Horns, Running Dog and other variations of this distinctive 19<sup>th</sup> century Turkish technique (Figure 10).
- Most repeating four forward, four back patterns (Figure 11), with the exception of diamonds and chevrons which are fine.
- “Novelty” patterns such as Christmas trees (Figure 12).

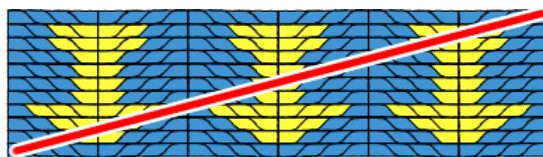


**Figure 10: kivrim variants to avoid.**

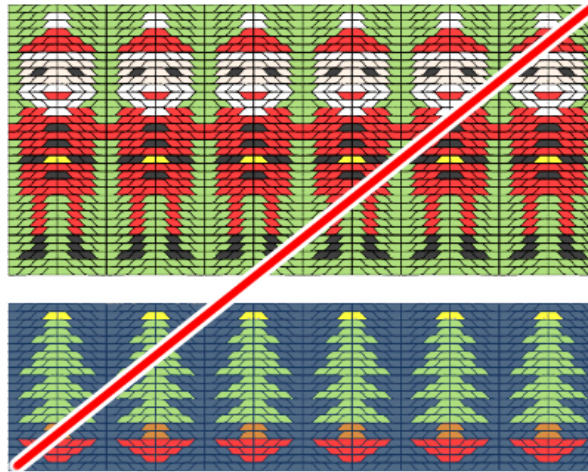
*Top: “Running Dog” / single “Ram's Horn”.*

*Middle: “Ram's Horns”.*

*Bottom: “Vine”.*



**Figure 11: example “Thors hammers” design.**



**Figure 12: example novelty patterns.**

*Inspired by <http://malarkycrafts.blogspot.co.uk/2012/12/holiday-bands.html>.*

### 3.4 Usage

Possible uses for tablet-weaving include, but are not limited to:

- Wrist cuffs, bracelets<sup>5</sup>, neckline decoration, tunic hems, hat bands, fillets, and decorating the front of apron dresses between brooches.
- Starting borders for cloth, so bands may appear along the edge of any straight fabric, such as a cloak.
- Tablet-woven women's<sup>6</sup> belts, which may have a metal tag but probably a fabric loop not a buckle.<sup>7</sup>
- Straps, for example for bags, or as suspension loops for small items such as weaving beaters.
- Baldrics or wrapped around sword scabbards.

5 Spies quotes two examples of a single brocaded band being found near the wrist in Anglo-Saxon graves, and the Mammen cuffs are clearly separate items and not part of any garment.

6 Men's belts may have been decorated with brocaded tablet-weaving but it is not clear whether the bands functioned as belts, baldrics or garment borders, Spies P43.

7 A fragment of twill-effect tablet-weaving was associated with a copper-alloy strap mount in one of the Saltwood graves.

### **3.5 Materials**

Suitable materials for tablet-weaving are:

- Ground weave<sup>8</sup>: fine, smooth woollen thread spun for weaving. Silk<sup>9</sup> and linen thread.
- Brocade / soumak<sup>10</sup>: gold thread or foil, silver thread or wire, silk or wool.

Fluffy knitting wool should be avoided. A small amount of fine weaving, strategically placed, is better than a large amount of thick, crude work.

Red and blue were especially popular colours, with gold on red being particularly common in Anglo-Saxon brocades, but all available colours were used. Linen may be dyed: blue is likely to be the most common colour because woad dye takes well on linen. Different materials can be combined in the same band.

Finely spun yarn and bright colours were luxury items. Think of tablet-weaving as being on a par with jewellery.

For higher status bands, use:

- More complicated patterns
- Bands made with larger numbers of tablets.
- More expensive materials, e.g. silk and gold instead of wool and linen.
- More colours in a band.
- Brighter colours.

### **3.6 Cultural differences**

#### **3.6.1 Viking**

Tablet-weaving was widely used, with complex geometric designs made from diagonal lines.

#### **3.6.2 Early Anglo-Saxon**

Tablet-weaving was widely used. Designs were perhaps simpler than for Viking but there was a particular Kentish tradition of gold-brocaded fillets<sup>11</sup>.

8 'Ground weave' is the basic warp faced band, which may be embellished with surface decoration.

9 Silk started to be used from late fifth / early sixth centuries AD and became the preferred material for high-status brocades.

10 'Soumak' is surface decoration using a second warp, like brocade except that it doesn't go all the way across the band, but instead is wrapped around warp threads. It's like embroidery that is worked as the band is woven.

11 Headbands for high-status women.



### 3.6.3 Mid /Late Anglo-Saxon

From the eighth century onwards there is far less physical evidence for tablet-weaving in England, what there is being mostly high-status ecclesiastical or very high status. There are some finds of tablet-weaving from York but they form a small percentage of the textiles.

You may choose to avoid tablet-weaving in costumes that are not very high status.

Alternatively, given how common tablet-weaving was in the earlier period, that it was still widely used on the continent, and was common in mediaeval England, it would be equally reasonable to continue to use tablet-weaving on any costume.

Regional variations can be suggested, though evidence is scarce and these are not absolute rules:

- Norfolk, Lincolnshire and the Yorkshire wolds: Scandinavian-style geometric patterns.<sup>12</sup>
- Wessex and Mercia: patterns of vines, birds and animals. Embroidered decoration with tablet-woven edging.<sup>13</sup>
- Towards the western borders: less tablet-weaving, more plain and warp pick-up bands.<sup>14</sup>

## 4 Warp faced bands

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*Status: allowed.*

Plain tabby bands can be woven using tablets, a warp weighted loom, a rigid heddle, a modern inkle loom, or stick and leash. Bands can be embellished with pick-up patterns. A tabby band can have warp twined tablet-woven borders.

A plain band is less likely to be brocaded than a tablet woven band, and it is more likely to be woven in wool than linen or silk.

Plain bands may be used anywhere that tablet-woven bands are used<sup>15</sup>, except not as a starting border, and preferably not as high status headbands.

## 5 Braids / plaits

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*Status: encouraged.*

Almost any simple hand made braid or plait is acceptable, including plied cords, finger loop braiding<sup>16</sup> and round four strand braids<sup>17</sup>. We do not have definite evidence of many types of braid but it seems likely that any simple structure may have been used.

12 Scandinavian-style jewellery was popular in these areas in the later period (Kershaw). In the earlier period, tablet-weaving in these areas was more Scandinavian in style (Walton Rogers).

13 Based on textiles originating in Winchester, and the Maaseik textiles. Note that the vestments of St Cuthbert were originally made for Bishop Frithestan of Winchester in the early 10<sup>th</sup> century..

14 In the earlier period, tablet-weaving was less common along the western border (Walton Rogers).

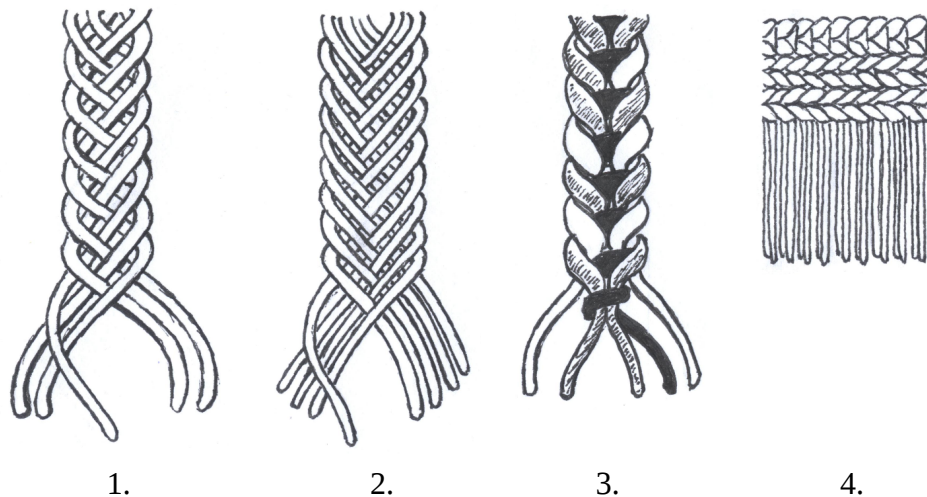
15 This includes high status usage: very fine tabby bands were wrapped spirally around the upper parts of two scabbards from the central Saltwood cemetery.

16 There is evidence for finger loop braiding from the 12th century onwards. We do not know that it was practised in the Dark Ages but it seems a reasonable conjecture, though the more complex braids are probably later than our period.

17 But not macrame!

Cords are useful as decoration and for ties and straps. Sprang can also be worked as narrow bands. Plied cords and threads or braids can be used as edging for garments or sewn onto seams, both for decoration and to protect the edge of the fabric or tablet-weaving.

The Relics of St. Cuthbert include a number of different braids, and give some idea of how braids might vary (Figure 13).



**Figure 13: braids from the Relics of St Cuthbert.**

1. *five strand sennit.*
2. *eight strand sennit.*
3. *five strand “guilloche”.*
4. *guilloche combined with tablet-woven fringe.*

## 6 Decorative stitching

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**Status: encouraged.**

Fairly simple decorative stitching and seam treatments are known from a number of finds including Skjoldehamn and Hedeby.

## 7 Weaving equipment

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### 7.1 Tablets

**Status: encouraged.**

Tablets were commonly squares made of wood or bone, around 32mm x 32mm. Wooden tablets may be larger, up to 40 or 50mm. There are a few possible triangular tablets but no hexagonal or octagonal ones are known. Tablets may have additional holes for use in certain types of pattern.

There does not seem to be any archaeological evidence for leather tablets being used in Dark Age Europe. Leather tablets are allowed but wood and bone are preferred.



**Figure 14: weaving tablets from Sweden. Viking Age.**  
 Image: <http://mis.historiska.se/mis/sok/bild.asp?uid=310508>.



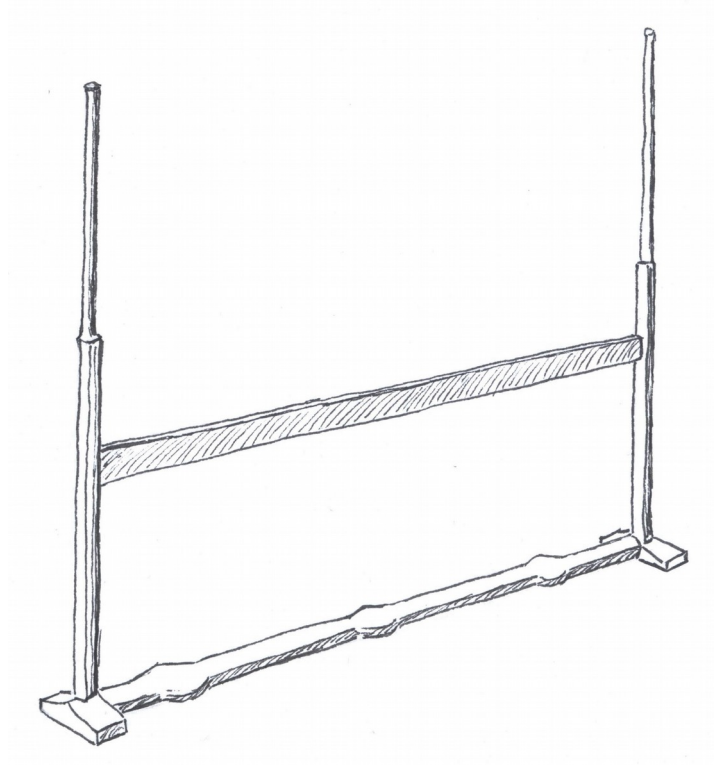
**Figure 15: wooden tablets from Oseberg, Norway. Viking Age.**  
 Image: Alister Perrott.

## **7.2 Oseberg-style post looms**

*Status: encouraged.*

These looms are made of two vertical posts set into a wooden base, and there may be a crosspiece either around hip height or at the top. A loom of this type was found in the Oseberg ship burial, and the same style of loom is shown being used for tablet-weaving in a number of earlier mediaeval manuscripts. The Oseberg loom is around 2 metres long and 1.1 metres high.

A tablet top version would be fine for displays.

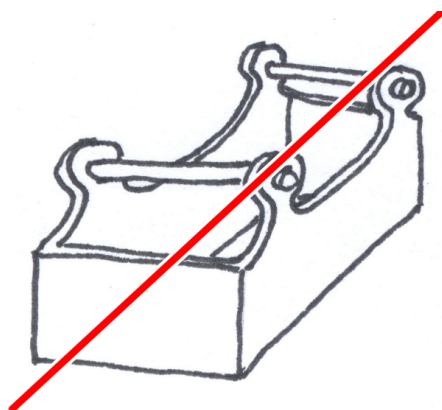


**Figure 16: wooden band-weaving loom from Oseberg, Norway. Viking Age.**

### **7.3 “Box” looms**

**Status: Not recommended.**

These are loosely based on mediaeval looms used with rigid heddles or for tapestry. There is no evidence to associate them with either tablet-weaving or the Dark Ages. They are not especially good for tablet weaving, as you cannot warp on them and the twist build-up is harder to handle.



**Figure 17: Mediaeval-style band loom.**

*Based on “Le Travail de la Laine”, an early 16<sup>th</sup> century tapestry.*

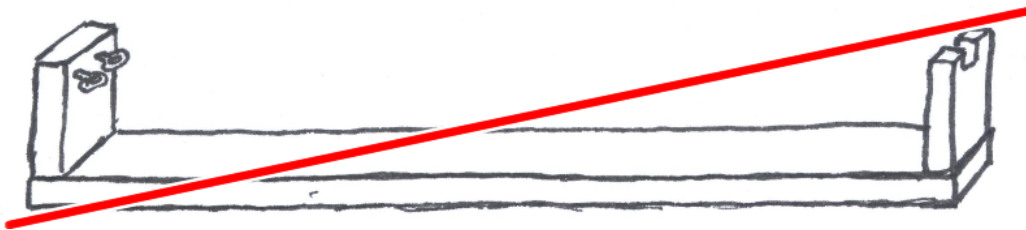
## 7.4 “Plank” looms

**Status:** *Not recommended, except for simple posts.*

Looms made of a long horizontal plank with some kind of structure at each end to which the warps can be fastened are known from many countries including Burma, Czechoslovakia, the Caucasus and Tunisia. These were used variously on the ground, on a stool, or were free-standing: none seems to have been used on a table top.

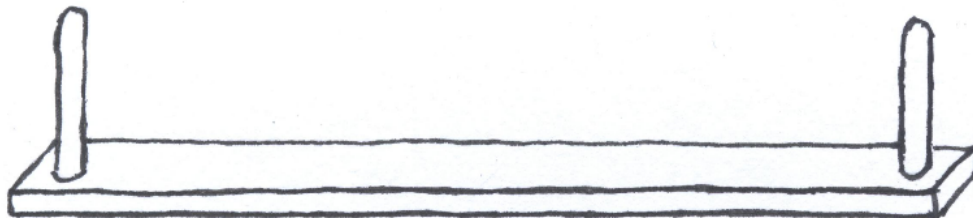
However, all are relatively modern and were recorded as traditional craft equipment in the 20<sup>th</sup> century, and the plank with horizontal bars at either end does not seem to match any traditional tool.

The evidence from mediaeval manuscripts points to “Oseberg” style looms for the high-status early period weaver, but it can be argued that a domestic weaver might use a simpler device that can be more easily stored. It seems likely that much tablet weaving was weaver-tensioned (backstrapping) or stretched between poles stuck into the ground, but the former is awkward and the latter is not always practical for displays. A plank with a short vertical post at either end is probably the best compromise, and has the advantage that it can be used for warping.



**Figure 18: Basic structure of a Moroccan-style tablet-weaving loom.**

*Anything more complex than two post is not supported for the Dark Ages.*



**Figure 19: Cut-down “post” loom.**

*Although we do not have evidence of this exact design, it is sufficiently similar to the Oseberg and mediaeval looms in concept to be acceptable for displays.*

## 7.5 Rigid heddles

**Status:** *allowed.*

Although rigid heddles were common in both Roman and later mediaeval culture, there is no evidence that rigid heddles were in use in Scandinavia or England during the Dark Ages. Therefore you may prefer to use tablets or stick-and-leash to weave plain bands.

Alternatively, it is reasonable to conclude that rigid heddles were too widespread to disappear from use for a few hundred years and then reappear, and must have been continually used.



Up to the 12<sup>th</sup> century AD, rigid heddles were generally narrow with maybe six slots.



**Figure 20: rigid heddle in the style of the Roman bone heddle from South Shields, Tyne and Wear.**



**Figure 21: rigid heddle from Gotland, Sweden. Mediaeval.**

Image: [http://mis.historiska.se/mis/sok/include\\_image\\_exp.asp?uid=349732](http://mis.historiska.se/mis/sok/include_image_exp.asp?uid=349732).

## **7.6 Backstrap weaving**

*Status: allowed.*

We have no evidence for or against weaving with the band attached to your waist and a fixed point, but this is unsurprising given that no special tools apart from the tablets are used. In the absence of evidence, such a simple method must be accepted.

## 7.7 Inkle looms

*Status: Not recommended.*

The woven band is authentic (see 4Warp faced bands) but the loom design is modern.

## 7.8 Shuttles

*Status: encouraged.*

There are many designs of shuttle and little evidence. Any simple wood or bone shuttle will be acceptable.



**Figure 22: replica shuttle based on the Chalton find.**

## 7.9 Beaters

*Status: allowed.*

### 7.9.1 Sword / spear beaters

Bands can be beaten with the back of a knife but it is more effective and safer to use a dedicated beater or weaving sword, which can be iron, bone or wood. There is little evidence for beaters made specifically for tablet-weaving but given how useful they are, and that we are generally not able to bring a warp-weighted loom to displays, it is fine to use:

- Beaters based on later mediaeval illustrations.
- Smaller versions of spear or sword beaters made for use with warp-weighted looms.
- Small, simple rectangular wood or bone beaters.

Iron weaving battens are consistently found in well-furnished women's graves and may be sword- or spear-shaped. The sword beaters have a projecting tongue at the end and a tang handle. The spear beaters have a blunt tip. Spear-shaped beaters seem to be more common in the later period, and in more northerly areas such as York.

Whalebone weaving swords are known from Norway.



**Figure 23: spear-shaped weaving beater, Sweden. Iron age.**

Image: <http://mis.historiska.se/mis/sok/bild.asp?uid=341955>.

### 7.9.2 Toothed weft combs

*Status: recommended.*

Examples are known from Oseberg (wood) and Birka (antler).



**Figure 24: weaving comb from Birka, Sweden. 10<sup>th</sup> century.**

Image: <http://mis.historiska.se/mis/sok/bild.asp?uid=28624>.

## 8 Braiding equipment

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### 8.1 “Trollen”

*Status: Not recommended.*

The “trollen wheels” in use among re-enactors are not based on any archaeological finds from the Dark Ages. There is no evidence to suggest the use of such a tool in antiquity: the closest parallel is the Japanese “kumihimo” method, which was introduced to Britain in the eighteenth century.

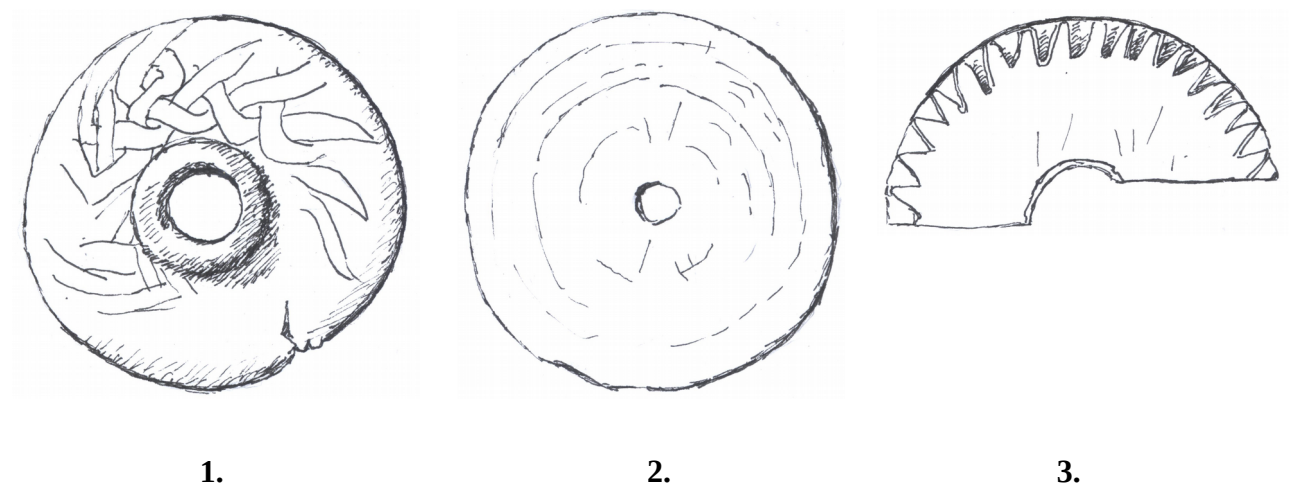


**Figure 25: example “Trollen” wheel.**

Two finds from Trelleborg in Denmark are often quoted in this context, however they do not resemble “trollen wheels”. These are antler discs around 7.7 cm in diameter which Poul Nørlund identified as spindle whorls (Figure 26). The edges of these discs are smooth, not notched.

Part of a wooden disc found in the Benedictine convent at Uunartoq, Greenland also deserves a mention. This is generally accepted to be a navigational aid. The notches are only on the surface of the wood, so again it does not match the “trollen wheels”.

“Trollen” appears to be a pure re-enactorism: even the origin of the name is unknown.



**Figure 26: finds sometimes referenced in discussions of “trollen”.**

*1. Antler disc from Trelleborg, Denmark.*

*2. Antler disc from Trelleborg, Denmark.*

*3. Wooden part of disc from Uunatoq, Greenland.*

## **8.2 Lucet**

**Status: allowed.**

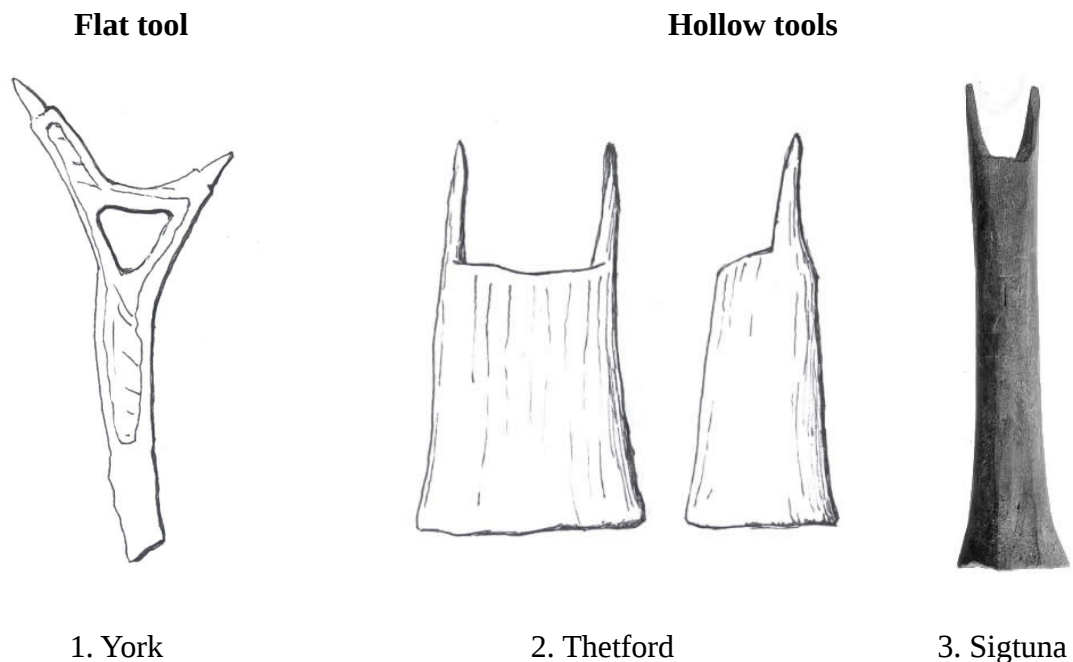
“Lucetting” is a method of making a looped cord similar in structure to “finger knitting” and “French knitting” / “Knitting Nancy”. It is made using a two-pronged tool.

We do not have examples of this type of cord from the United Kingdom. However there are a number of finds of possible lucets, and the technique is securely known from mediaeval Sweden, including braid fragments found in a late 11<sup>th</sup> century grave in Gotland, Sweden.

Early-style tools such as the bone tool found at Thetford or the shaped antler from York are preferred. Simple wooden forked tools are also acceptable.

The word 'lucet' is from the French 'lucette', and the earlier tools are different from the later mediaeval lucets. It may be useful to distinguish Dark Age tools by using Swedish terms such as:

- snoddgaffel (string fork)
- slynggaffel (coil / loop fork)
- tviningben (twining bone)



**Figure 27: types of early lucet**

1. Possible antler lucet from York. 9<sup>th</sup> - 10<sup>th</sup> century.
  2. Bone lucet from Thetford, 10th-11th C.
  3. Bone “tinble bein” from Sigtuna, Sweden. 11<sup>th</sup> century.
- Image <http://mis.historiska.se/mis/sok/fid.asp?fid=118487>.





**Figure 28: the simplest possible “lucet”**

### **8.3 Bobbins**

*Status: allowed.*

A plait from Kroghs Mølle Mose shows that the whip cording structure was known in antiquity. Whip cording (a round four-way braid) is now usually worked with bobbins, as it is faster and you can make longer pieces. We do not have clear evidence of bobbins in the Dark Ages, but there are bone implements that may have been used as bobbins. These are metatarsal bones with a hole drilled through the end. Examples made from sheep or goat bones were found at Ribe, and there is a tradition of using such bones in Iceland.

However lace-making or other heavily worked bobbins would be inappropriate.

## **9 References**

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The general references contain information on a number of topics. In addition, specific references are given for some topics.

### **9.1 General**

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## 9.2 Tablet weaving

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## 9.3 Warp faced bands

*Skjoldehamn tunic and trousers:*

<http://www.expo-conv-svcs.com/Pennsic40/SkjoldehamnClassHandout.pdf>

## 9.4 Braids / Plaits and decorative stitching

*Hedeby fragment:*

**Hägg, Inga.** *Berichte über die Ausgrabungen in Haithabu: Berichte 20, Die Textilfunde aus dem Hafen von Haithabu.* Neumunster, 1984.

*Skjoldehamn hood:*

[http://www.pvv.org/~raaness/prosjekt\\_fritid/?page\\_id=3295](http://www.pvv.org/~raaness/prosjekt_fritid/?page_id=3295)

*12th century silk finger loop braids from London:*

**Crowfoot, Pritchard & Staniland.** *Textiles and Clothing, Medieval Finds from Excavations in London*, page 7. 1992.

*Finger loop style cords from Greenland:*

**Nörlund, Poul.** *Buried Norsemen at Herjolfsnes, vol. 67, no. 1, An Archæological and Historical Study, in Meddelser on Gronland, 67 page 89.* University of Copenhagen, 2010.

*Paintings that show fingerloop braiding:*

A wall painting dated to around 1320 in Haus zur kunkel, Münsterplatzes 5 in Konstanz, Germany.

"Historia de la Virgen Maria", attributed to Nicolas de Zahortiga 1465.

## 9.5 Weaving equipment

The Oseberg ship burial is our best source for wooden weaving equipment including a band loom and tablets. The relevant volumes of the Oseberg finds are very hard to track down, but fortunately many key drawings and reconstructions can be found on the internet.

### 9.5.1 Tablets

<http://mis.historiska.se/mis/sok/bild.asp?uid=310508>.

### 9.5.2 Oseberg loom

The tablet loom is pictured in:

**Brøgger and Schetelig.** *Osebergfundet II*, pp 173 - 176 and Plate XIII. Universitetets Oldsaksamling Oslo, 1928.

### 9.5.3 "Plank" looms

**Collingwood, Peter.** *The Techniques of Tablet Weaving.* New York: Watson-Guption, 1982.

### 9.5.4 Rigid heddles

**Wild J.P.** *Textiles in Archaeology*, page 39. Shire Archaeology, 1988.

### 9.5.5 Beaters

*Swedish spear beater:*

<http://mis.historiska.se/mis/sok/bild.asp?uid=341955>

*Swedish knife beater:*

<http://mis.historiska.se/mis/sok/fid.asp?fid=852817>

*“Ruler style” small beater:*

*Viking bone and Antler craft*. CD, ArkeoDok, 2008.

## 9.6 Braiding equipment

### 9.6.1 “Trollen”

*Discussions of the “trollen” wheel:*

<https://halldorviking.wordpress.com/2013/07/24/trollen-wheels-an-accepted-anachronism/>

<http://docs.thevikings.org.uk/files/16641>

*Trelleborg discs:*

**Nørlund, Poul.** *Trelleborg, Nordiske Fortidsminder*, København I, 1948.

### 9.6.2 Lucets

*Antler lucet:*

**MacGregor A., Mainman, A.J., Rogers, N.S.H.** *Bone, Antler, Ivory and Horn from Anglo-Scandinavian and Medieval York*. London, Published for the York Archaeological Trust by the Council for British Archaeology, 1999.

*Gotlandic lucet cord fragment:*

**Pettersson K.** “En gotländsk kvinnas dräkt. Kring ett textilfynd från vikingatiden” in *TOR* 12 pp. 174–200, 1968.

*Bone lucet:*

**Rogerson A., Dallas C., & Archibald M.** *Excavations in Thetford, 1948-59 and 1973-80*. Dereham, Norfolk, Norfolk Archaeological Unit, Norfolk Museums Service, 1984.

*Bone lucet:*

<http://mis.historiska.se/mis/sok/fid.asp?fid=118487>

*The Vikings lucet dataset:*

<http://docs.thevikings.org.uk/files/12886>

*Lucet and lucetting review blog post:*

<https://halldorviking.wordpress.com/2012/11/04/lucets-and-lucetting/>

### 9.6.3 Bobbins

**Ambrosiani, K.** *Viking Age Combs, Comb Making and Comb Makers*. Stockholm Studies in Archaeology 2, pp 136-137. 1981.

**Hald, M.** *Ancient Danish textiles from bogs and burials: a comparative study of costume and Iron Age textiles*. National Museum of Denmark, 1980.

## 10 Credits

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### 10.2 Figures

Unless otherwise stated, all drawings and photographs were supplied by the authors.