Nobility Chain

(SCA Knight's Chain)

German c1500

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Use & Weave

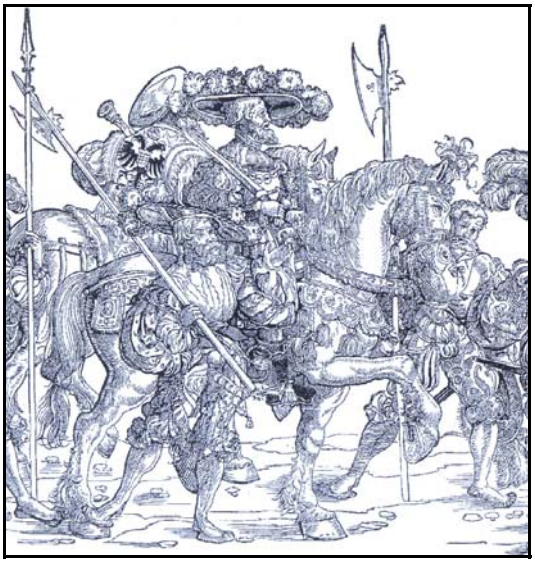


Figure 1. A Cavalcade of Knights, 16th century German (Time Life, p. 71)

Figure 2. Augsburg Confession, 16th century German (Time Life, p. 71)

Figure 3. A Cavalcade of Knights (Time Life, p. 70)

The first question I had to answer for this project was:
Is a Knight's Chain a period concept?
A 15th century Nurnberg sumptuary law prohibits the use of precious material, such as gold, from use by the "common man" in personal attire (Vincent p. 10-11). Further a 17th century Nurnberg sumptuary law states that only members of the "first rank" of society are to wear gold chains (Greenfield, p. 116). Although these references do not indicate knights directly, they do fit into the "first rank" in society. One sumptuary law does reference knights by name. A 16th century English law states, "None shall wear in his apparel...gold or silver...except dukes, earls, viscounts, barons and knights" (Secara, p. 2)
According to a 12th century knight, Ramon Lull, "The Knight's gorget signifies obedience to his lord and to chivalry" (Lull, p. 67). This linked chain can be viewed as a courtly gorget, indicating the fealty oath to our Liege Lord and King.
In the woodcuts depicting the cavalcade of knights in the 16th century, the only people wearing the large chains around the neck are the mounted and armed men. These are doubtless the knights that the title refers to.
The weave shown in figures 1-4 are a simple 1 in 1 pattern. The chain that I made adds a second link to make a 2 in 2 pattern to simulate the weight and mass of those shown in these figures.
My conclusion is that knights would have worn chains of gold, but so would other persons of nobility.

Figure 4. Portrait of Philip of Hesse (Time Life, p. 73)

Rings (material, gage, diameter, section)

Figure 5. Maille in Nurnberg Museum (Ffoulkes, p. 57)

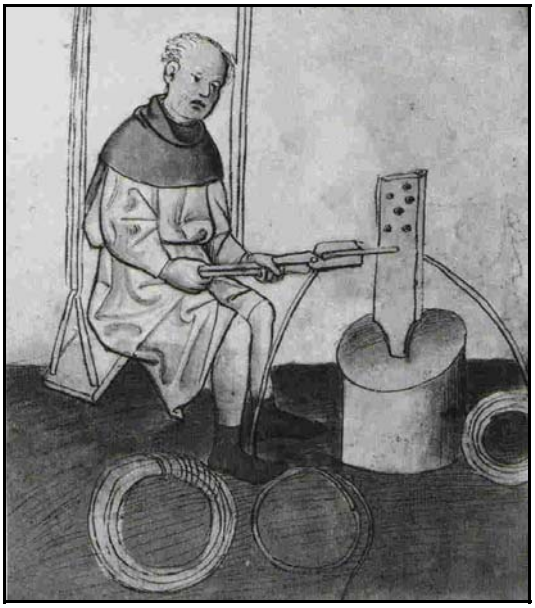


Figure 6. Wire drawer from the Hausbuch der Mendelschen (Pfaffenbichler, p. 57)

This chain was construction from 12 gage brass wire manufactured my machine. Period wire drawers, as shown in figure 6, would have repeatedly passed metal through incrementally smaller holes in a draw plate to achieve the required gage. Mail was most commonly made out of iron, but latten (modernly known as brass) was also used as trim (Figure 5) and in some cases for the entire garment (Figure 8). I feel that the mail armour like style would have been appropriate to use in a knight's chain to more closely represent the courtly gorget. I did not use gold as indicated in the sumptuary laws only for cost reasons. Both brass and gold are non-ferrous metals and would pass through the exact same steps.

The outer diameter of the Knight's Chain rings are 1.5 cm. The range of sizes found in the battle of Wisby excavation were between 0.4 cm to 1.7 cm (Thordeman, p. 111). Maille rings were also commonly flattened in later period as shown in figure 7 as well as figures 5 & 8. The flattening was done to minimize weight while maintaining strength.

Figure 7. Flattened rings w/ watershed, 15th Century (Schmid, p. 13)

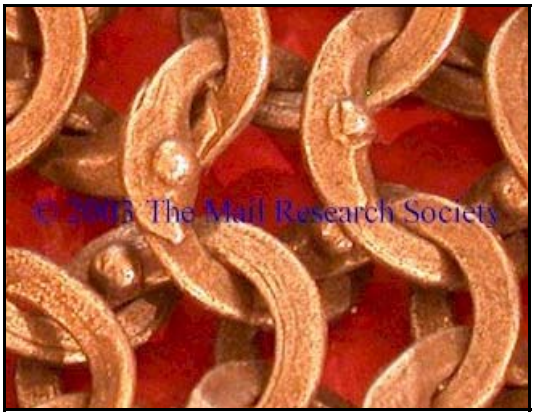


Figure 8. Latten Links w/ watershed, 15th Century (Schmid, p. 13)

Rings (rivet, overlap, maker's mark)

Figure 9. Watershed overlap (Schmid, p. 13)

Figure 10. Wedge rivet back, Wallace collection A9 15th c. (Schmid, p. 13)

Figure 11. Maker's mark (Schmid, p. 7)

The Knight's Chain rings are set with a wedge shaped rivet. The most obvious detail from using this style of rivet is the rectangular shape on the ring's back (Figure 10 & 12). This shape is the bottom of the triangular rivet. The rivet dome is a mix of the top of the triangle and the ring itself (Figure 15). The overlap is also crimped together using a detail known as the 'watershed'. Many rings in the 15th to 17th century have the watershed detail on the overlap as shown in figure 9. This detail is only used with wedge shaped rivets. By the 1500's most European maille was using the structurally superior wedge rivet and watershed detail in lieu of the round rivet.

Maker's marks are found on a handful of maille from many different areas. They were cast or stamped and then weaved into the garment as shown in figure 11 (Schmid, p. 7), or stamped directly on the rings (Burgess, p. 195). The Knight's Chain has one link stamped with the initials of the maker, Matheus Bane (Figure 12).

Figure 12. Example of stamped maker's make on Knight's chain.

Tools & Technique

Figure 13. A mail maker 17th century (Pfaffenbichler, p. 56)

There are many woodcuts from the 15th to the 17th century that show maille makers. These all seem to show one pair of tongs being used to add rings to a garment. As shown in figure 13 and 14, the tongs have long handles which indicate that the user needed great pressure with the tool. The conclusion is a rivet setting tong that forms the rivet as well as the watershed marks on the overlap. The unset ring shown in figure 15 (#2) shows a flat ring without any sign of watershed right before setting of the rivet. This rare find gives us great insight into the process of maille construction. In comparing by rings prior to rivet setting (Figure 15, #1) and the period example, I am convinced that my process in close to that of period maille makers.

The holes for the wedge rivets were pierced through the overlap in the ring, not punched or drilled because you can see the extra material pushed through as well and the rivet. This method allows more material to be used in setting the rivet head and helps lock the ring and the rivet together, as well as being much easier to accomplish. A strait cutting bit and die could have been used, although I opted to modify a pair of tongs (which is a tool maille makers would have had) to accept the bit and die to guarantee quick alignment. I believe that period maille makers would have had a similar tool to help streamline this critical step in ring production.

I used all self made custom tools for all my maille. The rings go through a 10 step process with the highlights shown in Figures 16-21.

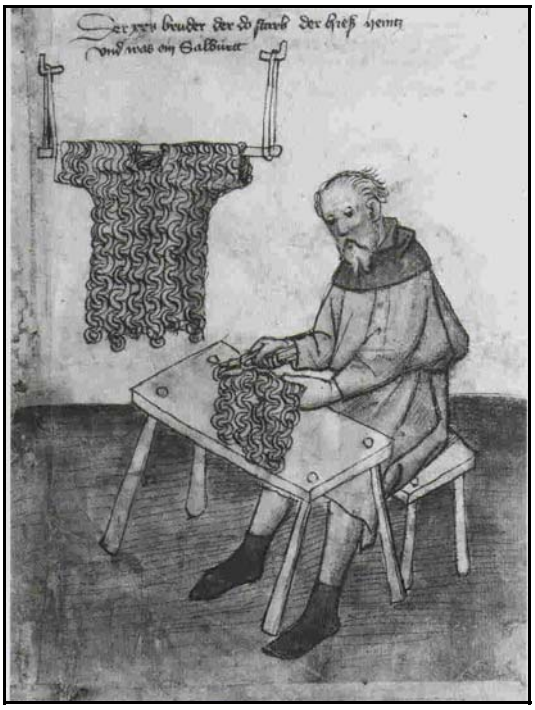
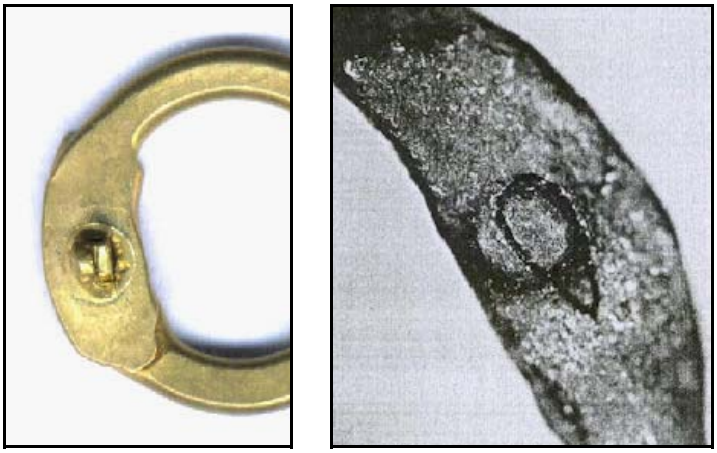


Figure 14. Mail maker from the Hausbuch der Mendelschen (Pfaffenbichler, p. 59)



#1 #2

Figure 15. #1 My rings prior to setting rivet #2 A ring from C455 shirt prior to setting rivet (Vike)

Tools & Technique

Figure 16. Winding coils on mandrel

Figure 17. Cutting individual rings w/ overlap

Figure 18. Flattening rings with piston tool

Figure 19. Piercing hole for wedge rivet

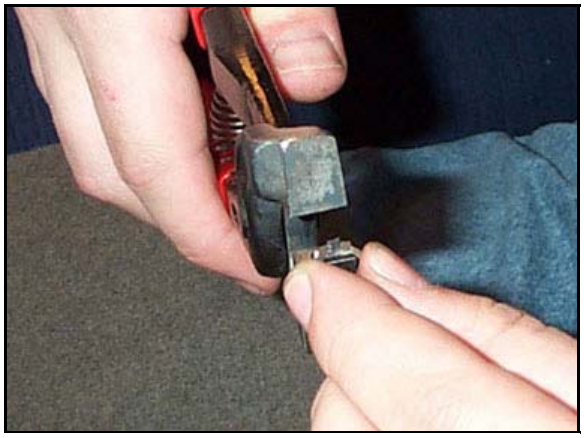


Figure 20. Setting wedge rivet

Figure 21. Peening wedge rivet

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