Creating a Viking Era Sea Chest

Lady Dýrfinna Valsdóttir

Presented is my version of a Viking era sea chest based on an archeological find from Hedeby Harbor in modern day Germany. The original piece was constructed of oak and likely dates from the late 10th to early 11th centuries. As the chest that I made will be used as my primary storage container for my SCA jewelry, shoes, etc., I made several changes in order to make it more personalized to my specific needs. These changes include, slightly larger dimensions, addition of handles and the inclusion of artistic elements, such as, carvings and forged animal shapes. While my version of the box differs from the original find, I tried to keep my chest true to the spirit of the original piece. My inspiration for making this chest was work that I performed in making a similar chest for Countess Stæina Hálfdanardóttir.

The Hedeby Chest

The Hedeby chest is a Viking age six-panel chest, a simple design chest made from six planks, which was found in a harbor near the Old Danish settlement of Hedeby in modern day Germany. Hedeby was an active Viking settlement from about 804 CE (the arrival of King Godfred of Denmark) until the city was sacked and burned in 1066 by the Slavs (Wiener, 2018). Figure 1, below, shows a depiction of a reconstructed version of the Hedeby chest (Crumlin-Pedersen, 1997).

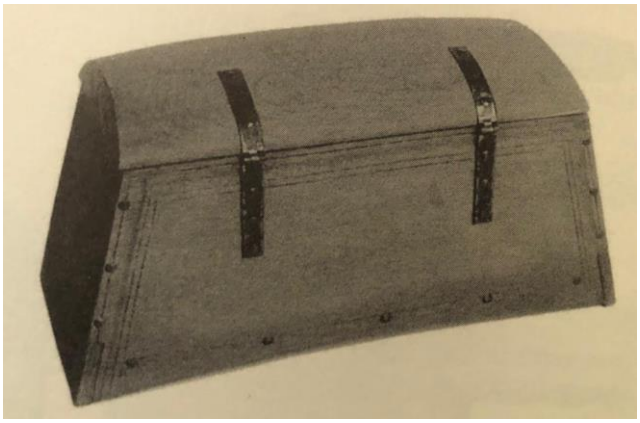

Figure 1 Recreation of the Hedeby Chest

The chest was made of oak and was found filled with rocks. In addition, the lock mechanism was broken off of the front panel, indicating that the chest was likely stolen, its contents removed and then discarded into the harbor (Kalmring, 2010). Much of the original hardware on the chest was either destroyed when the box was stolen or has deteriorated over time.

While no definitive dating of the chest has been performed, Viking shipwrecks from the same time period can provide some guidelines as to the age of the box. Three such ships were found in the harbor and radiocarbon dating of planks from those finds dated them from the late 10th to early 11th centuries

(Crumlin-Pedersen, 1997). Based on this, we can assume that the chest is likely from the same relative time period.

It is believed that the Hedeby chest may have been used to house a Viking's personal belongings while at sea. In fact, the chest shares many similar design elements with a slightly smaller chest found in the Oseberg burial. Figure 2, below, shows Oseberg chest 178 (Johnsen, n.d.). Chests such as the Hedeby and Oseberg chests have very functional designs. The boxes have large bases relative to the tops, so the sides of the boxes are angled. This design lowers the center of gravity, thereby making it more stable as compared to rectangular designed boxes. As these boxes were used on ships, and may have even been used as rowing benches by their owners, this increased stability would have been very important, especially during rough seas (Crumlin-Pedersen, 1997).

Figure 2 Oseberg Chest 178

My Interpretation of the Hedeby Chest

My goal in this project was not to make a replica of the Hedeby chest, but rather, to make a box that kept true to the spirit of the original while meeting my needs as an event box. To do this, I modified the original design to make the piece more useful and a bit more artistic.

Wood Type

As mentioned previously, the Hedeby chest, like the Oseberg chest, was made from oak. Due to its strength, relative availability and large tree size (allowing for larger planks) it is an ideal for use in furniture. The grain tends to be prominent in oak, and that, combined with the relative cost difference between the two species, led me to change the material for my box to birch lumber (not plywood). And since my box was going to require larger boards than commercially available dimensional lumber would provide, I was going to need to laminate boards together, so this effectively removed board size as a constraint for my chest. While not known to have been used in large boxes, birch was used in period for smaller projects, such as knife handles, small decorative boxes (Ward, n.d.) and the like.

Chest Dimensions

The next change that I made was in the over-all dimensions of the chest. The original chest was 20.5” L x 9” W x 10.6” H. Since my box is intended to be used to store my SCA gear, such as jewelry boxes, shoes, etc., I needed it to be bit a bigger than the original. As a result, I scaled my chest up by about 20%, thereby providing additional storage capacity. The dimensions of my chest are 24” L x 12” W x 13” H (note that the chest width of 12” is larger than the 20% scale factor. The width does not impact the angle of the side boards and thus does not change the over-all profile of the chest).

Relief Carvings

Probably the most striking change that I made to the box was the addition of relief carvings. Carvings were very common in Viking age woodwork. In fact, most wooden surfaces would have had some type of carving on them (Ward, n.d.). While the original box did have carved lines along the perimeter of the boards, I added a carved falcon that is flanked by two Caidan crosses to the front of the chest. A falcon was chosen because it is part of my SCA device and because of it its relevance to my persona as a primary symbol of the Rurik dynasty. The artwork itself is based on a pendant found in modern day Russia. This artifact is consistent with other prominent artifacts from the 10th century that have been found in the Staraya Ladoga and Novgorod regions of modern day Ukraine and Russia (Chernov, 2011).

Figure 3 - Falcon pendants found in modern day Russia

Figure 4 the front of my chest showing relief carvings

Hardware (Handles, Hinges, Locking Mechanism and Nails)

Another change that I made to the original Hedeby chest is the addition of handles to aid in carrying the box. Since the original chest did not have this feature, I based the design of the handles on grave finds from Birka, in modern day Sweden. It appears from the actual finds that handles were generally used on smaller boxes and were actually located on the top of the pieces. Figures 5 and 6, below, show the Birka finds that I used in designing my handles (Arbman, 1940).

I also added handle plates to my version of the chest. While I was unable to find any evidence of these being used in period, I wanted to protect the wood from the metal handles. The design of the plates is a scaled version of the falcon used in the relief carving and were hand chiseled out of the parent metal. The handles attach to the chest using cotter pin style fasteners very similar to those used in period finds. The pins pass through the plate and chest wall and then spread out to cinch the handle to the box.

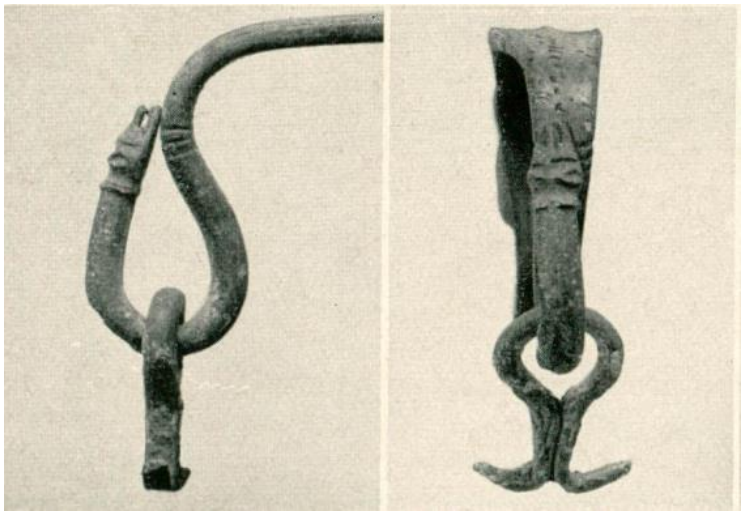

Figure 5 - Handle and cotter pin style fastener from Birka grave 639

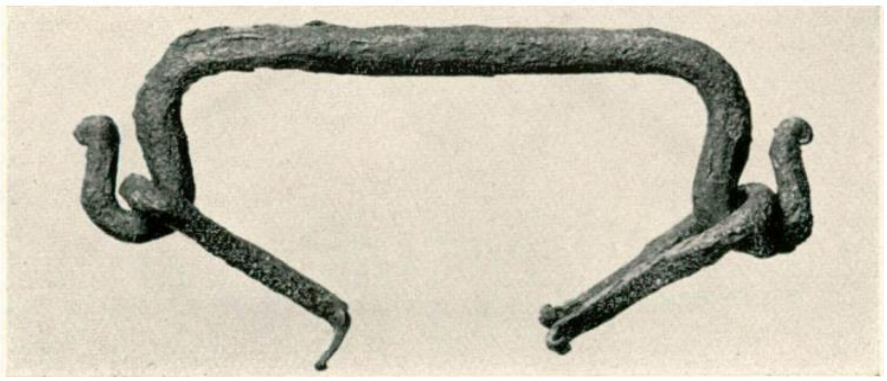

Figure 6 - Handle from Birka grave 978

Figure 7 - The handle and handle plate on my chest

Since the hinges of the Hedeby chest did not survive well enough to determine their actual shape and construction, I based the hinges in my version on those found in the Mästermyr chest (Berg, 1983). These consist of a tapered bar attached to the chest's lid. This bar ends in a loop that wraps around a corresponding hole that is situated at the end of a second bar. This bar is in turn attached to the back of the box. I added hand forged falcon heads to the ends of the hinges as an additional design element. While not part of the original chest, I was inspired by lock hasps found on a box in Birka graves 639 and 845 (Arbman, 1940).

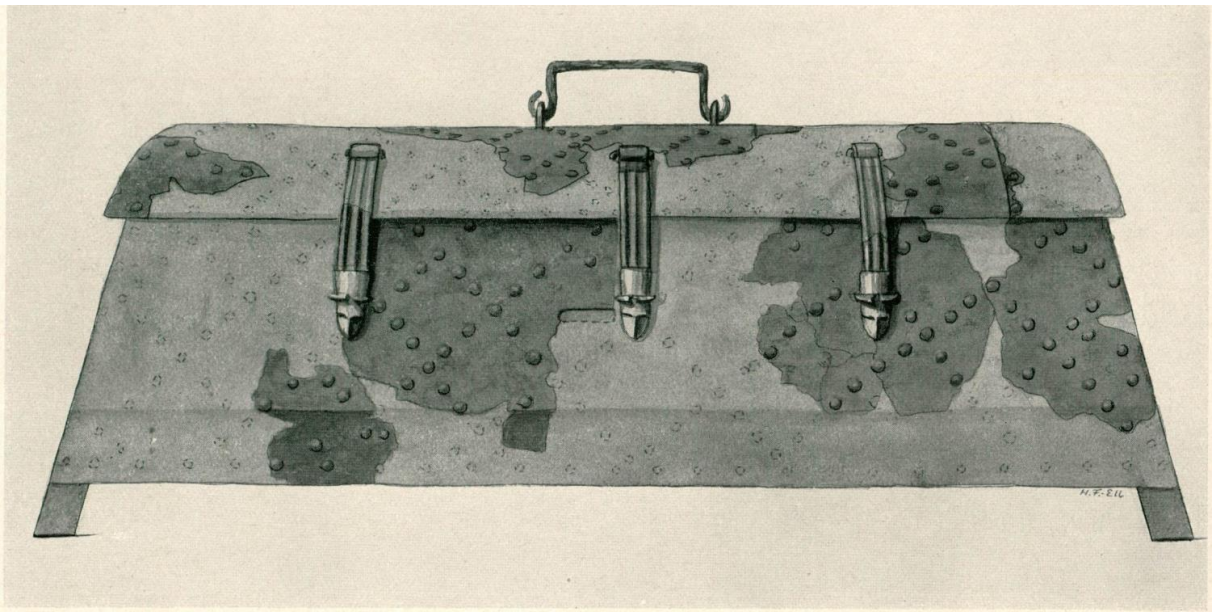

Figure 8 Chest with anthropomorphic lock hasps from Birka grave 845

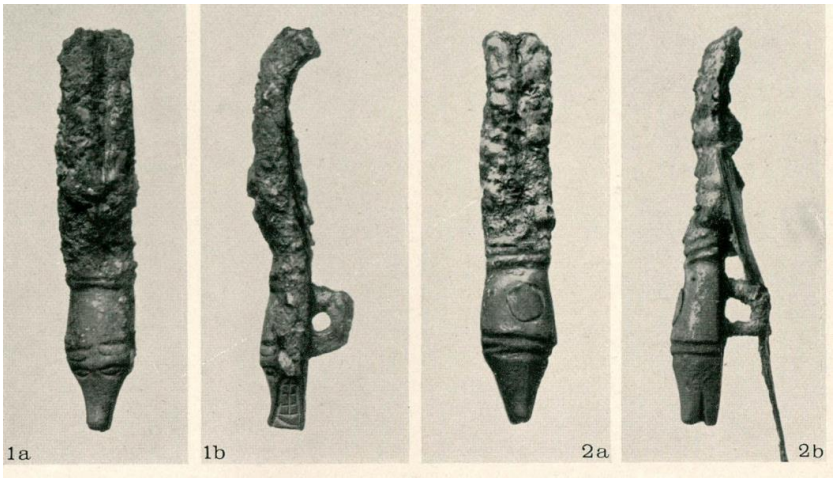

Figure 9 Anthropomorphic lock hasps from Birka grave 639

Figure 10 the hinges on my box

Figure 11 Falcon Head hinge on my box

From the shape of the broken section of the original chest, it appears that the box had an integral lock. This is consistent with the Oseberg and Mästermyr chests. This design, however, requires that the lock be engaged in order for the lid to be securely held in place. As such, the lock must be disengaged each time the lid needs to be opened. Since security is not a primary concern for my chest, I decided to simplify the design and add the capability for a padlock to be used instead. This will allow me to only lock the chest when added security is desired. I forged a lock plate and hasp mechanism and attached those pieces as shown in Figure 12. The actual padlock will be based off of those found in the Mästermyr chest, and will be incorporated as part of my Pentathlon entry next year.

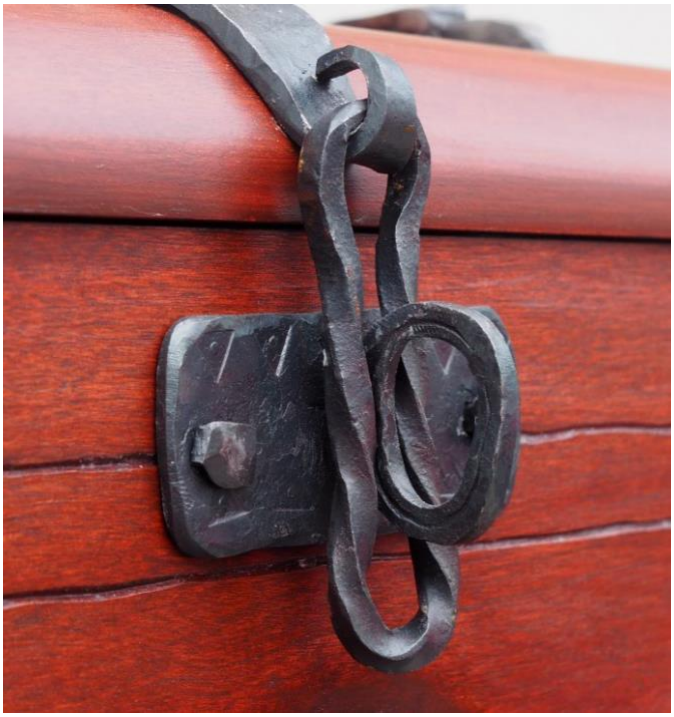

Figure 12 Lock hasp from my chest

There is no description of the nails used in the Hedeby chest in any of the documentation that I have been able to find. While there are still clearly nails present, they are just not discussed in the literature. As such, I forged my nails based on pieces found in Birka grave 1137 (Arbman, 1940). There were both round and square nails found in this grave, but I forged my nails into square cross section. Since the nails are intended to be the primary retention mechanism for the box, I wanted as much cross-sectional area as possible to hold the nails in place. I made 3/16” square nails for this application, which provides about 27% more surface area as compared to a similarly sized round nail. As demonstrated in the Birka nails and the Mästermyr chest, the nails were hammered through, bent over and cinched to the back side of the mating board (Berg, 1983). This provides for a more secure hold and prevents the nails from backing out.

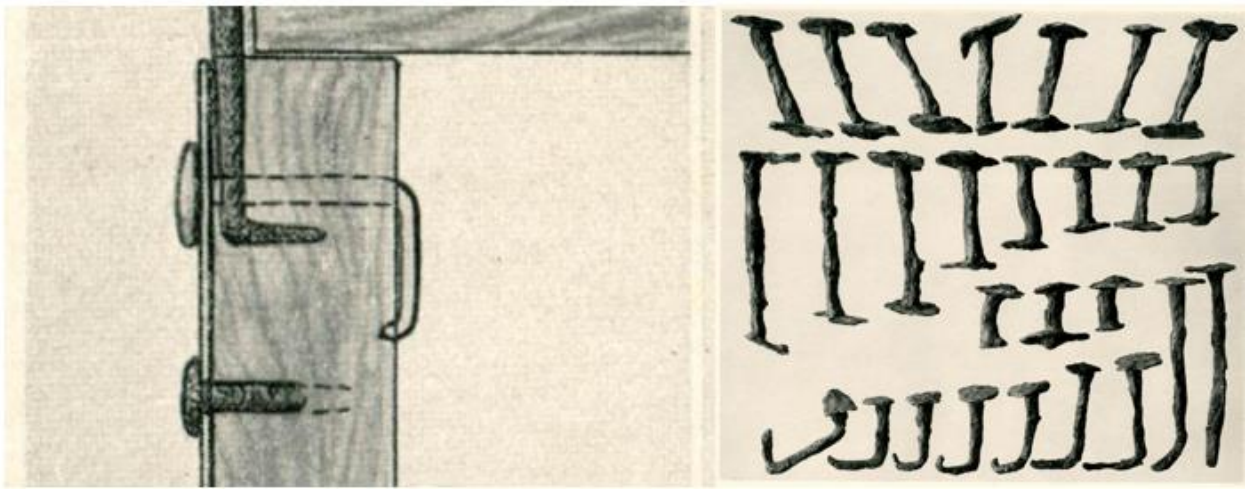

Figure 13 Depiction of a cinched bail from the Mästermyr find and nails from Birka 1137

Figure 14 Nails in my box bent over and cinched

Some Notes on Construction

In building the box itself, I did use modern power tools to cut the boards. For example, I used table saws, band saws and jig saws to cut the boards to the desired shapes. However, it should be noted that I did use hand files to fine tune fits, such as those on the mortise and tenon joint between the box floor and side walls.

As mentioned previously, due to the size of the boards used for this project, the wood pieces had to be laminated together. To do this, I planned the sides to get an even edge and then used wooden dowels and glue to laminate the boards together.

All of the hardware on the box (nails, hinges, handles, etc.) was hand forged. While I used a modern anvil and a gas forge, the pieces were forged using traditional blacksmithing techniques that have been used for centuries. For example, the lock hasp started as a square bar. I twisted the bar, formed it into a circle and then forge welded the ends together to form a loop. The loop was then compressed to form the hasp (see figure 12).

Finally, I wanted a deep, well used look to the box. As a result, I stained the light colored birch to a deep mahogany red. I then topped the piece with multiple coats of polyurethane. While varnish likely would have been a more period form of protective coating (Ward, n.d.), I did not want the glossy finish that that would have left.

This chest was a tremendous amount of work and I spent almost four months working on it. I learned an incredible amount about blacksmithing and woodworking during the construction of this piece. While I certainly put my own twist on this project, I would like to think that my work does honor to the craftsman that created the original Hedeby chest.

Figure 15 my completed chest

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Appendix – Process Pictures

Figure 16 carving the front panel

Figure 17 forging the nails

Figure 18 forging the falcon head hinges

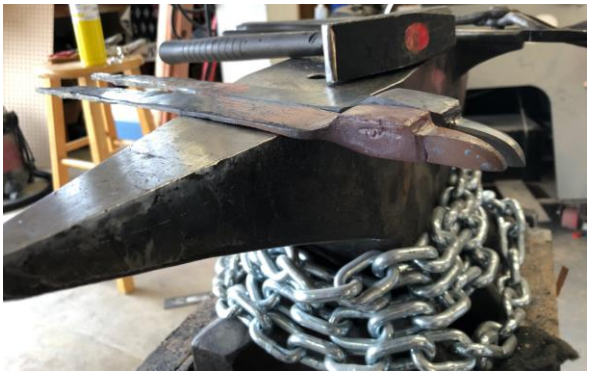

Figure 19 completed hinge blanks

Figure 20 drifting the hole in the lock hasp

Figure 21 chiseling out the lock plates

Figure 22 forging the cotter pins for the handles

Figure 23 forging the handles