Wikinger Taschenbügel
A Wood and Leather Bag from Birka

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Wooden Brackets from Hedeby

The excavations at Hedeby in Germany have yielded a number of narrow decorative pieces of wood with one long edge being decorated and the other long edge being perforated with long narrow slots. The rounded ends of the pieces of wood have round holes in them and, in one case, there is an identical pair of these pieces. These pieces have been interpreted as being the handles for purses, based on comparison to a Sami example. Westphal calls these items taschenbügel (“bracket bags”) and the examples he examined from Hedeby were evenly split between ash and maple.1 This style of bags is pretty ingenious – the frame holds the bag in shape and, when a cord or rope is passed through the end holes, it both acts as a shoulder or carrying strap and as a method of holding the two brackets firmly together, preventing the escape or theft of the contents of the bag.

Left Above: Drawings of the Hedeby purse frames, shortest measuring 181mm and the longest measuring 495mm long. (Westphal, Plate 59)
Right Above: A photograph of the bag handles in the display at the museum in Hedeby.

The Birka Brackets

In 2014, underwater excavations were undertaken in the Viking Age harbor of Lake Mälaren at Björkö. While the excavation report has not yet been published, the dig team has been so kind as to make preliminary photographs available online on their blog and on Pintrest. (While I generally would be hesitant to cite Pintrest, the photographs below were uploaded by Nina Eklöf, the Acting Head of the Archaeology Unit at the Maritime Museum.) The images released so far include several purse handles, one of which is nearly complete.2 I look forward to the formal publication of their results, expected later in 2016, but no precise measurements or information about the wood used in the Birka tachenbügel is yet available. Nor is there any information about paint or any other surface finishing on either the Hedeby or the Birka examples. The bag handle of interest to this competition entry is the one labeled F153, which is complete, although broken into three pieces.

Above Left: “Birka bag handles, found in Birkas harbour 2014 during the excavations by the Maritime Museum. parts from two separate handles” https://www.pinterest.com/pin/505740233128568103/ by Nina Eklöf (cropped)


Above Left: “Intact handle in 3 pieces of bag found in Birkas main harbor at the maritime museums excavation 2014” https://www.pinterest.com/pin/505740233133991682/ by Nina Eklöf (cropped)

Norse tools

The tools that would have been necessary to make this bag - namely a saw, knife, drill, needle, and possibly an awl or file – would have been relatively common in the Norse period at Birka. The Birka grave finds list many needles (nål), drills (borr - Birka graves 689, 710, and 750) and knives (kniv)3 and all the remaining tools were found in the Mastermyr chest, a Viking-age metalworker’s chest found in Gotland, very near to Birka4.

**Tachen – the Bag Portion of the Purse**

**The Materials:**

The brackets from Hedeby all have elongated slots along the bottom undecorated, straight edge, which has been interpreted to be the edge along which the bag would have been attached. At least one extant bracket (HbH.119.003) had some fibrous thread or cord still attached through these openings and the round end hole when it was discovered, but that organic material is now lost.\(^5\)

![Image of Hedeby bracket](image)

Above: Drawing of the Hedeby purse HbH.119.003 illustrating how cords were passed through the rectangular and round holes when the bracket was found. (Westphal, Page 81, Illustration 66)

I received a report from Maja Huttunen, who was present when one of the purse handles was found. She reported seeing a flexible piece attached to the frame and a thong through the end hole that appeared to be leather, but were unable to be examined as they were lost during the retrieval.\(^6\) Ideally, we would have been able to retain and analyze those briefly observed materials, but the theory that they were leather can be supported by the form of the Birka purse brackets themselves. While the Hedeby examples had long slots through which to pass straps to secure the bag portion of the purse, Birka’s examples have much smaller, round holes. Fabric placed under the stress of weight secured in only a few places would be prone to rip, but leather of sufficient thickness could potentially carry the weight gracefully.

There are extant leather bags from Anglo-Scandinavian York that can serve as exemplars for a leather bag. Most of the bags or bag-shaped pieces are unremarkable and certainly could have been sewn to a frame, although no positive evidence for this remains. There is one example in particular where the top edge has been cut into wide thongs that could conceivably have been used to attach the bag to a frame using the wide slots as seen in the Hedeby brackets.\(^7\) The Anglo-Scandinavian York finds are predominantly cow leather, but “softer leathers calfskin and sheep/goatskin” are specified for pouches and purses.\(^8\)

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\(^5\) Westphal, *Die Holzfunde*, 81.

\(^6\) Maja Huttunen. E-mail message. December 14, 2015.


\(^8\) Mould, Carlisle, and Cameron, *Leather and Leatherworking*, 3265-3267.
There are several extant leather bags and wallets from Birka, but none of which I am aware would clearly support their use with a frame. However, these examples do provide information about the type of leather that would have been used for this purpose. Of 33 graves containing leather samples that were analyzed, 28 were of cow-based alum-tanned leather, which generally produces a white, supple, smooth leather.\(^9\)

**The Assembly**

Without an example of a bracket bag with an attached bag, it is not possible to definitively say how such a bag would have been constructed. We can make some general suppositions based on the form and function of the bag, however. The top width of the bag would be relatively constrained by the width of the bag handles, but could be either slightly larger or smaller. Because the top of the bag will be rigid when the handles are attached, there must either be a side gusset or extra material past the edgemost attachment holes, or the bag would not open. Leaving a gap in the side seams would also allow the bag to open more fully when the brackets are attached, but would need to be small to prevent things from falling out. Using a construction similar to the small leather bags reported in Birka II:1, a rectangular bag sewn either along each side or along one side and the bottom\(^10\) is reasonable, although a round-bottomed bag cannot be ruled out.

The only evidence we have of stitching from the Birka and Hedeby bags is the illustration of Hedeby purse HbH.119.003, but the fiber of the stitching was not analyzed and it is now lost. While the Anglo-Scandinavian finds from York include silk decorative stitching, construction seams on leather appear to have been completed with either very narrow leather thongs, a strong, thick plant stem fiber (possibly of linen), or animal coat fiber (probably wool) threads. A double running stitch or saddle stitch where the threads pass through the same holes from opposite sides and create a continuous line of stitching on both sides of the seam have been used on leather materials from Anglo-Scandinavian York.\(^11\) Single running stitches and saddle stitches are also known from leather materials from Hedeby.\(^12\)

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10 Gräslund, "Beutel Und Taschen." 141-42.
11 Mould, Carlisle, and Cameron, **Leather and Leatherworking**, 3259.
Eithni’s Taschenbügel

Materials:
The theme of my triathlon entry is Birka, so I chose to make a reproduction of the most complete Birka bracket bag, F153. In the absence of any information about the appropriate wood for the Birka brackets, I decided to use maple since it was one of the woods most frequently used in the Hedeby brackets. I obtained a beautiful piece of maple from a local store that mills “urban lumber” – wood from trees that have been blown down in storms or otherwise need removal. The wood was finished with a light layer of linseed oil. I do not have any positive evidence for this finishing technique on the brackets, but the oiling brings out the grain of the wood and will help protect it from moisture. Linseed oil as a byproduct of linen production would have been easily available.

I decided to construct the bag portion out of leather because I feel that for reasons of wear and tearing, the smaller, round holes on the Birka brackets are more suited to a leather bag. Further, since I plan for this to be my bag in which to transport my posament-weaving kit, which contains scissors and other sharps, the leather will be more puncture-resistant than a fabric bag and so promote safety for myself and others. Since I was unable to find a supple alum-tanned cowhide like seen in the majority of the Birka finds, I consulted with a leather store and was informed that the leather most closely resembling that description would be a white deerhide. While I doubt it was alum-tanned and I know the animal of origin is wrong, I believe it to be a reasonable substitution because it is the correct color and the supple, slightly stretchy properties Gräslund reports that one would expect of an alum tan.

The bag will be cut twelve inches wide by approximately twenty-four inches long. The outermost holes on the Birka brackets are eight inches apart. After allowing for a half-inch seam on both sides, this will allow the bag to be opened at least three inches wide, if it were sewn all the way to the top, and somewhat more since the seam will terminate a bit before the top of the bag. Cutting the bag as one long piece eliminates the need for a bottom seam, allows for easy incorporation of side slits of additional room is needed for ease of opening the bag, and improves the integrity of the bag (which is likely to be used for carrying sharp and pointy things).

I chose a linen thread for the stitching, since that was an authentic option and I had some thick white linen thread on hand. For the side seams, I used a saddle stitch, since that type of seam was known on leather goods from Hedeby and I wanted a seam that would be strong and tight to prevent small metal scraps from escaping. For the stitching needles, I used one sharp metal needle and one blunt metal needle. The sharp needle was used to make the hole in the leather and then the blunt needle used to pass the second thread through the same hole without breaking the first thread. The stitches to attach the leather bag to the handles are done by punching holes with an awl and then sewing with a blunt needle, since this allowed me to lay the bag flat and precisely locate the holes. I have no strong evidence for which sorts of needles would have been used to sew leather, since metal needles as well as awls and bone needles are known from Birka, so either combination could have been employed.

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14 Gräslund, "Beutel Und Taschen." 142.
**Construction:**
First, I used a photocopier to scale the photograph of the chosen Birka bracket up to full size and then traced it onto some purchased maple boards (2.5 inches x 0.5 inches).

I then rough-cut the brackets’ basic shape with a hand saw (below left). Next, I drilled the various holes with a drill and used a carving knife to clean up the rough shaping, to round the edges and to add details. As I am a novice carver, some fine smoothing was done with a file rather than with sandpaper or other modern smoothing implements (below right). The brackets were finished with a thin coat of pure linseed oil.
The leather bag was cut from a white deer hide and stitched up each side with linen thread, using a saddle stitch. A small gap was left at the top on each side to facilitate opening. This may be stitched shut later if the benefit of being able to open the bag widely is outweighed by small pieces falling out (below left). The leather bag is turned right side out and attached to the brackets using large whipstitches in linen thread. The leather is overlapped a little to the inside to help ensure that the top stays pressed closed by the rigid handles (below right).

The carrying strap is cut from the same deerhide. Several strap ideas were trialed before finding one that would work. A flat strap, while enough to not cut into the shoulder even with a heavy load, was difficult to get through the holes of the brackets and very stretchy. A four plait braid (like Posament 3) was too thick to fit through the end holes, even when the strips were cut as narrowly as possible without breaking when stretched. Finally, a three plait braid was used. It is still a little firm, but should loosen as it is used and the leather stretches. The two plaits are knotted together to form a strap of the appropriate length as the deerhide was too short to make a strap in one piece. The strap is attached by passing it through the large end holes in the bracket and the end is knotted to secure it. Finished bag is pictured at right.
Conclusion

I learned three major things in attempting this project. The first is something I technically know and yet still often manage to disregard, namely, that linseed oil takes forever to dry. Even completing the carving early in the week is not enough time to let the oil dry, particularly when you want to put that oiled wood next to white leather. Second, I learned that if one is hand-sawing hardwood, one should look for a tool called a Japanese handsaw. While I have not yet located such a thing nor had the opportunity to compare it to the saws available to the Norse, hardwood is HARD and the roughing out was actually one of the hardest parts of the project. Lastly, I should have used an awl to punch the side seam holes to improve the straightness of the seam and the spacing of the stitches. I found it difficult to poke through the leather in a perfectly straight line – even if it looked good on one side, it might wander on the other and, unlike fabric, the holes don’t heal if you misplace them, so I often used them anyway. On the other hand, the side seams were done by flashlight, in a car, on the way home from a Mardi Gras party, so I’m fairly pleased with their level of straightness and evenness.

While the bag is now complete as I initially conceived it, I may decide to embellish the bag at some point, since it seems very monotone right now. There is silk embroidery on leather from several Norse shoes and a small amount of silk embroidery on a Norse fabric bag, but none that I know of on something that has been identified as a leather bag.

As a side note, this project incorporates a separate little challenge I set for myself – to produce an authentic, well-documented piece about which I had no prior knowledge... while only using research resources available through the internet and only physical materials that could be sourced inexpensively from local big-box stores or my existing stash (see Appendix B). I understand that I am very spoiled to have the resources of a large city and a research university at my disposal, but I wanted to show that it is possible to do good research and make cool stuff anywhere and on a budget. The bibliography lists the website for each source I used, although it appears that a few of the links with questionable copyright issues have been pulled down.

Regarding materials, thanks to an extensive stash that included white leather, linseed oil, and a fine selection of threads, I only had to purchase the maple, so this bag cost me about $3.50 out of pocket. However, someone with access to a Menards and a JoAnn’s could make four reasonable Birka bags with a maple bracket, wool bag, and wool strap for about $40 for four or $10 apiece while making a single one alone would run about $25. The maple molding only comes in 7 foot or longer pieces and is a major expense of the project, so a resourceful person willing to pester a local cabinet maker or flooring store or other people who may have one foot chunks of hardwood lying about could make it even less expensively.

The tools involves are likewise fairly basic – the critical ones being a saw, a drill, a knife, and either a leather needle or an awl and a needle. Most people in the SCA would have these things in their home and, if they do not, know someone who does.

In all, I am pleased with the result of this project and look forward to carrying around my Birka posaments in a Birka bag!
Bibliography


Appendix A: Translations

Die Holzfunde von Haithabu and translation


Die Ausgrabungen in Haithabu, Bd 11

Page 80:

Tachenbügel

Bei 14 Gegenständen aus dem Hafen blieb die Bestimmung der Funktion lang Zeit ungeklärt (OG 119; Taf. 59, 1-4). Die länglich-flachen Objekte von 181-496 mm Länge und einer Stärke von 7-13 mm sind im Mittelteil 29-52 mm breit. Die halbrunden Enden haben Durchmesser von 31-61 mm und sind durchweg mittig durchbohrt (7-10 mm). Einer gebogenen (Taf. 59.1) beziehungsweise gekerbten Langseite (Taf. 59.2-3) steht eine gerade Seite gegenüber. Alle Exemplare haben entlang der geraden Seiten längliche Schlitzte, durch die der Grabungsdokumentation zufolge ursprünglich Fäden oder Stoffe gezogen und befestigt waren (Abb. 66). Die verwendeten Holzarten sind Esche (n=5) und Ahorn (n=5).


Ethnii’s translation:

Bracket-Bags

In the case of 14 objects from the Port, their function remained unexplained for a long time (Object Group 119; Plate 59, 1-4). The flat, oblong objects ranged from 181-496 mm in length and a thickness of 7-13 mm and a width (measured at the middle section) of 29-52 mm. The semi-circular ends have a diameter of 31-61 mm and are all centrally pierced (hole diameter of 7-10 mm). A curved (Plate 59.1) or notched long side (Plate 59.2-3) is opposite a straight side. All examples have elongated slots along the straight sides through which, according to the original excavation drawings, there were affixed threads or fabric (Fig. 66). The types of wood used are ash (n=5) and maple (n=5).

By comparing these pieces with ethnographic material from the Sami, it is possible to plausibly identify these pieces as bag frames. An extant Sami bag has two identically shaped horn brackets attached (Fig. 67). Following this pattern, the bag frames may have been brought from Haithabu. The bag was attached to the elongated slots - sewn or removable - and rope or leather strap looped through the perforations of the ends as a hand strap. Two of the wooden brackets from Haithabu form a pair, so in the rest of the finds pairs should have been originally present.
Birka II:1
Chapter 16 - Beutel und Taschen
(See illustrations in Birka I, Taf. 91:1-3, 128-136, 280:5-6, Abb. 16:1-6)
Anne-Sofie Gräslund

2. Das Ledermaterial
Durch mikroskopische Untersuchung des Haarsackmusters im Leder liess sich die Lederart der
Fragmente aus 33 Gräbern bestimmen.1 Mit zwei Ausnahmen, Bj 746 und 819, aus Ziegenleder, handelt
es sich um Rindleder, in 28 Fällen vom Rind und in drei Fällen vom Kalb. Um womöglich die
Germethode festzustellen, wurden winzige Proben von Taschen aus fünfzehn Gräbern
entnommen.2 Diese wurden in Chloroform aufgelöst. Ein Tropfen der Lösung wurde auf ein
Alizarinpapier gebracht und über Ammoniakdampf gehalten, bis Violettfärbung eintrat. Bei hoher
Aluminiumkonzentration 1 Die Bestimmung habe ich unter der Anleitung von fil. mag. Kjell

tritt sofort eine Rotfärbung ein (Slytå 1979, 45 und angef. Lit.). Bei geringen Konzentrationen tritt die
rote Färbung erst nach dem Trocknen in einem Ofen hervor, was bei den Proben des Birka — Leders der
Fall war. So liess sich feststellen, dass das Taschenleder von Bj 644, 746, 750, 808 und 904 mit Alaun
gegerbt war. Das Leder von Bj 746 war Ziegenleder, das der anderen Taschen Rindleder. Alaun, ein
doppelsalz aus schwefelsaurer Tonerde und Kali, war bis in die jüngste Zeit ein sehr wichtiger Rohstoff
u.a. der Färberie und Gerberei. Die schwedische Alaunindustrie war wahrscheinlich schon zu Ende des
in Schonen, Västergötland, Närke, auf Öländ und in Norrland vorkommenden Alaunschiefer gewonnen.
Der Alaunschiefer wurde verbrannt und die Asche in grossen Becken ausgelaugt. Diese Lösung enthieilt
hauptsächlich Alaun, sie wurde in Bleikesseln oder Töpfen eingedunstet, wobei sich der Alaunchlamm
als eine gelbgrüne Masse absetzte, die als Farbstoff diente. Aus der gereinigten, klaren Lösung
kristallisierte sich Alaun von feinster Qualität aus (Killig 1926, 2).

Heute verwendet man Alaun hauptsächlich zum Gerben von Handschuhleder und Pelzwerk. Das Leder
wird geschmeidig und dehnbar, ist aber nicht wasserdicht. Die Alaungereberei ist eigentlich keine echte
Gerberei sondern eine Konservierung des Leders durch den Entzug von Wasser. Die entkalkten Häute
werden einige Stunden mit Alaunlösung behandelt und dann zum Trocknen aufgehängt. Da sie vor
dem Trocknen nicht gespült werden, vollzieht sich eine gewis- - se Nachgerbung (Gustavson 1944, 188).
Man hat früher angenommen, dass Alaun- oder Weissgerberei, wie man sie allgemein nennt, von den
Arabern im 8. Jh. nach Europa eingeführt worden sei (Gustavson 1944,12,189). Da aber die
Weissgerberei schon Jahrhunderte vor dem Einfall der Mauren in Europa bekannt war, und die Römer
grosse Erfahrung mit dieser Methode hatten, dürfte es wahrscheinlicher sein, dass sie von den Römern
übernommen wurde. Immerhin erlebte sie einen kräftigen Aufschwung im Spanien des 8. Jhs. (Waterer
1968, 21).
Cheap and Dirty Google translation:

By microscopic examination of the hair sack pattern (hair follicle?) in the leather, the leather of fragments from 33 graves was determined. With two exceptions, Bj 746 and 819, which were made of goatskin, the leather is cowhide, in 28 cases of beef and in three cases of veal. To possibly determine the tanning method, tiny samples of bags from fifteen graves were removed. These were dissolved in chloroform. A drop of the solution was brought to and maintained for a Alizarin papier ammonia vapor, entered to violet staining. At high concentration of aluminum I Determination I under the guidance of fil. like. Kjell Slytå executed in AFL. I thank Mag. Slytå very for his help. Kjell Slytå has performed these analyzes 1976-06-29. 142

immediately enters a red color a (Slytå 1979 45 and Customised. Lit.). At low concentrations, the red color emerges after drying in an oven, which in the samples of the Birka - was the case leather. So let himself notice that the bag leather from Bj 644, 746, 750, 808 and 904 was tanned with alum. The leather of Bj 746 was goatskin that the other bags cowhide. Alum, a double salt of sulfuric alumina and potash, until recently, a very important raw material was, inter alia, dyeing and tanning. The Swedish alum industry was probably already too late 16th century. technically and economically sophisticated. .

Until the 20th century it has won in Sweden alum from occurring in Skåne, Västergötland, Närke, on Öland and in Norrland alum.

The alum was burned and the ashes leached in large pools. This solution contained mainly alum, it was evaporate in lead kettles or pots, with the alum sludge as a yellow-green mass settled that served as a dye. From purified, clear solution is crystallized alum of the finest quality (Killig 1926 2).

Today we used alum mainly for tanning glove leather and fur. The leather is soft and elastic, but is not waterproof. The alum tanning is actually no real tannery but a preservation of the leather by the withdrawal of water. The decalcified hides are treated for several hours with alum and then hung up to dry. Since it before se retanning (Gustavson 1944 188) - are not flushed drying, a certain is taking place.

It has been previously assumed that alum or white tanning, as they are called in general, had been introduced by the Arabs in the 8th century. Europe (Gustavson 1944,12,189). But there was known the white tannery centuries before the invasion of the Moors in Europe, and the Romans had great experience with this method, it seems likely that it was taken over by the Romans. After all, they boomed in Spain in the 8th century. (1968 waterer, 21).
4. Beutel

Cheap and Dirty Google translation:

From simple leather bags there are among Birka-find no even close completely preserved specimen, so it was guesswork, whether these were used and how they may have possibly looked, must be based exclusively on analogies. Most likely is a bag model of a rectangular piece which is folded in the middle is sewn together on either one side and on the ground or on two sides (depending on whether the fabric is folded laterally or upward), and one then constricts at the upper edge with a strap or a cord. The fact that this type exists in Scandinavia in the Viking Age / in the Middle Ages, for example, prove leash bag Viking age scale from Jätten, Rogaland (sewn together on one side and on the ground; Gustafsson 1892, 134), and a medieval leather bag from Örebro (sewn together at the side edges), the one dated to the 14th century (Örebro, Neighborhood. Bronsgården; Örebro Museum). A conceivable type would also be an existing piece of a circular bag which is contracted with a drawn through holes on the outer edge of the belt. Fragments of this type are in the Haithabu - finds and finds in the 13th and 14th century. In Lübeck (oral. Notification of Dr. Willy van Groenman Water Inge, Amsterdam). This form also has the leather bag of a collapsible balance the boat Grabs 12 of Valsgarde from the second half of the 10th century. (UMF 5912; s Lindqvist 1956, 18.). A fragment of a probably Viking Age grave in Valltjärn, Ksp. Lyckele, Västerbotten, should also belong to one of these types. According to the leather bag was crinkled during Excavation and had a constrictor cord. Now only a small fragment thereof obtained (Serning 1960 61, Pl. 44: 2).

Small leather fragments were single or double, and were found in twelve graves of Birka, that could come from one of these types of bags. Aside from a narrow, double Leder143 belt, the 526 was on a triple leather fragment in Bj, the only noticeable design feature of some of the fragments is a folded edge with seam holes. These holes are located only on the folded part of the edge, they do not go through both layers, which can be explained differently: either was the leather - maybe with fabric-lined, or has the edge reinforced by a drawn yarn. Another possibility would be that you sewed the bag on the inside and then turned inside him, provided that they were thin and supple leather, or has in a very complicated Näähweise two pieces of leather from the right side, but with invisible hem sewn together, we by an Irish book Shrine know (Waterer in 1968, 78, fig. 9).

The leather fragments of pouches / bags, whose type can not be determined, are from eight chamber tombs and four coffin tombs, four of them are male graves, eight women’s graves. Eight graves can be dated to the JBS with safety, while two, Bj 526 and 1151, probably belong to the AEBS. It should be
noted that these are the only early graves in Birka with bags / pockets. Both were money bags or pouch. In the woman's grave Bj 526, a coffin grave, et al with a funnel cup and a bronze key, the hooped with a belt bag / pouch contained a coin type KG 3 (B. Maulers 1966) whose footprint now on one of the leather fragments is still clearly recognizable. In the chamber grave Bj 1151, a man grave, lay in the chest area three smooth fragments and one with suture holes of a bag / pocket, a half and a quarter dirhams containing. On the fragment with seam holes you see footprints half coin. The other undetermined bag / bags contained usually coins or coins and weights. In other cases, they contained as Bronzeknäufe, mirror, beads and pendants. Needing little things - valuables, commodities or things with magical significance - to keep and carry with you, must be very old. Some things can be worn suspended from the belt, other are not suitable to do so. The production of simple leather bag is probably a very early invention. In Danish graves of the Bronze Age, there were, apart from a kind of bags, which were sealed with a plugged by some eyelets needle, for example, toilet equipment, hanging wrapped in a piece of leather and a belt wound around the belt (Glob 1970 91 ff.). Among the Romans the purse marsupium, a small bag, usually of leather was (from Pompeii there are leash copies), which was contracted up with a string of a strap. This purse was one of the permanent attributes of the god Mercury. There was also finer pockets with buttons and flaps for closing (Pauly & Wissowa 1930 Sp. 1981 ff.). In Bargercompascuum, Drenthe, Holland, one has found such a simple leather bag with holes at the top of the constriction. E is approximately 180 n. Chr. Dated (Schlabow 1955 219 ff.).
**Appendix B: Expenses and sources**

**Materials:**

<table>
<thead>
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<th>Material</th>
<th>Type</th>
<th>Amount</th>
<th>Source</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Wood</td>
<td>Maple</td>
<td>2.5”x0.5”x2’2”</td>
<td>Baraboo Woodworks</td>
<td>$3.50</td>
</tr>
<tr>
<td>Leather</td>
<td>White deerhide</td>
<td>One hide</td>
<td>Dad</td>
<td>Stash</td>
</tr>
<tr>
<td>Strap</td>
<td>White deerhide</td>
<td>Offcuts from</td>
<td>Dad</td>
<td>Stash</td>
</tr>
<tr>
<td>Thread</td>
<td>Linen</td>
<td>Less than 10</td>
<td>Hedgehog Handworks or War</td>
<td>Stash</td>
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<td>Linseed Oil</td>
<td>Edible linseed oil</td>
<td>Less than 2 oz</td>
<td>Vom Fass</td>
<td>Stash</td>
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</tbody>
</table>

**Alternate Materials:**

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<th>Amount</th>
<th>Source</th>
<th>Cost</th>
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<tbody>
<tr>
<td>Wood</td>
<td>Maple molding</td>
<td>One 8-12ft</td>
<td>Menards</td>
<td>$9-15 (enough for at least 4 bags, $2.25-$3.75 each)</td>
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<td>Leather</td>
<td>Deerhide</td>
<td>One hide</td>
<td>Online or craft store or from deer hunter friend</td>
<td>From $8* + shipping</td>
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<td>Fabric</td>
<td>Tightly woven wool or linen</td>
<td>1/3 yard</td>
<td>Stash or JoAnn’s or other fabric store.</td>
<td>Variable** (less than $10)</td>
</tr>
<tr>
<td>Strap</td>
<td>White deerhide</td>
<td>From deerhide scraps</td>
<td>See leather above</td>
<td>NA</td>
</tr>
<tr>
<td>Strap</td>
<td>Braided cord or woven trim or jute rope</td>
<td>1 yard</td>
<td>Weave/braid your own, Calontir trim, Menards</td>
<td>Starting at $1</td>
</tr>
<tr>
<td>Thread</td>
<td>Linen</td>
<td>Less than 10 yards</td>
<td>Hedgehog Handworks or War</td>
<td>$4</td>
</tr>
<tr>
<td>Thread</td>
<td>Silk</td>
<td>Less than 1 spool</td>
<td>JoAnn’s</td>
<td>$4 (or $2 with coupon)</td>
</tr>
<tr>
<td>Linseed Oil</td>
<td>Edible linseed oil</td>
<td>Less than 2 oz</td>
<td>Health food store</td>
<td></td>
</tr>
<tr>
<td>Linseed Oil</td>
<td>Raw linseed oil</td>
<td>Small can (16oz)</td>
<td>Menards</td>
<td>$?</td>
</tr>
</tbody>
</table>

*Leather from Wandering Bull ([https://www.wanderingbull.com](https://www.wanderingbull.com)) These are imperfect hides, but you only need about two square feet, so can cut around holes, etc.

** Fabric costs vary, but assuming 1/3 yard of nice $30/yard wool at JoAnn’s = $10 or $6 when you use a coupon.
Tools required:

Saw
Drill
Carving Knife
File (Sandpaper)
Needles
Scissors
Measuring implement

Research sources:

Google Scholar
Online York publications
Appendix C: Play along at home – Make your own Taschenbügel!

Wikinger Taschenbügel – a Wood and Leather Bag from Birka
Eithni ingen Talorgain  eithni@gmail.com

Pattern(s) (increase by X%)

Materials list

Tools list

Directions