

A summary of Viking Age box hinges

Prepared for Calontir Kingdom Arts and Sciences, AS 57 (July 16, 2022)

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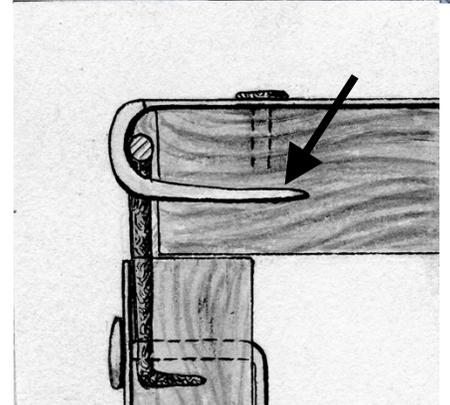
The term “viking hinges” is thought by many to be a very clearcut description, generally referring to “hook and loop” style hinges. However, there are actually many different types of hinges used on boxes throughout the Viking Age, and some of the modern perceptions of what is “correct” are inaccurate. This paper will describe box hinge types that are documentable (via primary or reputable secondary documentation) to Viking Age Scandinavia and areas of Scandinavian settlement.

To the best of my knowledge, there is no widely recognized system for classifying Viking Age hinges based on their form or manner of construction, so I have developed descriptive categories that differentiate box hinge styles based on the form of the working (pivoting) end. Thus, this document will discuss Viking age box using the following categories: hook and flat loop, hook and bent-arm loop, double folded loop, and pinned hinges (see glossary of terms at the end of the document). Note that u-shaped hinges that fit over “L” shaped pivots are also common in the Viking Age (Ottaway 1992), but I didn’t find any examples of this style of hinge on boxes and therefore chose not to include u-shaped hinges in this document.

The hook construction of hinges that fall in the hook and flat loop and hook and bent-arm loop categories are similar. In all mounted examples I have examined, hinges were arranged so that the hook part of the hinge was mounted on the lid of the box, and the loop part of the hinge was mounted on the back of the box. The vast majority of the hooks were not free-floating as many of our modern recreations are (see top adjacent image). Instead, after being bent downwards, the end of the hook usually embedded in the wood of the lid (see arrow in bottom adjacent image). There are no examples of the hooks being oriented upwards, and few examples of hooks not being embedded in wood (but see hinges 3480 and C24071).

The two “hook and...” styles of hinges differ substantially in loop construction. Hook and flat loop style loops are often punched and/or drifted in flat metal, creating an opening in otherwise continuous metal. In larger examples, the arms of these hinges are parallel, but the shapes are more varied in smaller examples. In all sizes, these hinges are typically affixed using nails.

In contrast, the loops in hook and bent-arm loop hinges are formed by taking a relatively long and narrow piece of metal and bending it in half so that the bend forms an open space where the hook can fit through. The bent area is usually similar in dimension (although often a bit smaller) than the rest of the long bar. The two half arms are generally arranged side by side (although the halves may be spread apart at the non-working end), and may or may not be welded together- it’s hard to tell on many of the examples I was able to acquire. When welding occurs, it can be either for a short distance immediately under the loop, or for the whole remainder of the arm. The non-working end of bent-arm hinges is generally partly or entirely embedded in the wood on the back of the box, and it is common for a staple or other supporting structure to be used over (not through) the arms of the hinge to hold it to the box.



Double folded loop hinges are constructed by forging (or using other techniques) to thin and lengthen the metal that forms the loop, then bend it over to form a loop. For double-folded hinges, one loop is formed in line with the plane of the arm of the hinge (left side of image on following page, the other is formed perpendicular to the plane of the arm of the hinge (right side of example on following page).



The end of the loop is often flattened and tucked under the arm of the hinge, and sometimes the nails or other fasteners used to attach the hinge to its mounting location penetrates both the original arm and the flattened tab. The end of the loop is often welded to the arm. Ottaway (1992) states that this style is this drawn out and folded over style of loop formation “appears to be characteristic of the mid-late Anglo-Saxon/Anglo-Scandinavian periods but scarcely known in later contexts.” Double folded loop hinges occur in many sizes and forms. It is not uncommon for the hinge arms to be parallel sided, or for them to be widest near the loop and narrow towards the non-working end.

In addition to intact double folded loop hinges. I found many examples (a few of which I included) of single folded loop hinge pieces. Given the relative scarcity of intact hinges, it is unknown if these hinges would have been paired with other folded loop hinge pieces, or perhaps be used with a hook piece. Although I found no examples of intact “hook and folded loop” hinges, there are an abundance of partial hinges among the artifacts I examined, and my research is far from exhaustive.

Finally, I found pinned hinges. Pinned hinges are those in which a separate piece- the “pin” is used as a pivot and parts of each hinge arm, “knuckles”, wrap around the pin. All of the examples I found were 3-knuckle hinges- these have two knuckles (the outside ones) on one arm and one knuckle (the middle one) on the other arm. This is the point in my research where perception and reality disagreed the most vigorously. The widespread understanding among even the most knowledgeable living history blacksmiths that I personally know is that pinned hinges are not documentable to the Viking Age. While it is certainly possible that one or more of these hinges may have been imported from outside Scandinavian influenced area, the fact that I found examples from Birka, Coppergate (specifically identified as found in Anglo-Scandinavian context), and a solo grave site in Norway suggests that even if pinned hinges weren’t made in the area, they were certainly used. However, unlike the other hinge styles presented here, the pinned hinges presented in this document represent all of the intact or partial examples I found, making them at least somewhat less common than other hinge styles.



Besides providing documentation for the evidence of pinned hinges in Viking Age influenced areas, the next most striking outcome of my efforts to identify and classify box hinge types is that, aside from a relatively lower number of pinned hinges, the other three types of hinges discussed here were documented in roughly similar abundance in the references I used. Ottaway (1992) states that punched and drifted loops were far less common than folded loops, but he doesn’t address the frequency of pinned or bent-arm hinges at all, and he didn’t provide evidence to support that statement. My findings suggest that hook and flat loop, hook and bent-arm loop, and double folded loop were all used during the Viking Age in areas of Scandinavian influence with similar frequency, and pinned hinges were present but less frequent.

Hook and flat loop hinges

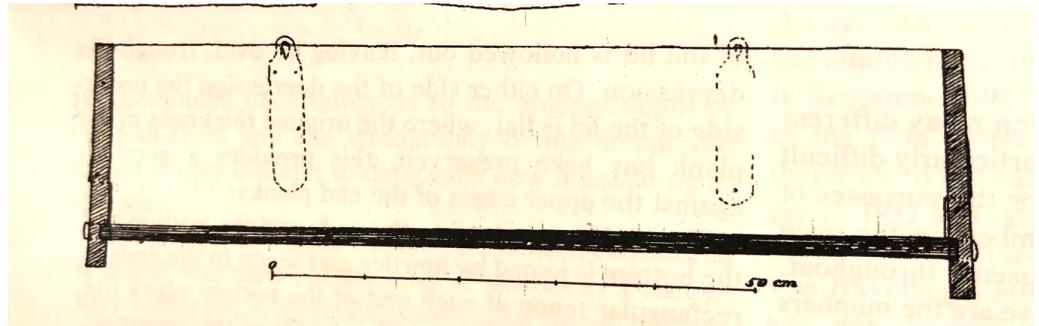
Hook and flat loop hinges are hinges in which a hook was formed by narrowing the material in the arm of the hinge and bending it perpendicular to the plane of the arm, and a loop was formed by punching and/or drifting an opening in an otherwise continuous piece of metal. This is what many people visualize when they use refer to “viking hinges”. I have included 5 examples of hook and flat loop hinges.

The Mästermyr box

c. 1000, Mästermyr, Sproge parish, Gotland, Sweden.
Arwidsson, Greta, and Berg, G. (1983)

The Mästermyr box may well be the most frequently referenced example of Viking Age hook and loop hinges. The “loop” part is clearly supported by this description by Arwidsson and Berg (1983) “One end of the strap of the best-preserved hinge is rounded and the other has a loop”. The description clearly states that the part of the hinge being described has some type of body that ends in some type of loop-like structure. However, the “hook” part of the description is less clear: “The other flange of this hinge is incomplete: it has traces of only one nail, and an open hook at one end which may be fragmentary or may have been damaged by bending. It probably would have been more closed, and would have engaged in the loop of the other half of the hinge.” Although it is unclear from Arwidsson and Berg’s description exactly what form the “hook” took, the body of the hook piece was apparently attached with a nail (thus, not embedded), and the amount of bend and whether it was free floating or embedded in the wood is unknown.

The included image of the Mästermyr box from Arwidsson and Berg’s book detailing this find is the only one showing the hinges. The image clearly suggests that the “loop” part of the hinges were affixed to the back of the box. We must then assume the “hook” part of the hinge was affixed to the lid.



Lejre box

10th Century Lejre, Denmark, Grave no. 1160.

My main source for information on this box was <http://www.europa.org.au/index.php/projects/28-projects-lejrechest> However, this web link is no longer active. The included figure, which I had saved from the website, has been identified as coming from Andersen (1995), but I have not yet been able to acquire a copy.

Wyley (2005) describes the Lejre 1160 box as “Wood: Unknown. Dimensions: 146cm*39cm*31cm. Chest used as a coffin. Rectangular box, no legs. Flat lid attached by four hook and eye hinges. The lock is a double slide bolt (one end is hooked), locked by two hasps. The other metal remains indicate metal bracing.”

Although certainly not as well-known as the Mästermyr box, both the included figure from the Europa website and the Wyley (2005) written description support the Lejre box to be a hook and loop pattern similar to the Mästermyr box. Unlike the shorter body of the Mästermyr box hinge, the arm of the loop piece extends the full height of the box. The center image in the figure, which appears to be an archeological drawing, shows the lid structure in which the hook is substantially embedded into the wood of the lid. This matches the written description from the original website (alas, the original source of the quote is also not available) that stated “The top hinges have a tongue that goes through the loop on the back into the wood (fig 6.) and the front is folded over the lid edge.”

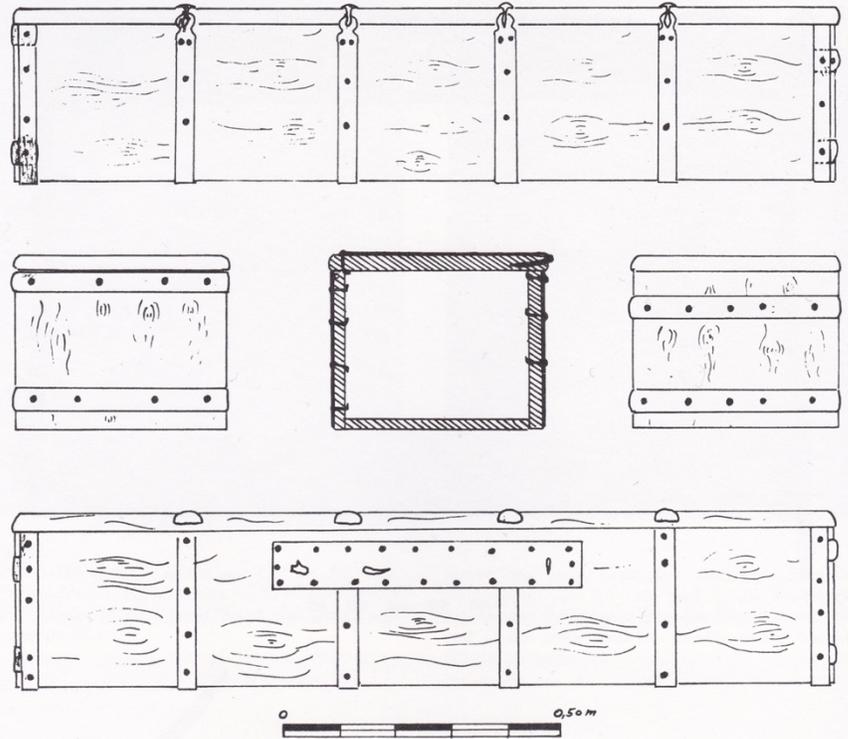


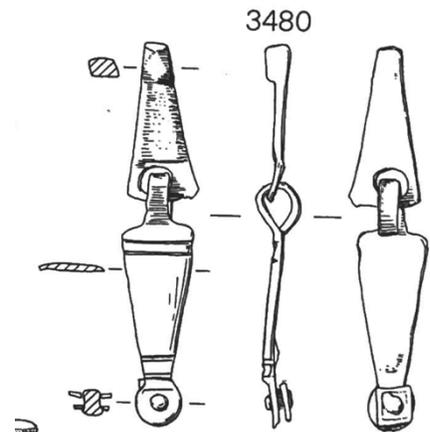
Fig. 79. Grav 1160. Rekonstruktionstegning af kiste.

Fig. 79. Grave 1160. Diagrammatic reconstruction of the coffin.

Hinge 3480

Coppergate 16-22, Anglo-Scandinavian contexts (c A.D 850-1066)
Ottaway 1992

This is by far the smallest of the examples of hook and flat loop hinges found. The hook site was riveted in place (see the bottom of the middle drawing), and it is described (Ottaway 1992) as having surface work and having been tinned. Based on the scale provided with the image, the total hinge (both pieces, connected as drawn) was approximately 8.4 cm long (3 ¼”). It is also the only example of a “hook” style hinge in which the end of the hook is not embedded in the wood of a box lid. Ottaway 1992 states “Looped hinges similar to 3480 were found in the Viking Age hoard from Tjele, Denmark, Leth-Larsen 1992, 92, figure 3”



Written by Heidi Hillhouse, July 2022. This document will be updated as more information is acquired.

C24071

Viking Age from Akershus, Norway

Cultural Museum, via unimus.no

<https://www.unimus.no/portal/#/things/bc44002e-a044-42d6-b21e-28621c9a1aef>

This hinge is, in some ways, very similar to Hinge 3480 from Coppergate. A total of 7.4cm long, this little hinge is extremely similar structurally, except in the construction of the hook. The hook end is actually extended to the non-working end of the hinge and is secured in place by the nail or rivet that passes both through the non-working end, and through the end of the hook. This is the only example I've found with this structure.

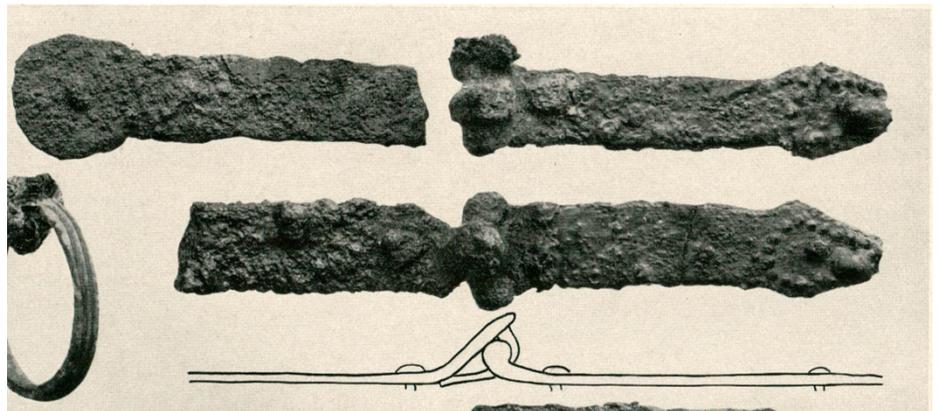


Birka Hinges Taf 261-2

Viking Age, Bjorko, Uppland, Sweden

Arbman (1940) (text translated via Google translate)

My initial impression was that this was a pinned hinge, but upon closer examination, the drawing associated with them suggests that what I initially perceived as the two-knuckle piece is actually a single continuous piece with a bulge on the end giving the impression of a pin. Both the hook and loop sides of this piece differ substantially from other hook and flat loop examples. The shape of the bulge on the loop piece (right side), and the impression of the hook coming off the bottom of the hook piece (rather than coming off the end and being bent over) are not typical of the shape of other Viking Age hinges seen in this document. The general structure suggests this piece may have been cast rather than forged.



Hook and bent-arm loop hinges

All observed examples of hook and bent-arm loop construction were made so that the non-working end of the hinge is imbedded partly or entirely in the wood of the box lid or back. When reconstructions are possible, a bracket is frequently also present that assists in holding the hinge to the box. Bent-arm style loops are formed when a long narrow piece of metal was folded roughly in half, and the part that the hook wraps around is similar in thickness as the rest of the loop arm. The bent-arm hinge arm halves are generally arranged side by side, and may or may not be welded for a short section under the eye.

I have included 5 examples of hook and bent-arm hinges, plus one additional hinge that is similar in style but doesn't quite match the category description.

Oseberg 178

800-850 c, Oseberg ship burial, Oseberg, Sem, Vestfold, Norway.
University of Oslo, Cultural Museum, Mus No. O1904_178 (Oseberg 178)
Currently unavailable by this Mus No. via unimus.no
Wyley (2005)

Wyley (2005) describes the Oseberg 178 box as "Wood: Oak.
Dimensions: 62cm (top) 66.5cm (base)* 24cm (base) 21 (top)* 31cm.
Trapezoid six plank chest, the ends forming the legs. Simple lock into an elongated hexagonal plate, closed by a looped hasp. The flat lid is attached to the chest by two hook and eye hinges. Contents: wild apples."

The written collection description of this hinge (University of Oslo, Cultural Museum, Mus No. O1904_178) is "One end of a "staple" is imbedded partway into the wood, often stabilized by a bracket also embedded in the wood, usually all the way through and bent over. Staples are bent so that the bend is functionally the "loop" part of a hook and loop hinge. The top "hook" part is bent over and is also embedded in the wood."

The photo shown here is from the University of Oslo, Cultural Museum, Mus No. O1904_178). The non-working ends of both the hook end and loop pieces are embedded in the wood. There is a reinforcing bracket on securing the hook, and holes in the wood on the back of the box where there had likely been an additional bracket.

The arms of this bent arm style loop arm are not welded to each other.



Oseberg 149

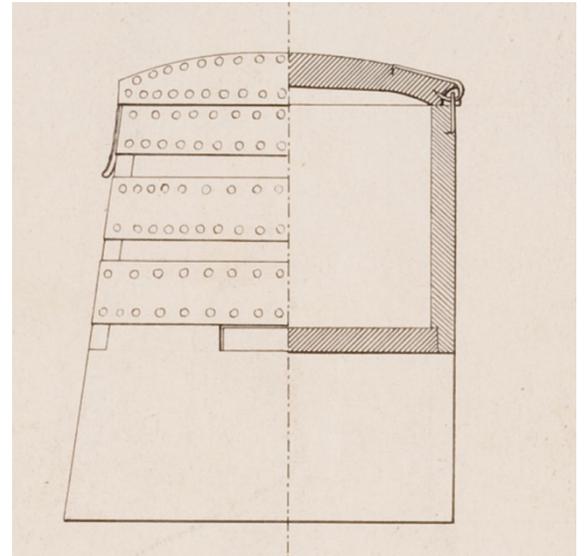
800-850 c, Oseberg ship burial, Oseberg, Sem, Vestfold, Norway.

Baker and Baker (2013)

Conservation drawing attributed to “*Chest Plan from Osebergfunnet Vol II by the Museum of Cultural History, University of Oslo*” by Baker and Baker (2013) Unable to locate the original document.

The conservation drawing of this box suggests the same basic design as the Birka 639 box. The working end of the hook is clearly embedded in the wood of the lid. It's unclear how the loop itself is formed or how the hinge pieces are secured, but the non-working ends of both the hook and the loop are clearly embedded in the lid and back of the box.

Baker and Baker (2013) state that there were originally 9 hinges, and their reconstruction shows a hook and bent-arm loop style, held in place by metal banding and studs. However, I have been unable to locate any imagery of the original hinges, so at this time consider this an iffy example.



Oseberg 156

800-850 c, Oseberg ship burial, Oseberg, Sem, Vestfold, Norway.

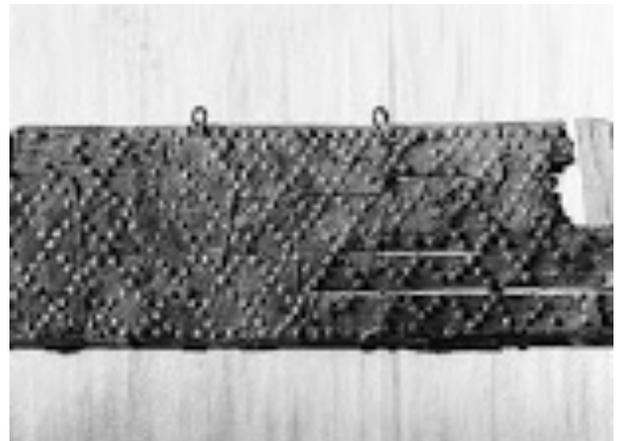
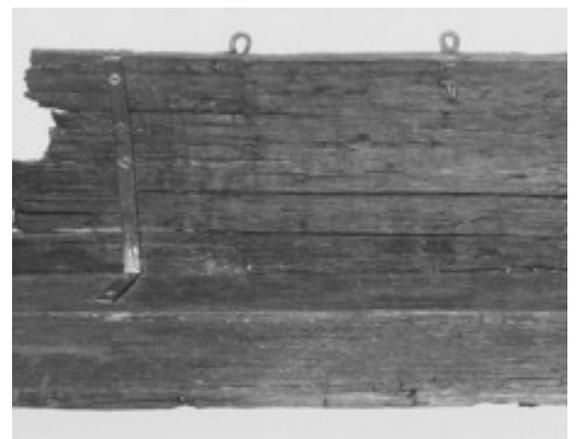
Interior photo from

<https://baroquepearls.wordpress.com/2013/08/05/norse-boarded-chests/>, via the University of Oslo Cultural History Museum (Item O1904_156)

Exterior photo from

<http://voodwoorking.blogspot.com/2016/03/norwegian-medieval-furniture-chests-and.html>

The back loop is clearly visible. Zoomed in, the closeup of the hinge back from the interior of the box suggests two separate pieces penetrated the wood on the right hand hinge, suggesting this is a bent arm loop style. No information is available about the structure of the hinge arm attached to the lid, but we can reasonably assume, based on an abundance of other examples, some type of hook shape. The pattern of holes in the back (seen most clearly from the inside) suggest at least 4 hinges were used. The exterior view shows substantial decoration, but does not allow us to see how the hinge is supported/affixed from the outside.



Written by Heidi Hillhouse, July 2022. This document will be updated as more information is acquired.

Birka grave 639

Viking Age

Bjorko, Uppland, Sweden

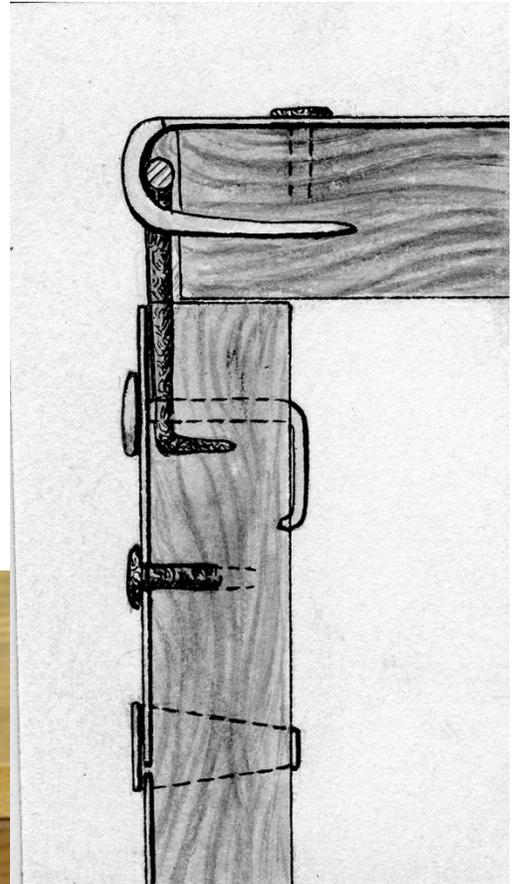
Historiska, <https://historiska.se/upptack-historien/object/106524-skrin-av-brons-jarn-tra-textil/>

Arbman (1940) (text translated via Google translate)



The photographic images of the Birka 639 box show the original fittings mounted on a reconstruction of the box. The structural drawing shows the hook, folded under and embedded in the wood. It also shows the bottom of the loop piece bent at a 90 degree angle and penetrating the wood, although not all the way through.

Information on the hinge materials comes from Arbman (1940, Text) via Google Translate. This box had 5 hinges connecting the lid to the box. It appears that the brass strapping on the top of the lid is a continuous piece that is narrowed to form the hooks. The loop pieces were iron. The non-working end is clearly embedded in the wood, but it is unclear how the loops were formed. The loops were covered with brass that undoubtedly helped anchor it. Because of the embedded ends, which is common to most of the hook and bent arm loop examples, and because the round shape of the top of the loop is visually similar to other hinges classified as hook and bent arm loop hinges, I am also classifying this example as hook and bent-arm loop style.



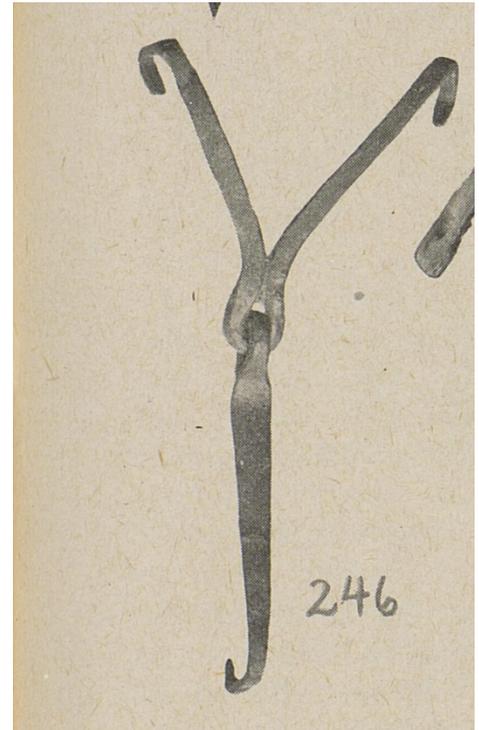
Written by Heidi Hillhouse, July 2022. This document will be updated as more information is acquired.

Hinge 246

850-950 c, Skedsmo, Akershus County, Norway
Peterson 1951 (via Google Translate)

Hinge 246 is one of a pair that was found. No information on mounting orientation is available. This hinge appears to be in remarkably good condition, suggesting that perhaps it was made of some material other than iron, but no additional information was readily available.

Both non-working ends appear to have been embedded (presumably in wood) and folded over to hold the hinge in place. The bent-arm hinge was welded under the loop. The photo suggests that the hook was fully folded under the arm of that piece.



Similar to hook and bent arm hinges

Hinge C356407

Viking Age, grave find, Vestfold, Norway
Kulturhistorisk museum, found via unimus.no portal
<https://www.unimus.no/portal/#/things/222c04c1-ca52-4fc1-8465-998da1ffe4cc>

This hinge shape is a bit of a mystery. It clearly has a bent-arm loop, but the “hook” really isn’t a hook. The bent-arm loop is similar to that seen in Hinge 246, but the other side looks more like a flat loop than a hook shape, which would make this a double loop style, except that the loop appears to be oriented perpendicular to the arm of the hinge. And, if hinge was mounted with the bent-arm loop on the back of the box as typical, then the box lid would need a carved indentation to accommodate the bulkiness of the apparently punched round solid loop shape.

I considered a “double loop” classification, but all of the other “double loop” type styles are double folded loop, which doesn’t really apply to this either.



Double folded loop hinges

In double folded loop hinges, both arms of the hinge have been narrowed at the working end and formed into a loop. In one arm, the loop is formed in the same plane as the body of the hinge, on the other arm, the loop is formed perpendicular to the plane of the loop. In some cases, the end of the loop has clearly been flattened and tucked under the arm of the hinge, in others, the two arm pieces are side by side.

I have included 4 examples of double folded loop hinges, and 3 additional examples of single folded loop hinge pieces.

Hinge T 07176

Viking age, found in Selbu (Trøndelag county, Norway)

NTNU Science Museum, via unimus.no portal
<https://www.unimus.no/portal/#/things/189f2209-56ad-4390-b05a-75258f32ab27>

Description of find (via Google Translate)

“Parts of a coffin bracket of iron, including a piece of a coffin, which is believed to correspond to the moving, displaceable part of the key retained in the University's collection at Berg in Løiten, but has had a somewhat different construction than this ; still a hinge or hinge, consisting of two

outwardly tapered plates, each attached to the coffin with a nail, and gripping at loops; finally a 4.5 cm. long, but incomplete iron nails, and a broken piece. of a similar one, which has also belonged to the seizure.”



The top piece in the figure looks like part of a box lock, the middle is the hinge, and the bottom is the hasp piece that would have been secured by the lock. Based on other examples, I assume the hinge photograph is showing the bottom (part that would have been against the wood) of the hinges. Note that on the left side hinge piece, the metal forming the loop was clearly flattened at the end and tucked under the arm of the hinge. The same appears to be the case, but is less clear, on the right. The left side loop and bent over tab were shaped so that the hole is close to round, not teardrop shaped as in many of the other folded loop hinges.

Hinge C15991-98

Viking Age, grave find from Vestre Slidre, Oppland, Norway
Kulturhistorisk museum, originally found via unimus.no portal, no longer accessible

Given the inability to relocate this piece, this piece is a bit dubious in it's origins. My original notes mentioned that this hinge was part of collection of items which included a box handle and cotter-pin style attachments, several lock keys, a spear head, and several other unidentified items.

The overall proportions are shorter and flatter than most other hinges examined. The non-working end of the loop piece was clearly embedded, but the loop piece was affixed with clinch nails or similar.



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The end of the loop piece perpendicular to the arm was clearly folded under. The end of the loop piece in the same plane as the arm (and actually forming the arm) doesn't appear to have been welded, but this is unclear.

Hinge C32628_d

Viking Age, grave find from Sigdal, Buskerud, Norway
Kulturhistorisk museum, found via unimus.no portal
<https://www.unimus.no/portal/#/things/c5dda61a-8299-406c-bfd8-c18e11e4f7df>

Part of collection of items which included tongs, an arrow, a knife, a hinge, a hook, fittings, etc.

Description of find (via Google Translate) "two pairs of hinges, almost like l.c p. 457, fig. 246, but deviates from the type copy in that the two "arms" on one hinge of the hinges are forged together. These ends are rusted. A hinge is attached to the joint. Length of arms with hook

at the end, 11.3 og" (based on image scale, length of left side bottom hinge was 11.5-12cm (4.5-4.75")

Note that hinge piece with the loop perpendicular to the plane of the arm is folded under, but the hinge piece with the loop in the same plane as the arm looks more like the structure seen in bent-arm hinge pieces. The folded over loop is actually roughly the same size as the material that makes up the rest of the arm, laying side by side and apparently welded, at least near the end. These could be classified as folded loop and bent-arm loop hinges rather than double loop if we wanted to subdivide the categories further.



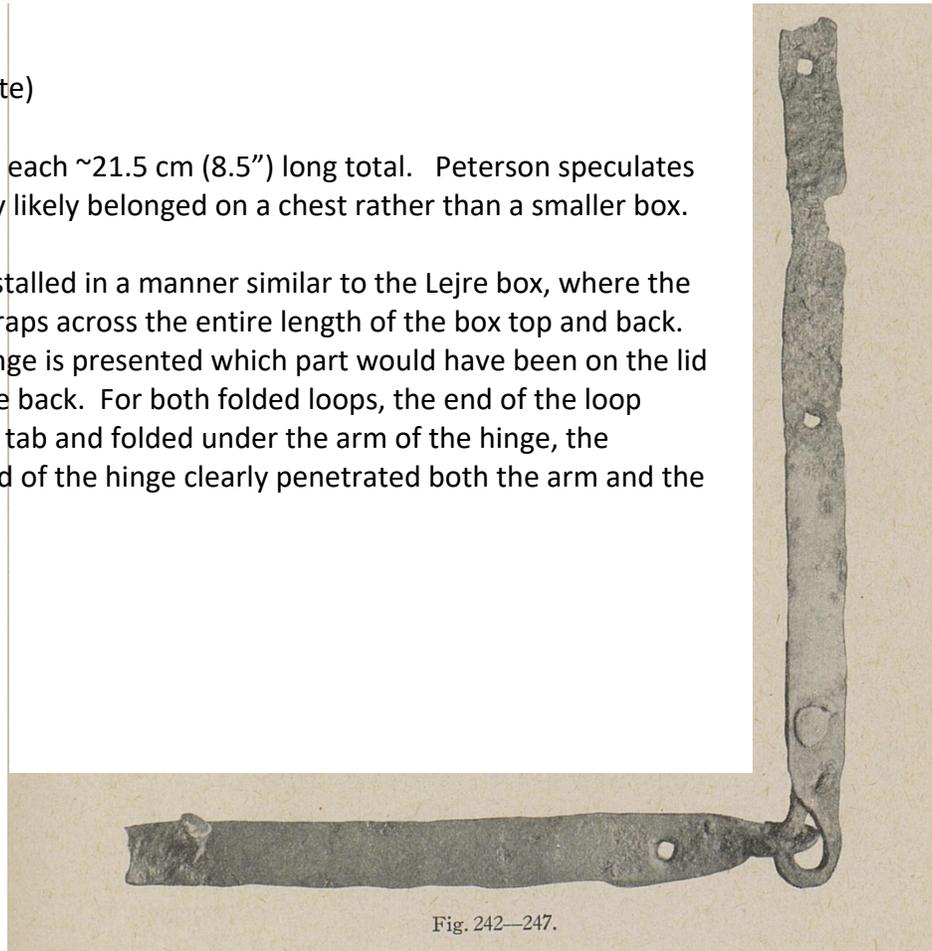
Hinge 247

850-950

Peterson 1951 (via Google Translate)

Three of these hinges were found, each ~21.5 cm (8.5") long total. Peterson speculates that because they were large, they likely belonged on a chest rather than a smaller box.

These seem likely to have been installed in a manner similar to the Lejre box, where the arm of the hinge pieces formed straps across the entire length of the box top and back. It is not clear from the way this hinge is presented which part would have been on the lid and which would have been on the back. For both folded loops, the end of the loop piece was not only widened into a tab and folded under the arm of the hinge, the fastener closest to the working end of the hinge clearly penetrated both the arm and the tab underneath the arm.

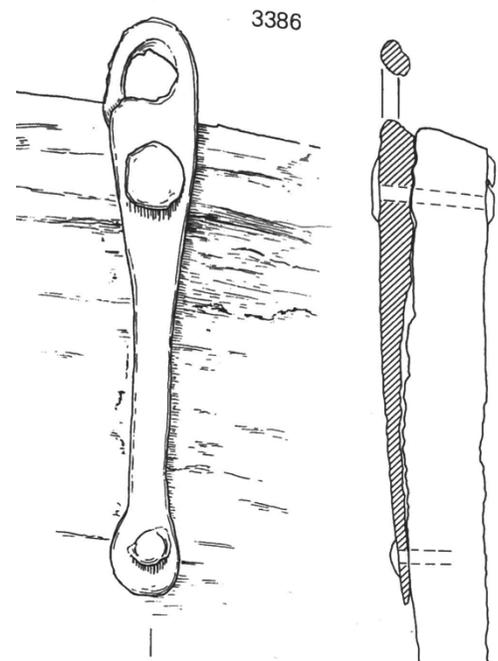


Individual hinge loops

Hinge 3386

Coppergate 16-22, Anglo-Scandinavian contexts (c A.D 850-1066)
Ottaway 1992

Ottaway says in text that it was “usual for the end of the strap to have been drawn out and curved around to form a loop, then welded back onto the strap”. He described 3386 overall shape described as “common to many grave sites”.

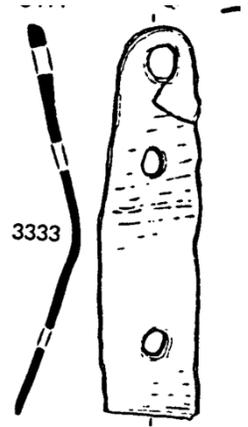


Hinge 3333

Coppergate 16-22, Anglo-Scandinavian contexts (c A.D 850-1066)

Ottaway 1992

This folded loop hinge piece has a relatively short tab and smaller loop opening than is seen in most folded loop hinges, but is otherwise the same basic design as many other examples seen in this document. Ottaway (1992) mentions an additional Coppergate 16-22 example, 3383 (no image available), as also having parallel sided straps.

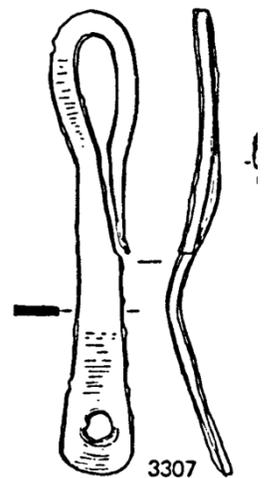


Hinge 3307

Coppergate 16-22, Anglo-Scandinavian contexts (c A.D 850-1066)

Ottaway 1992

This folded loop hinge piece is, in some ways, the opposite extreme of what we see in 3333. Instead of a very short folded section and small loop, we have an unusually long folded section and rather large (proportionally) loop compared to the length of the arm of the hinge.



Pinned hinges

Pinned hinges are those in which a separate “pin” is used to connect the two arms of a given hinge. The pin runs through two or more “knuckles” (usually three) or loops formed on the ends of the hinge arms. It is commonly assumed that pinned hinges weren’t used during the Viking Age. However, we have several examples which contradict this assumption.

I have included 5 examples of pinned hinges.

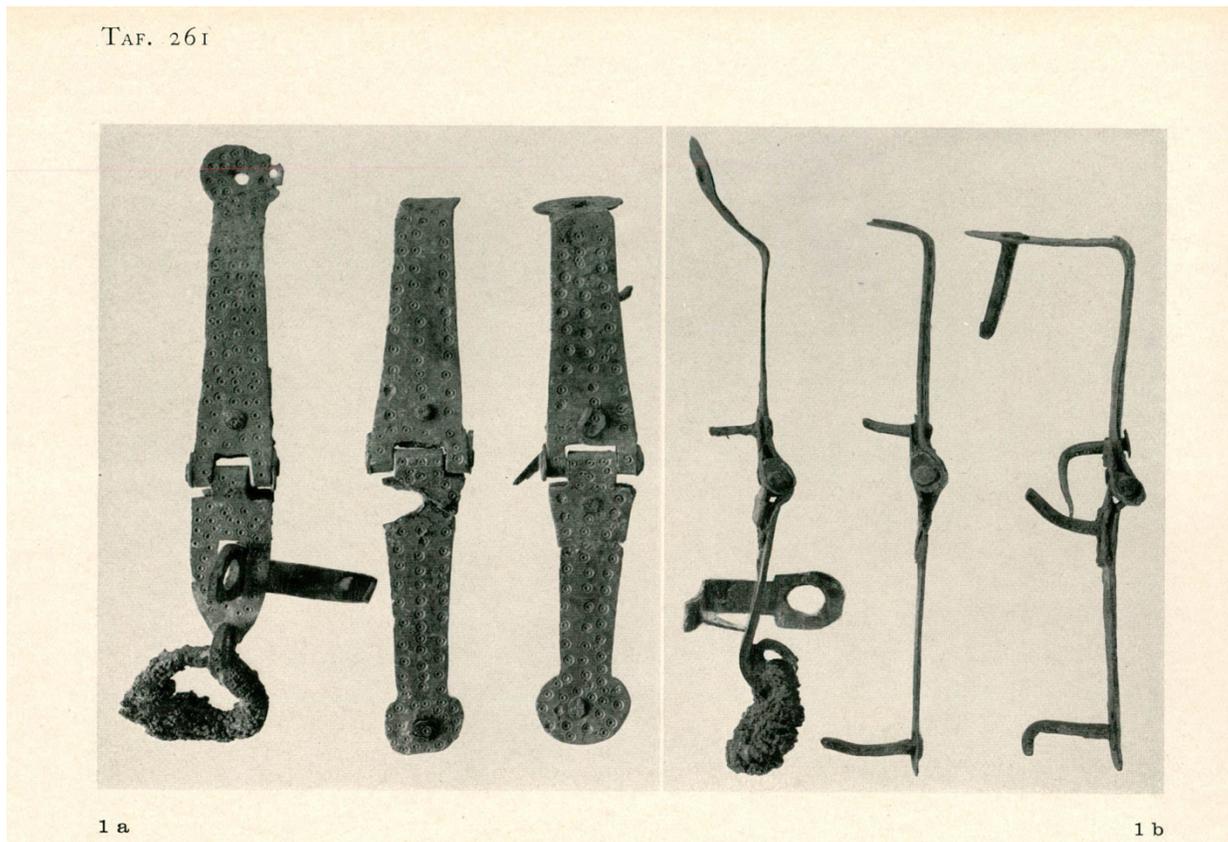
Birka Hinges Taf 261-1

Viking Age, Bjorko, Uppland, Sweden

Arbman (1940) (text translated via Google translate)

Images in Taf (plate) 261 1a and 1b are exterior and side views of the same hinges. These hinges, unlike other examples, had the mounting straps wrapped around the corner of the box with the working part of the hinge below the corner rather than at the corner. There is no information on the material the hinges are constructed of, although the ring is described as iron and the hasp loop is described as bronze.

As seen on other pinned hinge examples, these hinges have a total of three knuckles. In this case, the two knuckle pieces are the upper hinge pieces that would have been affixed to the lid, and one knuckle pieces are the lower piece attached to the back (and used for the hasp attachment).



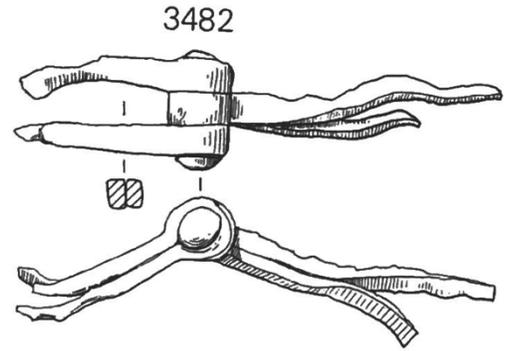
Hinge 3482

Coppergate 16-22, Anglo-Scandinavian contexts (c A.D 850-1066)

Ottaway 1992

Ottaway (1992) describes this hinge by saying “It consists of three strips folded around a central pin. The strips were presumably hammered into the lid and sides of a box.”

“There is a similar pinned hinge, sfl3734, from a Roman context at 16-22 Coppergate, and 3482 may also be Roman. Although pinned hinges are known elsewhere in the 9th-11th century contexts, they are not closely comparable in form to 3482.” So, there is some question as to if this is a viable example of pinned hinges in Anglo-Scandinavian contexts.



Birka Hinges Taf 262

Viking Age

Bjorko, Uppland, Sweden

Arbman (1940) (text translated via Google translate)

Cast bronze fittings found with fragments of a wooden box. Not clearly definable to a single grave, but near graves 711 and 581. Found with other box fittings and parts of a lock.

Similar to Hinge C22519, this pair of hinges each have two knuckles on one piece and 1 on the other. Both one-knuckle sides are mostly intact and measure 9.3cm (3 3/4"). It is unclear how the intact pieces were attached to the box. The partial two-knuckle piece has what appears to be a mounting hole in the middle. Given the short distance between the mounting hole and the pivot point, the two-knuckle pieces were likely mounted on the lid.



Hinge C22519

Viking Age, grave find, Akershus, Norway

Kulturhistorisk museum, found via unimus.no portal

<https://www.unimus.no/portal/#/things/4a99ad4d-cb90-455b-a7c2-debb16e41607>

This hinge appears to have two knuckles on the left piece, one (central) knuckle on the left piece, and some sort of pin through the middle. We can probably assume that the right hand piece was fastened to the lid since the hole for a fastener is so close to the pivot point, but it was likely a thin lid as what appears to be an attachment point on the left side isn't much further away. It is unclear how the knuckles were formed, and no additional information is available.

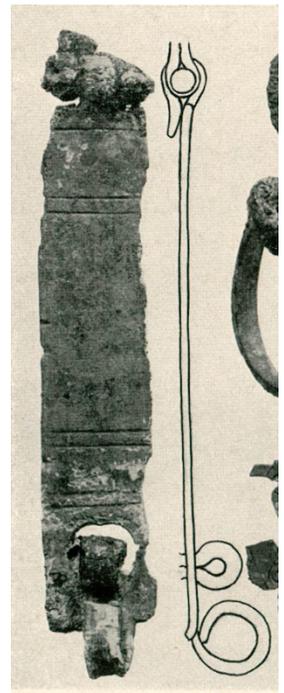


Birka Hinges Taf 261-2

Viking Age, Bjorko, Uppland, Sweden

Arbman (1940) (text translated via Google translate)

Three hinges, found together. Likely two were hinges used for attaching the lid and the third was associated with the locking mechanism. I classified these as pinned hinges, but that may only be partially correct. All appear to have 3 knuckles as seen in other examples, but two different construction styles may be represented. The drawing associated with the leftmost hinge shows the knuckles on both the two-knuckle side and the one-knuckle side as being folded around the pin. However, the hinges to the right, and the drawing associated with them, suggest that the two-knuckle piece may have been more of a hook and loop style with the apparent "pin" and two knuckles formed from a single solid piece that has been pierced to allow the "hook" of the single knuckle to fit through.



Definitions

Arm: all parts of the hinge that are not part of the pivot end

Bent-arm loop: a loop made from a long narrow piece of metal that is roughly the same width throughout it's length, that has been bent in half to form a loop. The two-part arms of bent arm loops sit side by side, not on top of each other as is seen in folded loop hinges. The arms are sometimes welded together for a short section under the loop itself, and the remaining metal is often spread apart to form two arm pieces. The known examples of bent arm loops are either embedded or missing their ends.

Bracket: a piece of metal in a supporting role, not attached to the actual hinge. These are placed over embedded loops, and less frequently over hooks, to help keep them from pulling out. They generally fully penetrate the wood of the box and are clinched in place.

Hook: the working end of a hinge that has been forged (or cast, or filed) to a narrower shape than the arm, and bent in a plane perpendicular to that of the body of the hinge. A "hook" generally comes to a point and is either free floating or embedded in the wood of the box lid.

Embedded: the non-working end of the hinge arm is shaped so that it penetrates the wood partly or entirely

Flat loop: the working end of a hinge that has been formed into a ring by punching and/or drifting a hole. The whole hinge piece is usually in the same plane, and the opening of the loop is an even round shape, not a teardrop which would suggest more of a folded loop construction.

Folded-end loop: loops made by reducing the width of the metal at the working end of the arm and bending that thinned material around so that the end is tucked under the arm of the hinge. This end is presumed to have been flattened to better fit under the hinge body, but that is often not visible from the available evidence. The end may or may not have been forge welded to the bottom of the hinge body.

Non-working end: the end of the hinge arm opposite the working end

Punched loop: subset of loops in which the open space appears to have been punched and/or drifted. Identified by even round shape with no evidence of folding or forge welding

Working end: the part of the hinge where movement happens

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www.geocities.ws/chestsandcaskets/catalogueofextantchestsandcaskets.html. Last accessed June 27, 2022 (note- information has been moved to more current website, found at sites.google.com/site/svenskildbiter/home/chests/extant-chests . I HIGHLY recommend using the newer google.com site since the older geocities site is prone to redirecting you to porn websites)

Searchable museum databases

- Historiska.se
- Unimus.no

Links to downloadable references

(Current as of Feb 2021)

- Arbman, Holger (1940) *Birka 1 Die Graber: Tafeln*.
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 - Slightly less refined than Ottway 1992, but virtually identical information
 - <http://etheses.whiterose.ac.uk/10826/>
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